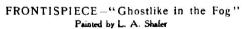
VOL. XXVI

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"DEAD AHEAD, GHOSTLIKE IN THE FOG, WAS A FOUR-MASTED SCHOONER."

-See "The Thousand Mile Voyage of the Airship 'America,'" page q.

HAMPTON'S MAGAZINE



THE RESCUE IN THE LIFEBOAT.

The Thousand Mile Voyage of the Airship "America"

TRUE CHRONICLE, WRITTEN FROM THE LOG, OF THE THRILLING SEVENTY-TWO HOUR FLIGHT OF THE FIRST MOTOR-DRIVEN BALLOON THAT EVER SAILED THE HIGH SEA

By Walter Wellman

Of the Airship "America" Expedition

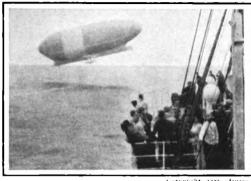
Illustrations from Photographs: Drawings by G. A. Coffin, L. A. Shafer and George Varian

A T eight o'clock Saturday morning, the 15th of October, the airship America set out from Atlantic City over the fogshrouded ocean, headed for Europe. That she did not cross the Atlantic, but did make a memorable voyage of three days and nights, beating all records for airship navigation for distance and time, all the world now knows. When we fared forth that foggy morning, we of the crew had not the slightest idea what was to happen to us or where we were likely to stop. We knew we were going to try to reach Europe; we knew we had some sort of a chance—how good or poor we could not calculate—to do so.

Glad of spirit but somewhat weary of body were we half dozen men when we

took our last dim glimpse of the gray, miststrewn Jersey shore. Glad, because we were at last on the way. Weary, because for days and weeks we had all been under nervous and physical strain in the prolonged and arduous work of preparation such as men must once endure to understand. After a brief, fitful sleep, we had been roused that morning long before the dawn.

We had summoned our forces and had obtained from the Weather Bureau news that no change of the favorable conditions could be foreseen at that time. There was no wind, a dense fog, a good outlook. With the assistance of more than one hundred men, the *America* was taken from her hangar. One by one the members of the





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THE AMERICA IN IMMINENT DANGER OF CAPSIZING.

DARING DEED BRINGS HER TO AN EVEN KEEL. (SEE PAGE 15.)

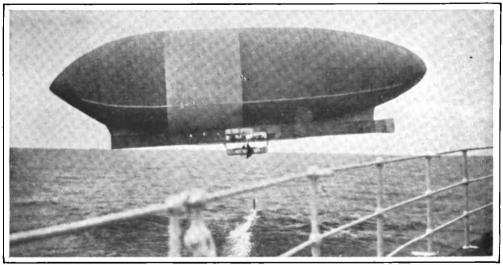
crew bade good-by to their families and friends. No tears were shed by anyone, although we all realized the seriousness of the moment.

The lifeboat and equilibrator were attached; the cat was taken aboard amidst cheers, and with all the members of the crew in their places, the signal to "let go all" was given to the men below, and the airship was towed over the bar to the open sea by a motor launch. In a moment we lost sight of the balloon shed and the people on shore; but we could hear them cheering somewhere back there in the gloom.

Moving slowly out through the mists towed by the launch, my first thought was of the equilibrator down below. It swam easily on the surface of the water. But it was with a keen feeling of disappointment that I saw only one tenth instead of one half of the equilibrator lifted from the sea.

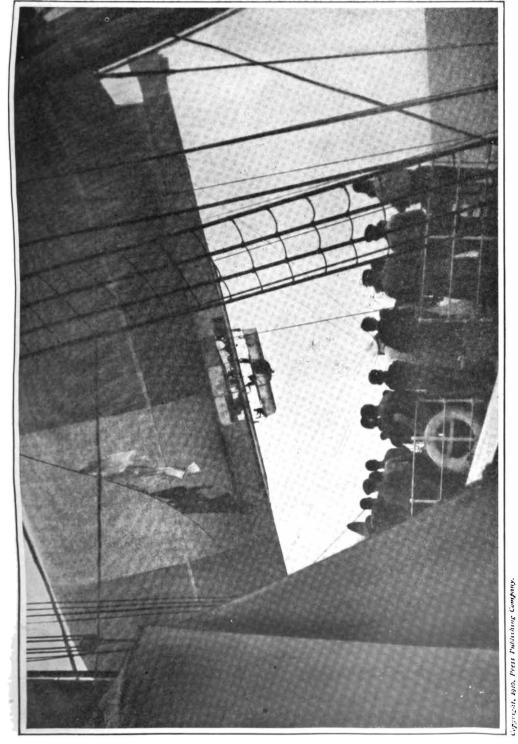
At this moment I confess I had my first forebodings of trouble; weights had overrun; the lifeboat was double the stipulated weight; apparently almost everything else had exceeded calculations; thus the ship was overloaded, lacked the planned reserve buoyancy because of our wish to carry with us enough fuel to insure a radius of action equal to the tremendous distance which lay ahead.

