THE STEAM YACHT "LYSISTRATA."

The "Lysistrata" has the following dimensions: 285 feet load water line; breadth, molded, 39 feet 9 inches; depth, 24 feet to the main deck. She was designed by George L. Watson, and the decidedly unprepossessing look of the ship conveys the impression that the famous designer, whose yachts are renowned for their beauty, has had to work under unusual limitations. Mr. James Gordon Bennett, the owner, holds a master's certificate, and is supposed to be something of a critic of yacht design and yacht construction. If it was his aim to secure originality, it will be conceded that he has made a striking success.

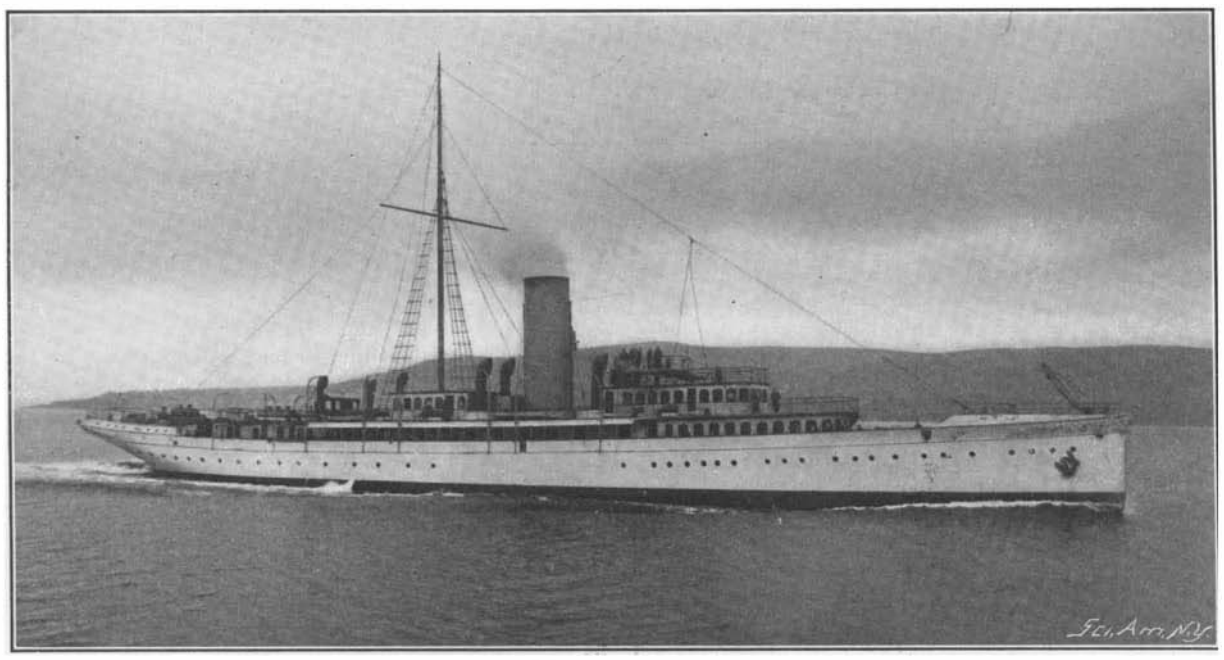
Yacht designing has of recent years run more and more in the direction of flowing curves and beautiful outlines. Clipper bows of long overhang and graceful curves, low waists with great spring in the sheer, and masts and funnel set at a considerable rake, have all been combined to beautify the models, with the result that the best of the modern yachts are undeniably graceful and pleasing. In "Lysistrata," however, the curving clipper bow has been discarded in favor of a straight stem, the sheer gives but a moderate rise fore and aft, the counter is long and looks longer through the absence of forward overhang; for spars there is only one mast perched abaft the funnel and a single yard, to be used for signaling purposes, and mast and funnel are set apparently plumb; though they have in reality rake enough to keep them from looking as if they were falling forward. The whole effect is odd and disappointing, though the result is said to be better in the actual vessel than in the illustration. In any case we sincerely hope that the "Lysistrata" will never be accepted as a model for our steam yachts; for we should be sorry to see the oddities which have been incorporated in this vessel repeated. The single mast with its yard and the general appearance of the bow are strongly suggestive of the yachts which were purchased by the navy during the Spanish war and transformed into scouts and lookout vessels. There were good reasons for the changes made; but it was the universal opinion that the beauty of the transformed yachts was almost entirely lost by the time they were in fighting trim. We fail to see any good reason why changes in yacht architecture which were due to the necessities of war should be perpetuated in time of peace.

