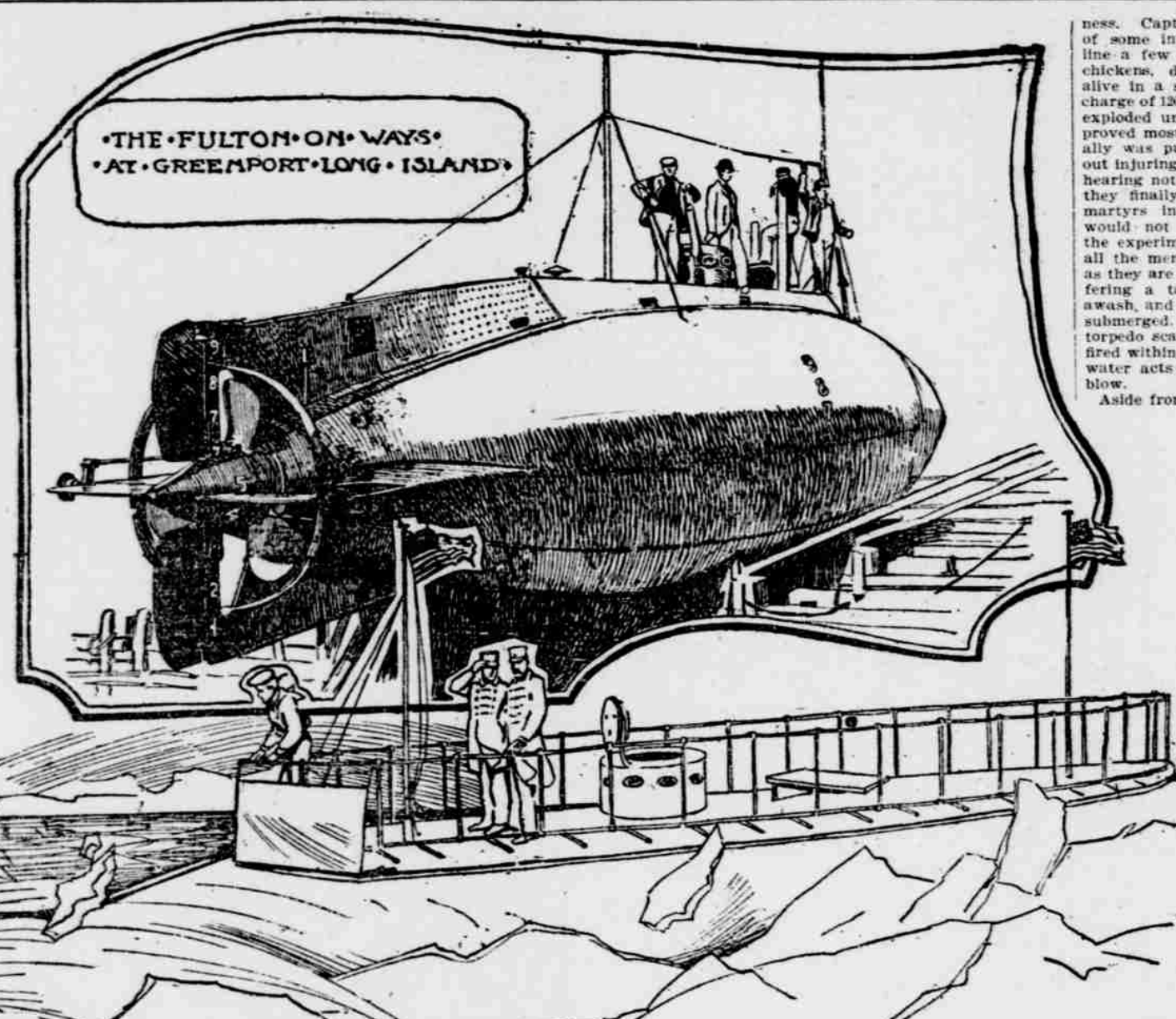


SUBMARINE BOAT FULTON TO CROSS THE ATLANTIC UNDER HER OWN POWER

Goes First to Washington From New York, and Will Cover a Good Part of That Voyage While Submerged at a Depth of 35 Feet. * * *



CAPTAIN FRANK R. CABLE, COMMANDER OF THE FULTON.



