



# **Tom Swift and His Giant Telescope**

**(Book 39 in the Tom Swift series)**

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## **CHAPTER I**

### **THE NEW PROJECT**

Tom Swift appeared to be calm, although in reality he was about as excited over his latest invention as he ever had been about anything in his life.

"I'm sure it's going to work, Ned!" he said eagerly to his chum as they neared Tom's private laboratory. "With my new device I hope to learn more about the planets. I want to start soon--"

"Listen here!" broke in Ned Newton. "If you're thinking of going to Mars or the moon, just count me out! I've gone with you to many strange places and have never kicked. But this--"

"Hold on, young fellow!" interrupted the youthful inventor with an amused chuckle.

"I've nothing like that in mind YET! All I want to do is show you my new 'space eye.'"

"Can't say as I like that word 'yet,'" Ned muttered darkly. "But I'll take a look at your new jigger if you'll promise not to shoot me through space in a rocket or cannon-ball!"

"Word of honor I won't," promised Tom, crossing his heart with mock solemnity. "Well, here we are."

The two boys had reached the laboratory, a small building at the rear of the spacious lawn surrounding Tom's father's home and close to the extensive work of the Swift Manufacturing Company at Shopton.

"I'll bet these shelves have more scientific apparatus on 'em than any other shelves in the world," remarked Ned, as his chum opened the door.

Various cabinets containing hundreds of chemicals stood about. Against one wall was a huge transformer, from which the youthful scientist, Tom Swift, could draw almost any kind of electric current he might desire.

"Here goes!" said the young inventor.

He rolled back a small rug in the middle of the floor to expose a massive steel trap door. This he unlocked by twirling the dial of a complicated mechanism. Some years before Tom had constructed beneath his laboratory an impregnable chamber to safeguard his secret plans. He called it his Chest of Secrets, and guarded it well.

Even Ned Newton, Tom's closest friend and business associate, did not know the entire contents of the massive vault. Only Tom and his father were aware of all the inventions concealed there.

"Some of these inventions must not be known to the world in its present state," the elder man had said.

One of them was the terrible electric death-ray, capable of destroying anything in its path. Only if the United States should be invaded by an enemy power, would this be revealed.

"Here it is," said Tom, joining his chum after a few minutes spent in the vault.

He was carrying a small wooden box which he placed on the desk and opened. If Ned, as he leaned over eagerly, expected to see anything astonishing he was disappointed. Resting on the velvet lining was simply a round disk of a greenish substance perhaps six inches in diameter. This was mounted in a gleaming metal ring from the edges of which there projected five electric binding posts.

"Funny kind of an eye," observed Ned. "You can't even see through it."

"You'll soon see through it, all right," retorted Tom, laying the disk on his desk and connecting four dry cells to the binding posts. He placed a small rheostat in the circuit so that the strength of the current might be regulated.

Slowly he moved the little handle over the graduated dial. A minute passed during which, so far as Ned could see, nothing happened. Without warning the green crystal suddenly glowed brightly for a fraction of a second, then could not be seen at all. The polished ring of metal in which it had been mounted alone remained.

"It's gone!" cried Ned in bewilderment. "I can see your desk top right through where it was!"

"No," smiled the inventor, "it's still there as you'll find if you try to poke your finger through the metal ring."

A trifle gingerly his chum extended his hand toward the circle of metal. Though Tom had assured him that the little disk was still in place, Ned was unable to repress a start when his finger touched a cool, polished surface which his eyes told him could not be there.

"Say, that's wonderful!" he exclaimed, staring at the invisible substance with awe. "That stuff must be a hundred times more transparent than the finest plate glass!"

"Yes, and more," said Tom. "But that's not the most wonderful feature of the new substance."

"What, then?"

"Well, it's difficult to explain. Even now I know very little about it. I can tell you WHAT it can do, but the WHY is still as much of a mystery as ever. Briefly, this new element, or maybe it's a compound, I'm not sure which, reacts in a very strange manner to light. Let me show you. That'll beat any long-winded theory I could spout."

Going to the door, Tom called in his giant servant Koku, who once had been a prince in his own far-off savage land, before Tom Swift had brought him to Shopton.

"What want, Master?" came a deep-toned reply, as the huge dark-skinned man, who stood a trifle over eight feet in height, entered.

"Just carry outside that telescope there in the corner," requested Tom, pointing to the instrument. "Better be careful; it's a bit heavy."

"Not heavy for Koku," boomed the giant. "Liftum in one hand!"

Though it was not a large instrument as telescopes go, this one, with the massive iron pier upon which it was mounted, weighed not far from four hundred pounds. When Koku clamped his mighty hand about the stand he seemed to lift it as easily as a boy might raise a baseball bat or a golf club.

"I'll never get used to his strength," murmured Ned as the boys followed the giant through the laboratory door, Tom carrying his marvelous green disk.

"He is a big boy, for fair," laughed Tom. "Lucky for our prize-fighters he hasn't gone into the ring."

After carefully placing the telescope where the inventor directed, Koku returned to the bench under a near-by apple tree where it was his wont to rest when he was not needed.

"Now what, Tom?" questioned Ned. "Surely you're not expecting to see stars in broad daylight?"

"Oh, no, though it could be done," returned Tom, pointing the instrument toward the crest of a wooded hill several miles distant from Shopton. "Now we're ready. Take a peek."

"Well," said Ned, peering into the eyepiece, "all I see are a few trees."

"Just stand by," directed his friend, clamping his green disk over the front lens, or objective, of the telescope and turning on the current. As before, the green stuff seemed to vanish. "Now, look again," he said.

No sooner had Ned put his eye to the instrument than he gave a start. "It's magic!" he exclaimed. "Why, that hill seems as if it were right here and the view is much brighter. I can see every leaf on the trees and--yes! even a bird's nest and the little birds in it!"

"Now maybe you have an idea as to how I propose to discover the secret of life on the planets," responded Tom calmly.

"The secret? What do you mean? Surely you don't expect to see men on Mars!"

"I mean to build a telescope with a space eye big enough and powerful enough to do it!" The young inventor's face lit up with a strange light. "It's the greatest thing yet, Ned!"

## **CHAPTER II**

### **SUSPICIONS**

"Yes," said Ned dubiously, "if you can do it. Oh, I'll admit that your invention improves a telescope marvelously. But to see life on another world, millions of miles away--well, that sounds like a pretty tall order even for you, Tom Swift!"

"Let's go back in the lab and I'll tell you more about the project."

Tom directed Koku to carry the telescope inside. As the three walked back, the giant

suddenly gave a yell.

"Quick, Master!"

With that the servant let go the big instrument, placing it with a thud none too gently on the hard ground. In a bound he was off. Tom and Ned caught a glimpse of someone just disappearing around the edge of the building. Had the stranger sneaked into the laboratory while Koku's back was turned?

"I hope the space eye isn't smashed!" exclaimed Tom, examining the instrument. "Or the telescope lens."

Anxiously Ned waited as his chum detached the green disk and held it up.

"I--I guess it's O.K.," said Tom at length. "I'll test it in the lab and see."

At this moment Koku reappeared, saying the intruder had vanished. Moreover, he was very contrite about having handled the telescope roughly. In a few seconds the fears of the three vanished. Put to the electric test, the disk was found to be all right.

"Who do you suppose was sneaking around here?" asked Ned.

"No telling," replied Tom. "But nothing seems to be missing," he added, glancing around.

"I hope you're right," said Ned. "Now tell me more about this green disk. How did you happen to discover the stuff?"

"As to just what it is," replied the other slowly, "I'm not sure yet. When I analyzed it, I found a substance absolutely new to chemistry."

"Where did you get it?" asked Ned.

"I scraped it from that meteorite down in Koku's country in South America."

Ned whistled. "Ever since we found that thing which we called a planet stone, you've been discovering all sorts of things about it."

"Right now I hope to revolutionize the field of astronomy with it," said Tom.

"Tell me more about this wonderful green substance."

"It may be a new compound or it may be an unknown element. Anyway, in experimenting with it I found that heat and electricity both change the stuff. The former has an apparently permanent effect, while an electric current, as you saw, alters it only temporarily."

"Why didn't you make a big disk? Then you could have tested your theory right away," stated Ned Newton.

"For two good reasons," replied Tom, opening a drawer and taking out a small vial filled with yellow powder. "I wasn't sure it would improve a telescope for one thing, and this is the other." He handed the bottle to Ned. "This is all I have on hand of the new stuff."

"X," murmured Ned, reading the label. "But this powder isn't green. And why the X?"

"When the stuff is melted and then cooled it changes color," explained Tom. "As for the X, if you remember your algebra you know that letter stands for the unknown quantity."  
"Too bad you can't make a huge green disk."

"Don't worry about that," smiled his friend. "I'll soon have plenty of the powder. You haven't forgotten how the natives of Giant Land feared the meteorite and insisted that we take it away. It seems, however, that we got but a small piece of it. Evidently when it struck the ground the thing split, the heavier portion burying itself deep in the earth while the part we found remained near the surface."

"About six weeks ago Koku got a letter from his brother, King Amo of Giant Land, telling of an earthquake which caused the upheaval of the huge stone. His people think we are great magicians or else witch doctors, and Amo wrote begging us to take the meteorite from his land. Of course, I was only too glad to oblige 'em."

"Then you plan going to South America--"

"Bless my passport, but I'm glad to hear that!" exclaimed a voice from the open doorway. "It seems as if I'm just in time!"

