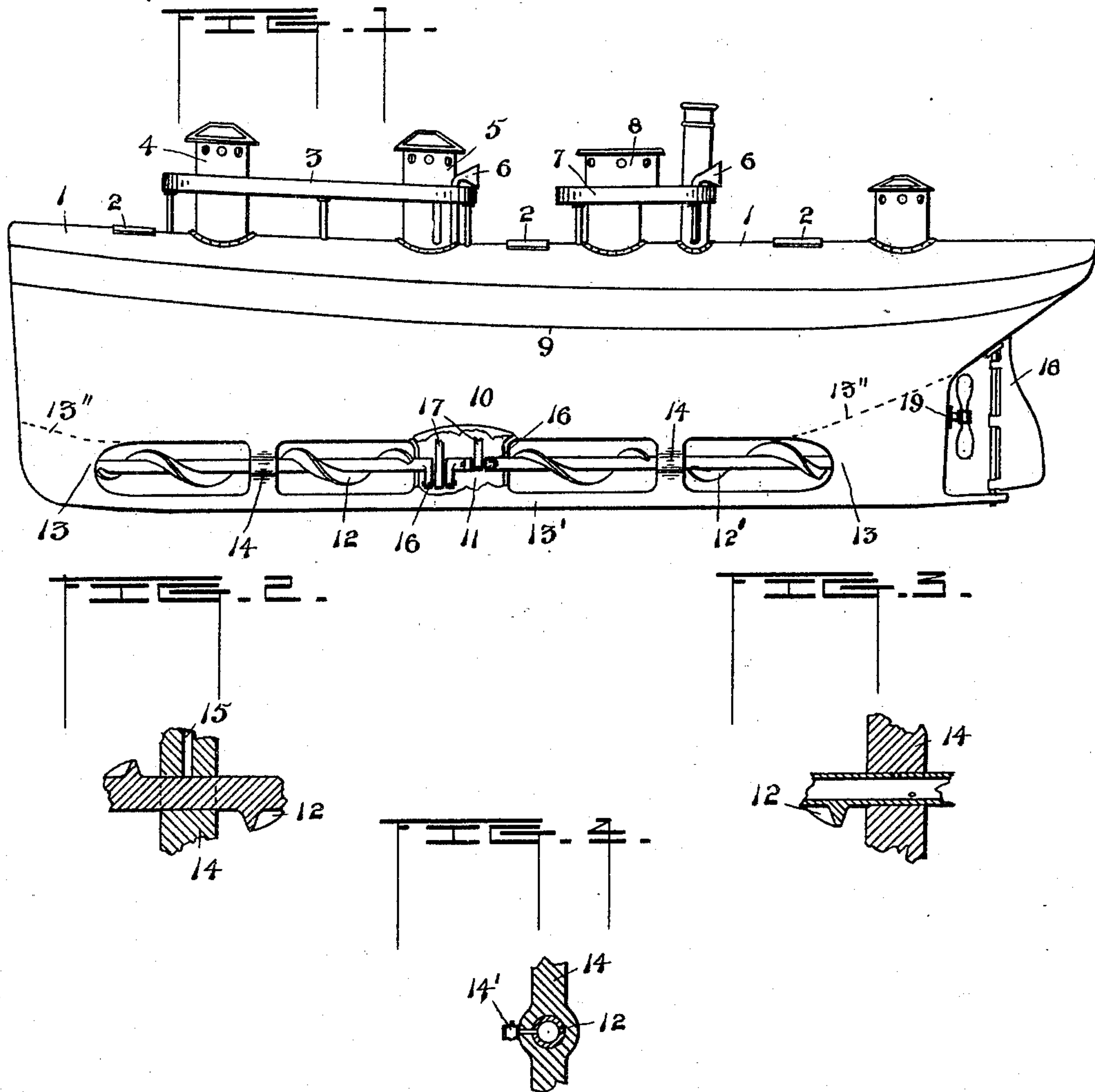


(No Model.)