THE FULTON ON WAYS AT GREENPORT LONG ISLAND.

It is now the intention to send the American submarine boat across the ocean. A trip of more than 2000 miles over and under the sea is contemplated for the audacious little Fulton.

Should it be carried out successfully the history of the world will be enriched by the feat of a Yankee sailor and his electric torpedo boat is only 63 feet over all and the intention is to send her under her own power.

While such a feat would have been undreamed of even a year ago her captain and crew speak of it as being neither improbable or even startling. She has proved herself so stable that there will not be the slightest difficulty in getting her crew to make the trip.

"I would sooner go in her than in a liner," said Captain Frank R. Cable. "Should a storm come up we can sink at will until it is over." This statement showing perfect confidence in the stability of the boat, was made to a correspondent for the Sunday Oregonian, who was permitted to go aboard and inspect the little marvel on her recent trip, when she made a run from Greenport to New Suffolk for the purpose of trying a new and more powerful propeller.

And on that trip she gave a new performance that showed she possessed a merit that even her enthusiastic owners never gave her credit for.

Through Ice.

She proved herself a wonderful ice-breaker, going through four inches of solid ice as if it were paper, and at the same time losing little speed, to the delight of her captain and proud crew and the deep gratification of her owners.

The little Fulton traveled full tilt for the ice field with her nose about a foot under water. She lifted up the ice, hurling it on either side as a plow would overturn soft soil. As she lifts the ice up on her steel hull, which floats upward from the submerged nose toward the coming tower, it breaks into cakes, which either fall on top of the ice or are thrust off and under it. In this way she makes a clear path for herself and does not waste as much power as if she crashed into the ice field and broke up a path by mere force.

So impressive was the performance and so successful was the Fulton in a work for which she had not been designed, and which was accomplished merely as a side issue, that Captain Arthur MacArthur, the Government naval expert aboard, was both astonished and pleased. He is a son of General MacArthur, another Holland submarine boat, when it is launched from the New Suffolk yards in a couple of weeks.

Will Test Sea-Going Qualities.

Though the Fulton is not owned by the Government, and is commissioned as a private yacht for the company's purposes in steadily experimenting so as to get the highest possible grade of efficiency, her trip to Washington about the first of February will be the first step taken to show that she is perfectly able to cross the ocean with safety to herself and those on board. This trip will be made entirely in the open sea, and has been ordered to settle the question whether or not submarine boats can be used only in the still waters of a harbor.

They are being built only for harbor defense, but their designers believe they also have great sea-going ability. The trip to Washington will be only the first step after it will come the more serious enterprise—the trip across the ocean, as the fuel-carrying capacity of the marvelous little craft must be increased largely for such a long voyage.

Great secrecy is maintained regarding the building of the submarine torpedo-boats in the works in New Suffolk. To keep experts or men in the employ of foreign governments away from the Holland boats detectives investigate every person of whom they are suspicious. The correspondent of the Sunday Oregonian had to furnish credentials that were examined carefully before he was permitted to observe the works, board the Fulton, go over her interior from bow to stern and then study the audacious little torpedo-boat in action from her own deck in the trip which unexpectedly gave the demonstration of her ice-cutting abilities.

Peaceful Craft.

Captain Frank Cable and Captain MacArthur were found at 10 o'clock on the night preceding the trip on board the handsome steam yacht Giralda, in Greenport basin. To reach the yacht it was necessary to pass through the shipyard, Captain Rich, of the Giralda, acting as escort and giving timely warning of hat-emasping timbers overhead or tripping boards underneath.

"There she is," said Captain Rich, pointing upward to a weird-looking thing in the stocks, dimly made out against the night sky to be clear-shaped, with the forward and blunter than the stern.

asked. "That one painted white with the graceful lines?"

