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## A NEW STEAM CATAMARAN.

Not a few of those who have traveled on the steamers of the Hudson River for the past four seasons have had their curiosity excited by the appearance of a strange looking structure plying about the waters of the Tappan Zee, where the river widens out lake-like between Tarrytown and Nyack.

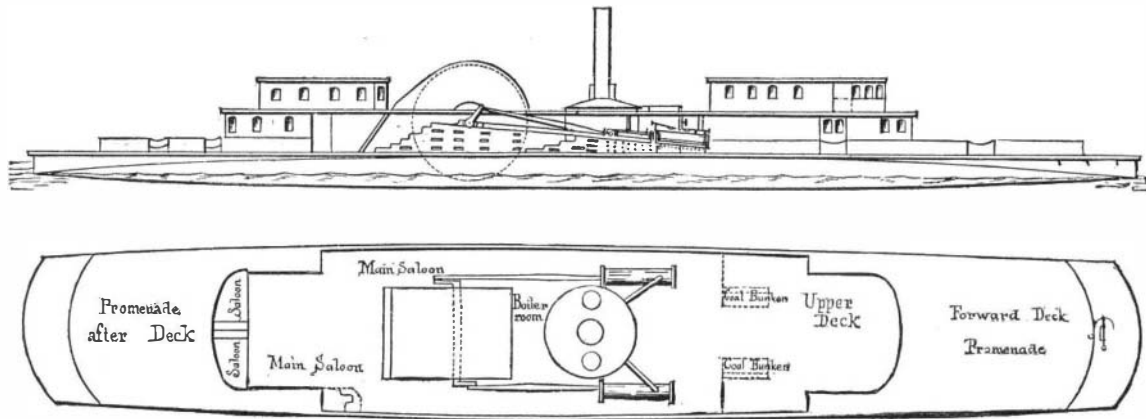
Two elongated cylinders projecting from beneath a long narrow bouse, a pilot house, and smokestack gave the monster a certain nautical air; but it was not until notices appeared in the papers describing it that the public became aware of the problem in marine architecture that Commodore W. Voorhis was trying by patient work and great financial outlay to solve.

Occasionally the strange craft would glide out from her slip and run over the waters of the quiet bay with a speed and steadiness truly astonishing. Again she would move so slowly that a pleasure yacht might, as the natives expressed it, "make a dock of her;" but eachtime she appeared some new change could be noticed, until, from a propeller with hidden wheel and single funnel, she was metamorphosed into a double stacked, huge center wheeled boat. Other changes have also been made. The long projecting iron points had been decked over into broad promenades, the boiler and engines changed, the steering gear likewise hidden; in fact, little but the twin hulls remains as it was originally.

Four years having been consumed in these experiments, she at last steamed out for a decisive test early last month.

Turning her bows up river, the city of Poughkeepsie was reached in a surprisingly short time, when turning home-

ward she was laid beside one of the Albany day boats, and a contest ensued for twenty miles, resulting in a drawn battle, for neither could leave the other. The Henry W. Longfellow during the trial was making 20 revolutions per minute, but when her boilers ceased to foam her speed rapidly increased, until one of the buckets becoming loosened demolished the wheel house and necessitated her return for repairs. Her builder is pleased with her trial, and with 30 revolutions predicts for her a speed unsurpassed by any steamer now plying on our waters.



DIAGRAMS OF THE STEAM CATAMARAN.

