Moffett Cleveland

# Careers of Danger and Daring

Cleveland Moffett

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**Moffett C.**

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# Содержание

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# Careers of Danger and Daring

## THE STEEPLE-CLIMBER

## I
## IN WHICH WE MAKE THE ACQUAINTANCE OF "STEEPLE BOB"

DURING the summer months of 1900 – what blazing hot months, to be sure! – people on lower Broadway were constantly coming upon other people with chins in the air, staring up and exclaiming: "Dear me, isn't it wonderful!" or "There's that fellow again; I'm sure he'll break his neck!" Then they would pass on and give place to other wonderers.

The occasion of this general surprise and apprehension was a tall man dressed entirely in white, who appeared day after day swinging on a little seat far up the side of this or that church steeple, or right at the top, hugging the gold cross or weather-vane, or, higher still, working his way, with a queer, kicking, hitching movement, up various hundred-foot flagpoles that rise from the heaven-challenging office buildings down near Wall Street. At these perilous altitudes he would hang for hours, shifting his ropes occasionally, raising his swing or lowering it, but not doing anything that his sidewalk audience could see very well or clearly understand. Yet thousands watched him with fascination, and a kodak army descended upon neighboring housetops, and newspapers followed the movements of "Steeple Bob" in thrilling chronicle.

That is what he was called in large black letters at the head of columns – "Steeple Bob"; but I came to know him at his modest quarters on Lexington Avenue, where he was plain Mr. Merrill, a serious-mannered and an unpretentious young man, very fond of his wife and his dog, very fond of spending evenings over books of adventure, and quite indifferent to his day-time notoriety. I call him a young man, yet in years of service, not in age, he is the oldest steeple-climber in the business, ever since his teacher, "Steeple Charlie," fell from his swing some years ago in New Bedford, Massachusetts, and died the steeple-climber's death.

I often saw books of the sea on Merrill's table, and accounts of whaling voyages; and he told me, one evening (while through an open door came the snores of his weary partner), about his own adventurous boyhood, with three years' cruising in Uncle Sam's navy on the school-ships *Minnesota* and *Yantic* (he shipped at the age of twelve) and two years at whale-fishing in the North Sea. Quite ideal training, this, for a steeple-climber; he learned to handle ropes and make them fast so they would stay fast; he learned to climb and keep his head at the top of a swaying masthead; he learned to bear exposure as lads must who are washed on deck every morning with a hose, and stand for inspection, winter and summer, bare to the waist. And he gained strength of arm and back swinging at the oar while whale-lines strained on the sunk harpoon; and patience in long stern-chases; and nerve when some stricken monster lashed the waters in agony and the boat danced on a reddened sea.

Merrill laughed about the climb up old Trinity's spire, the first climb when he carried up the hauling-rope and worked his way clear to the cross, with nothing to help him but the hands and feet he was born with, and did it coolly, while men on the street below turned away sickened with fear for him.

"I'm telling you the truth," said Steeple Bob, "when I say it was an easy climb; any fairly active man could do it if he'd forget the height. I'm not talking about all steeples – some are hard and

dangerous; but the one on Trinity, in spite of its three hundred-odd feet, has knobs of stone for ornament all the way up (they call them corbels), and all you have to do is to step from one to another."

"How much of a step?"

"Oh, when I stood on one the next one came to my breast, and then I could just touch the one above that."

He called this easy climbing!

"The only ticklish bit was just at the top, where two great stones, weighing about a ton apiece, swell out like an apple on a stick, and I had to crawl around and over that apple, which was four feet or so across. If it hadn't been for grooves and scrollwork in the stone I couldn't have done it, and even as it was I had two or three minutes of hard wriggling after I kicked off with my feet and began pulling myself up."

"You mean you hung by your hands from this big ball of stone?"

"I hung mostly by my fingers; the scrolls weren't deep enough for my hands to go in."

"And you drew yourself slowly up and around and over that ball?"

"Certainly; that was the only way."

"And it was at the very top?"

"Yes, just under the cross. It wasn't much, though; you could do it yourself."

I really think Merrill believed this. He honestly saw no particular danger in that climb, nor could I discover that he ever saw any particular danger in anything he had done. He always made the point that if he had really thought the thing dangerous he wouldn't have done it. And I conclude from this that being a steeple-climber depends quite as much upon how a man thinks as upon what he can do.

"A funny thing happened!" he added. "After I got over this hard place, I slid into a V-shaped space between the bulging stone and the steeple-shaft, and I lay there on my back for a minute or so, resting. But when I started to raise myself I found my weight had worked me down in the crotch and jammed me fast, and it was quite a bit of time before I could get free."

"How much time? A minute?"

"Yes, five minutes; and it seemed a good deal longer."

Five minutes struggling in a sort of stone trap, stretched out helpless at the very top of a steeple where one false move would mean destruction – that is what Merrill spoke of as a funny thing! Thanks, I thought, I will take my fun some other way, and lower down.

"You would be surprised," he went on, "to feel the movement of a steeple. It trembles all the time, and answers every jar on the street below. I guess old Trinity's steeple sways eighteen inches every time an elevated train passes. And St. Paul's is even worse. Why, she rocks like a beautifully balanced cradle; it would make some people seasick. Perhaps you don't know it, but the better a steeple is built the more she sways. You want to look out for the ones that stand rigid; there's something wrong with them – most likely they're out of plumb."

"Isn't there danger," I asked, "that a steeple may get swaying too much, say in a gale, and go clear over?"

"Gale or not," said Merrill, "a well-made steeple must rock in the wind, the same as a tree rocks. That is the way it takes the storm, by yielding to it. If it didn't yield it would probably break. Why, the great shaft of the Washington Monument sways four or five feet when the wind blows hard."

Then he explained that modern steeples are built with a steel backbone (if I may so call it) running down from the top for many feet inside the stonework. At Trinity, for instance, this backbone (known as a dowel) is four inches thick and forty-five feet long, a great steel mast stretching down through the cross, down inside the heavy stones and ornaments, and ending in massive beams and braces where the steeple's greater width gives full security.

"What sort of work did you do on these steeples?" I asked.

"All kinds; stone-mason's work, painter's work, blacksmith's work, carpenter's work – why, a good steeple-climber has to know something about 'most every trade. It's painting flagpoles, and

scraping off shale from a steeple's sides, and repairing loose stones and ornaments, and putting up lightning-rods, and gilding crosses, and cleaning smoke-stacks so high that it makes you dizzy to look up, let alone looking down, and a dozen other things. Sometimes we have to take a whole steeple down, beginning at the top, stone by stone – unless it's a wooden steeple, and then we burn her down five or six feet at a time, with creosote painted around where you want the fire to stop; the creosote puts it out. Once I blew off the whole top of a steeple with dynamite; and, by the way, I'll tell you about that some time."

Conversing with a steeple-climber (when he feels like telling things) is like breathing oxygen; you find it over-stimulating. In ten minutes' matter-of-fact talking he opens so many vistas of thrilling interest that you stand before them bewildered. He starts to answer one question, and you burn to interrupt him with ten others, each of which will lead you hopelessly away from the remaining nine.

"Did you ever have any experiences with lightning?" I asked Merrill, one day.

"Oh, a few," he said. "A thunderbolt struck the Trinity steeple the very day we finished our work. We had just taken down our tackle and staging after gilding the cross when – by the way, they say there's a hundred dollars in gold under that cross."

"Really?" I exclaimed. "How did it get there?"

"Somebody ordered it put there when the steeple was built. People often do queer things like that. I painted a flagpole on a barn up in Massachusetts where there was four hundred dollars in gold hidden under the weather-vane. Everybody knew it was there, because the farmer who put it there told everybody, and my partner was crazy to saw off the end of that pole some night and fool 'em, but of course I wouldn't have it."

Here was I quite off my thunderbolt trail, and although curious about that farmer, I came back to it resolutely.

"Well," resumed Merrill, "this lightning stroke came down the new rod all right until it reached the bell-deck, and there it circled round and round the steeple four or five times, wrapping my assistant in bluish-white flame. Then it took a long jump straight down Wall Street, smashed a flagpole to slivers, and vanished. Say, there are things about lightning I've never heard explained. I know of a steeple-climber, for instance, who was killed by lightning – it must have been lightning, although no one saw it strike. There were two of them working on a scaffolding when a thunder-storm came up, and this man's partner started for the ground, as climbers with any sense always do. But this fellow was lazy or out of sorts or something, and said he wouldn't go down, he'd stay on the steeple until the storm was over. And he did stay there, without getting any harm, so far as anybody on the ground could see, except a wetting. Just the same, when his partner went up again, he found him stretched out on the scaffolding, dead."

"Frightened to death?" I suggested.

Merrill shook his head. "No, they said it was lightning; but it's queer how lightning could kill a man without being seen, isn't it?"

Then Merrill gave an experience of his own with a thunderbolt. It was during this same busy summer of 1900, while he and his partner were scraping the great steel smoke-stack that rises from ground to roof along one side of the American Tract Society Building, that towering structure which looks down with contempt, no doubt, upon ordinary church steeples.

"We were in our saddles," Merrill explained, "swung down about two thirds of the smoke-stack's length, when some black clouds warned us of danger, and we hauled ourselves up to the roof. My partner, Walter Tyghe, got off his saddle and stood there where my wife was waiting (she often goes to climbing-jobs with me – she's less anxious when she can watch me); but I thought the storm was passing over, and kept on scraping, sort of half resting on the cornice, half on my saddle. Suddenly a bolt shot down from a little pink cloud just overhead, and splintered a big flagpole I had just put halyards on, and then jumped past us all so close that it knocked Walter over, and made me sick and giddy so that I fell back limp on my saddle-board, and swung there helpless until my wife pulled the

trip-rope that opens the lock-block and drew me in from the edge. That's not the first time she's been on deck at the right minute. Once she came up a steeple to tell me something, and found the hauling-line smoldering from my helper's cigarette. If that line had burned through it would have dropped me to the ground from the steeple-top, saddle, lock-block, and all. The man with the cigarette was so scared he quit smoking for good and all."

Here, in reply to my question, Merrill explained the working of a lock-block, which is simply a pulley that allows a rope to pass through it, but will not let it go back. With this block the steeple-climber can be hauled up easily, but cannot fall, even if the man hauling should let go the rope. When it is necessary to descend, a pull on the trip-rope releases a safety-catch and the saddle goes down.

"Do steeple-climbers always work in pairs?" I asked him.

"Usually. It would be hard for one man to do a steeple alone. There are lots of places where you must have some one to fasten a rope or hold the end of a plank or pass you something. Besides, it wouldn't be good for a man's mind to be spending days and days upon steeples all alone. It's bad enough with a partner to talk to. That makes me think of poor old Dan O'Brien. If I hadn't been up with him one day – " Merrill checked himself and changed the subject.

"I'll give you a case where a man alone could never have done the thing, I don't care how clever a steeple-climber he might be. It was on St. Paul's, New York, after we had finished the job and taken everything down. Then somebody noticed that the weather-vane on top of the ball wasn't turning properly. I knew in a minute what the matter was; it was easy enough to fix it, but the thing was to reach the weather-vane. I don't mean that the climb up the steeple was anything; we had done that before; but if I tried to climb around that big ball again (it was the same sort of a wriggling business as that over the bulging stones at Trinity) I would be sure to scrape off a lot of the fine gilding we had just put on. And yet I couldn't get at the weather-vane without getting over the ball. I studied quite a while on this little problem, and solved it with my partner's help. We both climbed the steeple as far as the ball; we went up the lightning-rod; then we roped ourselves on the steeple-shaft by life-lines, and then my partner, that was Joe Lawlor, stood on my shoulders and did the job. You see it was easy enough that way."

"Easy enough!" Think of it! Two men clinging to the point of a steeple. One of them braces himself with the toes of his rubber shoes in crannies of the stone, and the other, balancing on his shoulders like a circus performer, does a piece of work, no matter what, with a reeling abyss all around (what is looking over a precipice compared to this?), and all the time the spire swaying back and forth like a forest tree. And then you hear that, instead of getting a large sum for such an achievement, these men, taking it through the year, get scarcely more than ordinary workmen's wages.

# II
# HOW THEY BLEW OFF THE TOP OF A STEEPLE WITH DYNAMITE

KNOWN over all Connecticut was the Congregational Church in Hartford, that stood for years on Pearl Street, and was famous alike for the burning words spoken beneath its roof, and the tall, straight spire that reached above it; two hundred and thirty-eight feet measured the drop from cross to pavement. But churches pass like other things, and near the century-end came the decision by landowners and lease interpreters that this graceful length of brownstone and the pile beneath it must move off the premises, which meant, of course, that the steeple must come down, the time appointed for this demolition being August, 1899.

Now, the taking down of a steeple two hundred and thirty-eight feet high, that rises on a closely built city street, is not so simple a proceeding as might at first appear. If you suggest pulling the steeple over, all the neighbors cry out. They wish to know where it is going to strike. Are you sure it won't smash down on their housetops? Can you make a steeple fall this way or that way, as woodmen make trees fall? How do you know you can? Besides, how are you going to hitch fast the rope that will pull it over? And who will climb with such a rope to the steeple-top? It must be said that there is usually some young man at hand, some dare-devil character of the vicinity, who is ready to try the thing and is positive he can succeed at it. But, luckily, he seldom gets a chance to try.

