

IMPROVED STEAM PACKING.

The sectional packing shown in the annexed engraving is designed for the stuffing boxes of steam cylinders, pumps, air chambers, etc. The metallic packing rings, *g*, have their adjoining faces inclined in opposite directions, so that the pressure of the gland will contract and expand alternate rings, and thus pack the stuffing box and the piston rod. These packing rings are used in connection with a conical sleeve, *A*, contained by the box and surrounding the piston rod. This sleeve is divided longitudinally into two equal parts, *a*, and into two small wedge-shaped pieces which lie between the ends of the larger portions. The ring is separated into sections in this manner to facilitate the removal of the ring from the stuffing box. Two semicircular pieces, *d*, are placed at the bottom of the stuffing box to adapt the ring, *A*, to the box. Grooves, *e*, are made in the ring, *A*, *d*, to receive some of the water of condensation, which prevents overheating the packing.

Part of the rings, *g*, are beveled to adapt them to the inner surface of the ring, *A*. It will be noticed that when the gland is tightened up, the rings, *g*, when pressed, move alternately in opposite directions; that is, the first ring presses the piston rod, the second one presses the inner surface of the stuffing box, and so on.

The inventor claims that the packing remains tight, wears smoothly and evenly, and does away with a great deal of friction which is unavoidable in other methods of packing, and he furnishes a list of prominent mining companies and mill owners in the mining regions of the Southwest, who indorse it and are using it with entire satisfaction.

Further particulars may be obtained from the inventor, Mr. George C. Phillips, of Silver City, Nevada.

PROA LADRONIA.

This boat was built on Cayuga Lake, N. Y., 1877, for T. M. Prentiss, Boston, Mass. (Named for the Ladrone Islands, where the "Flying Proa" originated.)

CONSTRUCTION.—HULLS.

Two half sections of a boat—closed.

Inner Sides.—Smooth and straight from end to end.

Upper Sides.—Flat and at right angles with inner sides.

Outer Sides.—Modeled with as much attention given to lines as for a single boat, gaining thereby greater bulk and buoyancy than is possible in straight-sided round tubes or simply boat-shaped pontoons; immense reserve of floating power being essential in a double boat to prevent the leeward hull from being submerged in rough weather.

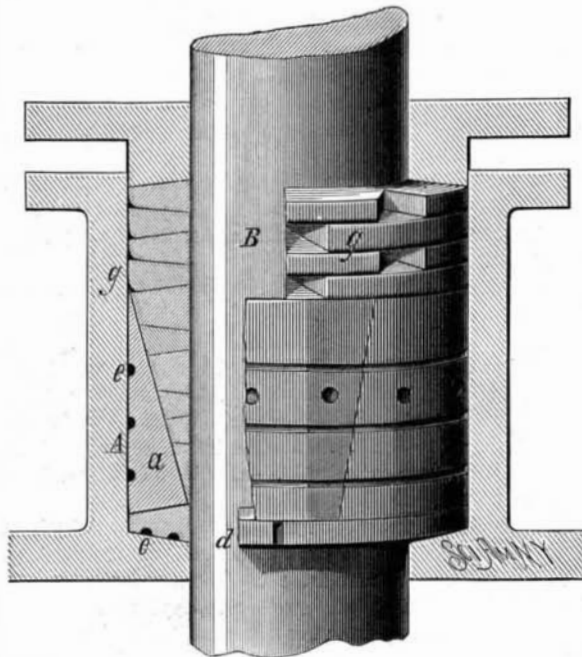
Ribs of hulls are of oak, covered with $\frac{3}{4}$ inch pine. Length of hulls over all, 17 feet; width, upper sides, amidships, 18 inches; depth, inner or flat sides, amidships, 20 inches; depth at bow, 29 inches; depth at stern, 24 inches. The hulls are placed 5 feet apart, and connected together by six transverse beams, each 3 inches square, firmly bolted and riveted, alike to the inner and outer sides of hulls.

Each hull is provided with a $2\frac{1}{2}$ inch brass deck-screw for

the purpose of pumping out. As yet there has been no occasion to use a pump.

DECK.

The deck or platform—laid in alternate strips of butternut and pine, $\frac{3}{4}$ inch thick and matched—is semicircular in shape at the bow and stern. Extreme length of deck, 15 feet; extreme width of deck, $8\frac{1}{2}$ feet. The under surface of deck is sheathed and painted, to prevent any resistance of

**PHILLIPS' STEAM PACKING.**

the cross beams to the passage of water between the two hulls.

Railing of oak—2 feet high—round the deck, having a base board 4 inches wide, and top board 2 inches wide. Intervening space—18 inches—of rope netting, painted red and white.

BULWARKS.

Painted oilcloth, wound round two spring window shade rollers placed perpendicularly inside a close fitting black walnut case, serves for bulwarks to protect against spray when beating to windward in rough weather.

The Mast.—21 feet; is stepped 5 feet from bows, midway between the hulls. It is square at the foot, where it is made to slip easily into and out of a black walnut box, 18 inches deep. The latter is mortised to one of the deck beams (second one from the bows), and supported by four iron braces riveted to three of the beams, placed nearer together for that purpose when laid than the three aft beams.

RIGGING.

Length of boom, 21 feet; length of yard, 24 feet. Four blocks only are used, three of them single and one double.

The Sail.—Pattern, modified lateen; dimensions, $28\frac{1}{2}$ square yards. Is hoisted by a single halyard, by which alone it is held to the mast above; and below by a stout wooden hoop attached to the boom where it crosses the mast—say 5 feet from the deck—thereby insuring ample head-room, and allowing the sail to veer with the wind as freely as a weathercock, which is particularly advantageous in heavy flaws, as it obviates the necessity of luffing to avoid unusual strain upon mast or rigging.