C. HAUGAN.
STEAMBOAT.

No. 509,808.

Patented Nov. 28, 1893.



Witnesses

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by

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UNITED STATES PATENT OFFICE.

CHRESTOFER HAUGAN, OF WEST SUPERIOR, WISCONSIN.

STEAMBOAT.

SPECIFICATION forming part of Letters Patent No. 509,808, dated November 28, 1893.

Application filed February 15, 1893. Serial No. 462,466. (No model.)

To all whom it may concern:

Be it known that I, CHRESTOFER HAUGAN, a resident of West Superior, in the county of Douglas and State of Wisconsin, have invented certain new and useful Improvements in Steamboats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to steam boats and has for its object to increase their speed and efficiency and it consists in the constructions hereinafter described and particularly pointed out.

In the accompanying drawings Figure 1 is a side elevation partly in section of the improved boat; and Figs. 2, 3 and 4 are details.

Numeral 1 indicates a rounded upper deck provided with three hatchways 2 as indicated.

3 denotes a hurricane deck which may be twenty-five feet by fifty and supported eight feet above the main upper deck by suitable posts.

4 indicates a lookout turret; 5 a similar structure to afford additional light and ventilation to the interior of the vessel.

6, 6 are ventilators.

7 is the commander's bridge and 8 denotes a turret similar to those denoted by 4 and 5 and like them having skylights on top and ventilators in their sides. It is intended to hold a cable or cables in its lower part and turret 4 also is adapted to carry a cable. Each of the turrets 4, 5 and 8 is preferably about eight feet in diameter.

9 indicates the level of a second deck and 10 the situation of the machine or power room.

11 indicates a well which may be ten or more feet high, ten feet wide and thirteen feet long.

12 and 12' denote screw propellers and 13 the keel the lower part 13' of which constitutes a shield for the propeller screw on its lower side.

The dotted lines 13'' indicate approximately the keel portion of the vessel bottom.

Each propeller shaft has a bearing in the

well or housing 11 and in posts 14 and in the keel at 13. These bearings are packed water-tight and the posts may if desired be provided with a conduit 15 for conveying a lubricant to the bearing. In some cases I contemplate making the screw shaft tubular in which case a lubricating fluid such as oil, or steam, or oil and steam can be passed through such tubular shaft and out of perforations in the same situated in the bearings, and in case steam is used the condensed water can be blown out at intervals through small check valves 14'. The bearing posts 14 are solidly secured to the keel or shield 13 and preferably made integral with it. They may be secured to the boat's bottom by means of plates formed on their upper ends and adapted to be bolted to said bottom. They have a diameter of about two feet but are considerably enlarged at the bearings of the propeller shafts. They may be made eight feet high to afford that much space for the screw propeller.

16 denotes cranks on the propeller shafts and 17 connecting rods leading to eccentrics driven by an engine not shown.

18 is a rudder, 19 a housing for a stern screw propeller shaft 20 of any usual or approved construction.

It will be seen that by my construction the engine is located amidship and power conveyed directly to a propeller or to propellers which extend the greater part of the length of its vessel and are situated on each side of the center whereby the efficient action of each propeller or each part of it if it has but a single shaft is equally distributed fore and aft.

The keel 13, 13' constitutes a shield for the whole length of the screw propeller and for its ends and it is firmly stayed and the narrow intermediate part supported by the posts and by the walls of the well 11. This latter forms a strong support for the propeller shaft and access is given by it to the ends of said shafts. Its oval form in horizontal section offers comparatively small resistance to the water.

Having thus fully described my invention, what I claim is—

The combination of the keel having a cut away portion and comprising the parts 13 and a propeller shield 13' continuous therewith, posts connecting said shield to the boat bot-
5 tom, and the screw propeller shaft extending through the posts and having bearings therein and in the parts 13 of the keel said posts being enlarged about the bearings therein and a well intermediate the posts and driving

cranks on the shaft within said well, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHRESTOFER HAUGAN.

Witnesses:

A. P. BJORKLUND,

A. E. ERIKSON.