But there was not even a thought of turning back, nor—if the motors started up right—of converting the start into a trial trip. This weakness of the overload was

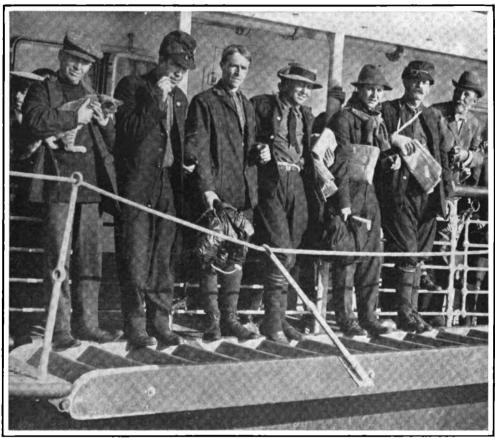


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THE AIRSHIP AMERICA DRIFTING BROADSIDE FROM THE TRENT.



AN ANXIOUS MOMENT. THE SHIP OF THE AIR COMES SO CLOSE TO THE SHIP OF THE SEA THAT THERE IS GREAT DANGER OF COLLISION OR OF IGNITION OF THE GAS-FILLED BALLOON BY SPARKŞ FROM THE STEAMER'S SMOKESTACKS.



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CREW OF THE AMERICA ON THE TRENT AFTER THE RESCUE. FROM LEFT TO RIGHT: VANIMAN, WITH "KIDDO," THE CAT: LOUD, SIMON, IRWIN, AUBERT, WELLMAN.

nothing new; we had struggled against it in vain through the weary weeks; it was fundamental and could not be remedied.

A trial trip, and return for alteration, could avail nothing; and with the season so far advanced a return would probably mean no start at all during 1910. That, of course, could not be endured. If good reason for returning there had been, we should have come back; but there was none, and on we went.

Just a flash of all this, accompanied by a momentary exultation that we had never turned to the right or the left on account of the mutterings of malice and ignorance, and also a feeling—"Now that's all over—forgive and forget," passed through my mind as we drifted out into the silence of the mist, as vague and uncertain as the fate that lay before us.

Iust then attention was directed to that

member of our crew destined to be the real hero of the voyage—because real heroes are never self-conscious-are always unconscious of suspicion and slander, of danger, of overgenerous praise—and therefore are never two-legged. The young gray cat, taken on board half in jest as a mascot, was howling pitifully amidst these strange surroundings. Chief Engineer Vaniman, afraid of having his short sleeps disturbed, insisted that "Kiddo" be left behind. Navigator Simon, sailorlike, vowed it was bad luck to let a cat leave a ship, and insisted kitty should stay. Without any fear of midnight howls on the one hand, and without any superstitions on the other, I told Mr. Vaniman to do as he liked about it. He put puss in a bag, and tried to lower him down to the motor launch; but the launch had cast loose and Kiddo was pulled up again, a narrow escape from losing all his fame.

So off we went to the eastward, the seven of us, including the cat. In a quarter of an hour the eight-cylinder motor was started; the propellers cut the air; the America vibrated, responded, moved over the water with her own power. She was a real cruiser of the air. Down below through the fog we could see the equilibrator swimming along, for all the world like a great sea serpent. There was a gentle breeze from the northwest. The ship was making fair headway. We felt the exaltation of this moment, and said little, but smiled at one another.

All were happy save Kiddo, the cat, and he was still sullen with the strangeness of his garret. A strange garret indeed, perched upon a frame of steel, suspended underneath a mass of silk and cotton and rubber, lifted by a ton of hydrogen, a whirring engine disturbing the silence and moving through grav space - pioneers in navigation of the atmospheric ocean which cov-

ers the world's high sea. But we who were conscious of the fact that no man before us had attempted what we were doing—conscious that no matter what and whom we had left behind, or what we were going to, we were the first of human-kind to sail these two oceans in one with a great engineered and cunning machine, designed to conquer them both—we should have been less than human if we had not felt a strange joy, an uncanny fascination.

After we had been out two and a half hours, the motor was stopped to try the wireless. Jack Irwin was scrouched down in his corner by his instruments in the lifeboat, the wireless receivers at his cars, over them thick woolen pads to drown out the whirl of the motors and propellers. Now there is a broad, bright grin underneath the pads. We all lean forward expectantly. He waves off interruptions, then seizes paper

and pencil and jots down this message from Atlantic City:

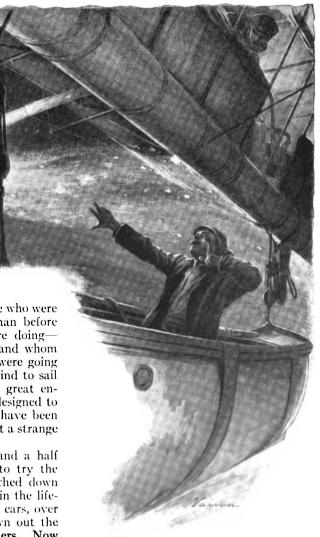
"Wellman, Airship America-

We are getting your signals. What news?"
I dictate to Irwin the reply:

"Headed northeast. All well on board. Machinery working well. Good-by."