The hull is of steel, and built to Lloyd's highest requirements, 100 A 1, under special survey. A double cellular bottom runs the whole length of the ship, and is divided into water-tight compartments so that it may be utilized for the carrying of water ballast. Over the hold there are five decks, and notwithstanding the exceptional amount of space given up to the boilers and engines the hull is made to provide ample accommodation for the owner, his guests, and the large staff required for the proper working of the ship.

Amidships a considerable amount of accommodation is given up to the casing of the boiler and engines, and here there is a novelty which should appeal strongly to those of the guests who desire to see more of the working of the ship than generally comes under the notice of the yachting guest. Under the main deck and above the engines there is a large open well. Round this is a spacious railed gallery from which the whole work of driving the ship can be studied. Aft of this there are more staterooms and stairways giving access to the lower decks. The main deck is finished with a full poop, and a low turtleback forecastle, and it must be admitted that the whole sweep presents an effect free from any suggestion of topheaviness or overloading. On the cabin deck the chief feature is the owner's principal stateroom, which is a specially spacious apartment measuring no less than 20 feet square. Forward of this there are four suites of staterooms, dressing-rooms, and bathrooms, all of them planned on a much roomier scale than is usually seen aboard ship. The lower decks are given up principally to the storerooms, though accommodation is found here for a few servants and crew.

The engines are triple expansion, in two sets, each with high-pressure, intermediate, and two low-pressure cylinders. They run with the utmost smoothness, and it was remarked in the course of the trials that it was almost impossible, in some parts of the ship, to tell when the engines had started. There are five boilers of the ordinary Scotch type, four being used for feeding the principal engines, while the other is used for the various auxiliary engines. No statement has been made as to the speed contracted for, but the trials were particularly thorough and exhaustive. Three full speed runs at full power were made between Cloch and Cumbrae, and the average speed obtained was 19.27 knots.

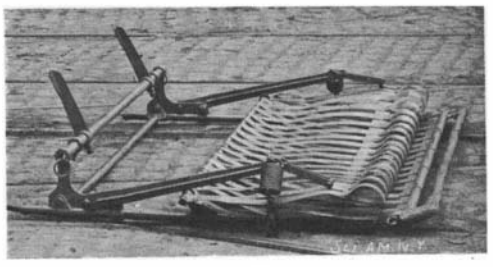
"Lysistrata" carries eight boats, three of them being steam launches, and the other five intended for propulsion by oars and sails. She has been provided with a very complete set of auxiliary engines, and is lit throughout by electricity. Practically the only concession to the custom of external decoration is in the immense owl carried as figurehead, and fitted in such a way that the eyes can be made to blaze with electric searchlights. From either side runs a scroll of carving, into which there has been wrought the owner's motto, "La nuit porte conseil."



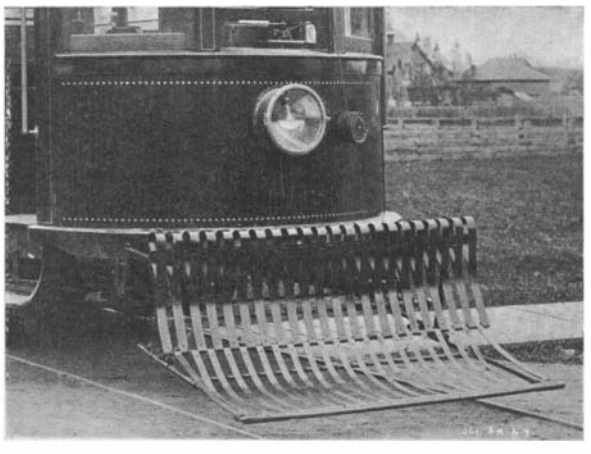
STEAM YACHT "LYSISTRATA."

Length, 285 feet. **Beam,** 39 feet 9 inches. **Depth,** 24 feet. **Speed,** 19.27 knots.

