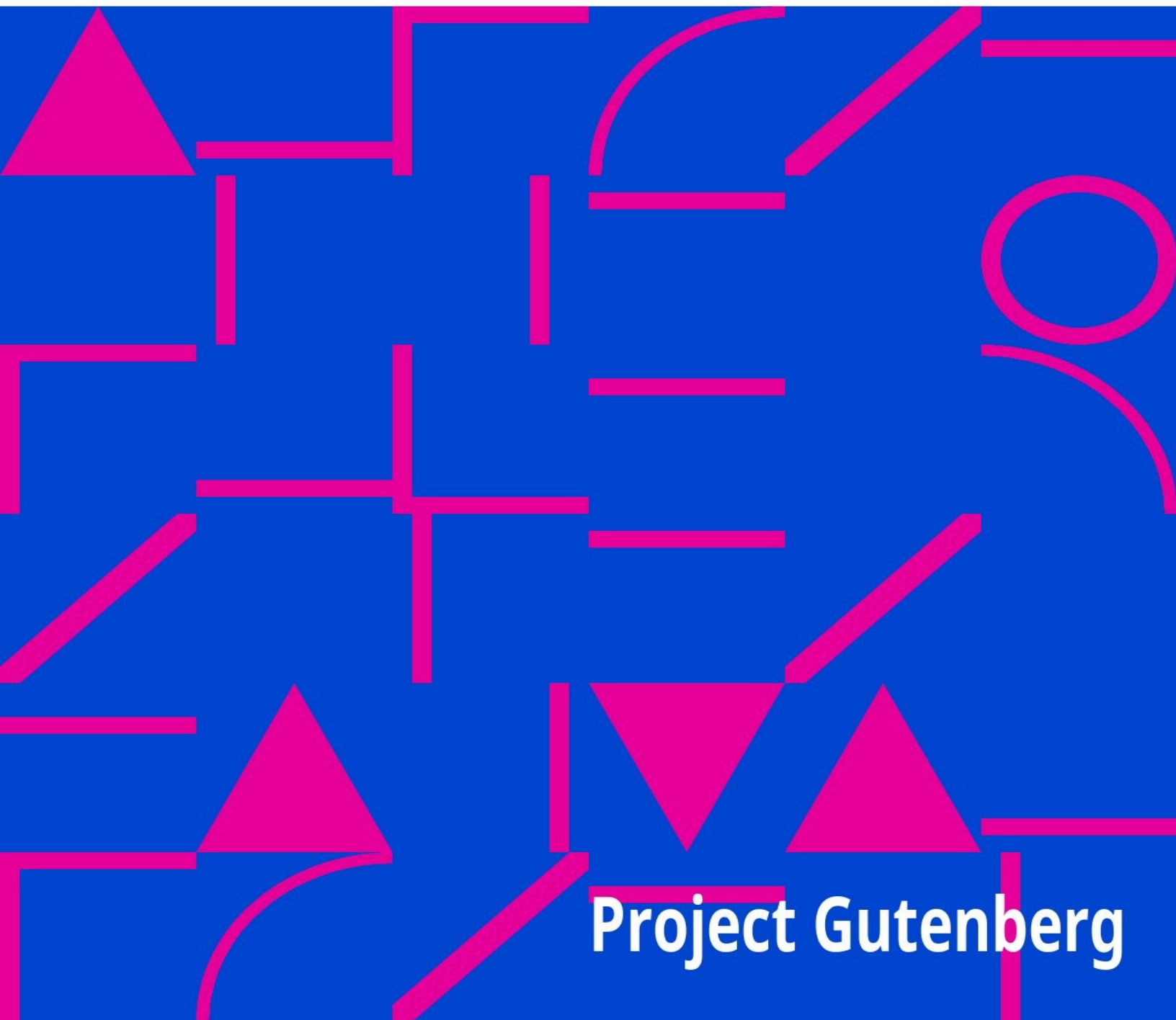


Around the World in Ten Days

Chelsea Curtis Fraser



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Title: Around the World in Ten Days

Author: Chelsea Curtis Fraser

Release Date: November 23, 2006 [eBook #19907]

Language: English

***START OF THE PROJECT GUTENBERG EBOOK AROUND THE
WORLD IN TEN DAYS***

E-text prepared by Al Haines

AROUND THE WORLD IN TEN DAYS

by

CHELSEA CURTIS FRASER

Author of "Work-a-Day Heroes," "Secrets of the Earth,"

"Boys' Book of Battles," "Boys' Book of Sea Fights,"
"The Young Citizens Own Book," etc.

The World Publishing Company
Cleveland, Ohio ——— New York City

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Printed in the United States of America

PREFACE

In the infancy of aviation, the early 1920's, no one dreamed that the close of the decade would see it firmly and permanently established—a leader among the nation's industries. Heavier-than-air flight is perhaps the most amazing contribution of the 20th century.

It is easy to thrill to the seeming marvels of our own times, but only the short-sighted thinker believes in the perfection of present scientific progress. The 300-mile-an-hour airplane which Fraser conceived in this book for the speed of the Sky-Bird II was little more than so many words when he wrote it. . . . today we have 400-mile-an-hour fighting planes. Today we have in this country an intricate highway system, but perhaps within your own lifetime our highways, and the automobiles which skim over them, will be laughed at as obsolete and useless.

Thus it is that "the seemingly impossible of the fiction of today becomes outdone by the facts of tomorrow," as the author aptly phrased it.

In 1920 the idea of going around the world in ten days was as preposterous as that projected by Jules Verne in 1873 when he wrote *Around the World in Eighty Days*. But time has a way of hurling ridicule back as effectively as a boomerang. For we have seen and marvelled at the shattering not only of the mythical eighty-day record but even the ten-day record, as progress wends its ceaseless, ambitious, difficult and almost fantastic way through the years.

And so it will be gratifying and, no doubt, amazing to many to read this book and realize the advancement made in aviation since this story was written by Mr. Fraser, and how many of the ideas he prophesied for airplane advancement that have materialized in less than a score of years.

Around-the-world flyers, even the most recent, have all flown more or less northerly routes, not following the equatorial belt, which is, as we all know, the

earth's greatest circumference. It is this course that our four young heroes take in Sky-Bird II, a plane designed and constructed by themselves, containing many features that aeronautics now takes for granted, and some not yet realized, which are, nevertheless, "within the scope of mechanical science," as Fraser says.

So, it is our opinion, young readers, that in addition to enjoying an exciting story, you will benefit by carefully reading the technical passages, and in doing so, learn to observe your present-day surroundings with a greater perspective—thus adding infinitely greater interest to your view of the world today!

THE PUBLISHERS.

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Around the World in Ten Days

CHAPTER I

PAUL AND BOB

"Did you say this big Air Derby around the world takes place this coming summer, Bob?"

"So dad told me at the breakfast table this morning, Paul. The plans have just been completed. He said full details would be in to-day's papers."

"And the afternoon edition is out now, for there's a newsie just ahead of us who is calling out the *Daily Independent*. That's your father's newspaper, too."

"It will be in there sure pop, Paul."

"Then I'm going to get a copy right now."

The two youths, who but a few moments before had come out of the broad doors of the Clark Polytechnic Institute along with a noisy throng of other students, paused when they reached the newsboy in question, and the taller of the pair bought a newspaper which he shoved into an inner pocket of his raincoat.

"We'll look at this in the car on our way home; a fellow can't do any reading in a storm like this," said the purchaser. "Let's hurry up a bit, Bob; I'm so eager to see what it says about that Derby that I can hardly wait to get to the station. Say, just think of it—a race around the world by air! Won't that be great?"

"I'll say so, Paul old boy! They ought to smash all existing records. You know that a man named Mears made the circuit in thirty-five days about seven years ago, and he had to depend on slow steam trains and steamships, aided by a naphtha-launch."

"That's true, Bob. Now that we have planes we ought to do a lot better. But the big oceans are the trouble for aircraft. The Atlantic has been crossed by Alcock and Brown in a Vimy-Vickers biplane, and also by our NC-4 flying-boat under the command of Lieutenant Read, and by the big English dirigible R-34; but the Pacific, with its greater breadth, has seemed so impossible that it has never been attempted."

"Why should it seem impossible?"

"Because they can't carry sufficient gasoline to cross the Pacific."

"But how about the islands?"

"The majority are not level enough to permit a landing, and others are too widely scattered. I have made quite a study of transoceanic flight since Harry Hawker and his partner, Grieve, made their unsuccessful attempt last spring to cross the Atlantic in a Sopwith machine, and for my part I can't see how this proposed Derby around the world can all be done by air, when no machine has ever yet been able to hop the Pacific."

"Well, Paul, we'll soon be at the station out of this storm, and then we can see what the paper says about it," was the philosophical conclusion of his companion.

With that they hurried on down the street, bowing their heads to ward off the sharp sleet as much as possible, while they gripped their school-books under their arms. They were a splendid-looking pair of young Americans, probably about eighteen years old, and the manner in which they swung along through the disagreeable drizzle, paying scant attention to it as they laughed and talked, showed them to be full of that boundless energy and gaiety of spirits which only perfect health and participation in athletics can bestow.

As Paul Ross and Robert Giddings approached the next corner, a young man with umbrella held low in front of him hurried around it and ran into a small Italian girl who was carrying a basket of fruit. She was staggered by the collision; her basket was knocked from her arm, and the oranges began to roll in every direction. The child broke into tears, but the cause of her misfortune only paused long enough to say angrily, "Confound you, you careless little beggar! Why don't you watch where you are going?" and hurried on his way.

"Say, Paul, did you see the way that swarthy-faced chap used that little girl?" cried Bob indignantly.

"I certainly did," was the no less indignant answer. "That lazy dog ought to be horse-whipped. Let's help the child."

Both boys fell to work with a will, rescued the escaping oranges, and tucked them back in their owner's basket. Then, with her grateful thanks ringing in their ears, they hurried on once more.

After they had gone a few steps, Paul Ross observed:

"Bob, I've seen that fellow before. That was Pete Deveau. He used to be an Air Mail pilot on the same run as my brother John, but was discharged for drunkenness. Since that he has blamed John, and has written him several threatening letters, but is too cowardly to face him."

By this time they had reached the West 137th Street station of the suburban railroad which runs between the metropolis and various shore towns along the picturesque Hudson. They were just in time to catch a train, and found a comfortable seat in a rear coach. Then Paul brought forth the newspaper he had purchased. What they sought was found on the very first page, prominently displayed under a black-faced heading.

"Read it aloud, Paul," suggested Bob, and his friend proceeded to do so. The article was to the effect that the Aero Club of America, in conjunction with eminent aviation associations of the kind in Europe and Asia, had planned to stimulate interest in flying by holding an aircraft race around the world, which would start on the morning of July 4th. All contestants must be at least twenty-one years of age, and furnish an entrance fee of two hundred dollars. They might use any type of aircraft they chose, and could carry as many assistants as they wished, even utilizing trains or steamships, if not less than three-fourths of their journey were made by air; and they must stop at least once in each of four continents, and cross the Atlantic and Pacific oceans. Aside from these provisions, the selection of route was left entirely to each contestant. Then followed an imposing list of names of well-known flyers who, it was said, had signified their intention of competing. The article wound up with the statement that prizes aggregating a million dollars would be offered the winners.

"One million dollars!" exclaimed Bob Giddings. "Paul, old man, you'd better go in for this!"

Paul Ross's eyes sparkled, but the next moment he laughed and shook his head. "I surely would like to," said he, "but there are just three little things in the way of it."

"I suppose you need a machine for one thing?"

"Yes—and you must admit that's a good-sized item. Second, I need two hundred dollars to enter—something I don't happen to have, and something I know mother can't spare in such a hazard. Third, I need three years added to my age in order to be eligible."

"It does look rather hopeless for you, that's a fact," admitted Bob. "That second handicap might be overcome with my father's help, but the other two are real obstacles."

"It's mighty nice of you and your father, Bob, to wish to help me out in this fashion," said Paul; "but, as you state, the other drawbacks cannot be swept aside so easily. Perhaps later on, another 'round the world Air Derby will be pulled off, and I shall have a chance to enter it."

"Well, if you do, don't forget to count me in as an assistant," declared his friend. "Nothing would please me better than to make a trip like that with you, Paul."

"You certainly shall be welcome if the time ever comes. By the way, Bob, John and I have designed a new type of monoplane in our spare time, and for the past two months I have been busy making a three-foot model of this. I hope to finish it in a day or two, and I want you to go with me over to the old fair-grounds next Saturday afternoon and give it a test flight, if you will."

Bob Giddings was all interest at once, and plied his friend with many questions concerning his new model, many others of which he had in times past helped Paul fly with the keenest delight. The truth is, Paul Ross and his brother John, the latter a pilot in the government Air Mail service, were known all over the State of New York as makers of the best-flying model airplanes to be found anywhere. Ever since they were small boys in grammar school, the brothers had been constructing miniature monoplanes, biplanes, and seaplanes, which they had pitted against the best product of other lads in the neighborhood and surrounding towns, without once meeting defeat. Many of these specimens of youthful ingenuity they still preserved, suspended in bedroom and attic, where they were a never-ending source of interest to visitors at the Ross homestead in the outskirts of Yonkers.

The war had called John into the aviation service of his country, but Paul had still continued his experiments in making tiny airplanes, getting his friend Robert Giddings, who lived in a fine house on Shadynook Hill, to assist him in the flying. Thrown together by their mutual love for mechanics, and being in the same classes all through high-school, Paul and Bob had formed a strong attachment for each other, although the latter's home was far more pretentious than the former's, since Paul's mother was a widow in only moderately comfortable circumstances, while Bob's father was the editor and owner of the *Daily Independent*, one of the leading evening newspapers of New York City.

When John returned from the war it was with an incurable passion for flying, and within a few months he had re-entered the service of his country in the peaceful but dangerous work of carrying Uncle Sam's mails between Washington and New York in a big Martin bomber. He found that his younger brother's love for aviation had also developed, as well as his skill in constructing and flying model airplanes. Some of these recent ones were so novel in design and of such wonderfully ingenious workmanship, that John, who had won unusual honors as an aviator on the French front, was quite thunderstruck, and determined to encourage Paul's talents in this line in every way he could. Therefore, when the boy graduated from the Yonkers high school, and expressed a wish to take up a

special course in aeronautical engineering at Clark Polytechnic Institute, John backed him up, and the mother, who would have preferred a less hazardous profession for her younger son, sighingly consented.

Paul's chum, Robert Giddings, had also gone to Clark Polytechnic upon leaving high school, his ambition being to become an electrical engineer. Thus both boys continued to be thrown in daily contact. It was their habit to go into the city to school each morning in the sedan with Mr. Giddings; but as he left the city late in the afternoon they usually took the train back.

As the friends now parted, Bob Giddings' last words were: "Don't forget to get that new model airplane done by Saturday, Paul. I'm crazy to see it."

"I'll be ready for you," was Paul's assurance; "but remember to keep this under your hat. It's to be a secret test, you know."

"Trust me," said Bob.

CHAPTER II

THE BROTHERS' INVENTION

When Paul Ross reached home that afternoon, it was to find someone there whom he had not expected to see. A tall, broad-shouldered young man, with a bronzed face and pleasant blue eyes, sat in the living-room, talking to his mother.

Paul rushed forward and joyfully grasped his brown hand. "Why, John!" he exclaimed, "I didn't expect to find you here!"

"Of course you didn't, Buddy," was the smiling response of the young man, who was wont to call his younger brother by this affectionate war-mate term. "The fact is, as I was just telling mother, two days ago I didn't know myself that I would be anywhere at this hour except speeding through the air between New York and Washington on my usual mail run in my trusty old Martin-bird. As it is, Buddy, it looks now as if neither you nor I would ever handle her controls again." There was a note of sadness in John's voice as he said this.

"Why, what's the matter, John?" asked Paul quickly.

"It's this way, lad: You know I told you and mother a couple of weeks ago, when I was here on my last regular lay-over, that Congress was talking about cutting a big slice out of the Air Mail appropriation, in order to reduce expenses. Well, the upshot of it all is, they made the cut, and not having enough money to carry on the service as it has been, the head of the Air Mail has ordered the abandonment of all flying divisions except the main line between New York and San Francisco. Only those pilots will be kept. So that's why I am here."

"Won't they take you on again soon, John?" asked Mrs. Ross.

"I fear not, mother," replied her elder son, shaking his head soberly. "Our field-superintendent did say that he would give me the first opening in the

transcontinental line, since my records lead the bunch, and he even offered to displace one of the boys on that route and put me in his place, but—"

"But you refused," interrupted Paul, with conclusive pride in his big brother.

John grinned. "Well, put it that way if you like, Buddy," said he; "anyhow, as I said before, here I am. Some chap may quit or 'go West'—you know a round dozen of the poor chaps have been killed in the last year—and that may let me back in again. But I won't wait for it; I'll get after some of the commercial flying companies next week and see if I can't land a berth with them. I simply can't think of working on the ground. I guess I should have been born a bird, mother, instead of a human being, I love flying so much."

"I really believe you would be safer if you were a bird, John," asserted Mrs. Ross, with an uneasy smile. "Birds have no motors to fail them, no fire to ignite and burn them up, as our present airplanes. How many of your own unfortunate associates can lay their untimely deaths to either one of these causes! It was only the last time you were here that you were telling Paul and me about the terrible fall Howard Smith had because his motor stopped, and how his machine ignited, and how he was burned past recognition."

"I know," said the veteran airman; "those things will happen at times, mother, even with the most careful fellows. The time will come, I think, and very soon, when stalled motors can be restarted in the air, and when accidentally ignited fuel will burn itself out with no harm to either the machine or its occupants. The fact is, Paul and I have some ideas now as to how to overcome those very troubles, along with other improvements, and the first chance we get we are going to build an airplane along these lines and put it to the test, aren't we, Buddy?"

"We surely are," was Paul's enthusiastic response. "One of these fine days, mother, when we get our patents and sell them, you shall live in as fine a home as the Giddings's over on Shadynook Hill, and when you wish to go into the city to do any shopping, John or I will take you in a beautiful sedan airplane which will be safer than an automobile, and which will be guaranteed not to raise a dust or wear out tires."

Mrs. Ross laughed heartily at the glowing picture her second son had drawn, more because he spoke with such seriousness, and because John too wore a

matter-of-fact look during the prophecy.

"Oh, I have some great dreamers here in this little family," she said, as she arose to resume her household duties. "We will hope that some of your dreams come true."

Her sons laughed good-naturedly; then Paul turned to his brother. "Come on down in the basement, John," he said; "I wish to show you our latest miniature model, the Sky-Bird. Another day's work ought to finish it."

John followed him downstairs. In one corner of the large basement was a good-sized workbench, lighted by two windows, and equipped with several neatly-arranged shelves, which now held a divers collection of chisels, bits, countersinks, etc. In a splendid oak cabinet attached to the wall above was a more extensive array of wood- and metal-working tools, some of which the brothers had bought with money earned at odd jobs when they were still small boys. Since, they had added to their set from time to time, as they needed this tool or that, until now few professional mechanics could boast of a finer assortment.

Suspended from a hook directly over the bench was a beautiful six-foot model of a racy-looking monoplane of peculiar and striking design. It was glistening in several coats of spar-varnish, and so light and delicate was its spidery frame that, as John reached out to take it in his hand, the exhalation of his breath set it swaying away from him.

"My word, it's a light boy all right!" exclaimed John admiringly, as he carefully took hold of the pretty thing. "That's just the feature we've tried to get, too, Buddy,—lightness." He looked closely at the long, graceful pair of wings, which were of an unusual thickness and a slight upward thrust like those of a bird, and which widened batlike as they ran back and joined the rear fuselage or body of the craft. "Have you put the helium-gas in these wings yet, Paul, as we planned? I see you have installed the valves. There's a valve in the after-fuselage, too."

"The wings and fuselage are both filled," said Paul; "that is what makes the Sky-Bird so light. If you had brought more helium the last time you were here, I could have pumped in twice the quantity, I think, and that would have made her so light she would rise of her own accord, I really believe. As it is, she now weighs less than a half-ounce. I had the scales on her yesterday."

John shared his brother's enthusiasm. "Fine!" he cried, with sparkling eyes. "Why, that's almost a neutral condition, as she is! Buddy, if we can apply this principle to a full-size machine—and I don't know why we can't—we shall have solved the biggest problem facing airplane designers to-day. With a machine weighing only a trifle more than her load of fuel and baggage, she will not only fly a lot faster but go a lot farther, with a given supply of fuel, than the present-day planes. And what is more, she could attain good speed with a single engine of reasonable power, where now many machines are handicapped with the burdensome weight of an extra power-plant. When will she be ready to test out?"

"I had planned to give her a trial in the old fair-grounds Saturday afternoon," said Paul. "I've asked Bob Giddings to go along."

"That's all right; Bob is a fine lad," said John; "but since you have set the trial for Saturday afternoon, and Bob's father is usually at home at that time, why don't you ask him to view the affair also? I'm sure he would enjoy it. He's a great sportsman, you know, like most newspaper men, and considerably interested in aeronautics."

"I had not thought of it; I'll do it," was the prompt response of Paul. "But we must warn him to silence, John. Whatever happens, we don't wish this to get into the *Daily Independent*."

"I'd say not," rejoined the former Air Mail pilot sententiously. "Mum's the word; we've got something here, Buddy. Unless I'm greatly mistaken we'll be consulting with the Patent Office at Washington much sooner than little mother anticipates." He poked Paul in the ribs as he spoke, and both young men gave vent to a low chuckle of intense satisfaction. It was an even greater pleasure to look forward to surprising their mother than to astonishing the world and winning its plaudits.

As good an airplane mechanic and flyer as John Ross was, his younger brother was little behind him in the matter of skill in handling a modern machine. It had been John's habit to return to Yonkers every two weeks for a week's lay-off, as customary with other pilots in the Air Mail service. On these occasions he had arrived in his plane, and during the term of his stay had often taken Paul up into the air for pleasure flights, as well as his chum Bob Giddings. Both boys were keen students, and it was not long before John could trust them to operate his big Martin with every confidence. Once, indeed, he and Paul had been caught over

Long Island Sound in a bad storm, when the latter was in the pilot's seat, but Paul had brought the craft through like a veteran, winning his brother's unstinted praise and undying respect.

CHAPTER III

A SUCCESSFUL MODEL

Mr. Giddings was glad to accept the invitation to the trial flight. He and his son met the Ross boys at the old race-course Saturday afternoon. This immense, level field, with its one-mile oval and great empty sheds, at one time had been the county's boasted fair-grounds, but two years prior to the opening of our story it had been sold to Mr. Giddings, whose residence property stretched down the side of Shadynook Hill and joined it. New fair-grounds had then been established in another and more centrally located section of the district. In the old grounds the boys of the neighborhood now went to fly their kites and model airplanes, to hold impromptu bicycle and foot races, and to play tag and hide-and-go-seek in the cavernous sheds and around the numerous sagging stables.

It was late in the afternoon—just before dusk, when the winds would be at their quietest, and others not likely to be present—that our friends arrived at the field. There was not a soul to be seen. Paul, who had carried his precious Sky-Bird, freed it from the wrapper and held it up for Mr. Giddings to see. The night before he and John had put the finishing touches to the delicate structure by adding another coat of varnish and attaching the little rubber-tired aluminum wheels to the axle.

As Paul now held it up before the gaze of the great newspaper man, Mr. Giddings made no effort to restrain his admiration. "What a little beauty!" he cried. "Why, it's almost a perfect mechanical representation of a bird!"

"Isn't she a dandy, dad?" put in Bob, his eyes snapping.

"The Sky-Bird is really more of a bird than you may think, Mr. Giddings," declared Paul.

"Yes," added his brother John. "As you probably know, sir, a bird gets its great

buoyancy from the fact that every bone in its body is hollow; in flight it fills these bones with a very light gas, which is formed by an action of its lungs in drawing in air. We have adapted this principle in the wings and fuselage of this little machine. They are airtight and filled with compressed helium-gas, which is non-inflammable and nearly as light as its highly volatile rival, hydrogen-gas."

"Hydrogen-gas is surely a dangerous commodity around fire," said Mr. Giddings. "I understand that when the big English dirigible R-34 came across the Atlantic last summer she was filled with hydrogen, and that her commander and crew all wore felt-soled shoes, so that they would not by any chance cause a spark when they walked over her metal floors and ladders just beneath her great bag."

"That is true," vouched John Ross. "One little spark reaching any of that stored hydrogen would have torn that great dirigible into fragments in one gigantic blast."

"We have handled recent newspaper copy containing mention of this new gas, helium; but I must confess I am in the dark regarding its nature and source," said Mr. Giddings. "What is it, anyway?"

"I will refer your question to Paul here," replied John. "He is the one who worked out this idea of using helium in an airplane and giving it the best properties of a dirigible without any of the dirigible's handicap of clumsiness and excessive wind resistance. He has been studying the properties of helium in school, also the flight of birds."

"Well, not to get into a tiresome discourse, as Professor Herron would say, I shall make this description very rudimentary," said Paul, with a smile. "During a total eclipse of the sun in India in 1868, Lockyer, a British astronomer, saw in the spectroscope a bright, yellow line of light around the sun. He called it *helium*, after the Greek word for sun. So much for him. Twenty-seven years later an element was found on earth in natural-gas in Kansas, which gave the same bright, yellow light viewed through the spectrum. The people, finding it would not burn, disgustingly let millions of barrels of this valuable element escape into the air, before a scientist told them that it was of untold value for balloon and airship purposes. It is thought the gas comes from radium deposits. It has never been found in any country except the United States, and only here in Kansas and northern Texas, where it occurs in sands from 14,000 to 16,000 feet deep. Our

government is now securing about 50,000 cubic feet of helium per day, refusing to sell it to foreign countries, as it is all needed here, besides which it might be used against us in case of another war."

While Paul had been telling this, Mr. Giddings had been busy jotting something down in shorthand in a notebook.

"Pardon me, Paul," he said, looking up with a smile, "but this is so mighty interesting that, before I knew it, my old-time reportorial instinct had gotten the best of me, and I found my pencil at work. If you have no objection I should like to use this in the columns of the *Daily Independent* some time when it seems to fit in."

"No objection at all, sir," assured Paul.

Mr. Giddings began twirling the little twelve-inch two-bladed propeller at the nose of the model airplane. "What do you use for power to turn this propeller?" he asked, after admiring its perfect proportions for a moment. "I don't see any rubber-bands, such as Robert here has always used on his little machines."

John deftly lifted off the thin veneer hood of the airplane, and disclosed a very small four-cylindered rotary pneumatic engine of bewitching simplicity and lightness, which a baby could have held out in its pudgy palm.

"Paul has worked this little motor out of aluminum and brass and steel, from odds and ends," said John.

"With more or less help on the part of my elder brother," interjected Paul.

"Well, perhaps with a little," admitted John, "more suggestive than otherwise."

"What sets it going?" questioned Bob, curiously.

"The fuselage is divided into three sections," said Paul. "The forward section contains the engine here; the rear section is an airtight chamber containing helium; and the central section is also an airtight chamber, but contains ordinary air which has been pumped into it through a valve, using the bicycle pump John is carrying, until it is under strong pressure. When I turn this little valve an outlet is opened for the air to escape by a tube into branches communicating with each

of these four cylinders. This works the tiny pistons, much the same as gas in a gasoline-motor, and they turn the little crank-shaft to which they are connected, and the crank-shaft in turn revolves the propeller on its end."

"Wonderfully simple!" Mr. Giddings exclaimed. "Wonderfully ingenious, too! Is this your invention, young men?"

"Partly, sir," replied Paul. "I understand, a company in New York is making a somewhat similar pneumatic motor for model airplanes, but John and I have made some radical improvements, to our notion. To-day's test will tell the story."

"Let's see the propeller spin 'er up once for the fun of it," suggested Bob. "It won't do any harm, will it? Dad and I will hold on to the airplane."

"Get a good grip then," warned John Ross, "for you will find there's a terrific pull to the little rascal. Paul and I tried her in that fashion early this morning down in the basement."

Bob and his father secured firm holds of the little Sky-Bird, one on each side, where the propeller could not strike them.

"Ready?" asked Paul, with a smile.

"Ready!" came the answer in unison.

Paul touched the little valve in the tank chamber of the fuselage. The next moment there was a quiver, and then the propeller began fairly to hum. A strong, steady gust of air began to blow in the faces of the Giddingses, while they had to hang on grimly in order to keep their little charge from jumping out of their arms and dashing away into the air. For fully three minutes the propeller continued to whirl with undiminished speed, then slowly it began to slow up, and finally stopped.

Both Mr. Giddings and his son wiped their hot brows as they handed the plane over to its makers.

"Whew!" said Bob, "that little mule has got a lot of pull to her."

"That she has," supplemented his father. "What sort of material is her frame made of?"

"Balsa-wood," said John.

"I never heard of that. Is it something new?"

"Yes,—to the arts of civilization, but I presume it has been used by the Indians of Ecuador, where it grows, for scores of years in the making of rafts, for which it is particularly well adapted. The tree looks much like our southern cottonwood, and the wood apparently has no grain. It has a surprising toughness and strength, and is a trifle over half the weight of cork, weighing only 7.8 pounds per cubic foot, while the same sized piece of cork weighs 13.7 pounds."

"Has this wood ever been used in constructing full-sized airplanes?" asked Mr. Giddings.

"I think not; but Paul and I believe it will be the coming wood for them," said John with enthusiasm. "We have used it plain on this machine. On a large airplane it ought to be reinforced with transverse sections of very thin spruce laid latticewise. That would add considerably to its natural strength, and increase the total weight very little."

"H'm, h'm!" said the great newspaper publisher, "this is very interesting, I am sure. Now let us see how this little affair behaves itself in the air."

Paul and his brother led the way out into one corner of the big field, so as to bring what slight breeze might spring up into the head of the airplane, explaining that machines without a pilot would keep a better keel under such conditions. John then carefully attached the bicycle-pump and recharged the air-tank, following which he took out his watch to time the flight. Mr. Giddings and Bob also took out their watches.

Paul set the little Sky-Bird down on the hard earth, in a spot where there was no grass or other obstacle, and with his finger on the air-valve, said: "Practically all rubber-band motors require starting the model airplane off by picking it up and tossing it away from you up into the air; but I think this machine will rise from the ground like a large plane, on account of its great lightness and unusual power. We will now see if I am right."

To tell the truth, this being the first time he had really tried the Sky-Bird in a flight, Paul was nervous as he turned the valve, removed his hands from the graceful little plane, and straightened up.

With a whirr like the wings of a partridge as it is flushed out of the grass by the huntsman's dog, the small machine shot forward a few feet over the smooth ground, then gracefully arose in the air and started away toward the opposite corner of the field. As it proceeded it continued to rise, until it reached a height of possibly ninety or a hundred feet, when it began to dip unsteadily.

"It's a gust of wind striking it," remarked John uneasily. "I hope she weathers it. If there was only a pilot in her now, he could——"

But even as he spoke the Sky-Bird seemed to recover her balance. Making a pretty circle, away she sped on her course, neither rising nor falling. Like a real bird she sailed onward, the noise of her whirring propeller now lost to her fliers, but her little pale-yellow silk wings against the blue sky plainly tracing her course for them. Paul was running after her now as fast as his legs could carry him. What if she should keep right on and go over the far fence?—he might lose the little darling!

That fence was a good half-mile away. For his pet to cover such a distance had not seemed within the bounds of probability to either himself or John at the start, for all of their great confidence in the flying powers of the new model. Now, as he kept on running and the Sky-Bird continued going with no sign of dropping, Paul really became alarmed for her safety in landing.

But just before it reached the boundary of the grounds, the youth saw that the airplane was slowly settling. Into the next field it flew, and the high board fence shut it from Paul's view as he came up to it. With a jump he caught the top boards, and scrambled up, springing down on the opposite side. It was to see his little machine just miss the branches of an oak tree and settle down into some long grass about a hundred yards beyond.

He found it undamaged, and hurried back to his friends in the fair-grounds, his heart beating jubilantly at the splendid results of the flight. He hugged the small airplane to his heart as if it were the most precious possession in the world, as indeed it was to him.

Mr. Giddings and Bob were loud in their praise, and John smiled in that quiet way that told the younger brother how well pleased he was. It was found that the Sky-Bird had passed over the lower fence in just one minute and three seconds, which was certainly good speed for such a diminutive contrivance. Several other

flights were then made, all of which were equally successful. At the conclusion Bob Giddings was so excited that he could hardly stand still.

"Dad, isn't this little thing simply a wonder?" he exclaimed. "I'd give anything in the world if I could own a big fellow built on this principle. I'll bet it would pass anything now made."

His father looked thoughtful for a moment. Then, turning to the Ross brothers, he observed:

"Do you think, boys, that these features could be successfully applied to a full-sized airplane?"

"There's no doubt at all about it, to my mind, sir," replied John Ross. "That's the next thing Paul and I propose doing, although I expect we shall have a hard time getting enough money to meet the expense of materials. Of course we shall have the regular type of gasoline engine in place of this pneumatic arrangement, as this principle won't apply to big machines. I figure a 400 horse-power Liberty engine would carry such a machine two hundred miles an hour."

Again Mr. Giddings was silent a moment. Then he resumed: "John, I hear that you have been laid off from your Air Mail job. Is that right?"

"It is, sir."

"Well, then, I am going to make a proposition to you and Paul, and in a way Robert may consider himself involved, too, I expect. As you may know, Robert plans to be an electrical engineer, and Mrs. Giddings and myself are anxious to encourage him in every way we can. For some time he has been experimenting with wireless telegraph and telephone apparatus, and has made some sets of the latter which it seems to me are an improvement over anything now on the market, particularly a set for airplane use, which he has no means of properly testing out on account of the lack of the airplane. Now my proposition is just this: I will meet every expense of making a first-class full-sized airplane like the Sky-Bird, and pay you, John, a wage equal to that which the government allowed you as a pilot, if you three young men here will do the construction work secretly, and if Robert may be allowed a one-third interest in the venture, both in the plane to be made, and in any future benefits to be derived from the patent rights."

Of course the delighted John and Paul accepted this splendid offer, and Bob Giddings was so happy at the prospect of a fine big airplane in which to install his wireless apparatus that he actually hugged his father. They repaired to the Giddings home, and there, in true business form, a contract was drawn up and duly signed by all interested parties, with a notary's seal attached.

With a copy in their possession, the Ross boys hurried home, after having dinner with the Giddings family, to acquaint Mrs. Ross with the good news.

CHAPTER IV

PLANNING A BIG AIRPLANE

As planned, the much-talked-of Air Derby around the world took place from Mineola Field, New York, on the 4th of July. A great crowd had been attracted, owing to the extensive accounts of the affair in the big newspapers for the past several months, and a thrilling hush fell over the assemblage as, at high noon, one after another of the famous flyers took off in various types of aircraft. There were four big dirigibles, two of which started to cross the Atlantic at once, while the others took a northerly course with the intention of making the final hop from St. John's, Newfoundland, in accordance with several previous attempts of other aircraft. Besides these, seven heavier-than-air machines started, all making for Newfoundland also. Four of these were flying-boats, two were seaplanes, and the other was a double-propellered biplane.

Needless to say, the Ross boys and Bob Giddings and his father were present to see the machines off. They had arrived in the big automobile of the publisher, and were greatly interested in every detail of the departure. Several of the contestants John Ross knew, having met them at some time during his flying periods, and it gave him a chance briefly to renew old acquaintanceship and personally to wish them good luck on their long journey. Of course our friends would have given a whole lot to have been able to compete in the novel contest themselves, but that was out of the question.

When the last machine had disappeared from sight, they took their departure. Mr. Giddings left them at the office of the *Daily Independent*, following which Bob drove Paul and John out to some of the city's beautiful parks. Late in the afternoon they again stopped at the newspaper building and picked up Bob's father, thereupon turning the car in the direction of Yonkers. Altogether they had passed a very pleasant holiday.

"Robert tells me that your plans for the new airplane, the Sky-Bird II, are just

about finished, John," remarked Mr. Giddings, as they sped northward along the smooth surface of Riverside Drive, with its beautiful greenery on the left and its fine residences at the right.

"Yes, sir," said John; "we have been devoting every spare moment to them. Of course a good many changes had to be made to adapt conditions from the little airplane to the big fellow, and to incorporate the extra pet features we all agreed upon were desirable. You know it never pays to start building an important and costly affair like an airplane without having every detail thoroughly planned out, and perfect working drawings in hand. I think Paul will complete the drawings early next week, including copies for accompanying the specifications when we apply to Washington for patent rights. As soon as the drawings are done, we will drop in at your home in the evening and show them to you."

"Good!" said Mr. Giddings. "I shall await them with great interest. I suppose as soon as I approve these drawings, you fellows will all pitch into the actual work."

"We surely will, sir," laughed Paul, while Bob, at the wheel in front, having caught some of the conversation, called back with energy: "That's just the size of it, dad."