"It's queer," said Merrill, telling me the story, "how people ever built a steeple like this one without a window in it, or an air-passage, or anything for ventilation. Between the bell-deck and the cross there wasn't a single opening from the inside out, so I had to break my way through up near the top. What a place for a man to work, squeezed in the point of a stifling funnel, with no swing for his hammer, and no air to breathe, and the scorch of an August sun! After fifteen minutes of it, my wrists and temples would be pounding so I'd have to come down and rest.

"Of course the purpose of this hole that I knocked through the steeple-top was to make fast ropes and pulleys, so my partner and I could hoist ourselves along the outside, and not have to climb up the inside cross-beams, which, I can tell you, is a lively bit of athletics. Well, we got our ropes fixed all right, about twenty-five feet below the top, and the 'bosun's saddle' swung below for us to travel up and down in, and then we made fast another set of ropes and pulleys about fifteen feet higher up; this was for hoisting timber and stuff that we needed."

"How did you get up that fifteen feet?" I inquired.

"Worked up on the stirrups – that is, two nooses around the steeple, each ending in a loop, one for the right foot, one for the left. You stand in the right stirrup and work the left loop up, then you stand in the left stirrup and work the right loop up. Sometimes in hard places you have to throw your nooses around the shaft as a cowboy casts a rope. Come down some day and watch us work; you'll see the whole thing."

To this invitation I gave glad acceptance; I certainly wished to see this stirrup-climbing process.

"The next thing," continued Merrill, "was to make another hole in the steeple through a keystone a little below our first hole. In this hole we set a block of Norway pine resting on an iron jack. The block was about a foot square and twenty-two inches high, a big tough piece, you see, and by screwing up the jack we could make that part as solid as the keystone was. We made this hole on the east side of the steeple, which was the side we wanted her to fall on, the only side she could fall on without injuring something; and we had it figured out so close that we dug a trench on that side straight out from the steeple's base, ten feet wide and four feet deep, and told people we intended to have the whole top of that steeple, say a length of thirty-five feet and a weight of thirty-five tons, come off at one time and land right square in that trench and nowhere else. That's what we intended to do.

"Now began the hoisting of materials; first a lot of half-inch wire cable, enough for four turns around the steeple, then eight sixteen-foot timbers, two inches thick and a foot wide, then a lot of maple wedges. We bandaged the steeple with the cable and drew it tight with tackle. Then we lowered the timbers lengthwise inside the cable, which we could do because the steeple was an octagon with ornamented corners, and these left spaces where the wire rope was stretched around. Then we wedged fast the eight timbers so that they formed a sixteen-foot half-collar on the west side of the steeple just opposite our hole where the jack was. In other words, we had the steeple shored in so that when we let her go no loose stones could fall on the west side; everything must fall to the east.

"Last of all, we widened our hole on the east side, stripping away stones until that whole side lay open in a half-circular mouth about four feet high. And in this mouth were two teeth, one might say, that held the stone jaws apart, the iron jack biting into the block of Norway pine. On those two now came the steeple's weight, or, anyhow, one half of it. To knock out one of these teeth would be to leave the east side of the steeple unsupported, with the result that it must topple over in that direction and fall to the ground. Anyway, that was our reasoning, and it seemed sound enough; the only question was how we were going to knock out that block of Norway pine.

"Well the day of the test came, and I guess five thousand people were there to see what would happen. Everybody was discussing it, and farmers had driven in for miles just as they do for a hanging. You understand I was under the orders of the contractor, and he had his own plan about getting the block out. He proposed to hitch a rope to it, drop this rope to a donkey-engine in the yard, and set the engine winding up the rope. He said the block would have to come out then and the steeple fall. I agreed that the block might come out, but was afraid it would tip up through the strain coming at an angle, and throw the steeple over to the west, just the way we didn't want it to go. And if that steeple ever fell to the west, there was no telling how many people it would kill in the crowd, without counting damage to houses.

"However, the contractor was boss, and he stuck to it his way was right, so we hitched the engine to the block and set her going. She puffed and tugged a little, and then snapped the rope. We got another rope, and she broke that too. Then we got a stronger rope, and the engine just kicked herself around the yard and had lots of fun, but the block never budged. All that morning we tried one scheme after another to make that engine pull the block out, but we might as well have hitched a rope to the church; the steeple's weight was too much for us. And all the time the crowd was getting bigger and bigger, until the police could hardly manage it.

"Finally the contractor, being very mad and quite anxious, said he'd be hanged if he could get the block out, and for me to try my scheme, and do it quick, for some men were going about saying the thing was dangerous and ought to be stopped. He didn't have to speak twice before I was on my way up that steeple carrying an inch auger, a fifty-foot fuse, and a stick of dynamite – I'd had them ready for hours. It's queer how people get wind of a thing; the crowd seemed to know in a minute that I was going to use dynamite, and before I was twenty feet up the ladder a police officer was after me, ordering me down. I went right ahead, pretending not to hear, and when I got to the bell-deck he was puffing along ten yards below me. I swung into my 'bosun's saddle' and began pulling myself up outside the steeple, and I guess the whole five thousand people around the church bent back their heads to watch me.

"As soon as I began to rise in the saddle I knew I was all right, for I coiled up the hauling-line on my arm so the officer couldn't follow me. All he could do was stand on the bell-deck and gape after me like the rest and growl.

"When I reached the block I bored a six-inch hole into her at a downward slant, and in this I put some crumbs of dynamite, – not much, only about half a teaspoonful, – and then I stuck in the fuse and tamped her solid with sand. Then I lit the other end, dropped it down inside the steeple, and slid down the rope as fast as I could, yelling to the officer that I'd touched her off. You ought

to have seen him get out of that steeple! He never waited to arrest me or anything; he had pressing business on the ground!

"By the time I got down you could see a little trail of bluish smoke drifting away from the hole, and there was a hush over the crowd, except for the police trying to make them stand back behind the ropes. I don't know as I ever saw a bigger crowd; the street was jammed for blocks either way. Well, sir, that was a queer acting fuse. It smoked and smoked for about ten minutes, and then the smoke stopped. The people began to laugh – they said it had gone out; and the contractor was nearly crazy: he was sure I had made another failure. I didn't know what to think; I just waited. We waited ten minutes, twelve minutes; it seemed like an hour, but nobody dared go up to see what the matter was. Then suddenly the explosion came – no louder than a pistol-crack, for dynamite isn't noisy, but it stirred me more than a cannon.

"'Start your engine!' I shouted, and the little dummy had just time to wind up half a turn of the hitch-line when the old steeple-top swayed and broke clean in two, right where the block was, and the whole upper length fell like one piece, fell to the east just as we had planned it, and landed in the trench, every stone of it; there wasn't a piece as big as your fingernail, sir, outside that trench. And while she was falling I don't know how many kodaks were snapped in the hope of getting a picture; men and women with cameras had been waiting for hours on the roofs of high buildings, and two or three of them actually caught a picture of the steeple-top as it hung in the air for a fraction of a second at right angles to the base."

# III
# THE GREATEST DANGER TO A STEEPLE-CLIMBER LIES IN BEING STARTLED

IT appears that professional steeple-climbers are quiet-mannered men, with a certain gentleness of voice (like deaf people) that impresses one far more than any strident boasting. This habit of silence they form from being silent so much aloft. And when they do speak it is in a low tone, because that is the least startling to a man as he swings over some reeling gulf. Next to an actual disaster (which usually kills outright and painlessly) what a steeple-climber most dreads is being startled. This was explained to me in one of our many talks by "Steeple Bob," famous over the land for daring feats, but never reckless ones. How plainly I call up his pale, serious face and the massive shoulders, somewhat bent, and the forearm with muscles to impress a prize-fighter! Pleasant to note that Merrill uses excellent English.

"Did you ever have an impulse to jump off a steeple?" I questioned, recalling the sensations of many people in looking down even from a housetop.

"I've kept pretty free from that," said he; "but there's no doubt climbing steeples does tell on a man's nerves. Now, there was Dan O'Brien; he had an impulse to jump off a steeple one day, and a strong impulse, too. He went mad on one of the tallest spires in Cincinnati; right at the top of it."

"Went mad?"

"Yes, sir, raving mad, and I was by him when it happened. I forget whether the church was Baptist or Presbyterian, but I know it stood on Sixth Street, near Vine, and there was a big hand on top of the steeple, with the forefinger pointing to heaven. We were putting fresh gilding on this hand. I was working on the thumb side and O'Brien on the little-finger side, both of us standing on tiny stagings about the size of a chair-seat, and both of us made fast to the steeple by life-lines under our arms. That's an absolute rule in climbing steeples – never to do the smallest thing unless you're secured by a life-line. It was coming on dark, and I was hurrying to get the gold leaf on, because we'd given the hand a fresh coat of sizing that would be dry before morning. We hadn't spoken for some time, when suddenly I heard a laugh from O'Brien's side that sent a shiver down my spine. Did you ever hear a crazy man laugh? Well, if ever you do, you'll remember it. I looked at him and saw by his face that something was wrong.

"'What are you doing?' said I.

"He answered very polite and steady like, but his tone was queer: 'I'm trying to figure out how long it would take a man to get down if he went the fastest way.'

"I thought I had better keep him in a good humor, so I said: 'I'll tell you what, Dan, you brace up and get this gold on, and then we'll race to the ground in our saddles.'

"'That's a fair idea,' said he in a shrill voice, 'but I've got a better one. We'll race down without any saddles; yes, sir, without any lines, without a blamed thing.'

"'Don't be a fool, Dan. What you want to do is to get that gold on – quick.' I tried to speak sharp.

"'No, sir; I'm going to jump, and so are you.'

"I caught his eye just then and saw it wasn't any time to bother about gold leaf. I reached up and eased the hitch of my line around the hand so I could swing toward him. I knew if I once got my grip on him he wouldn't make any more trouble. But I'd never had a crazy man to deal with, and I didn't realize how tricky and quick they are. While I was working around to his side and thinking he didn't notice it, he was laying for me out of the corner of his eye, and the first thing I knew he had me by the throat and everything was turning black. I let go of the line and dropped back on my saddle-board helpless, and if it hadn't been for blind luck I guess the people down below would have got their money's worth in about a minute. But my hand struck on the tool-box as he pressed me back,

and I had just strength enough left to shut my fingers on the first tool I touched and strike at him with it. The tool happened to be a monkey-wrench, and when a man gets a clip on the head with a thing like that he's pretty apt to keep still for a while. And that's what O'Brien did. He keeled over and lay there, and I did, too, until my head got steady. Even then I guess we'd both have fallen if it hadn't been for the life-lines.

"The rest was simple enough after I got my senses back. Dan was unconscious, and all I had to do was fasten a rope to him and lower away. They took care of him down below until the ambulance came, and he spent that night in a hospital. And he's spent most of his years since then in an asylum, his mind all gone except for short periods, when he comes to himself again, and then he always starts out to put an end to me. That last impulse to destroy me has never left him."

It was after this that I learned about that other danger to steeple-climbers, of being startled. Merrill says that men of his craft, whether they realize it or not, work under constant nervous strain. However calm a steeple-climber may think himself, his body is always afraid, his muscles are always tense, his clutch on ropes and stones is always harder, two or three times harder, than the need is; his knees hug what comes between them so tightly that it hurts, even when they might safely be relaxed. That is the trouble, a steeple-climber cannot relax his body or control its instinctive shrinking. It is not looking down into the gulf around him that he minds (the climber who cannot do that with indifference is unfit for the business); what he sees he can cope with; it is what he cannot see that does the mischief – what he fears vaguely. And a sudden noise, an unexpected movement may throw him into all but panic. So the veteran climber, swinging at the steeple-top opposite his partner, is careful to say in a low tone, "I'm going to lower my saddle," before he does lower it; or, "I'm going to strike a match," before he strikes it.

Sometimes a new helper at the hauling-line down on the bell-deck will shift his place from weariness or thoughtlessness, and let the line move up an inch or two, which drops the saddle an inch or two far aloft – drops it suddenly with a jerk. It's a little thing, yet the climber's heart would not pound harder were the whole steeple falling. Merrill told me that one of his greatest frights came from the simple brushing against his legs of a rope pulled without a word by a careless partner. To Merrill's nerves, all a-quiver, this was not a rope, but some nameless catastrophe to overwhelm him. He knew only that something had moved where nothing had any business to move, that something had touched him where nothing was. A steeple-climber is like a child in the dark – in terror of the unknown. In all the world, perhaps, there is no one so utterly alone as he, swinging hour after hour on his steeple-top. The aëronaut has with him a living, surging creature – his balloon; the diver feels always the teeming life of the waters; but this man, lifted into still air, poised on a point where nothing comes or goes, where nothing moves, where nothing makes a sound – he, in very truth, is alone.

