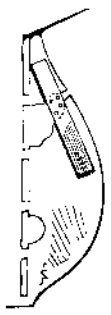
THE RUDDER OF THE ALASKA.

We continue from our last number the contributions of various correspondents on this subject.

To the Editor of the Scientific American:

In your paper of the 7th of March, you give a description of broken rudder of steamship Alaska, and ask for plans for repairing same, so as to make it steer the ship. My plan would be to take two pieces of hard wood timber, say 6x8 and six feet long, and placing one on each side of the rudder, to bolt them across the break, with, say, four large bolts passing through the break as near the edges as they could be placed. I would do this, provided, of course, that it could be done. I do not understand the construction of large steamers, and do not know if the rudder can be gotten at so as to attach anything to it; but if it can be reached, two pieces of hard wood placed as above, and strongly bolted, would, I think, be sufficiently strong to steer the ship. The helm could not probably be put "hard up," but it could be moved sufficiently far for all practical purposes. I inclose a single drawing of my idea.

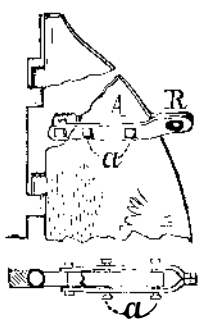


GEORGE Q. PEYTON.

Rapid Ann Station, Va.

To the Editor of the Scientific American:

I read with much surprise that the officers (particularly the engineering department) did not devise the very simple expedient of making fast the broken part of the rudder of the steamship Alaska, and connecting the same by chains, as shown in sketch. Those not accustomed to sea life would say at once no person could live for a few hours with the sea running so high. I say a determined spirit could accomplish such a feat. In proof of the above assertion, I was, during our late war, in a small blockade runner with a valuable cargo. During a heavy norther in the Gulf of Mexico, the key in the propeller came out (having no key through the hub), rendering us helpless in a heavy sea. A drag was got overboard, which held her somewhat quiet, but with heavy seas breaking over, when she would fall off. I decided at once, and acted as follows: Being securely made fast, I was lowered over into the water with the proper tools, took the size of the key, watching the opportunity was hoisted on deck, and in a few hours had a rough key fitted and driven in under water, which took us out of trouble, and got in safely. I merely illustrate this to show what can be done. Now for the Alaska's case; if there could have been no attachment made to the part marked A, then make a clamp similar to the sketch; as will be seen, there is room for a through bolt on the end, *d*, with the proper set screws marked, *a a*, and a 2 inch hole at R, where could be got the proper leverage and chain connection over the quarters. A quick and temporary arrangement, which would have enabled her to proceed on her voyage. I am also astonished to find there were no eyebolts in the afterside of the rudder, as is usually the case with almost all iron rudders, and would have saved time, money, and anxiety.



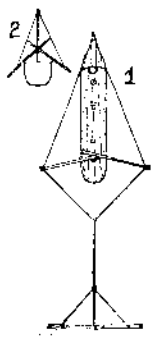
H. L. STIBBS.

New Orleans, March 9, 1885.

To the Editor of the Scientific American:

Not knowing what material they had on board the steamship Alaska, I should have done the following:

When main and fore yard-arms lashed, one end to the mizzen lying over the guard; from two windlasses forward attach a cable to each one of the yards, forming a bridle, diagram, Fig. 1, and supporting, as Fig. 2.



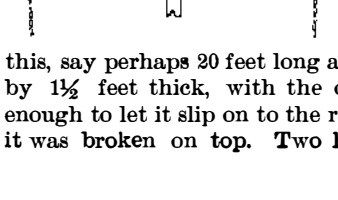
The drag made out of the two topsail yards, using chain, would sink them sufficiently.

T. B. FOSTER.

Mobile, Ala.