"We have everything all ready," continued Paul. "The balsa-wood and spruce we ordered some time ago is on hand, and that will keep us busy until other needed materials arrive. We have repaired the big exhibition building in the old fair-grounds, put on new double doors and purchased a good Yale lock for them. John and I have taken our workbench and tools over there, and Bob has helped us rig up a nice little five-horse power motor and small handsaw, also a circular saw, home-made sand-drum, a small planer, and a boring-machine. That building is dry, and has lots of room in it for housing the new airplane as it grows to maturity. When cold weather comes we can easily install a couple of heating-stoves to keep ourselves comfortable and protect our materials and the machine from frost damage."

Mr. Giddings expressed himself as well pleased with these arrangements. As he noted the foresightedness of the young mechanics his confidence in them expanded.

"Don't hesitate to order anything you need, young men," he said warmly. "Have

them send the bills to me. If my trust in you is misplaced, I am willing to stand the consequences. This is not only the best kind of a practical education for Bob, but it is good business training for all of us. Go ahead; go ahead!"

With such strong encouragement, is it any wonder that the three young men continued their operations vigorously? Not one of them scarcely wanted to stop long enough to eat and sleep, *a la* Edison; and as it was now summer vacation time, Paul and Bob were able to be with John all day long in the old exhibition building. Neighboring boys and even older people hung around the open doors to watch operations, but the builders were careful not to let them get close enough to gain any ideas which might be harmful to their interests.

On Tuesday evening of the week following the start of the Air Derby, John and his brother put on their best clothes and hied themselves over to the Giddings home. In Paul's hand was an envelope containing the precious plans for the Sky-Bird II—completed at last by the young draftsman, and ready to be shown to the financial member of the quartet.

When they were all seated in the Giddings library a little later, Mr. Giddings scrutinized the plans with every evidence of satisfaction written upon his strong features. Now and then he would ask a question, as Paul explained view after view and detail after detail. At length he pointed to an oblong object situated in the pilot's cockpit just under the dashboard. "What is that?" he asked, curiously.

"That is what John and I call an 'automatic pilot,'" answered Paul. "It is a new form of stabilizer, and made so as to overcome the defects of others which are on the market. A stabilizer should automatically keep an airplane on a fairly level keel no matter how air conditions are, even so steady that it will travel along on its course for a considerable distance with the pilot paying no attention to his controls, perhaps eating his lunch or reading his orders."

"A mighty useful contrivance," commented Mr. Giddings. "I should think that would also prevent lots of accidents in bad winds."

"It will—if it turns out as we expect," Paul remarked.

"Give me the full details of this," was the request. "Remember, I am not much of an airplane man."

"Well," said Paul, "you know, sir, that it is far more difficult to drive an airplane

than to guide an automobile, not merely because you have two steering-gears or rudders to take care of, one for sidewise and the other for up-and-down travel, but also because there are movable planes in the wings of the machine, which have to be worked to tip or 'bank' it when making a turn or to keep it on an even keel when a gust of wind strikes it. The 'rudder' is the vertical plane at the tail of the machine, and is used for steering sideways, while the 'elevators' are the two horizontal movable planes just below the rudder, which are used for steering up and down. Similar planes to the latter, one situated in the back edge of each upper wing, are called 'ailerons,' and one or the other is raised or depressed according to whether the aviator wishes to bank to the right or left.

"The driver of an automobile has nothing to do but watch his steering-wheel, and be ready to touch a pedal when he wishes to slow up or go faster or stop. If he makes a curve he does not have to bank his machine owing to his comparatively slow speed; but the aviator, traveling much faster through the air, must do this, bringing his airplane to a steep angle if he makes a very short turn. If he does not calculate just right, he is likely to turn upside down and meet this death in a nasty fall.

"While the careful automobilist can always see the road in front of him and avoid rough spots or obstacles before he reaches them, the aviator cannot do this. It is true that he can see another airplane if it gets in his way, or a church steeple when he is flying low; but his greatest dangers are in the clear air itself, where they cannot be detected. He may suddenly drop into a 'hole,' which is really a downward current of air, or he may get a terrific bump when he strikes a rising current. A freakish whim of the winds may unexpectedly take away the air support from under one of the wings, and he will lurch and dip sharply to one side."

"And I suppose sometimes lose all control?" said Mr. Giddings.

"Yes, sir; that has very often happened," put in John. "A flyer friend of mine took a nasty tumble that way near Cleveland last year, breaking three ribs. It's a wonder he wasn't killed."

"The pilot is blind to these pitfalls," went on Paul. "He must control his machine largely by intuition and the sense of feeling, although the veteran airman, John says, can tell a good deal about what to expect from the nature of the earth or clouds below him."

"That's true," averred John. "The closer you are to the earth the more you will feel the 'bumps,' as we call them. They are a whole lot like the waves of the ocean, only invisible, and there will be one straight over every protuberance or depression of size in the surface of the earth. Mountains, hills, houses, lakes, valleys, rivers, forests, all cause bumps or holes in the air up above them. At one thousand feet they are pretty bad. At ten thousand feet they are scarcely noticeable. That's why most pilots prefer to fly high whenever they can."

"What causes the air to act in this way over such configurations?" propounded the publisher.

John looked helpless, and smiled. "You've got me there," he admitted. "I haven't had the opportunity to study aerostatics the same as Paul here. He can probably tell us."

"I'm not through my course yet," reminded his brother, "but I think I can answer that. The air surrounding the earth is a great belt forty or more miles through and is of an even thickness. As our globe sweeps through it, the lower stratum of air naturally sinks down into the valleys and like depressions. This action pulls down the upper stretches of air, thus creating what are termed 'air-pockets' or 'air-holes.' Very dangerous they are, too."

"That is plain enough," declared Bob. "Now, dad, let Paul go on explaining this 'automatic pilot.'"

"If the aviator is enshrouded in fog or tries to sail through a heavy bank of clouds, he is quite likely to lose all sense of direction," continued Paul. "He will not know whether he is banking or traveling on an even keel. Sometimes pilots have come out of a low cloud to find themselves dangerously close to the earth and in an awkward position, perhaps in a steep bank, a side-slip, or even in the terrifying nose-dive, and they have not had time to right themselves before crashing to earth. So you see that before flying can become reasonably safe, some way must be found of keeping the machine automatically on a level keel."

"To operate this stabilizer of ours all the pilot will have to do is to guide the rudder with his feet. The automatic pilot works the elevator and the ailerons. It takes care of 'bumps' and 'holes' and sees that the machine banks at just the right angle on the turns. This makes the operation of an airplane containing the stabilizer even more simple than running a motor-car, because you do not have

to worry about going into different speed gears when climbing or descending. You will notice on this drawing that strong piano-wires connect the instruments with all the necessary controlling planes of the machine."

"Instruments?" interrogated Mr. Giddings. "I thought there was but one."

"No; there are two stabilizers, as you will see,—here, and here," was Paul's response, pointing his finger to the parts. "But, as each one is exactly like the other in its construction, only the one has been drawn in detail. The other stabilizer runs lengthwise of the cockpit and takes care of the elevator. Both of these are operated by compressed air, which proceeds from a little tank, right here. The tank is kept supplied by two tubes which lead into it, and each of which joins a small pump operated by a fan which is right here on each side of the fuselage where the onrush of wind will keep it humming as the airplane travels.

"Each equalizer has a bore in it half-filled with mercury, working a good deal like a carpenter's level. If the airplane tilts to one side or the other, the mercury will try to keep its level and will immediately flow to the high side of the bore. At each end of this mercury tube there are electrical contact points. As one becomes submerged in the mercury by a tilting of the plane, a connection is made whereby two electro-magnets are energized on that side. One of these magnets closes an exhaust-valve, and the other opens an inlet-valve, in the compressed air tank. At once air is forced into this double cylinder, which you see at the bottom of the stabilizer, filling the half which is to operate its own set of rudders; and a piston begins to work inside. The piston is connected to a toothed rack, as you will note, causing this to turn a sector engaging it. The control wires connect with this sector."

"Very clever arrangement; but I don't quite see how, in banking, the ailerons can be brought back automatically to a neutral position as soon as the turn has been completed," ventured Mr. Giddings.

"John and I have provided for that, while Bob is responsible for the electrical features I have just mentioned," said Paul. "You will notice that at the top of the mercury channel there is a dividing wall. A tube runs from the left side of this wall to the right wing of the airplane, also from the right side of the wall to the left wing. At the end of each tube there is what we call a 'venturi tube.' This is a kind of suction device operated by the wind. The wind which blows through the

left venturi tube sucks the air out of the right-hand side of the mercury tube, and the right venturi tube sucks the air out of the left-hand side of the mercury tube. The stronger the wind, the greater the suction. Now, when making a turn to the right the left wing must travel faster than the right wing, and so there must be more suction in the left venturi. This produces a greater suction in the right-hand side of the mercury tube, which draws the mercury up on that side and down on the other, until the proper electrical contact is broken and the ailerons are returned to neutral position."

"Can the mechanism be thrown out of gear when desired? I should think such a feature might be desirable," remarked Mr. Giddings.

"Indeed it is desirable, sir," declared Paul. "No red-blooded pilot wishes to sit still and let his machine run itself all the time, no more than an automobilist. That would spoil all the sport. By merely disengaging the automatic pilot's wires here at the sector—the work of a couple of seconds—the airplane is ready for hand control."

"How much does it weigh?" was the gentleman's next query.

"A trifle less than a hundred pounds."

"That oughtn't to handicap an airplane any."

"Not a bit," said Paul.

CHAPTER V

AN AIR RACE FINISH AND A CHALLENGE

All in all, Mr. Giddings expressed himself as more than pleased with the drawings for the Sky-Bird II. At the end of the explanation, he put the papers back in the envelope, and asked:

"Have you another set of these drawings in ink, Paul?"

"Yes, sir; this is a copied set; the original drawings from which we will make our tracings and blue-prints are at home."

"You had better leave them there in a safe place, and work from your blue-prints in the old exhibition building at the fair-grounds, being careful to lock them up in your workbench every time you depart. I think you boys have a valuable thing here, and it is to your interest to keep others from knowing your plans or seeing the airplane until we have full government protection in the shape of patent rights. I shall turn this set of drawings over to a patent attorney in the city and ask him to make application to the Patent Office in Washington without delay."

The next morning all three boys, filled with new confidence and energy, met at the fairgrounds as soon as they had had their breakfasts. Paul carried two rolls of fresh blue-prints, which he and John had made while their mother was preparing the meal. One of these sets he gave to Bob to take home as his own special property, and the other one he spread out on the workbench for consultation as their needs required.

Up to this time no effort had been made to keep children and curious adults out of the grounds, but as their machine was now beginning to take on real form, they determined to do this. On a piece of board, Paul printed in large letters, "Private Grounds; Keep Out," and Bob nailed this up on the outside of the high board fence at the entrance. The gate itself they closed and barred on the inside.

"Guess that will be a sufficient hint to the grown-ups," said Bob with a grin. "If the kids climb over, we'll fasten a red flag to the front of our big hangar and paint 'Dynamite' in letters a yard long across the front of the building."

"Yes, and if that doesn't keep them away we'll turn the hose on them," laughed John.

Then they fell to work on the new airplane, applying themselves like beavers. All three boys had had the splendid benefits of manual training when they were in the public schools, and knew how to handle every machine they had set up. In addition to this, Paul and Bob were first-class amateur machinists, as their courses of engineering in Clark Polytechnic embraced the use of metal-working appliances of the latest design, as well as wood-working machinery, and they could have operated other machines had they needed them.

That evening the workers went back home tired but well satisfied with their progress. The next day the shavings flew again, and by the latter part of the week they had begun to assemble portions of the fuselage, using a waterproof glue which had been especially prepared for airplanes, and applying galvanized screws to withstand rust in damp atmospheres.

As the days went by, the boys, like almost everybody in the country, watched the newspapers eagerly for reports of the progress of the contestants in the big Air Derby around the world. Only four of the eleven aircraft to start had succeeded in getting across the treacherous Atlantic, two of these being dirigible balloons, one a flying-boat, and the other a Vickers-Vimy biplane. After landing on European soil one of the lucky airships came to grief in Italy in making a stop for fuel, but the driver had obtained an Italian Caproni plane and was making his way eastward with all haste. The other dirigible, commanded by Americans, had reached Teheran, Persia, where gas-bag troubles had compelled her crew to continue by train. About the same time the flying-boat, piloted by a Boston man, and the biplane, in control of two Englishmen, had reached Yokohama, Japan, within a few hours of each other. It was said that these contestants would wait there for the first steamship going to San Francisco, as they feared it would be impossible to fly across the great Pacific stretch of almost five thousand miles. Upon reaching San Francisco they planned to continue the journey to New York in airplanes furnished by California aeronautical friends.

The newspapers shortly after this announced the sailing of the rival parties at

Yokohama. Storms and fog delayed the vessel. Finally she arrived at the Golden Gate, and then came the mad race across the North American continent in fresh airplanes. Near Cheyenne, Wyoming, the American plane was forced to the ground by engine trouble, allowing her competitor to get ahead several hours. This lead the American could not overcome, and the race ended at 5:15 o'clock on the afternoon of July 27th, with the English crew first and the American crew second. Three days later the belated French crew, who had met with mishap in Italy, came in, winning third prize.

The Ross brothers were at work in the hangar when Bob Giddings, who had gone into town on his motorcycle after some more screws, came back waving the copy of the *Daily Independent* containing this last account.

"Cartier and his bunch have arrived," he cried, springing from his machine. "Here it is on the first page. That accounts for all the prize-winners, and the excitement is practically over. The others will just lob in now—and they might as well." He tossed the paper to John. "Here, read it, you fellows," he said. "You can quit on the Sky-Bird long enough for that, I guess. I'll work while you lay off a few minutes."

Bob rolled up his sleeves, and John and Paul spread out the newspaper on the bench and interestedly read the article in question. As they finished, and were turning around to resume work, Bob observed:

"Dad's got a rattling good editorial on this Air Derby, if I do say it. Take a look at page 5 and see how he rips 'em up the back."

Shoulder to shoulder, the two brothers leaned over the bench and read as follows:

"AROUND-THE-WORLD" RECORDS

The world has just witnessed the finish of another effort on the part of mankind to circle the globe in record-breaking time. And once more the newspapers of the universe, and the sporting chroniclers, are registering a new record in this class of human endeavor. When, three days ago, the English team, headed by Chester Hodge, dropped out of a Curtis plane into Mineola Field, it was just 23 days, 6 hours and 15 minutes after the same crew had left that field in their Vickers-

Vimy. This beats the former record of 36 days and some odd hours, made in 1913 by John Henry Mears, by the substantial margin of approximately 12 days. It is a big gain—a startlingly short time for encompassing the world as compared with the efforts of the past.

All of the three contesting crews to finish have broken Mears's record, and deserve great credit for their praise-worthy performance. The sponsors for this first great Air Derby around the world, the prominent aero clubs of this country and the Eastern Hemisphere, also deserve much praise for conceiving and promoting such a successful contest, and in posting such magnificent prizes.

But, in the interests of other similar tours likely to follow, this newspaper thinks it high time to declare itself opposed most vigorously to two fundamental features governing the competition just closed.

First, why was this contest called by its promoters an "Air Derby"? In our opinion, with rules allowing the use of other modes of travel as well as aircraft, the title is a decided misnomer. It should have been termed a "Go-As-You-Please Derby." Not a single one of these contestants accomplished the girdle by airplane alone; every winner took a steamship across the Pacific. Here's hoping that when another 'round-the-world contest is pulled off it will be tagged with a title which fits.

Second, when a specific record trip around the world is promulgated, is it scientifically correct to take a route which is approximately 30 per cent shorter than the actual circumference of the universe on which we live? In a foot race around a circular track judges do not let sprinters pick out their own course and "cut across lots" whenever they choose. Nor is it allowed in horse races, auto races, or any form of sport where time records are registered on curving courses.

The *Daily Independent* contends that beginning with Jules Verne's mythical hero Phileas Fogg, who in the story negotiated the journey in the improbable time of 80 days, back in 1872, every record-maker in the flesh and blood has followed northerly routes averaging the 30th parallel, thus traversing only about 16,000 miles of the world's actual circumference of 24,899 miles; and these records have gone down as true and complete accomplishments! But, because a wrongful practice, one misrepresentative of its purpose, has been carried on for almost a century, is it any reason for arguing that the process should continue in this advanced and enlightened day?

We say NO! It is time for this practice of around-the-world humbug and cheaterly to stop right now. If it takes our fastest modern globe-trotters a whole year to go around the world by a route equal to or approximating the equatorial girth, then let it take them a year; for the sake of our pride and all that is good and sincere let us do our stunts on the square.

There are no records of an equatorial trip around the world. Who will be the first to establish one? Let us run a pen through all these short-cut records of the past, and turn a clean page for the entry of the first real journey around the fat old world's belt.

As Paul finished the editorial his heart was beating very fast. He was a true sportsman, and he realized the truth in the bold stand taken by the *Daily Independent*. His brother John was no less favorably affected by it.

"Bang me, if that isn't a good article!" said John enthusiastically. "Mr. Giddings may get a lot of criticism for this from a certain class of people, but he's taking the right course."

"He certainly is," approved Paul. "I had never thought of it before, but he points the error out so clearly that almost anybody ought to realize the need of a fairer route after reading his statements. Just as he says, it's never too late to correct matters which have been going wrong, no matter how long."

"I'd give anything I've got if I could be the first fellow to go around the world's belt," declared John, his brown cheeks glowing with deeper color at the thought; "I wouldn't care so much about beating these other chaps in the matter of time, just so long as I made a fair trail."

"Oh, John, wouldn't that be a great trip!" cried Paul.

"Say, look at here," broke in Bob Giddings, who had been near enough to overhear all of this conversation. His face was glowing, too, as he turned toward the brothers. "When we get the Sky-Bird II done, why couldn't the three of us pick out a new course around the globe in her? If she's as good as we think she will be, we could travel over any kind of land or water with her, and I think we could pick out islands in the Pacific so that we could cross that and make the entire journey by air."

"I believe this old ship could do it all right," said John, full of confidence and thrilled at the idea, as he stepped back and looked at the partly-assembled fuselage with a loving eye. "But, Bob, a trip like that would cost a lot of money just for gas, and you know Paul and I could hardly afford it."

"I'm going to speak to dad about it, anyhow," decided Bob; "he has been talking airplanes and world routes at home to mother and me for the last three months, and maybe he will be interested enough to back us up. He never stops at anything when he once sets his mind on it."

It was several days after this that Bob Giddings came to work with another newspaper in his hands.

"Things seem to be coming our way as fast as they can," he said, with a mysterious smile. "Take in what Mr. Wrenn, the editor of this paper, says in this framed insert on the front page."

John and Paul did as directed. The article was prominently displayed, and was to the effect that the *Clarion* disagreed very strongly with the attitude adopted by its contemporary, the *Daily Independent*, in regard to around-the-world routes. It declared that it was physically impossible by any mode of modern travel to follow a route along, or even within twenty degrees of, the equatorial line, and said it was a shame to assail the creditable records made in the past. In conclusion it stated:

If our esteemed sheet, the *Daily Independent*, feels so cock-sure of its position, why does it not do a little demonstrating? Why does it not organize an expedition, and prove its claim? This is all bunk! We are so sure of it, that we right now challenge our misguided friend to run us a race around the world on a course of his own selection, at any time, by any mode of travel he may choose. There! we have knocked the chip off of the *Daily Independent's* shoulder. Now let's see if our friend is really a bluffer or a fighter.

"You know the *Clarion* is a powerful evening newspaper, too," said Bob, when the Ross boys looked up from their reading. "It has always been a hot rival of dad's paper, but it never got quite so sarcastic as this before. Dad was good and mad when he read this last night. 'I'll show both the *Clarion* and the public whether I'm a bluffer or not,' he said to mother. 'If it takes the last cent I've got I'll organize an expedition to meet their challenge and prove my theory to be the correct one.' Then I woke up to our opportunity. I suggested to dad that if the Sky-Bird turned out as we hoped, she would be the very thing to pioneer such a route and give the *Clarion* people a race to make their eyes stick out; and I said John Ross was willing to head a crew including Paul and myself."

"What did he say?" asked John and Paul, almost in the same breath.

"Well, he gave a little gasp; his eyes snapped, and he quit walking the floor and sat down on the davenport. 'Robert,' he said, 'I'll think this matter over.' Then he lit a cigar and went to smoking. Dad seldom smokes except when he's got something heavy on his mind."

John and Paul now joined Bob in putting a knee-brace in the new airplane body. Somehow they had a feeling that the parts they were assembling with such care would one of these days go on a very long and arduous journey.

CHAPTER VI

THE MISSING BLUE-PRINTS

The Air Derby created interest all over the world. People in foreign lands talked about it and read about it in their newspapers, just as they had done in the United States and Canada. With the keenest kind of interest they had followed the reports of its progress and its finish. Several nations had hoped to have their own representatives come in first, only to be disappointed.

All this interested world pricked up its attention anew when the bold editorial of the *Daily Independent* was widely copied. As John Ross had predicted, and as probably Mr. Giddings knew before he wrote it, this particular article caused a furore of comment editorially and otherwise. Much of this,—indeed, it seemed the most of it—was favorable to the stand taken by the New York publisher. But when the rival sheet, the *Clarion*, arrayed its strong force in opposition, the conservative element of the public felt vastly encouraged, and many were the heated personal arguments as well as newspaper duels, which ensued. Aviators all over the land were particularly concerned, and it goes without saying that the winners of the late competition were all lined up with the *Clarion* contingent. This paper's challenge to the *Daily Independent* for a two-party race around the world on the *Independent's* own conception of what it considered a fair route awoke great joy in the hearts of the leave-things-as-they-have-been adherents. Few, if any of them, particularly the publishers of the *Clarion*, thought Mr. Giddings would ever take up the challenge.

Therefore, judge of the surprise of everybody, and the dismay of the *Clarion* staff, when a few days following the flaunting of its challenge, the front page of the Giddings paper contained the following, under a heavy black type heading:

THIS PAPER ACCEPTS THE "CLARION'S" CHALLENGE

A short time ago the *Daily Independent* in an editorial strongly criticized the methods or rather routes used in the past in making world tours for a time record, stating that such journeys had all been made unfairly, in that the routes adopted were about a third less than the actual circumference of the globe, and that in our opinion the only legitimate around-the-world record could be made by following approximately the equatorial line.

We expected a good deal of criticism, of course, when we came out thus boldly against a custom which had prevailed since the beginning of so-called "around the world" record trips. But we did not expect to be challenged to prove our sincerity by ourselves making such a journey in competition with our esteemed but rabid contemporary, the *Clarion*.

To show the *Clarion* that we are not "bluffing," and that we are perfectly willing to demonstrate practically any position we ever take, we herewith accept its challenge. Even now we have in process of construction a new type of airplane, by means of which we are confident we can fly approximately straight around the belly of this old world entirely by air. A little later we shall announce a time, place, and route, in our columns, and sincerely trust the *Clarion* will be satisfied with them.

It is quite unnecessary to say that Paul and John Ross read the foregoing article with the keenest pleasure the night they reached home from the hangar and found their mother just finishing its perusal. Naturally Mrs. Ross felt all of the average mother's anxiety at the thought that her sons would be exposed to the perils such a long journey would invite, but on the other hand she was very proud to think their talents had placed them in such an honored position. It had only been an evening or two before that Mr. Giddings, in company with his son Robert, had called at the Ross homestead, and after a long conference with the boys as to the suitability of the new Sky-Bird II for making a world cruise, had taken his departure with his mind fully made up as to how he should meet the rival paper's challenge.

A few days subsequently, Bob Giddings found, upon reaching home for lunch, that his motorcycle, which he was in the habit of riding back and forth to work, so that he could rush into town on short notice and get emergency materials for the airplane, had a flat tire. As he could not fix the tire then, he decided to walk back to the fair-grounds.

As he emerged from the big front yard of his home, he chanced to look toward town, and observed an orange-colored taxicab standing near the first crossing. This would not have especially attracted Bob's attention, except for the fact that a man sitting on the front seat was just at that moment pointing his index finger toward the Giddings' place, and a slender-looking man just descending from the cab was looking that way and nodding his head.

It seemed to Bob that he had seen the passenger before, but a second look made him think he must be mistaken; at least he could not place him.

"It's probably somebody to see dad. If so, he'll get disappointed, as dad won't get back from the city before evening."

Dismissing the incident from his mind with this thought. Bob hurried down the road, eager to reach the hangar and get to work again on the new airplane.

A few moments after he had passed the home of a youth he knew, he heard a familiar salutation, and turned around to wave his hand in a greeting to this friend, who had come to the front door. As he turned, his eye fell on a slender figure some distance behind, a figure which stepped behind a tree and stopped.

"Humph! that's funny," mused Bob. "It looks a lot like that fellow who got out of the taxi back there by our house; I wonder what he's up to, anyhow?"

He continued his way, but as he reached the fair-grounds gate and got out his key to unlock it, the whim to look back again seized him. As he turned, his gaze once more rested on the slender form of the wayfarer, who had crossed to the opposite side of the road, and who now, finding himself observed once more, promptly stopped and began to fuss with his shoe-lace.

"Say now, this is funny!" ejaculated Bob under his breath, vainly trying again to recall the identity of the lean figure and dark complexion. "I believe that chap is trying to shadow me. I wonder what in the dickens he really is up to?"

It was the second time Bob had asked that question of himself, but as he was a poor source of information just then, he was forced to pass into the fair-grounds and relock the gate in as mystified a state of mind as before he put the query.

A little later, when he reached the big hangar he whirled about again, as if half expecting to see the stranger still skulking behind him in the grounds. To his

relief he did not detect this situation exactly, but he did see a dark face, which had been peering over the top of the highboard fence near the gate, drop down from view on the other side.

Bob gave a grunt as he passed into the hangar and took off his coat. "As I live, I believe he's up to some sort of mischief," growled the boy. And when, shortly afterward, John and Paul Ross appeared he told of his experience and repeated his suspicions.

"That is funny," asserted John; "Paul and I saw nothing of any such man when we came along, and we passed down the same road. Perhaps he mistook you for somebody else."

"I hope so, but I don't like his actions a little bit," declared Bob stoutly.

With that he picked up a try-square and pencil and began laying out some work for Paul to cut on the circular saw, while John busied himself at the boring-machine in putting a hole through the center of the big twelve-foot balsa-wood propeller which a little later would be reinforced with a thin jacket of a new metal called "salinamum," which was made chiefly from salt but whose fused components made it as light as aluminum and stronger than tool steel.

Soon the queer actions of the stranger were quite forgotten in the deep interest of the three young men in their work. With the prospect of a world tour before them if the Sky-Bird turned out well, they now had more incentive than at the beginning to build the machine with the utmost skill and attention to every detail. Some changes, calculated to make the craft better adapted to the peculiar conditions she would be likely to meet in such a varied temperature were put into effect, but on the whole they found their original plans so well laid that no important features seemed to require modification or abandonment.

But if the man who had followed Bob dropped out of their minds the rest of that day, he was soon to occupy a prominent place in their thoughts. For the very next morning, when Paul and John arrived at the hangar, they were met at the door by a very agitated Bob Giddings.

"Fellows, what do you think has happened?" cried Bob, clearly very much excited. Without giving his friends time to answer the question he blurted out: "Somebody got in here last night and stole our plans!"

"Stole our plans!" reiterated Paul and John in the same gasp.

"That's it," said Bob,— "stole the set of blue-prints we have been working from. What's more, they must have seen the airplane before they got out. I went to take the plans out of the bench drawer here where we have kept them locked up, and there was the drawer wide open, the lock picked, and the drawings gone. I'll bet a herring we can thank my dark-skinned shadow of yesterday for this little visit!"

"It does look as if he might have had something to do with this," agreed John soberly. "I wonder how the rascal, whoever he is, could have gotten in the building. There's a heavy Yale lock on the doors."

"The doors were locked all right when I came this morning," vouched Bob. "I don't see myself how—"

"Here you are, gentlemen!" called Paul, who had stepped to a good-sized window near the head of the workbench. "Here's the fellow's private entrance!" And he pointed to where a heavy nail locking the lower sash had been forced aside, also to a series of indentations in the outer sill, where some prying tool had obviously been recently at work.

"It's a clear case of theft, that's sure," observed John; "and since it's only our plans that have been taken, it goes to show that this chap is very much concerned about this new airplane."

"Perhaps he wishes to beat us out in getting the patent rights," Bob hinted darkly.

"No, I don't think it's that," differed Paul; "our application was sent in to Washington some weeks ago, and you know the first one to apply for a certain patent gets the attention."

"Well, then, he could use our plans and make and sell airplanes of their pattern, couldn't he?" asked Bob, whose ideas of patent laws were still a little vague.

"Not at all; if he did we could sue him for infringement," was Paul's answer. "The only way he could profit by this theft, so far as I can see, would be to construct a machine for his own private use, or to give to another person. We could not touch him for that."

"And that would be bad enough for us—if such a machine were used against us

in this proposed race around the world, wouldn't it?" demanded Bob Giddings.

Paul and John Ross looked at him in dismayed astonishment. They had not thought of this contingency before.

CHAPTER VII

WHO'S AT THE WINDOW?

The making of a big airplane is a good-sized job. Especially is this the case with the first airplane made up from new plans. And when the job has to be done by no more than three young men, it becomes an unusually formidable task.

The loss of the blue-prints did not hold up the progress of our friends in the least, as it was only the matter of fifteen or twenty minutes' work for Paul to make a new set from the tracings he had at home; but there were unexpected difficulties met here and there in the constructive work, as is always the case in large mechanical undertakings of an original nature, besides which the young builders ran into the usual delays caused by slow deliveries of parts and materials from distant dealers and manufacturers; and sometimes the railroads were tardy in transporting shipments.

All in all, the summer slipped away only too quickly, and it came time for Paul and Bob to go back to school again with Sky-Bird II not more than half finished. It is true that the long fuselage of the craft was done, with its graceful curves and splendid, roomy, enclosed cabin, accommodating five persons; but all concerned were a little disappointed that more progress had not been made. Mr. Giddings had been quite a frequent visitor at the fair-grounds all through the summer, lending a voice of encouragement throughout the operations. He looked really concerned, however, when Paul and Bob had to return to Clark Polytechnic Institute for the new term of study.

"This is rather hard on us, isn't it, boys?" he observed, with a light laugh in which he unsuccessfully tried to conceal his anxiety. "Here we are with a half-completed airplane, a race staring us in the face for next summer, and two of our workmen snatched away for the whole winter by the inexorable demands of school life, leaving only one lone fellow to finish the job."

"We'll be able to work Saturdays, dad," ventured Bob, trying to wedge a little bit of cheer into the gloomy prospect.

"And evenings. I'd be willing to work after supper every night for a couple of hours," proposed Paul.

"You won't do any such thing," came the firm answer. "While you are at school you two fellows need your evenings for rest and study, and your Saturdays for the school-team sports. Only when there isn't a game on in which you are a contestant will I allow you to help John on the machine—even if it isn't finished for five years. I have been thinking this situation over for some time, for I have seen it coming," went on the great publisher after a moment's pause; "and I have come to the conclusion that the best thing I can do to hustle our ship along is to call in another workman on the job, some chap we can trust and who knows how to handle tools. In fact, if he were a regular airplane mechanic it would be all the better."

John Ross spoke up at once. "Mr. Giddings," he said, "I think you have the right idea. Bob and Paul can't help me much from now on, and if we take that trip around the world next summer this machine must be done some weeks ahead, so that we can have a chance to test her out and tune her up. Now, it happens that Paul and I have a cousin—Tom Meeks—who is about my age and who flew in the same squadron with me over on the French front during the war. I will vouch for Tom's ability as a mechanic and flyer, also as to his trustworthiness. It happens my mother just received a letter from Tom's folks in Illinois the other day in which she said the factory had closed down in which he was working and he was out of a job."

"And you think this Tom Meeks would be willing to come up here, then, and help you this winter for the salary I am paying you?" questioned Mr. Giddings with interest.

"I think he would, sir."

"Then write to him immediately, and tell him to come right on."

In less than a week a strapping big young man, suitcase in hand, got off the train at the Yonkers depot, and was warmly greeted by his cousins, Paul and John Ross, who then introduced him to Bob Giddings. Bob had been so eager to see the new helper on the airplane that he could not wait for a later meeting with

him. He took instant liking to the jolly newcomer, who seemed to be ever smiling, and after a short exchange of conversation with him hurried home to tell his father what a splendid fellow Tom Meeks was.

Tom was domiciled in the Ross home, to which he had been a visitor in other years, and of course for the rest of that evening was kept busy visiting with Mrs. Ross and looking at the numerous miniature airplanes of Paul's. His praise of the little Sky-Bird, and particularly of the drawings of Sky-Bird II was very strong, and when he went to the fair-grounds the following morning with John and actually saw what a fine-looking ship the big craft was, he was stumped for words to express his full admiration.

Then while John and Tom went industriously to work, Paul and Bob rode away to Clark Polytechnic in New York with Mr. Giddings. Just before starting into the city that morning, the newspaper man had met Tom, and there was little doubt that he was well pleased with this addition to his force of workers. Of course Paul and Bob were sorry to have to interrupt their labors on Sky-Bird II, but there was no help for it, and there was some consolation in the thought that undoubtedly their instructors would let them work on some of the airplane's smaller parts as a portion of their school mechanical practice. This supposition indeed proved correct, and as the fall days passed they found the two student chums not only partaking with full spirit in the sports of their comrades, but also contributing in no small measure to the progress of the work on the new airplane.

As a rule, Paul and Bob managed to stop in each Saturday for at least an hour or so to lend some assistance to John and Tom, and when there were no school contests on, they spent practically the entire holiday in the hangar.

The cool days of November soon compelled the boys to install a couple of heating stoves in the big building, and after that the place was warm and cheery throughout the working day, no matter how blustery and nippy the weather. At night the coals were carefully banked with ashes, to keep up a fair degree of warmth until the following morning.

Up to this time nothing had been seen of any suspicious person lurking around the premises, but one afternoon late in the month, when Tom Meeks was working alone in the hangar and John had gone to town after some bolts, Tom thought he heard a strange sound at one of the two windows near the workbench.

Turning quickly from the wing-strut which he had been setting in place, Tom faced the window just in time to see a swarthy-looking countenance, adorned with a toothbrush-like mustache, pulled out of range. The mechanic had been informed of Bob's experience with the man who had evidently followed him to the grounds during the summer, also of the blue-prints which had been stolen, and now as he observed the similarity in looks between this eavesdropper and the reported shadow of Bob, he became quite excited.

With that lack of coolness and presence of mind characterizing a more reserved temperament, the impulsive Tom rushed straight up to the window, and peered out. Of course he could see nothing, for the peeper had been cute enough upon finding himself observed to keep close to the side of the building as he moved swiftly toward its rear.

Tom now seized the lower sash and tried to throw it up, so as to get a sidewise view. To his disgust he found it double-spiked, and realized that he had put that very second nail in himself upon first learning of the loss of the blue-prints.

"Huckleberry pie!" sputtered Tom, using his favorite expression when excited.

He whirled about and started for the door of the building. On account of the extensive size of the structure it was quite a little way to this. To make matters worse Tom dashed forward in such haste and flurry that he did not watch his step very closely; when he was about half-way to the door, his toe caught the protruding leg of an innocent sawhorse, and the next moment Tom Meeks and the sawhorse were both overturned.

"Huckleberry pie!" gasped the big fellow. His right shin hurt like fury, but he would not stop to examine it, and covered the remaining distance to the door in very ludicrous limping jumps. Dashing around the front of the building, he reached the corner which gave him a view of the side.

Not a soul was in sight. Not to be outdone completely, Tom hurried along the side of the building. As he came near the rear end he saw a slender figure just clambering over the highboard fence of the field in the rear of the hangar.

Lame as he was, big Tom knew there was no chance of his overtaking the fleet-footed and cunning stranger, so he returned to his work very much crestfallen in spirit.

When John heard what had happened, on his return to work, he was considerably disturbed, and suggested to his comrades the advisability of placing a night-guard on the premises for a while at least, since this unknown enemy might make an effort some night to burn or irreparably damage the Sky-Bird. The others sanctioned this precaution, and thereafter took turns in watching, although this vigilance was apparently all for naught, as no suspicious character appeared.

CHAPTER VIII

THE SKY-BIRD II

"Well, Mr. Giddings, what do you think of Sky-Bird II?" asked John Ross, one memorable day.

There was a smile of deep satisfaction on John's own bronzed features as he put the question, a smile which was duplicated on the faces of his three co-workers—Paul, Bob, and Tom Meeks. It was the latter part of March, Easter vacation week for Paul and Bob, and the two chums had been working every one of the last three days helping John and Tom put the finishing touches on the big new airplane. And now this Friday morning it rested gracefully upon its own rubber-tired wheels, its great stretch of wings spread out as airily as those of a monster bird, its huge two-bladed propeller glistening like burnished silver, and its body running backward in a splendid symmetrical taper, to end at the well-proportioned tail. Sky-Bird II was done at last.

