(No Model.)

## J. HAYS.

## MECHANISM FOR PROPELLING VESSELS.

No. 578,987.

Patented Mar. 16, 1897.

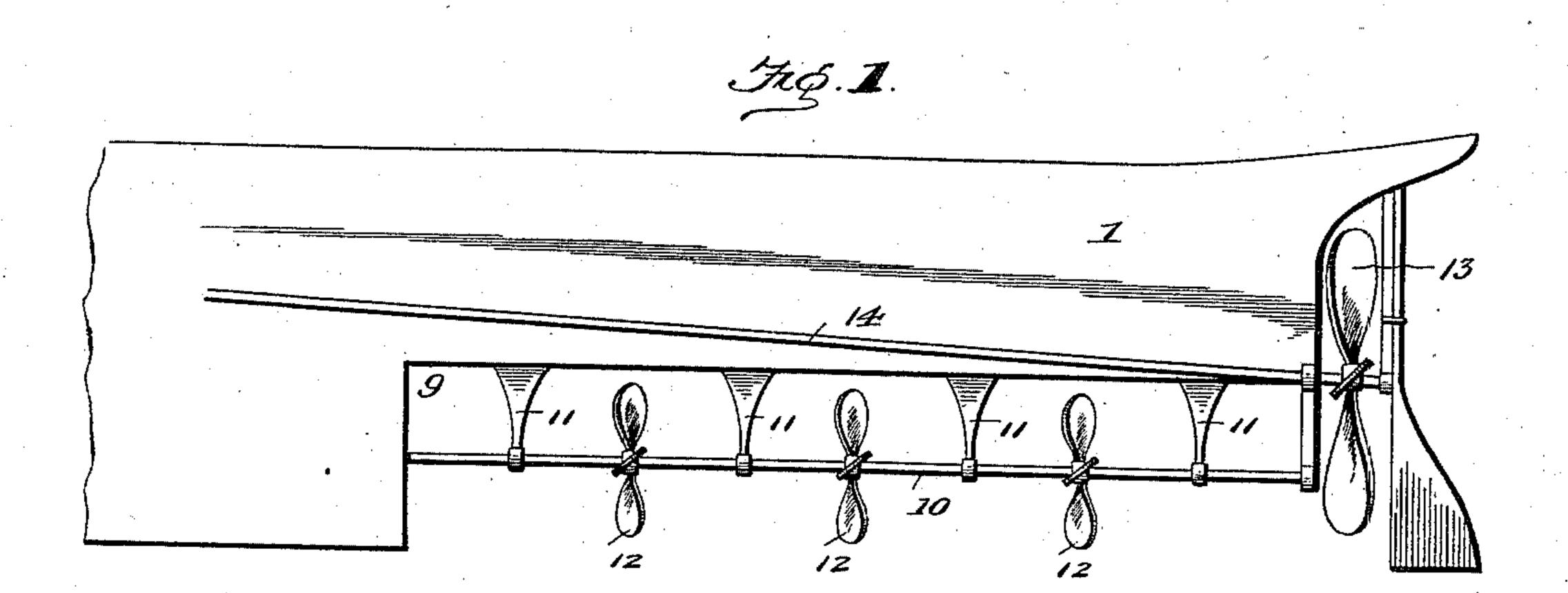
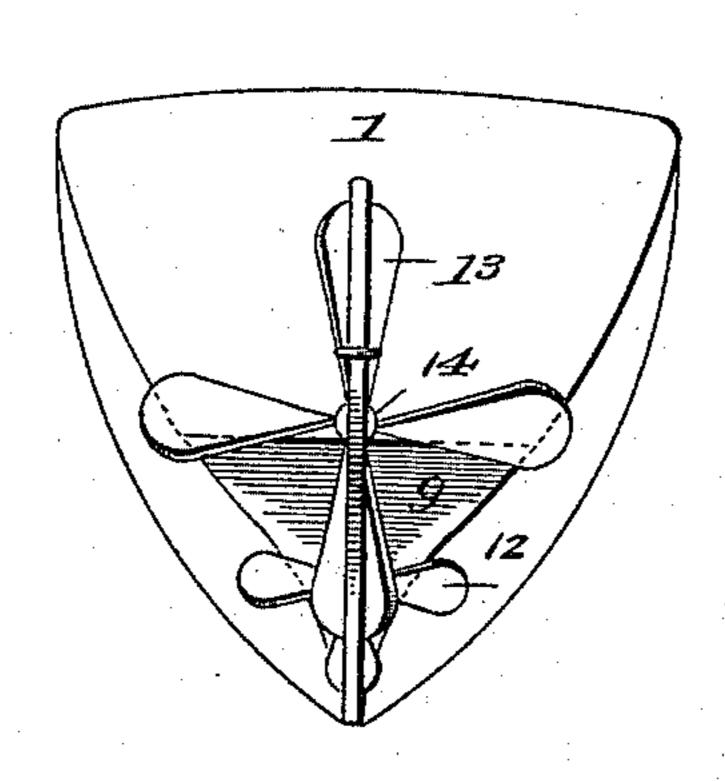


Fig. 2\_



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## United States Patent Office.

JASPER HAYS, OF NASHVILLE, TENNESSEE.

## MECHANISM FOR PROPELLING VESSELS.

SPECIFICATION forming part of Letters Patent No. 578,987, dated March 16, 1897.

Application filed March 24, 1896. Serial No. 584,667. (No model.)

To all whom it may concern:

Be it known that I, Jasper Hays, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tensesee, have invented certain new and useful Improvements in Mechanism for Propelling Vessels; 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 appertains to make and use the same.

My invention relates to improvements in mechanism for propelling vessels; and one object of my invention is the provision of mechanism which will insure a smooth and rapid

running of the vessel.

Another object of my invention is the provision of a propelling mechanism which will act properly upon the water and which will be so disposed with reference to the vessel that it will be guarded by the hull and cannot be struck by an obstruction in the water.

Another object of my invention is the provision of a propelling mechanism which can be easily operated to insure a rapid and smooth running of the vessel and which will be comparatively simple and inexpensive, thus rendering the improvement practical.

To attain the desired objects the invention consists of a propelling mechanism embodying novel features of construction and combination of parts, substantially as disclosed herein.

Figure 1 represents a side elevation of the hull of a vessel provided with my propelling mechanism, and Fig. 2 is an end view thereof.

Referring by numeral to the drawings, 1 designates the hull of the vessel, which at the

rear or stern on the under side is formed with the compartment 9, from which depend hangers or brackets 11, in which is mounted the shaft 10, carrying a series of small propellers 12, and above this shaft is arranged the inclined shaft 14, carrying at the end the large propeller 13.

The end propeller 13, it will be noticed, is larger than the adjacent smaller propellers, and it acts with greater force upon the water than the smaller ones and serves to move the boat rapidly in connection with the smaller 50 ones.

From the foregoing description, taken in connection with the drawings, it will be readily understood that the peculiar construction of the hull and arrangement of the propelling 55 mechanism permits the water to run freely and readily to all the propellers, insuring the proper action thereof and lending to the vessel increased speed and smooth running.

The combination with the hull having a compartment under the stern thereof, a horizontal shaft arranged parallel with the upper wall of the hull and carrying propellers, a shaft arranged above the horizontal shaft and 65 at an incline and a single propeller on the outer end of said inclined shaft, said propeller being of larger size than the others and forming the outer propeller of the series.

In testimony whereof I affix my signature 70 in presence of two witnesses.

JASPER HAYS.

Witnesses:

I claim—

B. P. GUILL, ANDREW MARSHALL.