And these were the first wireless messages exchanged between a station on shore and an airship navigating the sea. One world's record had been established.

There was Vaniman, unemotional, unimaginative, a great mechanic, and seeming



"VANIMANI" I CRIED. "YOU MUST STOP THAT MOTOR AT ONCE. IT'S ONLY A QUESTION OF TIME WHEN WE BLOW UP!"

to live in his machines, a part of them and as matter of fact as they. Yet Vaniman confessed afterwards that when he realized we were well out to sea and were communicating to the shore back and forth with Marconi's wizard will-o'-the-wisp whisperings, through the misty miles, tears stood in his eyes. That was indeed a triumph of mind over matter.

But frankly, at that moment we had no great degree of confidence in the successful outcome of our venture, only a hope large enough to cling to and work for. And inasmuch as frankness is good for the soul, let me add that for a fortnight or more, realizing how weights were overrunning, how the symmetry and balance of the original plan was being overthrown by the exigencies of construction and equipment and the impracticability of getting contracts filled to the letter-such as the lifeboat weighing double the stipulation—realizing, too, that the agreed-upon quantity of fuel could not be carried and that the equilibrator was far too much in the sea and too much of a drag upon the ship, my hope had sensibly diminished.

MOTOR TROUBLES START

And motor troubles came soon enough, heaven knows. Despite our experience with these engines, all our care and expense in fitting them up and trying them out, with the best experts we could bring over from Paris, and more than two months in which to get them in perfect order, the eight-cylinder motor never gave more than one half its normal power. It worked weakly by fits and starts. The four-cylinder Lorraine-Dietrich did a little better, but during the first ten hours was not up to its mark.

This first day out, with a quiet sea and a gentle wind from the right direction, when we should have been making excellent progress on our course, we had a motor running about four hours altogether, and that at an output of power far less than estimated. And in the afternoon the eight-cylinder broke down entirely, Vaniman remarking that "It was no good and could be thrown overboard as ballast."

By nightfall, nearly ten hours out, we were sighted and reported by the steamer *Coamo*, about eighty miles from Atlantic City, when we should have been nearly three times that distance.

It was particularly maddening, as night

came on and the gas in the balloon contracted, and the ship dropped more and more of the equilibrator into the water and came nearer to the surface of the sea, to find it necessary to throw overboard, for lightening ship, the gasoline which should have been burned during the day in the engines.

These were among the unpleasant discoveries of this first day and evening of the voyage; but still there was no thought of turning back—we would fight it out. The plan had been to start with at least four tons of fuel, the equilibrator half above the water, to burn half a ton of gasoline per day, thus gaining 500 or 600 pounds of buoyancy over the loss due to gas-leakage, gradually lifting the equilibrator until, under normal conditions, only a small bit of the tail would remain in contact with the waves.

It is easy to design, difficult to execute; and we were so unfortunate in our execution that we were compelled to start with less than 6,000 pounds of gasoline; almost all of the equilibrator upon the sea; on account of the poor working of the motors we were this first night out throwing over gasoline, and the serpent underneath us, instead of being gradually lifted, was getting relatively heavier, retarding our speed and interfering with the steering.

Still, we kept on. With a lucky run of wind, one good engine, and a reduced fuel supply it was still possible to cross the ocean. As yet the America as a power ship had not given a good account of herself. She had been drifting and dawdling with only 25 per cent. of her normal engine power in use. But this Saturday night we came upon conditions which challenged Vaniman and his "L. D." motor to battle. They made a struggle which must live long in the annals of aërial navigation.

AËRIAL FIREWORKS THREATEN DISASTER

A fresh breeze sprang up from the south-southwest. It was blowing us toward the New England coast. Aware of our danger, Simon and I called for more energetic motor service, and Vaniman responded nobly. At seven o'clock Saturday night, he set the "L. D." running at about three-quarters normal speed and kept it going hour after hour. Simon threw the helm as far as it would go, tied it there, and thus the battle continued throughout the night, the ship fighting for easting to keep off the land.

And such a night as it was! Soon the exhaust pipe was heated red hot and began to belch sparks—not an occasional flash of fire, but thick showers flying aft along the varnished cotton inclosure of the steel car. up against the under part of the balloon itself, against the canvas rudder, and the ship's colors floating above the helm. were these mere evanescent flashes of filmy flame, but great constellations of living coals, many of them glowing for a few seconds after they had fallen into the sea. It seemed to me only a question of time when one of these fiery masses would set fire to the canvas and bring our little world to an end.

For some minutes, half scared, half fascinated, I watched these aërial fireworks, trying to figure out the percentage of chances in one hundred we had to escape being blown to kingdom come by that combination of 345,000 cubic feet of hydrogen, tons of volatile gasoline, half an acre of cotton, and the whole deluged with almost constant eruptions of flying fireballs.

I always was somewhat mathematical. But before I could determine whether we had ten chances or only five in a hundred of escaping an explosion, my nerves gave way.

"Vaniman!" I cried. "You must stop

that motor at once."

He stopped it and called down to me in the lifeboat: "What's the matter?"