Mr. Giddings was so lost in admiration at the beautiful lines of the craft that he did not reply immediately to John's question. He had not seen it for almost two weeks, and in that time, under the onslaughts of the four boys, it had changed appearance in a striking way, numerous finished parts having been connected and paint and varnish having been applied.

"All I have to say, young men, is that if she performs anywhere near as well as she looks, I shall be thoroughly satisfied with the money I have invested thus far," declared the great newspaper man with an enthusiasm which he did not try to conceal. His eyes were shining, as he walked around the craft looking at it from all sides. He rubbed his fingers lingeringly over the smooth fuselage, and smiled quietly as he regarded the name "Sky-Bird II" lettered in large blue characters on her sides and underneath each long bird-like wing. Then he mounted a folding step and went through a neat door into the glass-surrounded cabin. This was deep enough to stand up in, and provided comfortable

upholstered cane seats for the pilot and four passengers or assistants. All of these seats except the pilot's and observer's were convertible, forming supports for the swinging of as many hammocks, and in a small space at the rear was a neat little gasoline-burner, and over it a built-in cupboard containing some simple aluminum cooking ware.

"Well, I declare!" said Mr. Giddings in amazement at the convenience of things, "it looks as if you fellows hadn't left out a single item needed in a long and enjoyable cruise."

"There's nothing like being fixed up for all emergencies, sir," laughed John. "As you notice, we have everything for night-flying as well as day-flying. With such a machine as this there is no reason why a crew of four or five could not run nights as well as days, two operating while the others sleep in the hammocks. Cold foods can be cooked or warmed up on the gas-stove when needed, and the enclosed cabin protects all hands from the worst effects of bad storms."

"Wouldn't this glass break in a hailstorm?" asked Mr. Giddings. "It seems to be pretty thin."

"It is thin," said Paul; "that is to give it lightness. It might check some in a hailstorm, but it could not break out, as it is made of two layers of glass between which is cemented a thin sheet of celluloid."

"I think you had two Liberty motors here in the hangar when I was here last. I neglected to ask you the power of these, and what you need two for," observed Mr. Giddings. "I thought you said in the beginning that you considered one 400 horse-power engine of sufficient strength to carry this plane at a fast clip."

"It is this way, sir," responded John. "The regular big biplane of the bomber type carries two propellers with an engine for each propeller. If one motor fails them when flying, about all the other is good for is to make a landing with. By reason of the great lightness of our airplane one good 400 horse-power motor is all we need for pulling purposes. But suppose this should fail, as any motor might do? We could not continue, any more than the other fellow, and would have to volplane to the ground. Again, suppose we wished to fly continuously more than twelve hours? We could not do so, as such a steady run would heat the best motor and ruin it. These two Liberty motors, which we have, overcome all these troubles. Both are so arranged that a simple switch connects and disconnects

either one with the propeller, and both can be put at work at the one time if needed in a bad storm. If one stalls, the other can immediately be thrown in and a forced landing obviated. Moreover, if we could get fuel when needed, with this arrangement I am safe in saying we could fly steadily day and night, resting one motor and working its mate, for a week or more."

"What is this?" As he spoke the publisher touched a peculiar-looking helmet hanging from a hook near the pilot's seat.

Bob laughed. "Why, don't you recognize the products of your talented son, dad?" he cried, as he took the object down and clapped it over his father's iron-gray head. "That's my new wireless telephone headpiece, and right underneath it here is the mahogany cabinet containing the sending and receiving instruments. You see, these two wires run from the plug up to the receivers, there being one receiver in each side of the helmet, right over your ear, pressing against the ear tightly by means of a sponge-rubber gasket."

"A man looks like a padded football player with this thing on," said Mr. Giddings with a smile. "Why is a helmet required at all?"

"We wouldn't require it so much with these motors, as they are equipped with a new kind of muffler which shuts out about four-fifths of the noise other airplanes get," explained Bob. "But for all that there are always noises in airplanes; for instance, they say the whirr of the propeller when it is revolving about 1450 revolutions per minute, or at the full speed of this one, makes quite a roar; so you see the need of the helmet to shut out all undesirable sounds possible. In ordinary planes the crew cannot talk to each other except by using phones or putting their lips to each other's ears and yelling at the top of their voices, according to what John and Tom tell me. But we don't expect to have that trouble in this enclosed cabin and with this new muffler working, do we, fellows?"

"I'm sure we won't," said John.

"Not if I'm any judge," grinned Tom.

"Can you talk with a ground station when you're flying, say a couple of miles high?" asked Mr. Giddings, examining a transmitter attached to a yoked wire support which his son slipped over his shoulders.

"Farther than that. With this particular vacuum tube, which will amplify sounds

three or four times over any other I have tried, we expect to talk with ground stations or other aircraft at a distance of three thousand miles. Notice what a simple thing it is, dad," and Bob indicated a little glass bulb which looked a lot like an ordinary incandescent light, but which had a peculiar arrangement of wires and substances inside.

"Is the transmitter or receiver made just like the ordinary kind?" asked Mr. Giddings.

"Practically the same, dad. The wireless transmitter, like that of the wire telephone, contains a sensitive diaphragm which your voice strikes and sets to vibrating. These vibrations compress and release a capsule of carbon granules which agitate and set in motion an electrical current in two magnets connecting with them. The magnets convey the sound-waves in the form of electrical waves, along wires out to the tip of each wing, where the wires hang down a little way. When a message comes in it is caught by a webbing of antennae wires in our wings."

"Then I suppose these sound-waves, in other words the words one speaks, run out of the end of these wires into the atmosphere?"

"Exactly, sir," agreed Bob. "That is, the electrical waves are projected into the air and disturb this air in a way to make it pulsate in the same manner as your voice makes the diaphragm pulsate. These waves are then carried through the atmosphere in every direction, and sooner or later reach the antennae wires of some station equipped to receive them. Down these wires they dash, are registered and magnified in the wonderfully delicate vacuum tube, and from it are carried up into the receivers at your ears."

"I should think they would be electrical impulses when they reach the receivers," argued Mr. Giddings. "How can a person hear *words* from electrical discharges?"

Bob smiled. "Easy enough, dad," he went on. "You see, this vacuum tube does the business. The electrical current agitates this in unison, and the impulses are immediately converted into words again,—and there you are!"

"I acknowledge my understanding now," admitted Mr. Giddings, with a hearty laugh; "but there's just one thing yet I want light on: Where do you get your electrical current? It takes a dynamo to make electricity, else storage batteries. I don't see either."

"Come outside here a moment, dad."

Bob smiled as he led the little party out of the Sky-Bird's cabin. When they once more stood on the hangar floor, he pointed to a peculiar T-shaped object just beneath the nose of the airplane. This had escaped the gentleman's observation until now.

"It looks like a small propeller with a torpedo sticking out from the middle of it," laughed Mr. Giddings.

"So it does, dad," agreed Bob. "Well, that's our wireless dynamo. You will notice that the propeller faces ahead, like the big fellow here. When the airplane is flying, the rush of wind spins the fan at a terrific rate, its axle operates a little dynamo in this torpedo-like case and manufactures electric current. The current then passes into this small apparatus here with a bulb attached, which regulates the voltage and sends it up to the instruments in a uniform flow, no matter at what speed the airplane may be going."

"That's a cheap way of getting current," declared the newspaper man, "and a mighty good one, too." He now changed the subject by asking: "How much do you suppose this machine weighs?"

"I have been in smaller ones which weighed, unloaded, as much as three thousand pounds," admitted John Ross, with a peculiar smile. "Put your hands under the Sky-Bird's nose here and see if you can lift her, Mr. Giddings."

"Don't joke that way, John," expostulated Mr. Giddings. "Why, her engines are right above this portion of her, and I couldn't lift one of them alone."

"Just try it anyhow, dad," persisted Bob, who also wore that queer smile.

More to accommodate them than because he expected to accomplish anything, the publisher half-heartedly braced himself in a crouching position and pushed upward on the airplane's front. To his amazement the whole forward part of the machine rose upward a foot in the air, as if it were made of paper.

"My word!" exclaimed Mr. Giddings, letting the craft back upon its wheels. "Who would have thought such a thing? I had faith in this principle of the hollow wings and helium-gas, boys, but I never thought it could reduce the normal weight of the plane to such a vast extent, It is truly a wonderful idea."

"You might not believe it, but the Sky-Bird weighs less than two hundred pounds as she stands," said Paul. "Just before you came today, Mr. Giddings, Bob and I, one at each end, easily lifted her clear off the floor."

"It's what we aimed for, and we've got it," added John with satisfaction, while Tom Meeks nodded his head and ejaculated, "I'd say so! I'd say so!" his whole broad face abeam. "This feather lightness means great lift, great speed, and great cruising range."

"I should think so surely," was the decided response of the newspaper man. "I notice you have installed that 'automatic pilot' too. And what's that up here in front on top of the cabin? A searchlight, as I live!"

"Yes, dad," said Bob; "we thought that would be a good thing in case we do any night traveling on this tour of the world. It ought to have good power, being operated with current from the storage batteries of the wireless wind-dynamo."

After a little more inspection and further questions, Mr. Giddings took his departure, promising to be on hand at the hangar the following morning for the test flight.

CHAPTER IX

THE TEST FLIGHT

John, Paul, and Tom reached the fairgrounds a good full hour ahead of the scheduled start that Saturday morning. In fact, Mrs. Ross had given them an earlier breakfast than usual, so that they could give the Sky-Bird II a general going over before it came time for her to make her initial flight.

Of course all three young men were a good deal excited, although they were careful not to let each other know it, for fear of being the target for a little fun from the others. In this effort at reserve, the irrepressible Tom was the least successful of the trio, as might be expected, and when he caught John and Paul slyly winking at each other and glancing in his direction as he nervously tried the same control for the third time, he blurted out: "Oh, you fellows needn't laugh at me! You're just as much on edge as I am, now that we're really going to fly this old bird!"

"Come, Tom, don't try to cover up your nervousness by accusing us of the same thing," protested Paul.

"You're as agitated as a young kid with his first electric toy train, Tom," laughed John. "How much gasoline have we got in the tanks now?"

"The gauge shows ten gallons," said Tom, bending down and looking at the instrument-board in front of the pilot's seat.

"That isn't enough for a decent flight," declared John. "We'll probably be out for at least an hour, and we may use as much as fifteen gallons in that time; that's about half the consumption of ordinary airplanes, you know. We'll shove in twenty gallons more so as to be on the safe side."

"We haven't put in any oil yet," reminded Tom. "We'd better put in about two

gallons, I should say. Most planes use about a half-gallon to the hour; if we use half as much, that will give us plenty of grease."

The tanks were in the lower part of the forward fuselage. With the caps removed, a hose was inserted by Paul, and then John forced the gasoline up by a small but powerful handpump until the gauge told that the required additional twenty gallons were in. The same pump would work with the oil also, and soon the viscid fluid had been transferred from the storage can on the hangar floor to its proper tank in the airplane. Thence it would feed itself up into the carbureter of the working engine by a force-pump attached to the engine, as with the gasoline.

The boys had just finished putting in the fuel when Mr. Giddings and Bob drove up in the former's automobile.

"I expect this is a great day for you young men?" said the publisher, with a smile of greeting to all. "I know it is a time I have looked forward to myself for a good many months,—ever since I accepted the challenge of the *Clarion*, in fact. Is the Sky-Bird supplied with gasoline?"

"Yes, sir," said John; "we just got through with that job. We have easily enough fuel aboard now for a couple of hours' flight, and that will be long enough for a first one. New engines are always 'stiff' and should not be run too long at a stretch."

"Have you run this pair yet?"

"Oh, yes," said Bob. "We have tried them out several times, dad, and in connection with the propeller, too. They work tip-top, either connected or disconnected. I tell you, when they're in connection they certainly do make this big propeller hum!"

"I can't understand how you can operate the propeller in here," said Mr. Giddings, much puzzled. "All the airplanes I have seen have always dashed forward as soon as their propellers began to revolve under impulse of the motor or motors; there was no restraining them. I should think this machine would run through the front end of the hangar here as soon as you—"

"Pardon me, sir," interrupted John, "but we have gone those fellows one better. You forget that in the drawings we showed you there was a set of brakes designed to be worked by a control within reach of the pilot, brakes which will

engage these ground wheels a good deal the same as brakes work on automobiles—by a flexible band of steel and grit-filled cotton which is made to compress over a large sort of hub on the inner side of each wheel."

"Very good," said Mr. Giddings; "but I understand that has been tried before, with the result that the airplane at once tipped forward and stuck its nose into the ground, or rather tried to, smashing its propeller to smithereens."

"They will do that every time unless something has been devised to counteract this tendency to pitch over," explained John. "We have devised the thing to prevent it, Mr. Giddings."

"See here, dad," put in Bob at this point. "Stoop down a bit and look under the forward end of the body here."

His father did as requested, and Bob pointed out a circular opening about the size of a saucer, from which protruded the end of an aluminum-encased shaft bearing a small rubber-tired wheel of very sturdy proportions.

"That is our preventer, dad," smiled his son.

"In a few minutes we'll show you how it works," added John Ross. "I see you are wearing a cap, sir, as I suggested. That is all the special dress you will need, as our enclosed cabin makes helmets and close bundling unnecessary. We fellows will wear our regular working togs."

Everything being in readiness, the four young men easily pushed the big airplane out of the building and to a place where it would have a smooth runway for a hundred yards ahead. The weather was ideal for the trip. There was little wind, and the few strato-cumulus clouds which were visible showed great stretches of azure-blue sky between them.

"Everybody climb in," ordered Tom, with a wave of his hand. "I'll crank her up. You take the joy-stick, John."

All hands complied. Then Tom began to turn the big burnished propeller, just as John threw a lever from the inside which caused the auxiliary ground wheel to shoot down and engage the sod. At the same time the movement of another lever by Paul set the airplane's brakes.

Several times Tom turned the propeller around. Then, with a pop, the engine cylinders began to fire, Tom jumped swiftly back, and the propeller whirled like a mad thing. At the same time the Sky-Bird gave a start, as though to dash forward; but beyond a steady, slight vibration of her whole body, as Tom slowed down the motor to four hundred revolutions per minute, there was no indication to her inmates that she was straining to get away. Tom now quietly mounted the step, and came into the cabin, pulling the step up after him and closing the self-locking door.

"That shows you how this third ground wheel acts, dad!" cried Bob triumphantly to his father, who sat in a chair adjoining. "Now watch the old girl jump ahead when Paul throws back the brake lever and his brother lifts the third wheel and gives her more gas!"

The changes were made even as he spoke; the propeller's hum grew into a mild roar through the cabin walls, and the Sky-Bird leaped away over the ground, gaining momentum at every yard. To the surprise of even two such veteran flyers as John Ross and Tom Meeks, the airplane had gone less than fifty yards when she began to rise as gracefully as a swallow in response to her up-turned ailerons and elevators. In less than ten seconds she was well up over the fair-grounds, and the roofs of all the buildings in the neighborhood were seen below them.

John kept the machine mounting at a good angle until the altimeter showed them to be up two thousand feet. Then he straightened out the ailerons and elevators, and began to run on a level keel. The other inmates of the cabin noticed, by looking through the observation windows, that he was gradually bearing in a great circle about the town of Yonkers. Off to the northwestward were the rugged blue crags of the Catskills, covered with patches of milk-white snow, and just in front, winding like a huge serpent among the picturesque foothills, was the sparkling Hudson, dwindling away to a mere silver thread in the north, tapering away in the same manner toward the south, where it lapped the piers of the city of New York and immediately afterward lost itself in the waters of the Upper Bay. Although the great skyscrapers of the big city itself could be dimly seen, they looked very small at that distance.

Directly below them our friends could make out the familiar buildings and landmarks of their own town as they swept past one by one, John purposely flying at reduced speed so that a clearer vision could be had. He also shot down to within a thousand feet, presently, as he saw his own home approaching.

Someone, whom both John and Paul immediately recognized as their mother, stood in the door waving a handkerchief. In recognition, Paul drew down one of the sliding windows, and put out his head and fluttered his own handkerchief. Shortly afterward—it seemed not more than a minute—the machine was over Shadynook Hill, and Bob and his father were waving a similar salute to Mrs. Giddings.

As they swept on, men and women and children could be seen looking up from the streets beneath. Most of these people were used to seeing airplanes, but obviously the bright finish of the Sky-Bird II, and its striking eagle-like appearance created more than passing notice.

Those in the cabin were amazed to note how effectually the new muffler and the walls of the cabin shut out the sounds of operation. It was very easy for them to talk back and forth with each other by using a fairly strong pitch of voice, even when the machine was running at a good rate, as it now began to do, for John once more gave the engine more gas, and turned the airplane skyward. Up, up they shot like a rocket. The hand on the dial of the altimeter moved along steadily—it reached 2 again, passed to 3, 4, 5, 6; the earth seemed literally to be falling away from them. All at once, when they were between six and seven thousand feet high, and watching the minute patches of color far below, which represented buildings, houses, hills, and the like, these objects were swept away, and through the glass plates of the cabin floor they could see nothing but a gray vapor below them. It was also around them.

"We're passing up through a cloud," said Bob to his father, who had never been in an airplane before. A moment or two later, the boy added, as the blue sky could once more be seen below, "Now we're above it, dad."

"It seems to be getting colder," remarked Mr. Giddings.

"It always gets colder the higher one goes," informed Paul.

"I hope you're not getting cold feet, dad?" grinned Bob.

"Oh, I'm comfortable, thank you," laughed his father. "Say, son, isn't this as good a time as any to try out the merits of that wireless 'phone of yours? Can you work it from this height?"

"I don't know why I can't—and three times higher," Bob said; "we'll try it right

now. When I left home I told Sis to mind the set there in my room, and watch for my signal. We'll see now if I can get in touch with her."

So saying, Bob put on the wireless helmet, threw the switch, and kept repeating, "Hello, Sis! hello, Sis! hello, Sis!" for a few moments in the transmitter. Then he said, after a brief silence: "I get you, Betty. Won't answer you now, as I want dad to talk to you."

With that Bob smiled, removed the headpiece, and slipped it over his father's head, exchanging seats with him.

Mr. Giddings now heard a voice—the voice of his own daughter—asking quite distinctly:

"Do you hear me, daddie?"

"I certainly do, Betty," said he; "where are you?"

"Here at home—up in Robert's room. I never thought I'd be sometime talking with you when you were flying through the air. Mother just called upstairs and says she can't see the Sky-Bird any longer. Where are you now?"

"Up above the clouds somewhere just north of Yonkers," replied Mr. Giddings laconically.

"Oh, goodness! I must run right down and tell mother. Please don't go too high or too far, daddie, will you?" came the clearly agitated tones of the daughter. "Is Robert all right?"

"Indeed he is. We'll soon be back with you and tell you all about it. Everything is working perfectly. Good-bye, Betty!"

And Mr. Giddings arose with a pleased laugh, and hung up the helmet. "I'll take off my hat to you, Robert," he said. "I never thought your fussing at home all these years with electric batteries, buzzers, and what not, would amount to anything like this."

The Sky-Bird II was now running straight ahead with the speed of the wind, John giving the craft more and more gas, and crowding her pretty close to the limit. The wind swept by both sides of the streamlike cabin with a rushing sound

like the distant roar of a huge cataract; the flexible window glass gave slightly to its pressure, but there was no sign of it breaking. One minute they were in the midst of a cumulus cloud; the next, through it. Now they saw the faint outline of the earth, now sky; now the earth was screened by cloud, but above were the blue heavens.

"Guess how fast we're making it now?" cried John, one eye on the dial which connected with the propeller-shaft.

"A hundred miles," ventured Mr. Giddings.

"Hundred and thirty," guessed Paul and Bob.

"Hundred and eighty," stated the more experienced Tom.

"All too low," said John. "We're going just exactly two hundred and fifty, if this speedometer doesn't lie!"

He now announced that he was going to throw in the idle engine. This was done successfully, and under the extra power they were soon making the remarkable speed of three hundred miles an hour! John then slowed up and disconnected first one motor and then the other, the airplane continuing to fly with unimpaired smoothness.

As a last test, he dropped to a level of three thousand feet, at which time they were considerably north of Albany, and throwing the automatic-pilot into operation calmly removed his hands and feet from every control except the rudder. In this fashion they ran for fifteen or twenty miles on a perfectly even keel, the apparatus automatically working the elevators and ailerons of the craft as various wind currents tended to disturb its equilibrium. At length, John gave a little twist to the rudder, and the way the Sky-Bird began to circle, and to bank of her own accord, was a splendid sight to behold. No hawk, sailing over a barnyard in quest of an unwary fowl, could have performed the trick more beautifully.

As the flyers now headed for home they were all much elated at the success of the first flight of the new airplane. And as it gracefully swooped down into the fair-grounds a little later, coming to a stop in a surprisingly short run over the ground owing to her braking feature, this elation was increased.

CHAPTER X

FINAL PREPARATIONS

After getting out of the airplane, Mr. Giddings was thoughtful for some minutes. Nor did he speak until the boys had pushed the machine into the hangar. Then he said, with deep earnestness:

"Young men, a great load has been removed from my mind by this recent performance of the Sky-Bird II. I have now not the slightest doubts of her adaptability to make a round-the-world trip, and if she performs then as she did this morning, we are not only going to defeat the *Clarion's* crew, but we are going to smash all existing records for a journey of the kind. I wish to know if you really think you could operate this machine steadily night and day, say for a couple of weeks, stopping only for fuel and food?"

"By alternating the engines—yes, sir; no doubt of it," declared John Ross without a moment's hesitation, while Tom Meeks nodded his frowsy head energetically.

"Then," said Mr. Giddings, "you may consider that's what the entire four of you will have to do in a few months, as soon as we can pick out a route and get fuel supplies at the different airports or stops for you. John, you and Tom may consider yourselves under salary right on until after this race; there will be enough for you to do, helping me with arrangements and taking care of the airplane."

"Well, but how about Paul and me, dad?" broke in Bob anxiously; "aren't we going to have anything to do?"

"Oh, you two will have enough to do going to school, I think," laughed Mr. Giddings; "but, to satisfy you, I will let you both help John and Tom select a route and make out a schedule. Do this just as soon as you can, so that I may be

able to give Mr. Wrenn, the publisher of the *Clarion*, a copy. He can then make intelligent preparations for his own crew. I am going to give my rival every consideration in this matter, so that he cannot do any howling if we beat him. It must be an out-and-out fair race, do you understand?"

All nodded.

"Have you heard anything about the other crew yet, Mr. Giddings?" inquired Paul. "I mean, do you know what sort of a craft they are going to use, or who is going to fly against us?"

"I am as much in the dark about those points as you young men," was the reply. "I judge that Mr. Wrenn, who is an astute business man, will keep us in ignorance of his personnel until the last minute. The fact is, I am going to treat him to a dose of his own medicine in this respect. So be careful not to let the public get close to this machine, and talk with no one about it."

With that the publisher and Bob drove home, but the latter came back in the afternoon, and all four young men immediately repaired to the Yonkers Public Library with a blank tablet, there to work out the route and schedule.

It was no easy task. In the first place, they wished the route to be as close to the equator at all times as possible, so that their line of travel would approximate in distance the world's estimated circumference of 24,899 miles. In the second place, for stops they must choose cities or towns with either established landing-fields, or with grounds level enough for this purpose. In the third place, these airports must be so divided that they would not have to be visited during the hours of darkness, for few if any of them would be likely to have efficient enough lighting systems to make night landings safe.

Within fifteen minutes the boys had the long table in front of them literally covered with geographies, atlases, loose maps, and encyclopaedias. Paul even brought up a globe as large as a pumpkin, while Bob was not content until he had secured a score of back numbers of travel magazines. Into this divers collection of diagrams and reading matter they dove with an avidity which would have surprised the teachers they had when they were in grammar school, if they could have seen them. It soon became evident that they would not only need a route and schedule to make their journey successful, but also an enormous amount of general information about the countries they would pass

over.

"We'll have to study trade winds, oceanic storm conditions, temperatures, inhabitants, topography, and so forth, and so forth," drawled Tom Meeks. "Say, fellows, I feel like kicking myself to think I didn't study my geography more and shoot paper-wads less, when I was a kid at school."

"We'll have to do a lot of cramming, that's sure," averred John; "but we have several months for that. Just now we want to jump into this route and schedule."

They made up several tentative routes, only to discard them. Finally, after several hours' work, they had one which everybody seemed to agree was the best that could be picked out. With the schedule, which was figured on the basis of 120 miles an hour airplane speed, the draft looked like this:

Miles Airport Arrive Leave
—— PANAMA ————— 1:00p 20th
1672 Georgetown 5:30a 21st 7:30a 21st
1154 Para 6:00p 21st 9:00p 21st
2402 Freetown 6:15p 22d 9:15p 22d
1980 Kuka 1:00p 23d 8:00p 23d
2015 Aden 6:00a 24th 9:00a 24th
2116 Colombo 5:30a 25th 8:30a 25th
1612 Singapore 6:00p 25th 9:00p 25th
2218 Port Darwin 5:30p 26th 8:30p 26th
3826 Apia 5:45a *27th 8:45a 27th
2100 Nukahiva 9:00a 28th 12:00n 28th
3154 San Cristobal 6:00p 29th 9:00p 29th
650 PANAMA 5:30a 30th —————
———
24899

* Gain of 1 day by reason of crossing 180th Meridian, or International Date Line, between Port Darwin and Apia.

Bob Giddings carried home a copy of this schedule, and the following Monday morning all four young men met by appointment in the private office of the publisher of the *Daily Independent*. After they were seated, Mr. Giddings brought forth the tentative draft, studied it a few moments, and then asked:

"What is your fuel capacity, boys?"

"Our tanks will hold enough gasoline and oil to carry us a little better than five thousand miles, throttled down to an average of one hundred and twenty miles an hour, the basis on which we figured out this schedule, sir," answered John.

"Would it make a difference if you flew faster than that?"

"Oh, yes," said John; "the faster a pilot flies the more fuel he uses per mile. Full out—that is, going at the limit of her speed—the Sky-Bird probably would not cover more than three-thousand miles."

"I am glad to know this," said Mr. Giddings. "I see that your cruising radius is sufficient to cover your longest jumps at any reasonable speed. Let me see; you allow yourselves three hours' stop at each airport; will that be long enough?"

"Plenty, sir," said Tom; "we figure that we can easily refuel in that time, and attend to any local affairs we may have."

"I notice your total mileage is exactly equal to the estimated circumference of the world," remarked the publisher. "That shows great care in the selection of this route to meet my viewpoint; but may I ask how you know your distances between airports, as here recorded, are correct? From whence did you get these mileages?"

"Bob and I figured them out, sir," spoke up Paul.

"How?"

"Why, like this, dad," explained Bob. "We knew there were 360 degrees to the world; we divided the circumference of 24,899 miles by 360, and obtained approximately 69.5 miles to a degree. By taking a map of the world and finding the number of degrees between any two airports it was not difficult to come pretty close to the actual distance in miles between them."

"Very good; very good, indeed," approved his father. "I think I have the right sort of men on this job. But here is another thing which occurs to me: Have you based your time of arrival and leaving at each port upon local time or New York time?"

"Local time," stated Paul. "If we had not done so we could not have arranged the schedule with any accuracy at all, as regards daylight and darkness and the lapping of time. With our watches set to New York time, we might expect to land at a station in broad daylight, only to find that we were really coming in after dark. Another thing: Our figuring showed us that the lappings of time, all added together, exactly totaled one day of twenty-four hours, which we gain by traveling eastward. So, while the schedule on a calendar at home would only show ten days which we would be gone, we would in reality be away one day longer, or eleven."

"Your local times may be wrong," hinted Mr. Giddings.

"I don't think so, sir; we proved them correct," stated Paul, with conviction.

"How?"

"After the same method we used in getting the mileage, sir. You see, we knew that time eastward keeps getting later, and that this rate is four minutes to every degree. We just counted the degrees between places and figured it out on that basis."

"Splendid!" exclaimed Mr. Giddings, who was far from as ignorant of these processes as he led his visitors to suppose. "Boys, I wish to compliment you very highly upon this piece of work. When I first looked at the schedule and saw that an airplane meeting its requirements would make this trip squarely around the world in seven and a half hours less than ten days I could scarcely credit my senses, and I figured it all over to make sure you had made no mistake. I found out you had not. If you can maintain an average speed of one hundred and twenty miles, and can make up any unforeseen delays by greater speed, I must admit it really looks possible for you to be back inside of ten days. That is better than I actually hoped for, young men,—far better! In fact the situation, as I view it, contains wonderful opportunities for both newspapers in the way of sales and advertising. I do not doubt but that I can handle this affair in such a manner that I can afford to give each of you five thousand dollars if you make the journey within these ten days."

"Five thousand dollars!" cried our friends in unison, while Bob exploded: "But, dad, just how do you figure this out?"

"Mr. Wrenn and I will exploit this contest in our newspapers—let the whole

universe know that it is coming off; advise the people that the aviators are to be provided with the most modern airplanes, and equipped with wireless by means of which they will keep us informed frequently of their whereabouts; that they will have cameras and send us pictures; that these bulletins shall be issued in extra editions of our newspapers at least three or four times a day; and to cap the climax, we will put up large bulletin boards in front of our buildings, on which there will be painted a chart of the trip, showing every scheduled stop, country, and ocean crossed. This will be electrically lighted at night, and as you boys fly in your machine away off in some distant part of the world, our bulletin board operators will follow your course on their huge charts, and represent you with a miniature airplane. In fact, I plan to get the *Clarion* to 'phone over reports of their crew as fast as received, I doing likewise with them, and then we can have two dummy airplanes on each of our boards, showing the race in earnest at all stages of the journey. This would cause great excitement to the street onlookers. All in all, it would make our newspapers the most talked about in the whole country, we would gain thousands of new subscribers, millions of extras would be sold, thousands of dollars' worth of new advertising contracts could be made, and our present rates increased on account of our new prestige. Now, you see, it will be up to you young men to keep our office supplied with your whereabouts as often as you can. Do that, and beat our rival crew, and I shall be pretty well satisfied if you don't quite make the trip in ten days."

"We will do our part, sir," responded John, speaking for all.

There was a little further talk; and then they took their leave, well satisfied with the turn of events, and each determined to win his five thousand dollar trophy if it were at all possible.

CHAPTER XI

OFF FOR PANAMA

That same afternoon Mr. Giddings called upon his business rival, Mr. Wrenn, of the *Clarion*, and presented to him the tentative program for the great race around the world's girdle, as the *Daily Independent* had planned it. Mr. Wrenn declared that he was willing to stand by his former agreement to allow the *Independent* to select the route, and said it was entirely satisfactory to him, and that he would at once take steps to have fuel supplies on hand at the various airports for his crew when they should arrive. He made no comments as to his own airplane, but agreed that the advertising plan his caller had worked out was a capital one, stating that he would co-operate heartily with him in carrying it to a successful conclusion.

Mr. Giddings was considerably surprised that Mr. Wrenn made no objection to the longest "hops" on the route, which were of greater extent than the average airplane could make, and was ready to modify the arrangement if there had been any objection. But even when he particularly called this matter to the other publisher's attention, Mr. Wrenn only smiled serenely, saying, "Those hops are perfectly satisfactory to us," leaving Mr. Giddings with a deep wonderment as to what sort of aircraft the *Clarion* proposed using.

"I am under the impression that our contemporary has something up his sleeve, but I cannot conceive what it can be," Mr. Giddings confided to his son that evening upon reaching home; and when Bob repeated this to the Ross boys and Tom Meeks next day, they too began to wonder more than ever what type of an airplane the *Clarion* proposed using against them, and who the crew might be.

"Did your father and Mr. Wrenn decide upon a date for the start?" asked Paul.

"Yes," replied Bob; "they made it the 20th of July, this summer, weather

permitting. We start from Panama at one o'clock in the afternoon."

"Our curiosity as to the identity of our competitors will be satisfied then, at least," laughed John.

"And their curiosity, too!" put in Tom. "I'll stake my last cent they're just as much in the dark about us and the Sky-Bird II as we are about their outfit."

"We'll hope so, anyhow," remarked Bob; "but ever since we had those blue-prints stolen, and found we had a stranger sneaking around the hangar, I've been uneasy."

At this reference, all the young men felt a strange oppression. They had talked over it more than once, and each time it had left them with a sense of peril to their interests, why they could not tell. As before, they now tried to laugh it off, and began to talk about other subjects.

There was still considerable to do in the way of preparing the Sky-Bird and themselves for the long trip, and for weeks all four boys were kept hustling to make the final installations of accessories and equipment. Bob rigged up a wireless telegraph in connection with his telephone set, and for protection, four good repeating rifles and an automatic shotgun were put in racks in the after-cabin, while each fellow provided himself with an automatic revolver which he would carry in a holster attached to a belt. Medium-weight flying suits, with a heavy, wool-lined coat to slip on in case they flew very high, and trim flying boots and soft gloves, made up the personal toggery.

Whenever the boys found a chance they went to the public library and absorbed all the knowledge they could about the countries over which they would pass and the places at which they were destined to stop. By writing to the authorities in these localities, Mr. Giddings also secured much valuable information for them as to present weather conditions and landing-fields—information which was further supplemented by numerous special airway maps supplied by the Aero Club of America and similar aviation organizations in foreign countries. From these maps Paul worked out a very clear chart of their own course from beginning to end. A copy was given to each of the newspaper publishers concerned, to reproduce on their large electric street boards, and another was framed and placed immediately in front of the pilot's seat in the cabin of the Sky-Bird II.

All this time the columns of the *Daily Independent* and the *Clarion* contained frequent vivid references to features of the trip calculated to awaken the interest of the public, and as the time slipped along into July, the attention of people all over the land was centered upon the forthcoming contest, and it became the principal subject for comment. The secrecy maintained by both principals as to the kind of aircraft to be used, and the mystery as to identity of the members of the respective crews, only whetted curiosity and interest the more, as the sharp newspaper men knew it would. Every man, woman, and child in the wide world seemed to be eagerly waiting for the moment to come when he or she would see the promised pictures of the bold aviators and their machines in the big newspapers, and hear that they had made their first jump eastward from Panama.

All being in readiness, at daybreak on the morning of July 16th the Ross boys and Tom Meeks appeared at the Sky-Bird's hangar, and pushed the airplane outside. As they were doing so, Mr. Giddings and Bob joined them. The publisher had planned to accompany his crew to Panama in the machine, to see them officially off, while his reporters made the journey by train, in company with the writing force of the rival paper.

"We'll keep the time of our going secret, leaving before people are generally up," Mr. Giddings had said to the boys; "and by going on the 16th we'll not only be ahead of their smart calculations, but we shall have about half a week to rest up and see the country down there before you begin your strenuous journey. I need a little vacation anyway, so I will accompany you. We will stop off at Miami on the way, and enjoy some big-game fishing in the Florida waters with some of my friends."

So the young men were very much excited and eager to be off this morning of the 16th, you may be sure. The Sky-Bird was tuned up a little to make certain she was in first-class condition, then they all climbed in and the big glistening creature of wood, metal, and silk shot up into the air. It would probably be close to three weeks before they would see that familiar field and hangar again, and in that time if all went well they would circle the huge globe upon which they and their fellow-men lived. It was truly a most inspiring thought—one to have filled less phlegmatic blood than theirs with the wildest pulsations!

The weather was not at all promising, masses of gray nimbus-cloud threatening to shut out the sun as it arose, with a promise of uncertain winds, if not rain; but John and Tom declared the conditions all the better for giving the machine a

good test-out.

They climbed slowly upward through the cheerless, mist-laden skies, the engine well throttled back and running as smoothly as any engine could. To make sure that all was in perfect working order, they circled for ten minutes over the town, trying the different controls, then turned the Sky-Bird southward.

At two thousand feet they suddenly emerged from the fog belt into brilliant sunshine, but the world below was lost to sight, screened by a dense pall of mist. Accordingly, Tom Meeks, who was acting as pilot, set a compass course for Cape Hatteras, the first guide-post along the Atlantic coast, some five hundred miles distant. After an hour's steady running, John took the throttle, followed later by Bob, and finally Paul. It was a new sensation to the last-named youths to be piloting the airplane out of view of the earth's surface, relying solely for safety and position upon the compass and altimeter, and knowing that somewhere far below them swept the rolling billows of the ocean; but they enjoyed it immensely.

Finally, just as John declared they ought to be close to their objective, the winds freshened and made a great rift in the fog below them, through which they could plainly see the grand old Carolina coast-line a little way ahead and to their right. Between the main shore and the long spine-like series of reefs constituting the cape itself, sparkled the waters of numerous sounds, while the weather-beaten lighthouse on the extreme elbow of Hatteras stood out like a stick of white chalk against the rocky gray background of its support.