"That's the old Vigilant—the one that didn't do a thing to Valkyrie II and the Brits."

The grand old cup-defender was in queer company, indeed. Her fine tapering lines showed plainly in the night. Always at ease, her white sides rested gracefully on the stocks, as if they pressed but lightly against her dear old bones. Two men stood by her side, one of whom was Percy Chubb, had rigged her as a yawl on pleasure bent. He had put her to bed on the stocks last ice or storm distress, and she lay there, a white thing of peaceful victory, and faded and dreamed of her maiden days of conquest.

So close beside her that they almost touched was the Fulton, the dark red of her sides showing black in the night. The timbers on which she rested could not be seen. Her great propeller thrust from the stern, and she seemed an uncouth bird of prey, poised by the bird of peace for protection or destruction, whichever way her pregnant mind might turn.

Captains Cable and MacArthur.

A cheerful party of two was found in the saloon of the Giralda, where she lay about 100 yards distant—Captains Cable and MacArthur. The commander of the Fulton, who is a relative of the novelist, is clean shaven, and has a sad and serious face. Though young, deep lines emphasize an expression of much dignity and strength. He is a man of whom one can well believe it is often said, "Well, if Captain Cable says so, it is all right."

MacArthur and Cable have become great friends during their few months of acquaintance. The former is not inclined to take life as seriously as the other, but Cable's smiles are frequent when his friend drops into a spirit of raillery. Their conversation was devoted almost entirely to the topic of submarine boats; when the latter was going on and on, and Cable would say, "I am a scared life insurance agent would say."

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Young Men to the Fore.

"The old men finished up the last war neatly and quickly," said Captain MacArthur, who had served on the Vixen as a minor officer during the war, "but it looks as if young men will have something to do with the next one, should it come. My crew for the Fulton is now on the Vinland getting in training, and there isn't a man of them more than 28. The oldest man in Captain Cable's crew is only 21 years, and it looks as if all the other crews for the submarines will be young men."

Though it was late the steward of the yacht here interrupted with a dinner, one of the several delicious courses which the sweet fried scallops, for which the entire Puget Bay region is so celebrated.

"When do you expect to make that Washington trip?" Captain Cable was asked.

"Probably in the latter part of February. We will go outside all the way. I intend to carry 10 men on that trip, including Captain MacArthur, who goes along to make a report on it as an expert for the Government."

"How about that trip abroad?"

"Well," said the captain slowly, "it is being considered seriously. The Fulton, you know, is not owned by the Government, and could go under yachting papers. I wouldn't have the slightest hesitation about her. I would sooner go on her than on a liner. Should a storm come up we can submerge at will until it is over. But before that trip is under-taken she must have greater fuel-carrying capacity. As she is now, she can travel 50 miles under her own power, both electric and gasoline. We put it at 200 miles so as to have a safe margin, but she really can go farther."

Discussing the Ocean Voyage.

"I won't say a European trip is impossible," said Captain MacArthur; "but I would call it improbable. Still, we thought the Oregon's feat was improbable when she started for home, but she came all right as I seem to remember. More room could be made by taking out the 35 tons of storage battery in the Fulton and either putting in an improved and more compact battery, or more gasoline for the gas engines. Now I am absolutely enthusiastic about these submarines and have full confidence in them; and if Cable says they can go across the ocean I believe

him. In case of war that would be a very easy thing to do. They would have to do would be to seal them up, then tow them to a place of action or around the world if necessary. This would save the lives of the crew and the ship, and they would be fresh when their services are needed. Of course a trip across under her own power would be merely for exhibition purposes."

"That is what the ocean trip to Washington is for," said her commander. "It will be a final answer to critics who say submarines aren't seaworthy, though they really are intended for harbor defense. Though we are going to carry 10 men, in case of a pinch two can run her. Three would insure more safety, so if it is ever found necessary to remain submerged for a long time the number of men who will consume air can be cut to a minimum. I would hardly dare say how long she could remain under."

