

# SCIENTIFIC AMERICAN

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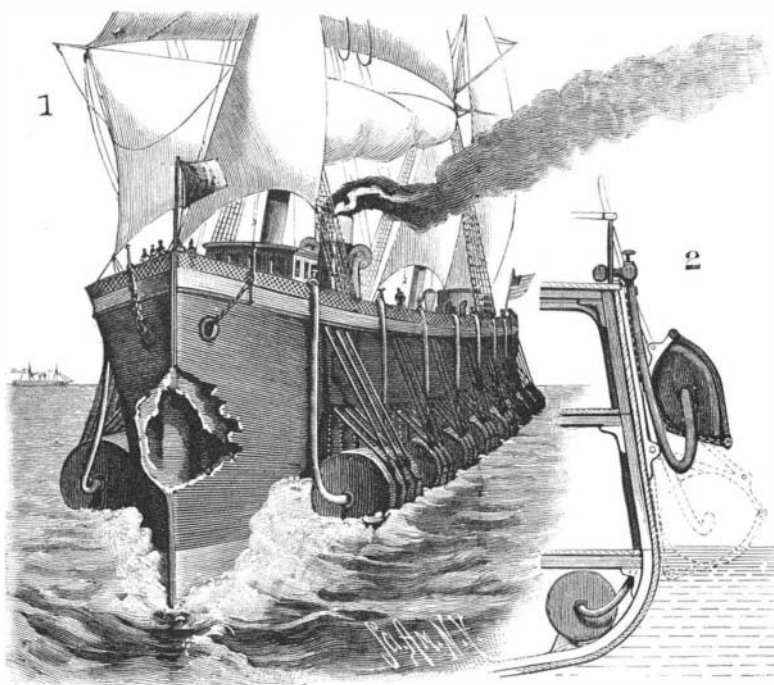
NEW YORK, SEPTEMBER 1, 1888.

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## IMPROVED MEANS FOR BUOYING UP VESSELS.

A novel system of buoying up vessels by means of collapsible buoys attached thereto, and connected with a compressed air or other gas supply on the vessel, whereby the buoys may be inflated when needed, is illustrated herewith, and has been patented by Mr. B. D. T. Travis, of Burlington, N. J. Along both sides of the vessel, exteriorly and interiorly, are arranged buoys of rubber or similar material, connected by flexible branch pipes to a common main pipe, the main pipes being all connected to a common receiver, to be supplied with air under pressure by means of an air pump operated by a steam or other motor. All the pipes leading into the receiver have valves whereby the distribution of the compressed air may be controlled by a single person, so as to inflate such of the series of buoys as may be desired, and each branch pipe communicating with an outside buoy has a valve by which it may be cut out of the circuit in case such buoy is disabled. Over each outside buoy is a curved cap, and a hinged curved shield protects the under side of each buoy when inflated, being connected to the cap by a chain, and the collapsed buoy, when emptied of air, is closely embraced between the cap and the shield folded upon it. The buoy caps are hinged on the lower ends of hangers hinged on the ship's sides, or on knees, the hangers being fastened low down on the ship's side. The braces are caught by locks on the upper part of the hangers, and so remain fixed when the buoy is lifted against the side of the vessel, or high above deck, as demanded when in port. By this plan of lifting the buoys they can be readily

removed from any point where they would interfere with the work aboard ship. When the buoys are lifted up, they can also be turned to catch the wind and aid the speed of the ship.



TRAVIS' DEVICES FOR BUOYING UP VESSELS.

THERE are 621 newspapers printed in Berlin. Fifty-four are official papers, 70 political, 165 have to do with literature, science, and art, 217 are commercial, and 30 religious.