"Mr. Damon!" cried both boys together.

A jolly-looking, rather portly gentleman entered, swinging his cane excitedly. Tom and Ned gave him a warm welcome, for he was a friend of long standing and had accompanied them on many an expedition to remote quarters of the globe.

"Come in," invited Tom. "Sit down, Mr. Damon, and tell us the news."

"And what was it you were so tickled to hear just now?" added Ned.

"I'll tell you," said the rather eccentric man, for once forgetting to bless something. "I'm in trouble, boys, and I need your help."

"You know we'll do anything we can, Mr. Damon," Tom assured him. "Just what is the difficulty?"

"My wife," said the caller glumly. "She's the trouble."

On hearing this both boys experienced no little difficulty in keeping their faces straight. Although Mrs. Damon was a fine woman in many ways, she was inclined to be very domineering where her husband was concerned. Ever since Tom Swift had rescued the man from a band of kidnapers, Mrs. Damon had had a great liking for the youthful scientist. Yet she felt that her husband should remain quietly at home with her and not go off on any wild trips, as the good lady called them.

"But I don't see--well, suppose you explain," suggested Tom.

"My wife wants me to go on a week-end house party with her next Friday and I detest 'em. Bless my headache pills, but it's enough to drive a man distracted. Now, I heard you boys talking about South America as I came in and I want to go along!"

"Well, Mr. Damon, if we were going South you know I'd be only too pleased to have you a member of the party. But Ned and I were merely talking about a shipment of freight I'm expecting from Giant Land."

"Koku's country?" asked Mr. Damon, somewhat astonished. "I thought Ambolata was still unknown to commerce. Bless my bill-of-lading, if the world isn't moving faster than I thought!"

Tom smiled. "I had to arrange for an expedition through the consular office at Buenos Aires to get what I want. It seems we didn't receive all of that strange meteorite even with the help of your magic wig."

Even Mr. Damon had to laugh when he recalled the ludicrous situation in which he had been placed in the jungles of South America. Surrounded by savages, he had absent-mindedly taken off his wig, thereby frightening the simple natives half out of their wits. They had thought he could scalp himself at will. Nevertheless, this action had saved the lives of Tom Swift and his party, ultimately enabling them to escape when the giants turned against them.

"Ah, those were the days, Tom," sighed the eccentric man, "those were the days! Even if you're not going off to the wilds, maybe you might give me some kind of a job here so that my wife can't drag me off to that house party. I feel it in my very bones that old Hiram Leatherby will be there and he ALWAYS singles me out to talk about his fossil collection!"

"I can sympathize with you," muttered Ned. "Mr. Leatherby used to be a director in the bank where I worked before Tom made me his business manager, and I've often thought he was a bit fossilized himself!"

"Well, Mr. Damon, I'll see what can be done," promised Tom.

"Good!" came an enthusiastic exclamation. "Bless my cup of tea, I'm counting on you!"

"In the meantime, why don't you go up to the house and have our housekeeper, Mrs. Baggert, make you a cup of tea? Stop in the library and see Dad. He's been working too hard lately on his electrical book and he needs company."

"I will, Tom. Your father is a mighty fine man. Oh, my goodness! Bless my poor memory, Tom, but I had some news for you. Good or bad I don't know, but I feel uneasy about it."

"Tell us what it is," suggested the young inventor.

"It's a rather odd thing. You see, last evening I was reading my paper on the porch when two men called on me. Said they were long-lost relatives--cousins, or something of the sort--just back from a stay in South Africa. They seemed nice enough fellows, but bless my family tree, I had never heard of 'em! At any rate, they seemed to know a good deal

about the Damon family and so I asked them to dinner. What got me thinking something might not be right was the way those chaps tried to pump me about you, Tom."

"Pump you?" asked young Swift, a puzzled look on his face. "About what?"

"Glass," said the eccentric character promptly. "Some kind of glass. Bless my windshield-wiper, what was it? Oh, yes! Flexible glass, that was it."

Tom and Ned exchanged startled glances. For many months experiments directed toward the production of a glass as bendable as rubber had been going forward in the Swift plant. Every possible precaution had been taken to cloak the work in deepest secrecy, yet somewhere evidently a leak had developed among Tom's employees.

"Are these men still at your home, Mr. Damon?" asked Ned, a worried look on his face.

"No, they left after dinner. Mr. Brown said they had some important business up state. Is this glass business some new invention, Tom?"

"I hope it will be. So far my experiments haven't turned out successfully. But I can't understand how anyone outside our plant could have known about them."

Mr. Damon could tell little more about his self-styled relatives. After giving a description of the two men he took his leave. The boys were rather worried about the information he had brought along.

"It's not so much the glass," said Tom, "for we don't know if it will be a success. What bothers me is the idea of there being a traitor in the shops. I thought we had weeded out all unscrupulous employees."

"The Apex Glass Works are located in Portville," said Ned, struck with an idea, "fifty miles north of here. Mr. Damon's visitors claimed to have business up state. To my mind that's more than a coincidence, especially since the Apex people would give their back teeth to get hold of your formula, Tom!"

### **CHAPTER III**

#### **AN ACCIDENT**

"Oh, I think you're letting your imagination run away with you, Ned," grinned Tom. "I know Mr. Stern, the president of Apex, very well, and I'm positive that he wouldn't stand for any underhanded tactics."

"I hope you're right," said his business manager. "But you know better than anyone else how unscrupulous gangs have tried to steal your inventions. At first it was Happy Harry the tramp, and the last was Doctor Bane. No telling how many thugs were after you and your father in between. You'd be wise to get some extra guards."

"I think Koku is well able to handle any intruder," declared Tom confidently. "Besides, I think you're getting excited over nothing. You know Mr. Damon is inclined to make



mountains out of molehills."

"That's all very well," persisted his friend stubbornly, "but just suppose Mr. Damon is right in his suspicions? It'd be too late then to do anything about it."

"Don't worry, old man. My Chest of Secrets will hold its contents secure against any burglar's attack. Now it's late. You'd better stay to dinner. Afterward, if you care to and have no other date, we can talk over some unfinished business."

"Thanks, Tom. I'll be glad to spend the evening with you."

Locking up the laboratory, the two boys walked leisurely through the warm June twilight toward the big white house. Low in the sky hung the silvery crescent of the new moon, while almost overhead Mars glowed brightly.

"There's our goal, Ned," murmured Tom, pointing to the red planet. "I feel sure that our meteorite came from that far-off world!"

"Granting that it did come from another planet," objected Ned, "I don't get the reason why you're so sure it came from Mars. There are nine planets circling the sun, including the earth. Ruling out the sun, it seems to me that there is but one chance in eight that you are right."

"If it were simply a matter of chance, there'd be a lot of weight behind your argument, Ned. But a lot of other factors enter the problem. I should say that the only planets where life as we know it might exist are Mars and Venus. The latter I ruled out, for astronomers have found that it is forever covered thickly with dense clouds. Thus the inhabitants, if any, must be ignorant of any world but their own."

"What have people on the planets got to do with the question, anyhow?" asked Ned.

"Huge chunks of metal break off of any heavenly body and go hurtling through space. The inhabitants don't throw them off!"

"But our meteor was no ordinary one as we have proved already," replied Tom. "I firmly believe that someone on another planet deliberately fired that missile into space, hoping it would reach this world. Since scientists agree that Mars probably is inhabited by a highly intelligent race, that planet is a reasonable guess."

"Whew!" whistled Ned. "Such ideas are beyond me."

As he finished speaking, the boys reached the Swift residence. The young inventor's father had built the handsome white house many years before his son was born. Beyond were the several buildings where the inventions of Tom Swift and his father, Barton Swift, were manufactured.

Of recent years the latter had not been active, but had put the affairs in the hands of his capable son Tom, ably assisted by Ned Newton. The older man now spent most of his time writing scientific books and articles.

The boys washed as quickly as possible so as not to delay dinner, for both possessed healthy appetites. Joining Mr. Swift in the library, they found him and Mr. Damon deep in a game of chess.

"Check!" cried Tom's father triumphantly, moving his king. "Got you again, Damon!" "Bless my pawns and castles!" exclaimed the eccentric gentleman. "You've won three straight games!"

"Hello, Dad!" said Tom suddenly. "I see you're up to your old tricks!" In spite of his bantering tone the young inventor was pleased that his father was relaxing in a friendly game.

"Your father shouldn't be in the amateur class any more, Tom!" Mr. Damon grumbled playfully. "Bless my trophy cup, but I'm afraid to play with him!"

"Better luck next time," consoled Mr. Swift, a twinkle in his eye.

Mr. Damon left, refusing an invitation to dinner and saying that he had to take his car to a garage for a minor repair job before starting for his home in Waterford, a near-by town.

"How goes it with you, son?" asked Mr. Swift when Tom returned from seeing his guest to the door. "Your new space eye, as you call it--is it working out?"

"I think so, Dad, but wait until I get the big model built!"

"Genmens, dinnah am serbed!" An old negro thrust his white-fringed head through the library door. "An' it sho' am good!" Eradicate Sampson, so-called for his work in younger days of eradicating dirt from the homes of Shopton, had been attached to the Swift household for many years and now regarded himself as one of the family.

As they sat at table the conversation of the three turned naturally to Tom's latest invention. Mr. Swift had not heard yet all Tom's ideas of the proposed telescope and was full of eager questions.

"Just how long do you think it will take to make your big disk, son?" asked Mr. Swift.