"On the Washington trip, when about 20 miles off Sandy Hook I intend to submerge the Fulton about 35 feet below the surface. Even at that depth in looking out of the conning tower there is a fair light, so good that we need not use the electric lights. That is because the water is so clear. Of course, I can't see anything below there except green water, and I steer entirely by the compass. We will travel 25 miles under water before rising again, then take the surface. It may submerge again in the Potomac (the captain always said "submerge," not "sink"). The water of the river is always bad, and when submerged there it is as dark as Egypt until we turn on the electric lights."

Travels Faster Under Water.

"What if you should strike a submerged derelict on your trip?"

"What if an ocean liner should strike a submerged derelict? I think we would have the better chance, because the submarines are much more maneuverable. They can go in and out of many objects. But that contingency is so remote that it isn't even thought of."

"We expect to make that 25 miles under water in a short time, and by the way, that reminds me of the way experts have been fooled regarding travel under water. They have insisted that we can't travel beneath the surface as fast as we can on the surface. The contrary is the case. We can travel half again as fast with the same power when submerged. That's where the designer of the Fulton upsets the theorists. When under way on the surface the propeller makes a hollow at either side of the stern into which the water is constantly trying to fall. That makes a pull or drag on any boat and holds her back. When we are submerged, say at a depth of 35 feet, there is no such action as on the surface. There are no hollows made by the propeller to pull us astern, and we go straight through a solid body of water. With the same power we can go more than half again as fast when submerged."

The Boat Does Not "Sink."

"Another thing," interrupted Captain MacArthur, "the Fulton doesn't sink, as that word is used ordinarily. Let me explain this. Through the five Kingston valves in the bottom enough water is admitted into the compartments to bring her to the point of sinking. She has a buoyancy of 15 tons—that is, it takes 15 tons to send her to the bottom, but she is only sent there for experimental purposes, as she was in that recent 15-hour test. By the way, did you know that the air tanks were not called on in that experiment? They were not needed, as the air in the body of the boat was sufficient for the men."

"But about this submerging. All of the buoyancy is not taken out of her. Enough is left to give her the very slightest inclination to rise; so if left alone she gradually would come to the surface. This

leaves her absolutely under control of the horizontal rudder. If it is raised it throws her nose up, and as she is under way she rises on this imaginary inclined plane. If it is lowered, her nose lowers and she follows. Her action is so rapid and she obeys so quickly that I have seen her rise and disappear in her famous porpoise act three times in five seconds."

"Who else can this submarine wonder do?" Captain Cable was asked.

"Well," he said, with one of his rare smiles, "Give me the submarines for safety. I made more than 500 dives in the old Holland, and the Fulton can do anything except climb trees. We are going to cut ice with her tomorrow. Come, it's time to turn in."

No Two Boats Alike.

The next morning nothing was done early or in a hurry, and the launching attracted no more attention among the country folk than if a new scallop boat were slipped from the ways. At first they had looked upon the submarine motor launch with incredulity, but this has all faded with custom, and little attention is given even to the most marvelous performances. The Fulton may dive like a loon and dart about like a porpoise for all the country-side cares. She speedily grew to be a fact with them, and her appearance in the bay does not even cause remark. About the most interesting thing to them is the coming and going of new crews, for the men must learn the ways of the different boats. Each has a way of her own, for it is impossible to build twins that act exactly alike. Though perfect twins in appearance and construction, each has her peculiarities that must be studied to be mastered.

About the most bustling thing concerning the launching and preparations for the trip to New Suffolk was the Keelpie, the tender for the Fulton. She is a fat, little thing, as far removed from the eerie water spirits of 800th legend as one possibly could imagine. She came bustling up from down the bay about noon. Then, when the Fulton slid from the ways, she took to her heels again. The Keelpie's master feared the new propeller and the ice would make Cable's boat too fast for the tender, so he wanted a good start. And he needed it.