"Nothing but hell fire," I replied, meaning to be descriptive, not profane. "We can't stand this; it's only a question of time when we blow up!"

"It's been doing that all day. It looks

lots worse than it is."

"Well, it looks bad enough; is there nothing you can do to stop it?"

"Nothing except to stop running the

motor altogether."

"And drift on to the Long Island coast?"

"That's about the size of it."

"Then run the motor, but for heaven's sake try to stop those fireworks."

There we sat hour after hour, watching this volcanic eruption against the reservoirs of gas and gasoline. Louis Loud, as brave a man as ever trod the deck of an aërial cruiser, came down from the engine room and sat by me. He looked at the red-hot exhaust pipe and the fire streaming out behind and uttered one short and significant word. A little later he added: "I don't

mind what I can't see, but when I look at those globs of fire, I don't feel good."

Louis sat for a time, fascinated as we hear men sometimes are by the fire glint in the eyes of poisonous reptiles, and then went back to the engine room overhead.

I fell into the habit of singling out one particularly large, glowing mass after another, following its course with my eyes and muttering, "That's the one that's going to do the business." Then I took up again my mathematical calculation and proved the truth of the saving that you can do anything with figures, especially if you are an optimist—and I guess none but an optimist would try to cross the Atlantic in an airship—for this time I reduced the odds on eternity to 50 out of 100. One can get accustomed to almost anything. forted by my revised mathematics, and by the reflection that the canvas and balloon were damp from fog, I fell asleep.

COLLISION NARROWLY AVERTED

Soon it was our lot to break another record. Not only the first to navigate the atmospheric and aqueous oceans, the first to send wireless messages from airship to shore, now we were the first to be in imminent danger of collision between a ship of the air and a ship of the sea. About eight o'clock that night a cry of alarm was raised: dead ahead, ghostlike in the fog, was a fourmasted schooner. We were almost upon I called to Vaniman to stop the motor, that the America might swing round with the wind and cut in behind the vessel. Instead, he ran forward to warn Simon at the wheel, the window at the navigating deck not affording a clear lookout. But Simon had already seen the schooner; in a moment he threw his helm hard to starboard; the America responded quickly, swung round to the northward, and passed astern the stranger.

It was a close call. From the lifeboat we looked almost straight down upon the schooner's deck, where we could see men running to and fro, but the noise of our exhaust drowned their voices. If we were astonished, what must have been the feelings of the skipper and his crew when they saw a great dark, whirring, chugging thing rise like a monster upon them out of the murky air.

Vaniman came down to the lifeboat, saying: "I'll wager the men on deck will not

dare tell their shipmates down below what they saw on their watch. And if they do, they will be unmercifully ridiculed for spinning such tipsy yarns about seeing a regular flying Dutchman."

And we all laughed with Vaniman. But the skipper of the schooner happened to be on deck, saw the apparition in the air with his own eyes, and was not afraid to tell about it when he made port. The schooner was the *Bullard*, bound for Norfolk.

All that night we kept up the struggle to weather the southern shores of New England and get well out to sea. The engine gave us a fair course, northeast in the stronger puffs of wind, east when the wind eased off. I sat through the night by the compass or steering wheel, watching the wake of the equilibrator and noting its angle by the magnetic needle. Throughout our voyage the actual course of the ship was determined in this manner.

We had not been able to get a sight of the sun or a star since leaving Atlantic City, and knew only roughly where we were. But Simon and I calculated that if the motor stopped any considerable time the wind would drive us upon the coast. And that meant shipwreck. The America, remember, was not designed to travel over land, but over sea. If she struck the coast she would be wrecked precisely as if she were a steamship; the equilibrator would anchor us to the land.

We didn't want the voyage to end, even if that should mean safety for ourselves. We wanted to go on and fight it out as long as there was any chance. I had a particular horror of landing on Long Island. Even a holocaust seemed preferable to a fiasco.

And we showered praise upon Vaniman and his motor for the way they fought the good fight for seaway. Almost every moment we feared the engine would stop or something would break, but at five o'clock Sunday morning it was still running. It had been a night of strain and fear. The shadow of disaster and perhaps death had hung over us all those hours.

At dawn the practiced eyes of sailor Simon and Jack Irwin, who have sailed a lot along the transatlantic steamer lanes, detected the ripples of shoal water underneath us. They concluded we were between Nantucket Lightship and Nantucket Island, and this agreed with our rough log.

An hour later we reckoned we were free of land. We had escaped the humiliation of pulling up short on the coast of New England. The broad Atlantic was opening before us. A little later the wind freshened, and seemed to be carrying us more to the north. Alarmed, we called Vaniman—he had been asleep fifteen minutes—and started the motor again.

At eight o'clock we felt sure of having passed well east of Nantucket, and it was high time Engineers Vaniman, Loud, and Aubert should have a brief rest from their labors and that the red-hot exhaust pipe should get a chance to cool. The motor had run altogether about twelve hours with only a few minutes' stoppage, had kept the America from 40 to 60 degrees into the wind, and had saved the situation.