"That is, if you find any more of the new material."

"The meteorite is already on board a north-bound freight steamer," answered Tom, "and ought to get here within the next ten days. It'll require at least three weeks to extract all the X and cast it into shape. Taking everything into consideration, I should say it will be at least six weeks before we can test the device. The matter depends entirely on finding a lot of X in the planet stone. But I'm sure I shall."

After dinner the boys went over to the main office of the Swift Construction Company to clear up a number of routine business matters which required Tom's personal attention. He had postponed them for a while to give more time to his new experiments.

"Now, young fellow, I'm not letting you get away until you've looked over these papers!"

declared Ned, pretending to threaten his chum with a yardstick. "I've been after you for a week about 'em!"

Tom dodged and pretended to be scared. "You're right, though," he admitted.

The two worked rapidly. Within an hour the seemingly endless stack of documents had shrunk to a few letters and bills. Just as Ned was reaching for one of them the telephone rang in the outer office.

"I'll get it, Tom," his chum said.

"Sit still," replied the young inventor. "I'll switch it to my private phone."

"Tom Swift speaking," he said into the mouthpiece a moment later. "Oh, hello, Mrs. Damon. What's that? But I don't understand. No, there must be some mistake!" A loud click sounded in the receiver and Tom jerked the instrument from his ear.

"What's wrong?" asked Ned, noting his friend's serious face.

"Mr. Damon's been hurt in an auto accident. For some reason his wife is blaming it on me! Come, we must get to the hospital at once!"

## **CHAPTER IV**

### **A MURDEROUS ATTEMPT**

"You drive, Tom," said Ned, for they had come from the Swift home in his car.

"O.K., and hang onto your hat!"

Tom Swift had once driven a fast racing auto of his own design and Ned knew his chum could get the most out of his roadster. In a few seconds the little car reached the gate of the works, where the watchman halted them.

"Oh, an' 'tiz you agin, Misther Swift," said Malligan. "Sure, an' I wouldn't have stopped yez but me orders is to inspect iveryone."

"You did right, Pat," commended Tom, shifting gears. "Good-night."

The Shopton Hospital was located a couple of miles from the Swift plant. Under the young scientist's guidance the roadster reached its entrance within a few minutes. At the information desk the boys were informed where Mr. Damon had been taken.

"Room 302, Mr. Swift. Doctor Chilton is with him now."

Just as the boys reached Room 302 the physician came out. Tom was glad to note that the man was smiling.

"How is he, Doctor?"

"Hello, boys. Mr. Damon will be as good as new in a week or so. Barring a sprained wrist his injuries are trifling--a few bruises and a slight cut. From the way he's blessing everything in the place no one would think he was hurt in the least!"

"I'm relieved," said Tom. "May we see him?"

"Go right in. He'll be glad to have some company. But don't stay too long."

"Bless my operating table, if it isn't Tom and Ned!" exclaimed Mr. Damon, seeing his visitors enter. The eccentric gentleman was propped up in bed by several pillows. His left arm was in a sling and around his head was a big bandage. "You two got here almost as quickly as I did. But I'm glad they didn't have to carry you in!"

"Your wife phoned me the news," explained Tom. "We're mighty glad you weren't injured badly. Tell us how it happened."

"It all occurred so suddenly that I hardly know myself. But I know one thing!" Mr. Damon seemed very indignant. "The scoundrels deliberately ran into my car!"

"Did you get their license number?" inquired Ned Newton. "If you did, I'll call the police!"

"No, I couldn't see it in the dark. But I know the villains well enough. They were my two so-called relatives that I told you about--Jones and Brown! It was spite work for my refusal to tell 'em about your glass!"

Tom now saw the reason why Mrs. Damon was blaming him for the accident.

"We'll notify the authorities and also do a little detective work ourselves," he said. "We must leave now because the doctor wants you to get some rest."

"Come back again, boys. At any rate, I've escaped that house party!"

After reporting the accident at the local police station, Tom and Ned visited all the garages and repair shops in the little town in an attempt to learn if any damaged machine had been brought in. They met with no success, however.

"Guess their bus wasn't hurt much," commented Ned as they left the last place. "We might as well give up for the night."

"The police will be on the job. Unless the two men hid the car somewhere it's sure to be found. The teletype will flash the word all through the state."

The following morning the Police Chief telephoned Tom to tell him that no trace of the mysterious Jones and Brown could be discovered, nor had any witness to the accident been located.

Later Ned went to the hospital where he found Mr. Damon much improved and able to sit up in a wheel chair. After a visit with him he attended to some business at the bank. On returning to the Swift plant, he found Tom busy with his green disk, which once more was clamped to the little telescope.

"Mr. Damon is a lot better," Ned reported, watching his friend's work curiously. "When I left him he was blessing his hat and coat, so I suppose he's eager to get out of the hospital."

"That's great," said Tom. "I knew he was getting along all right. I was too busy to go

with you so I called Doctor Chilton. He told me that the X-ray showed no broken bones, but our friend must remain under observation for a few days more."

"You've changed the wiring on the disk, haven't you?" asked Ned, who knew a little about electricity.

"I want to try alternating current instead of direct and see if doing so won't improve it. Dad suggested that. What is it, Koku?"

"Boy bringum letter for Master. Say must put name on book." The man held out an envelope and pad.

"It's a radiogram. Sign for me, Ned, will you?"

Tom ripped open the envelope and glanced over the message.

"Bad news?" asked his chum, seeing a changed expression on the inventor's face.

"I should say so. Here, read it yourself. We might just as well forget the whole telescope idea, that's how bad it is!"

Ned took the sheet, which Tom had crumpled, spread it out on the desk, and read as follows:

"Regret inform you was compelled to jettison your cargo last night in bad storm to save ship. Approximate location four miles due east Port Baracoa, Cuba. Salvage boat take position at apex isosceles triangle 27.6 degrees with lighthouse and summit hill a mile to the south."

"(Signed) A. Mawson, Captain S.S. Perry."

"Say, Tom, that IS tough, having your meteorite thrown overboard!" exclaimed Ned, rereading the message. "All your work wasted and your marvelous invention junked--"

"Not yet!" broke in the young scientist grimly as he grabbed the telephone from his desk. "Hello, operator, get me long distance, please."

"What are you going to do?" asked Ned excitedly.

"Get divers," replied Tom as he waited. "I'm going to recover that meteorite or know the reason--Oh, hello! Yes. I want the main office of the Neptune Salvage Company in New York City. No, I haven't the address. Yes, I'll hold the line.

"These people are experts," he told his chum while waiting for his call to be put through.

"If the stone isn't in too deep water they'll be able to raise it if anyone can."

"But how can they ever find it? Seems to me it'll be like hunting for the proverbial needle in a haystack, only more so!"

"Not quite that bad. Captain Mawson gives what seem to be pretty complete directions. You might try getting any further data the man may have."

Unfortunately for Tom, as he learned in the next two hours, the Neptune Company and other salvage concerns he called were very busy and could not spare a barge of the

required size. Moreover, Ned could get no more information, when he finally contacted the freighter, than her commander had given already.

"Why doan yo' tak' yo' submarine boat down dere, Massa Tom?" asked Eradicate as he served luncheon to the young inventor, his father and Ned. "Ah 'members we once got some treasure off'n de bottom ob de sea dat way."

"I did think of that, Rad," answered Tom a bit wearily, "but my ship isn't big enough to raise such a great weight."

"And so, son," said the elder Swift, "if you can't get the use of a large salvage craft you will have to give up your project; is that right?"

"That's right, Dad, and I surely hate to think of it. But I'm not going to give up, even if I have to bring men and equipment from the Pacific coast!"

"That'd be mighty expensive," objected Ned. In his capacity as the Swifts' business manager, he had earned the nickname "watchdog of the treasury." "Why not wait until some local firm can take the job?"

"Too risky. You see, ocean currents or some submarine upheaval might shift the big stone so great a distance that we could never find it. Don't forget that to the best of our knowledge the meteorite is the only source of X on earth."

"Hmm," frowned Mr. Swift. "I used to know an old fellow very well who was in the diving business. Met him when we built the submarine 'Advance'--you boys remember her--but I can't seem to recall his name. Let me see--Ha! I have it! Britten! That's it, John Britten, the best salvage man on the coast!"

"Maybe he's busy too," said Ned, "as all the others seem to be."

"I think not," replied the elderly scientist, "because he's retired. Yet I believe he'll undertake the job if I ask him as I once did him a great favor. His salvaging outfit is in Florida, but he lives on Delaware Bay. I'll phone him at once."

"That's great, Dad!" cried Tom, his face lighting up with renewed hope. "Tell him I'll bring him here by plane tomorrow. We can talk things over and start for Florida from here."

"He'll go," said Mr. Swift a few minutes later, turning away from the telephone with a smile. "Said he'll be tickled to get back in harness."

"Thanks a million, Dad! You've saved the day!"

The following morning the boys hurried out to the Swift private airport to oversee the fueling of the huge plane Tom had decided to take. At first he had thought of making the trip in his small two-seated racer, since it was the fastest craft in the hangar. Realizing, however, that Captain Britten might want to bring along considerable baggage, the young inventor had told Ned he felt it best to go in his flying boat.

The "Winged Arrow," in which Tom once had made a memorable rescue flight to Iceland, was equipped now with a retractable landing gear as well as with pontoons, enabling the craft to descend on both land and water. Suddenly Tom became very excited as he looked at the hydroplane.