"It's always the little things that frighten you," reflected Merrill, "not the big things. I'll give you an instance. When I went up inside St. Paul's steeple the first time (I wanted to inspect the beams, and see how the dowel was anchored) I got into a tight place that might well frighten a man. I got squeezed fast between timbers that fill nearly all the slender top space, and couldn't get up or down, but just hung there, breathing air full of dust and calling for help. I called three quarters of an hour before any one came, and then it was only by accident. But I wasn't frightened. On the other hand, a day or two later, when I was making fast a rope outside (I was just under the ball that holds the weather-vane) I got a bad start from nothing at all. I had my arms around the spindle of the steeple, making a hitch, and my head pressed against the copper sheathing, when I heard a most unearthly screech. I guess the shock of that thing did me five hundred dollars' worth of harm – shortened my life days enough to earn five hundred dollars in. And what do you think it was? The weather-vane had turned a little in the wind and creaked on its bearings, that's all. It doesn't seem as if that ought to scare a man, does it?"

There was something quite touching, I thought, in the humble frankness of this big-shouldered man. Yes, he had been afraid, he whose business it was to fear nothing, afraid of some squeaking

copper, and his face seemed to say that there are things about steeples not so easily explained, things not even to be talked about. And abruptly, as by an effort, he left this part of the subject and told a funny story of his adventures coming home late one night without a key, and getting in by way of the roof and an iron pipe; a simple enough climb had he not been taken for a "purglaire" by an irate German lodger, who appeared in nightgown and phlegmatic fright, and vowed he would "haf him a revolfer, a skelf-skooter, in the morning."

This effort at diversion turned Merrill into gaiety for a moment, but straightway memory brought back the somber theme.

"I'll give you another case," said he, changing again abruptly, "where I wasn't frightened, but should have been. It was out in Chicago, and two of us were on a staging hung down the front of a clothing factory. We were painting the walls. My partner had made his end of the staging fast, and I had made mine fast. Perhaps if I'd been longer in the business I would have taken more notice how he secured his rope, for it meant safety to me as well as him, and I knew he'd been drinking, but I supposed it was all right. Well, it wasn't all right; his rope held for three or four hours, and then, at just about eleven o'clock, it slipped, and the staging fell from under us. We were six stories up, and right below were the sidewalk flagstones. That's the time I ought to have been frightened, but I only said to myself, 'Hello! this thing's going down,' and caught the window-ledge in front of me. Then I hung there, wondering if I could pull myself up or if any one would come to help me. I called out not very loud, and I wasn't excited. Pretty soon I saw I couldn't pull myself up, for I had a poor hold with my fingers, and the ledge was smooth stone. Then I saw they'd have to hurry if they were going to pull me in. Then I didn't care. I – I – "

"You fell?"

He nodded.

"What, six stories down?"

He nodded again. "The thing that saved me was an awning over the sidewalk. Some man across the way saw me hanging from the window, and he ran over quickly and let the awning down. I'd like to shake that man by the hand, but I never knew who he was. When I came to myself I was at the hospital done up in plaster, and I stayed there nine months."

"Badly hurt?" I asked, shrinking.

Merrill smiled. "It didn't do me any particular good. I'm a big, strong fellow now, but I wasn't much after that fall. Both my legs were broken. Both my arms were broken. My right shoulder and right wrist were dislocated, and – let's see. Oh, yes, I had three ribs torn away from the breast-bone."

"And your – "

"My partner? Poor lad! You wouldn't care to hear how they found him. They laid him away kindly the next day."

He smiled in a sort of appealing way, and then came the worn, wistful look I had noticed, and his forehead lines deepened. I fancy all men who follow steeple-climbing get those strained, anxious eyes.

# IV
# EXPERIENCE OF AN AMATEUR CLIMBING TO A STEEPLE-TOP

IT came to my knowledge, one bracing day in October, that "Steeple Bob" had agreed to "do" that famous Brooklyn Church of the Pilgrims, with its queer, crooked spire and big brass ball, a landmark from the river on Columbia Heights.

"It's one of those easy jobs that are the hardest," said Merrill. "If you want to see us use the stirrups come over."

That was exactly what I did want to see, this puzzling stirrup process which allows a man to lift himself by his boot-straps, as it were, up the last and narrowest and most dangerous length of a steeple; so I agreed to be there.

"If you like, you can go up on the swing yourself!" said Merrill, with the air of conferring a favor. I expressed my thanks as I would to a lion-tamer offering me the hospitality of his cages, then asked how he meant that easy jobs are the hardest.

"Why, easy jobs make a man careless, and that gets him into trouble. Another thing, little old churches look easy, but they're apt to be treacherous. Now, this steeple on the Church of the Pilgrims is built of wood, with loose shingles on it, and a tumble-down iron lightning-rod, and rickety beams, and shaky ladders, and – well, you feel all the time as if you were walking on eggs. It's just the kind of a steeple that killed young Romaine about a month ago."

Of course I asked for the story of young Romaine, and was told of certain climbers who advertise their skill by using a steeple-top for acrobatic feats that have nothing to do with repairing. Upon such Merrill frowned severely.

"Romaine was a fine athlete," said he, "and a fearless man, but he went too far. He would stretch out on his stomach across the top of a steeple, and balance there without touching hands or knees, and he'd do all sorts of circus tricks on lightning-rods and weather-vanes and flagpoles – anything for notoriety. I told him he'd get killed sure some day, but he laughed at me. Well, it wasn't a week after I warned him when he was killed. He climbed an old lightning-rod without testing it (it was on a little church up at Cold Spring, New York), and just as he was reaching the steeple-top, with a whole town watching him, the end of the rod pulled out, and he swung off with it, ripping out every dowel, like the buttons off a coat, right down to the ground – smash. Poor fellow, when I read the news I left my job at Trinity and took the first train up to bury him."

This sad story lingered in my mind that night, and was there still the next afternoon as I drew near the Church of the Pilgrims to witness the first day's climbing. Already, at a distance, I knew that the men were at work from the upbent heads of people on the street who stared and pointed. And presently I made out two white figures on the steeple, one swinging about fifteen feet below the ball, the other standing against the shingled side without any support that I could see. Up the old tower (inside) I made my way, and two ladders beyond the "bell-deck" came upon Walter Tyghe, "Steeple Bob's" assistant, astride of a stone saddle on one of the four peaks where the tower ends and the steeple begins. There was a clear drop of a hundred feet all around him. He was "tending" the two men aloft, as witnessed a couple of ropes dangling by him. It was two jerks to come down and one to go up. Were he to lose his balance and let go the hauling-rope, the men on the swing would instantly be killed, as they had no "lock-blocks" on.

"Come out here," said Walter, "there's plenty of room," and, thus encouraged, I straddled the peak, and we sat face to face, as two men might sit on a child's rocking-horse, while the tower pigeons circled beneath us, alarmed at this intrusion. Far down on the sidewalk were little faces of distorted

people; far up at the steeple-top were legs kicking at ropes. And off over red housetops was the river, and the great towers of New York spread with silver plumes by the steam jets.

"Now you can see the stirrups working," said Walter, and, looking up, I saw a figure swing back from the steeple, an arm shoot out, and a length of rope go wriggling around the shaft, cast like a lasso. Then the rope was drawn into a noose, and the noose hauled tight. The legs kicked, the figure hitched itself up about a foot, and again the rope was cast (another rope), and a second noose still higher made secure. That is all there is to it. The steeple-climber stands in a stirrup held by one noose while he lassoes the shaft above him with another noose, supporting another stirrup on which he presently stands. And so, foot by foot, the climber rises, shifting noose and stirrup at each change, resting now on one, now on the other, and finally reaching the cross, or ball, or weather-vane at the very top.

"That's Joe Lawlor chuckin' the rope," explained Walter; "Merrill, he's on the swing. Say, Lawlor's a wonder at rigging. He can do anything with ropes. He's the feller that climbs up the front of a house with suckers on his feet."

Of this fact I took note, and then inquired if I couldn't get up further inside the steeple, so as to be nearer the men. Walter said I could climb ladders up to where they had punched a hole through for the rope to hold the block and falls, and I tried it. Alas! when I got there, after breathing dust and squeezing between beams, I found that I could see nothing. I was almost at the steeple-top, and could hear Merrill, through the wooden shell, humming a tune as he worked, but I was further away than before.

"Hello in there!" came a voice. "Don't monkey with that line." And it came to me that this rope, reaching down by me from yonder little hole (the one knocked through), held the block which held the swing which held the man. And an accident to this rope would mean instant death. I touched it, and drew my hand away, as one might touch some animal through the cage bars, and I felt like saying, "Good little rope!"

It was coming on to dark now, and we all went home together, over the bridge and up the avenues, talking of steeples the while. And Lawlor explained the action of his suckers in climbing walls, which is precisely that of a boy's sucker in lifting a brick. The big climbing-leathers, well soaked in oil, are pressed alternately against the stones, the right leg resting on one while the left leg presses the other against the wall a step higher. And so you walk right up the building or church or flagpole, and the smoother the surface the easier you go up. In fact, if the surface is rough you cannot use the suckers at all, as the air gets under and prevents their holding.

Then the men spoke of various jobs aloft that called up memories. Merrill told of cleaning the fifteen-foot Diana statue on the Madison Square Garden tower. "It's hard getting over her," he said, "because she's so blamed smooth. I guess I took three quarts of rust out of her ball-bearings. You know she's a weather-vane, and turns with the wind." I wondered how many New-Yorkers who see the Diana every day of their lives have ever dwelt on the fact that she turns.

Talking of weather-vanes reminded my friends of a ticklish job they did on St. Paul's steeple, in New York, when Merrill, standing under the ball, held Lawlor on his giant shoulders so that Joe could lift off the weather-vane on top and ease the shaft where it had jammed. With Lawlor's weight and the weather-vane's weight, "Steeple Bob" held four hundred pounds on his shoulders during those important minutes, and, it might almost be said, stood on the dizzy edge of nothing while he did it.

Finally, Lawlor expressed the opinion that there isn't any meaner job in the business than a chimney.

"A chimney?" said I.

"That's what. I mean one o' them big ones you see on factories. We have to scrape 'em and paint 'em just like steeples, and that means climbing up the whole length inside. The climbing's easy enough on bolts and braces, but it's something fierce the air you breathe. Why, I've gone up a two-hundred-and-forty-foot chimney with a five-foot opening at the bottom, and found the soot so thick about half-way up – so thick, sir, that I've been almost stuck in it. Yes, sir, just had to shove my head

into an eight-inch hole and bore through black stuff, beds of it. And mind, not a hole for air as big as a pin-head from bottom to top."

After bidding the men good night I reflected, with a kind of shame, that I had drawn back from daring only once what they dare every day, what they *must* dare for their living. And I reasoned myself into a feeling that it was my duty under the circumstances to go up that steeple on the swing, as Merrill had proposed. Having begun this investigation, I must see it through; and in this mind I went to the church again the next day.

I found all hands on the "bell-deck" spreading out packets of patent gilding for the ball which awaited its new dress, all sticky from a fresh coat of sizing. Lawlor remarked that there was better gold in these little yellow squares than in a wedding-ring. "It's twenty-four carats fine," said he, "and about as thick as a cobweb."

As to my going up on the swing there was no difficulty. Lawlor would go first, and be there to keep me in good heart, for they say it is not well for a novice to be at a steeple-top alone. Merrill would see to the lashings, and Walter would give a hand at the hauling-line. Thus all conditions favored my ascent; even the sun smiled, and after taking off coat and hat I was ready. There we were at the top of the tower, and at the base of the steeple Lawlor, red-faced and red-shirted, preparing to ascend; Merrill, pale, as he always is, but powerful, standing at the ropes; and I, in shirt-sleeves and bareheaded, watching Walter make a little harness for my kodak.

After a time Lawlor, having reached the top, called down something, and Merrill answered. It was my turn now. I climbed out through a small window and stood on the ledge, while "Steeple Bob" dropped the swing noose over my head and proceeded to lash me fast to seat and ropes.

"That's in case a suicidal impulse should get hold of you!" he said, smiling, but meaning it. "Now, keep this rope between your legs, and work your hands up along it as we lift you. It's anchored to St. Peter."

Then he explained how I was to press my toes against the steeple side, so as to keep my knees from barking on the shingles.

"And don't look down at all," he told me. "Just watch your ropes and take it easy. Are you ready?"

At this moment Walter said something in a low tone, and Merrill asked me to lend him my knife. I handed it out, and he stuck it in his pocket. "You don't need this now," said he, and a moment later the pulley ropes tightened and my small swing-board lifted under me. I was rising.

"Shove off there with your toes!" he cried. "Take short steps. Put your legs wider apart. Wider yet. You don't have to pull on the rope. Just slide your hands along. Now you're going!"

I saw nothing but the steeple side in front of me, and the life-line hanging down like a bell-rope between my spread legs, and the pulley block creaking by my head, and the toes of my shoes as I pressed them against the shingles step by step. It struck me as a ridiculous thing to be climbing a steeple in patent-leather shoes. I smiled to think of the odd appearance I must present from below. And then for the first time I let my eyes turn into the depths, and caught a glimpse of men on housetops watching me. I saw Merrill's upturned face down where the ropes ended. And I saw little horses wriggling along on the street.

There were three places where the steeple narrowed into slenderer lengths, and at each one was a sort of cornice to be scrambled over (and loose nails to be avoided), and then more careful steering with legs and toes to keep on one particular face of the steeple and not swing off and come bumping back, a disconcerting possibility. "Hello!" called Lawlor presently, from above. "You're doing fine. Come right along." And before I knew it the swing had stopped. I was at the top, or as near it as the tackle could take me. The remaining fifteen feet or so must be made with stirrups. And there was Lawlor standing in them up by the ball. There was not a stick of staging to support him (he had scorned the bother of hauling up boards for so simple a job), and he was working with both hands free, each leg standing on its stirrup, and several hitches of life-line holding him to the shaft top by his waist.