To the Editor of the Scientific American:

In answer to your question in SCIENTIFIC AMERICAN of March 7, in relation to steamship Alaska, would say that I am no seaman, but it at once occurred to me that the broken rudder might have been dropped, and the vessel steered in this way: Of course they had plenty of heavy timbers and bolts, ropes, and large cable chains. I would have made a heavy timber frame like this, say perhaps 20 feet long and 5 feet wide in middle by 1½ feet thick, with the opening cut just large enough to let it slip on to the rudder just below where it was broken on top. Two heavy cables could have been attached to each end, and four ropes fastened to suspend and hang it by. All this could have been done on deck, and when ready it could have been swung over the stern and lowered to any position, and when the rudder came straight for a minute, it could have been drawn on. The two cables could have been carried to each side of the vessel and through portholes, and connected with one or two windlasses. As soon as the timber was slipped on to the rudder and the cables tightened, the back of the mortise would have struck the edge of rudder, and the timber would have at once pinched the two sides of the rudder so firmly that no force of waves could have removed it as long as the cables kept it under proper tension; by turning the windlass either way, the rudder could have been swung to port or starboard, and the Alaska been steered and saved the $200,000.



GEORGE H. BARTLETT.

Madison, Wis., March 9, 1885.

To the Editor of the Scientific American:

I read with great interest your account of accident to steamship Alaska in issue March 7, and in accordance with your suggestion I send sketches showing a device I would have suggested had I been on board at the time. Should you deem the method a feasible one, and publish same, I desire to have it first distinctly understood that I am not a sailor, and in my description may use decidedly *unnautical* terms or names.

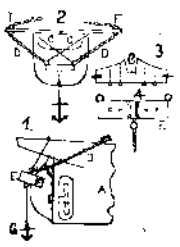
Fig. 1 is a side view.

Fig. 2, a stern view (or supposed to be).

Fig. 3, top view of grabber (or whatever you may call it), E.

Fig. 4, rear view of same.

I would in the first place have the strongest pieces of timber available, made in the form of E, having a tapering notch, *e*, and strengthened with straps of iron and provided with eyebolts, as shown, one on each end and one on lower side of center. As far forward as possible, on each side, I would place as far out as necessary two outriggers, F, either rigged with pulleys over which to pass steering chains, D, if such pulleys were available from the steering gear, or if not, then pass steering chains over swinging booms set at proper angle, attach steering chains to each end of piece, E, then from starboard end of E pass a hawser, *c*, to larboard side of ship, and make same fast as near as possible to a line swung through center of rudder athwart ship, and also attach hawser, C, in a contrary manner. Attach an anchor, G, to the center of eyebolt, and of sufficient weight to keep piece, E, firmly down on the rudder, B. After all parts had been securely made fast on deck, I would cast the rigging over the stern by means of outriggers or boat lowering apparatus, then steam ahead at full speed, so as to throw rudder fairly astern, and lower the rigging over the sound part of rudder, as shown, so that notch, *e*, passed over sound part of the rudder.

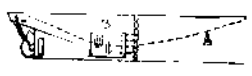


GEORGE B. FOOTE.

Helena, Mont., March 12, 1885.

To the Editor of the Scientific American:

In answer to your question, what one would do in such a case, the Alaska's broken rudder, I beg to say, first, I would "bind up" the broken rudder, and go about it thus: Cut a good sized hole through the counter, one on each side of the rudder post; have two iron hooks long enough to reach (one through each hole) to and *through* the recess in the rudder at that part where the screw shaft ends. Then pass a cable chain over the starboard side, as near the rudder post as possible; let the man at the starboard counter hole catch the end with his hook and bear it to the recess, and the man at the port counter hole pass *his* hook *through* the recess and take it from him, and a man over the port rail take it from *him*, and pass around the stern so it will fall over the wider part of the rudder, and carry the end to the starboard side, well astern; at the same time the starboard end is being carried to the port side, and as they pass, a twist or bight is given the chain, this bight to be well shaken down, so it will grip the wide part of the rudder, which will keep the rudder from doing injury to the screw, and might do some service in steering.



While this was going on, I would be having made some boiler iron pins thus: Take a sheet of boiler iron, fold it like a sheet of letter paper. Make two of them, one for the starboard and one for the larboard, with holes in one end of each, and one or two holes in the other ends. Attach them to a chain cable in such a position that when the cable is placed in its position the fins will be under water. The fins are to be fastened to the cable by means of reeving a smaller chain through the eyeholes of the fins and links of the cable, and in the other end of the fin will be fastened a hawser guy, A, to work it. Now, the cable is to be long enough to pass around the hulk.