"Look, Ned!" he cried. "Can you beat that!"

## **CHAPTER V**

### **IN PERIL**

Upon inspection, it was found that three half-inch holes had been drilled into each pontoon. It was evident that only an enemy of Tom or of the Swift Company could have done such a thing.

"Ned, that proves it!" declared the young inventor gloomily.

"Proves what?" Ned asked.

"Can't you see? It all ties in with Mr. Damon's so-called relatives, and their knowledge of my formula for a bendable glass. Someone in our shops is a traitor--or worse!"

"But what has a damaged hydroplane to do with that?" objected Ned.

"If we had landed on water with these damaged pontoons, we'd have drowned most likely," replied Tom. "That would have suited the villains who want my formula, and no one would have been the wiser as to what caused the accident."

"Admitting you're right, the thing's a pretty serious mess," said Ned. "But of course crooked people will go to long lengths for money, and if your formula is a good one, it certainly will bring a lot of money to someone or something."

"And that something is going to be the Swift Company!" declared Tom.

"Since we can't take off in the hydroplane today," said Ned, "let's go back to the office. I suppose it'll require some time to patch up those holes."

Tom immediately sent for one of his skilled mechanics, a man whom he knew to be trustworthy. He set the fellow to work welding patches over the holes. After cautioning his employee to maintain strict silence, he and Ned drove away.

"Don't say anything to Dad about this," warned Tom as the two left the field. "It would only worry him and could do no good. You and I must work out this mess by ourselves." After dinner that evening Tom went to his private laboratory to check the thermostat controlling the temperature of the annealing oven in which his batch of new glass was being slowly cooled. Then he spent some time at his desk over certain intricate formulas. The room was in semi-darkness, lighted only by a shaded reading lamp.

"Well, that's that," yawned the young inventor at length, locking up his desk. "Guess I'd better put the valuable disk back in the vault before I go home," he decided, switching

on the ceiling lights and glancing toward the corner where Koku had placed the telescope.

With a start he saw that his invention was gone!

Quickly examining the instrument, he found that the green disk had been jerked roughly from its clamps by someone who evidently had been in too great a hurry to bother unscrewing the bolts which had held it in place.

"Ho!" suddenly boomed a deep voice. Tom became aware of a commotion outside the laboratory. "You no get 'way fum me! How you like 'nother knock on top head?"

"Don't hit me again!" whined someone. "I won't try to escape!"

Tom flung open the door and saw his giant servant dragging a man up the steps. A feeling of tremendous relief swept over young Swift as he discovered his precious green disk in Koku's left hand.

"Ha, Master Tom! Catchum bad mans tryin' to sneak through gate! See green thing stick out of pocket and grabbum--bringum here. Want me hittum again?"

"Please don't let him hurt me, Mr. Swift," snivelled the man. "He hit me an awful blow back there."

"You had it coming to you," retorted Tom sternly. "Besides, you're not hurt very much. Koku, bring him in here. You certainly did a good piece of work when you nabbed this fellow. Take him into the office and we'll have a word or two with him before I call the police."

"I ain't talkin'," muttered the man, shifting uncomfortably and looking rather uneasily at the giant. "You ain't got nothin' on me. I just found that chunk of green glass in the field."

"Don't lie to me, unless you want to be mussed up some more," said Tom grimly, glancing at Koku. "I think I'll just take a look through your pockets. Perhaps you found a few other little things when you broke in here."

Under the menacing eye of the giant, the man submitted sullenly to the search. There was nothing in his clothes to identify him. Apparently he had stolen nothing else from the laboratory. He refused to answer any questions, however. Tom gave up and summoned the police by telephone.

"O Master, here other thing in man's pocket!" exclaimed Koku, after the thief had been carted away to jail. "It stuck to round green thing when I yank away from um." He handed Tom a bit of pasteboard from which the lower third had been torn.

"It's a business card of the Apex Glass Works with the representative's name ripped off!" exclaimed young Swift aloud. Then to himself he added, "I wonder? Maybe Ned was right after all and they ARE after my formula for bendable glass!"



Tom immediately called the home of Mr. Stern, head of the glass works, to whom he related the occurrence. The executive was shocked and very indignant at the thought of there being a criminal among his employees and promised to investigate thoroughly. "I hope you don't think I had anything to do with this, Mr. Swift!" the man exclaimed.

"Not in the least, sir. But if you turn up any clues, I hope you'll let me know."

"I most assuredly will. You may count on my help."

An early hour next day found Tom and Ned flying south over the sandy coast of New Jersey. Every inch of the "Winged Arrow" had been thoroughly inspected, but no other signs of damage had been discovered. Even so, the young business manager sat a bit uneasily in his seat as he peered out anxiously at the broad wings.

"Afraid they'll drop off, old man?" grinned Tom. "Don't worry. We X-rayed 'em and no struts have been filed nor any time-bombs planted!"

"Huh, I was just looking at the weather," grunted Ned indignantly. He was secretly relieved, for he had been pondering how easily a charge of dynamite could have been secreted aboard ship. "How soon do you think we'll reach Delaware Bay?"

"Within the next twenty minutes," answered his chum, glancing at the instrument board.

"Mr. Britten is to meet us at a dock near Lewes."

Less than half an hour later the pontoons of the "Winged Arrow" were plowing through the waters of Delaware Bay toward a near-by pier. A wharf attendant caught the line Ned threw him and the ship was moored securely to a stout post.

As Tom and his companion climbed up, a grizzled-looking old man hailed them in a voice that seemed well able to travel from quarterdeck to fo'c'sle even in the teeth of a hurricane.

"Ahoy there!" he bellowed, though scarcely twenty feet away. "Are you young Swift and company?"

"Right you are. Captain Britten, I take it?"

Vastly flattered by the title, the red-faced old seaman warmly shook hands with the boys.

"Correct ye are, me lad. Your good father tells me you need a bit o' salvagin' done an' I'm the man as'll do it proper!"

"Good for you, Captain!" said Tom. "That's exactly what my father said. And now, have you your equipment handy? If it's not too heavy we can load it aboard the plane right away. Oh, and I want to introduce my good friend here, Ned Newton."

"Glad to meet ye, shipmate! As for my salvagin' outfit, it's aboard ship. We'll pick up my old barge, the 'Elizabeth B.,' but I calls her the 'Betsy B.,' at Key West, where I keeps her anchored. She's in a manner o' speakin' my winter home." Captain Britten picked up a huge, battered old suitcase. "If your flyin' machine is ready, so am I!"

The old man was obviously a trifle eccentric, but both boys were warmly attracted to him by his sincere and friendly manner. Besides, as Tom noted, there was a certain air of competence about him, as if he was well able to tackle and solve the hardest of problems in his line.

"Let's go, then!" proposed Ned, motioning to the attendant to cast off and handing him a coin at the same time.

Listening to a number of quaint seafaring expressions from old Captain Britten, who was starting his first voyage into the upper air, Tom sent the big craft roaring above the smooth water toward Shopton.

"How do you like flying, Captain Britten?" Ned asked. "Ever been up?"

"Well, I guess it's all right," rumbled the salvaging expert, looking down at the sea dubiously. "But to tell you the truth, I'm more at home ON the water than OVER it!" In a short time the nose of the "Winged Arrow" turned inland as Tom set his course direct for home. When they were nearing Shopton, the young inventor, intending to come down on solid ground, grasped the device which lowered the landing wheels. It seemed to work very stiffly, he thought, so he leaned over farther to exert more force. Suddenly there came a snapping noise.

"What's up, Tom?" called Ned, hearing the noise and seeing his chum fumbling with the now useless mechanism.

"Landing gear out of commission. But there's no need to worry as we can descend on Lake Carlopa easily with the pontoons."

"By George!" exclaimed Ned Newton, banging his fist on the instrument panel. "Ten to one this is the work of the same scoundrel who bored holes in the floats. If I could get my hands on--"

"I hope you'll be in a condition to do so," cut in Tom in an oddly strained voice. "Take a look at the fuel gauge."

"It--it says zero! But that's impossible. We saw the tanks filled last night."

"Sure, and when we took off this morning the gauge showed they were still full. Someone tampered with the pointer of the instrument and all but drained the gas containers when they wrecked the landing gear. Just now you dislodged the jammed needle when you struck the instrument board with your fist."

"Then we're in a pretty bad way, eh, Tom?" asked Captain Britten calmly.

"I'll say," replied young Swift grimly. "We can't hope to reach Carlopa and there is nothing beneath us now but thick woodland. No question about it. A crack-up is the next thing on the program!"

As he finished speaking, the starboard motor emitted a groaning cough and stopped. The

port engine might run for another five minutes or it might give out within the next five seconds!

## **CHAPTER VI**

### **TOM DRUGGED!**

Tom had headed the ship up at a steep angle so as to get as much altitude as possible before the other motor should stop. But he knew in his heart that he could not hope to glide so heavy a plane as far as the lake.

In some surprise Ned observed that Captain Britten was fumbling with the straps about his big, old-fashioned valise. Young Newton wondered what the elderly man was looking for so intensely.

"Ahoy there, Tom Swift!" boomed the old diver, straightening up with a bottle in his hand. "I've got a drop o' gasoline here that may help ye!"

"What's that?" gasped the pilot. Turning, he saw the quart bottle. Already the remaining engine was dying of thirst. "Quick, Ned!" he ordered, snatching the container. "Take the controls and hold the ship level."