THOUGHT THE END HAD COME

Early in the morning heavy gusts from the southwest struck the ship, sending her forward at tremendous speed, causing the submerged equilibrator to pull harder and harder and bearing the America almost down to the sea. Once or twice the lifeboat nearly touched the crest of the waves; if it had struck it would have been torn loose from its shackles, those of us in it would have been swamped or smashed by the equilibrator striking the boat, while the members of the crew in the car overhead would have had no craft left in which to attempt an escape. Half a dozen times we thought the end had come.

A strange experience was this—first rising high above the sea and looking far down where a part of the equilibrator plowed its foamy way through the waves, then rushing down toward the waters with a mighty swoop which apparently could have but one ending, and that a fatal one. When the gusts of wind hit the America she was moved by two forces—one, that of the wind sending her rapidly forward, the other the pull of the equilibrator, due to resistance in mounting the waves, to hold her back and consequently draw her downward.

Alertly, but calmly, some of us stood watch in the lifeboat, gazing down and aft at the plunging, leaping equilibrator. Again and again these cries were heard: "Only two tanks up!" "Only one tank up!" "Now she's all in—overboard with something, you fellows up aloft!" And at this word the

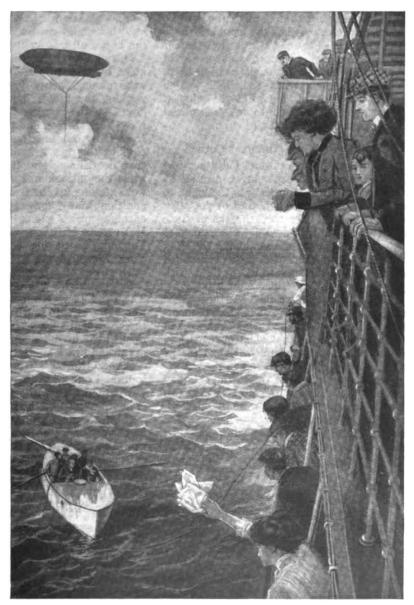
men overhead seized tins of gasoline or of lubricant and threw them out.

So great was the danger that we stopped the motor for a period, starting it again as the wind eased off and after more gasoline, a heavy cable, and various spare articles had been jettisoned to lighten ship. The most of this day was spent in like manner, a stiff breeze from the west southwest pushing us rapidly before it, broadside to the wind, after the motor was stopped.

Thus we drifted an estimated 140 miles bevond Nantucket, when the wind shifted to the west northwest, and then we drifted toward the steamer lanes. and wondered if we should meet a ship. So great was the hazard that the lifeboat would be torn .

loose, we put the cat up in the car, where it would be safer. Whenever we could find time to snatch a few minutes' sleep, puss had a way of nestling close to the face of one of us under the blanket.

Anticipating a frightful night, and increased danger of being borne down into the sea as the gas contracted with cold, we began breaking up the "E. N. V." motor preparatory to throwing it overboard.



CREW OF THE AMERICA IN THE LIPEBOAT APPROACHING THE TRENT-THE FIRST RESCUE OF AN AIRSHIP BY A STEAMSHIP.

All through this day we wondered if the steel car could endure the strains put upon it by the equilibrator cables as the steel serpent jumped from wave to wave, fifty to eighty feet each leap. But despite the fact that matters now looked pretty gloomy, all of us were cheerful.

Late in the afternoon the wind was not so strong and the sea not so rough. Some one suggested that now the lifeboat could be launched, and that it might be well to make our escape while we could. There was a chance. We were near the steamer lanes, and it was not improbable we should soon be picked up by some passing ship. None of us knew what the night was to bring. To go on, regardless of what a severe storm might do to us, did indeed look like a desperate hazard.

CREW VOTES TO "FIGHT IT OUT"

Under such circumstances I did not feel I had the right to order my comrades to stick to the ship. Theirs was the right to decide for themselves whether or not they were willing to take further risks of their lives. So I put it to a vote. Not one voice was raised in favor of abandoning the ship. One after another the crew responded cheerfully, "Let's stick to it," or "I'm with you to the end," or "Let's fight it out."

Up to this time we had had hot coffee made on a gasoline stove in the lifeboat, and had eaten cold food whenever we had time. Now Aubert cooked bacon, eggs, and coffee, and never on land or sea or in the air did a meal taste better.

Throughout much of this trying Sunday and the still more trying night which followed, things wonderful were happening, things comforting, things agonizing. The air was filled with wireless whispers. Almost constantly Irwin could hear "W," "W"—our signal letter—repeated over and over, from shore stations and ships at sea. At last we began to get an inkling of the generous, sympathetic interest the world was showing in our adventure and fate.

Irwin heard Cape Cod, Siasconset, Sagonapack, the Brooklyn Navy Yard, a number of ships flashing back and forth the eager, kind query: "Any news of the America?" And it was hard indeed to listen to all this magic questioning, and to the replies, repeated over and over: "No news!"—to know how anxious many hearts were for our welfare, and not to be able to tell them we were still afloat—unable to break our silence because the wireless apparatus we had on board could not transmit signals the distance which lay between us and the shore or the nearest ships.