As the Fulton started out she carried her nose a little closer to the surface of the water than usual, her commander not caring to escape more of the new coat of paint from her upper body than necessary in going through the ice. Since her trip was to be made awash, the temporary railings on deck were not taken down, and Captain Cable steered her from above. As she moved she seemed decidedly roomy at first glance, but that is only because she is all in one compartment. Everything is open, and one can see from her bow to her stern—from the end of the torpedo chamber to the electric motor in the stern. Despite the fact that owing to a blunder she had sunk not long ago—on December 11 it was her interior was as bright and clean as a new pin. And, by the way, the mate James Wilson, had a little experience the time that the Fulton

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Coolness Under Great Danger.

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sank that he never told until on this trip. He told about it in a modest way, but it was evident that he had a fight for his life and only his cool head saved him. As the Fulton lay at her pier her stern was raised to permit an examination of the muffer. This depressed her nose, as was expected, but what was not expected was that some one had left the torpedo valve open in the bow. Wilson was within the boat at the time, and as she began to fill he ran forward to try to climb to daylight, but the solid body of water pressing on the hatchway was too strong for him. As the Fulton sank she tilted to one side, then lay hard on the bottom. In perfect darkness the cool fellow stood straight up in the boat until his head touched the steel frame. Every few feet there are ribs of steel about six inches deep, and between these, as the water raised, air cushions formed. By pressing his face close and sideways to the shell of the boat he could breathe, with some difficulty and gasping, but still breathe.

There he stood until the boat had filled as much as she could, the air cushions, of course, preventing her from filling completely. Then, in darkness, when he believed she had taken in all the water she could, he started for the ladder. It was only a short dive, as he knew right where it was, but never was there such a dive under such circumstances. He passed up through the hatch, which he believed raised, as pressure had been equalized, through solid water, and in a few moments was being congratulated by his friends above. They had counted exactly on what he would do, and decided not to send down after him, for fear of mixing things up with two men in the narrow hatchway. In another minute, however, Charles Bechtold, the gunner, would have been after him, as he was stripped. Bechtold made his dive anyway, and with little trouble closed the torpedo valve. The raising of the boat then was easy. Thus luckily ended the only accident.

Steering the Craft.

After the hero of the story had told it with the scantiest detail, Captain Cable permitted the reporter to stand in the conning tower, to see how the boat is steered when submerged. Above water one can see plainly through the small, thick glasses in the tiny tower, which is in the center of the boat. It admits only the head and shoulders of one man, and when submerged he steers only by compass, which is in front of him. Attached to the side of the boat is a queer-looking affair much like a steam gauge. A hand there points to the number of feet the boat is below the surface, that being most accurately shown by the pressure of the water. Attached to this is a spirit level, showing the angle at which the boat is tilted, whether rising or descending. A small steel indicator shows the position of the rudder. These are the simple and exact indications upon which they depend when under the water. The captain in the conning tower gets the direction and points the boat at the enemy, sighting it instead of the torpedo. His assistant, at his elbow, regulates the proper depth, and at the right moment the captain gives the order to fire. Then Bechtold and a great tower get the rest.

Just how close they can get to an enemy with assurance of success, then get away in safety, is a thing of constant experiment, rapidly approaching exact-

ness. Captain MacArthur was in charge of some interesting experiments in this line a few years ago. A lot of ducks, chickens, dogs and sheep were placed alive in a steel shell and sunk, while a charge of 120 pounds of wet gun cotton was exploded under water. The experiments proved most gratifying, as the charge finally was put off within 100 yards, without injuring the animals in the least, their hearing not even being affected. Whether they finally got so close as to kill the martyrs in the steel shell the captain would not say, but it is certain that the experiments gave great confidence to all the men in the submarines, protected as they are by a most rigid steel shell, offering a target too small to hit when awash, and protection against shock when submerged. The probabilities are that a torpedo scarcely would cause a tremor if fired within 50 yards of the Fulton, as the water acts as a cushion to ward off the blow.