Five seconds later the inventor was creeping out along one wing toward the intake valve of the port gas tank. Their hearts almost in their mouths, his companions watched his hazardous progress. In spite of the clutching hand of the wind and the quavering of the ship under Ned's inexperienced guidance, Tom managed to reach his goal.

Removing the cap with no little difficulty, he dumped the precious drops of gasoline into the tank. In a few moments he got back to the cabin. As he closed the door the laboring engine once more resumed its full-throated roar.

"Lad, you've got what it takes!" rumbled Captain Britten, shaking Tom's hand approvingly. "You're a mighty brave young fellow!"

"You mean YOU had what it takes," laughed the inventor, taking over the controls preparatory to landing on Carlopa. "Without that extra bit of gas we'd be piled up in a tree by now!"

The quart of fuel was just sufficient to carry the ship safely down to the lake's surface at a point about three miles from the town. Fortunately one of Tom's friends was sailing near-by in his cat-boat and gladly offered to take the three over to the Swift dock, which jutted out from the grounds behind Tom's home.

It was mid-afternoon before the "Winged Arrow" was towed across to the dock and her tanks refilled with high-test gasoline. While this was being done, Tom and Ned went to the home of Mr. Damon to ask if he would like to accompany them to the West Indies.

The man was found to be sitting in an easy chair on his front porch, where he spent much time, now that he was home from the hospital.

"Bless my parachute, I'd like nothing better than to make the trip!" he said a trifle wistfully. "To tell you the truth, though," his voice sank to a whisper, "between the doctors and Mrs. Damon I'll be lucky if I'm allowed to walk around the block alone for some time to come!"

"Well, that's too bad, Mr. Damon. We were counting on you."

"Bless my fishing tackle, Tom, I'm sorry too. But tell me! How did Captain Britten happen to be carrying a quart of gasoline in his satchel?" asked the eccentric gentleman after he had been told of the airplane's narrow escape.

"I thought it strange myself," said Tom, "but he claimed he always carries some with him to remove grease spots from his clothes."

"Ha! He must be quite a character. I suppose aboard a salvage boat folks get their clothes pretty dirty, at that."

After the boys returned home it was decided that they and Mr. Britten would set out for Florida the next morning. In the meantime, the elderly diver telegraphed his caretaker to get the "Betsy B." in order and arrange to hire a tug-boat.

Late in the afternoon Tom called his chum on the phone. "Can you spare me a few minutes?" he asked. "Think I'm going to have something interesting to show you."

"Be right over," replied Ned. "Where are you?"

"In the lab."

A few minutes later young Newton had joined his friend. "What's up?" he asked Tom as he entered.

Tom had discovered that his bendable glass mixture had cooled to a critical temperature, making it necessary to remove it from the furnace at once lest it be ruined. In a small secret chamber beneath his private laboratory he had set up a sort of miniature glass works which would have astonished any ordinary glass worker, for the young inventor had devised an entirely new method of procedure. As to its outcome, well, even to its inventor that feature remained in doubt.

"Do you think it'll work, Tom?" asked Ned Newton anxiously as he followed the youthful scientist down the stairs. "Your experiments have cost a mint of money already--"

"Don't croak," chuckled Tom. "I've a few pennies left, haven't I?"

"You won't have so very many after you finish with your new telescope idea," declared Ned grimly. "And THAT certainly won't bring in any dividends."

"Nor is it intended to," said Tom a bit sharply. "There is, you know, such a thing as

pursuing knowledge for its own sake."

"I'm sorry. You ought to know, though, that I'm thinking only of your interests, not of mine," he said as they reached the room below.

"Forgive me, old man!" Tom clapped Ned warmly on the back. "Don't feel for a minute that I don't appreciate everything you've done for me. To tell you the truth, I'm as worried about this new glass as you are. That's why I jumped on you. Let's forget it!"

"Right!"

The two were standing now before the cylindrical furnace containing the mixture of silicates and other ingredients from which Tom Swift hoped would emerge a glass as flexible as rubber and as strong as steel. The thermometer on the front stood at twenty-one degrees Centigrade.

"She's just right," muttered the inventor, consulting a complicated chart hanging on the wall. "Now we'll see!"

The asbestos-coated door clanged open. Tom drew out a shallow tray, the contents of which were buried in a black powder.

"Charcoal!" he explained, setting the pan on a table. "It prevents any rapid temperature change. Even common glass must be cooled slowly or it becomes as brittle as peanut candy."

With the aid of a wooden rod Tom pulled out a glass bar about ten inches long and an inch thick. After picking it up carefully he examined it closely. In no way did the object appear different from ordinary glass.

"Well, here goes!" said the inventor and forthwith bent the bar into the shape of a horseshoe!

"Hurrah!" yelled Ned, clapping his friend on the back. "You've done it again, Tom Swift!"

"Don't crow too soon. Perhaps it won't bend back again. If a rod of copper is annealed in a certain way it can be bent ONCE like rubber but then the crystal breaks up and it becomes as rigid as ever. Maybe this glass will act the same way."

"Then try it! Don't keep me in suspense!"

Perhaps Tom had been tantalizing his business manager, or maybe he really was doubtful about the flexibility of the bar. At any rate, when he applied pressure he did not seem surprised when the glass became straight again. Then he proceeded actually to tie a knot in it, so bendable was the new substance!

"This will revolutionize the glass industry!" declared Ned, noting that even the blows of a heavy sledge-hammer failed even so much as to crack the rod.

"It's not half as wonderful as that other kind of glass," said Tom, dreamily.

"Your glass eye, d'you mean?" chuckled Ned in high good humor. In his mind he could

already see fat profits for the company.

"I'll give you a pair of black eyes if you make another bad joke!" laughed Tom, giving his chum a playful push. "But seriously, I'm mighty well pleased with this stuff; it turned out better than I dared hope. You know, I got the idea for bendable glass while I was trying to figure out a way to make a huge telescope mirror. That was before we found the meteorite."

"And I suppose you'll go back to the glass mirror if you can't find the big stone so you can make the large green disk."

"Yes, that's what I'll have to do if the salvage attempt fails. But I'm sure we'll succeed." Captain Britten had been given a room at the Swift home. When the boys got there they found their guest and Tom's father deep in a game of chess.

"Well, son," laughed Mr. Swift, "I've met my match at last. John Britten has beaten me three straight games! But don't tell Damon about it!"

"I won't, Dad," grinned Tom. "What do you think of this?" He handed his father the bar of bendable glass.

"What do I think of it? Why, it looks like a glass rod, that's all I can see."

"Then watch!" Tom took the bar and deftly twisted it into the shape of a fat pretzel.

"You've done it, son!" cried Mr. Swift. "And to think I told you such a thing was impossible! Congratulations!"

At dinner that evening the conversation turned mainly to the projected flight to the West Indies. It was decided to start the next day at sunrise, as Captain Britten had received word from Florida that his barge had been made ready. A tug was getting up steam to haul it to the Cuban coast.

"Mr. Damon can't go with us, Dad," said Tom. "His wife won't let him! By the way," he added with a laugh, "she was looking up the names of all his relatives--Mr. Damon said she was glad of the excuse to do so!--but she could find none named Jones or Brown. So that definitely proves those two fellows were fakes and that they merely pretended relationship in order to pump him about my work."

After supper Ned went to his home to pack a suitcase, for he was to spend the night at the Swifts' to be on hand for the early start that was being planned. Tom spent the evening in his office studying the latest available data on diving operations, and plotting the route over which the party would travel to the coast of Cuba.

Immersed in his work, he at first paid but little attention to a peculiar odor that gradually was pervading the atmosphere.

Suddenly he realized that something was wrong; a strange buzzing filled his ears and the lights seemed to be growing dim. He started to get up, but instead fell across his desk.

As Tom lay there motionless, a window opened noiselessly. Stealthily a masked figure climbed in. After a hasty glance around the room, the intruder hastened to the desk and leaned over the unconscious youth.

## **CHAPTER VII**

### **DEEP SEA DIVING**

Swiftly the masked man took a bunch of keys from Tom's pocket. With a directness that indicated familiarity with the place, he went straight to the rug covering the entrance to the secret vault. Throwing this aside, he unlocked the trap door and quietly raised it. The combination lock, which gave warning if tampered with, had not been set for the night.

Now the intruder very carefully draped the rug over the door in such a way that it would spread itself as before when the trap should be closed from below. Two minutes later Tom was alone in the office, which appeared exactly as it had before he was rendered unconscious. Yet there crouched in the vault a hidden spy whose purpose was as sinister as his appearance.

"Mist' Swift, Massa Tom ain' come back fum de office yit," announced Rad Sampson as he placed the elderly inventor's nightly glass of hot milk on the library table. "I wuz jest up t' his room to ax him suffin' an' he wuzn't dar."

"Well, I guess the boy is working a bit late tonight. But you sound a trifle anxious, Eradicate. Do you think anything is wrong?"

"Uh--Oh, no suh. No suh," mumbled the old Negro. "I jest wondered ef yo'd seen him. Good night, suh! Good night!"

"Good night, Rad."

"Mustn't worry ole Mist' Swift," the servant muttered to himself as he shuffled back to the kitchen. "But Massa Tom tole me hisself he gwine t' baid early 'cause he gotta git up befo' sunrise.

"Look hyah, Koku," he went on when he got to the kitchen. "Quit stuffin' dat 'ar pie an' go out an' see ef Massa Tom all right. He ought t' have bin in de house long sence. I'se skeered mebbe some villains mought've cotched him!"