All were delighted with the accuracy with which they had made their first guide-post, as John and Mr. Giddings checked their bearings on the chart. The Sky-Bird had behaved splendidly so far, and if she continued in that way they ought to reach their destination well before nightfall, even at the reduced speed at which they had been flying, which had averaged not much more than a hundred miles an hour.

It now became a question whether they should leisurely follow along the inwardly curving coast-line, taking in Savannah, Charleston, and Jacksonville, as guide-posts, or save a hundred miles or more by flying straight across the waters to Miami. As they wished to test out each member's ability to operate by compass rather than by landmarks, it was decided to take the shorter route. So gradually they left the rugged American shore behind and swept farther and

farther out to sea.

The Sky-Bird II was flying as steady as a rock. All the bracing wires were tuned to a nicety, the wind humming through them and along the smooth sides of the great creature's body with a whistling monotone which arose and fell with bewitching rhythm as the force fluctuated. The varnish and fire-proofing compound glistened brightly in the sunshine, attracting the attention of numerous seabirds, mostly gulls and ospreys, which followed them at times for short distances, only to be outdistanced. The engine was running at less than half its possible speed, and purring like a contented kitten after a meal of fresh milk. The clouds and fog had cleared away; the sky was as bright now as a sky ever gets; far beneath, the blue-green waters of the Atlantic, flecked with white-topped waves, spread on all sides. Two torpedo-boats, looking like toys, went northward, and tiny white waving specks showed that the Jacks aboard were waving a salute to them. Off seaward a black trailing blot against the horizon showed where some unseen steamship plowed her way between ports. Mr. Giddings and the boys were filled with admiration.

A small airplane is ideal for short flights, joyriding the heavens, or sight-seeing among the clouds; but there is something more majestic and stable about a big machine like the Sky-Bird II which a pilot soon begins to love with a passion he never feels toward the little 'plane. An exquisite community of spirit grows up between machine and pilot; each, as it were, merges into the vitals of the other. The levers and controls are the nervous system of the airplane, through which the will of the aviator may be expressed—expressed in an infinitely fine degree. Indeed, a flying-machine is something entirely apart from and above all other contrivances of man's ingenuity. It is the nearest thing to animate life which man has created. In the air an airplane ceases to be a mere piece of dumb mechanism; it seems to throb with feeling, and is capable not only of primary guidance and control, but actually of expressing a pilot's temperament.

The lungs of the machine—its engines—are the crux of man's mechanical wisdom and skill. Their marvelous reliability and intricacy are almost as awesome as the human anatomy. When both engines are going well, and synchronized to the same speed, the roar of the exhausts develops into one long-sustained and not inharmonious *boom-m-m-m-m!* It is a song of pleasant melody to the pilot, whose ear is ever pricked to catch the first semblance of a "sharp" or "flat" note telling him that one or more of the twelve cylinders of each busy engine is missing fire and needs a little doctoring.

It was about four o'clock that afternoon when our party first sighted the low, out-jutting sea-coast of Florida. As they came slowly toward it, by reason of their angular course of approach, they could gradually make out a group of green palms here and there along the white stretches of sand, and see clusters of light-colored buildings, piers, shipping, and people moving about. Thus they passed Juno and Palm Beach, and then saw the thicker cluster of fine dwellings of Miami itself, the most southerly city on the Florida mainland.

Paul was guiding the Sky-Bird at this time, and turned her across the limpid waters of Biscayne Bay, cutting a huge circle above the town and slowly swooping downward toward the broad white beach, as he picked out a level stretch for landing. Townspeople who had been watching the strange airplane, so much like a great bird, now ran forward to see it land.

A moment later, with a graceful drop and upward curve, it struck the sandy beach and ran forward lightly until the brakes were applied and it was brought to a standstill.

CHAPTER XII

FIGHTING A DEVIL-FISH

Many questions were asked our friends by the onlookers, but they gave them evasive replies, being careful to let out no hint as to their real identity and connection with the approaching race around the world. Two husky negroes were engaged to watch the airplane until relieved from such responsibility, and Mr. Giddings then led the boys to the home of a Mr. Choate, a close and trusted friend and superintendent of the big Miami Aquarium, one of the most noted repositories for live fish in the country.

Mr. Choate was astonished beyond measure when he learned that his old friend had come in the big airplane which he and his wife had noticed over the town a short time before, and was still further surprised when Mr. Giddings bound him to secrecy and told him that the young men with him constituted the crew of one of the two airplanes which was so soon to circle the earth by way of the equator. He shook hands warmly with them, and with his charming wife made them all very much at home.

Than Mr. Choate, no man in the South knew more about the multitudinous varieties of fish inhabiting Florida waters. He was not only an authority on them, but he was also recognized as a most skillful catcher of fish. For over an hour that evening he told them absorbing stories of the habits of Gulf Stream denizens, and recited stirring tales of battles with some of the biggest of them. And when he finally announced, "To-morrow I shall see that you are given a taste of our wonderful fish-life by joining me in a fishing expedition," they could hardly get to sleep for thinking of the fine prospect.

After breakfast the next morning, their host conducted them down to the waterside and into the beautiful white concrete buildings of the aquarium, and here he proceeded to show them, swimming about in great glass tanks, the most wonderful collection of fish they had ever seen outside of the big New York

aquarium itself.

"You probably never realized before," said Mr. Choate, "that in the warm waters of the Gulf Stream, between Miami and Key West, more than 600 varieties of fish are to be found. They vary in size all the way from the tiny sea-horse, the size of a baby's little finger, to the great tarpon and killer-whale, the latter a vicious creature weighing many tons and large enough to swallow a good-sized boy without scraping the buttons off his jacket."

"It must be a lot of sport to catch some of these fairly big fish," remarked John Ross.

"Well, this afternoon I shall take you fellows where you can all have a chance at them," said Mr. Choate with a smile. "It would be interesting to have a motion-picture record of the thoughts which flash through the mind of the average inland fisherman the first time he feels the tiger-like swoop of a five-foot barracuda, the fierce yank of a hundred-pound amber-jack, or the sullen surge of a big grouper on his line; for even when armed with the heaviest rod, and a line as big around as a silver dollar, he is pretty sure to wish, at least subconsciously, that his tackle might be twice as formidable and his arm twice as strong. Just imagine yourself, for instance, out in the clear blue waters of the Gulf Stream, looking overboard at your baited hook thirty feet below, which you can see as plainly as if it were in no water at all. Then up comes a great jewfish, which is just as likely to weigh five hundred pounds as fifty, and to be as large as a good-sized Shetland pony, and he makes a lunge for your bait, and— Well, you can go right on imagining the rest, too."

In all, they visited a half-hundred tanks of fish before they were through, watching this group and that group of inmates disporting themselves about in the salty water with apparent unconcern of visitors. In markings some of them rivaled the most beautiful designs the mind could picture, and others were so brilliant and wonderful in color that the rainbow was mild in comparison.

From the aquarium our party went up the beach to where the Sky-Bird II was resting under guard, and putting two new negroes to the task, they returned and had lunch with Mr. Choate, following which he conducted them down to the pier and aboard his sea-going motor-yacht, *L'Apache*. This trim vessel had a crew of five men, and as she started away, headed for the Bahama Islands, a 25-foot motor-driven tender bobbed along in her wake. In this they were to do most of

their fishing, their host declared.

Assisted by the northeastward pressure of the Gulf Stream, they made splendid progress, and that evening cast anchor behind Bimini, a tiny isle which rests like a jeweled feather on a summer sea. It was like pulling teeth to go below deck for sleep and leave the wondrous beauty of the tropical night, with the soft, cool touch of the ever-blowing trade wind, the shadowy grace of the giant coconut-palms swaying and whispering on the nearby beach in the moonlight, while the surf, lapping upon the coral reef on the outer side of the isle, lulled them with its crooning obligato.

At sunrise all hands were up and ready for the sport. A hot breakfast was served by the cook, after which they piled aboard the motor-tender, throwing in rods, lines, and harpoons.

Through the island channel out to the open sea they went, all except the steersman hanging over the side of the craft and enjoying the amazing sights in the clear depths below. Bob excitedly pointed out a group of six or eight big tarpon lazily wallowing about fifty feet beneath them. And less than two minutes afterward, Paul, in no less excitement, announced the discovery on his side of a big nurse-shark which was rolling an eye at him from the ocean's floor. John pointed out, from the bow, a great school of fish numbering possibly ten thousand, which Mr. Choate stated were small mangrove-snappers. They were parading up and down a stretch of coral shelf along the bottom, and they made a wild dash and hid in crannies under the coral as a big barracuda unexpectedly shot into their midst and grabbed one unlucky snapper.

In a little while the fishermen were out into the open sea, and all began to scan the pulsating bosom of the Gulf Stream with fresh interest. Strange as it may seem, the fish of tropical waters do not appear to have the slightest apprehension of danger from the noise of a motor-boat, and one cannot only get very close to them, but can follow them about and observe their movements without trouble, particularly if he is familiar with their habits.

In a little while Mr. Giddings called the attention of all to a dark shadow not far below the surface, about two boat-lengths on the quarter. Mr. Choate promptly announced this to be a "herring-hog," a species of porpoise, and ordered the boat turned that way.

The creature proved to be a full-grown herring-hog, weighing around four hundred pounds, and as this species destroys great numbers of foodfish, Mr. Choate made preparations to attack it. Reaching the proper position, a hand harpoon was thrown by him. It found its mark, and away went the great fish at so fast a clip that the line fairly smoked as it shot from the reel barrel. In a few moments it was all out, and then the motor-boat gave a jump forward and rushed after the herring-hog. He was towing it, as if it had been a chip!

The engineer now reversed the propeller. This act slowed up the herring-hog noticeably, but still his prodigious strength carried the craft forward. It was ten minutes or more before he tired sufficiently for them to haul him in.

As they were making the big fish fast to the gunwale, a considerable disturbance was observed on the surface of the water about a quarter of a mile away. Mr. Choate judged this fuss to be caused either by a leopard-shark killing its prey, or by some battle royal between two equally big denizens of the deep.

Mr. Giddings and the boys were all excited at the thought of getting a harpoon into a huge leopard-shark, which will fight any and everything that swims, as well as many things of flesh which do not swim, not excepting man himself.

But as the boat drew closer, Mr. Choate, who seemed to have uncanny eyesight plus long experience with subsea life, added greatly to the nervousness of his guests by suddenly exclaiming: "Stand by, men; it's the biggest devil-fish I have ever seen!"

At once everybody who could find one, seized a harpoon; and in his excitement Tom Meeks even picked up an oar, as if to defend himself against attack!

In a few minutes they were close enough to note that the entire bottom of the ocean in the area where the creature had been seen had gone suddenly dark; and in the translucent depths above nearly all of the party discerned a gigantic shadow moving along. It looked for all the world like an immense pancake with bat-like wings. These wings were fluttering queerly, and from the action of the fish Mr. Choate said he was sure it was devouring prey which it had just killed. He now asked Paul if he would like to try a cast. The boy assented eagerly. Bracing his feet in the bottom of the motor-boat he took good aim and let his harpoon fly.

Paul had hardly hoped to hit the devil-fish. And probably he would not have

done so, inexperienced as he was with a harpoon, except for the fact that the creature was of unusual size and presented a broad mark. As it chanced, the steel went true. The devil-fish arose to the surface as though hurled upward by a submarine explosion. One of its great battle-like fins broke above the water, sending gallons of spray over the occupants of the boat, and splintering the harpoon staff against the boat's side as if it had been a match stem; then its ten-foot pectoral wing struck the water with a terrific impact, making a noise which could have been heard several miles away.

For a moment the monster seemed bewildered, and that moment cost it dear, for it enabled Bob to throw another harpoon, which stuck deep into its body near the spine. With a mad dash it started off to sea, taking the harpoon lines with it. As the lines sped out of their barrels Mr. Choate grasped one and Mr. Giddings the other, aided respectively by John and Tom, and all hands strained to hold them, but although they went out slowly, they could not be held, until at length Paul and Bob came to the rescue and managed to get the ends around cleats in the boat.

However, this did not stop the devil-fish. It made out to sea with remarkable speed for so clumsy-looking a monster, towing the heavy boat and its inmates after it with the ease of a horse pulling a toy carriage! As it went, all hands bore on the lines, adding to its burden, but for a long time this seemed to have little or no effect.

Every once in a while the devil-fish would literally hurl itself several feet out of the water, and its huge flat body would come down with a crack like the explosion of a gun shell. Perhaps it was imagination, but each time it broke the surface in one of these cavortings it seemed to the boys that the fish was bigger than the last time.

Now and then the creature would sound for deep water, in an effort to shake its captors off, and several times it went down so far that Mr. Choate stood ready with upraised hatchet to cut the lines at the last moment, in the event the bow should show signs of diving under.

All of a sudden the lines slackened, and all hands frantically hauled in slack, as the devil-fish turned and dashed toward the boat. He came up almost under the craft, one great wing actually lifting one side of the heavy launch well out of the water and giving everybody a pretty stiff scare.

With quick presence of mind, Mr. Choate at this moment let drive another harpoon, which found lodgment in the monster's flat head, and away it dashed again with the greatest vigor. As there was now a line leading to each side of the devil-fish's body, those in the motor-boat found they were able actually to drive their captive as if it were a runaway horse, a gradual bearing on one "rein" or the other tending to direct the uncertain creature in that direction. Thus very adroitly they swerved the huge fish toward the now distant shore of Bimini, hoping to master it in the shallower waters of the isle.

By this time the monster had carried them out fully ten miles. It had not forgotten its old tactics of deep diving either, and there were numerous occasions when, after one of these submersions, it came up and started fiercely toward the boat, and it took the most skillful maneuvering on the part of the steersman, as well as wicked use of oars on the part of those in the craft, to drive the creature off and keep from being upset.

They let their anchor drag, and at times reversed the propeller, hauling on this side and that on the harpoon lines when the devil-fish would not be going to suit them. In this fashion it was slowly but surely tired out; they began to reel in slack line, and finally the immense fish was wallowing within twenty feet of the boat, surrounded by hungry sharks which had been attracted by its blood. It would never do to goad it now by hauling in on the lines, as it might dart under the boat and upset it, and the waiting sharks could then make a meal of its luckless inmates. So Mr. Choate told the boys to use their automatic revolvers and see if they could not dispatch the devil-fish at once. This was done, John, Tom, Paul, and Bob all firing several shots each, which put the monster in such a helpless state that they could handle it with less danger to themselves.

Until that moment not one of them realized that nearly five hours had elapsed since they first attacked this Jumbo of the sea, so busy had they been every moment of the time in trying to conquer the creature. And everybody was quite exhausted, now that the excitement was over.

Although this fish had three harpoons in his body and a dozen shots in its head and heart, it was by no means dead, and the fishermen found considerable difficulty in towing it into the harbor, some miles away.

The natives of Bimini were greatly interested in the capture, and our friends were able to get fifteen of them to help draw the enormous carcass ashore where

all could get a good look at it. They were amazed at the unusual size of the devil-fish, and Mr. Choate declared again that he had never seen such a large one of its kind. It measured twenty-two feet across, and must have weighed close to 5,000 pounds.

"Some people call the octopus a devil-fish," said Mr. Choate. "This is all wrong. They are both large and vicious creatures, but entirely different in looks. The devil-fish belongs to the ray family, and, as you see, is a huge bat-like creature which uses its body fins with a waving, undulating motion, and propels itself through the water at remarkable speed."

"It is built on the principle of our airplane—in looks," said Tom with a grin; "and in speed, too."

"So it is," responded Mr. Choate. "It derives its satanic name from these cephalic fins or lobes which extend outward and upward from each side of its flat head, like curling horns. When it dashes into a school of smaller fish, these fins whirl about in every direction, and as they are often four feet long they easily reach more than one hapless fish and he is swept into the yardwide mouth of the monster and devoured with almost lightning speed."

After a rest, the party went out in the motorboat again, this time to catch foodfish. They had fine luck, and after an appetizing meal aboard the *L'Apache*, in which their small catch played an important part, all set out for Miami, tired and happy.

CHAPTER XIII

THE STRANGE AIRPLANE

The first thing the boys did the following morning, after spending the night at the home of Mr. Choate, was to go down to the beach and see if their airplane was all right. They found one of the two negroes asleep, but the other fellow was faithfully on guard, and everything about the Sky-Bird seemed just as they had left it, although the watchers said that a considerable number of curious townspeople had come to look at the machine the day before and they had been very busy keeping venturesome boys off the craft.

Our friends let the negroes go to get their breakfasts and some sleep, and engaged two others to take up the watch. Following this, in company with Mr. Choate, they all retired to the bathhouse, secured bathing suits and had a fine time disporting themselves in the warm surf for the next hour. The youths had never experienced Gulf Stream bathing before, and the water was so enticing that it was hard to drag themselves out of it.

As they were in the act of emerging to dress themselves, a black speck, which all had noticed in the northern sky, had developed by nearer approach so that they thought they could recognize it as an airplane. It was coming down the coast very rapidly. Wondering if its pilot intended to land in the vicinity, they gathered on the beach and curiously waited for it to come nearer.

At times they were puzzled to know whether the approaching object were really an airplane or a great bird, for it surely looked like a bird with its swelling breast-line and slightly tilted broad-shouldered wings. Closer and closer it came. It was flying very high.

When it was almost over them, Mr. Giddings uttered a startled ejaculation; "My stars, boys! It's *our* machine!"

Paul and John Ross and Tom Meeks were equally astonished. They had noticed the strong resemblance at the same moment. Involuntarily, with Mr. Giddings and Mr. Choate, they turned their heads up the beach to see if the Sky-Bird II was where they had left it.

They saw its huge outline and its patrolling black guards. It had not changed position. Even a group of gaping Miami citizens lent reality to the situation, and some of the latter were gazing aloft at the other flying-machine, as our friends had been doing.

The stranger above them evidently had no intention of stopping. Instead of circling the town, as he would have done had he intended to land, he swept straight over and kept on his southward course, heading across Florida Strait.

On the face of every one of our friends, as they saw this image of the Sky-Bird II cross the sky overhead and disappear in the mists beyond, was a look of amazement, incredulity, and finally dark suspicion.

"Can it be—?" Mr. Giddings hesitated, and looked inquiringly at his younger companions.

"It looks that way," said John Ross, with a reluctant nod.

None needed to explain that the same thought had struck him, also. The stolen blue-prints—the skulking man with the swarthy face! He had duplicated the Sky-Bird!

More than that, each recalled the *Clarion's* secrecy about the kind of airplane it planned to use; and its willingness to attempt the long "hops" which ordinary machines would have had difficulty in negotiating. It all pointed to but one logical meaning. And Bob Giddings expressed the opinion of all when he observed:

"Dad, I believe there goes our prospective competitor in the race around the world! He's making for Panama now!"

Further comment on the situation would have been useless. All hands, each with disturbing thoughts of his own, went silently into the bathhouse and resumed his regular garb.

Mr. Choate and his wife begged them so hard to remain over another day at least that Mr. Giddings assented. That afternoon they went for a long automobile ride along improved roads, both sides of which were lined with palms in places, luxuriant tropical grasses in others, and towering forests covered with creeping vines. They stopped the car a number of times to visit great orange groves, and the boys had their first taste of the luscious fruit just as it ripened on the trees.

The following morning, directly after breakfast, they were besieged by two or three local newspaper reporters. Seeing no use of further concealing their identity, Mr. Giddings gave out a little information to the gleeful newspaper men, but was careful to wire in to his own newspaper much more detail of their doings since leaving Yonkers, even mailing some photographs which they had taken of the tussle with the big devil-fish.

In the afternoon our party paid a visit to the aquarium again, extending it to the Biological Laboratory nearby; and took supper in the beautiful white casino, which fronts the beach, after they had had a refreshing plunge in the ocean's waters. Then Paul and Bob took up Mr. and Mrs. Choate for a short flight in the airplane.

Early the next morning they bade their Miami friends good-bye, and once more took to the air, this time to complete the last leg of their journey to Panama. It was found that the Sky-Bird's fuel tanks were apparently still full enough to carry them to their destination, so it had not been necessary to store either gasoline or oil in Miami. This was very gratifying, as it showed quite conclusively that, later on in the race, the Sky-Bird would be able to make her longest jumps without the peril of fuel shortage.

At a height of close to two thousand feet they headed across Florida Strait, with Paul at the throttle. It was a real joy to be looking through the glass panels of the airplane's cabin once more, to hear the muffled roar of her engine and propeller, and to realize that probably before dark they would be across the five hundred miles of blue waters of the Caribbean and hovering over the world-famous Canal Zone.

It was a fine morning. What clouds could be seen were well above them—light, billowy, and white, reflecting the sunlight so strongly upon the white-capped waters below, that the sea seemed much closer to the voyagers than it really was.

Shortly after eight o'clock they crossed over the long, low-lying island of Cuba, dipping down close enough to get a fairly good view of the topography. Then rising to three thousand feet, they swerved a little to the eastward and made off across the Caribbean Sea itself.

At a few minutes of eleven they sighted the shore of Jamaica, five miles or so to the eastward of them. Then John took the throttle, both engines were put into the work, and they began to whizz through the air at a clip which would have made them gasp for breath had they been in an open cockpit. As it was, the rush of air as it swept along each side of the fuselage and off its narrowing tail, became a veritable howl in whose noise they found conversation very difficult. Tom Meeks, who was leaning over John's shoulder and watching the instrument-board, triumphantly announced presently that they were traveling at the rate of 280 miles an hour!

For thirty minutes or more John Ross kept the Sky-Bird going at this terrific speed, then he slowed up, and transferred into mono-engine gear, as there was no use in unnecessarily heating the power-plants. As the indicator of the speedometer retreated to 150 miles, he turned the throttle over to Bob Giddings, and said: "Hold her at this rate, Bob; it's plenty fast enough for the present."

It was a little after one o'clock when Paul and Tom announced land to the westward. After looking at the object, which surely had the appearance of land, Mr. Giddings laid down the glasses and consulted the chart.

"That's undoubtedly the outer point of Nicaragua," he said; and upon taking a look themselves with the binoculars, the others all agreed with him.

Keeping the low-lying coastline of the continent on their right, and buffeted considerably by contrary winds which now began to make themselves manifest, Bob threw the automatic-pilot into gear at a suggestion from John, as this insured greater safety, and steered with the rudder only. At once the riding became easier, for the moment a gust of wind hit the machine on one side, the elevators and ailerons shifted and counteracted its uneven effect.

After a while Bob turned slightly to the eastward, and about mid-afternoon they came in sight of Colon, the Atlantic terminal city of the great Canal. Sweeping over its collection of houses, at an elevation of about fifteen hundred feet, they passed the big white Gatun locks, and followed the trail of the Panama Railroad

across the great neck of rugged land which joined North and South America—followed, too, the tortuous, wonderful channel which American enterprise had cut through.

Thus over Gatun Lake they flew, over the Chagres River; along the course of Culebra Cut, with its high banks, across the Pedro Miguel and Miraflores locks on the other side of the isthmus; over Ancon; and finally below them lay clustered the white-robed buildings of Panama itself, with the swelling blue reaches of the big Pacific to the southward and westward, and the bold shore-line of South America to the southeastward.

Looking down as they circled the narrow tongue of land on which the city proper nestled, our friends soon made out the big Government landing-field and airdrome, distinguished by its whitewashed cobblestone markers at either end. And, now, as the Sky-Bird II swooped downward, several attendants in white pantaloons could be seen running out of the building.

When the airplane had settled, these men came up. Two were short, black fellows, probably San Blas Indians; but the other two were whites, though well-burned by the tropical suns. The taller of the white men introduced himself as Henry Masters, superintendent of the landing-field, and was extremely courteous when he learned the identity of the new-arrivals.

"We have been looking for you gentlemen," said he, "and I'm glad to know you had such a fine run from Miami. There are a lot of strangers in town—been arriving for the last three or four days—all to witness the start of this big race. Most of them seem to be newspaper men from the States, though there are a number from South America, and even Africa and Europe. Is this the plane that you fellows representing the *Daily Independent* are going to fly in?"

"This is the one, Mr. Masters," responded John.

"It is a beauty," said the superintendent with enthusiasm, as he glanced over the graceful outlines of the Sky-Bird. "I never saw one built on these lines until the other day, when what seems to be its twin came in."

"Much like-um lot," remarked one of the natives, and his companion, added more concisely: "Same like-um lot."

In spite of the fact that our party had been fearing some such information as this

upon reaching Panama, the actual announcement of it made their hearts jump wildly.

"Where is this machine now?" asked Mr. Giddings as calmly as he could.

"In the hangar," was the reply of Masters. "It is the one that is going to fly against you."

"Who is in charge of it?" inquired John Ross.

"Five arrived in it. Four of them are to be in the contest, they say. The other gentleman is Mr. Wrenn, of the New York *Clarion*."

A few minutes later, when they pushed the Sky-Bird into one of the big double hangars, their suspicions were conclusively clinched. For there at one side stood the very counterpart of their own airplane, differing only in the name painted upon its sides and under its big hollow wings. These letters spelled "*Clarion*"!

CHAPTER XIV

A FAMILIAR FACE

Our friends exchanged glances. The brow of every one of them contracted into so plain a frown that Mr. Masters, the superintendent of the airdrome, could not help noticing it.

"I hope nothing is wrong, gentlemen," he ventured half-interrogatively.

"So do we," responded Mr. Giddings, "but if there is, it is nothing concerning you, sir, at least. We thank you for your attention to our machine, and wish you to take the best care of it while it is here. Don't let anybody meddle with it, will you?"

"We'll look after it right, you may depend upon that," said the flying official; and the party turned and left the building.

Outside, where they would be secure from the hearing of others, all came to a pause, for there was a lot on their minds.

"Well, boys," said the publisher, "you see our suspicions back there in Miami were certainly well-founded. It seems that in some manner those stolen blue-prints have fallen into the hands of our rivals, and they have been wise enough to profit by the fact."

"Do you think, dad, that Mr. Wrenn could have been back of this theft?" propounded Bob who, although the publisher was a business rival of his father's, had always thought him above such operations.

"I really do not know what to think," was Mr. Giddings's answer. "I have always entertained the greatest respect for this gentleman's honesty, if he does differ with me politically. But I must admit that since this thing has happened—"

"Sh-h!" warned Bob suddenly. "Here comes Mr. Wrenn now!"

It was as he said. Turning his head in the direction of the entrance to the landing-field, Mr. Giddings instantly recognized, in the short figure in linen coming toward them, the person of the publisher of the *Clarion*.

"I shall have this matter out with him right now," was the grim declaration of the *Daily Independent's* director.

"Well, well! how are you, Giddings? How are you, Robert?" cried Mr. Wrenn, sticking out his pudgy hand when he came up to the little group. Such was his gusto that he did not seem to notice the lukewarmness of the father's and son's greeting. Mr. Giddings introduced John, Paul, and Tom, and then the publisher of the *Clarion* continued with good-humored raillery: "I'm mighty glad to see you fellows here, for I began to think you would get scared and flunk us at the last moment. Was over on the hotel veranda when I saw a plane land here, and I guessed it might be you, and hurried right over. Put your machine up yet?"

"We did," said Mr. Giddings rather sourly. "And do you know, Wrenn, when we ran the Sky-Bird in the hangar we saw yours in there and received quite a disagreeable surprise—I may say shock."

Mr. Giddings and the boys watched the broad face of their rival very narrowly as this statement was put. Would he act guilty?

There was an explosion of laughter, the heartiest of laughter, from the *Clarion* director. "Oh, say, that's one on you, Giddings! I knew you'd be down in the mouth when you saw our machine and realized that you would have to contend against one as good or better than your own—one of the same type!" And he laughed again, until he had to wipe tears from his little blue eyes.

This was incomprehensible conduct from a guilty conscience! What could it mean? Surely Mr. Wrenn, of the *Clarion*, was either the coldest and deepest-dyed rogue in the world or a man entirely innocent!

"How did you know that we had an airplane like yours?" asked John sharply.

The fat man broke into renewed chuckles at this question, and it was a moment or two before he could find words. Then he said:

"There's a little story connected with this, and now that we're right on the eve of the race and there's nothing to be gained by further secrecy, I'll tell it to you. You see, about a year and a half ago, possibly two years, a young man came to me for a job as sporting reporter; said he had been a flyer in France and that the Government wanted him as an Air Mail pilot, but he would rather take up the newspaper game. I put him to work, and he proved very good in gathering news of sports, especially aviation stuff. A week or so after you challenged me to this race—which I would have liked to back out of, but couldn't and save my honor—this chap showed me some blue-prints of a novel kind of airplane which he claimed to have co-devised with a flyer friend who, he said, was helping to make you a machine of the same type for this contest. He—"

"What is this young man's name?" inquired John Ross excitedly.

"Peter Deveaux."

"Peter Deveaux!" exclaimed John and Paul at once. And John added: "Mr. Wrenn, that fellow did not refuse to fly in the Air Mail service; he *did* fly, and was dishonorably discharged for drunkenness. Furthermore, he stole those plans from our hangar!"

The publisher of the *Clarion* opened his eyes wide. "Can you prove those assertions?" he inquired. "That last one is a serious charge, sir."

"Nevertheless we can prove it when we get back to New York," declared John warmly.

"Well," said Mr. Wrenn, "I'll finish my story, and then we can talk over this new development more understandingly. As I said, Deveaux claimed to have a half-right in the plans, and having no reason to doubt it, I told him to proceed, when he proposed to make an airplane for us from the designs and to head a crew for the *Clarion* in this race around the world. Now you will understand my position in the matter."

"Wrenn," spoke up Mr. Giddings with quick frankness, "I beg your pardon. The young men here and myself fancied you must have had a guilty part in the production of this fac-simile of our airplane. We now see who is really to blame."

"I do not blame you for your suspicions," was the candid reply of the fat man, "if

things are as you state; and I will do you the honor, Giddings, to say that, although we are business rivals, your word is as good as gold with me. This is a lamentable situation. What shall we do about it?"

Mr. Giddings studied deeply before making answer. Then he observed: "Wrenn, this contest, as you know, has been too widely advertised to wreck it just as it is about to begin by the arrest of this man, Peter Deveaux. Say nothing to him about it; in fact, we will none of us mention a word of this to anybody; but when the race is over you can quietly dismiss him from your service, if you wish. As I now look at it, no great harm has been done, if any, by his duplicity; with two planes practically alike, the race will really be a fairer one, and a more exciting one for the public who read our newspapers, and supremacy will probably go to the better crew."

"I don't know about my crew, as Deveaux picked them up; but they did good work when they brought me down here the other day in the plane," said Mr. Wrenn. "Giddings, I think your plan is all right, and we'll let the race go on as if nothing had happened; but you bet your last dollar I'll fire Pete when it's all over, if he has done what you say!"

With that the publisher of the *Clarion* accompanied our friends back to the hangar, where he had a good look at the Sky-Bird II, and showed his own airplane, which was in all essentials an exact copy of the other. Following this they left the airdrome and went to their hotels.

All had a good night's rest—probably the last one they would have on earth for more than a week,—and after a hearty breakfast they proceeded to get what supplies they would need to last them until they should reach Georgetown, British Guiana, on the north coast of South America. This would be their first stop. Somehow the townspeople quickly guessed their identity, and they were followed from store to store as they shopped by a curious and motley throng of dark-skinned natives, among whom were noticed quite a few white children, presumably belonging to American employees of the Government.

With such eatables as they had bought stored in a basket, and carrying a few other packages, the boys went out to the airdrome. A guard stood at the door to keep out those having no business in the hangar, and as the young flyers passed in they noticed that Mr. Wrenn and a group of four fellows in flying-suits were going over the rival airplane.

"Here, boys, come over here a minute!" called the fat man. As they approached, the aviators with him turned from their work. One, a slender fellow with swarthy skin and a scrubby black mustache, scowled when he looked at John Ross, and as Bob Giddings and Tom Meeks got their eyes on him, they gave an involuntary start, for they recognized in the man the fellow they had seen hanging around the fair-grounds in Yonkers when their machine was in process of construction.

"It's time you fellows got acquainted with each other," said Mr. Wrenn, and he forthwith proceeded to introduce his crew as Pete Deveau, Chuck Crossman, Oliver Torrey, and Sam Lane.

"How are you, Ross?" greeted Pete Deveau. He uttered a sour sort of laugh, as his companions offered their hands around the group. "I won't do any shaking," said he, "as my hands are kind of greasy."

"Don't worry, Deveau," advised John quickly. "We won't feel bad over a little thing like that."

"That your plane over there?" asked the swarthy fellow.

"That's it; quite a strong resemblance to yours here," said John with cutting sarcasm.

"That's so," was Deveau's comment, casting a quick look toward Mr. Wrenn. Apparently he was as anxious to drop the subject as a chicken would a red-hot kernel of corn, for he immediately observed, with an ill-concealed sneer: "I suppose you guys think you're going to leave us a good ways behind in this race?"

"We're not telling what we think," put in Paul; "but one thing is sure: we're going to keep you hustling some."

"Oh, that's too bad, now, ain't it?" drawled Oliver Torrey, as he leered out of one eye.

"Say, kid, we'll beat youse so bad you'll be squallin' before you're half-way round the globe," put in Sam Lane.

"You bet! Ain't no use o' flying against such veterans as us," supplemented Chuck Crossman, with a wag of his frowsy head.

Mr. Wrenn frowned. While these might be his own men, it was hard to countenance such bragging.

CHAPTER XV

THE START

By eleven o'clock the tanks of the Sky-Bird II had been filled with gasoline and oil, and the radiator of each engine supplied with twelve gallons of water. In addition to this, its crew had carefully gone over every brace, control, bolt, and nut to make sure that everything was tight, the engines had been run detached from the propeller for a few minutes to warm them up, and every bearing not reached by the lubricating system was well oiled by hand.

Mr. Giddings had appeared about an hour earlier, bringing with him the two special correspondents of the *Daily Independent*, as well as several other newspaper men representing various prominent foreign publications. As soon as our boys had finished shaking hands with these, they were introduced to a number of well-known Government officials and aviation representatives, who added their good wishes for the success of the big undertaking. Then came Mr. Wrenn with a party of his own distinguished friends, which called for more hand-shaking.

At twelve-fifteen the rival machines were pushed out of the hangar and took up positions in the field, ready for the signal to "hop." At twelve-fifty both crews, with the exception of their respective crankers-up, entered their machines, and a heavy hush fell over the great crowd which had assembled to see the start of the first race around the world's circumference. It was without denial an auspicious moment, and as they stood there and looked at the two big mechanical birds which were to attempt this prodigious feat, embracing almost 25,000 miles, threading every mile of the distance through the air in the astounding time of ten days, the situation was so fraught with awe, particularly to the native Panamanians, that now at the last moment all were practically voiceless.

The rival publishers gave their parting instructions as their crews climbed into the cabins, and these were to the same effect: "Don't forget, boys, to report to us

at every stop, and mail us all the pictures you can. Between stops use your wireless for reports whenever possible. Good-bye, and the best of luck!"

Lieutenant-Colonel Warren J. Hess, a gentleman prominent in American aviation circles, had been selected as judge of the contest. He was not only to give the signal to start off the flyers, but with Mr. Giddings, was to await in Panama their return, and demand from each crew upon arrival a document containing the signature of the port official at each scheduled landing.

Colonel Hess, looking at his watch, now raised his hand, and instinctively those in the front of each of the long lines of spectators flanking the run-way crowded back so that the airplanes would not strike them as they dashed down the field for the take-off. Tom Meeks and Chuck Crossman spun the propellers, sprang back to escape their vicious whirr as the respective engines fired, and quickly clambered into their machines.

It was exactly one o'clock. Both airplanes taxied down the runway side by side. They also arose together, amid a great cheering, some ninety feet apart, shooting grandly up into the air above the heads of the people in the lower end of the field. At a height of a thousand feet, the gray *Clarion* bent eastward. At fifteen hundred feet, the Sky-Bird did likewise. From the open windows of each of the cabins fluttered white handkerchiefs in a final farewell, and many a broad-brimmed hat in the hands of the excited populace below was waved in answer.

Flying low, the *Clarion* started away in the lead, while her rival had been mounting to her own preferred higher level. By the time the Sky-Bird had straightened out, her contemporary was well in advance.

"We're losing ground," said Bob Giddings anxiously.

"Don't worry about that," said Paul Ross, who was at the throttle; "we can catch them when we're ready. We'll get a better current of air up here."

Paul's maneuver had been due to the fact that heavy head-winds were blowing, and he was quite sure if he went higher he would get above the worst of these.

As they now shot along on an even keel, it seemed hard to realize that they had at last started out on the important flight for which they had been planning and working so long; and as Paul watched his instruments and the scudding rival machine ahead, he could not help wondering what the issue of it all might be—if

the fates would be so kind as to smile enough on the Sky-Bird to bring her in ahead of the *Clarion* and within schedule time. Many weary miles must be covered before they would see Panama again. And when they would land in that air-drome again—if in truth they ever did!—would it be as victors, or as listeners to the jeers of the rough crew of the other plane?