Once, indeed, we felt awed in the presence of the strange circumstances, the mysterious forces man has harnessed, when, far out at sea, we heard the Marconi Company had just long-distance telephoned our

families at Atlantic City that they had tried hard but could get no news of the airship. but hoped all was well!

During Sunday we did get off a few messages by way of Cape Cod—one that we were running twenty-five miles per hour not working the motor; another, in the dark hours, to the London Daily Telegraph, the New York Times, and the Chicago Record-Herald, by our prearranged code, that the equilibrator was straining the airship, but that no damage had been done, and that while the outlook was not so favorable, we were keeping up the fight. We received in addition many messages of inquiry and encouragement, one of congratulation from HAMPTON'S MAGAZINE, and one from Mr. Vananda, managing editor of the New York Times, giving us news of the northward sweep of a tropical hurricane.

Sunday night was one of great danger. The wind blew strong again, the sea was rough, the airship was borne down almost to the crest of the waves in the heavier gusts. rising high in lulls. Again we feared the car would break under the strain.

Several times, after hearing suspicious sounds, Loud or Aubert was sent far forward and aft along the car, electric blinkers in hand, to inspect the steel stays and other parts, to learn if anything had given way. Not very agreeable these moments of waiting for the report which meant we were to stay up in the air, or go quickly down into the boiling sea. And what a relief. after some minutes of suspense, to call out: "How is it forward, Lewis?" and get the response: "All right here." "And how with you, Fred?" 'Nothing wrong at this end."

More gasoline and lubricant overboard, and a goodly part of the beautiful eight-cylinder motor. Yet we did not lose our composure nor our sense of humor. Once, in climbing from the lifeboat up into the car, my sheath knife caught and held me fast, suspended, dangling and kicking, and, I fear, growling savagely. Loud and Aubert pulled me up, and a moment later I saw them convulsed with laughter at my expense.

For the most part we wanted nothing so much as sleep. We were exhausted; time and again we slumbered, our last conscious thought being, "When we awake we shall probably be down in the sea, but that isn't so terrible—anything so we may sleep." And when we awoke—often with Kiddo's warm

fur on our cheeks—it was always with surprise that the America still floated above the seas.

The wind shifted to the northwest, and was bearing us further out to sea. I impressed upon Vaniman that if this wind held, with one good motor, the gasoline we still had, and that which we could bring up from the equilibrator tanks as soon as the sea calmed a little, we might yet cross, or at least make the Azores. Would it not be well to start the motor, and make a fight for it?

Vaniman agreed with me, and went to the engine room to set the motor going. But ere long the wind turned more to the north, and blew stronger and stronger. More gasoline had to be thrown over; many times we were in imminent danger of immersion in the billowy sea. We drifted, surging and swaying to and fro, eagerly watching the serpent, and raising the alarm every time the lifeboat came near touching the seas.

GIVE UP HOPE OF REACHING EUROPE

The wind hauled into the northeast, and though it blew during Monday with diminished force, and the ship rode easier, with our well-nigh exhausted store of fuel, and the other troubles, all hope of making Europe or even the Azores passed away, and we decided to try for the Bermudas.

At noon we got the sun and knew approximately where we were. Our policy was to reserve a small supply of gasoline for use in a final fight for the land.

But right here I wish to record certain facts: The America was a splendid airship. She held gas admirably, and all the predictions that we should fail through loss of hydrogen were wide of the mark. Her structural strength was superb, as she showed in these severe tests. In all respects, save overweight and lack of buoyancy due to departure in construction from the original designs, and to the uncertain and in part faulty installation of the engines, she was a successful airship.

The critics, expert or layman, who say ours was a mad scheme, impossible, fore-doomed to failure, do not know what they are talking about. Owing to circumstances which we could not control, much work had to be done in a hurry. Given time to correct the mistakes of overweighting and to make sure of adequate motor service—for instance, to receive and install

the 200 h. p. motor we had ordered in England but which could not be finished in time—the America, equilibrator and all, could have made the voyage from America to Europe under average weather conditions.

Now we were to think of how to save ourselves. All Monday afternoon we were talking about that. The lifeboat was carefully prepared for launching. The problem was, first, could we launch the lifeboat with the America running twelve to twenty miles an hour with the wind? Would not the craft be at once capsized and perhaps foundered as it dumped into the sea, broadside to the course? Or, if it escaped that fate, would not the equilibrator, plunging along a few feet in the rear, smash it into fragments?

One proposal which found favor for a time was that of Louis Loud to be let down in a boatswain's chair, and there, dangling between sea and sky and leaping from wave to wave, with his legs gripping the swaying hawsers, to cut the equilibrator away. There is not the slightest doubt that the brave fellow would have accomplished this daring feat if he had had the chance; but upon reflection we decided it would not do to cut loose the equilibrator, for then the America would rise to the clouds, and when she came down again we would have nothing in the way of ballast to prevent her going into the sea.

We had this very day an illustration of the importance of the equilibrator. The sun came out clear and warm. The gas expanded rapidly. Tank by tank the serpent was lifted, and finally the entire device was in the air, and the ship rising. At this point a stupid thing was done.