This steeple-lassoing exploit was one of the things I certainly would not attempt – would not and could not.

Strangely enough, as I hung here at rest I felt the danger more than coming up. It seemed most perilous to rest my weight on the swing-board, and I found myself holding my legs drawn up, with muscles tense, as if that could make me lighter. Gradually I realized the foolishness of this, and relaxed into greater comfort, but not entirely. Even veteran steeple-climbers waste much strength in needless clutching; cannot free their bodies from this instinctive fear.

I stayed up long enough to take three photographs (some minutes passed before I could unlash my kodak), and here I had further proof of subconscious fright, for I made such blunders with shutter and focus length as would put the youngest amateur to shame. Two pictures out of the three were failures, and the third but an indifferent success. There is one thing to be said in extenuation, that a steeple is never still, but always rocking and trembling. When Lawlor changed his stirrup hitches or moved from side to side the old beams would groan under us, and the whole structure rock. "She'd rock more," said Lawlor, "if she was better built. A good steeple always rocks."

There wasn't much more to say or do up here, and presently we exchanged jerks on the line for the descent. And Lawlor cried: "Lower away! Hang on, now!" And I did over again my humble part of leg-spreading and toe-steering, with the result that presently I was down on the "bell-deck" again, receiving congratulations.

"Here's your knife," said Merrill, after he had unlashed me.

"What did you take it for?" I asked.

"Oh, men sometimes get a mania to cut the ropes when they go up the first time. And that isn't good for their health. I was pretty sure you'd keep your head, but I wasn't taking any chances."

After this came thanks and warm hand-grips all around, and then I left these daring men to their duties, and went down the lower ladders. I am sure I never appreciated the simple privilege of standing on a sidewalk as I did, a few minutes later, when I left the Church of the Pilgrims and came out into the pleasant autumn sunshine.

# THE DEEP-SEA DIVER

## I
## SOME FIRST IMPRESSIONS OF MEN WHO GO DOWN UNDER THE SEA

IN old South Street, far down on the New York river-front, is a gloomy brick building with black fire-escapes zigzagging across its face, and a life-size diver painted over its door, in red helmet and yellow goggle-eyes, to the awe and admiration of the young – to the awe and admiration of anybody who comes through this wicked-looking street by night, and smells the sea, and stares along miles of ships' noses that reach right over the car-tracks, and finally stops at the black-lettered announcement that wrecks are looked after here day or night, and mysteries of the deep penetrated by gentlemen of the diving profession in just such gigantic suits as this painted one.

None of this had I noticed, late one night (being occupied with the silent, hungry ships, and the fire-cars trailing over the dim bridge), until a brisk banjo-strumming caught my ear, and I paused at the house of wrecks, whence the sounds came. Somebody back in these moldering shadows was playing the "Turkish Patrol," and playing it remarkably well.

I followed the light down a narrow passage, and presently came upon the modern wrecker, in the person of Benjamin F. Bean, a large man smoking contentedly at a table whereon rested a telephone and phonograph. The phonograph was playing the "Turkish Patrol," and a single incandescent lamp, swinging overhead, illumined the scene. There were coils of rope about, and photographs of vessels in distress, and a bunk with tumbled sheets at one side, where Mr. Bean slept, often with his clothes on, while awaiting the ring of sundry danger-bells.

Divers fully expect to be objects of curiosity, for never do they work except before wondering audiences; so this one found my visit natural enough – was glad, I think, to talk a little and let the phonograph rest. It must be rather lonely, after all, watching for wrecks hour after hour, night after night, listening always for footsteps (the officer's tramp or the thug's stealthy tread), listening always to the hoot of passing vessels, listening always for bad news.

He explained to me what happens when the bad news comes, say a collision up the Hudson, a ferry-boat on fire down the bay, a line of barges sunk in the Sound, any one of a dozen ordinary disasters. In olden times such tidings must have traveled from mouth to mouth, and the wreckers of those days flashed their calls and warnings with beacon-fires. Now electricity does all this much better with the click of a key; and presently somebody, somewhere, has the office at the end of a wire telling what the trouble is, and forthwith the man in charge puts machinery in motion that will change this trouble into cash. *Br-r-r-r* calls the telephone; up spring messenger-boys in distant all-night stations, and in half an hour door-bells are ringing in Harlem or Jersey City, and the men who ought to know things know them, and whistles are sounding on big pontoons that can lift two hundred tons, and sleepy men are tumbling out of their bunks, and great chains are clanking, and tug-boats are sputtering forth for the towing of sundry hoisting- and pumping-craft that go splashing along to the danger-spot with all appliances aboard, pneumatic, hydraulic, not to mention savory hot coffee served to the divers and the crew.

Most divers are poor story-tellers (perhaps because the marvelous grows commonplace to them from over-indulgence in it), but the stories are there in their lives, if only you can dig them out. I asked Bean if he often went down himself, and found that he was still in active service, after twenty-odd years of it, which certainly had agreed with him. He was just back from a sad errand in Pennsylvania. A boy had gone swimming in a slate-quarry, and been drowned; they had dragged for him, and fired

cannon over the water, but nothing had availed, and so, finally, a diver was sent for from the city, the diver being Bean. The quarry was a great chasm four or five hundred feet deep, with eighty feet of water filling various galleries and rock shelves, in one of which the poor lad had been caught and held. The question was in which one.

"Well," said Bean, coming abruptly to the end, "I went down and got him."

That was his way of telling the story: he "went down and got him." There was nothing more to say; nothing about the two days' perilous search through every tunnel and recess of those rocky walls; nothing about the three thousand excited people who crowded around the quarry's mouth, awaiting the issue, nor the scene when that pitiful burden was hauled up from the depths.

I asked Bean if he had ever been in great danger while under the water.

"Nothing special," he said, and then added, after thinking: "Once I had my helmet twisted off."

"What, below?"

He nodded.

"How can a diver live with his helmet off?"

"He can't, usually. 'T was just luck they got me up in time. They say my face was black as a coal." And he had no more to tell of this adventure.

With few exceptions, divers take their career in exactly this phlegmatic, matter-of-fact way. I fancy a man of vivid imagination would break under the strain of such a life. Yet often divers will go into great details about some little incident, as when Bean described the hoisting of a certain boiler sunk outside of Sandy Hook. It had been on a tug-boat of such a name, it was so many feet long and wide, and other things about the tide and the steam-derrick, and what the captain said, the point being that this boiler had acted as an enormous trap for the blackfish, of which they had found some hundreds of big ones splashing about inside, unable to escape.

So our talk ran on, and all the time I was thinking how I would like to see these things for myself. And it came to pass, as the subject kept its hold on me, that I did see them. Indeed, I spent a whole summer month – and found zest in it beyond ordinary summer pleasurings – in observing the practical operations of diving and wrecking as they go on in the waters about New York. I discovered other wrecking companies, notably one on West Street, and from the head man here learned many things. He took me out on a pier one day, where one of his crews was rescuing thirty thousand dollars' worth of copper buried under the North River. Every few minutes, with a *chunk-chunk* of the engine and a rattle of chains, the dredge would bring up a fistful of mud (an iron fist, holding a ton or so) and slap it down on the deck, where a strong hose-stream would wash out little canvas bags of copper ore, each worth a ten-dollar bill in the market.

"This will show you," said the expert, "what a diver has to contend with at the bottom of a river. He often sinks four or five feet in the mud, just as those bags sink, and sometimes the mud suction holds him down so hard that three men pulling on the life-line can scarcely budge him. And when the mud lets go the diver comes out of it like a cork from a bottle. You can feel him flop over, clean tuckered out with kicking and working his arms. They let him lie there a minute or two to rest, and then pull him up. Why, vessels will sink ten or twelve feet in the mud, so that the diver has to take a hose down, and wash a tunnel out below the keel, to get a lifting-chain under."

"Wash a tunnel out?" I inquired.

"That's what they do. You know how you can bore a hole in a sand-bank, don't you, with a stream of water? Well, it's just the same with a mud-bank down below, only you need more pressure. Sometimes we use a stream of compressed air. The diver steers the hose just as a fireman steers the fire-hose, and once in a while gets knocked over by the force of it, just as a fireman does."

Tunneling mud-banks under water, with streams of water or streams of compressed air, struck me as decidedly a novelty. I was to hear of stranger things ere long.

My guide presently pointed out a splendidly built young man who was shoveling mud off the deck, not far from us.

"There," said he, "is a case that illustrates the worst of this business. That fellow is made to be a diver; he's intelligent, he's not afraid, and he can stand having the suit on; he's been down two or three times and done easy jobs of patching. If he'd keep straight for a year or two, he could earn his ten dollars a day with the best of them. But he won't keep straight. The poor fellow drinks. We can't depend on him. And here he is, shoveling mud for a dollar and a quarter a day, and no steady work at that."

Ten dollars a day seemed a handsome wage, and I asked if divers generally earn so much.

"Good ones do, and a diver's day is only four hours' long, or less when they go to great depths. And they draw a salary besides, and often receive handsome presents. You ought to see our chief diver, Bill Atkinson; he lives in a brownstone house." He paused a moment, and then added: "But I guess they earn all they get."

A few days later I made Mr. Atkinson's acquaintance on board the steam-pump *Dunderberg*, then busy raising a coal-barge sunk off Fourteenth Street in the East River.

Atkinson was down doing carpenter-work on holes stove in her, and I stood on deck beside the man "tending" him, and watched the bubbles boil up from the diver's breathing, and the signals on a rubber hose and a rope. It was less air or more air, by jerks on the hose. It was rags for a leak, or a heavier hammer, or a piece of batten so-and-so long, with nails ready driven at the corners – all were indicated by pulls on the life-line or the startling appearance of hands or fingers (Atkinson's), that would now and then reach above water and move impatiently. The wreck was only five or six feet under, and the diver's helmet showed like the back of a big turtle whenever he stood up straight on the sunken deck.

Suddenly there is a scurry of barefoot youths along the pier timbers. The diver is coming up. Now he lifts himself slowly under the crushing weight, one short step at a time up the ladder. No man at all is this, but a dripping three-eyed monster of rubber and brass, infinitely fascinating to wharf loungers. The "tender" twists off the face-glass, and Atkinson says something with a snap in it, and explains what he is trying to do at the forward hatch. Then he leans over the rail on his stomach and rests. Then he goes down again.

"He's the best-natured man I know, Bill is," remarked Captain Taylor, commander of the *Dunderberg;* "but all men get irritable under water. Why, I've had men who wouldn't swear for the world up in the air tell me they rip out cuss words something terrible down on the bottom. Just seems like they can't help it."

I noticed that the tender did not join in our talk, but stood with hands on his lines and eyes on the water, absorbed in his responsibility; he looked like an angler about to land a big fish. Neither did the men at the air-pump talk. This feeding breath to a diver is serious business.

"How long would he live, do you think," I asked, "if the pump should stop?"

"Mebbe a minute, mebbe two," said Captain Taylor. "I knew a Norwegian who was down in fifty feet of water when the hose busted. It busted on deck, where the tender heard it, and he started to lift, right away. It couldn't have been over a minute before they had him up, but he was so near dead the doctors worked three hours on him before he came around. That'll give you an idea of how far gone he was."

The captain told of other desperate chances faced by divers in his experience: of a hose and life-line fouled in a wreck; of an escape-valve frozen shut, in winter-time, by the diver's congealed breath; of a helmet smashed through by a load of pig-iron falling from its sling; of a diver dragged off a wreck by a drifting pontoon – such a record of thrilling escapes and tragedies as any wrecking-master could run over. One realized why insurance companies refuse to take risks on divers' lives, and why the diver's pay is large.

Before long Atkinson came up again, and announced that everything was ready, holes stopped and suction length in place. Two men helped undress him, while the others set the big eight-inch pipe to pumping out the wreck, and soon it was spurting a thick stream over her side like a fire-tower.

Presently the dinner-bell rang from a tiny cabin below, and I had the honor of breaking bread with the crew of the *Dunderberg* and two of the company's stanchest divers, Atkinson and Timmans, both small, thin men with wrinkled faces, both the heroes of many adventures. Here was indeed a chance to find out things!

One of my first questions turned upon the effect of diving on a man's hearing. Was it true, as I had read, that divers often have one or both of their ear-drums ruptured by the water-pressure?

Both men thought not; most divers of their acquaintance had good hearing.

"Diving often kills a man straight out," said Timmans; "but, aside from that, I don't think it injures his health. Ain't that right, Bill?"

Atkinson nodded. He had observed that divers almost never take cold or have trouble with their lungs, although they are constantly exposed to all weathers, and often live and sleep in wet clothes for days and nights. As a young man, he himself had been a bookkeeper, in delicate health. People thought he had consumption. So he gave up bookkeeping and, by accident, became a diver. He had never had a sick day since, and he had worn the suit now for twenty-nine years.

"About a man's ears," said he; "there's no doubt you get a pressure in 'em when you go down, and the pressure gets harder and harder the deeper you go, that is, until your ears crack."

"Crack?" said I.