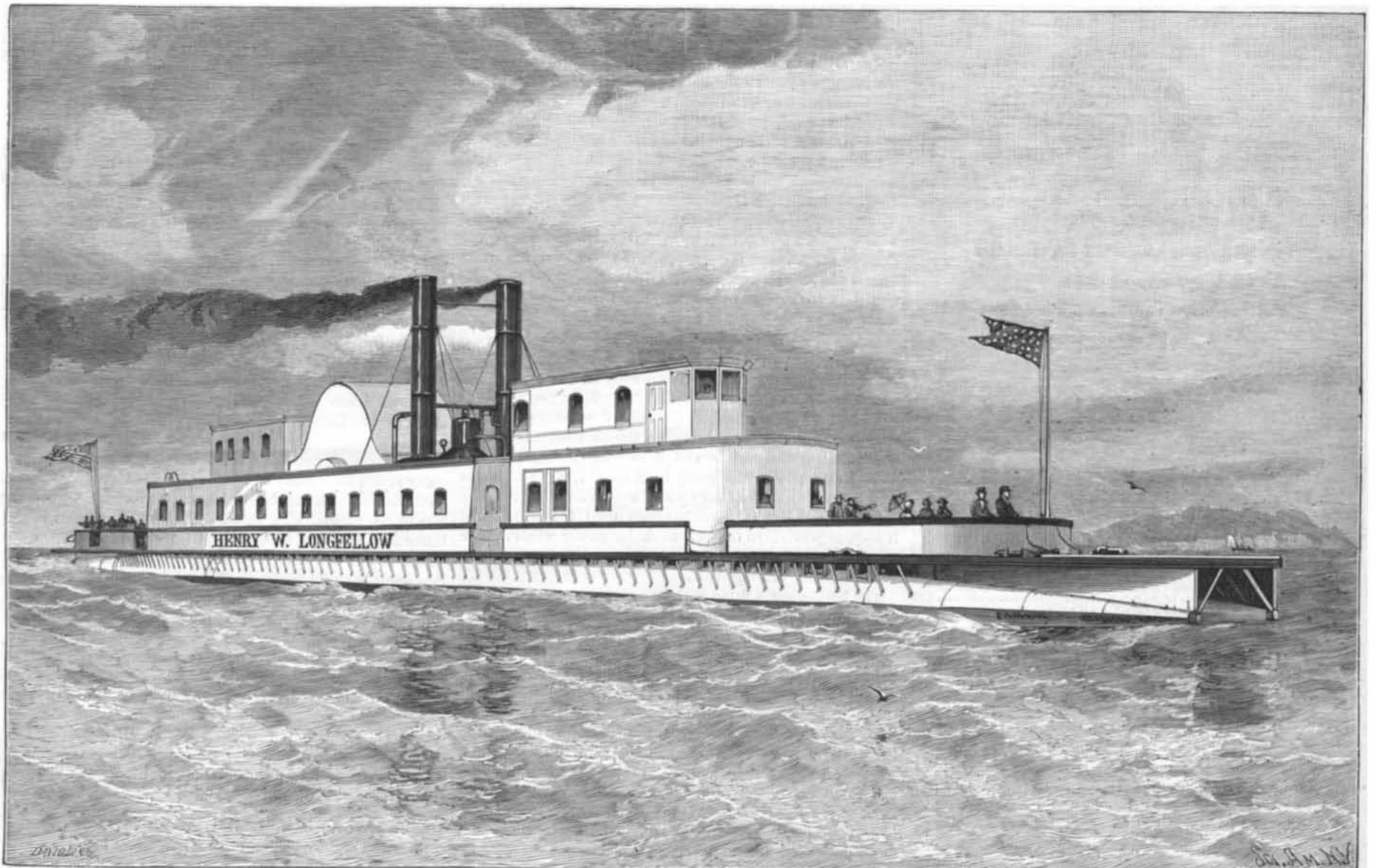
The dimensions of the strange looking craft are as follows: Length over all, 190 feet; width on deck, 25 feet; width of hulls, 5 feet 6 inches; draught, loaded, 28 inches. There are five watertight bulkheads in each hull, and the entire interior of each is diagonally braced. Her engines are of the type used on Mississippi River steamers, and are made by James Rees, of Pittsburg, Pa. Her two cylinders are 13 inches diameter by 5 feet stroke. Wheel, 22 feet diameter, 8 feet face, 18 inch buckets. Revolutions to be made, 30. She has one high pressure Ward coil boiler, containing 2,500 feet of coil. Consumption of coal, 1½ tons to every 32

miles. The boat has wide level promenade decks and ample saloon space. On the upper deck are five staterooms, pilot house, kitchen, and dining room.

Her builder is now finishing the interior decorations and fittings, and after another trial trip to Albany intends putting her on as a passenger boat between Poughkeepsie and Albany.

## Canals.

The Imperial Canal of China is over 1,000 miles long. In the year 1681 was completed the greatest undertaking of the kind in Europe, the canal of Languedoc, or the Canal du Midi, to connect the Atlantic with the Mediterranean; its length is 148 miles, it has more than 100 locks, and about 50 aqueducts; and in its highest part it is no less than 600 feet above the sea; it is navigable for vessels of upward of 100 tons. The largest ship canal in Europe is the great North Holland canal, completed in 1825. It is 124 feet wide at the water surface, 31 feet wide at the bottom, and has a depth of 20 feet; it extends from Amsterdam to the Helder, 51 miles. The Caledonian canal, in Scotland, has a total length of 60 miles, including 3 lakes. The Suez Canal is 80 miles long, of which 66 miles are actual canal. The Erie Canal is 350½ miles long; the Ohio canal, Cleveland to Portsmouth, 332; the Miami and Erie, Cincinnati to Toledo, 291; the Wabash and Erie, Evansville to the Ohio line, 374. The Suez Canal is 26 feet 4 inches deep, 72 feet 5 inches wide at bottom, 329 feet wide at water surface. Length a little short of 100 miles. The Panama Canal is to be 45½ miles in length.



THE STEAM CATAMARAN HENRY W. LONGFELLOW.