PERFORMANCE.

Capsizing seems to be an impossibility with this craft. So great is her stability that the mast and entire rigging have been blown overboard without so much as stirring a campchair on deck.

Gibing may be simply denominated one of her most innocent performances.

Being wonderfully steady under canvas, by reason of her double construction, she is wholly independent of ballast.

The flat side of the windward boat always acts as a center-board; and both hulls being closed against the ingress of water, she never requires bailing. Any water she may ship discharges itself at once without doing any harm. Her weight is about 1,500 pounds, and she draws 6 inches of water.

She sails and steers well on all points, and will lay closer to the wind than most ordinary boats, owing probably to the two keels, which give a double hold on the water. On this is largely dependent the ease with which the Ladronea may be put about.

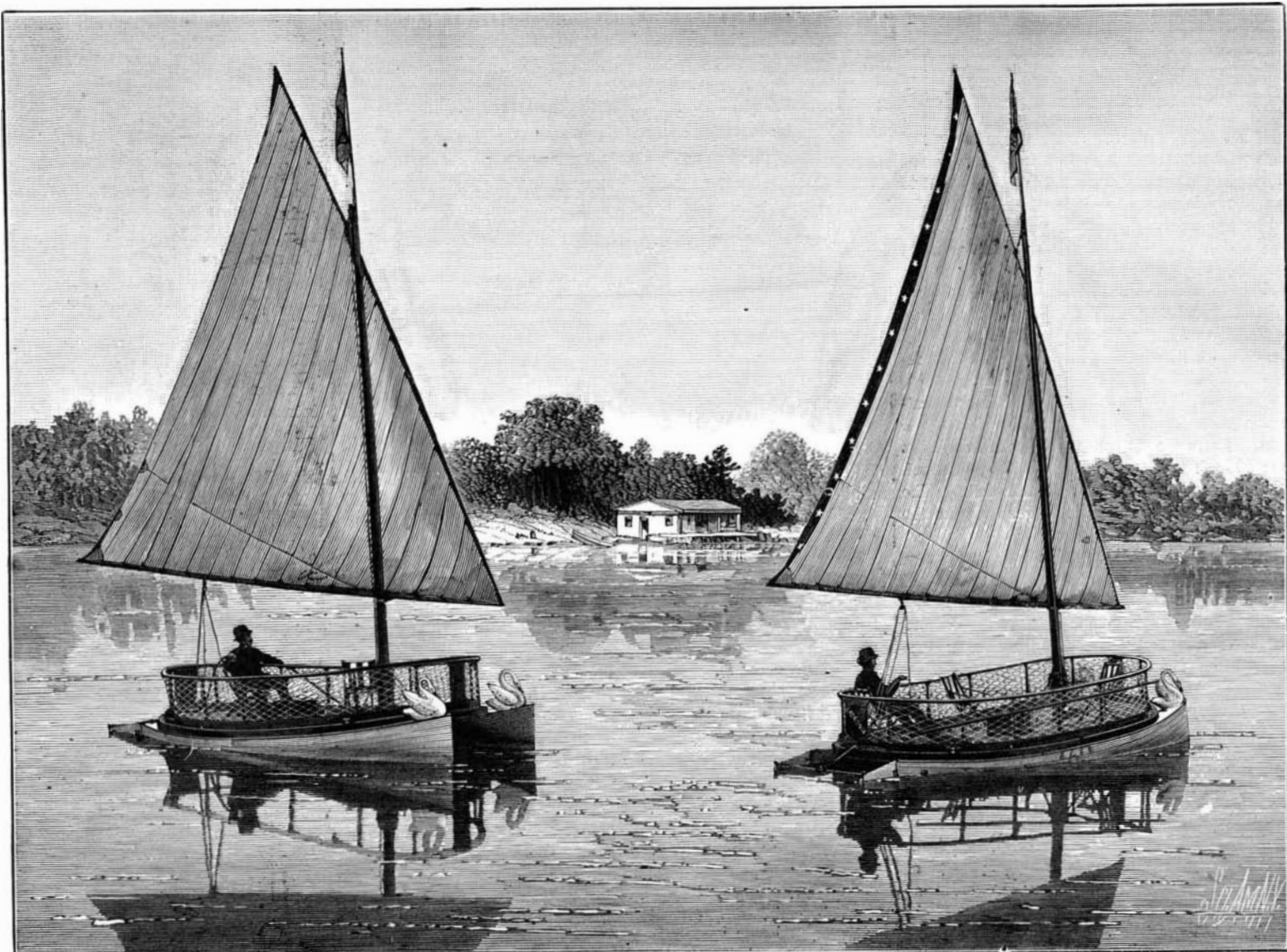
With skillful management of the helm, while close to the wind, she rarely misses stays. A dexterous movement of the tiller at certain points of tacking seldom fails to put her about speedily.

This boat was not built for sea service, but merely to be safer and steadier in protected waters than the common open boat. Neither is she suitably rigged for speed, and yet she has repeatedly outsailed the fastest boat hereabouts; one 5 or 6 feet longer than the Proa, carrying double her spread of canvas, and that has always taken the first prize in regattas on this lake.

My object in adopting this style of craft is to render boating here a safe recreation for the ladies of Wells College, who have appreciated, during the past season, the comfort of her roomy deck and freedom from pitching and careening, and my purpose in giving you the result of this experiment is solely that you may call to the attention of your nautical readers a double-hulled boat differing in many particulars from those heretofore introduced into our waters, and whose merits it will always give me pleasure to discuss with any of your readers, giving them such further details of construction and performance as may be required.

Aurora, N. Y.

T. M. PRENTISS.

**PROA LADRONIA—A NEW DOUBLE PLEASURE BOAT.**