"Well, that's what we call it, but I don't suppose anything really cracks. After you get down, say, thirty feet, your ears hurt a good deal, especially if by chance you have a little cold; and you keep opening your mouth and swallering to make the crack come, and the first thing you know, you hear a sound inside your head like striking a match; that's the crack, and then you can go on down as far as you please, and you won't feel any more pain in your ears until you're coming up again; then you get a reverse crack. They say it's the air working in and out of your head. I don't know what it is, but I know some men's ears won't crack, and those men can't never make divers."

"How deep can a diver go down?" I inquired.

The company smiled at this, and turned to Atkinson, who smiled back, and then referred modestly to one of the deepest dives on record, one hundred and fifty feet, made by himself some years before up the Hudson. He had a pressure of six atmospheres on him at that depth, and could stay down only twenty minutes. "I'll tell you about that some other day," said he. "It's pretty near time now for me to be sweeping up this coal."

Then, answering my look of surprise at the word "sweeping," he explained how they lessen the weight of a sunken barge by first pumping out the water in her, and then pumping out the coal. The same suction-pipe does both, and will discharge thirty-five or forty tons of coal an hour, on a chute which holds the coal while the water streams through. During this operation the diver is down in the barge, moving the suction-end back and forth, up and down – the "sweeping" in question – until no more coal is left for its hungry mouth.

"We pump grain out of wrecks in the same way," said Atkinson, "tons and tons of it! and they dry it in ovens and sell it. A man must look sharp, though, and not get himself caught. We had a diver – he was new at the business – who got his knee against the suction-pipe one day while he was pumping coal, and it held him as if he was nailed there. He was so scared he tore himself loose; but he had to rip a piece out of his suit to do it. He stayed down, though, just the same."

"What! – with a hole in his suit?"

"That doesn't matter, as long as it's only in the leg. You see, the air in the helmet presses down hard enough to keep the water below a man's neck. But he mustn't bend over so as to let his helmet get lower than the hole."

"I should say not!" put in Timmans.

"Why, what would happen if he did?"

"He'd be killed quicker than you can wink. The air from the helmet would rush out at the hole, and he'd be crushed by the weight of the water."

I don't know whether Mr. Atkinson realized the full truth of his words, but I found, on consulting the authorities, that a diver's body at thirty-two feet is subjected to a pressure of water amounting to forty tons, at sixty-four feet to eighty tons, at ninety-six feet to one hundred and twenty tons, etc. And it is only the great counter-pressure in the helmet of air from the air-pump that enables the diver to endure this otherwise deadly weight. It follows that the deeper a diver goes, the harder work it is for the air-pump men to drive air down to him; and at great depths as many as four men are sometimes needed at the pump to conquer the water resistance and keep open the escape-valve (for air breathed out) at the helmet-top.

Here ended this day's talk, for the coal would wait no longer; Atkinson must go down again to his "sweeping". But there were other days for me aboard the *Dunderberg*– other glimpses into these brave, simple lives. Think what these fellows do! Here is a huge, helpless vessel at the bottom of a bay, with the tide tearing her to pieces, and down into the depths comes a queer little man, as big as one of her anchor-points, and stands beside her in the mud, and feels her over, and decides how he will save her; and then does it – does it all alone. And what he does is never the same as anything he has done before; for each wreck is a new problem, each job of submarine patching has its own difficulties and dangers. Oh, bored folk, idle folk, go to the wreckers, say I, if you want a new sensation; watch the big pontoons put forth their strength, watch the divers, and (if you can) set the crew of the *Dunderberg* to telling stories.

# II
# A VISIT TO THE BURYING-GROUND OF WRECKS

LITTLE by little, one picks up lore of the divers – small things, yet edifying. In summer a diver wears underneath his suit, to keep him cool, the same flannel shirt and thick woolen socks that he wears in winter to keep him warm. But he wears mittens in winter on his hands, which are bare in summer. On the bitterest day in January he finds comparative warmth in deep water, as he finds a chill there in torrid August. Summer and winter he perspires very freely, and a little work brings him to the limit of his strength, the strain being chiefly on the lungs. The deeper he goes the more exhausting becomes every effort.

A diver often endures real suffering (like the foot-tickling torture) because he cannot scratch his nose or face, and they tell of one man who worked in great distress because, when he got down, he found a June-bug in his helmet, and had to bear the insect's lively promenading over his features, powerless to stop it. And there was a diver who, in bravado, used to smoke a cigarette inside his helmet.

Divers, as a class, are not superstitious. Seldom do their thoughts down below stray into realms of fantasy, nor have they time to dream, but only to hammer, and saw, and ply the crowbar, and drive iron spikes twenty inches long into huge timbers – in short, to attend strictly to their work.

It is amusing to note the scorn of practical divers for the nice electric-lighting and telephone contrivances of divers who never dive, but sell their inventions to the Government for its Newport diving school, which same inventions remain, for the most part, in their spick-span boxes. It seems simple enough to have submarine lights; yet divers who dive prefer to grope in the almost darkness of our ordinary waters. It seems a distinct advantage that diver and tender be able to talk over a wire; yet divers who dive keep jealously to the clumsy system of jerks on the lines, and will not even be bothered with the Morse alphabet. The fact is, a diver has quite as much as he can attend to with the burden of his suit (about a hundred and seventy-five pounds), and his two lines to watch and keep from kinks and entanglements. Touch one of these lines, and you touch his life. Fasten a new line to him, or two new lines, and you enormously increase his peril. Imagine yourself stumbling about in a dark forest, with a man strapped on your back, and several ropes dragging behind you among trees and rocks, each separate rope being to you as breath and blood! That is precisely the diver's case. So he goes; so he works. And when they offer him pretty apparatus to increase his load, he will have none of it. Nor will he tug any extra ropes. "I have ways enough of dying as it is," says he.

Working thus in gloom or darkness, the diver develops his senses of feeling and locality. He gains certain qualities of blind men, and finds guidance in unlooked-for ways. The ascending bubbles from his helmet, for instance, shine silver white and may be seen for a couple of fathoms. These bubbles have a trick of lodging in a vessel's seams, and so give the diver a rough pattern of her. Again, in searching for leaks, the sense of hearing helps him, for he can distinguish (after long habit) the sucking sound of water rushing through the holes.

One is sorry to learn that divers go to pieces early; few of them last beyond fifty. As they grow old their keenness wanes; they lose their bearings easily down below, and show bad judgment. And fear of the business grows upon them. Often they seek false courage in strong drink, which hurries on the end. Too many of them, after searching all their lives for wrecks, wind up as wrecks themselves. But it is good to know that there are exceptions – divers like Bill Atkinson, sturdy and true at fifty, and good in the suit for years to come, unless their wives persuade them to retire. The diver's wife, I am told – poor woman! – starts with terror every time she hears a door-bell ring.

I must speak now of the burying-ground for wrecks, one of the strangest, saddest, most interesting burying-grounds I can think of. It was a disaster to the tug-boat *America* that brought me there, this ill-fated craft having been cut half through in the North River and sunk by a great liner she

was helping into dock. The *America* went down forthwith in sixty feet of water – sank so suddenly that all aboard her had to cast themselves into the water and fight for it. The fireman and the cook, not knowing how to swim, fought in vain, and ended their lives there. It is astonishing how many men who follow the sea as a business cannot swim. Well, in due course the wreckers came up to lift the tug-boat, and Atkinson (who cannot swim either) directed the job. They swung chains under her, fore and aft, they "jacked her up" nearly to the surface, and then, while four pontoons held her, the *Pinafore*, the *Catamaran*, and two others (only the working crews know the names of these pontoons), they all splashed slowly up the river under tow of the wrecking-tug *Fly*, and finally came to the burying-ground of wrecks. Here they "jacked her up" some more (it was "We've got her!" "Slack away now!" and "R'heh-eh-eh!" as the men strained at the blocks), and then they grounded her on the mud, where wrecks have been grounded for years, and left her, with all the others, to rust and ruin and rot.

But before they grounded her there was a long time to wait for high tide – time for a good meal on the *Catamaran*, and a talk about hazards of the sea as divers know them. It was then that Atkinson told me the promised story of his deepest dive. I wish all men who do big things would speak of them as simply as he did.

"It's like this," said he: "in diving, the same as in other things, every man has his limit; but he can't tell what it is until the trial comes. At this time I'm talking about (some ten years ago) I thought a hundred feet about as deep as I wanted to go. If there are two hundred divers in the country, you can bet on it not ten of them can go down over a hundred feet. Well, along comes this job in the middle of winter – a head-on collision up the Hudson off Fort Montgomery, and a fine tug-boat gone to the bottom. We came up with pontoons to raise her, and Captain Timmans (he's the father of Timmans the diver) ordered Hansen down to fix a chain under her shaft – there's the man now."

A big Scandinavian in the listening circle looked pleased at this mention. He was Hansen.

"We knew by the sounding that she lay in a hundred and fifty feet of water on a shelf of bottom over a deeper place, and Hansen was a little anxious. He got me to tend him, and I remember he asked me, when I was putting the suit on him, if I thought he could do it. Remember that, Hansen?"

Hansen nodded.

"I told him I thought I could do the job myself, so why shouldn't he? but that was partly to encourage him.

"Anyhow, Hansen went down, and I got a signal 'All right' from him when he struck the bottom. Then the line kept very still, and pretty soon I jerked it again. No answer. So I knew something was wrong, and began to haul him up quick, telling the boys to turn faster. He was unconscious when we got him on deck, but he soon came round, and said he felt like he'd been dreaming. He'll tell you if that ain't right."

"It's right," said Hansen.

"We couldn't work any more that day, on account of the tide, but Captain Timmans said the thing had to be done the next morning, and wanted Hansen to try it again; but Hansen wouldn't."

"Wasn't no use of trying again," put in Hansen.

"That's it; he'd passed his limit. But it seems I had a longer one. Anyhow, when the captain called on me, I got into the suit and went down, and I stayed down until that chain was under the shaft. It took me twenty minutes, and I don't believe I could have stood it much longer. The pressure was terrible, and those twenty minutes took more out of me than four hours would, say, at fifty feet. But we got the tug-boat up, and she's running yet."

After this Hansen told a story showing what power the suction-pipes exert in pumping out a vessel. He was working on a wreck off City Island, at the entrance to the Sound. He had signaled for rags to stuff up a long crack, and the tender had tied a bundle of them to the life-line, and lowered it to him by slacking out the line. All this time the pump was working at full pressure, throwing out streams from the wreck through four big pipes. Suddenly the life-line came near the crack, and was instantly drawn into it and jammed fast, so that Hansen would have been held prisoner by the very

rope intended to save him, had it not been for the slack paid out, which was fortunately long enough to bring him up. Had it been his hand or foot that was seized in that sucking clutch, the incident would have had a sadder ending.

Then came other stories, until the day was fading and the tide was right, and Atkinson was ready for the grounding of this soaked and battered tug-boat. Presently he calls "Look out for that rope. Get yer jacks ready. Now slack away!" And forthwith pulleys are creaking and great chains are grinding down link by link as the men pump at the little "jacks" and the forty-foot timbers that stretch across pontoons and hold the wreck-chains groan on their blocks, and at last the *America* comes to rest safely, ingloriously on the mud. Poor *America!* so proud and saucily tooting only the other day, now a bedraggled wreck on these Weehawken flats, destined to what fate who knows? To be lifted from the mud, patched up, rebuilt, quarreled over by owners and insurance people, or perhaps simply left here, with the others, for wharf-rats to swarm in and boys to go crabbing on!

The burying-ground of wrecks! What a sight from the rugged height back of the water! Here are blackened, shapeless hulks from the great river fire of 1900, when red-hot liners drifted blazing to these very flats. Here is the ferry-boat *River Bell*, decked with flags in her day, and danced on by gay excursionists, now thick with mud and slime, her deck-beams spongy under foot, her wheel-frames twisted like a broken spider's-web. Here are the half-sunken halves of some ice-barge, cut clean in two by a liner. Here, heaving with the tide, is an aged car-float with a watchman's shanty on it, heaped with its rusted boilers, its anchors, cranes, gear-wheels, cables, pumps, a tangle of iron things that were once important. Here is a scuttled tug-boat that has been in a law-suit (and the mud) for years. Here is a coal-barge, wedged open and sunk by her owner to steal the insurance money. Wrecks spread all about us, and above them rise the masts and cranes of pontoons and pumping-craft, that seem, in the shadows and desolation, like things of evil omen guarding their prey.

Night is coming on. Lights show in the great city across the river. Ferry-boats pass. Lines of barges pass. Whistles sound. The waves splash, splash against the wrecks, touching them gently, one would say. But nobody else cares. Nobody comes near. Nobody looks. The divers go home. The wrecking-crews eat and turn in to sleep. A rat squeals somewhere. These helpless, crippled hulks are alone in the night, and they grind, grind against decaying stumps. They are wrecks, they are dead, they are buried – and yet they can move a little in the mud!

# III
# AN AFTERNOON OF STORY-TELLING ON THE STEAM-PUMP "DUNDERBERG"

WHEN there is difficult diving to be done in the East River, or in any river where the tide runs strong, you will see the wrecking-boats swing idly at anchor for hours waiting for slack water, the only time when divers dare go down. And often there is half a day's waiting for half an hour's work, and often a week goes by on a two hours' job, say, in full midstream, where not even the most venturesome beginner will stay down more than twenty minutes at the turn, lest he be swept away, ponderous suit and all, by the rush of the river. It's start your patch and leave it to be ripped open by the beating sea; it's get your chain fast nine weary times, and have it nine times torn away over night by some foolish, bumping tug-boat; in fact, it's worry and aggravation until the thing is over.