"Whoo!" growled the giant, jumping up so quickly that his big, specially-built chair crashed over. "Where um war-club? Me fixum!"

"Doan make sich a racket, yo' big lummo! Yo' want to skeer ol' Mist' Swift? Heah, take mah rollin'-pin."

Clutching the rolling pin as a "war-club," Koku started through the darkness toward Tom's private laboratory. Following him at a discreet distance came old Rad Sampson, who had armed himself with a big butcher knife.

"Dar's a light in de office, big boy," whispered the Negro. "Be keerful, now!"

The giant merely grunted, crept up to the window and peered within. His great height enabled him to do so easily. "Come," he said finally, turning toward the door. "We go in."

"Whut de matter?" demanded Eradicate, struggling to keep up with his companion. "Am suffin' wrong? Mah goodness!" he cried a moment later in the office. "Po' Massa Tom done been killed! Look at him a-layin' dere!"

"Him no dead!" rumbled Koku, leaning over his master. "Him heart still beatum. Him need fresh air." Gently he picked Tom up and carried him outside.

"I'll git a doctah!" exclaimed the old colored man. "Dey's a phone in heah."

Before the physician could be reached, the beneficial effects of the cool night air had brought the young inventor back to consciousness. At first he could not recall what had happened and was not a little astonished to find himself lying on the grass.

"What in the world is the matter, Koku?" he demanded, pressing his hand to his aching head. "What am I doing out here?"

"Master out, get knockum," said the giant. "We find you on desk. Rad callum medicine man now."

"A doctor? No, I'm all right. Tell him to cancel the call." Tom managed to struggle to his feet. "I remember now! Some kind of gas must have been used on me. But I must see to the office. Maybe I've been robbed."

Leaning heavily on the giant's arm, Tom walked as fast as he could into the laboratory. At first glance everything seemed to be in order, and to his relief he found the vault was locked.

The young inventor did not know that a key was missing from his ring, nor, as he twirled the dial of the combination-lock, did he realize that a slender lever had been severed from below, thus rendering useless the intricate mechanism.

"Who done dis to you', Massa Tom?" asked Rad.

"Wish I knew. Anyhow, there's been no damage done except to me! My head's splitting, so I must get to bed. Koku, stay on guard here from now on until I return from Cuba. And get several of the men to relieve you. Another thing: I don't want either of you to mention this affair to anyone. Dad would hear about it and worry."

"If I catchum fella I breakum in little bits!" cried Koku fiercely. He shook the rolling-pin vigorously. "Better him stay 'way fum me!"

Tom awoke the next morning little the worse for his experience. Thanks to a rugged constitution, he had been able to throw off the ill effects of the poisonous fumes which had overcome him.



"I can't make it out, Ned," he said as the boys stood watching the mechanics warm up the engines of the big seaplane. "Nothing is missing. Whoever did the job didn't even rob me, and I had a good deal of cash in my wallet."

"Maybe nobody made an attempt on you or your property at all, Tom," Ned remarked slowly.

"What d'you mean? I certainly was knocked out!"

"Oh, I know that. But couldn't some sort of gas have seeped into your office from your adjoining laboratory? A bottle of acid might have cracked, or--"

"Nothing like that happened. I'm positive, because the same thought struck me. I made a careful inspection this morning. Everything was in perfect order."

"It certainly is strange," said Ned. "It looks as if some enemy is camping on your trail, Tom!"

"He'll have a hard time picking up that same trail in a few minutes," chuckled the inventor. "Here come Captain Britten and Dad. I guess we can take off soon."

"So your sea-goin' air-yacht is ready to cast off, is she?" asked the old diver. "Well, when ye haul in the gangplank, so to speak, I'll be aboard!"

"Take care of yourself, son," said Barton Swift, shaking Tom's hand. "I hope you will be successful in your attempt."

"Good-bye, Dad. And thanks."

"Doan git et up by no sharks or allygators!" cautioned Rad.

The mechanics had finished their work and were seen climbing down from the fuselage. The passengers took their places in the roomy cabin while Tom seated himself behind the controls.

After running a critical eye over the score of instruments he reached for the throttle and clutched the wheel tighter. The intermittent coughing of the powerful motors changed to a deafening roar, and the huge ship lumbered off down the long field, gathering speed every second.

"We're off!" cried Ned, waving at the already distant figures left behind.

"And we'll bring home the meteorite!" muttered Tom to himself as the "Winged Arrow" glided smoothly toward the clouds lining the southern horizon. "For I'm going to make the most wonderful telescope the world has ever known!"

## **CHAPTER VIII**

### **TRAPPED BY A SEA MONSTER**

"This is travelin' in style, all right," approvingly remarked Captain Britten, looking about the comfortably appointed cabin and sniffing the appetizing odor of lamb chops on the

electric grill. When necessary, Ned Newton could cook an impromptu meal. He really was rather proud of his ability.

As the amateur chef placed the meal on a small, collapsible table, Tom announced that they were now flying over the state of Georgia. "We should reach Key West about three P.M.," he said.

The ship droned steadily onward. At two o'clock in the afternoon they were passing near a large city. "Miami," declared Ned, who had been poring over a chart. "Airplanes go to many parts of South America from there."

Tom sent the "Winged Arrow" lower and lower. Finally he leveled off at an altitude of about five hundred feet above the blue sea. Here the full force of the fierce subtropical sun began to make itself felt.

The travelers, fresh from the comparatively cool northern summer, made haste to open all the air vents in the plane. Then they changed into white linen suits.

"Whew!" exclaimed Tom, mopping his brow. "I've traveled in the jungles of Africa but have never felt hotter!"

"Ah, it's the ship, my boy. You see, the dark metal hull fairly soaks up the sun, an' that's why we're a bit uncomfortable," said Captain Britten. "Once we land, you'll think the climate fine!"

Shortly afterward they flew over a grim-looking American battleship. It greeted them with a hoarse blast of her whistle as the flying boat shot by at the rate of two hundred miles an hour. On either side tiny islands, or cays, appeared, then vanished as if by magic. Finally a blue blur straight ahead began to loom even larger, and in a few minutes the "Winged Arrow" landed in the harbor of Key West.

"Half-past three," said Tom, glancing at the clock on the instrument panel. "A slow passage."

"Fast as I'd want to make it," declared Captain Britten. "A steamer'd have taken a good many hours where we needed only minutes. There's the old 'Betsy B.' tied to her pier, so let's get over to her!"

The idling engines were speeded up and the flying boat moved slowly across the harbor. A tug with smoke curling from her single thick funnel lay near the broad-beamed barge.

Over the stern of the latter several grinning Negroes leaned. Their ancestors might have been stricken dumb at sight of the great sky craft tying up to their ship, but these darkies were familiar with daily passage of planes bound for South America and showed but little astonishment. In a liquid Spanish-English patois they bade the whites welcome. All of them were old retainers of Captain Britten.

As the elderly man had said, the old barge had served as winter quarters for him during

the past years. In consequence, he had had her little cabins fitted up more luxuriously than is customary on such vessels. Tom and Ned were given one far more comfortable than they had expected.

The rest of the afternoon was taken up with inspection of the ship, the arrangements for the safe-keeping of the "Winged Arrow," and the laying of plans. Immediately after the hydroplane had been moored to a small pier owned by Captain Britten, the tug-boat chugged out into the Gulf of Mexico at the rate of ten knots.

"I'd say we should reach the spot some time tomorrow afternoon," said Tom after studying the chart. "It's just under two hundred miles."

"And we'll get your meteorite for you!" predicted the old salvage man confidently.

"Lucky the captain of that freighter 'Perry' took a bearing on the lighthouse at Port Baracoa; otherwise it would be like lookin' for a boll weevil in a bale o' cotton!"

Ruiz, the coal-black cook, served a good supper at sundown. Shortly afterward the boys went to their bunks, for both were tired after the long flight. Then too, Tom was still feeling the effects of the gas inhaled the previous night.

Next morning found the "Betsy B." wallowing through a smooth sea a few miles off the east coast of Cuba. Under the supervision of Captain Britten, several of the crew were busy oiling the huge winch, overhauling steel cables, and seeing to a dozen other minor but important details. Altogether, it was a busy scene that met the eyes of Tom and Ned when they emerged on deck.

"Your father was right, I think," said Ned. "You certainly have a competent man. See how the crew jump at his word!"

"I agree," said Tom with satisfaction. "But me for breakfast! This sea air surely gives a fellow a good appetite."

A head wind coupled with a rising sea combined to hold back the tug and her rather clumsy tow as the day waned. Occasional heavy rain squalls made the deck of the barge a rather uncomfortable place, so the boys stayed in the main cabin and discussed plans.

"I think the rainy season must be at its height," groaned Ned at last as he and Tom sat sweltering. "Maybe we'll be cooped up here for the whole voyage."

"Not me," declared the young inventor with a laugh. "Since when have you grown afraid of a little rain? By afternoon we ought to be near the spot where Captain Mawson jettisoned the meteorite and then we'll begin to get busy, weather or no weather!"

"I hope the thing will be worth all our trouble," said Ned a bit crossly. "Perhaps we won't even be able to find it. What then?"

"You're just suffering from a touch of 'mal de mer'!" teased Tom, refusing to consider his chum's gloomy remarks.

"I'm not a bit seasick!" protested Ned indignantly. "I just think we're on a wild goose chase, that's all!"