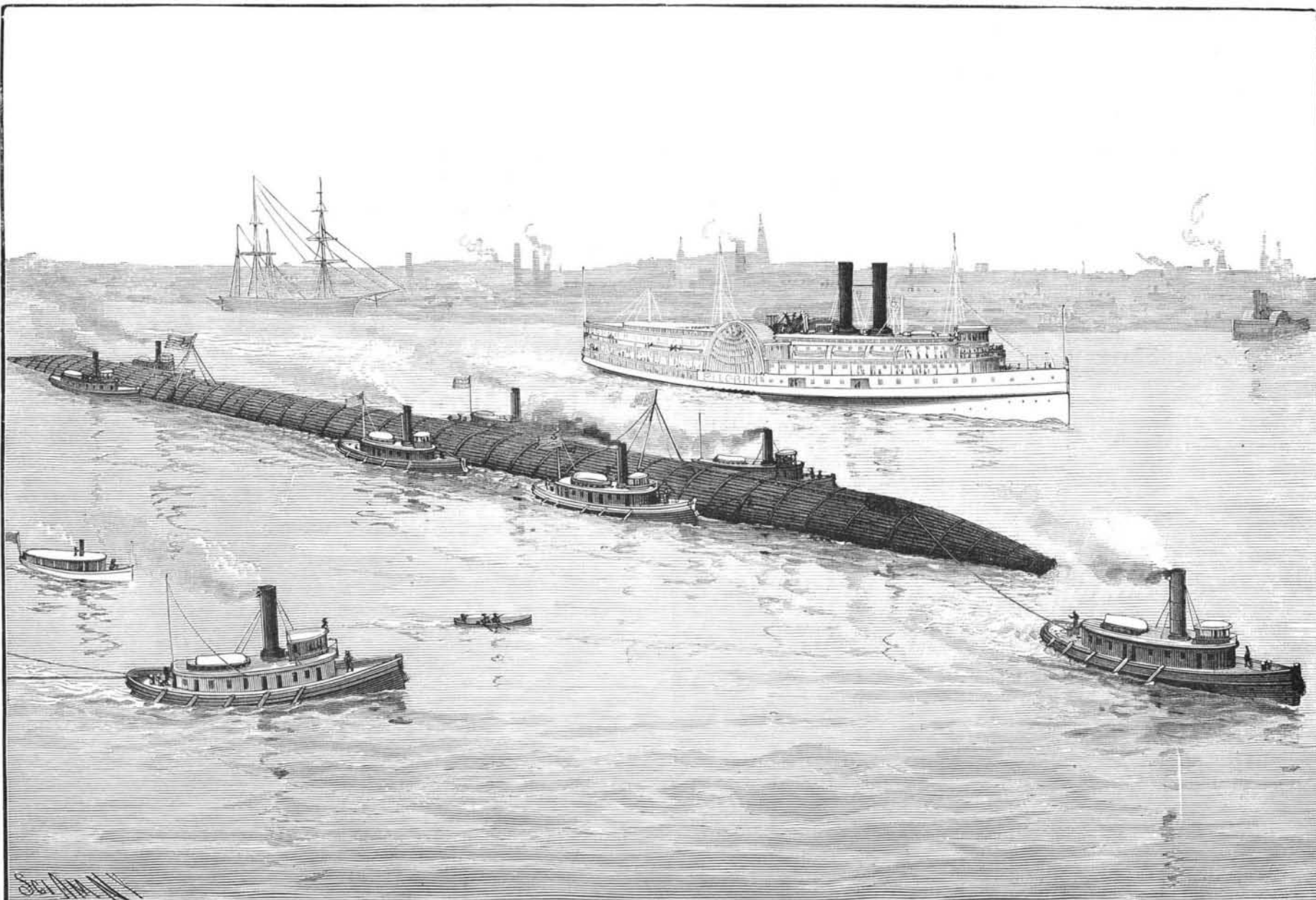
## A REMARKABLE RAFT.

On the 11th of August, after a voyage of eleven days, distance 700 miles, there arrived in New York harbor, from Nova Scotia, a timber raft of gigantic proportions, remarkable in being the largest of the kind that ever made a successful sea voyage. Several months ago an attempt was made to tow a similar structure to this city, but it was broken up and scattered by a storm upon the ocean. This second effort met with no serious obstacles.

This great float was called the "Joggins Raft," after the Joggins—a jog in the Bay of Fundy—famous to scientists the world over. For a distance of four miles along its shore, says the *Home Journal* (Gardner, Me.), is the most wonderful exhibition of the carboniferous period of the world's formation known in America.

The Joggins shore is on the eastern side of Cumberland basin, called by the old French settlers Beaubasin, or beautiful basin. The whole of this shore is a coal and stone mining region, thickly covered with thin, tall trees, which are in great demand in Boston and New York for piling. Twenty miles down the shore a low cove forms the mouth of a valley, flanked on either side by two high hills. In this cove the great raft was built.

The annual shipment of over 100,000 piles from this region of country, in two hundred or more vessels, suggested to Hugh R. Robertson, of St. John, the idea of towing 20,000 at a time in a monster raft. The idea was not original. It was first attempted from Quebec half a century ago, but failed. Two years ago Mr. Robertson patented his  
(Continued on page 132.)



THE GREAT TIMBER RAFT FROM JOGGINS, NOVA SCOTIA.