Also, this is the time of times, if you can get aboard, to make acquaintance with the wreckers, to pick up lore of the diving-suit and tales of the divers.

It was bad weather when we, on the sturdy old *Dunderberg*, were busy at a wreck off the Brooklyn shore, not far from Grand Street ferry (I had as much to do with lifting this wreck as the pewter spoons stuck around the little cabin). It wasn't much of a wreck anyhow – only a grain-boat – but it had my gratitude for stubbornly refusing to come up. And so we had hours to spend down in the cabin aforesaid, which could barely hold cook-stove and dining-table, but managed to be parlor and bedroom besides; also laundry on occasions. The *Dunderberg*, I should explain, was originally a mud-scow, but for good conduct and an injury to her nose had been changed into a steam-pump. She could suck her forty tons of coal an hour out of a wreck with the best of them. And she traveled with four pontoons, no one of which could touch her in table fare, especially coffee.

Late one afternoon, when the rain was drizzling and the swinging brass lamps lit, we sat about on wooden stools (and some were curled up in bunks along the walls) and listened to the talk of Atkinson and Timmans and Hansen, who had seen and done strange things in their time.

They were discussing the escape-valve in a diver's helmet, and arguing whether it pays to stiffen the spring for very deep diving. Atkinson, who had worked eight fathoms deeper than either of them, said he left his spring alone; he used the same suit and the same valve action for any depth.

"But I look out for sand-banks," said he, "ever since that fellow – you know who I mean – had one cave in on him in the North River. He was tunneling under a vessel with a wall of sand beside him higher than his head, and the first thing he knew he was flat on his back, with sand jammed in his valve so it couldn't open. It wasn't a minute before he was shot up to the surface like a balloon. The reason of that," he explained for my benefit, "is because a diving-suit with its valve shut gets lighter and lighter as they drive down air from the air-pump, until all of a sudden it comes up, man and all, just as a plank would if you held it on the bottom and then let it go."

"Talking about planks coming up," said Timmans, who was seated under the picture of a prize-fighter, "I was down on the North German Lloyd steamer *Main*, the one that was burned and sunk, fixing a suction-pipe to pump grain out of her, when a big wooden hatch got loose and came up under me. I was working between decks, and the hatch swung me right up against the overhead beams and held me there, squeezing the life-line and hose so tight I couldn't signal. It's lucky the hose was wire wound, or that would have been the last of me. But I got my air all right, and after a while I worked free."

"Wire wound and all," observed Atkinson, "I've had my hose squeezed so the air was shut off. I was on a wreck off one of the Hoboken docks once, when an eight-inch suction-pipe caught the hose coming down through a hatch, and the next second I felt my air stop, though I could hear the

pump beating. I jerked 'slack away' on the life-line, and that loosed the hose and saved me, but I got a blast of compressed air as the jam eased that jumped me up a yard."

"Suppose your life-line had been jammed, too," I asked, "so that you couldn't jerk 'slack away'?"

Atkinson paused to think. "There's a difference of opinion about how long a man can live on the air that's in his helmet. Some say three or four minutes. I don't believe it. I think two minutes would do the business."

"There was George Seaman – " began Timmans.

"Yes," said Atkinson, taking up the story, as was a senior's right, "there was George Seaman, who put trust in the argument of Tom Scott and Low and some of those old-timers, that a man can cut his hose and press his thumb quick against the hole and live long enough on what air's in the helmet to reach the top. Years ago they used to give that talk to us youngsters, but I notice none of 'em ever tried it. Well, Seaman, he *did* try it; he was down on a wreck somewhere along Sixtieth Street, and his hose got caught in the timbers. The life-line was all right, and he was getting air enough, only when they tried to haul him up he stuck on account of the hose. They tried three times to lift him, and each time he'd come up a few feet and stick, and then they'd have to let him fall back. You can see that's awful discouraging for a man, especially when he's tired and cold. If Seaman had kept his nerve and waited they'd prob'bly have sent another diver down to get him untangled, but he didn't keep his nerve. All he saw was that the hose was caught and he couldn't free it, and they couldn't get him up. It's a lot easier to get rattled at the bottom of a river than up in the air, and Seaman called to mind what he'd heard about stopping the hole with your thumb, and he got out his knife. All divers carry a knife fast to the suit. See, like this." He drew a two-edged knife, a wicked-looking weapon, out of its leathern sheath, and moved his thumb along the edge.

"Then Seaman he felt for the hose, and made ready to cut. His idea was, you see, to slash the hose at one stroke, then jerk on the life-line to be hauled up quick, and keep the hole shut with his thumb while he came up. I can picture him now with his knife on the hose, sort of praying a minute, like a man might with a knife at his throat. That's what it amounted to. Well, he wrote the story of what he did right there on the hose, and wrote it plain. They've got the piece at the office, and they'll show it to you if you ask 'em. Seaman made his cut with about two men's strength; I'll bet not one of you boys could do near as well as he did at cutting a hose through with one stroke. His slash came clear through all but a shaving of rubber, and he tried to cut that with a second stroke; but the knife struck a new place about an inch away, and he slashed her half through there. Then he tried nine times more, and made nine separate cuts at the hose; and there they are to-day, about half an inch apart, each one a little shallower than the one before, and the last two or three only scratches on the outside. That was just as he died, and you can figure out how long it prob'bly took him to make those eleven knife strokes. I suppose there ought to be thirteen, but eleven's what there is. You'll count 'em."

Not only did I count them, these eleven tragic cuts, but I have the piece of hose to this day. The office people gave it to me, and never do I look but with a shiver at this dumb record in diminuendo of agony and sacrifice.

"I suppose that settled the question of stopping a hose with your thumb?" I remarked.

"That's what it did!" said Atkinson.

After this there were more stories. I can't begin to say how many more. Every time a diver goes down, one would say, something new happens to him, something worth telling about. Hansen related an experience of his with a conger eel. Atkinson told how a Dock Department diver named Fairchild was blown to death under forty feet of water when twenty-eight pounds of dynamite he was putting in for blasting went off too soon. Timmans told how he fainted away once, one hundred and five feet down, and another time let the water into his suit by pulling out a helmet lug on a foolish wager. And that reminded Atkinson of the time his gasket (the rubber joint under the collar) was cut through by the slam of an iron ladder, and the air went out "Hooo," and a quick jerk on the life-line was all that saved him. Last of all they told the story of old Captain Conkling and the Holyoke

Dam, a story known to every diver. It seems there was a leak in this dam, and the water was rushing through with so strong a suction that it seemed certain death for a diver to go near enough to stop the leak. Yet it was extremely important that the leak be stopped – in fact, the saving of the dam depended on it. So Captain Conkling, who was in charge of the job, induced one of his divers to go down, and reluctantly the man put on his suit, but insisted on having an extra rope, and a very strong one, tied around his waist.

"What's that for?" asked Conkling.

"That's to help get my body out, if the life-line breaks," said the diver.

"Go on and do your work," replied Conkling, who had little use for sentiment.

It happened exactly as the diver feared. He was drawn into the suction of the hole, and when they tried to pull him up both hose and life-line parted, and the man was drowned, but they managed to rescue his body with the heavy line, just as he had planned.

Then Conkling called for another diver, but not a man responded. They said they weren't that kind of fools.

"All right," said the captain, in his businesslike way; "then I'll go down myself and stop that hole." And he called the men to dress him.

At this time Captain Conkling was seventy-five years old, and had retired long since from active diving. But he was as strong as a horse still, and no man had ever questioned his courage.

In vain they tried to dissuade him. "I'll stop that hole," said he, "and I don't want any extra rope, either."

He kept his word. He went down, and he stopped the hole, but it was with his dead body, and to-day somewhere in the Holyoke Dam lie the bones of brave old Captain Conkling, incased in full diving-dress, helmet and hose and life-line, buried in that mass of masonry. No man ever dared go down after his body.

# IV
# WHEREIN WE MEET SHARKS, ALLIGATORS, AND A VERY TOUGH PROBLEM IN WRECKING

TIMMANS, whom I used to call the student diver, because of his keen observation and capacity for wonder, leaned against the step-ladder that reached down from hatch to cabin on the *Dunderberg*, and remarked, while the others listened: "I did a queer job of diving once down into the hold of a steamship, a National liner, that lay in her dock, blazing with electric lights, and dry as a bone. Just the same, I needed my suit when I got down into her – in fact, I wouldn't have lasted there very long without air from the pump."

"Some queer cargo?" suggested Atkinson.

"That's it. She was loaded with caustic soda, or whatever they make bleaching-powder of – barrels and barrels of it, with the heads broke in after a storm, and it wasn't good stuff to breathe, I can tell you. First they set men shoveling it out, with sponges in their mouths, against the dust and gases, but one man coughed so hard he tore something in his lungs or head and died. Then they sent for a diver – that was me – and I worked hours down there hoisting and shoveling, like I was at the bottom of the bay, only there was no water to carry the weight. Say, but wasn't that suit heavy, and when I looked out through my helmet-glasses it seemed as if I was digging through a snow-field, with such a terrible dazzle it made my eyes ache to look at it."

"I suppose you don't usually see much under water?" said I.

"Depends on what water it is," answered Timmans.

"All rivers around New York are black as ink twenty feet down," remarked Atkinson.

"I know they are," said Timmans, "but I've seen different rivers. When I was diving off the Kennebec's mouth, five miles southeast of the Seguin light (we were getting up the wreck of the *Mary Lee*), then, gentlemen, I looked through as beautiful clear water as you could find in a drug-store filter. Why, it reminded me of the West Indies. I could see plainly for, well, certainly seventy-five feet over swaying kelp-weed, eight feet high, with blood-red leaves as big as a barrel, all dotted over with black spots. There were acres and acres of it, swarming with rock-crabs and lobsters and all kinds of fish."

"Any sharks?" said I.

Hansen and Atkinson smiled, for this is a question always put to divers, who usually have to admit that they never even saw a shark. Not so Timmans.

"I had an experience with a shark," he answered gravely, "but it wasn't up in Maine. It was while we were trying to save a three-thousand-ton steamer of the Hamburg-American Packet Company, wrecked on a bar in the Magdalena River, United States of Colombia. I'd been working for days patching her keel, hung on a swinging shelf we'd lowered along her side, and every time I went down I saw swarms of red snappers and butterfish under my shelf, darting after the refuse I'd scrape off her plates; and there were big jewfish, too, and I used to harpoon 'em for the men to eat. In-fact, I about kept our crew supplied with fresh fish that way. Well, on one particular day I noticed a sudden shadow against the light, and there was a shark sure enough; not such an enormous one, but twelve feet long anyhow – big enough to make me uneasy. He swam slowly around me, and then kept perfectly still, looking straight at me with his little wicked eyes. I didn't know what minute he might make a rush, so I caught up a hammer I was working with – it was my only weapon – and struck it against the steamer's iron side as hard as I could. You know a blow like that sounds louder under water than it does in the air, and it frightened the shark so he went off like a flash."

"Perhaps he wasn't hungry," laughed one of the crew.

"Not hungry? I'll tell you how hungry those sharks were. They'd swallow big chunks of pork, sir, nailed and wired to barrel heads, as fast as we could chuck 'em overboard; swallow nails, wire,

barrel heads, and all, and then we'd haul 'em in by ropes, that did for fish-lines, only it took twenty or thirty men to do the hauling. And there were plenty of sharks 'round, only they never seemed to tackle a man in the suit."

"Some say it's the fire-light of the valve bubbles that scares sharks off," commented Atkinson. "I don't know what it is, but I know the bubbles shine something wonderful as you watch 'em boiling up out of your helmet."

"Phosphorescence," I suggested, and then went back into the talk for some broken threads.

"How about that steamer you were telling about," I asked; "the one that was wrecked on the bar? Did you save her?"

"I should say we did," replied Timmans, "and I guess the company wished we hadn't; it cost them more money than the job was worth. Why, if I should start telling how we saved that steamer I don't know when I'd get through. It took us eight solid months. Yes, sir, and that meant sixty men to feed and pay wages to – forty in the wrecking-crew and twenty on the tug. Oh, but we did have trouble – trouble all the time, but we had fun, too, especially when some o' these gay Bowery lads we'd picked up got loose on the mainland. Talk about scraps!"

Timmans paused as if for invitations to spin the whole yarn, and these he immediately received.

"Tell about painting the alligator," urged Hansen.

"Oh, that was a bit of foolishness me an' another fellow done. He was a Dutchman, and got me to help him catch an alligator one day. He said he could bring him up North and get a big price for him. Well, we noosed one after a whole lot of chasing in a lagoon, and kept him four or five weeks, but he wouldn't eat, and the boys all gave us the laugh. So the Dutchman got up a scheme to paint him white and put him back in the lagoon. His idea was that this white alligator would scare out all the other alligators, and then we'd capture mebbe twenty or thirty on the banks, and make our fortune."

He paused a moment with a twinkling eye, and Hansen snickered.