"Wait and see."

Evening drew nigh, and the sudden tropical night fell. On the Cuban coast lights went on, dominated by the intermittent glare of a powerful beacon many miles ahead.

"Baracoa Light," announced Captain Britten, seeing this. "We will lay off-shore till morning and begin our work tomorrow."

It spoke well for Tom Swift's nerves that he slept soundly, despite his great interest in the morrow's activities. During the night the sea abated and the rain ceased. Dawn broke with a brilliance to be seen only in tropical lands.

In order to reach the spot in the sea beneath which the meteorite lay, it was necessary to get the barge into a position corresponding to the apex of an isosceles triangle in relation to the lighthouse tower and the peak of a small hill near by.

Captain Britten and Tom, sextants in hand, made repeated observations. Ned stood by the telephone connecting the tug and her tow, transmitting to the former's captain the navigation directions. Finally the barge was supposed to be exactly where the freighter had thrown overboard the big stone.

"We may have to look around a little, though," remarked Tom as Captain Britten ordered the tug halted and anchors lowered. "In the big storm Captain Mawson might have made a mistake in his reckoning."

The water was about three hundred feet deep here, the Hydrographic Office charts showed. When Ned learned this, he looked serious.

"The record depth attained by a diver is only 204 feet!" he exclaimed. "At least, that's what I read in an encyclopedia."

"Guess you're referring to James Hooper, who reached that depth off the South American coast some years ago," smiled Tom Swift. "But since then diving-dress has undergone considerable improvement, eh, Captain Britten?"

"That's right. I have on board several of the newest type suits. Besides, I use native divers, men who, even without protection, can descend to almost unbelievable distances."

Quickly a boom was swung out overside. From it hung several pulleys to which was attached a narrow steel platform. Presently three tall Negroes carried out of the storeroom grotesque-looking diving suits which weighed over two hundred and fifty pounds apiece.

Captain Britten spoke in Spanish to one of them, then the fellow began putting on the weird uniform. It made him look like a visitor from another world. The tremendous

weight of his garb prevented him from moving at more than a slow shuffle across the deck, strong though he was.

A section of the railing had been removed to allow access to the dangling metal platform upon which the diver stepped. The boom swung out and the drum of the winch began unrolling. In a few seconds only a trail of vanishing bubbles marked the spot where the Negro had gone into the sea.

"How long will it take him to reach bottom?" asked Ned, peering overside in fascination. "About forty minutes," replied Captain Britten. "A diver must be lowered and raised gradually in order to avoid the terrible after-effects of a sudden change in pressure. At three hundred feet the pressure is more than eighteen thousand pounds per square foot!"

Time dragged on. Down, down rolled the heavy cable supporting the diver. Finally Tom held his watch to his ear, as though he were afraid it might have stopped.

"Oh, it's still running," laughed Ned a little nervously as he observed his chum's action. "Only five more minutes, Tom!"

At last a bell tinkled and Captain Britten grabbed up the telephone instrument which connected barge and diver. For a few seconds he listened, then replied briefly in Spanish. "Alvarez is down," he said to Tom as he hung up the receiver. "He reports a good, sandy bottom but no sight yet of the meteorite. At any rate, there's no danger of it having sunk in an oozy bottom."

Ten minutes later the phone buzzed again, this time with a request that the ship be moved a little east and that Manuel, Alvarez's mate, be sent down to help. This was done, and another telephone instrument was plugged in.

Tom, who understood a little Spanish, stood by to hear the report of the second diver. Both lines were now kept open continuously.

Finally Manuel reached bottom, saying that he had contacted Alvarez. For some minutes nothing came through either telephone but the sound of the submerged men's breathing.

"I see something, Señor! A rock--'que grande'!" came to Tom's ears suddenly. "It must indeed be that which the Señor seeks. But, Santa Maria! there is something else--!" Manuel's voice broke off suddenly.

"Captain Britten! Can you hear your man?" shouted Tom after his repeated attempts to renew, the connection had failed.

"No! I can hear only a muffled groaning. Something has gone wrong. That's sure!"

"Pull 'em up quick, then!" advised Ned.

This seemed good advice, so the auxiliary engine was started and the winches began turning slowly.

"Stop, Señor!" suddenly screamed the native engineer, waving his arms excitedly and

cutting off the steam. "The drums turn--si--but the cables do not rise. Something has caught the men!"

## **CHAPTER IX**

### **A ROBBER**

"Loose the winches a little!" ordered Captain Britten sharply. "The air-hoses are strained almost to the breaking point."

"Si," mumbled the engineer, easing off the brake a trifle.

"What's the trouble, in your opinion, Captain?" asked Tom.

"Hard to say, young fellow," came the worried reply. "What I'm afraid of is that a huge octopus or some such monster has attacked the poor divers. Whatever it is, I fear it's the end for 'em, as there's not another diver aboard and we can't haul the men up for fear of breakin' their air-lines."

"Have you another diving suit?" asked Tom rapidly. "I've had considerable experience in undersea work and can't let those boys drown without trying to help 'em!"

"Can you do it, lad? Yes, I've a brand-new outfit aboard that's of the latest type. But what'll I say to your father if anything happens to you?"

"Dad wouldn't want me to stand back at a time like this," rejoined the young inventor. "I sent these men down and it's up to me to see they get back safely!"

"But, Tom!" cried Ned. "What of the octopus? You may be trapped too, and not save Manuel and Alvarez either!"

"You forget, or maybe you didn't know, that I brought my electric rifle with me. That'll polish off any devil-fish I'm likely to meet!"

"Well, at least let me go too!"

"Isn't but one suit," said Captain Britten. "Now, Tom Swift, if you're ready, here's the suit."

"All set," said the young inventor calmly. He began to remove his outer clothing. "Ned, please bring up my rifle."

By the time the young scientist had been helped into the massively armored suit, Ned was back on deck carrying a peculiar-looking gun. Unlike other weapons, this one could discharge a bolt of electricity which would slay the largest animal or merely tickle a baby, according to the adjustment. Tom set it to its highest power.

"Good luck!" cried Ned as the heavy helmet was lowered into place.

Tom attempted to wave in reply but the gear was too weighty. Later, when he got into the depths, the buoyant effect of the water would enable him to move more freely.

Clutching his gun in his armored hand, Tom crept slowly on to the platform suspended over the sea. As it was lowered to the water he got a last glimpse of Ned Newton's face staring down at him.

The young business manager paced the deck of the barge, at every step reproaching himself for allowing his chum to undertake so hazardous a venture. As his watch told him that Tom must be nearing the bottom he seated himself by the switchboard, headphones clamped over his ears.

"Ground floor," announced Tom at last. "Pretty dark down here. I'll switch on my flash. Now--by George!"

Ned heard a muffled silence.

"Tom! Tom!" he shouted frantically. "What's happened? Are you all right?"

For nearly ten minutes Ned crouched by the instrument trying to get in touch with his friend. Just as he was giving up hope he heard a weak voice gasp:

"Not so loud, old man! You've nearly broken my ear-drums. Everything's under control!"

"Hurray!" shouted Ned. "He's found 'em, Captain Britten!"

"Easy!" protested Tom from the depths. "Don't shout like that so near the phone! Yes, the men are O.K. A big fish had 'em--don't know what it was, as I never heard of anything like it. But a couple of shots from the rifle killed it."

"Tell Captain Britten to send down some heavy chains. We've found the meteorite!"

The now jubilant crew, who had feared their companions lost, scurried about. In a few minutes the stout chain was snaking its way down through the blue-green ocean.

"Seems to me they're taking a mighty long time about it," said Ned to Captain Britten after an hour had passed with no word from the three divers.

"You're right," agreed the other. "Working at that depth it's decidedly unsafe to stay below so long. I'll warn Tom."

"Can't be done!" was that young man's decisive answer to the old salvage expert's warning. "This is a tougher job than I thought, for the bottom of the stone seems to be sinking slowly. If we can't finish our job now I'm afraid we'll lose our prize. But don't worry. We ought to be through in another twenty minutes."

The twenty minutes passed, and another like period was nearly run through before Tom announced himself and the other two ready to come to the surface.

To avoid the dreaded "bends," an affliction suffered by divers drawn to the surface too rapidly, they made their ascent as slowly as their descent. Thus it was that the great meteorite reached the top long before Tom and the two natives did.

"What in the name o' tarnation did he want with that?" demanded Captain Britten as the giant stone was lowered cautiously to the deck. Weighing many tons, it had tilted the

barge far over to one side as the powerful derrick drew it up. "It looks like some old rock a man might pick up 'most any place."

"Oh, Tom Swift usually has a good reason for everything he does," smiled Ned noncommittally. "I'm no scientist, but he is, so perhaps he wants to experiment with this stone from another planet."

At last the three divers reached the surface and were hauled rapidly up to the deck of the barge. All of them appeared exhausted, but Tom's eyes expressed the greatest satisfaction when he saw the meteorite safely aboard.

At his request the tug was put under way and the "Betsy B." started back to her home port in Key West. During the trip Tom managed to cut from the meteorite a fifty-pound chunk.

"I'm very eager to see if this stone contains more X," he explained to Ned, "so I'm planning to fly straight home with this sample to analyze it. I want you to put the rest of the meteorite on a fast freight train and travel north with it."