When the details are completed, the bight of the cable is to be lowered over the stern of the vessel; the bight allowed to slip along the keel to some point no farther forward than to have a good place for the fins, B, to hug the side of the vessel; then draw the cable tight and run the guys, A, forward and take a snubbing turn around the capstan. There should be a check guy to the fins, to keep them from beating about in a dashing sea.

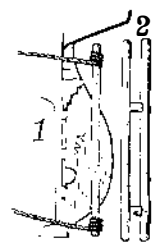
I have not seen the ocean for thirty-five years, about which time I had made several little trips, one around Cape Horn. I do not forget its audacity.

R. G. NORTON.

Madison, Wis., March 7, 1885.

To the Editor of the Scientific American:

I submit a rough sketch of plan that might be used to secure ship rudders broken in the manner of the Alaska's.



Two pieces of timber or spars are secured together with cross pieces to separate them far enough to admit the rudder; hawsers are attached to both ends of the spars on each side. Now, if the spars can be placed over the rudder and held there, the vessel may be steered. If the lines interfere with the wheel, of course the sails would have to be depended on. There are details that could be worked out according to the circumstances.

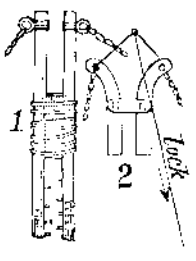
S. A. BROWN.

Buffalo, N. Y.

To the Editor of the Scientific American:

You invite your readers to present a feasible remedy for an accident to a vessel's rudder similar to that of the Alaska.

As a temporary arrangement that could be made with the most dispatch, I would suggest two pieces of timber, pieces of spar, or, if obtainable, square hard wood; lay side by side, with a block the thickness of the rudder between; wrap with rope. At the ends an eye could be affixed and chains attached, to be carried through hawse holes or on deck, and operated with a windlass. Pins put in the end that clasp the rudder would, I think, penetrate the iron and tend to hold it in place, and by keeping a strain on both sides would keep a firm grip on the rudder. Should that appliance show signs of giving way, the shipsmiths could in the mean time have made a grip after the fashion of a pair of icetongs (Fig. 2) or blacksmith's, and applied the same way. A wedge could be inserted in the outside of the wooden arrangement, and driven in by a hanging weight from the stern of the vessel, the rope winding being continued far enough up to hold it in place.



I think the arrangement could be got into place by means of guys from the side of the boat.

E. TAYLOR.

Lung Disease in a Lion.

Mr. Abraham recently exhibited before the Academy of Medicine in Ireland the left lung of a lion which had been born in the zoological gardens, had lived there twelve years, and recently died. The animal had had good health until October 1, when there was sudden cold weather. The lion refused food, seemed feverish and thirsty, and his respiration became exceedingly rapid. He appeared to have pleurisy, his chest being fixed and his breathing abdominal. An attempt to administer medicine failed. He took little food, except occasionally. He drank some niter in water, with diuretic effect. He had no cough, but two or three times he spat mucus, which toward the end became bloody. Ultimately, he became emaciated, and died. His viscera were healthy, except the lungs. There was no pleurisy, but the lungs were diseased, mottled in appearance, and hard and lumpy to the touch. On section, they presented a curious honeycombed aspect. The bronchial tubes were enormously enlarged. In the lower lobe of the left lung was a large cavity. The microscopic sections of various parts of the lung did not show the structure of tubercle, nor did any of the bronchial glands. He was not sure what the disease was. The father of the lion died in precisely the same way.

Mr. Baker remarked that lung disease was common among cats, which frequently suffered like the lion in question.

The President observed that monkeys were subject to consumption. In the lion's lungs exhibited, he had no doubt the cavity existed for years, and a small amount of cold sufficed to kill one of the large carnivora.

Mr. Abraham said that, long ago, Dr. Haughton discovered that tubercular phthisis was not so common in monkeys as was generally thought, and he showed it in a paper read many years ago before the old Pathological Society; and in a paper read before the Zoological Garden of London, Mr. Sutton recently came to the same conclusion.

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