"Well, we done it. We painted that alligator white, and put him back in the lagoon, and you can shoot me if those other alligators didn't eat him. Yes, sir; they chewed him clean up before we'd hardly got the ropes off him."

"What did the Dutchman say?" asked Hansen, shaking with mirth.

"He stuck to it his idea was all right, but it was the blamed alligator's fault for being too weak with fasting to fight the ones as weren't painted, and he wanted somebody to help him catch another, but nobody would."

Then Timmans came back to the saving of the wreck, and it really was an amazing story of patience and ingenuity against endless obstacles. I doubt if men from anywhere but America would have carried such a hopeless undertaking through to success. First they rigged up a wire railway from wreck to shore, and slid off a valuable cargo of alpaca, silks, and beer bit by bit along the wire to land (where they conscientiously drank the beer). Then they hitched a hawser to the steamer, and by clever engineering managed to drag her off the bar against the river current; but presently this current, sweeping down from the mountains, grew too swift for the wrecking-tug, and she in turn was dragged down stream against all the strength of her engines, and saw herself threatened with destruction on the bar. Then the captain of the tug, in his peril, ordered the hawser cut, and thirty-nine men of the wrecking-crew were left to their fate on the abandoned wreck. Their adventures alone would make a thrilling chapter, but they were rescued finally from the half-sinking steamer, after she had somehow crossed the bar and wrecked herself anew in the breakers some miles down the coast.

Then weeks passed while the wrecking-crew worked at patching the steamer's holes so that she would float, and every day Timmans went down in his suit and did blacksmith work and carpenter work on her torn plates and beams, in constant danger of being crushed in the deep sand trough she rocked and slid in. Sometimes the whole iron hull, beaten against by the ocean, would go grinding along, breaking down a wall of sand ten feet high, almost as fast as Timmans could walk. And to

be caught between her side and that wall would have ended his days forthwith. Diving-suit and man would have been crushed like an egg-shell.

Finally, when she was ready they made fast a sixteen-inch hawser, and put on full steam to pull her off into deep water. Off she came, and all was going well with the towing when a fierce tropical storm came upon them, and the steamer turned broadside to its fury, and the great hawser snapped like a kite-string, and back she went on a coral-reef.

Once more they began at the beginning, and in time had another hawser ready, and tried again. This time the hawser parted by grinding on the beach as they dragged her.

Then, after long delay, they got a sixteen-inch hawser, wound with wire, that would resist the friction of rocks and sand, and all would have happened as they hoped had not a sawfish, sent by the evil power that thwarted them, thrust its jagged weapon through the hawser strands, piercing the wire and severing the big tow-line. The wrecking company still shows the saw of that mischievous fish among its curiosities.

So Timmans's narrative ran on endlessly, with details of how they stopped some fresh leaks with sixty-five barrels of cement, and how they quelled a mutiny and how they finally got the steamer off, and rigged up a patent rudder that steered her over twenty-five hundred miles, until they landed her home, two hundred and fifty-odd days after the expedition started. All going to show the kind of stuff American wreckers are made of.

# V
# IN WHICH THE AUTHOR PUTS ON A DIVING-SUIT AND GOES DOWN TO A WRECK

ONE day I asked Atkinson, as master diver of the wrecking company, if he would let me go down in his diving-suit; and he said yes very promptly, with an odd little smile, and immediately began telling of people who, on various occasions, had teased to go down, and then had backed out at the critical moment, sometimes at the very last, just as the face-glass was being screwed on. It was a bit disconcerting to me, for Atkinson seemed to imply that I, of course, would be different from such people, and go down like a veteran, whereas I was as yet only *thinking* of going down!

"There's a wreck on the Hackensack," said he; "it's a coal-barge sunk in twenty feet of water. We'll be pumping her out to-morrow. Come down about noon, and I'll put the suit on you."

Then he told me how to find the place, and spoke as if the thing were settled.

I thought it over that evening, and decided not to go down. It was not worth while to take such a risk; it was a foolish idea. Then I changed my mind: I would go down. I must not miss such a chance; it would give me a better understanding of this strange business; and there was no particular danger in it, only a little discomfort. Then I wavered again, and thought of accidents to divers, and tragedies of diving. What if something went wrong! What if the hose burst or the air-valve stuck! Or suppose I should injure my hearing, in spite of Atkinson's assurance? I looked up a book on diving, and found that certain persons are warned not to try it – full-blooded men, very pale men, men who suffer much from headache, men subject to rheumatism, men with poor hearts or lungs, and others. The list seemed to include everybody, and certainly included me on at least two counts. Nevertheless I kept to my purpose; I would go down.

It was rising tide the next afternoon, an hour before slack water (slack water is the diver's harvest-time), when the crew of the steam-pump *Dunderberg* gathered on deck to witness my descent and assist in dressing me; for no diver can dress himself. The putting on a diving-suit is like squeezing into an enormous pair of rubber boots reaching up to the chin, and provided with sleeves that clutch the wrists tightly with clinging bands, to keep out the water. Thus incased, you feel as helpless and oppressed as a tightly stuffed sawdust doll, and you stand anxiously while the men put the gasket (a rubber joint) over your shoulders and make it fast with thumb-screws, under a heavy copper collar. Next you step into a pair of thirty-pound iron shoes that are strapped over your rubber feet. And now they lead you to an iron ladder that reaches down from rail to water. You lift your feet somehow over the side, right foot, left foot, and feel around for the ladder-rungs. Then you bend forward on the deck, face down, as a man would lay his neck on the block. This is to let the helpers make fast around your waist the belt that is to sink you presently with its hundred pounds of lead. Under this belt you feel the life-line noose hugging below your arms, a stout rope trailing along the deck, that will follow you to the bottom, and haul you back again safely, let us hope. Beside it trails the precious black hose that brings you air.

Now Atkinson himself lifts the copper helmet with its three goggle-eyes, and prepares to screw it on. The men watch your face sharply; they have seen novices weaken here.

"Want to leave any address?" says Captain Taylor, cheerfully.

I admit, in my own case, that at this moment I felt a very real emotion. I watched two lads at the air-pump wheels as if they were executioners, though both had kind faces, and one was sucking placidly at a clay pipe. I thought how good it was to stay in the sunshine, and not go down under a muddy river in a diving-suit.

"Wait a minute," I cried out, and went over the signals again – three slow jerks on the life-line to come up, and so on.

Now the helmet settles down over my head and jars against the collar. I see a man's hands through the round glasses crisscrossed over with protecting wires; he is screwing the helmet down tight. Now he holds the face-glass before my last little open window. "Go ahead wid de pump," calls a queer voice, and forthwith a sweetish, warmish breath enters the helmet, and I hear the wheeze and groan of the cylinders.

"If you get too much air, pull once on the hose," somebody calls; "if you don't get enough, pull twice." I wonder how I am to know whether I am getting too much or not enough, but there is no time to find out. I have just a moment for one deep breath from the outside, when there is no more "outside" for me; the face-glass has shut it off, and now grimy fingers are turning this glass in its threads, turning it hard, and hands are fussing with hose and life-line, making them fast to lugs on the helmet-face, one on each side, so that the hose drops away under my left arm, and the life-line under my right. Then I feel a sharp tap on my big copper crown, which means I must start down. That is the signal.

I pause a moment to see if I can breathe, and find I can. One step downward, and I feel a tug at my trousers as the air-feed plumps them out. Step by step I enter the water; foot by foot the river rises to my waist, to my shoulders – to my head. With a roar in my ears, and a flash of silver bubbles, I sink beneath the surface; I reach the ladder's end, loose my hold on it, and sink, sink through an amber-colored region, slowly, easily, and land safely (thanks to Atkinson's careful handling) on the barge's deck just outside her combings, and can reach one heavy foot over the depth of her hold, where tons of coal await rescue. A jerk comes on the life-line, and I answer that all is well; indeed, I am pleasantly disappointed, thus far, in my sensations. It is true there is a pressure in my ears, but nothing of consequence (no doubt deeper it would have been different), and I feel rather a sense of exhilaration from my air-supply than any inconvenience. At every breath the whole suit heaves and settles with the lift and fall of my lungs. I carry my armor easily. It seems as if I have no weight at all, yet the scales would give me close to four hundred pounds.

The fact is, though I did not know it, my friends up in the daylight were pumping me down too much air (this in their eager desire to give enough), and I was in danger of becoming more buoyant than is good for a diver; in fact, if the clay-pipe gentleman had turned his wheel just a shade faster I should have traveled up in a rush – four hundred pounds and all. I learned afterward that Atkinson had an experience like this, one day, when a green tender mixed the signals and kept sending down more air every time he got a jerk for less. Atkinson was under a vessel's keel, patching a hole, and he hung on there as long as he could, saying things to himself, while the suit swelled and swelled. Then he let go, and came to the surface so fast that he shot three feet out of the water, and startled the poor tender into dropping his line and taking to his heels.

Needless to say, that sort of thing is quite the reverse of amusing to a diver, who must be raised and lowered slowly (say at the speed of a lazy freight elevator) to escape bad head-pains from changing air-pressure.

I sat down on the deck and took note of things. The golden color of the water was due to the sunshine through it and the mud in it – a fine effect from a mean cause. For two or three feet I could see distinctly enough. I noticed how red my hands were from the squeeze of rubber wrist-bands. I felt the diving-suit over, and found the legs pressed hard against my body with the weight of water. I searched for the hammer and nail they had tied to me, and proceeded to drive the latter into the deck. I knew that divers use tools under water – the hammer, the saw, the crowbar, etc. – almost entirely by sense of feeling, and I wanted to see if I could do so. The thing proved easier than I had expected. I hit the nail on the head nearly every time. Nor did the water resistance matter much; my nail went home, and I was duly pleased. I breathed quicker, after this slight exertion, and recalled Atkinson's words about the great fatigue of work under water.

I stood up again and shuffled to the edge of the wreck. Strange to think that if I stepped off I should fall to the bottom (unless the life-line held me) just as surely as a man might fall to the ground

from a housetop. I would not rise as a swimmer does. And then I felt the diver's utter helplessness: he cannot lift himself; he cannot speak; he cannot save himself, except as those lines save him. Let them part, let one of them choke, and he dies instantly.

And now the steady braying of the air-pump beat sounded like cries of distress, and the noise in my ears grew like the roar of a train. All divers below hear this roaring, and it keeps them from any talking one with another: when two are down together, they communicate by taps and jerks, as they do with the tenders above. I bent my head back, and could see a stream of bubbles, large ones, rising, rising from the escape-valve like a ladder of glistening pearls. And clinging to my little windows were myriad tiny bubbles that rose slowly. The old Hackensack was boiling all about me, and I saw how there may well be reason in the belief of some that this ceaseless ebullition from the helmet (often accompanied by a phosphorescent light in the bubbles) is the diver's safeguard against creatures of the deep.

Well, I had had my experience, and all had gone well – a delightful experience, a thing distinctly worth the doing. It was time to feel for the life-line and give the three slow pulls. Where was the ladder now? I was a little uncertain, and understood how easily a diver (even old-timers have this trouble) may lose his bearings. There! one, two, three. And the answer comes straightway down the line – one, two, three. That means I must stand ready; they are about to lift me. Now the rope tightens under my arms, and easily, slowly, I rise, rise, and the golden water pales to silver, the bubbles boil faster, and I come to the surface by the ladder's side and grope again for its rungs. How heavy I have suddenly become without the river to buoy me! This climbing the ladder is the hardest task of all; it is like carrying two men on one's back. Again I bend over the deck, and see hands moving at my windows. A twist, a tug, and off comes the face-glass, with a suck of air. The test is over.

"You done well," is the greeting I receive; and the divers welcome me almost as one of their craft. Henceforth I have friends among these quiet men whose business it is to look danger in the eye (and look they do without flinching) as they fare over river and sea, and under river and sea, in search of wrecks.

# THE BALLOONIST

## I
## HERE WE VISIT A BALLOON FARM AND TALK, WITH THE MAN WHO RUNS IT

I NEVER knew a man who has been so many things (and been them all fairly well) as has Carl Myers of Frankfort, New York. They call him "Professor" Myers ever since he took to ballooning, years ago; but they might call him Dr. Myers, for he has studied medicine, or Wrestler Myers, for he is skilled in all tricks of assault and defense, Japanese and others, or Banker Myers, for he spent years in financial dealings, or Printer Myers, for he still sets up his own type, or Telegrapher Myers, or Lecturer Myers, or Carpenter Myers, or Photographer Myers.

All these callings (and some others) Myers has pursued with eagerness and success, only making a change when driven to it by his thirst for varied knowledge and his guiding principle, "I refuse to let this world bore me." To-day the professor is sixty years old (a thin, wiry, sharp-eyed little man), yet I suspect some boys of sixteen who read these pages feel older than he does. You ought to hear him laugh! or tell about the air-ship that has carried him over thirteen States! or describe his "balloon farm" at Frankfort! I don't know when I have enjoyed myself more than during three days Professor Myers spent with me some time ago.