It was not an ideal day for the start from a weather standpoint. In fact, a consultation of the weather reports at the Panama Bureau before they left had shown a prophecy of strong northeasterly winds and possible showers. The sun was almost shut out by patches of cloud, glinting through only occasionally; but neither crew had felt like postponing the start, so eager were they to be off and so confident were they in the capabilities of their respective machines to meet almost any sort of bad weather.

Straight along the Isthmus both machines proceeded, making a bee-line for Georgetown, which it was hoped to reach at daylight. The coastline was low along here and very uneven, with numerous pretty little islands on the Pacific side, the waters surrounding them sparkling like jewels when the sun's rays would struggle through the clouds and strike the tossing waves.

In the northern part of the Republic of Colombia they passed just to the right of the western terminal range of the great Andes Mountains, and within an hour's time were sailing through Quindiu Pass of the central arm of the same mountains. At this time they were over twelve thousand feet above sea-level. Then came the table-lands of western Venezuela, open in places and covered with thick growths of tropical forests in others.

As they approached the foothills of the eastern chain or arm of the mountains, Paul took the throttle, and they steadily arose in order to clear the high pinnacles facing them, and finally, at a height of fifteen thousand feet—the greatest height they had yet attained—they went over them. The airplane encountered several "air pockets" in this process, which might have been disastrous to them except for the stabilizing effect of the automatic-pilot. As it was, the machine pitched rather roughly in surviving them.

In sweeping past the last crag they had come very near to striking, owing to a cloud which enwrapped it. Just in time Paul's sharp eyes had seen the white bank of snow on the crag ahead, and he elevated his craft enough to pass over. It was so cold up here, even in the cabin, that the boys had to don their heavy coats.

Just as they turned the nose of their machine toward a lower level, running at reduced speed, a huge bird with curving beak, which John said was a condor, dashed from the crags after the airplane. It was followed a moment later by five or six others. The great birds seemed to resent the appearance of so strange a giant in the mountain fastnesses where they had always held the supremacy of the air, all the time darting angrily at it, flapping their long, black and white wings, some of which had the immense span of fourteen feet, and croaking hoarsely.

The boys laughed at first, but when the creatures commenced to come closer, frequently hitting the windows with their sharp beaks, and cracking two of them, they began to get really alarmed. Once the propeller struck the tail of one bold and incautious condor, and feathers flew in all directions; but after a quick circle he was back again, madder than ever.

"Say, fellows," cried Paul; "we've got to do something with these birds right away! First thing we know, one of them will get hit a squarer blow with the propeller and smash it. Then we'll crash as sure as I'm sitting here."

This peril was very imminent, as all could see.

John seized the shot-gun from its rack, and Tom one of the rifles. These were loaded. Stationing themselves on either side of the cabin, the young men drew down the windows in front of them, poked out their weapons and watched for a chance to use them.

Tom's gun was the first to blaze away, but it is difficult to hit a bird on the wing with a rifle, and he missed. A moment later, as a condor dashed viciously toward his window, John fired, and the great bird, mortally stricken, tumbled into the mists below.

Tom was more fortunate the next time. A condor, with a fluttering of his immense wings, had settled right on the tail of the machine, where he clung with his sturdy talons, threatening to prevent Paul from manipulating the rudder. When Bob called Tom's attention to this alarming situation, the latter joined him at the rear window of the cabin. Tom took careful aim, pulled the trigger, and the condor fell with a broken wing, uttering hoarse cries until the clouds below swallowed him up.

Two more of the fierce creatures were killed before the remaining birds were

frightened off. It was with a sigh of relief that Paul now resumed his descent to lower levels.

When presently they emerged out of the last cloud, and could see the green earth below them once more, they were across the last chain of mountain they would encounter in South America. They gazed with their glasses on all sides, and checked up their position on the chart, although in doing this they had great difficulty on account of a curtain of thin fog which hung over the land, and only a very low altitude of about five hundred feet would allow of it at all.

As soon as they were sure of their bearings they again took a searching observation in quest of the rival airplane, but no sign of it could they see.

"They're probably quite a bit ahead of us by this time," observed John; "but now that we're through the last chain of the Andes we can make better speed. Shoot her up to two thousand feet, Buddy. We'll set our course for Georgetown by compass."

Paul bore upward, and at the level mentioned he straightened the machine with her nose once more pointed eastward, and the compass hand pointing along the left wing of the machine.

It was now growing dark. Not knowing whether this was caused by the closing in of the clouds or the natural declension of the sun, Bob looked at his watch. To his surprise he found it was seven o'clock Panama time, which would make it probably close to nine in their present locality. Night should now be upon them.

As it had been decided to let John and Tom operate the night shift, at least for the first few days, John now took his trick at the throttle, changed to the fresh engine, and Bob and Paul turned into their hammocks for the first sleep aboard the airplane. They were both pretty tired, as each had spent several hours at the helm that afternoon, and it was only a few minutes before the gentle rocking of the plane on the billows of air had sent them into a sound oblivion. Just before retiring, Bob had wirelessly Panama of their safe passage through the mountains and fight with the condors, stating that several snapshots of the birds had been secured and that these would be mailed to the *Daily Independent* upon reaching Georgetown.

Not long after the change of pilots a fine rain began to fall, covering the windows of the cabin with a film of moisture; but as it was now too dark to see

anyhow, John did not care whether he could look outside or not. However, for the good of the machine, as well as the betterment of their speed, he decided to get out of the storm. So, switching on the little dashboard electric lights to illuminate his instruments, he turned the Sky-Bird upward again. Through the very clouds which were expelling the rain, gathered from the warm Atlantic trade-winds, he guided the machine. At nine thousand feet he was above them, in clear dry air, with a blue, star-studded sky above his head and in the mellow glow of a full moon.

"Well, John, this is more like night-flying," remarked Tom Meeks, who sat just behind the pilot, ready to assist him at a moment's notice if the need should appear.

"As long as I know there are no mountains ahead to smash into I'm not worrying a bit," replied John, "and I guess we're all right on that score. I'm going to let the old girl out now, Tom."

"Might as well," was the response.

Thereupon John threw on the gas by degrees until the indicator showed them to be whizzing along at 150 miles. He easily could have gone fifty more on the one engine had he chosen, but was afraid such a speed would carry them beyond their destination and out into the Atlantic before daylight could show them their position. Had they not previously been running somewhat behind scheduled time, he would not have accelerated even now.

Shortly after midnight Tom relieved him at the throttle, and running slightly slower, to make sure they would not pass over Georgetown in the darkness, Tom began to hum softly to himself as he kept a sharp lookout upon his instruments. John settled back in the seat behind, as alert for any sudden peril as his mate had been before.

But no mishap marred the night's run, which was as smooth up there above the clouds as any veteran flyer could have wished. And when at last the bright sun of another day chased the moon and its haze into obscurity, it lighted up the flying craft some time before its orb had peeped high enough over the Atlantic's horizon to shed its rays upon the affairs of earth itself.

Gradually, as the sun arose in the heavens, Tom brought the Sky-Bird lower, until presently he and John could see the ground, bathed in glistening color from

its recent wetting, far below them.

At this time Paul and Bob awoke, and washing their hands and faces, came to the windows to look out. The first thing they all did was to sweep the sky-line for some vision of the rival airplane, but without success. Then they put their attention on the country below and around.

Just beneath was a pretty little blue lake, walled in with great forest trees some of which must have been over a hundred feet high. A short way beyond was an immense field covered with what they were sure must be sugar-cane, and in which they could see dark-skinned men at work with queer carts and clumsy oxen. At the right, a mere thread of silver, was a river, hedged with tropical vegetation. This swept around toward their front, enlarging as it came, and at what seemed no farther than five miles away, poured its waters out into a great sea of apparently limitless expanse.

The boys concluded at once that this great body of water must be the Atlantic Ocean, and when they saw a fair-sized town nestling among the trees at the point where the river joined the sea, their chart told them that the stream was the Essequibo River, and the collection of low-roofed buildings was none less than Georgetown!

A few minutes later, they were circling the town to locate their landing-field which was to be marked with a large white letter T. Seeing it on the second turn, they swept down amongst a curious and half-frightened throng, and taxied to a stop.

To their relief and gratification, they found that their rivals had not yet appeared.

CHAPTER XVI

TRICKED BY RIVALS

Correcting their watches with Georgetown time, as given to them by Mr. Whiteshore, the Englishman in charge of the field, the boys found to their joy that they had arrived five minutes ahead of schedule. This would give them, if they wished to take it, a trifle more than three hours to spend in Georgetown.

But first must come business; they must go over the machine very carefully and see if the long, hard run from Panama had done any damage; and they must replenish their fuel, oil, and water supply. They were happy to find both engines in fine shape, thanks to the possibility of alternating them in transit, and beyond a number of scratches and the cracked glass made by the condors in their attack in crossing the Andes the airplane was in perfect shape. Paul climbed up and examined the helium-gas valves, of which there were three in each wing, one for each of three compartments, and announced that the pressure showed only an insignificant decrease. At the rate of escape indicated, they would have plenty to last them for the whole trip. This was reassuring knowledge, for no envelope can be made so impervious that light gases will not escape at all. The body compartment also showed good pressure.

It took them an hour and fifteen minutes to replenish the fuel tanks and water radiator and put everything in shape. Just as they were finishing up, a cry from the curious crowd around them called their attention to the western sky, and they saw an airplane approaching. This developed rapidly into the unmistakable outlines of the *Clarion*, and in a few minutes the rival crew landed in the field.

Pete Deveaux sauntered over to the crew of the Sky-Bird II.

"Well, fellows," he said, with the sneer which seemed to be on his leathery countenance most of the time, "I notice you got in a little ahead of us. Congratulations! I suppose you're tickled to death."

"We're not quite that far gone; just a little bit alive," grinned Tom Meeks. "What made your crew so slow, Deveau? Did you get wet in that rain last night and have to stop off and dry out your clothes?"

"Aw, cut it out; talk sense!" snarled the French flyer. He turned on his heel, fearing more of Tom's sharp thrusts if he lingered longer, and shot back: "You guys will have another laugh coming one of these days, mark my words!" With that he rejoined his companions.

Not at all worried at such a prophecy, our friends secured a native boy to guide them into the town, a quarter of a mile distant, leaving their airplane under guard of two Chinese out in the open, the field boasting no such thing as a hangar. At the little telegraph office of the town, John dispatched their report to the *Daily Independent*, also mailed at the local postoffice the promised films of the encounter with the condors.

They then purchased some breakfast and began to look about them. While it was still early, the narrow streets were quite well crowded with people, so much so that it looked to the visitors as if the inhabitants never slept. What they saw almost made them rub their eyes to make sure they were not in Asia instead of South America. There were dozens of almond-eyed Chinese within sight, dozens of black Hindoos in turbans and flowing garments, dozens of Parsees wearing long black coats and hats like inverted coal-scuttles; to say nothing of numerous Portuguese and English, the latter mostly merchants and plantation owners.

The roofs of the buildings were slanting, with wooden or galvanized iron walls. Some of the more important of them, such as stores, warehouses, government buildings, etc., were quite large, and stood upon piles to keep them out of the way of floods which often sweep the lowlands in the rainy season. In many of the streets ran canals, which their small guide told them, in pidgeon-English, were drains for the floods. And he also said that the long embankments which the boys saw stretching along the sea front were dykes built at great expense by the sugar planters to keep these same floods from washing the rich soil of their fields out into the ocean.

After purchasing some fresh fruit and groceries for their aerial larder, the little party betook themselves back to the landing-field, on the way passing numbers of pretty little houses which stood in the midst of beautiful gardens filled with tropical plants.

As they neared the field, they saw that quite a crowd had collected since their departure. Pushing their way through the concourse about their own airplane, they were surprised to find Pete Deveau and Chuck Crossman just jumping down from the wings. These flyers hurried away through a gap in the circle of onlookers toward their own machine before our friends could accost them.

The Sky-Bird crew were considerably put out at noting this situation, for they had particularly told the Chinese guards to let no one meddle with the Sky-Bird. The Celestials were squatting unconcernedly upon the ground, one on either side of the airplane, as John rushed up and said to one of them; "Didn't I tell you not to let any strangers around this machine?"

"No lettum stranger lound," protested the fellow. "Him both flylers alla samee you. Like-um see, you see; like-um see, he see."

"Oh, ginger!" exclaimed John, turning to his comrades, in clear disgust, "the stupid dunce thinks those fellows belong to us and we to them, just because we all wear the same sort of flying clothes! Did you ever see the like?"

Paul now took up the questioning. "What were those fellows doing up there?" he asked of the Chinaman.

"No tellee me; no tellee Lee," was the response, as the fellow jerked his head in the direction of his comrade. "Just lookee over alla samee you do li'l bit ago."

"Were they in the cabin?" demanded Paul.

"No go in klabin."

They walked around the machine giving it a cursory looking over, but could find nothing out of the way, and every one of them felt considerable relief.

"I guess they were only taking a look to see if our construction was the same as theirs," suggested Bob. This seemed a plausible explanation, and they accepted it, although with some misgivings.

About ten minutes later they saw the crowd over in the other side of the field scattering, and then the *Clarion* shot up into the air. In a few minutes it was pointed down the coast and making good headway.

Our friends were not quite ready, but when the other machine was a mere speck against the southwestern sky, they hopped off themselves, with Paul at the throttle. Not one of the party had any doubt but that they could catch their rivals before the latter should arrive at Para, where they were due at six o'clock that evening. It needed only that first stage of the journey from Panama to Georgetown to show them that they had either the speediest craft or the most skillful crew.

Paul mounted to a height of about two thousand feet, then let the Sky-Bird straighten out in the direction of their next stop. He opened up the throttle little by little, and the machine rapidly gained momentum. But somehow the young pilot was dissatisfied. Finally he hitched the stick over to the notch which should have brought the craft into a speed of 150 miles, and watched the speedometer closely.

"Humph!" he ejaculated, after fifteen or twenty minutes.

"Say, Paul," cried Bob just then, "we're losing on the *Clarion*. She's clear out of sight now."

"Why don't you tell me something I don't know?" growled Paul in a tone very queer for him.

"What's the matter with you, Buddy?" demanded John, stepping up. "You seem to have an awful grouch on, some way!"

"Got a good reason for it," snapped Paul. "This is enough to make a preacher almost swear."

"Don't talk, but speed her up a bit if you don't want them to get away," advised John.

"She doesn't act right, somehow," said Paul. "The Sky-Bird ought to be hitting it up to a hundred and fifty right now, but she's only making a hundred and fifteen. She acts groggy; don't you notice it?"

"I thought myself she was riding a little rocky—sort of out of balance," admitted John.

"Take the stick and try her yourself," said his brother.

John did so. For fifteen minutes he said nothing, but worked the throttle and watched the speedometer. Then he called Paul again to the seat.

"You might as well take her, Buddy," declared John with a puzzled shake of his head; "I can't do any better with her than you. She wallows along like a man with a load of buckshot in his pockets—heavy—and seems out of equilibrium, too!"

"What do you suppose is the matter, John?" asked Tom Meeks.

"I'll bet Pete Deveau and that Chuck Crossman have been tampering with her, back there in Georgetown," declared Bob.

"I don't know; it certainly looks kind of suspicious," admitted John Ross. He thought a moment. "Cattails and jewsharps!" he exclaimed very suddenly.

"What now?" asked Bob.

"I believe I've hit the trouble," stated John, with his brown face a shade paler. "You know we saw those fellows monkeying around our wings. It would be an easy matter to trip one or more of those valves and let some of the helium out! That would make us heavier, and if more gas were let out from one wing than from the other, we would be out of balance in the bargain."

This declaration of John's brought a startled and troubled look to the faces of his companions. All knew that if Pete Deveau had engineered such a dastardly trick as John hinted at, a handicap would be in store for the Sky-Bird's crew all through the remainder of the race, for it would be impossible to get a renewal of their helium-gas supply before reaching their own country again, and then it would be too late.

"What shall we do?" came from Bob.

"Do? There's nothing to do now, but to keep on flying at the best gait we can until we reach Para," decided John. "When we get there we'll have a chance to find out what is really wrong."

This seemed the wisest course to pursue. So Paul, vexed though he was at the contrary actions of the airplane, buckled down to the job of guiding the machine and complained no more. But he made up his mind that if investigations proved the rival crew had been tampering with the Sky-Bird II he, for one, would do his

part in giving them a warm time should they meet on the ground again.

At noon while John and Tom slept, Bob relieved Paul, and for an hour they made a little better time by working both engines; but, afraid of overheating the one they termed their "night engine", they went back to one motor for the rest of the journey into Para, where they arrived an hour late. And it was to find bad news awaiting them.

The landing-field official announced that the *Clarion's* flyers had left not fifteen minutes before for Freetown, Africa. And upon investigating the helium valves in the wings of the Sky-Bird, our boys found to their dismay that fully a third of the pressure was gone, indicating that an equal quantity of gas had escaped in some manner.

It may be added that there was very little doubt in their minds as to this manner.

CHAPTER XVII

ACROSS THE ATLANTIC

Our friends looked at each other dismally when they had ascertained the cause of the Sky-Bird's sluggish flying. Paul and Tom even gave the craft a tentative push, and found that the loss of her helium had made her so much heavier to move over the ground that the difference was manifest at once.

"This looks kind of black for us, fellows," remarked Bob.

"And we've got those scoundrels to thank for it without the shadow of a doubt," put in Paul, with flashing eyes. "I'd give a year of my life to get my hands on that Pete Deveaux right now."

"It's lucky they got out ahead of us," added Tom significantly.

"Well, if they were here, and if we thrashed the stuffing out of the entire bunch, that wouldn't put back our lost helium and former speed," said the practical John. "What we've got to do now is to try to remedy matters."

"Easier said than done, I'm thinking," Tom observed. "We can't get any more helium here; in fact, not until we get back to Panama. Of course that will be too late."

"I don't know about that," hinted John.

"What's your remedy?" asked Bob.

"I know," said Paul. "The machine's out of balance now, because they have let more helium out of one wing than the other, and none at all out of the fuselage. By letting some out of our body tank, and enough out of the lightest wing to bring it in equilibrium with its mate, we can get a perfect balance again, and that

ought to give us air steadiness and more speed."

"Right you are, Buddy," declared John. "Good head! That's my idea exactly."

"But won't that make us even heavier than we are now?" inquired Bob.

"Sure," responded John, "but balance is the main thing in an airplane, you know. When we get that, the old girl will act a whole lot better than she did coming here."

"Still, our rivals will have some advantage over us," argued Tom.

"That's true—in the way of a lighter machine. But we've shown we could outspeed them when the Sky-Bird was all right, and now we ought to be about an even match for them," said John.

"That means a nip-and-tuck race of it, then, the rest of the way," commented Paul.

At this point a bright idea struck Bob. "Say, fellows," he cried, "why can't we send a wire message from here to Mr. Giddings at Panama, and ask him to have a fast vessel drop a tank of helium off at Nukahiva, Marquesas Islands, for us?"

His comrades slapped Bob so hard upon the back when he made this suggestion that he had to stagger.

"Fine idea, Bob!" declared John. "A fast boat ought to reach Nukahiva before we do, and that will give us a full load of helium again for the last four or five thousand miles of the race. If it's a close contest up to that point, the new supply may save the day for us!"

They now set to work equalizing the gas supply in the wings of the Sky-Bird and reducing that in the fuselage to the proper pressure for perfect equilibrium, which they were able to get by the use of the pressure-gauge and a little figuring. Then they went over all parts of the machine, put in gasoline and oil, and attended to watering the radiators, following which Paul and Bob departed for town.

As in Georgetown, they created a vast interest, and were considerably annoyed by the crowds of natives which followed at their heels, many of whom carried

baskets of fruit on their heads and constantly importuned them to buy some of their wares. Even in the windows of the houses they passed women holding naked babies, who stared out at them, and in the doorways stood girls, some of them beautifully gowned in silks, their dark hair falling like a shower about their comely nut-brown faces, while their eyes opened wide in wonder or dropped in abashment when they saw one of the handsome young Americans look their way.

Para is directly on the equatorial line. It is also the metropolis of the mighty Amazon, the king of all the world's rivers, whose width here at its mouth is close to two hundred miles, and which carries into the Atlantic so much mud from the interior of South America that it is said the waters of that ocean are stained yellow for five hundred miles outward. This mighty stream is formed by countless mountain creeks and rivers draining practically the whole northern half of the continent, and these streams are formed in their turn by the heavy rains which fall frequently from swiftly-gathered clouds. In fact, it rains nearly every afternoon in Para, and the air is always moist, so much so, that articles made of steel and iron quickly rust, and furniture must be pegged together rather than glued to keep it from coming apart.

Paul and Bob found Para quite a good-sized city, but on very low ground. Along the docks of the mighty river were many kinds of boats and ships, from stately ocean-liners to the tub-like barges used to float down from Bolivia great cargoes of raw rubber. There were numerous schooners unloading vegetables and fruit, and countless dugouts paddled by natives. Cargadores, in their bare feet, were carrying goods in and out of the various large craft, supporting the heaviest of bundles on their bare heads. Their faces were all shades of white, brown, and black. Among them were negroes from Jamaica, and Spaniards, Portuguese, and mulattoes from all parts of Brazil.

The business buildings were three and four stories high, and built close to the sidewalks along narrow streets. Their walls, the boys noticed as they crowded their way along, were of all colors, some being faced with blue, yellow, and green porcelain tiles.

By asking questions they found the telegraph office, and there sent the message to Mr. Giddings at Panama, requesting that the helium-gas be sent to Nukahiva by fastest boat. They also wired a report of their progress. They had by this time another roll of exposed kodak films, and this was mailed to the *Daily*

Independent.

No sooner had they reappeared from the post-office than they were once more besieged with peddlers asking them to make a purchase of their wares. Paul and Bob stopped when they saw some particularly luscious-looking oranges and bananas, and were surprised upon asking the price to find that they could have a dozen of each kind for the value of five cents; and oh! how sweet and juicy they were when they sank a tooth into them.

They bought some baked goods in a little shop, and as they emerged an old man with a parrot on one shoulder and a small monkey on the other blocked their pathway, and begged them to look at "nice parryote, nice monk."

They shook their heads, when they saw other vendors crowding forward, and were about to push by when the monkey sprang nimbly upon Paul's own shoulder, snatched off his cap, shook it in front of his eyes, and put it back in place again.

Paul and Bob both laughed, and harder yet as the bright little animal shot a paw into Paul's pocket and adroitly drew out a Brazilian gold coin called a milreis, worth about fifty-four cents in American money.

"You give five milreis, me give monk," said the old mulatto.

Paul shook his head.

"You give four milreis, me give monk."

"No; that's more than I have of these coins."

"You give three milreis, me give—"

"Only have two of them left," said Paul.

"You give two milreis, take monk."

"It's a bargain," laughed Paul.

And he fished another of the coins out of his pocket, accepted the end of the rope tied to the monkey, and went off with Bob, his newly-acquired pet still

contentedly occupying his shoulder.

"We'll surprise John and Tom when we get back to the field," chuckled Paul. "They won't be looking for this addition to the crew of the Sky-Bird."

"I'd say not," declared Bob, also chuckling.

And indeed Paul's little hairy friend did create a lot of interest when they arrived beside the airplane, John and Tom both playing with him, for several minutes, and going into hilarious laughter at the funny antics of the weazened-faced creature, which looked so much like the wrinkled old mulatto from whom he had been purchased, that Paul said he should henceforth be called "Grandpa."

They put the monkey in the cabin, and climbed in themselves, since all was in readiness for the departure. Night had fallen, but the sky was clear and moonlit. So there was no trouble, by helping matters with their searchlight, in hopping off and turning their head across the big Atlantic toward the shores of Africa.

As the trade-winds were blowing quite stiffly in their faces, John, who was at the throttle, determined to mount high enough to overcome their most resistant effects. When at an altitude of about five thousand feet, he brought the Sky-Bird out horizontally, with her nose set by compass toward Freetown. Before they could reach this African seaport it would be necessary for them to travel considerably more than two thousand miles and meet whatever storms might develop. But all had such confidence in the capabilities of the Sky-Bird that none had any worries, fierce as some of the Atlantic storms were known to be.

As they could no longer see the sea beneath them, owing to the darkness and fog which lay between, John had to rely entirely upon intuition and his compass to strike Freetown. Aerial navigation over immense bodies of water is similar to navigation on the seas themselves, except that the indispensable sextant of the mariner is of little use in the air, owing to the high speed of travel and the fact that allowances have to be made for the drift of the machine when side-winds are blowing—an extremely difficult factor to determine accurately.

In side-winds the machine makes leeway in addition to its forward movement, and it is the ratio of one to the other which the successful pilot must work out correctly, especially when flying above clouds or when land features are unobserved. In this particular instance our boys were supplied with charts

indicating the trend of all normal winds in each locality and their approximate force at various altitudes. Thus, by consulting his speedometer, John was able to figure out with a fair degree of certainty what allowances he should make from dead reckoning in order to strike their destination—or rather, we should say that Tom, as John's aid, did most of this figuring, for a pilot generally has his hands full in guiding his steed.

The Sky-Bird was acting much better now, since her equalizing of weight back at Para. She lacked some of the speed of her old-time self, but rode smoothly and evenly in the hardest gusts. It was once more a pleasure to sit in her cabin, even if the rival airplane was ahead of them.

"We'll give them the race of their lives yet," observed Tom, as he studied the map and the speedometer alternately.

"We surely will," said his companion.

And both of them clicked their teeth in a way which boded no good for the rival craft ahead.

Shortly before midnight they crossed the equator for the second time since they had left Panama. But, rolled in their comfortable hammocks and sound asleep, with Grandpa, the monkey, blinking drowsily in a corner nearby, neither Bob nor Paul was conscious of the fact.

CHAPTER XVIII

AN IRRITATING DELAY

Paul was awakened the next morning by feeling a gentle tug at his nose. Unused to such a summons as this, he opened his eyes with a start.

There on his breast squatted Grandpa, his little head cocked comically to one side, his beady little eyes glistening with mischief, and his slim fingers just reaching out for another tweak. The monkey gave a lightning-like spring to the back of a nearby seat when he saw Paul looking at him, and here he set up a shrill chattering, which also awoke Bob and caused Tom and John to whirl around.

"You fellows have got a good alarm-clock now, the way it looks," called Tom, laughing, and taking in the situation. "Grandpa will save John and me the trouble of stirring you sleepy heads up after this, I expect."

Paul and Bob sprang out of their hammocks, and the former seized the monkey and laughingly shoved his nose up against one of the window panes. Far down below were the rolling billows of the great Atlantic, the early sun striking them into many beautiful tones of green and blue, and cutting a silver pathway across the curling crests. A school of dolphins was leaping out of the water off to the left. From the opposite window the youth could see a small emerald island in the distance, but everywhere else was water, vast reaches of it.

Grandpa evidently had no eye for nature, as viewed from this novel position, for he quickly twisted out of Paul's arms and jumped down to the floor of the cabin, where he pranced about excitedly.

"It's just a little bit too high to suit your exalted monkeyship, isn't it?" chuckled Paul. "Well, you'll get used to it, Grandpa, before you get around the world with us! I'll promise you, sir, that you will be the farthest-jumping and highest-

jumping monkey that ever lived. You ought to be proud!"

After getting something to eat, Paul relieved Tom at the throttle, and Bob tried to get Freetown by radio. Failing, he did get Para, and advised them of their safety and approximate position over the Atlantic.

Now that the weather had cleared up so that they could run in view of the ocean, John and Tom themselves turned in for a much-needed sleep, leaving their younger companions to direct the course of the Sky-Bird on the last stage of the lap. The trade-winds were blowing freely, but with a lack of gustiness which made progress against them quite rapid and smooth.

It was two hours later that those in the Sky-Bird saw the coastline of Africa jutting out into the sea in a great bulge, and a little afterward they recognized landmarks agreeing with their chart. As they were slightly south of their course, Bob made the proper deviation, and in twenty minutes they were over a muddy field, marked with the looked-for white T, at Freetown, Sierra Leone.

As they were spiraling downward they saw a crowd of natives gathered in one portion of the field, and caught a glimpse of an airplane's wings in their midst. Many of this throng now rushed over to where the newcomers had landed, among them a tall Englishman, who introduced himself as the port minister and person who was to supply them with a replacement of fuel. Several other Englishmen, all officers in the garrison of the town, came up and were introduced.

"We 'av' been looking for you fellows, but not quite so soon," stated the port minister. "Hif I had known—"

"How is that?" asked John. "We are just about on schedule."

"So you are; but those other flyers over there, who 'av' been 'ere the past two 'ours declared you 'ad been delayed in South Hamerica hand would not be hin before to-morrow morning, so as we 'av' a coasting vessel with more petrol due 'ere then, I let them 'av' hall the petrol they wanted, hand I fear—"

"They had no reason for telling you we were delayed to such an extent as that, without it was to further their own interests," interrupted John, significantly. "But I don't see their game."

"I don't know, I'm sure," was the response; "but as I was saying, they asked for an extra filling of their tanks, and so—well, gentlemen, I am sorry to say it, but there isn't ten gallons left."

Our friends heard this with mixed feelings. They were rightfully incensed at their rivals for such a dastardly trick, vexed with the port minister, and dismayed to think that they would have to wait until the following day before they could resume their journey, for at Para they had not filled their tanks to capacity.

At this point cries arose in the other part of the field. They heard the familiar whir of an airplane propeller, and as they looked to where the *Clarion* had stood, they saw the natives scatter and the gray machine of the other crew shoot up into the air. Rapidly it gained altitude, and was soon a mere dot on the western sky.

Ignoring the yells of the port minister and his military countrymen, the *Clarion* crew had gone straight on, and there seemed nothing for our boys to do now except await the arrival of more gasoline as patiently as they could.

John and Tom set to work cleaning up the Sky-Bird, for the field here was low and very muddy from recent rains, and as they had dashed through the slime in landing much of it had splattered over their propeller and under-carriage.

Paul and Bob went into town, followed by a throng of young negroes who fought for the privilege of getting closest to them. They found the stores small and mostly unpainted, and the houses principally shabby and squatty, most of them having thatched roofs. The streets were narrow, crooked, and dirty, but there were areas about some of the more pretentious dwelling-places which were really entrancing in the wealth of their tropical plants and stately palms. On the whole, the stone garrison, setting a little remote from the town proper, was the largest and best-constructed building, although this looked old and somber. Freetown, the capital of the little British colony of Sierra Leone, is all on low ground, and the air is moist and extremely humid, even unhealthful for those not accustomed to it.

Just before dark a terrific thunder-shower sprang up with all of the suddenness of such equatorial storms, and Bob and Paul made for the field as fast as their legs could carry them. They sprang inside of the Sky-Bird's cabin, wet to the skin, where John and Tom were already ensconced, and Grandpa the monkey gave them a noisy and hearty welcome. A little later, with the rain pattering heavily

down upon the roof, all hands turned in for the first ground sleep they had had since starting out upon their trip.

Shortly after daylight the next morning they were astir, to find the rain had ceased but that the field was a mass of ooze. Through this Tom made his way to the cobblestone street and down to the piers. But the coasting steamer had not yet arrived; in fact, she did not come in until after eight o'clock, and it was two hours later before the flyers succeeded in getting their tanks filled with the gasoline she had brought. Then it was found necessary to secure the aid of a half-dozen negroes, and to lay down many strips of heavy bark for traction, before the Sky-Bird could be run out of her mired position.

Paul was at the throttle as they took off. When he had attained a fair altitude, he gradually increased the speed until they were running full out. Never since the beginning of the trip had they felt such urgent need of putting the airplane through at a fast clip, but that time had now come, for they were fourteen hours behind schedule time and sixteen hours behind their rivals.

The Sky-Bird fairly cut the air like a knife, and the roar of propeller, wind, and engine was so great that our friends found conversation out of the question except by shouting in one another's ears. Poor Grandpa cowered in the farthest corner of the cabin, peeping out from behind one of the hammocks, as meek as a kitten, his tail crooking uneasily. But finding that the strange noises did him no harm, he presently came out and took up a position where he could look through the glass-floor window at the fleeting country below.

It seemed only a few minutes before, rising higher, they shot over the ragged chain of the Kong Mountains in western Senegambia, passing within sight of Mount Loma's bare peak. Then, dropping again until they were not more than a thousand feet high, they flew along over the tablelands to the eastward, recognized the Joliba River as it lay a yellow, twisting band below them, and a little later crossed the southern end of the district of Bambarra.

Great forests and jungles and canebrakes swept past them. In those tangles of gnarled trees, matted vines, interlacing rank grasses, and clusters of towering plants, so dank with the odor of wet and decay that the air even up where the flyers were seemed charged with it, lurked many a monster reptile and ferocious beast. Often the four boys saw the majestic form of a lion or the lumbering shape of an elephant as these animals were quenching their thirst at some open spot

along a stream. And once they caught a brief glimpse of a terrific combat between what seemed to be two enormous rhinos, which had met in a little glen in the midst of a cluster of mahogany trees. How they would have liked to see the finish of this battle royal! Indeed, they would have enjoyed nothing better than to land in some favored spot and do a little big-game hunting with their rifles!

If they had been ahead of their adversaries instead of behind, they might have indulged in such sport, they thought. But now it would be unwise to waste a moment. They must make every endeavor to reach their next airport, Kuka, by nightfall. This small town was on the western bank of the salty Lake Chad, in the very heart of Africa, and on the southern border of the great Sahara Desert. It possessed no railroads or telegraph service, being linked with the outside world only by caravan route, and its inhabitants were practically all half-civilized negroes of the Fulbee tribe, who retained all of their forefathers' superstitions and wore no garb over their frescoed black bodies except a short gikki or skirt.

Mr. Giddings and Mr. Wrenn had had great difficulty in getting an English-speaking man to set up a field at this point for their flyers, and it was only after considerable telegraphing that a Scotch trader named MacInnis, situated at Lagos, the nearest coast-port of any size, had agreed to get a supply of gasoline and oil to Kuka and meet the airplanes when they arrived.

It was five o'clock when the boys passed over the low banks of the Niger River. By seven they were in the heart of the wild, level territory of Sokoto, skimming over vast expanses of plume-like grasses and extensive marshes and swamps. Strange birds of enormous size flew up out of the morasses, startled at the sight and sound of the airplane. Some tried to follow it, evidently to give it battle, but the swiftest of them were hopelessly outdistanced before they were well started.

When the sun disappeared behind the forest back of them, the flyers were still making speed for their destination, with Bob at the throttle. Pretty soon the lengthening shadows and obscuring of detail below convinced the crew that night was just about upon them, and that if they did not reach Kuka within the next thirty minutes they were very likely to be in such darkness that they would overrun it and never know the difference.

Some of them began to wonder if they had not missed their course, when a cry came from Bob, and they all ran forward and looked out of the front windows at

the object he was pointing out.

CHAPTER XIX

SAVED BY THE SEARCHLIGHT

What our flyers saw was a very large body of water, with a strong tone of blue to it. As far to the north as they could see, it stretched, also to the east and south. And the shoreline on the western side nearest them was covered with what seemed a never-ending border of great forest trees, many of which had all the characteristics of mangroves.

This great expanse of water they knew could not be the Red Sea, nor could it be the Indian Ocean; for they had not traveled far enough westward to reach these bodies. Unquestionably, therefore, it was that which they were looking for—Lake Chad.

As they swept nearer, under reduced speed, they observed somewhat to their left a good-sized collection of dwellings in an opening among the mangroves, evidently a town. Swerving in that direction they were soon circling above the place at an altitude of about five hundred feet, hoping that it might prove to be Kuka, their next stop.

By this time it had grown so dark that they could just make out the buildings and surroundings. The former seemed to be nothing more than rude huts with rounded thatched roofs covered by saplings. The flyers saw many dark figures, with little or no garb, running about and excitedly gesticulating upward to their position. As they circled lower, these figures, evidently natives, suddenly vanished within their abodes.

"They seem scared to death of us," remarked Paul, laughing.

"Apparently they think the Sky-Bird is some gigantic member of the feathered kingdom about to swoop down and devour them for their sins," added Paul, who was equally amused. "Pete Deveau and his crowd ought to have landed here

some time this morning, though, and you would think the sight of their machine taking on gas would have gotten the blacks used to an airplane."

Be that as it may, every one of the dusky figures below had vanished as though the earth had swallowed them up. A strange if not foreboding stillness hung over the town. You would have thought it contained not a single being, at least not one who was awake.

All at once John, who had been intently looking around the outskirts of the town, observed an open spot marked with the welcome sign of a white T. He joyfully called the attention of his comrades to this, and as they looked they saw the form of a man emerge from the shadows bordering the field and wave his arms upward at them. From the fact that this person was attired in European costume, they judged he must be Mr. MacInnis, the Scotch trader who had been appointed to look after their fuel interests at this point.