The only way to prevent a heating balloon or airship rising to a great altitude is to let out gas the moment the aërostat starts upward; for if it be permitted to rise, every yard of ascent means diminished atmospheric pressure, and consequently greater and greater expansion of the gas and more and more altitude.

SOAR UPWARD 3,000 FEET

Through a misunderstanding of my order, the air valves instead of the gas valves were opened and instead of letting out of the distending balloon, for every thousand cubic feet, a weight of about six pounds of hydrogen, there was let out a weight of about sixty pounds per thousand cubic feet. Relieved of this load, the America shot upward so rapidly that we all suffered pains in our ears, whose membranes are adjusted to normal atmospheric pressure and find it difficult to accommodate themselves to sudden changes, to a rapid ascent or descent.

Up we went nearly 3,000 feet, as shown upon our barograph. My aneroid dropped 1.8 inches in that needless ascent. Beautiful indeed was the view at that height, the weed-strewn waters of the eastern edge of the Gulf Stream below us glistening in the sun, but it was a scenic delight obtained at the sacrifice of about one seventeenth of our whole volume of gas—too high a price.

AIRSHIP BOUNDS LIKE A RUBBER BALL

And when the airship started down—having found her equilibrium in the lighter air up high—she acquired a great momentum; again the pains in our ears; and but for the two-ton equilibrator dangling below her, she would have gone souse into the sea. As it was, the serpent went in almost its full length before the America rebounded and rose 200 or 300 feet like a rubber ball. Gradually she settled down. After that, orders to open the gas valves the moment the tail crept out of the water were obeyed.

It was a serious question during this Monday afternoon if we could keep afloat during the night, as the gas cooled. We decided to try it, hazardous as it was—hazardous because if there should come a wind during the night, or rain, we should be compelled to launch the lifeboat, no matter what the conditions. With a rough sea that would mean disaster.

And it was with most anxious eyes I watched the barometer; we were approaching the area of the cyclone we had heard by wireless was coming up the coast, and which did strike Florida a few hours later with destructive force. Had the glass shown any marked drop we should have taken to the lifeboat at once.

We were loath to leave the ship. We still hoped to reach Bermuda, or the American coast, and were reserving engine and fuel for a final struggle. We were now rather enjoying the calmer drift, and, frankly, we all looked dubiously upon the proposal to risk our lives in the lifeboat launching, and wished to postpone the inevitable as long as we could. Also, we had hopes of meeting a ship.

Irwin told me that day a regular steamer left Bermuda Monday. Reckoning our position and course, and also the course and probable speed of the steamer, my conclusion was we should have at least a chance to pick her up Tuesday forenoon. And if we had to launch the lifeboat, and run the risk of foundering and being smashed by the equilibrator, it would be pleasant to have a steamship somewhere in the neighborhood.

This third night out a bright, full moon brilliantly illumined the waters. Wind from the northeast, about fifteen to eighteen miles per hour. Warmer, and the gas did not contract as much as we had feared. Not so difficult to keep afloat. Only a little lubricant and remaining parts of the worthless motor thrown overboard. Barring the uncertainty as to how we were to get out of the dilemma, an agreeable experience.

Most of the crew slept fairly well—and heaven knows they needed it. Some lay down upon the deck of the car, others in the lifeboat. I had had more rest, and stood watch most of the night, my eyes alert for a ship. I am not a fatalist, nor superstitious, nor anything of that sort. But I had been in so many tight corners, always getting out of them with an approximately whole skin, that not for a moment did I doubt we should get out of this one, sometime, somehow.

That Bermuda steamship would be about right. I looked for her so intently, and at times so drowsily, my eyes began seeing things in the gleaming horizon or the gloomier depths covered by passing clouds. I saw a hundred steamers, some of them full electric-lighted from stem to stern; trains of cars, rushing automobiles, tall buildings shining with lights. Then I shook myself, and saw nothing at all, only to drowse again, and have more optical delusions; then rouse, and nibble, and smoke.

We ate at all times—cold ham, ship's biscuits, tinned meats, malted milk tablets; drank much water, but not an ounce of spirits was used on the trip.

But we knew, each one of us, this was our last night; we could keep the America up during the following day, Tuesday, but when night fell again, and the sun set and the gas cooled, down she must come and into the lifeboat we must go, be the conditions for launching what they might—favorable or fatal.

At four-thirty Tuesday morning I thought I saw the lights of a ship; but had so often deceived myself that I looked again, long and carefully, before crying out. This time it was sure. I called to my mates; told Vaniman to get out some sort of a signal. He soaked some waste with gasoline, lighted it, suspended the blazing mass from a wire; the steamer changed her course—they had seen us!

Irwin tried his wireless but got no response. Then he seized the electric "blinker" and with Morse dashes and dots in flashes of light signaled to the steamer. Her officers replied in the same fashion. We told them we wanted them to stand by, prepared to help us.

We asked the name of the ship; she was the *Trent*—the Bermuda steamer we had been looking for! Then Irwin signaled we had wireless aboard, and in a short time the *Trent's* operator was out of bed. From that on we conversed freely by wireless. The *America* kept drifting, and the *Trent* followed us, having about all she could do to keep up at her topmost speed.