Aside from the little mechanism told of,

Point and Hog's Neck Point, and at a place opposite the upper end of Robbin's Island. Seeing the ice ahead, the Keelpie hung back to permit the Fulton to lay the pathway and pace, while the disgraced Giralda hauled off and swung in a wide circle to open water, preferring to lose time rather than scratch her aristocratic sides against broken ice.

A Source of Amusement.

The Fulton's accomplishment in her first ice-breaking experience evidently was a source of amusement to the men, and of the keenest delight to Captain Cable and the interested and observing Government expert, though they said little, except that the Fulton's performance was wonderful. But that part, of course, will be contained in a long and serious report, both to the Government and the gratified Holland people.

As the nose of the little wonder uplifted the ice, which immediately cracked and broke into pieces in falling off the round-

THE FULTON'S INDICATORS.

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CREAM HORSES FOR ROYALTY

Pink Nose Equines Will Draw King Edward's Carriage.

King Edward's cream-colored horses, which are to draw the state coach on the day of his coronation, are now rehearsing daily the part they are to play in the gorgeous procession which will accompany the sovereign to Westminster Abbey. It would be a most unfortunate thing if the "creams" should become frightened at the noise and the shouting, the crowds and the confusion which will reign in London streets when the heir of Victoria goes to his coronation, so they are being trained as carefully as circus horses for the coming show.

Every morning they are taken from their stalls in the Buckingham Palace mews and led "round and round" the great quadrangle, harnessed to a van which represents the coach of state. The likeness to the conditions of a royal procession is enhanced by a band of children, who blow horns, wave handkerchiefs and shout, while the postillions imitate the booming of cannon by blows upon a bass drum. By the time the coronation day arrives, it is hoped that the "creams" will have their nerves under such perfect control that nothing can shake them.

These "creams" are peculiar looking animals with pink noses, pale blue eyes and abnormally long tails. They now are bred in England, but for many years came only from Hanover, being brought over in batches when a new team was required. For 10 years, at the beginning of the last century, black horses had to be used for royal state occasions, Napoleon having carried off all the royal "creams" from Hanover for his own coronation. Upon the downfall of Napoleon, some of the old stud were found in Paris in the company of a Frenchman, who was a spy, and he took them to England as spoils of war. Since then these albino horses have been bred at Hampton Court, where there are three miles of royal paddocks hidden from the public eye behind high stone walls.

Prepared Before He Flibbed.

Brooklyn Eagle.

That some threats cause little flutter to youngsters, even if uttered in a Sunday school, was shown by the quick retort of a member of the Sunday school of the Protestant Episcopal Church of the Epiphany. During a lesson last Sunday the very small children were told that when ever they told a fib God descended into their hearts with a candle and saw the lie. One of the boys, during the week, told a falsehood at home, and his teacher hearing of it, asked: "Now, suppose God came down and looked into your little heart?" The little fellow retorted without a moment's hesitation: "Oh, I blow out the candle. I thought of that before I told the fib."

Increasing the Speed.

But the men on deck weren't thinking of ducks, and it is possible they didn't even glance at them. The power suddenly was changed to gasoline, and the speed increased instantly, as the Fulton sprang away under the stronger force. The electric motor is for use when submerged, and gives a speed of about six knots. The more powerful gasoline engine can't be used long when the boat is under water, as it consumes about ten parts of air to one part of gasoline with every explosion in the cylinders. Gasoline is cheap enough, but air is most precious when submerged, as the men need a little of it for themselves.

The speed had increased so rapidly that the deck was awash with a vengeance, and the men in dry rubber boots glanced inquiringly at the captain. He didn't say what the speed was, nor did Captain MacArthur, as they aren't making public their reports. One of the men, however, said that the old propeller had given a speed of 3 1/2 knots awash, but he thought the new one was pushing the Fulton ahead at an easy 10 knots.

The Keelpie was fast being gained on, but the Giralda, which had cut loose and came booming along behind at a 15-knot gait, was overhauling the Fulton, when the little wonder took to the ice, which had formed three and four inches thick in the quiet waters of Jessups