It was a novel experience to be able to make a landing unhampered by throngs of curious inhabitants, as they now did. The field was quite level, though sandy, as might be expected so close to the big desert, and they had to dodge several clumps of small growths, presumably juju trees, before they could taxi to a stop.

The man in linen now rushed up to them, and introduced himself as Mr. MacInnis. He hurriedly shook hands with the boys, displaying, they thought, great nervousness while greeting them, and several times he turned his head and looked in the direction of the nearest shacks of the town.

Then he asked what they thought a very queer question. "Have you fellows enough petrol and oil to last you through to your next stop?"

"That's Aden," answered John; "we didn't fill to capacity at Freetown, and I'm afraid not. Why, what is the matter? Haven't you any fuel here for us?"

"I have plenty of both petrol and oil here for you," said the Scotchman, with another look toward the huts, "but I am afraid for your lives if you stay to put it aboard."

"How is that?" cried Tom, his usually smiling countenance growing sober for once, while his companions felt a vague uneasiness.

"It's this way," stated MacInnis. "About eight o'clock this morning the airplane

that is racing you came in. It was the first machine of the kind the natives had ever seen, and they were greatly frightened, thinking Jobbajobba, one of their heathen devils, had appeared in the guise of a great bird, and was about to attack the children of the wicked of them. When the aviators climbed out, and they saw that they were human, they lost some of this fear, but remained at a respectable distance all the time the 'great bird was being given a drink.' Then two of the men—one was the slender and dark-complexioned fellow—went into the town sight-seeing. In the course of their rounds they stole the ivory head, set with gold eyes and teeth, off of the body of one of the tribe's most cherished idols, the god of Ogu Nogo. This was not discovered until the aviators had departed in their airplane, but then the Fulbees were wild with rage at the 'bird-men,' as they called them, and swore to kill them if they should ever return. To-night they observed you landing, as I did. They are now in hiding, probably with weapons, and are undoubtedly watching your every move, ready to strike when the time comes, thinking you to be those other fellows or men of as evil instincts. As I said, I fear for your lives if you tarry here." And as he finished he once more glanced nervously around at the huts and shacks in the gloom of the fast-gathering night.

But in that direction all was so quiet that John hopefully remarked: "I think they are too frightened to appear. We need more gasoline, as we have been running very hard and our tanks are low. We will hurry matters up, and three of us will fill while the other stands guard with a rifle."

Mr. MacInnis then helped John, Tom, and Paul carry the big square tins of British petrol, which is the same as American gasoline, from the field shelter to the Sky-Bird, where, in the course of a half-hour, two hundred gallons were poured into the tanks, also ten gallons of oil. In the meantime, Bob Giddings, rifle in hand, stood close by, alert for danger. He watched the nearest buildings of the natives sharply, but though he saw numbers of black figures skulking in the shadows among them, no sign of hostility was observed.

The Scotchman had signed his name to the document certifying to the stop of the flyers at Kuka,—the paper on which they were to secure certifications at every scheduled airport,—and they were just in the act of starting over to the field tank to get some water for the airplane's radiators, when, without a moment's warning a hair-raising chorus of yells broke out on the brooding night air, and scores of savage-looking figures sprang from the shadows of the buildings into the open field. They emerged in a long straggling line, hooting and brandishing guns,

spears and bows. They advanced toward the airplane in peculiar hops and side jumps, as if fearing an attack upon themselves. Not once did they cease their blood-curdling shouts. Rapidly they neared the objects of their anger and hatred.

For a full five seconds the boys stood as if rooted in their tracks, too horrified and astounded to think or act. The sharp voice of the Scotchman, however, brought them to their senses.

"You've fooled here too long; it's too late to get away now! They're mad as wet hornets. Jump inside your cabin quick, and defend yourselves as well as you can!"

"But you, sir?" cried Tom.

"They won't harm me, because I'm not a flyer."

The boys dashed into the cabin and shut the door, while the Scotchman hurried away from the airplane. It was certain that there was no time to get out and crank the propeller and rise before the mad Fulbees would be upon them. Cornered in the little cabin of the machine they would sell their lives as dearly as possible.

As they stood, guns in hand, watching through the windows, while the frenzied blacks drew cautiously nearer, spreading a cordon of hundreds all around the Sky-Bird, they could see in the moonlight that the Fulbees were grotesquely painted on arms and faces, while their bodies were entirely naked except for a dirty-looking cloth wrapped around their loins in the form of a short skirt. Every one of them was armed, and as they contracted their circle, guns, spears, and bows were frequently raised in threatening position; but for some reason no shots were fired. The inmates knew, however, that when nearer approach brought more assurance of hitting their target, the blacks could be counted upon to open up actual hostilities.

And now this thought brought a sudden and grave fear to their minds, one unnoticed before. The helium-gas tanks in the hollow wings and rear fuselage! Bullets, spears and arrows striking them would penetrate, and the tanks thus punctured would lose their last ounce of the precious gas!

It was a terrible predicament in which the flyers now found themselves, to be sure. By fighting they might preserve their lives, but that very act would make their world-trip impossible. What could they do?

As the drowning man catches with hope at the floating straw. Bob now conceived an almost impossible but startling idea for delivering them from their dilemma.

"The searchlight!" he cried. "These blacks never have seen one. Perhaps we can frighten them away with ours!"

"Great idea, Bob," approved John, while the others also applauded the scheme. "Paul, you work the lever that revolves the lamp up on top of the cabin there, and, Bob, you throw in the juice."

No sooner had he spoken, than both boys were at their stations. The next moment a great white path, widening as it went, streamed out into the darkness, lighting up everything in its reach with the brilliancy of day, but with a bluish-whiteness which must have been decidedly terrifying to the superstitious negroes. Like an accusing finger the strange light swept around the field, raising and lowering, resting a few moments on this group and then that group of petrified, hideously-painted faces, from which eyeballs stood out like knobs of white marble.

In an instant their incensed cries had ceased, and they had shrunk, cringing, back in their tracks. But only for a few moments, and then their gurgled yells arose once more, this time in ear-splitting fright, as all turned and fled toward the nearest forest. And that great, terrifying white eye of the big "bird" followed them, shining for many a rod on black backs which were so wet with perspiration that they looked like oiled eelskin. Weapons were thrown in every direction as the Fulbees fled. Whenever one would look around and see that glaring eye looking straight at him, he would shut his own eyes and shriek, and then go dashing frantically on. Some even threw themselves prostrate when the flood overtook them, and uttered invocations to their gods for protection from the monster, until they could pluck up courage enough to continue their flight.

Had the situation not recently been such a serious one for them—indeed they were not out of it yet!—the flyers would have roared with laughter. As it was, they kept the light traveling over the Fulbees until the very last one had fled. Then at a quick word from John, they all jumped out of the cabin and swung the airplane around for a quick take-off.

Tom spun the propeller; there was a roar as the engine caught, and a few seconds

later they were mounting up into the starlit heavens of the equatorial night. At a height of two thousand feet, they presently looked down, safe from the menace of the black populace whose reception had been so rabid.

But Kuka was blotted out in the mantle of gloom which lay between. Only the sparkling ripples of Lake Chad, struck by the beautiful tropical moon, could be seen.

CHAPTER XX

A JUNGLE ADVENTURE

So fast had the flyers in the Sky-Bird come across the western part of the African continent, at its greatest bulge, that, coupled with their very brief stop in Kuka, they found they were starting out for Aden, Arabia, with a gain of approximately seven hours upon their lost time of fourteen hours in Freetown. They were now, therefore, just seven hours behind schedule—perhaps a little more than that behind their rivals,—but in the very fact that they were cutting down both items, they felt vastly encouraged, and as the airplane headed eastward across Lake Chad there was only one thing to worry them to any extent.

This was the need of water; that is, all felt that the need would become an urgent one before daylight should come and a chance be given to land and replenish the limited amount which they knew must now be in the radiator, owing to the impossibility of getting water as expected at Kuka.

John was at the throttle, with Tom assisting. Paul and Bob were playing with Grandpa, still too excited over their recent adventure to turn in and get some sleep, as John said they ought to do. After a little while they turned their attention to studying the chart and schedule. Frequently they compared notes, and now and then jotted down some figures on a pad.

"Do you know, John," observed Paul, looking up very cheerfully, "that if we continue to travel at the rate we did between Freetown and Kuka we shall make up all lost time by morning, and arrive at Aden about on schedule?"

"You don't say!" exclaimed John.

"You kids have made a mistake," informed Tom disbelievingly.

"No mistake about it," protested Bob; "it's an out-and-out fact."

"Well, that's cheerful news, then," said Tom. "I know we hit her up to well over two hundred an hour coming across to Kuka."

"And we'll do as much on this stretch, if our water only holds out," declared John determinedly.

"That's the rub," put in Paul. "I'm sure it won't hold out, and if we work right up to the last drop, I'm afraid we may have to make a forced landing, and that may be in the tops of the trees, for all we know."

"Or on an elephant's back," added Bob jocosely.

"Well, I don't know but that we had better try to make a landing as soon as we come to a favorable spot where there is water," remarked John. "It is a fine moonlight night, and if we strike the right place I think we can make the ground. In a pinch, you know, we can use our searchlight."

"Speaking about searchlights—oh my! oh, my! will I ever forget how frightened those blacks were?" And Paul laughed until the tears came into his eyes, now that the tension was off. Tom joined him until both of them staggered and bumped together, causing Grandpa to set up an excited chatter of inquiry.

John kept the Sky-Bird low, down to less than a thousand feet, after crossing the lower neck of Lake Chad, for the chart showed no marked elevations which would make flying at that height hazardous, and it was certain that the closer they were to the earth the better they could detect a favorable place to land.

It was really a beautiful night, and they opened the cabin windows after a while to enjoy the soft balmy air to the full. The wind then rushed through the cabin like a hurricane, roaring so that conversation was out of order; but they enjoyed its cool touch on their hot faces.

One by one the stars had made their appearance, until now the heavens fairly glittered with them. How pretty they looked up there in the great blue vault in which they seemed the choicest settings of an angel's handiwork! Somehow they seemed to sparkle more brightly, and the sky seemed a richer cobalt, than the sky the boys knew at home. But they missed many of the stars which they loved in America. The swift airplane in which they rode had taken them, day by day, and

night by night, away from them. Many stars which were unknown to them had taken their places, and they realized more strongly than all the pictures in the world could have shown them how very unlike were the skies of the northern and southern hemispheres.

One of the most striking sights to them now was the constellation of the Cross, commonly known by mariners as the Southern Cross, and which is composed of four brilliant stars. Sirius, Canopus, and Centaur also filled a part of the heavens with their splendid light. Mars, Venus, Saturn, and Jupiter were old friends in new surroundings, and were all dazzlingly dressed. The part of the Milky Way between the stars Sirius and Centaur was so rich in stars and crowded nebula: that it seemed a perfect blaze of illumination. And there were the Magellanic clouds, white-looking patches made up of countless stars individually unseen to the naked eye, and nebulae—mists of radiating light—all shining brilliantly and revolving around the starless South Pole. To the northward was the constellation of the Great Bear, which reaches its meridian altitude about the same time as the constellations of the Cross and the Centaur. As the boys looked, stars appeared and disappeared. They were like a succession of guests, coming and going.

After a while, the flyers saw a small river glinting in the moonlight and running along for the most part in the direction they were taking.

"The first time we come to a level, open spot along this stream we will try for a landing," stated John. "It will afford us plenty of water for the radiator if we can get down to it."

"And plenty of water for a good plunge, too," said Paul. "I haven't had a bath since we left Miami, and I'm fairly suffering for a wetting, if it's no more than a quick dip."

"Same here," seconded Bob and Tom.

They were running much lower now, on the lookout for a place to stop, and so once more they could hear each other's voices.

Presently, just after clearing a dense forest, they saw the opening they sought. It was a grassy level, free of bushes and other obstructions, and well bathed in the soft light of the stars and moon.

After some careful maneuvering, John brought the Sky-Bird down, and though

the tall grasses wound in the landing-gear in coming to a stop, they broke off without doing any damage.

"We'd better take the guns along," Tom remarked.

"That's so," agreed John; "we might run into some ferocious animal in this wild jungle."

So each armed himself with a rifle and a pail, and John led the way, as he was the only one of the party supplied with a lantern, the others having small flashlights which were none too good for breaking a path in such wilds. They knew the river lay a short distance to the north, but in order to reach its banks from the place where they had landed, they had to cut through a strip of woods bordering it.

It was tedious work getting through. The trees were close together and had to be dodged, and great leaves of plants as large as their bodies seemed to be everywhere, while vines of the toughest fiber frequently shut off their passage and had to be pushed aside or cut with knives. More than once one of the party tripped over unseen obstacles and measured his length in the soft, rank ground-vegetation.

But it was only a little way to the river, and soon they stood upon its grassy bank. It was a pretty stream, not very deep, and seemed quite clear when John held the lantern down to it. They filled their pails, and then, risking all dangers of snakes and crocodiles, disrobed for a plunge.

First one and then the other jumped in. How refreshing the cool waters felt to their hot, sticky bodies! They would have liked to do some diving, but were afraid of sunken logs, and contented themselves by splashing about, swimming a little, and making the woods ring with their laughter and shouts.

Then they came out and put on their clothes. Picking up guns once more, and the pails now filled with water, they started back, John still leading. But they had not gone far when somewhere in advance of them they thought they heard the sound of a breaking limb. So sudden was the sound on the still night air, that all stopped very quickly, their hearts beating fast.

They listened, but the sound was not repeated. They started on again, thinking the limb must have been a dead one and had fallen from some tree of its own

weight. But scarcely had they taken a dozen steps when they heard another sharp cracking of wood, this time very close in front of them.

Their intuition told them now that they were near to some night prowler of the animal kingdom, and perhaps one of considerable size, judging from the crash. Hardly realizing what they were doing, they set down their pails, and cocked their rifles, facing, with alertness and uneasiness, the direction whence the sounds had come.

Now they heard some rustling, as of leaves, directly ahead. It came slowly and cautiously closer. Just as it seemed about to burst out upon their view it stopped. There was no more noise. All was silent; not even the note of a night-bird or the gentle chirp of an insect could be heard. For the first time the sighing of the tree-tops in the soft breeze above failed to meet their ears. What a deathly stillness it was!

Suddenly, right out of the black shadows ahead, there sounded on the hushed air of the night three terrific yells, one following immediately after the other. These piercing cries had hardly died out when another, of deeper note, and a veritable roar, filled the forest with its din. The leaves about the boys seemed fairly to quiver under the violent guttural reverberations.

John Ross may well have been excused for shaking as he held up his lantern in his right hand and threw its rays upon the tall undergrowth ahead, while his fingers tightened like bands of steel around the stock of his repeating-rifle.

As he and his companions looked, they saw peeping through the foliage a black, fierce face, one of the ugliest and most ferocious that man could have imagined. It was staring straight at them. The brute's eyes were sunken under a heavy overhanging ridge of dusky skin. His eyes were small and black, and the iris of each shone like a diamond set in carbon. His forehead was low, receding, and covered with short bristling hair. His nose was broad and flat. His great jaw protruded frightfully, with the upper thin lip pressed tight, the lower curving away and displaying a row of long yellow tusks which could have bitten the hand off a man with one crunch.

The animal now opened his cavernous mouth, and uttered yell after yell again, these sounding something like the bark of a dog but being a hundred times louder. They were followed by terrific roars, somewhat similar to those of a lion,

though of much greater volume. The cries rang through the forest from hill to hill, and died away in the distance. The woods was filled with the echo of his horrible voice.

Then, very slowly his whole body came in sight. He advanced clumsily and ponderously towards the little party of flyers, walking erect, his plain intent being to kill them. His short legs were hardly strong enough, as sturdy as they were, to support his huge body. All at once he stopped to look at them. How vindictive his eyes were! They seemed to say to the boys: "I will soon finish you!"

Then he beat his chest with his great fists and the noise was like a bandman striking a bass-drum. It was his challenge to combat. How long and muscular were the shaggy arms that directed these blows! How broad was his chest from which the sounds came! The hair stood almost erect on his body, and the hair on his head moved up and down.

This hesitation of the monster proved the salvation of the flyers. It gave them a chance to pull their shattered nerves together and elevate their rifles. As he must keep the light on the creature, which now all recognized as a large gorilla, so that his companions and himself could see to shoot, John had only one arm with which to handle his gun. But he brought the weapon up quickly, and pressed the trigger just as three other shots rang out from the guns of his companions, who had stepped on either side of their leader.

A hoarse yell of rage and pain answered the reports. They saw the gorilla stagger, then drop to all fours, and lunge toward them.

There was no chance to retreat. As quick as a flash John dropped his own rifle, so that he could hold the lantern in both hands and direct its rays better upon the beast, and cried to his comrades to fire again.

No sooner had the words left his lips than the others brought their repeaters once more to their shoulders. On account of the poor light on the barrels of their weapons they were again compelled to take snap shots, shooting with both eyes open; but this time with greater success.

The big gorilla fell, uttering a fearful groan. He rolled over upon his back, his massive limbs twitched convulsively, and then he was still. Going up to him cautiously with the lantern, they found that he was dead.

Extended, his great arms measured nearly nine feet; his chest had a girth of seven feet, and he lacked only one inch of being six feet in height. These facts Tom ascertained with the use of a small tapeline which he carried in his pocket.

"Let's skin him," said Tom; "I know how, and it won't take but a few minutes."

"Sure," agreed Paul; "his skin will be a valuable trophy to take back home with us. Jiminy, I wish it had been daylight and we had brought our camera with us! We could have secured some pictures worth while for the *Daily Independent*."

With his keen-edged sheath knife, Tom soon had the skin removed from the giant brute. The performance of this operation was far from an agreeable one, however, both for surgeon and observers. So human-like was the gorilla that it seemed like skinning a man!

As they made their way onward again, carrying their trophy in a roll tied with withes made from vines. Bob ventured to say: "I wonder how the gorilla came to be awake and to attack us this way?"

"I think he must have had a mate, perhaps a family, nearby," replied John. "I have read that the mother and her babies always go up into a tree to sleep, while the father squats down at its base to guard them, and here he sleeps with one eye open and the other closed, as the saying is. At least he arouses at the slightest sound of an enemy. We probably awakened him by our shouts while in bathing, and being so close to him when we came back along a slightly different path, he thought we were going to attack the family upstairs, and showed fight right away."

The little party regained their airplane without further incident; the radiator was drained, and the fresh water put in. Then, feeling that there was no further danger of the engines running hot, they took off.

As the Sky-Bird arose into the air, the flyers noticed that Grandpa the monkey was slightly excited. This they attributed to the presence of the gorilla's skin; but when they saw Grandpa continue to dash wildly about the cabin, from their shoulders to the rear window, out of which he would take a quick look only to fly back to them and chatter wildly and coweringly, Paul thought he would see what could be the trouble.

One glance was enough. He shut the open window with a bang, and turned to his

companions with a pale face.

"Fellows," said he; "we've got a passenger!"

"A passenger?" cried they.

"Yes," said Paul, "a monstrous big snake!"

CHAPTER XXI

THE DOUBLE LOOP

For a moment or two John and Bob stared at Paul blankly, unable to comprehend the import of his announcement. Tom was at the throttle, and while he had heard the startling words, he was too occupied in guiding the Sky-Bird to do anything except take a quick glance backward.

"A snake?" repeated Bob.

"Not on the machine?" cried John.

"Yes," Paul said, with a seriousness which left no further doubt as to the truth of his statement. "He's a whopper—must be twelve or fourteen feet long and as thick as my leg. He's there on the fuselage just outside of the window, hanging on for dear life. If I hadn't shut that window just as I did, I believe he would have crawled in here in a minute."

John and Bob now hurried to the window and looked out. In the moonlight they could distinctly see a huge reptile, either a python or a boa-constrictor, coiled up in the angle formed by the juncture of the airplane body and the broad base of the left wing. The creature was so long that its tail passed up over the rounded fuselage and out upon the other wing. Bob flashed his electric pocket lamp upon it, and by the yellow and brown mottled spots upon its body and the double plates of whitish scale at its tale, and the wicked-looking triangular head, they were sure it must really be a python, one of the most dreaded of African snakes. These creatures think a monkey a very choice morsel of food, and undoubtedly it had been attracted to the airplane, while it stood in the grass, by the appearance of Grandpa in the open cabin window, but had been frustrated in its designs by the return of the flyers and the sudden rising of the machine.

Now, with the window shut, the boys seemed safe enough for the present. They

could see that the big snake was extremely uneasy. As the wind whistled by him, his great tail twisted and untwisted, and he seemed to be trying to get a better hold on the smooth surface, while his beady eyes glared at them only a moment in the glow of the flashlight, and then he transferred his attention to the landscape below them. His forked fangs darted in and out during this time with the angriest lightning-like movement.

Paul relieved Tom at the throttle for a few minutes, so that the latter could have a look at the reptile.

When Tom came back again to his post, he said, with plain uneasiness: "I never saw such a big snake before, Paul. Between the rush of wind and the roar of the engine and propeller, he seems scared out of his wits."

"We've got to get him off of there somehow—and mighty soon, too," put in John, with decision. "Tom, if that monster should begin to slip a little most likely he will coil his tail around some of our control wires,—and then what?"

Their faces blanched at this prospect. They knew what that would mean. It would mean that the great creature would either operate the airplane's rudders when they should not be operated, or would prevent Tom from moving them when they must be moved. In either event, the result would be disaster to machine and crew.

"Good heavens, boys!" said Tom, so nervous his voice shook, "get rid of that snake as quick as you can!" He fancied he could see the rear control levers moving at that instant.

The other three flyers knew the importance of these instructions, but how were they to carry them out? The reptile was too large to be shoved off with a stick or pole, and would probably squirm through the window while they were attempting it. And they were afraid to use a gun, as, in the case of a miss or a little lurch of the airplane at the moment of firing, the bullet might puncture the hollow wing or rear fuselage and let helium escape.

It was Bob who solved the puzzle.

"Why not try a loop or two?" he asked.

Their hearts jumped with hope at this. So everything was made tight in the cabin,

with the straps and fastenings which had been provided when the machine was made. Even Grandpa had to submit to being roped up in one of the swinging hammocks. When the boys had buckled themselves down to their seats, John gave Tom the word, and he began to rise slowly. At close to two thousand feet he brought the Sky-Bird quickly and smoothly upward until she stood almost on her tail end.

Then Tom threw the elevators and ailerons hard up, and held them there. They were going at a rate of close to a hundred miles an hour at the moment, and their velocity brought them around in a pretty loop. There was no way for them to tell if the serpent had been dislodged, so, to make as sure as he could of accomplishing his purpose, Tom kept his controls as set, and they made another or double loop.

This time he straightened out his controls as he came up to the horizontal, and they ran swiftly ahead again on a level keel.

His companions quickly unloosened their straps, and ran for the rear window. A feeling of the greatest thanksgiving filled their souls and joy lit up their faces. The python was gone! He had hurtled through the air during one or the other of the loops, and his long sinuous body was probably at that moment lying crushed upon the hard ground, or impaled upon the sharp stub of some forest tree, far below.

It had been a night of intense excitement. Now that they began to beat through the air in the old tuneful way, and there was nothing more to claim their attention until they should arrive at Aden sometime in the morning, Bob and Paul took to their hammocks for sleep, but first Bob got Khartum on the wireless and delivered their position and a brief description of their adventures. As may be imagined, however, the two youths did not shut their eyes immediately. There was much to think about and to talk about before even fatigue could get the better of them.

Tom put the Sky-Bird through on a straight course for Aden as fast as he dared run the night engine, which was very close to its limit, now that it had had a chance to cool off and was well supplied with water. It was important that they should make speed, for in the stop for water and the subsequent maneuvering to rid themselves of their unwelcome passenger, the python, they had lost upwards of an hour's time.

Flying high, and depending entirely upon the compass for striking Aden, they shot through the starlit tropical night like a meteor, showing no lights except the two small ones on the dashboard in the cabin, by means of which Tom could observe the instruments and the controlling levers below. Thus they crossed the famous Nile, sweeping below Khartum and across the plains of Kordofan, and when the first streaks of daylight appeared ahead of them they were just entering the plateaus of northern Abyssinia.

Paul and Bob now relieved Tom and John, and the latter young men took a nap. It was their custom to work in pairs, the observer preparing food for himself and the pilot during the course of flight. Sometimes the observer took the throttle long enough to give his friend a chance to eat, and sometimes the pilot retained his seat, allowing the automatic arrangement to do the guiding for him while he munched his food.

Just before seven o'clock Paul and Bob saw two large bodies of water ahead of them, one stretching to the right and the other to the left. The chart told them that the northern body was the Red Sea and the southern one the Gulf of Aden, which opens into the Indian Ocean. Between these bodies lay a narrow belt of water, flanked on the western or African side by rocky, wooded hills, and on the eastern side by low, sandy shores dotted with palms. This was the Strait of Bab-el-Mandeb, and the country beyond was Persia.

Aden could not be more than fifteen minutes' run east now, and so Bob awakened his sleeping comrades while Paul guided the airplane across the strait. They flew a little higher, later, following the general contour of the terraced slopes of the mountains along the Arabian coast.

As the Sky-Bird came leisurely over the hills surrounding this British seaport of Aden, they could see that the town nestled in the crater of an extinct volcano, as they had read. All around the low, white buildings spread the rugged hillsides, and in declivities they passed over numbers of the great brick tanks or reservoirs which catch and store the scanty rainfall of the region and thus furnish Aden with its only water supply.

The flyers saw many gowned figures, some on camels, pause to look upward at them, as they began to circle the town in quest of their landing field. Bob was the first to discern it—a fairly level stretch in the southern end of the valley or basin, marked in the way agreed upon, and containing two small buildings, neither of

which was large enough to admit the machine.

But they cared nothing for shelter for the Sky-Bird, as they did not purpose staying any longer than necessary for fuel replenishment and news dissemination by telegraph and letter. So they quickly settled down in the midst of a wondering ring of Arabs.

Mr. Griggs, the American consul here, now came forward with a couple of British military officers, and the flyers met with a hearty reception. It seemed good to run upon one of their own countrymen again, after seeing so many strange faces since leaving Panama. Mr. Griggs insisted upon their going to his home with him for breakfast, and to this they consented as soon as they found he had made full arrangements for having some British workmen at the garrison refill the Sky-Bird's tanks.

They found that their rivals had arrived just after daylight, and had departed for Colombo, Ceylon, less than twenty minutes before their own appearance. This was cheering news. They had gained a lot on them in crossing the African continent.

CHAPTER XXII

ABOVE THE CLOUDS

Mr. Griggs, the American consul at Aden, proved an affable, pleasant entertainer. His little wife was also very genial and painstaking for their comforts, declaring at their protests that she was doing no more for them than she had done for the other flyers when they came through, a short time before. The couple had two children, a boy and a girl, and both of these plied the boys with innumerable questions about their journey, expressing the greatest interest and excitement when they worked out of Paul the story of the adventure with the gorilla and python.

After the meal, which was very appetizing and refreshing, they spent a short time preparing their reports to the *Daily Independent*, and then accompanied their host to the post-office, where the letter and roll of films were mailed. At the telegraph office they received a pleasant surprise in the shape of a message from Mr. Giddings, which stated their reports were coming in to the newspaper all right, and that the greatest interest was being manifested in them by the world in general and by New York people in particular.

"Whatever you do, don't let the other crew beat you," were his concluding words. "I have ordered the helium shipped to Nukahiva by fast steamer."

"That's good news," said John, with satisfaction, referring to the helium, and the others accorded with him.

They dispatched a telegram to Mr. Giddings, and then started out to buy some fruit and other foods. As they went along the narrow, crooking street upon which they had been walking they met so many Arabs with small sprays of dark-green leaves which they put in their mouths and chewed, that their curiosity was aroused, and Bob asked Mr. Griggs what the leaves were.

"Those are the leaves of the khat bush," was the response. "You must have passed numerous plantations of such bushes up on the hillsides as you flew over into the basin here. The Yemen Arabs like to chew the leaves so well that they have all of the passion for them that a toper has for whiskey, and they will spend their last rupee for a small bundle."

"Does this chewing of the leaves intoxicate them?" asked John.

"Oh, no; the leaves are quite harmless. But they do produce a strangely exhilarating effect upon those who chew them. If you ask a Yemen Arab what he chews the leaves for, he will invariably look at you with astonishment and tell you that he forgets all his troubles, sees the most beautiful of fairies and the richest rose-gardens of Allah, and lives in a new world."

"Do they go to the fields after it themselves?" inquired Tom.

"Not at all," said Mr. Griggs; "the khat is brought into town every morning about eleven o'clock by long caravans of camels which proceed from the khat farms along the mountain slopes. Long before these camels appear in the valley, with a bundle of khat swung on each side of the beasts, messengers on fleeter camels have brought the tidings of approach. From the shelters of the shops, so silent except just now, cheerful cries break out; the streets are filled with Arabs who sing joyfully; tikka gharries rattle madly by, whips waving and turbans awry; there are flashes of color from rich men's gowns and the sounds of their clicking oryx-hide sandals as they rapidly strike the stony pavements; there is a continual blunt clatter from the tom-toms in the hands of long-gowned fellows. They are all going to the market where the khat will soon arrive, each one anxious to have first choice and get the best bargain. There they will bicker with the khat traders for an hour sometimes, then in will come the despised hadjis, the venders of firewood, who will buy up for a few pice the scraps which remain."

This was all very interesting to the flyers, but it was high time to hurry back and resume their flight; so, restraining their impulse to ask more questions or investigate the attractions of the town, they bought their supplies, and returned with the American minister to the landing-field.

Ten minutes later the Sky-Bird was mounting easily up into the sky, viewed by hundreds of shouting Arabs. It was good-bye to Persia now.

Looking at his watch, Paul, at the throttle, saw that it was nine-fifty. They were

leaving Aden only fifty minutes behind schedule. That was not at all bad; but it was not pleasant to think that their rivals were still ahead of them. And two hours was a pretty stiff lead.

They were not long in passing over the hills to the south, and then headed eastward out over the elongated gulf. Looking back, John saw the sandhills by the sea glistening in the bright sunlight like mounds of gold-dust. Every leaf and stem in the scrub stood out in black and silver filigree; and euphorbias and adeniums, gouty and pompous above the lower growths, seemed like fantasies of gray on a Japanese screen covered with cerulean velvet. It was their last sight of Persia, and one not soon to be forgotten.

Our friends now settled down for a long hop, for they would have to fly all day and all night before reaching Colombo.

After a while they sighted Socotra, the little isle off the coast of Cape Guardafui, from whence comes most of the world's supply of frankincense; then leaving its rocky shores behind them they cut straight across the Persian Sea, braving whatever tropical storm might arise.

All that day they swept over the blue waters of this great body, frequently seeing ships below and sometimes small islands. Toward night they ran into such hard headwinds that Bob went up higher. He climbed steadily until the Sky-Bird had attained an altitude of nine thousand feet. Here, as expected, they found the winds much less forceful, but the sea was blotted out entirely by the clouds through which they had passed in the process of rising and which now lay between.

Indeed, these clouds resembled a billowy ocean of white foam in themselves, or a landscape covered with hills and valleys of snow. The rounded cloud contours could easily be likened to the domes of snow-covered mountains. It was really difficult to conceive that that amorphous expanse was not actually solid. Here and there flocculent towers and summits heaved up, piled like mighty snow dumps, toppling and crushing into one another, as the breezes stirred them.

Then there were tiny wisps of cloud, more delicate and frail than feathers or the down of a dandelion-blow. Chasms hundreds of feet deep, sheer columns, and banks, extended almost beyond eye-reach. Between the flyers and the sun stretched isolated towers of cumulus, cast up as if erupted by the chaos below.

The sunlight, filtering through this or that gossamer bulk, was scattered into every conceivable shade and monotone. And around the margins of the heaving billows the sun's rays played unhampered, unrestricted, outlining all with edgings of the purest silver.

The scene was one of such extravagance that the brain was staggered with what the eye tried to register. Below the aviators, the shadow of their machine pursued them on white film like a grotesque gray bird of some supernatural region. The shadow followed tirelessly, gaining as the hour of noon approached, gaining still as afternoon began to gather, swell, and wane; and always it skipped from crest to crest down there just below, jumping gulfs like a bewitched phantom.

It was so cold at this height that the aviators had to put on their heaviest garments, and they were content to open the windows only a slight way for ventilation.

When darkness fell, they were still flying high, though at reduced speed, as John was afraid that a rate too much over schedule might cause them to overrun their destination before daylight could disclose its outlines to them. Every half-hour the pilot's helper checked up their position on the chart. Had this not been done from the very start of the trip, they never could have struck their ports with the accuracy they did, and disaster would have been the result, if not death to the crew.

As it was, they had taken every precaution they could. When they had crossed the Atlantic they had been careful to inflate the four spare inner tubes of their landing wheels, as these would make capital life-preservers in case the flyers were thrown into the sea; and one of the last things they did before leaving Aden was to see that the tubes were still inflated.

The long night passed with considerable anxiety on the part of Tom and John, but when dawn finally broke they felt like uttering a "hurrah," and called Paul and Bob up from their sleep to witness the cheering sight ahead of them.

At a distance of what must have been close to fifty miles, was a white patch in a haziness of green plain surrounded by hills and low mountains. The land itself was encircled by the sea, and when they saw a great peninsula spreading away to the northward, they knew that the island was Ceylon, and the other land the peninsula of Hindustan.

Somewhat off their course, they wheeled a little north. Soon details became apparent in the island. The white patch grew, developing into a considerable town—Colombo.

They swept up and around it, then settled, and climbed stiffly out of the Sky-Bird not twenty yards from another airplane, about which four men in flying-suits had been working. These fellows looked toward the new arrivals scowlingly.

But our flyers, overjoyed to think they had caught the *Clarion's* crew, only smiled back indulgently.

CHAPTER XXIII

BOMBED BY ROCKS

Our friends had landed in the lowlands just to the north of Colombo, whose scattered buildings contained upwards of a hundred thousand inhabitants, most of whom were native Singhalese, descendants of the colonists who came from the valley of the Ganges and settled the island five hundred years before the birth of Christ. To the southward arose the rocky headlands of the coast, and to the westward could be seen the somber peak of Pedrotallagalla, the highest mountain of the island. Numerous ships, some very crude and with queer sails, were in the harbor as the boys landed, and scores of natives in short skirts were loading and unloading these. Undoubtedly the huge square boxes which some of them carried aboard so easily upon their heads contained tea, for which Ceylon is famous.

The person in charge of the landing-field here was a Mr. Young, an American clergyman connected with the local Baptist mission. This tall gentleman came forward, accompanied by the British governor of the island, within a few moments after the flyers struck the ground. In fact, they were still stretching their cramped legs and arms when he greeted them and introduced the governor, Sir Henry Hurst.

"Young men, I am more than delighted to shake hands with you," said the governor. "It looks as if you and the other crew over yonder were upon an epoch-making tour, for you are not ten minutes behind your schedule, as we have it in the London papers and also in our own Colombian newspaper. My only regret is that you do not represent England instead of America." He laughed good-naturedly as he made the last remark.

"It was quite a task for the governor and myself to get up at this early hour to receive you, but the occasion is well worth the effort," observed Mr. Young, smiling. "Here we usually sleep very late, often as late as nine o'clock. Even the

Singhalese and Burghers are not yet generally up from their beds, though those who work at the wharves have appeared. If you had arrived a few hours later there would be thousands of the population here to see you."

"We are well satisfied with the hour, then," said John. "The fewer natives we have around the Sky-Bird, the better we like it, both for working and taking off. How long has that other crew been in, sir?"

"Not more than a half-hour. They are taking on their fuel now, being assisted by a couple of Burghers. They advised us that they would probably remain here until noon, being tired from their long flight from Aden. I don't know; why, but the slender man with the dark skin and mustache particularly requested me to see that you knew this intention of theirs."

The flyers thought this was rather strange. Why should the *Clarion's* crew remain so long in Colombo, when their interests in the race demanded as much time put into flying as possible? It was still more incomprehensible what object they would have in wishing the Sky-Bird's flyers to understand this intention, as by so doing our boys could make their plans to gain a heavy lead.

It was too much of a puzzle for them to work out, so Bob and Paul, aided by two Burghers (naturalized Europeans), went to work overhauling the machine and storing fuel, while John and Tom made their way into town with Sir Henry Hurst to transact their business. When they returned they found the two younger members of their crew in a heated discussion with the *Clarion* fellows.

"What's the matter here, anyhow?" demanded John, as he and Tom pushed their way through the little ring of natives who had gathered about the principals.

"It's just this way," said Pete Deveau, with a grin meant to be very cool and indifferent, although his eyes roved uneasily; "We fellows were working on our machine here, minding our own business, when these two kids of yours came up and demanded to know why we had played you dirty at Freetown and Kuka. They accused us of purposely carrying off your share of fuel at Freetown, and of stirring up the natives at Kuka so you couldn't make a safe landing."