Strange chance that brought these two ships together—that gave us the pleasure of establishing another record—the first rescue of an airship by a steamship. If the America had drifted a few miles faster or slower, or half a point of the compass to the right or left; if the wind had not shifted to the eastward an hour or two earlier in the morning; and if the Trent had not on this voyage for the first time visited a Cuban port before starting to New York, the ship of the air and the ship of the sea would not have come together.

And in that case what would have become of us? We have not the slightest idea. Navigator Simon, with the instinct of the brave sailor, soon blurted out that we'd better stick to the America and make a run for it. But that was instinct, not reason. We should have been forced to leave our ship within twelve hours at most, and probably would have run into the cyclone area. The chance for safety at hand, it would have been madness to go on.

How to get out of the airship and upon the *Trent?* That was a big problem. Vaniman planned having the *Trent* come up, get a line to us, and then we were to be transferred to her deck by life buoys. An effort was made to attach a line, but it was lucky it was not successful, for probably the straining of the line would have pulled our steel car to pieces and thrown us into the sea

Captain Down came very near us, incurring the danger of collision or of the ignition of the balloon by sparks from his smokestacks, but he handled his ship with great skill and fine judgment. Other plans were suggested and discussed, the *Trent* patiently following, her passengers now all on deck to witness the unprecedented spectacle. They afterwards told us of the agony of doubt and fear they had passed through while our lives were hanging in the balance; some of the women wept under the strain, others prayed for our deliverance.

AUBERT'S BRAVE DEED AVERTS DISASTER

While we were hesitating and discussing, the America lost her equilibrium and was in imminent danger of capsizing, end over end. The air ballonet at one end had not been completely filled with air, the supply pipe having become deranged. Thus that end of the ship was lighter than the other; as this lighter end rose in the air the hydrogen rushed to the elevated part, greatly increasing the buoyancy there, and threatening disaster.

At this crucial juncture it was young Fred Aubert who leaped up into the car, ran forward to the disarranged pipe, put it in order, rushed to the engine room, started the service motor, and kept it going until a large volume of air had been pumped into the end ballonet and the America was once more upon an even keel—a brave deed by the youngster of our party. That is the sort of crew I had with me. To bring out these qualities of courage, coolness, resourcefulness, good humor, was worth all the cost of the voyage.

To end the discussion and get action I announced that there was nothing to do but take our chances in launching the lifeboat. Vaniman began opening the gas valve; Simon saw that all the boat tackle was in proper trim; we took our places in the boat, ready for the plunge.

But stop—the cat! Vaniman, who at Atlantic City had wanted to leave Kiddo behind, now worried lest puss in the watertight compartment should not have enough fresh air, and wanted to make an opening. Critical as the moment was, we had to laugh; there must have been enough air in that compartment to keep kitty going for

at least a month! We had our joke at Vaniman's expense, even if we were to die with it the next minute, but secretly we honored the big brave heart of our engineer who thought of the cat at such a moment.

Down came the America nearer and nearer the sea. We gripped the lashings of the boat, and each of us held fast to a life preserver. No, one man had none; so Louis Loud and Jack Irwin promptly gave him one of theirs and shared the other between them, though neither is much of a swimmer. Simon and Loud held the lines which were to release the boat at a single pull.

When the sea was only four or five feet from us the word was given, snap went the two release hooks simultaneously, up shot the lightened airship, down into the rough sea plumped our craft. She almost capsized, then righted herself. The dreaded equilibrator hit her well forward, stove a hole in her side, fortunately above the water line, and it was all over.

In ten seconds from the pull on the release hooks we were calmly riding the waves.

There was the splendid *Trent*, a ship's length away. How good she looked; how glad we were that we did not have to spend a week or ten days pounding about upon the sea in a half-open boat. The *Trent* came within an ace of running us down as she came tearing along at full speed, her prow missing us by a foot—another close call, but once more the fates were kind—and later we had trouble grasping the line which

she threw us. At last we were safe on board, where we were received with amazing kindness by Captain Down, his officers and crew, and all the passengers.

Soon we were again in wireless communication with the shore, and learned of the more than generous interest and sympathy the people of the whole world had felt for us during our adventurous wandering, and for which my comrades and I feel more grateful than we can tell.

The last we saw of our good airship—which had carried us, under her own power and drifting, 10081/2 statute miles over the sea -she was floating about 800 feet high, 360 nautical miles east of Cape Hatteras. A day or two later, in all probability, she disappeared beneath the waves; the gas valve was tied open when we left her, and the gasoline reservoir had been cut open so that water could enter and sink it. just a little moistening of the eyes Vaniman and I said good-by to the big craft that had brought us so much trouble in this worlddropping us once upon a Spitzbergen glacier. a second time into the polar sea, and this third and last time into the Atlantic.

Good old America, farewell. Thank you for the noble comrades and rare experiences you have brought me, for the lessons you have taught us. You played your part in the game of progress. In the years to come many aircraft will cross the Atlantic; and you will be honored as the ship that showed the way.