The sun was setting when the dock at Key West was reached. Tom waited no longer than was necessary to take on a supply of gasoline for the "Winged Arrow." He paid Captain Britten a generous fee and added a bonus for the divers who had helped him. Then with a hasty good-bye the excited young inventor roared off in the gathering darkness toward his distant home.

After an uneventful flight he reached Shopton at about half-past one the following morning. The wheels of the plane had barely stopped turning when the tall figure of Koku came rushing out of the shadows of the hangar to greet his master.

"You're right on the job!" exclaimed Tom, climbing stiffly from the cabin. "How is everything?"

"All thing good!" declared the giant, grinning to see the young inventor back. "Catchum skystone?"

"We caught it, all right. You might tote this sample of it over to the lab." Tom handed his servant the segment he had chiseled from the main mass.

"Master knows 'bout secret cave under lab'tory?" questioned the giant as the two walked across the field in the moonlight.

"Cave? Oh, you mean the vault?" asked Tom, who had been thinking of other matters.

"Night you go 'way in sky-bird, Koku watch. Koku hear bell go ting-ting-ting!"

Suddenly Tom was paying strict attention.

"Great Scott! D'you mean to say someone broke into my Chest of Secrets? Tell me about it quickly!"

## CHAPTER X



## SUCCESS

"Me tell!" said Koku. "Hear bell, know bad mans hide in cave. I creep up an' watch!" His dramatic pause might have seemed funny at any other time but Tom was badly worried.

"Hurry up!" commanded the young inventor sharply, grabbing the giant's arm. "What happened?"

"Nothing happen US," answered Koku. "Plenty happen HIM! I catchum fella, crawl up fum cave, knockum out, callum policemen."

"Good boy! You rate a new suit for that. You can tell the tailor to make it as loud as you like!"

Nothing could have pleased the simple giant more, for he loved to dress up in gaudy clothes, a trait left over from his savage life before the young inventor had brought him to America.

Too excited to sleep, Tom Swift went straight to his office and called the police station. The desk sergeant verified what Koku had said and asked the young scientist to come down and prefer charges.

As he was about to leave he saw on top of his accumulated mail a letter from the Apex Glass Works. It was from Mr. Stern. The man advised Tom that he suspected two discharged workmen as the pair who had attempted to rob him. Photographs were enclosed.

"That he, Master!" suddenly boomed Koku, who had been gazing at the photos. "That man steal green glass thing I ketch back!"

"By Jove, I believe you're right!" declared Tom. "This picture most certainly resembles the fellow you dragged in here. Come on, you and I will go over to the jail and check up."

Late as the hour was, the two took out a car and hastened over to the county prison. No sooner had the sleepy officer on duty conducted them back to the prisoner's cell than Tom immediately recognized the man as the one Koku had captured with the green disk.

Eager to get off as lightly as possible, the fellow, who had been a confidential clerk in the main offices of the glass works, made a full confession.

"It was Hammer who got me into this, Mr. Swift," whined Anton. "He overheard Mr. Stern talking about your experiments with bendable glass. He said you'd surely succeed and that the invention would be worth a fortune. So we decided to steal your formula. I've got a sick wife, Mr. Swift--"

"A pack of lies!" roughly interrupted the policeman. "He's a single man, Mr. Swift, and has a police record to boot!"

"Well, hold him. And I hope you will catch his confederate."

"Don't worry. The boys'll bring him in!"

Although the hour was late, Tom decided to return to the laboratory and inspect the vault. There had been a certain sly expression in Anton's eyes which had vaguely disturbed the inventor. It was as if the man were holding something back and grinning over it.

In a few minutes Tom's feeling was proven correct, for the formula dealing with the flexible glass was gone! Koku, when questioned, admitted that he had seen some papers drop from Anton's pocket when he had seized him just outside the laboratory, but the simple giant had paid no attention to them. There followed a frantic search with a flashlight by Tom but there was no trace of the missing documents.

"They couldn't have blown away!" he declared. "They were clipped together by a special heavy binder. Somebody must have picked them up!"

When Tom visited Anton in jail the next day, the fellow denied loudly that he had taken anything. The police promised to redouble their efforts to capture Hammer. With that assurance the inventor was forced to content himself.

The next few days Tom was so busy that he gave only an occasional thought to his loss. Analysis of the sample cut from the meteorite showed that it was even richer than he had hoped in the new substance, X. Immediately he telegraphed a large science supply house for huge flasks, beakers, retorts and other paraphernalia necessary to extract and refine the material.

This done, he arranged for the loan of a large refracting telescope from a near-by observatory to be used in conjunction with the big green disk he proposed to make. Professor Standish of the college was so interested in the project that Tom invited him to the forthcoming test.

Work was begun on an improvised observatory to be erected on a mountain in the Adirondacks. This would place the telescope above most of the blurring effects of the dense, lower atmosphere, filled as it is with smoke and dust.

Ned Newton wired that the meteorite had been safely placed on a fast freight train. He added that he was traveling in the caboose of the same train by special arrangement with the road officials. Tom met his chum at the station.

"How do you like riding in style?" he teased.

"Humph!" grunted Ned. "I'll take a plane next time."

A huge truck transported the planet stone to the shops of the Swift Construction Company. One of the buildings had been cleared of all other work, and in it a very large furnace had been erected to cast the green disk. Powerful mechanisms crushed the

meteorite to a fine powder which was dissolved by strong acids, then separated into its various ingredients.

"The furnace will have to be enlarged!" declared Tom. "I had planned to make a disk twenty feet long but there is so much X that we can easily make it thirty-five feet. There'll still be several hundred pounds left."

"Why not use it all and make the biggest 'scope you can?" suggested Ned Newton.

"I believe this will be large enough. Besides, I have an idea that the X has other and even more remarkable powers. I don't want to use it all up in this device."

A gang of men had been employed to clear a trail up the side of the mountain in the Adirondacks and construct a road to the summit as none ever had been made to the spot Tom intended to use. A specially large motor truck was built to carry first the telescope, then the giant green disk.

It may well be supposed that all these preparations ran into money. Many a groan did Ned give when he studied the mounting cost sheets. Tom, however, was deaf to all his chum's protestations.

"I had hoped your new bendable glass would more than repay the cost of your telescope," grumbled Ned. "That's gone, and it looks to me as though everything else'll go too. The Swift Construction Company will soon be bankrupt, Tom Swift, if you don't slow down!"

"What do you mean, my flexible glass is gone? Why, I've had an application on file in the Patent Office for several months."

"Well, for Pete's sake, why didn't you tell me? Here I've been worrying my head off for nothing!"

"Sorry, old man. But you know I've had a lot on my mind. However, we must get back the papers, for the thief can make things pretty uncomfortable if he chooses to."

As Tom had found out, X would be useful only in an absolutely pure state. To refine it to the proper degree was a painfully slow process, taking in this case a full six weeks.

While his chemists labored away under the young inventor's supervision, everything else had been made ready. At last the new element was prepared. The tons of yellow powder were dumped into the heated furnace.

Three days later the stuff had cooled sufficiently for an inspection to be made. A traveling crane slowly hoisted the massive iron lid of the electric furnace. Tom climbed a ladder and peered down.

"It's perfect!" he shouted a moment later. Mr. Damon and Barton Swift were standing anxiously with Ned and the workmen to hear the verdict. At the young inventor's words the group gave a cheer.

"Bless my stars and planets!" cried Mr. Damon, capering about like a boy. "I can hardly wait till you have your big glass set up!"

"It won't be long now," promised Tom, much pleased himself.

While the giant disk was being given a final electrical treatment, the youthful inventor was called to the police station. The fugitive crook, Hammer, had finally been nabbed, still with the formula for the bendable glass in his possession. Tom was glad to get this back, even though patent proceedings were under way, for anyone holding the papers could have instituted a costly legal contest.

At last the time arrived when the great disk was wrapped in hundreds of bales of cotton, suspended on racks and loaded onto the great truck. Tom insisted upon riding with his precious creation. The rest of his party, including his father, Ned Newton, Mr. Damon, Professor Standish, Koku and Rad, traveled by train to the foot of the mountain.

"Massa Tom gonna look about six scrillion miles froo space," confided Eradicate Sampson to Koku. The old Negro leaned heavily upon the massive arm of his huge companion. "He see wonderful things!"

"He sure make big medicine!" declared the giant, for once agreeing with his old rival. He had only the vaguest idea about what his master was attempting.

When the entire group assembled on top the mountain there was a sudden hush. The sun had set in a fiery glow that presaged a clear night, and now darkness overtook the expectant onlookers.

At last Tom stepped to the giant telescope and adjusted it upon the planet Mars. He electrified the immense disk, which glowed, then could not be seen at all.

Looking through the eyepiece, the young inventor stood as though transfixed. One minute! Two!

"Tom! How does it work?" asked Ned finally, unable to restrain himself any longer.

"Look for yourself!" cried Tom, turning from the instrument. His face wore an expression of awe.

Ned quickly took his place.

"Marvelous!" he exclaimed.

Before his eyes were revealed a great city, nearly seventy-five million miles distant! Peculiar people surged along the avenues, weird aircraft thronged the upper atmosphere, and gigantic buildings and palaces dotted the place. All on far-distant Mars!

As each one in Tom's party saw the wonderful sight, he in turn congratulated the youthful inventor in his own way. Ned grasped his chum's hand but could say nothing. Mr. Damon blessed the distant stars. Koku and Rad fell upon their knees. Into the eyes of Barton Swift came tears as he said:

"Tom, my son, you have performed the greatest miracle of the Age!"