"We simply couldn't stand keeping quiet any longer, John," put in Paul very heatedly. "We thought it a good time to have it out with these fellows for their crookedness."

"That's right; they're a bunch of snakes!" supported Bob, his cheeks red with excitement and anger, and his fists doubled menacingly.

John turned to the slouching figures of the rival crew. "Do you fellows deny these charges?" he asked quietly.

Crossman, Torrey, and Lane looked at their leader, merely shrugging their shoulders. Pete Deveau took a quick glance in their direction, in turn. Then his face clouded a little darker, and he blurted out to his men: "You confounded babies, why don't you deny it? You know we didn't do anything on purpose to hold these guys back!"

"That's right; we sure didn't," said Sam Lane.

"Of course not," added Chuck Crossman.

"Wouldn't think of it," interjected Oliver Torrey.

Our boys were disgusted by the cringing attitude of Pete Deveau's cronies. Two of them were larger than the Frenchman, yet they seemed to be afraid of him. John saw that nothing was to be gained at this time by continuing the argument, so he pulled his comrades away with this parting and significant warning to their rivals: "Well, Deveau, we'll let this drop now; but we certainly hope that you will take pains to see that nothing more of so strongly a suspicious character occurs on this trip!"

Pete Deveau snarled back some answer which they could not make out.

Our friends returned to the Sky-Bird. In a few minutes Bob, who had climbed on top of the fuselage to test the helium valves, came down and said: "Something new is going on over in our neighbor's yard, fellows. When I was up there I could see right over the natives' heads, and I noticed Chuck Crossman and Pete Deveau hunting around the field till they found half-a-dozen rocks as big as a football, and they put these in the cabin of the *Clarion*. Wonder what on earth they intend to do with those?"

"It's too hard a nut for me to crack," answered John.

The others expressed equal inability to discern the purpose of their rivals, and the incident was soon forgotten.

But twenty minutes later the familiar roar of a revolving airplane propeller greeted their ears, and they were surprised to observe the *Clarion* rising up over the field. They watched the machine until it had disappeared in the cloud mists to the east. Then they awoke.

All saw the game of their rivals now. By making the Sky-Bird's crew believe they did not intend to leave until noon, the latecomers would be inclined to take their time fitting up for the next hop, and this would give the *Clarion's* party a chance to make a sudden exit and gain a good lead before the others could get under way.

There was no getting around it—Pete Deveau was clever, if he were a rascal. This our friends had to admit to themselves, despite their dislike of the fellow. His methods of getting the best of them seemed to have no limit; and yet thus far they had been able to cling, by the hardest kind of work, right at his heels. This last trick was more honest strategy than Deveau had exhibited before, and they could therefore admire it in that sense. They hoped that from now on his maneuvers might be as free from maliciousness.

But their rivals had not fooled them as badly as they thought. Our flyers had lost no time upon landing in refitting, and when they saw the *Clarion* take off, they speeded up operations so fast that they were able to depart only fifteen minutes later.

Almost straight eastward they headed, bearing just a little to the southward, so as to strike Singapore on a bee-line. They hoped to reach this stop some time before dark, which would give them approximately twelve hours' flying time. Under ideal weather conditions, they could make the journey in considerably less time, but it was the season for the well-known monsoons of the Indian Ocean, and it was quite unlikely that they would be able to wing their way across the fourteen hundred odd miles of sea without encountering some of these deterrent trade-winds.

It took them just an hour to cross the island of Ceylon, and flying at about fifteen hundred feet, they winged their way out over the whitecaps of the ocean. To their unspeakable pleasure they found the winds not at all bad, and made good speed. Bob was at the throttle, Paul was observing, and John and Tom were sleeping.

They had been flying thus for perhaps two hours, when Paul saw that for which

he had been keenly watching for some time. It was a faint black speck, like a tiny bird, against the blue of the heavens ahead of them. He continued to watch this silently, after calling his chum's attention to it, until, under an increase of speed, the Sky-Bird had drawn close enough for them to observe that it was what they suspected—an airplane.

In another hour they were near enough to recognize in it the unmistakable outlines of the *Clarion*. To all appearances their rivals had also observed them, and were crowding on power, for now they gained much slower. Yet they still continued to narrow the breach between them, steadily, rod by rod, and minute by minute. They could see that the *Clarion* was not well handled, for she wavered in her flight considerably.

"They'd be wise if they'd throw those rocks out which they took aboard," commented Paul. "That might help them to fly steadier."

"They're flying all of a thousand feet higher than we are," said Bob. "We're going to pass under them, I think, in the next half-hour."

That was the way matters looked. The *Clarion* was riding high, and was so close by this time that the windows in her cabin could be made out. Against those panels of glass our friends felt sure some of the rival crew were even at that moment pressing anxious faces as they watched the Sky-Bird steadily creeping up on them.

It was such an auspicious moment that Paul went and aroused John and Tom, so that they could see the Sky-Bird overtake and pass her adversary. Those two worthies grumbled a whole lot for a few moments, being half asleep, but when they grasped the situation and saw the *Clarion* just ahead, they were as much interested as anybody.

Slowly, surely the Sky-Bird overtook the rival machine. When it seemed her nose was almost up to the tail of the *Clarion*, they saw a movement in the bottom of the fuselage of the craft above them, where her trapdoor of glass was situated in the floor of the cabin. Then something gray streaked down through the air. It went whizzing by just in front of the Sky-Bird, and a few moments later plunged into the sea with a great splash.

"Huckleberry pie!" ejaculated Tom Meeks, "one of their rocks has burst through their floor trap. Say, that was a close call for us!"

"Watch out! Here comes another!" cried Paul, as a second gray missile went by them on the other side.

Barely had it struck the waters beneath, when a third rock came so close that they could feel the rush of air as it passed downward. It was as if they were being bombarded by an enemy above, who used great stones instead of explosives. Their faces paled when the truth struck them like a thunderbolt. With calm deliberation, deadly intent, and a skill born of dropping bombs on targets during the war, some of the fellows in the machine above were trying to wreck the Sky-Bird with the rocks they had gathered in the field back in Ceylon!

"Quick, Bob!" cried John to their pilot. "Swerve out from under these devils as fast as you can! If another stone comes down here, it may—"

The words he intended to say never were uttered. At that very moment another gray object streaked its way down through the heavens, whirling uglily. They thought sure it would strike the cabin roof and crash through, and intuitively they cowered back in the corners for protection.

But their speed carried the stone farther to the rear. There was a tearing, rending sound.

Their faces blanched. And then Bob called out: "Hi, fellows, something's gone wrong! The Sky-Bird's bound to put her nose into the sea. The tail elevators don't work!"

CHAPTER XXIV

RIDING AN AIRPLANE'S TAIL

Filled with the gravest fears for the safety of the Sky-Bird and themselves, all except Bob rushed to the rear windows of the cabin and looked out to see what had caused the ripping noise, and what could be wrong with the tail.

Paul reached a point of vantage first. One swift look showed him the trouble. The left elevator had a big hole through it, made by the stone, fragments of silk showing all round the ragged gap. But this could not have caused the derangement of the steering controls entirely, and looking for a reason, Paul saw that the impact had caused the wire running to the right elevator to become twisted around a bracket near the end of the fuselage. Under this condition neither elevator could be controlled. With the good one held downward, it was no wonder that the airplane had started a stubborn, slow dive toward the ocean in spite of Bob's frantic efforts to work the lever normally effecting it.

"Shut off your engine!" called Paul to Bob. "That will hold us back. Three minutes of time I think will save us!"

With the words, Paul seized the end of a long coil of rope which lay near, and fastened it about his waist. Both Bob and John saw what he meant to do. He would crawl out upon the fuselage and attempt to untangle the inactive control wire, freeing the now useless right elevating plane!

It was a daring thing to do—a most perilous proceeding. But the older men knew that it was the only thing that could prevent them from plunging into the sea. So John threw open a window for his brother, the nimblest one of them, gave his hand a parting squeeze, and Paul climbed through.

Paul never had realized as he did now how smooth that rounded body of the machine was, nor how strong the wind shot back along it when the machine was

in flight. Although he clutched it with both arms and legs, and lay as close to it as he could press, he thought two or three times, as he made his way out toward the tail, that he would be torn loose. He knew that his friends in the cabin, whom it might be he would never speak to again, were watching his progress with fear gripping their hearts, and were probably inwardly praying for his success with every breath.

Finally the boy reached the tail. He dare not look down at the sea to see how much closer they were now, for the sight might unnerve him and prove disastrous to his purpose. So, glazing his vision to all except his environs and intent, he wrapped his legs around the narrowing body of the machine, let go with his arms, and in a crouching posture seized the tangled wires. Two or three tugs and he had them free. He announced this fact with as loud a yell as he could.

Immediately afterward he heard his brother's voice. "Hang right there where you are, Paul! Don't try to come back until we get elevation again and I give you the word."

He realized what this meant and looked down as he once more wrapped his arms around the fuselage, with his shoulders against the rudder bracket. What he saw was the restless sea less than two hundred feet below! Had Bob waited for him to attempt to crawl back into the cabin with the tail elevated, the Sky-Bird would have buried herself in the waters before he was half-way to his objective. They must now rise, if that were possible, to a good height; then Bob would slowly spiral the airplane downward and afford him a declining surface to work back upon.

Luckily Paul's freeing of the right elevating plane, gave the pilot fairly good control over the machine, so Bob had no difficulty in bringing the Sky-Bird into a rising swoop, although none too soon. Mounting at a good angle, but one which would not be likely to displace the youth clinging at the tail, he brought the airplane up to two thousand feet.

"Now, Paul! Slide for it!" cried John, as the machine began a slow descent in a great circle.

Paul then worked his way back like a crab, sliding a little, but not once allowing his tensioned limbs to relax to the danger point. Before the airplane had come

within five hundred feet of the sea, he felt his legs grasped in the strong hands of John and Tom, and the next moment they had hauled him bodily through the window.

"Ginger, Buddy, that was a close call for us—and you, too!" exclaimed John. "I hope I never see you in such a ticklish place again!"

Paul sank into a seat. He was too exhausted to do anything but smile. When at last he could find his voice he asked, anxiously: "Can Bob control her all right now?"

"Well enough to land us where we wish to go, he says," observed Tom.

"That's right," put in Bob himself, who had overheard the conversation. "The Sky-Bird isn't what she was before that rock went through her, but if nothing worse happens we'll reach Singapore, though it will probably be somewhat later than our sweet friends in the other plane."

"We can land at Sumatra, I think, if we have to make repairs before," ventured John. "We ought to cross the northern end of that island in the course of an hour."

Searching the horizon for their rivals, they saw that, evidently satisfied with the mischief they had done, the *Clarion* crew had gone on at full speed, for they were now far ahead.

"If I ever run onto Pete Deveaux again I believe I shall be angry enough to choke him till he's unable to speak his own name," declared Paul.

"I'm afraid I'll have to help you at that job, Paul," cried Tom. "He's the most unprincipled scoundrel that ever went unhung."

"You are right, Tom; Deveaux is a brute," said John. "His deviltry came near being the end of us. When we get home, we must see to it that he is punished as he deserves. But we must keep it out of the papers now, as it will look, in case we get beat, as if we wanted an excuse."

John and Tom now resumed their hammocks and broken sleep, for they saw that, although the shattered tail elevator caused the Sky-Bird to ride roughly and at reduced speed. Bob and Paul could probably handle her all right from now on.

The cross winds of the monsoon also hindered their progress a good deal, blowing erratically from different directions, but they plugged along at a pace slow enough to keep themselves within the zone of safety.

A little later they came in sight of Sumatra, but as they were going fairly well, thought it best not to attempt a landing for repairs. So they crossed the northern tip of the island, and proceeded on over the Strait of Malacca. Sometime since, Paul had taken Bob's place at the throttle, and the latter had communicated with their destination by wireless, learning that the other airplane had arrived.

It was twilight when they at last reached Singapore, and made a landing in the race-course in the outskirts of the town. By long odds this was the smallest island upon which they had so far stopped, but they found the city one of the busiest. Their rivals had left fully two hours before.

Now came the task of repairing the broken tail elevator. As the frame was undamaged, it was only necessary to straighten out a few bent supports and put new covering on. The British official at the field showed them where to purchase the necessary silk and glue, also a good waterproof varnish for coating the covering. From his own home he secured a pair of scissors with which to do the cutting, and John and Bob worked at the task, while Paul and Tom took on fuel and water and looked after other preparations for resuming their journey as soon as possible.

During this process, Grandpa the monkey was permitted to come out of the cabin and entertain the crowd of onlookers with his antics, which he did to perfection, as he had done at other stops. To the ivory ring about his slender little waist, Paul always fastened a long thin rope, which he had bought in Para, when he let Grandpa out. This leash prevented him from wandering off, something nearly all unfettered monkeys will do if not watched very closely by their masters. Almost any place seems to be home to a monkey, and almost any man seems to suit him for a temporary master.

Grandpa himself delighted in running out upon the wings of the Sky-Bird at the stops. He pulled the control wires and made the ailerons swing up and down, which always raised a laugh among the crowds. Another favorite pastime with him was to post himself in front of the reflector of the big searchlight up on the cabin, and make the most comical grimaces at his image on the polished reflector inside, sometimes uttering queer noises as if he were crying, and at

other times chattering with the utmost anger at the phantom monkey, mixing these demonstrations up with wild dashes around behind the lamp to see if the mimicking animal were there. No matter what language the natives of each port might speak, they never failed to understand and appreciate these little sideshow comedies of Grandpa's. And when it would become noised about among them that this particular monkey had traveled all the way from South America through the air with the "bird-men," their awe for him was amusing to behold.

CHAPTER XXV

ENGULFED IN A VOLCANO'S DUST

With three hundred gallons of gasoline in her tanks, and her broken tail-elevator well repaired, the Sky-Bird was ready at eleven o'clock that evening to take off. Her crew were all tired out, but they knew they would soon be able to occupy the comfortable seats or hammocks in the cabin for another long stretch of over-sea travel, for it would be morning before they would reach Port Darwin, Australia, their next stop.

It had been raining very hard in Singapore just before they arrived, and the field was quite wet, with many puddles in the low spots. Through one or two of these they had had to run in landing, and it seemed that in hopping off they would be forced to do so again. Fortunately the ground was sandy, so they had come to a stop in a spot not at all muddy, and had thus been able to work upon the machine without the discomforts of wading in slime while doing it.

They now started the engine, Tom climbed in, and they were off, running over the soft ground at increasing speed. Then the airplane struck a pool of water, five or six inches deep, which almost pulled them up. It also held them back so that when the machine emerged it was going very little faster than at the beginning. The next patch of ground was a little longer, but they had not risen when they struck it at a rate of about twenty-five miles an hour.

This pool was also quite deep, and the sudden resistance almost threw the Sky-Bird onto her nose. It did cause her to dip so that her long propeller struck the puddle, and immediately water and sand were sucked up and thrown in almost every direction by the swiftly revolving blades. Much of it reached the natives, who in two long rows of curious humanity, formed a lane for the passage of the craft, and many a poor fellow gave a howl and fell back against those behind, spluttering and rubbing grit and water from his face, while rivulets coursed down his dusky body amid the howls of laughter of his mates.

The flyers had only a fleeting glimpse of this amusing incident before they found the front windows of the cabin so covered with the deluge of spray that they could scarcely see ahead. Two of them quickly opened the portals, for a grave danger menaced them.

Less than sixty yards ahead was the lower fence of the field, and just back of this arose scrub trees and houses, with no opening between which could be utilized. They must clear these formidable obstacles, looming bigger every second, and the distance was alarmingly short, for the last pool had again retarded their momentum to such an extent that they had just barely staggered through it.

Picking up speed once more at every turn of her propeller, the Sky-Bird shot down the last stretch of ground reaching to the fence. How fast this obstruction loomed up! Just in the nick of time the airplane left the ground. They sailed over the tops of trees and houses so close that the wheels of their landing-gear almost scraped. It was one of the finest maneuvers of the whole voyage, and the boys praised John so for his good piloting that he had to ask them to desist.

After a wide sweep above Singapore, they headed for the open water, which in this case happened to be South China Sea.

The weather was very threatening. Dark-looking clouds began to efface the moon and stars, whose light had aided in the take-off at Singapore, and within fifteen minutes occasional flashes of sheet-lightning could be seen far ahead, throwing into relief the immense bulk of the foreboding clouds and shedding a pallid gleam over the sea. Occasionally a light zephyr came out of the east, but it would last only a moment.

"We ought to be just about over the equator now," announced John a little later.

Paul and Bob had stayed up on purpose to witness this event, and by dead reckoning had computed their position so closely that John's announcement had come just as they were about to make a similar statement. Although they could see no "line" stretching along down there in the sea, they fancied they could, with the most pleasant imagery. That great line, the belt of the universe, dividing the Northern and Southern hemispheres, they had already crossed once, in their zigzagging course, at the mouth of the Amazon. Now here in the South China Sea they were crossing it a second time. At no time had they been more than thirteen degrees away from it. One more crossing of it, if all went well, and they

would be almost within sight of the end of their journey—Panama!

With this pleasant thought Bob and Paul rolled up in their hammocks, trusting John and Tom to bring them safely through the bad weather that seemed in store, and were soon asleep.

To the two older flyers, used to all conditions of aerial passage as a result of several years' experience, the present conditions were not at all terrifying. Although the spectacle of the dark clouds in front of them was extremely uncanny, they realized that they were only local thunder showers which could probably be avoided by a little careful navigating.

In this they were right. By wheeling a little out of their course, to the left or right, and by flying up over one big cloud which could not be avoided in any other manner, they managed to dodge the most dangerous fields of lightning and the worst torrents of rain.

Presently they left the dark clouds far behind, and once more the stars appeared in the blue firmament above and the pale moon lit up the tropical sea.

With relief John guided the Sky-Bird lower, so that they could keep a sharp lookout for guide-posts of land. They passed several small islets which were uncharted with them, but when, about midnight, they made out a great black blotch not far ahead, they recognized it as the southern end of the island of Borneo, and knew they were all right.

In a little while Borneo was sweeping along below them, its mangroved shores gloomy and desolate-looking, not to say weird, in the pale moonlight. Among those dense forests and thickets the flyers knew many a wild animal was prowling at that very moment, and in the thatched huts in the glens slept many a fierce-visaged savage with weapons close at hand.

Toward morning the flyers observed a volcano in active eruption off to the southeastward, apparently on the island of Timor. It was a beautiful sight, so wonderful that John awoke the sleepers, that they too might enjoy it. Fantastic lights of various colors shot upward from the crater. These shafts lit up billowing clouds of smoke and ashes, which poured out in awe-inspiring volume. Back of it all stood the dark-blue velvet sky, against which the pyrotechnics were embossed in a stunning manner. Man could never have wished to witness a more remarkable manifestation of nature than did the young aviators, as they viewed

the spectacle from their own favored position in the air.

Swiftly the Sky-Bird drew them toward the volcano, for it was directly in their course. As they approached, they could see flames licking their way upward from the dark mass of rock constituting the shaft, and could make out streams of lava pouring over the sides of the crater, going down into the unknown blackness below. What a sight it was! How their pulses beat! How their hearts quickened!

But now, very unexpectedly, the sight was shut out. Thin, pungent, volcanic smoke and ash began to surround them. In a few moments it was so thick that they grew alarmed. All had the same fearful thought—

If this should continue a little while, they would lose their bearings, and might run right into the fountain of fire itself!

This was a terrifying possibility, for it would mean a horrible death to every one of them. Fireproof though the airplane was in the general sense of the word, every one of those in her cabin knew that if they should ever pass through those licking flames, the great heat in them would fairly melt the light structure of the machine in the twinkling of an eye. No metal or wood could withstand that terrible blast a moment, much less human flesh.

It is small wonder, therefore, that Tom now sent the Sky-Bird off to the right, and higher, also. They closed the windows, to keep out the foul smells, and anxiously awaited developments. They could not see a yard in front of them, so thick were the smoke and gases. It was a trying time.

Fortunately Tom had taken the best course he could. Five minutes passed—ten minutes—fifteen—and then the air began to clear. Slowly the curtain lifted; and presently looking back, they saw that they had passed the volcano and were leaving it and the island well behind.

Its fires, too, seemed to be burning out. Only a few forks of ghostly light were coming up from the crater. These grew fainter and fainter, and in a little while the eruption seemed to have entirely subsided, for Timor was swallowed up once more in the impenetrable mantle of night.

CHAPTER XXVI

IN AUSTRALIA

Shortly after five o'clock the next afternoon, Paul saw ahead and to port what appeared to be haze, but which he and Tom hoped was the coastline of Australia. Ten minutes later the observer joyfully pointed out to the pilot unmistakable evidence of an island upon which stood a tall object—Bathurst Island lighthouse.

John and Tom were routed out, and all saw the rugged outline of the great island—a continent itself, as large as the United States and much the same shape—stretching away to the southward and slowly dwindling into low, sandy, barren shores as it went.

Less than forty minutes later they were circling over Port Darwin, on the northwest corner of the continent, while a good-sized crowd of people down below pointed excitedly upward. The flyers soon made out the landing-field by reason of its white marker, and swooped gracefully down, while those below cheered.

Two zealous customs officials were anxious to examine the new arrivals, also a health officer; but this did not take long, and during the process they were able to converse pleasantly with Mr. Seth Partlow, the British official in charge of the field, also with the mayor of Darwin, who gave them the most cordial welcome.

They were sorry to learn that Pete Deveau and his flyers had departed less than a half-hour before their own arrival; but they had been expecting such a report owing to the fact that they had been left so far behind at Singapore. They now determined to hurry up refitting operations, and leave at the first opportunity, hot upon the trail.

Messages were dispatched to Mr. Giddings at Panama and to his newspaper in New York; and another roll of films containing numerous interesting views taken

that morning just before and after landing, were mailed in to the *Daily Independent*.

Here, for the first time, they were able to secure a paper containing accounts of their own and their rival's passage. It was a novel experience to read these glowing descriptions of incidents still fresh in their minds—descriptions which had in some cases flown by wire, in others by air-waves, from point to point, more than half-way around the world. It provoked thoughts which made them marvel at the wonderful ingenuity and power of the very equipment which they were using themselves every chance they could get—their wireless telegraph and telephone sets. The remarkable news-gathering efficiency of the world, the coordination of agencies in gathering and disseminating news, was astounding to contemplate.

The mayor of the town insisted upon the boys partaking of dinner at his home near by, and they thankfully agreed to do this when Mr. Partlow declared he would personally see to the filling of the Sky-Bird's tanks, for which task he had plenty of assistants.

They were most cordially received by the mayor's wife. Within fifteen minutes they had the satisfaction of sitting down to one of the most satisfying meals they had ever had. Not only was everything well cooked, but there was a great variety of viands. They were all particularly impressed with the toothsome-ness of the meat which the maid served, so much so that Paul could not refrain from remarking: "Mr. Bailey, I never ate sweeter chicken than that."

"No, I don't believe you ever did," laughed the mayor. "The fact is, young man, that is not domestic chicken at all. It is the flesh of the brush-turkey, a wild fowl which the bushmen or blackfellows bring in here to market. It is a great delicacy."

"I have read of these bushmen," said Bob. "Are they quite wild?"

"Indeed they are," the mayor replied. "The blackfellow is, I believe, on the lowest rung of civilization. He is unlike the negro, the Malay, the Mongolian, and the American Indian, in many ways. If you could stay a few days, I would be glad to take you back in the bush and show you a few specimens in their native state. They have a long skull, with a low, flat forehead, Their brows overhang deep-set, keen eyes, and they have a heavy lower jaw, with teeth as

strong as a dog's. Their hair is generally wavy or curly, being usually auburn or black in color. As a rule their faces are almost hidden by beards and whiskers, which they never comb and which, like the hair on top of their heads, are always in a beautiful tangle."

"How do they dress, sir?" asked Paul.

This brought another laugh from Mr. Bailey. "That doesn't worry them in the least!" he declared. "Most bushmen are covered from head to foot with hair, and I imagine they think this is a good enough uniform, for they wear nothing except what nature gave them. In bad weather, however, they do add some artificial protection to their tough bodies by making a rough wrap out of the skin of a kangaroo or a piece of flexible bark. Some tribes use rushes and seaweed for this purpose, while others make a blanket from the dried frog scum of the swamps and ponds. For boats, pieces of eucalyptus bark, folded and tied at the ends and daubed with clay, suit them very well. They are too lazy to dig out the trunk of a tree for a canoe, like the natives of most other countries."

"Do these blackfellows live in huts?" asked John.

"That's where their laziness manifests itself again," said the mayor, smiling. "The blackfellow has no permanent dwelling. His shelter is a cave or overhanging rock, as an animal might select one; sometimes it is only a large section of bark which he tears from a tree, and under which he walks or squats in storms or lies at night."

"Back in the States," remarked Tom, "we hear much about the skill of these fellows with the boomerang. I dare say a lot of these stories are overdone."

"Possibly," said their host, "and yet it is a fact that these natives are undoubtedly more adept at casting various forms of wooden implements than any other people in the world. Their very indolence leads them to adopt all sorts of easy-made weapons, and wood is surely one of the most common materials for the purpose one could find. Clubs of all kinds are hurled at prey or human enemies. Among these the boomerang is a favorite. They have several forms. One type is very light, round on one side and flat on the other, and slightly twisted on its axis. It is used almost entirely for play, though sometimes to hurl at flocks of birds in the sky. The war and hunting boomerangs are much heavier; they are bent differently, and do not return to the thrower, but are a deadly weapon in the

hands of these bushmen at ranges up to four hundred feet. But stone-pointed spears are their chief weapons."

"With this skill I presume they have no trouble in securing enough to eat," suggested Paul, sipping his cocoa.

"On the contrary, there are times when weather conditions, such as drouth, make it a very difficult matter for some tribes to get sufficient food. Then they will turn to human flesh, and will eat men who have fallen to their weapons, or their own tribesmen who have succumbed to disease or hunger. Even infants are sometimes killed and eaten by their parents."

"Horrible!" cried the flyers. This seemed almost incredible, with civilization in abundance so near.

"I agree with you," said Mr. Bailey, failing to notice his wife holding up a protesting finger toward him. "Of course the blackfellow prefers to have other foods when he can get them. The kangaroo, wallaby, and opossum, form his chief food supply, but no animal or nourishing plant is neglected. He even eats ants, caterpillars, moths, beetles, grubs, snakes, lizards, often uncooked——"

At that point Mr. Bailey felt a sharp twist of his ear, and looking up, found his wife gazing at him with a very severe expression.

"Thomas Bailey! You are a cannibal yourself! Where is your sense of propriety? Have you lost your head in your interest in this subject? Don't you know you are *eating*?—that you have guests here who are also *eating*?"

"My! my! Goodness gracious!" ejaculated their host, in a great fuss. "Young men, I was not thinking. Will you ever pardon me for this transgression of etiquette?"

The flyers smilingly hastened to assure both their friends that they had not lost their appetites in the least; that they really had enjoyed every morsel of food and information passed out. They remained to chat long enough to convince the lady and gentleman of this fact, and then took their departure. They had actually spent a most entertaining hour, one which they would not have missed for a good deal.

At eight-fifty local time the Sky-Bird took off for her long hop to Apia, principal city of Upolu, an island of the Samoan group. It was the beginning of their long

flight across the big Pacific, an ocean so wide, so fraught with perils, that no aircraft had ever before attempted to negotiate it. Some eight thousand miles away over those great waters lay Panama, their goal. Would they reach it ahead of their rivals? Would they reach it within their schedule of ten days?

To these two queries in their minds, our stout-hearted, young friends answered doggedly and determinedly, "Yes!" Fortune might frown upon them, it is true; but if so they would face her smilingly, with confidence, with that pertinacity for which Americans are famous, and try to make her look pleasant, too! They felt that they must win; that they would win. And yet they left Port Darwin handicapped by being fully three hours behind their rivals.

As they wheeled over the town they waved a last farewell to the hundreds below, whose forms they could just make out in the fast-gathering darkness. Then, turning off straight east, they flew over the dark-green canopy of eucalyptus forests of fertile Arnhem Land, and crossed the Gulf of Carpentaria in the full darkness of the night. When they passed over Cape York peninsula, Tom was at the throttle, and the younger boys had been asleep for a number of hours. They had now left the whole continent of Australia behind them, and were facing the broad wastes of the Pacific.

Their perils had begun in earnest. Should anything happen to cause them to be forced down, there was nothing but a vast basin of water miles deep to catch them, and there would not be one chance in a thousand that they would survive. This, surely, was no place and no time for engines to fail or steering apparatus to go wrong. Yet each flyer was ready for such a mishap—attested by the mute evidence of an inflated rubber tube about his waist. Even Bob and Paul slumbered on the airy contrivances.

Fortunately the weather was ideal. It is true that headwinds blew mildly and insistently, causing some bumpiness, but the night was calm and starry, and with the engine running close to full-out, they saw that they were making up lost time very fast.

When morning broke, and Paul took the throttle, fair skies looked down upon their skimming bird, and the sea was bathed in brilliant sunshine. Bob wirelessly Sydney their position about noon. He made no attempt to get Apia, because he knew there was no telegraph or radio station there.

Flying low, early in the afternoon they passed close enough to the Vanikord islands to see hordes of natives watching them from the coral shores. Numerous smaller islets, gems set in the ultramarine blue of the sea, were also passed within the next hour. Gulls, ospreys, and other swift-winged seabirds sailed about these pretty outcroppings of the mighty deep, and sometimes the creatures came after the Sky-Bird with shrill cries of challenge, only to be quickly left behind.

Once more the shades of night fell, and once more John took the destinies of the airplane in hand. For a time Bob and Paul worked on reports, then played with Grandpa, who in such tedious spells of flying as this was a never-ending source of entertainment to all. Nine o'clock found them in their hammocks, hoping that when they opened their eyes again it would be to see the welcome shores of their destination.

Nor in this hope were they to be disappointed. It seemed they had no sooner fallen asleep than they were aroused by a hand shaking them and the voice of John saying: "Come on, you sleepy-heads! Rout out here and have a look at what's ahead!"

Having their clothes still on—so that they might be ready for an emergency at any time of the night—the two chums were up to the windows about as soon as John himself. The latter had raised two of these a short time before, and the boys shoved their heads through to take a look.

It was broad day. Light, fleecy clouds covered the heavens to the southeast, but in the blue between a huge rift the sun shone down benignly. And in its bright rays they could count nine islands and islets, sprinkled here and there like emeralds in a sparkling sheet of mother-of-pearl. It needed only a glance at the chart to tell them that these were the Samoan group, and a little searching also told them that the nearest large one was Upolu.

In less than another hour they were circling above the beautiful island of their choice, directly over the little town of Apia, which nestled in the center of a luxuriant forest of palms and other tropical trees. A number of boats and sailing vessels were in the harbor, and on board these as well as on the ground hundreds of people were looking up aloft and waving a welcome.

Now our flyers saw what they really were most concerned about—a T made of

white stones in an open spot by the beach. And in that field they also saw something else they were very glad to witness. This was the airplane of their rivals.

They had caught up with them at last!

CHAPTER XXVII

PAUL VERSUS PETE

There was a wild scamper of natives as our flyers came down upon the smooth, hard sands of the beach. In this operation they had to use the utmost care to avoid striking the machine of their contemporaries, but it was accomplished without mishap, and the Sky-Bird came to a stop about seventy feet from the *Clarion*.

They were immediately surrounded, at a very respectable distance, by a cordon of Samoans. These were splendid-looking fellows. Their dusky bodies were strong and stalwart, and their faces were intelligent-looking. It was plain to be seen that they had not the slightest hostile intentions toward the aviators. On the contrary their features expressed clear friendliness, although it was obvious that their experience with the *Clarion* was still too fresh to eradicate their natural timidity of such a strange thing as an airplane.

Our friends were very stiff and cramped from their long ride from Port Darwin. It seemed so good now to be able to stretch their limbs, to feel solid ground once more under their feet, and to see the blue sky all around their heads!

The morning was hot, but a cool breeze blew inshore, giving a delightful freshness to the air. Near at hand were rows of native huts, made of poles and bark, and back of these loomed fine groves of cocoanut trees and other tropical vegetation in the richest profusion. Even the elevations of this volcanic island had their barrenness alleviated by growths of greenery which seemed entirely to cover them.

No sooner had the boys sprung out of the machine than three white men approached them. These introduced themselves as Mr. Plusson, in charge of the local mission; Mr. Hart, a British trader; and Mr. Shoreman, the American trader who had been engaged to look after their fuel at this airport. These gentlemen

expressed the liveliest cordiality in their welcome, and Mr. Plusson plead so hard for them to accompany him to his home and join him and his wife at breakfast that they consented.

They learned that their rivals had arrived about twenty minutes before. Ever since the dastardly attempt of Pete Deveaux and his crowd to wreck the Sky-Bird in the Indian Ocean, our flyers had been greatly incensed at them, or rather at Pete Deveaux himself, for they had no doubt but that it was he who had instigated the attack. Paul Ross was particularly inflamed at the French aviator's act, and had more than once declared since, that the first time they met Deveaux again he was going to thrash him until he begged for mercy. This was rather a bold statement for Paul to make, since he was but a youth of eighteen while Pete Deveaux must have been close to thirty; but the lad was strong and skillful with his fists, in addition to which his resentment was just. When justice is on one's side it goes a long way toward giving that person staying powers in any contest against wrong.

For these reasons, when Paul now declared that he could not bear to wait another minute before taking Pete Deveaux to account, his chums made no attempt to dissuade him, except in the matter of time. John pulled him aside, so that explanations would not have to be made to their new acquaintances, and asked him to defer the matter until after they should have had breakfast, to which Paul reluctantly agreed.

When they once more reached the field, it was to see their rivals also just arriving. Without further ado, Paul walked straight up to Pete Deveaux and said; "Deveaux, why did you drop those rocks down on us back there when we were overhauling you between Colombo and Singapore?"

The Frenchman's face paled visibly. He did not like the look in Paul's eye, nor the stern countenances of his friends. But he hoped to bluff his way through.

"Why accuse me of anything like this?" said he, trying to look surprised and hurt. "We had nothing to do with those stones falling. Their weight broke the catch off of the glass trap, and they went through before we could stop them; didn't they, guys?" He turned to his three flyers for support.

Crossman, Torrey, and Lane nodded their heads.

"Sure," averred Crossman.

"What did you have those stones on board for?" demanded John.

The *Clarion* men were silent. Their leader was the first to reply.

"We got some kola nuts from the natives at one of our stops, and wanted the stones to crack them with," stated Deveau.

"It's a lie!" accused Paul. "Stones do not accidentally fall as straight as those did. Pete Deveau, you and your crowd did the best you could to wreck us, and I'm going to take it out of your hide right now!"

"Oh, you are, are you?" sneered the French aviator. "It seems to me I'll have something to say about that, you young whippersnapper! If these friends of yours will keep out of this, I'll promise my boys will keep out, and I'll give you all the show you want."

"Fair play; that's right!" cried Mr. Shoreman, stepping forward. He had heard enough to convince him that nothing but a fistic settlement of the controversy would be adequate, and, with the help of several white traders and sailors, he formed a ring.

Like lightning the word went out, and scores of natives came running up to see the encounter. An affair of this kind just suited their primitive instincts; it was even a greater treat than seeing an airplane land upon their fair island.

So by the time that Paul and Pete Deveau had thrown off their coats, a great ring of natives surrounded them, and in its front were numerous whites from the ships in the harbor.

Pete Deveau was inwardly very nervous, although he was careful not to show it. Had Paul not been so much younger, Deveau would probably have made some excuse to back out of the fight. As it was, he had a sneaking hope of getting the better of Paul, now that the youth's friends had agreed not to interfere. He also hoped to injure the boy so badly in the encounter that he could not take his turn operating the Sky-Bird for the rest of the journey; at least, cripple him enough to delay his party in getting away from the island.

With these evil intents the French flyer conceived still another. He stepped aside and whispered something in Chuck Crossman's ear, then came back and faced Paul.

Mr. Shoreman gave the signal, and Pete Deveau feinted and shot his other fist savagely at Paul's eye. But the boy was wary, dodged the blow, and struck his adversary a hard one in the chest. For a moment Deveau was staggered; but he quickly recovered, and once more sprang forward.

Missing with his right, he succeeded in hitting Paul in the shoulder with his left. Wheeling like a flash, Paul shot out a fist before the Frenchman could recover his guard, and struck him a smash under the ear which sent him reeling back into his friends.

Pete Deveau was now thoroughly alarmed. He had not expected such science, nor such force, on the part of his opponent. He approached Paul with much more caution, amid the howls of the natives, and decided to let him take the offensive.