Suppose we begin with the balloon farm, which is certainly a queer place. It is a joke in the neighborhood that the professor plants his balloon crop in the spring, gathers it in the fall, and stores it away through the winter. Certain it is that in summer-time the visitor (and visitors come in swarms) sees fields marked off in rows with stakes and cross-poles, on which balloon-cloth by hundreds of yards seems to be growing (really, it is drying); and other fields, that look like an Eskimo village, with houses of crinkly yellowish stuff (really, half-inflated balloons); and groups of men boiling varnish in great kettles which are always getting on fire and may explode; and other men working nimbly at the knitting of nets; and others experimenting with parachutes; and the professor paddling away at the height of three thousand feet for his afternoon "skycycle" sail; and Mme. Carlotta, the celebrated aëronaut (also the professor's wife), making an ascension now and then from the front lawn in a chosen one of her twenty-odd balloons.

And in winter, should you explore the upper rooms of the house, you would find all the balloons tucked away snugly in cocoons, as it were, fast asleep, ranged along the attic floor, each under its net, each ticketed with a record of its work, marked for good or bad conduct after it has been tested by master or mistress.

For weeks at a time in the experiment season a captive balloon hovers above the Frankfort farm, say twelve hundred feet up, and the tricks they play with that balloon would draw all the boys in the country, if their parents would let them go. Three guy-ropes hold the balloon steady like legs of an enormous tripod, and straight down from the netting a fourth rope hangs free. Now, imagine swinging on a rope twelve hundred feet long! They do that often for tests of flying-machines or aëroplanes – swing off the housetop, and sail away in a long, slow curve, just clearing the ground, and land on top of a windmill at the far side of the grounds. That's a swing worth talking about! And fancy a man hitched fast to this rope by shoulder-straps, and as he swings flapping a pair of great wings made of feathers and silk, and trying to steer with a ridiculous spreading tail of the same materials. The professor had a visit from such a man, who had spent years and a fortune in contriving this flying device, which, alas! would never fly.

Professor Myers, like most aëronauts, insists that traveling by balloon, for one who understands it, is no more perilous, but rather less so, than ordinary travel by rail or trolley or motor carriage. He points out that for thirty-odd years he and his wife have led a most active aëronaut existence, have done all things that are done in balloons, besides some new ones, and got no harm from it – some substantial good rather, notably an aërial torpedo (operated by electricity from the ground), which flies swiftly in any desired direction, its silken fans and aluminum propeller under perfect control from a switchboard; also the "skycycle" balloon, which lifts the aëronaut in a suspended saddle and allows him, by the help of sail propeller and flapping aëroplanes (these driven by hands and feet), to make a gain on the wind, when going with it, of ten or twelve miles an hour. On this "skycycle" Professor Myers has paddled hundreds of miles, not trying to go against the wind, but selecting currents from the many available ones that favor his purpose. "What is the use," says he, "of fighting the wind when you can make the wind fight for you? People who take trains or boats wait for a certain hour or a certain tide, in the same way we wait for a certain wind current, and there is never long to wait, for the wind blows in totally different directions at different altitudes."

"Can you know with precision," I asked, "about these varying currents?"

"We can know a good deal by studying the clouds and by observations with kites and other instruments. And we would soon know much more if experimenters would work on these lines of conquering nature by yielding to her rather than opposing her."

In my talks with Professor Myers, of which there were many, we went first into the spectacular side of ballooning, the more obviously interesting part, stories of hair-breadth escapes and thrilling adventure, of the fair lady who assumed marriage vows sailing aloft over Herkimer County, of Carlotta's recent trip, ninety miles in sixty minutes with natural gas in the bag, of the English aëronaut who leaped from his car to death in the sea that a comrade might be saved through the lessened weight, of two lovesick Frenchmen who duelled with pistols from rival balloons, while all Paris gaped in wonder from the earth and shuddered when one silken bag, pierced by a well-aimed shot, dashed down to death with principal and second. And many more of that kind which, I must say, leave one far from convinced on the non-danger point.

Then the professor dwelt upon various odd things about balloons – this, for instance, that the rapid rise of an air-ship makes an aëronaut suffer the same pain and pressure on his ear-drums that a diver knows, only now the air presses from inside the head outward. And relief from this pain is found, as the diver finds it, by repeatedly opening the mouth and swallowing.

And he spoke of the strangest illusions of sight. The balloon is always standing still to the person in it, while the earth rushes madly along, forty, sixty, ninety miles an hour. As you shoot up the first half mile the ground beneath you seems to drop away into a deepening bowl, while the horizon sweeps up like a loosened spring. Then presently this illusion passes, and you see everything flat. There are no hills any more, nor villages; no towers nor steep descents, only a level surface, marked charmingly in color, sometimes in wonderful mosaics, and strangely in light and shade. At the height of two miles nothing is familiar; you might as well be looking at the moon, for all you can recognize. Roads become yellowish lines; rivers brownish lines (and the water vanishes); a mountain-range becomes a shaded strip, with less shade on one edge (where the sun is) than on the other; a forest becomes a patch of color; a town another patch. There is scarcely any difference between water and land, and you see to the bottom of a lake, so that the configuration of its bed in valley and hill are apparent through the color and the shading. This singular disappearance of water bodies, for it amounts to almost that, has an evident importance.

"I'll tell you what we did on Lake Ontario," said the professor, "as a result of observations I made there from a balloon. In sailing over the lake on one occasion I remarked a number of small shaded spots which puzzled me. I could not imagine what they were. Finally, with the help of powerful field-glasses, I made them out to be wrecks sunk at various depths, and I realized that Lake Ontario, and indeed all the great lakes, abound in vessels which have gone down during centuries and never

been recovered. No one can estimate the treasure which lies there waiting for some one to reclaim it. And I saw that it is a perfectly simple matter to locate these wrecks from a balloon, and to prove this I organized a modest wrecking expedition, and indicated to the diver where he was to go down. Down he went at that point, and found the wreck I had seen, and we pumped good coal out of her by hundreds of tons. What I did then on a small scale might be done on a large scale by any one willing to undertake it."

Of course I asked the professor why it is that an aëronaut can see down into a lake better than, say, an observer in a boat, and he explained that there is a great gain in intensity of terrestrial illumination when the viewpoint is at a height, because the sun's rays converge toward the earth, the sun being so many times larger, and therefore (this is his theory) a man lifted above the earth gets many more solar rays reflected to him from a given area than he would get if nearer to that area. In a word, it is a matter of optics and angles, but, the professor declares, most assuredly a fact.

**(Photographed from a balloon.)**

Never before these talks did I realize how busy an aëronaut is, how much there is to do in a balloon. Besides attending to valve-cords and ballast there is the barometer to keep your eyes on, for by it alone can you know your altitude. Around moves the needle slowly as you rise, slowly as you fall, one point for a thousand feet. Rising or falling, you know the worst or the best there. Sometimes the needle sticks, the barometer will not work, and you must cast overside pieces of tissue-paper to see by their rise or fall if you are going up or down. By your senses alone you cannot tell whether you are rising or falling, or your distance from the earth. That is most deceiving. Then you must have your watch ready to reckon your speed, so many thousand feet up or down in so many seconds, and your map spread out (nailed to a board, and that lashed fast), to tell where you are, and your compass out to fix the north and south points, for a balloon twists slowly all the time, twists one way going up and the other way coming down. Nobody knows just why this is, unless it be the unequal drawing of the seams as the fabric swells and shrinks.

"I always keep the mouth of my balloon within easy reach," said the professor, "and play with it as an engineer does with his throttle-valve. Sometimes I even tie it shut when I am sailing, but that is dangerous."

"Why dangerous?"

"Because the balloon might ascend suddenly, and the expanding gas burst it."

"Can you see up into the balloon," I asked, "through the mouth?"

"Of course you can, and a beautiful sight it is. You look up through a round window, twenty inches or so in diameter, into the great bag, swelled out fifty or sixty feet in diameter, and perfectly tight, so that every line and veining of the net shows plainly through the silk in exquisite tracery, and wherever the sun strikes it you see a spread of gold and amber melting away in changing colors to the shaded parts. The balloon seems to be perfectly empty, perfectly still, yet it swings you upward and upward like a live thing. You get to feel that your balloon is alive."

"Does it make any noise?"

"Usually not. Now and then there is a creaking of the basket or a rustle of fabric, as you pass from one wind current to another, but as you drift along there is perfect stillness. I know nothing like the peace of a balloon sweeping in a storm. You feel like a disembodied spirit. You have no weight, no bonds; you fly faster than the swiftest express train. More than once Carlotta has raced a train going fifty miles an hour and beaten it."

"Is there danger to a balloon in a thunderstorm?"

"Apparently not, but it is terrifying to be in one. You seem to be at the very point where the lightning starts and the thunder-crash is born. All about you are roarings and blinding flashes, and it rains up on you and down on you, and in on you from all sides. While I never heard of a free balloon being struck by lightning, it is a common thing for operators on the ground even in fair weather to get shocks of atmospheric electricity down the anchor ropes of captive balloons."

Our talk drifted on, and the professor told of exciting times reporting the great yacht races from captive balloons (with reporters turning seasick in the plunging basket), and remarkable phenomena observed from balloons and double colored shadows of balloons (called parhelions) cast on clouds, and wonderful light effects, as when a marveling aëronaut looks down upon a sea of silver clouds bathed in sunshine and through black clefts sees a snowstorm raging underneath.

I was surprised to learn that at very great altitudes, say above three miles, the voice almost fails to serve, or, rather, the rarefied air loses in great part its power of voice transmission, so that in the vast silent spaces of the sky one aëronaut must literally shout to another in the same basket to make himself heard. One would say that the great, calm heavens resent the chattering intrusion of noisy little men.

# II
# WHICH TREATS OF EXPERIMENTS IN STEERING BALLOONS

IN all their experiments at the farm, Professor Myers and Mme. Carlotta have worked on individual lines, he striving of late years to perfect his skycycle (which is simply a balloon of torpedo shape with a rigging of propellers and fans underneath), while she has been content to gain skill in steering a balloon of ordinary shape by merely moving her body and utilizing varying air-currents, for the wind blows in different directions as you ascend.

It is remarkable how the position of an aëronaut's body may alter a balloon's movements. It is possible, for instance, to make a balloon ascend or descend, without touching valve or ballast, by a simple change of position. Stand with your legs apart, straddling from edge to edge of the basket, and by throwing your weight first on one foot and then on the other you will give a polliwog movement to the big bag above you, and it will go wriggling upward head-first some hundreds of feet. Or if you would make it descend (all this the professor explained to me), stand with your feet together in the middle of the basket, and, catching the balloon-neck at both sides, stretch your arms wide apart so that the fabric forms a chisel-edge, then sway your hips forward as far as you can, then back as far as you can, and keep doing this. Now the wriggling process is reversed; and this time the basket goes first, "tail wagging the dog," and the balloon descends.

This ability to rise or fall at will allows Mme. Carlotta to pass easily from one train of clouds to another, and, by long study of these cross-moving aërial trains, she is able to pick out the one she wants for a certain destination with almost the precision of a foot-passenger selecting his particular street-car or changing from one to another. And in descending she has learned to steer forward or back, to left or right, by tipping the basket foot-board in the direction she wishes to take. The balloon follows the lowest edge of the foot-board as a ship follows her rudder.

An almost incredible instance of the skill attained by Carlotta in these experiments was furnished some dozen years ago at Ottawa, where she made an ascension never forgotten by the people of that city. It was a grand occasion in honor of Queen Victoria's gift of the Crystal Palace to her loyal subjects, and Canada had rarely seen such a gathering. Twenty-five thousand people, as was estimated, were packed inside the Exposition grounds to see the aëronaut rise to the clouds. And there at the appointed time stood Carlotta on a raised platform, with the multitude about her, waiting for the balloon. She wore a short skirt over a gymnasium suit, and made an attractive picture with her fine figure and golden-bronze hair. So thought various city dignitaries, who chatted with her admiringly while the crowd surged about them.

Meantime Professor Myers was anxiously watching the manœuvers of some Indians hired by a committee to tow the balloon from gas-works two miles distant, where it had been filled. This was rather against the professor's judgment, for the Rideau River, flowing by the grounds, offered an obstacle that could be overcome only with the help of canoes and tow-lines; and to paddle a big balloon across a river, a fresh-filled, hard-tugging balloon, is not a thing to be undertaken lightly. And in spite of all their skill these Indians found themselves presently lifted into the air, canoes and all (oh, they were badly frightened Indians!), not quite clear of the water, but high enough to make it doubtful if they would ever reach shore, and highly interesting to the crowd which pressed down to the river, even into the river, in well-meant efforts to help, and dragged the balloon up the bank and along toward the platform with such eagerness that they tore great rents in it that let out the gas in volumes.

In an instant, as happens in crowds, the balloon became the center of a struggling mass of people, who slowly pressed in from all sides to see what the matter was. Now, when twenty-five thousand people are all pressing slowly toward one point, it is apt to fare ill with those at that point; and

had not Carlotta acted on a flash of inspiration there would surely have been disaster in that merciless crush. She looked over the shouting, swaying multitude, and in a second saw the danger – saw women held helpless and fainting in that jam of bodies; saw one way, and only one, to save the situation, and took that way. Stepping off the platform, she ran lightly and swiftly over heads and shoulders, packed solid, and came to the balloon. Such was the people's fright that they scarcely felt her pass.

"You can't go up," cried her husband; "the balloon is a wreck."

"I must go up," she answered; "if I don't these people will be crushed to death."

"There's a hole in her big enough to drive a team through," he protested; but already she was in the basket, and a great cheer arose.

# Конец ознакомительного фрагмента.