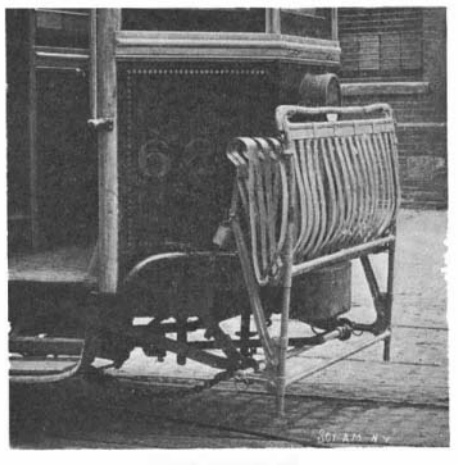
Theodosius F. Secor died recently, at the advanced age of ninety-two. He was one time a partner of the late Commodore Cornelius Vanderbilt, and was a pioneer marine engine builder. In 1848 he built the steamship "New World," which at that time was the fastest and largest vessel in this country. It was not until nearly thirty years later that a vessel with equal speed was built. Mr. Secor also built many of the Hudson River boats, as well as some for the Great Lakes.



Fender Completely Removed from Car.



Car-Fender in Operative Position.



Fender Raised.

VIEWS OF THE WATSON LIFE-GUARD.

AN EFFICIENT CAR-FENDER.

A life-guard which has successfully withstood the most severe tests to which it could be subjected on Canadian electric cars running at high speed is the subject of the illustration herewith reproduced. For the photographs from which these illustrations were made we are indebted to the inventor, Mr. William T. Watson, of Victoria, B. C.

The car-fender is composed of front and rear beds supported by a frame consisting of a relatively stationary rear section and a front section mounted to slide to and from the rear section. The rear bed is inclined; its upper end is attached to the car, while its lower end is located above the rear frame-section. To the lower end of this rear fender-bed, the front bed is hinged by its rear end. The front end of the front bed is attached to the sliding section of the frame.

The frame is supported by a transverse shaft mounted in brackets extending downward from the car. The transverse shaft is provided with upwardly-projecting arms located in the path of push-bars mounted to slide longitudinally beneath the car and connected with a spring-pressed rock-shaft. With this rock-shaft a rack-bar is connected, extending through the platform of the car. A holding-pawl is provided to lock the rack-bar. The rack-bar is operated by a foot-lever to throw the fender into operative position.

The two beds of the fender are yielding; and the force of a shock is still further broken by a rubber buffer on the front bed and by the fact that the front bed can slide back. In case of an emergency the gripman or motorman depresses the foot-lever which lifts the rack-bar, the holding-pawl engaging the teeth as they ascend through the platform and preventing the fender from rising. The push-bars beneath the car-bottom press outward on the upwardly-extending arms of the transverse shaft, causing the fender to drop at the front end. When the fender is to be raised back to its initial position, the holding-pawl is released from the rack-bar, the rock-shaft being turned by its spring. The fender can therefore be adjusted any desired height from the rails and locked against rising, but is not prevented from dropping from its own accord if any obstacle fall upon it.

The fender can be raised to any desired height while the car is running at full speed. Such is the mounting of the frame, that the entire fender can be removed with astonishing quickness. The fender can be applied to any car and operated from any point on the car. No time is lost at the end of a trip in adjusting the fender, for the motorman has only to operate his foot-lever.

Cement for South Africa.

Consul-General Guenther writes from Frankfort, April 15, 1901: According to official reports, South Africa is a good market for cement. All public buildings, stores, and dwellings are coated with cement. There are very few wooden buildings erected. The masons in South Africa are mostly Malays. They are skilled in their trade and do the work very neatly. Cement is also largely used in the construction of aqueducts, wharves, chimneys, walls, etc. While the principal import of cement is from Great Britain, considerable quantities are also imported from Belgium and Germany, the latter, on account of its cheapness, increasing. Belgium cement is of good quality and as cheap as the English article. The reports state that American cement could compete well, as transportation from our country is not higher than from Europe. Cement cannot be made in South Africa, for lack of raw material.

Minnesota State Legislature, in its last session, enacted a law that money may be loaned to fireproof grain elevators without insurance. The elevators must be passed upon as fireproof by the State Railway Commission.