Paul was willing. Encouraged by his success thus far, and bent upon ending the fracas as soon as possible, he met his adversary with a heavy swing which just cleared the man's ear. Deveau struck, but missed also. Pressed backward, he clinched to save himself, and in this position, where nobody could see his movements, he viciously tried to put some short jabs into Paul's abdomen.

Fortunately for himself Paul succeeded in breaking away before he was doubled up by the blows, one of which had landed with sufficient power to make him utter an involuntary smothered exclamation of pain.

"No more of that, Mr. Deveau!" warned the referee suspiciously, as Paul shoved his opponent back. "Keep out of the clinches! Fight fair!"

"Fair! Fair!" yelled the sailors; and the natives took up the cry in their own language.

Paul now advanced, and Pete Deveau retreated. The latter was really frightened. Something was beginning to tell him that in this youth of eighteen he had met his superior.

"I think we'd better quit, Ross, before we hurt each other," suggested the French flyer cravenly. "This flight business of ours won't stand such delays as this. We can have this out when we land in Panama."

"No, we can't have it out in Panama!" cried Paul. "Stand up if you're a man and settle this thing right now. Watch out; I'm coming!"

By this time Pete Deveau had retreated to the lower end of the improvised ring. He saw that he was cornered; that he must fight once more. Lunging forward like a trapped rat, he struck a wicked blow for his opponent's head.

Paul parried it, and as swift as a stroke of lightning his right hand streaked out and caught Deveau under the jaw. The Frenchman reeled backward a few steps, and toppled over, full length upon the ground. What a cry went up from the onlookers! By this time the sympathies of every one, except Deveau's own comrades, were with the youth. No one, even a half-civilized savage, at heart likes a coward.

For a few moments Pete Deveau was dazed. But after his cronies had helped him to his feet, and started away with him, he still had enough spite left to shout back, as he shook a fist: "We're not done with you fellows yet!"

Paul was now the recipient of congratulations from all sides. Everybody wished to slap him on the shoulder or shake hands with him, it seemed, and the native populace gave him so many cocoanuts, bananas, and pineapples that he was literally hemmed in with fruit, and John, Bob, and Tom had to open up a pathway before he could get out of his sweet-smelling barricade.

Our flyers put as much of the gifts in the cabin of the Sky-Bird as they could find room for, including an abundance of nuts for the happy Grandpa, and then they turned their attention to the pressing business of overhauling the engines and storing fuel.

While they were thus engaged, the *Clarion's* motor was heard to start; and a few moments later she arose and took off to sea.

"Humph!" ejaculated Tom, "those fellows have beat us to it again."

"They ought to; didn't they arrive ahead of us?" asked Tom.

"We'll be out of here in fifteen minutes more," stated John.

But the words were no more than out of his mouth when Paul, who had been inspecting the rear end of the machine came dashing excitedly forward, crying:

"Fellows, hob is to pay! Those rascals have cut the wire braces that support the tail-skid, and it's lopping away over!"

CHAPTER XXVIII

A MIX-UP IN DATES

Paul's announcement threw his friends into a state of consternation. As they viewed the wire braces, neatly cut with a pair of nippers, they recalled Pete Deveau's act of whispering in the ear of one of his party just preceding the recent fight, and realized now its full import. This fellow had slunk out of the crowd, slipped over to the unguarded airplane, and performed the unprincipled trick without any risk of being caught at it.

Since there was no chance for immediate redress from the guilty party, who were almost out of sight to the eastward, all our flyers could do was to bend every effort to make repairs as fast as possible. After considerable skirmishing around, they managed to secure some wire from one of the vessels in the harbor. The severed strands were then removed and new pieces cut to length.

It was found that the weight of the machine upon the unsupported skid, had cracked the skid past repair; so they had to whittle out another from some tough wood, which the natives brought them from the nearby forest, before they could connect the new wires and were ready to start.

Finally they took off at a few minutes past noon, more than three hours behind their rivals. It was disheartening, to say the least—all the more so on account of the fact that their delay had again been caused by the sinister acts of the other crew. They made up their minds that if they should meet Pete Deveau and his crowd at another stop, something worse than a single fistic encounter would take place!

As they soared away toward Nukahiva, with Upolu growing constantly dimmer, John, who had been studying the schedule, turned to his companions and asked:

"Do any of you fellows know what date this is?"

"Let's see," mused Bob, at the throttle; "we left Port Darwin the evening of the 26th; the evening of the 27th we were still at sea, and the next morning—the 28th—"

"You're ahead of time just one day," laughed John. "This is the 27th of the month."

"How do you make that out?" asked Bob. "Didn't we leave Port Darwin on the 26th?"

"Yes," admitted John.

"And the following evening we were at sea?"

"Granted. That was last evening—the 27th."

"Then any dunce can see that to-day is the 28th," said Bob witheringly.

"That's what I say, too," supported Paul.

But John only laughed harder, and this time Tom joined him.

"John's right," said Tom; "to-day is the 27th."

"It *can't* be," protested Bob. "You own up that yesterday was the 27th, don't you?"

"I certainly do," chuckled John; "but you forget one thing, young man: that same evening, all in a moment's time, we crossed the One Hundred and Eightieth Meridian—the date-line of the world—and while it was Thursday, the 27th on the west side of this line, it became Wednesday, the 26th the instant we crossed over to the east side."

"Oh, sure!" exclaimed Bob and Paul, feeling very silly. And the latter added: "That's where we gain a day in our lives—and to think that Bob and I were asleep at that auspicious moment!"

"I know an old maid who swears she is fifteen years younger than she really looks," commented Tom. "I think she must have done a lot of globe trotting, and always east!"

"There's no danger of the fair sex ever circling the globe in a westerly direction," laughed John, "for that would make them one day older every time."

The day could not have been better. Hardly a cloud was to be seen on the horizon, and the regular trade-winds blowing westward were soft and steady, and they were making excellent time.

Grandpa frisked about, perching on this object and that, and occasionally running back into some secret nook where he had hidden his supply of nuts. With one of these in his paw he would jump up on something, crack it in his powerful small jaws, and look very wise and serious as he picked out the meats with his slim fingers.

Finally the monkey had his fill, and hopped up into Tom's lap. He began to play with Tom's hair, smoothing it down pretty soon with the flyer's comb, which he discovered in a pocket. So handy was Grandpa with this utensil that the others went into peals of laughter. Tiring of this, the monkey's eye caught sight of several freckles upon the back of Tom's hand. He tried in vain to pick the freckles off; then he became excited, for he could not understand why they would not lift up. He chattered scoldingly at everybody; then tried again. Failing, he sprang down and went to a far corner, in a fine sulk. Evidently he thought Tom was playing a trick on him, and had glued the freckles down somehow just to tease him; for Tom, it must be admitted, was greatly given to bothering Grandpa in some such manner.

Shortly before ten o'clock the following morning all hands were up to take a look at their next stopping-off place—Nukahiva, the main island of the Marquesas group, the place where they hoped to find a supply of helium-gas awaiting them.

A fine island this—as fine a volcanic upheaval as one will find anywhere. Sheer walls of cloud-capped rock 6,000 feet high, some literally overhanging the crystal-clear water, and all embossed and engraved with strangely patterned basalt. There are pillars, battlements, and turrets; so that, with half-closed eyes, it seems you are approaching a temple, a medieval castle, or a mosque of the East. And the valleys—deep, choked with the most rampant growths of luxuriant vegetation, in the heart of which silvery streams gurggle their way tortuously along—fade away into mysterious purple mists. Small wonder that this gorgeously beautiful island should have been the home for a century of one of the finest races of primitive people the world has ever known! Sad indeed is it

that to-day the Marquesans are rapidly dying off from consumption and fever introduced into their fair domain by civilization itself.

Nestling in a good-sized valley near the harbor our flyers saw scores of native houses, as they drew nearer. These were constructed of yellow bamboo, tastefully twisted together in a kind of wickerwork, and thatched with the long tapering leaves of the palmetto. Here, too, was the big white T of their hopes.

In a short time they had safely landed, one hour behind schedule. Their rivals had left an hour and ten minutes before. But joy of joys! here were four tanks of helium, and with a filling of this they would show those fellows how to fly!

As fast as they could work, our friends overhauled their machine and put it in shape for the long trip to San Christobal. They would have given almost anything to have joined the many natives they saw swimming in the cool waters of the harbor, but felt that they could not afford to waste a single minute.

At twelve-thirty, with the sun at its zenith, they once more took to the air. This was Thursday. By Friday evening they should be at the Gallapagos Islands—their last stop before Panama. What a cheering thought it was!

Heading just a trifle north of east, they ran almost full-out. It was easy to note the difference in the behavior of the Sky-Bird since her helium tanks had been fully charged. She sped along as she had in the very beginning of their journey—like a long bullet fired from some gigantic cannon. How the engine did sing! The wind rushed by them like a hurricane, and they had to shout in order to be heard when they had anything to say to each other.

Satisfied that all was going right, Tom and John soon turned in, for they were very sleepy. When the operating crew awoke them it was dark. Bob then got into wireless communication with Panama, and delivered a message for Mr. Giddings. Following this, he and Paul also took to the hammocks.

When the two youths awoke it was morning, and the Sky-Bird was not behaving as well as when they had retired. Looking outside they saw the reason for this. The entire heavens ahead were hidden under dun-colored clouds which in places seemed to be gathering themselves together into formidable leaden arrangement. The gentle trade-winds had developed into a stiff wind. Down below, the sea was covered with whitecaps, while in the distance the water was swinging into immense swells with foaming crests.

John and Tom both looked worried. The two younger boys felt more uneasy when they noticed this.

"I guess we're in for a pretty hard storm," said John, as he gave the throttle up to Paul. "Tom and I will stay up a while and see how things turn out. The Sky-Bird's down to about a hundred an hour now. Better keep her there, Buddy. That's fast enough in a blow like this."

A few minutes later a fork of lightning split the sky ahead. This was followed by another off to the right, then by one off to the left. Then they heard the rumble of thunder, and a heavy gray haze slowly began to engulf the sea, rapidly approaching.

"That's rain," cried Paul. "Say, John, if you're not too done out maybe you had better take the stick again; I'm afraid I won't be equal to what's coming."

His brother complied. John did not wish to frighten his comrades, but the truth is he knew this would be the worst storm he had ever faced in his four years of flying.

"We'll try to get above those clouds," he said quietly. He did not like to tell them just what he thought—that if they did not get above the clouds without delay they would either be struck by lightning or torn to pieces by the terrible whirlpool of winds which he knew those churning black masses ahead contained.

CHAPTER XXIX

A FLYING RESCUE

John turned the Sky-Bird upward at as stiff a slant as he felt would be safe for them in that high wind. At nine thousand feet they emerged above the first layer; but eastward the clouds appeared to terrace up gradually, and in the distance there extended another great wall, towering several thousand feet higher.

Some of the rain was now beginning to reach them. It came pattering down upon the roof; and under the strong impulse of wind and their speed, it struck the glass windows in front with a smack like buckshot. The moisture on the panes made it difficult to see out.

"Take a reading with the anemometer, Tom," ordered John, straining his eyes hard ahead.

This little instrument was something like a miniature windmill. Its four wings were supplied with cups which, as Tom held the instrument out of the window facing the wind, caused the spider to revolve. The latter was geared to a small dial, over the face of which passed a hand, much like a clock, indicating the speed of the wind.

"She's blowing fifty miles an hour, and gaining every minute," announced Tom. "That's the hardest wind we've been in yet."

"If we stay down here it will be blowing sixty within ten minutes," was the pilot's grim response.

Just then there was a blinding flash of light a little way ahead of them, accompanied by such a terrific crash of thunder that their ears rang.

"Gee!" cried Bob, "that was a close call! I'll bet that bolt came within a rod of

striking us."

"A miss is as good as a mile," shouted John cheerfully. He and the others found that they would have to yell in order to be heard, so great was the noise from engine and storm.

Zip! went a zigzagging livid streak across their range of vision. It seemed to be running straight for them, and instinctively they dodged—all but Tom and John. These old veterans continued to gaze coolly straight ahead as though nothing had happened. *Crash-h!* went a clap of thunder. It seemed as if the whole heavens were being turned topsy-turvy. Even the airplane, usually so steady, heaved and rode like a rocking-horse.

The two younger members of the party were not to be blamed for feeling pretty well frightened by this time. It was one thing to be cutting through the fleecy white clouds of a calm day, and quite another to go stabbing through murky black ones which were rolling angrily, ejecting both wind and rain, and spitting out vicious roars and jagged streaks of pale-blue flame. One moment they would be in gloom; the next instant a cloud would be rent asunder with a ripping, tearing sound, and the whole turbid, boiling sky-universe would be bathed in the ghostly light. What a weird, fantastic, chaotic world they were in!

But it was only for a few minutes that they were in the worst danger. Soon, to their infinite relief, they had reached their "ceiling." They were now 15,000 feet up—almost three miles,—and below them lay the vast sea of troubled cloudland, dark and forbidding, rolling tumultuously like an ocean of curdled ink. It was a novel experience to be running in the clear air over all of this infernality of sounds and sights, while above them the blue, star-studded heavens looked down upon them calmly and peaceably.

For almost an hour the furious storm continued in the lower regions. Then it began slowly to subside. First the lightning stopped, then the thunder. The banks of clouds took on a lighter hue, and began to drift apart; a pinnacle here and a crag there were swept off by the winds, until the masses of nimbus became flattened out into patches of sun-flecked foam as beautiful as fresh-fallen snow.

The anemometer spun slower and slower as the gale decreased in violence, and presently the airplane was gliding along with its normal smoothness. Here and there, between the patches of white cloud, they caught glimpses of the

ultramarine sea, thousands of feet below them.

It was so cold up here, even with the windows closed, that all the boys were shivering in their warmest wraps. The air, too, was so rarefied that it was with considerable difficulty that they could breathe, for they had been in it for some time. Not one flyer in a hundred can live at an altitude of twenty thousand feet, as he bleeds at the nose and mouth; and our aviators were up to within five thousand feet of that height. It was now time to descend.

John shut off both engines, and they began to volplane down in a great stillness, sailing like an immense hawk. Lower and lower they went—fourteen, thirteen, twelve, eleven, ten thousand feet. Now they were gliding through clear, thin air; now cutting a hole through a heavy cloud so impregnated with moisture that it sweat over the glass and the boys would have to wipe a sleeve across hastily to improve the vision. Eight, seven, six, five, four, three, two!

That was low enough. All this time the propeller had been spinning from the rush of air alone. Now John threw in the clutch; the revolving propeller shaft grabbed the crankshaft of the engine, and once more it began its rhythmic purr. Just a little upthrust of the tail-elevators and ailerons brought them again into the horizontal in a huge swoop. Nothing could have been prettier. They had escaped the terrible tornado, leaving it still galloping westward far behind them, and were once more in normal position for continuing their flight toward the goal!

Below them, for miles around, they could once more see the ocean uninterruptedly. Its mountainous waves and deep gorges of a short time previous had probably swallowed up many an unlucky ship that morning; but its temper was expended, and all it could do now was to sulk in long, even billows which every moment became flatter and flatter.

How had their rivals fared? This question was in the minds of every one of our flyers as the Sky-Bird continued swiftly on her course. In their hearts was a vague feeling that perhaps Pete Deveau and his crowd might not have come out of the storm as lucky as they, for not one airplane out of a score could have outlived it. Their own escape had been almost miraculous. But for the good generalship of John they surely would have met with mishap.

So now, as they went along, a sharp lookout was not only kept for their rivals in the sky ahead, but anxious looks were cast over the expanse of white-capped

waters. Calculations told them that by this time the other airplane could not be far ahead.

Less than ten minutes later, Tom espied a small object far away on their port quarter. It was bobbing about on the waves, rising and falling. Bob seized a pair of glasses, and took a long look. He turned around with his face full of excitement.

"Heavens, fellows!" he cried; "that object looks like an airplane!"

All took a look. Then they, too, were excited, There could be no doubt about it—the object was a wrecked airplane. And as it was extremely unlikely that there were other machines in the vicinity than their own and that of their adversaries', they were quite sure that it must be the remains of the *Clarion*.

John turned the Sky-Bird in the direction of the floating thing, and soon they saw what seemed to be the form of a human being clinging to one of the wings. John threw in both engines in an effort to get all possible speed out of the craft.

In a little while they were close enough to see that the wreck was really the *Clarion*. But what a sad-looking sight was the former handsome craft! Her tail had been wrenched off, and only half of one of her long wings could be seen. Out upon the other, on hands and knees, clinging desperately to the aileron brace, was the hatless, water-soaked figure of a man. As they came closer still they could see him waving his hand frantically at them.

With a glass, Paul saw that this person was Oliver Torrey. Anxiously his eyes roved over the wreck in quest of other survivors, but none could he discern. Irony of fate! had all of the others been drowned?

John brought the Sky-Bird down to within seventy-five feet of the sea as they approached. Tom seized the speaking trumpet, and as they swept over the *Clarion* he bawled out: "Hang on, Torrey! We'll stand by, and save you if we can!"

But they were facing a herculean task, and realized it. They could not light upon the water. Nor could they stop in midair. How in the world could they effect the hapless flyer's rescue?

John circled at reduced speed while all of their minds were busy trying to work

out the problem. In the meantime Torrey's frantic pleadings for them not to go away and leave him to his fate filled their ears. It was a trying, nerve-racking situation.

Bob Giddings struck upon the first idea.

"Why can't we trail a rope for him to catch?" he asked.

"He's probably too weak to climb a rope," objected Tom.

"I'll tell you what we can do," said Paul, with a happy thought. "We can take this coil of rope we have here and make a narrow ladder of it! That will be easy for him to catch, and easy to climb."

All agreed instantly that this was the only hope of rescue. So John kept the Sky-Bird slowly wheeling, while his three mates cut and tied until they had formed a narrow rope ladder about fifty feet long. One end of this they securely fastened in the cabin, while they let the other drop down through the glass trap in the floor.

To their dismay the rush of wind carried the light ladder out so horizontally behind that they saw they could never get low enough with safety for Oliver Torrey to reach it! What could they do now? It seemed they were destined to failure; that Torrey must be left to the cruel and hungry waves.

"I have it!" cried Bob. "We'll fasten Grandpa near the lower end of the ladder. His weight will be sufficient to keep it down straight."

This was a splendid scheme, surely. Accordingly, the monkey, wondering what new form of teasing was about to be imposed upon him, was fastened about three feet from the bottom end of the ladder, and Grandpa and his strange trapeze was then slowly let down until all of the ladder had been paid out. The crew were glad to note that it now hung almost perpendicularly.

Now the success of everything depended upon John. He must be skillful enough to bring the ladder across Torrey's position in just the right place for the flyer to grasp it as it swept past.

They shouted to the man below to stand up if he could, and comprehending in an instant his part of the program, he struggled to his feet, spreading them wide

apart to brace himself, for the wrecked airplane was rocking somewhat from the action of the waves.

The first time John brought the Sky-Bird by he was too high; Torrey could not reach the ladder. The second time a sudden gust of wind blew the ropes too far to one side at the critical moment. The third time the machine itself was a trifle too far to one side. But on the fourth attempt success met their patient efforts; Torrey's hands seized the bottom rung of the ladder, and a few minutes later he had climbed up into the cabin and sunk weakly upon the floor. Paul then brought in the ladder, laughing nervously, and released Grandpa, who had not relished his part of the proceedings in the least, to judge from his excited chattering, most of which was bestowed upon the rescued man.

CHAPTER XXX

AN ALARMING DISCOVERY

One of the first questions our flyers asked of Oliver Torrey, after they had helped him remove his wet clothing, was:

"Where are your friends?"

The *Clarion* flyer shook his head sadly. "They're done for—drowned. I'm the only one left of our crew. That was an awful storm, boys! I don't see how you ever survived it."

"We did it by flying over the greater part of it," said Tom. "How did it happen to get you fellows?"

"Pete and Chuck were operating," explained Oliver Torrey. "Sam and I both wanted to get above the tornado, but they said they thought it wouldn't amount to much. When they saw how bad it really was, it was too late. A whirlpool of wind struck us at three thousand feet, Pete lost control, and we went into a nose-dive from which we never recovered. When we struck the sea the force crushed in the front of the cabin, stunning Pete, and before any of us could grab him the waves had washed him out of our sight. Chuck, Sam, and I managed to get out and climb up on the fuselage; but the seas were running so high that half of the time we were buried in water. Coming out of one of these deluges, I looked around and saw that I was alone. Then the storm passed, and things looked better for me. But I was just about ready to give up when I saw the Sky-Bird coming."

Oliver Torrey paused a moment, wiped his haggard face, and then continued, as he looked earnestly at his rescuers:

"Boys, I never can thank you enough for saving my worthless life. It's awful to think that we guys let Pete Deveaux coax us into doing all those dirty things to

hold you back. I guess we deserved this punishment. If I ever get back to Panama I'll certainly make what amends I can by telling the whole disgraceful story to the world."

Tom stepped in front of the *Clarion* flyer, and shook his finger in his face. "Torrey," said Tom, "I think at heart you are all right; but listen! Mr. Wrenn, who hired you fellows, is a straight man through and through. If this story gets out it will be published broadcast, and people will think he abetted your crimes against us. So, for his sake——"

"I see; I hadn't thought of that," ejaculated Torrey. "I will keep still; as far as the public'll ever know, they'll think this was a fair and square contest—and so it was on your part."

It must be remembered that John and Tom had had no sleep since the day previous. They were so tired by now, especially John, that they were very glad to retire to the hammocks, leaving Paul and Bob to take care of the Sky-Bird. Oliver Torrey was also exhausted, and accepted with alacrity Paul's invitation to him to jump into the spare hammock. Within five minutes the two youths were the only ones awake.

It seemed good to the boys to feel that soon they would be at San Cristobal, their last stop before the final hop. They flew along with the throttle wide open for the next hour, eager to make up for the delay caused by the storm and the rescue of Torrey. Then they reduced the speed a little, to make sure they would not overheat the engine, but still they made good time.

Shortly before six o'clock that afternoon they sighted a blue haze which a little later developed into a group of several islands. These they knew, by consulting their chart, were the Gallapagos, the home of the largest land-turtles ever known, monsters so enormous that one of them could walk off with two half-grown boys on his broad back.

There are over two thousand volcano cones in these islands, and soon our friends were almost in the midst of them. On all sides and at all distances were rugged peaks one hundred to two thousand feet high, rising sheer from a rose-pink sea over which the declining sun played ravishly. Along the shores pelicans soared above the shallow inlets, watching for unwary fish. Tiny birds darted in and out among the cliffs. Down in the crystal depths of the sea, over shelves of

coral, vague shapes hovered and passed and repassed—sharks, dolphins, turtles, and grunts, even the ghastly devil-fish.

All life seemed confined to water and to air; never was dry land so desolate-looking as those myriads of barren volcanic cones. Yet one of these islands was peopled with human beings—San Cristobal.

Which one was it? The easternmost of the group, said the chart.

Circling that way. Bob gave a yelp like a pup which sees his younger master after he has been away all day.

"I see Dalrymple Rock!" he cried, with the binoculars to his eyes. "I see Wreck Point, too, and a bay between 'em, with houses on the beach. That looks like our number, all right. What more do you want, Paul?"

"Nothing," laughed Paul,— "except our landing field. Find that, wake up the other fellows, and I'll be satisfied."

In a moment Bob pointed out a flat field marked with the welcome white T, then he aroused John and Tom while Paul was bringing the Sky-Bird down. From a rickety old pier, also from the shores where they had gathered, a crowd of curious natives rushed forward to witness the landing of the most startling object they had ever seen. They were a mixture of South Americans, mostly Ecuadoreans, and not until our friends stepped out of the cabin did they summon up enough courage to get very close to the machine.

Among them was the owner of the island—a good-looking young Ecuadorean, highly educated, who was to look after their interests in the matter of fuel,—and the chief of police (presumably "chief," because there is only one representative of the law in the Galapagos).

The owner of San Cristobal informed the flyers in excellent French,—which all of them except Oliver Torrey could speak,—that he was delighted to welcome the first airplane crew to his little domain; that weeks ago the ship had brought gasoline and oil, which was now awaiting their pleasure in the little nearby shanty; that he and his police officer and the peons were eager to serve them in any way they could; and would the brave American aviators favor him and his police officer by joining them at the hacienda for dinner that evening?

Our friends graciously accepted this invitation, upon finding that their host would appoint a watch for the airplane. They then went with him to his pretty hacienda in the valley—a green, undulating country, dotted with grazing cattle and horses, patches of sugar-cane, coffee bushes, and lime trees, stretching away to a cloud-capped range of mountains.

Situated upon a hillock, in the midst of this entrancing valley, and surrounded by the peons' grass houses, was the owner's home. Here the flyers partook of an excellent repast, garnished with the best the island could afford, including tender wild duck from the surrounding lagoons and savory turtle soup. Then followed songs by their host, and jolly college melodies by themselves, accompanied by the sweet strains of a guitar in the hands of the police officer.

Out in the compound, the peons also celebrated the occasion. There were great oil flares, thrummings of guitars, gyrating dancers in bright-hued ponchos, merry cries, the laughing of children, the barking of dogs.

Everybody seemed thoroughly happy and contented. And, after all, what else matters? That is the Ecuadorean point of view, and who shall say it is a bad one?

It was difficult for the boys to remind themselves that here they were precisely on the equator, so positively chilly was it. And yet they were. It was the third time which they had touched that imaginary girdle of the earth in the past week or so; and it was to be their last crossing. How inspiring the thought that they were now within one hop of their goal; that sometime on the morrow they would probably reach Panama well within their time limit of ten days!

The fact is, they had only 650 miles ahead of them—a distance which could easily be covered, barring accidents, inside of five hours, and they had until one o'clock the following day in which to reach their destination. When they realized this, and were pressed most insistently by the owner of the island to spend the night, under the shelter of his roof, where there were two spare beds, the tired, bed-hungry flyers decided to remain over, Oliver Torrey going to the house of the police "chief." Torrey was really in no physical condition, as it was, to continue the flight immediately, for he had suffered a chill as the result of his exposure, and felt very weak.

Next morning they were up at the break of day, and at once began the task of refilling the tanks of the Sky-Bird and giving her machinery a general

overhauling. Torrey felt much better, and assisted in these operations. His gratitude to the boys for deciding not to divulge the duplicity of the unfortunate crew with whom he had been connected was very great, and he spared no effort to help them on toward success—which goes to show that this fellow was not at all bad at heart but had simply gotten in with a bad crowd.

It was a good thing that the flyers went over their engines. John found a loose coupling in one, and a stretched fan belt in the other. Had they gone on in this condition trouble would have been sure to visit them. It was small wonder, however, that something should not be out of good working order, for these faithful pieces of mechanism had been given the hardest kind of usage day in and day out, each in its turn, and sometimes working together, in this long flight around the earth. Their final test had been the storm. More than once the boys had marveled at the remarkable efficiency of their motive power. What a tribute to the mechanical genius of modern man had these engines paid! They were almost human in intelligence, more than human in their untiring zeal.

The repairs were not difficult to make; the belt was cut and fastened again with a leather lace borrowed from the police "chief's" shoe, and the careful use of a wrench and other tools out of their kit finally fixed the loose coupling. But these operations had consumed unlooked-for valuable time, and when they had had breakfast with their friends and were ready at last to go, they found that the watch of their host indicated the hour of nine.

Setting their own watches to this local time, as had been their custom in all towns upon arriving or leaving, our flyers once more thanked their entertainers for courtesies extended, wished them good-bye, and got in their machine.

As they taxied swiftly down the course, the rush of wind from the big propeller sent more than one Ecuadorean's wide-brimmed hat flying from his head, and to the enjoyment of all, a native who was perched precariously upon an up-ended cask was blown heels-over-head backwards.

No sooner had they straightened out upon their northeasterly course than Bob sat down to his instruments and called up the Panama wireless station. In about ten minutes he got it, and told of their position and the accident to the *Clarion*. They all knew that when the news of this catastrophe reached the American newspapers there would be the greatest excitement, and that Mr. Wrenn would not only be grievously disappointed but horrified at the fate of the three

members of his crew.

They now had just four hours in which to reach their goal. That meant they must travel at an average rate of better than 160 miles an hour. Since they had gone considerably faster than this when the occasion had warranted it in the past, they felt no anxieties now. John, who was at the throttle, opened the Sky-Bird up to 165, and at this gait they skimmed swiftly along over the blue-green waters of the big Pacific.

"This speed ought to bring us in by twelve-thirty—a good half-hour ahead of our limit,—so there's no need of rushing matters," said John, to which sentiment his comrades agreed.

By eleven o'clock all were keenly on the look-out. Each flyer coveted the honor of being the first one to see the coastline of Central America, the resting-place of Panama.

Paul, with the binoculars to his eyes, was the one to win. It was just exactly 11:25 when he shouted in true mariner's style: "Land ho, my hearties!"

Taking the glass, one by one his comrades gladly echoed the announcement.

But suddenly Bob's face turned chalky. "Jiminy, fellows," he cried, "what boneheads we are! We have been figuring on San Cristobal time all the while. Panama's close to an hour ahead!"

"And we've only got thirty-five minutes in which to land!" said Tom.
"Huckleberry pie! Boneheads we are! Boneheads, boneheads! I repeat it—boneheads, boneheads! It's all off now."

Tom actually wrung his hands in his misery, and the others felt just about as humiliated and disgusted with themselves.

"Here's where our prize goes a-flickering," groaned Paul. "We never can make Panama in thirty-five minutes!"

"I don't know about that," declared his brother grimly. "Here goes for the effort, anyhow. I'll make the Sky-Bird fly as she has never flown before!"

With that he brought the throttle wide open, and two minutes later threw the

second engine into commission.

CHAPTER XXXI

THE FINISH

They were not beaten yet! The wind whistled, shrieked, and roared as it swept aft along the smooth body of the Sky-Bird. The propeller whirled, and the engines purred like two huge twin cats. So great were the noises combined that the voice was completely overwhelmed, and no effort was made by the flyers to talk with one another.

With their pulses beating wildly and hearts thumping in accord, they watched the hazy streak on the horizon line ahead rapidly develop into the unmistakable rugged form of land. As they drew closer, they could even see the glint of water on the other side, and knew without the shadow of doubt that what they were looking at was the long belt of earth connecting the two Americas—the Isthmus of Panama itself. And down their backs ran a new thrill at the recognition.

Larger and larger loomed the brown and green strip in advance. Presently, amid the checker-board of nature's colorations, they could make out a bay and on a tongue of land a considerable collection of buildings. It was Panama City! Five minutes later they could even distinguish the American flag—how glorious the sight!—fluttering at the staffhead of the courthouse, and could see the streets and ships in the harbor thronged with people who were evidently waiting to welcome them.

The excitement of the throngs increased as the airplane drew closer. People jumped up and down, yelled, and waved their hats. It had been only a few minutes before that Bob had received the radio admonition from the Panama station; "Town gone wild; but hurry in. You only have six minutes left!"

Now they were circling high over the heads of the populace, with one engine shut off and the speed of the other much reduced. In graceful, pretty circles the Sky-Bird began to spiral her way downward, John's eyes fastened upon the big

white T of the familiar airdrome. As they came down, people in the outlying districts rushed madly toward the field, and the streets everywhere were choked with the concourse pouring toward the center of attraction.

Scores of others had previously posted themselves in the airdrome; but all were kept back by a cordon of ropes and a guard of Zone policemen. Inside of the barrier were a favored few Government officials and distinguished personages, newspaper men, photographers, and Mr. Giddings and Mr. Wrenn themselves. Colonel Hess, the judge of the contest, was also present, ready to receive the flyers' affidavits of stops.

As the flyers stepped out of their machine many a camera clicked, and the air was filled with the cheers of the multitude.

Colonel Hess stepped quickly up. In one hand was a watch; the other was extended.

"My heartiest congratulations, boys!" he exclaimed, as he received their paper. "You have arrived just in the nick of time. Panama time, it is now exactly fifty-nine minutes after twelve!"

They had won by one minute! The flyers were so tickled that they also felt like cheering. But they were sobered instantly when Mr. Wrenn came forward and they saw how sorrowful he looked in spite of the brave smile with which he greeted them.

"Young men," said the publisher of the Clarion, "as the loser in this contest I also wish to congratulate you. We have suffered a heavy blow ourselves, but you deserve full credit for the good work you have done, and I am not the kind of a contemporary to withhold compliments so fairly earned. I trust my men conducted themselves as true sportsmen, poor fellows."

Noticing that Oliver Torrey was on the point of making reply, John gave him a warning look, and a moment later pulled him aside and said in a low voice: "Mr. Wrenn should not know that you fellows did not conduct yourselves otherwise than fair in this race. That would make him feel all the worse. Keep mum to *everybody* about this, and we'll do the same."

Oliver Torrey nodded—tears in his eyes as he saw how desirous the Sky-Bird's crew were of protecting his own interests as well as the good name of his former

associates. What fine fellows they were! How he wished he could have been allied with them on this cruise, instead of with Pete Deveau and his bunch!

The hardships and perils of the past ten days were forgotten in the excitement of the present. Our flyers hardly knew what they were doing, so great was their joy. They shook hands with scores, hearts swelling with those emotions invoked by achievement and the glamor of the moment. It was—and always will be, perhaps,—the supreme hour of their lives.

Almost reverently they looked over the Sky-Bird. Through every possible climatic rigor the airplane had passed, and practically without any attention. Not once, from the time they had left this very airdrome until they had reached it again, after traversing close to 25,000 miles, had she been under shelter or sulked on them through deficient construction. Given a few days to overhaul her engines, they felt they would be quite capable of repeating their world record-breaking achievement, if it were necessary.

These reflections were of brief duration, however; for the crowd, having forced its way past the barriers, and having satisfied its curiosity over the machine, directed their attention to the flyers. Brimming with enthusiasm, they lifted every one of them shoulder high, laughing and cheering, and conveyed them to an extemporized platform made from a large box. From this elevation, each flyer in his turn was called upon for a speech. The boys made these quite brief, but were vociferously applauded; and then the two famous publishers were asked to contribute. Following came the governor of the Zone, who very eloquently expressed the pride the little Republic felt in starting off and witnessing the finish of this memorable event, and he said the keys of Panama were at the disposal of the young aviators until they should feel it incumbent upon them to leave for the States.

For three days our friends remained, and during that time they were the almost constant recipients of honors from civic clubs and associations of the city, as well as from the English-speaking citizenry in general. They were entertained at dinners, at the theater, and at sporting events out-of-doors—and not a penny were they allowed to spend themselves.

To the aviators it all seemed like a festival snatched from the covers of "Arabian Nights." Had genii and fairies, elves and goblins, appeared before them bearing gifts of gold and jewels they would hardly have been surprised, so unreal did

everything appear to their tired minds; and tired bodies only grew more tired under the stress of the social demands.

Strange indeed were their feelings when, upon looking at back files of newspapers, they read the history of their exploits, recorded with a degree of detail which must have taxed the imaginative resources of editorial staffs to gray hairs; and saw picture after picture taken with their own camera and sent across many a continent in the form of undeveloped film, now to bring before their eyes once more the realism of the moment when they were taken. There were photographs of themselves collectively and individually in many a place now far distant; views of the machine at rest, and of parts of it among the clouds and above them; two views of the fight with the condors; several of Grandpa in various amusing positions; many pictures of foreign places and of natives; illustrations showing the battle with the devil-fish; storms as seen from below, and storms as seen below when flying above them. Even pictures of the wreck of the *Clarion*, and of Oliver Torrey climbing up the rope ladder, were not missing.

Before the flyers left Panama, Paul received many offers to sell Grandpa to various admirers, but no amount of money could have induced him to part with this faithful little mascot. Oliver Torrey particularly felt that he owed a great debt of gratitude to the monkey.

When the party finally reached New York City, after a non-incidental flight of one night and the major portion of a day, they were given another ovation—one which far outrivalled in volume the one they had received at Panama. The mayor and city officials wished to fête them, but the boys were too exhausted to stand more of such doings; they wished to get home as soon as possible, hide from everybody but those in their immediate families, and just rest—rest—rest. They didn't think they would even care to see their dear old Sky-Bird again for several months.

It would be hard indeed to comprehend the feelings that surged through the flyers as they landed the airplane in the fair-grounds of their own native town—Yonkers—and were greeted by hundreds of familiar faces and voices, to say nothing of the hand-clasps of many old-time friends.

But, after all, the reunion with their own relatives was the cause for the greatest thanksgiving, as we may assume. Both Paul's and Bob's mothers had prepared the choicest of dinners for their famous sons, and that evening the Ross and

Giddings families were the happiest and merriest ones in town.

Mr. Giddings and Mr. Wrenn both realized more out of the advertising than the contest had cost them. The former met his agreement by giving each of his flyers five thousand dollars, and his business rival did likewise by Oliver Torrey. Later on, Bob and the Ross boys sold their patents on the Sky-Bird to a large airplane manufacturing company for a sum which promised to make them independent for the rest of their lives.

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