

(No Model.)

C. F. OSBORNE.
PROPELLER FOR FLOATING VESSELS.

No. 508,334.

Patented Nov. 7, 1893.

Fig. 1.

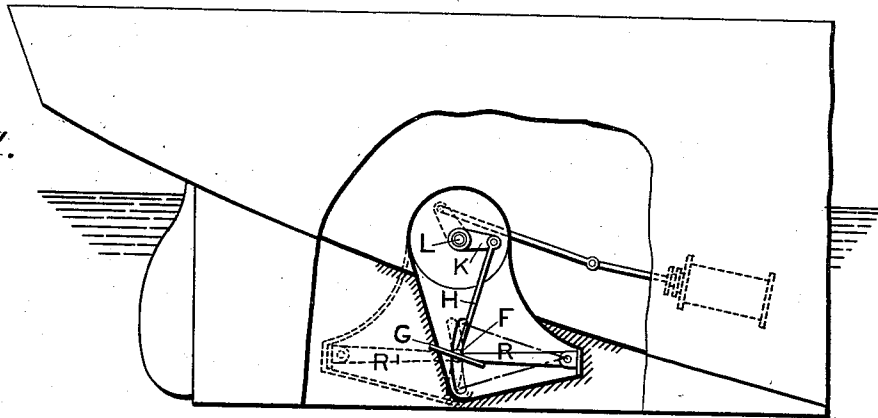


Fig. 2.

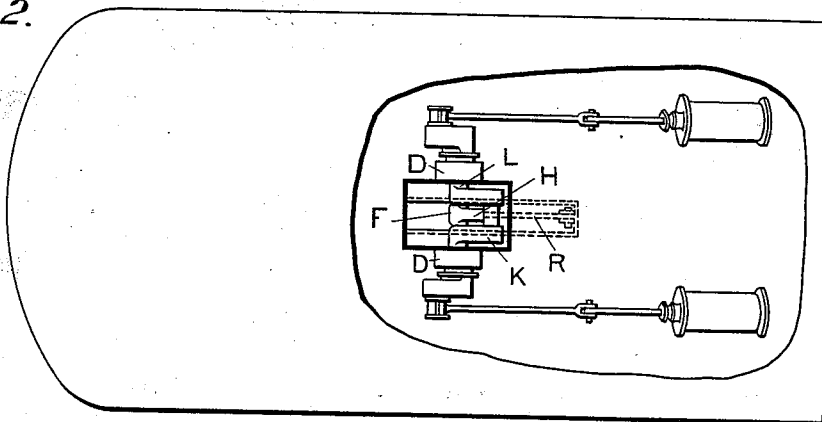
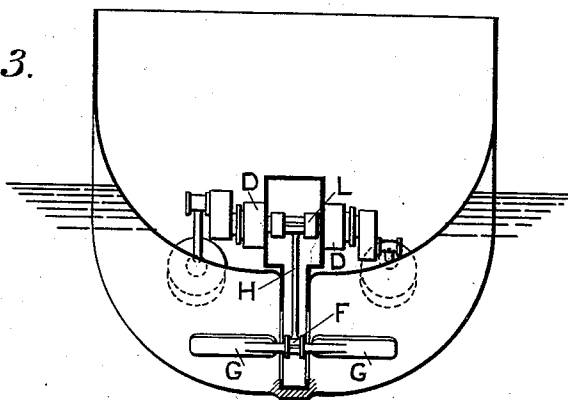


Fig. 3.



Witnesses:

G. W. Rea.

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By

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Atty.

UNITED STATES PATENT OFFICE.

CHARLES F. OSBORNE, OF CAPE TOWN, CAPE COLONY, ASSIGNOR TO ALFRED BORWICK, OF LONDON, ENGLAND.

PROPELLER FOR FLOATING VESSELS.

SPECIFICATION forming part of Letters Patent No. 508,334, dated November 7, 1893.

Application filed February 20, 1893. Serial No. 463,109. (No model.) Patented in England February 11, 1893, No. 3,105; in France February 11, 1893, No. 227,843; in Italy March 10, 1893, LXVI, 38, and in Belgium May 18, 1893, No. 104,711.

To all whom it may concern:

Be it known that I, CHARLES FREDERICK OSBORNE, a citizen of England, residing at Cape Town, Cape Colony, have invented a
5 new and useful Improvement in Propellers for Floating Vessels, (for which I have obtained Letters Patent in Great Britain February 11, 1893, No. 3,105; in Italy March 10, 1893, Vol. LXVI, No. 38; in France February
10 11, 1893, No. 227,843, and in Belgium May 18, 1893, No. 104,711,) of which the following is a specification.

My invention relates to the construction and means of operating reciprocating propellers
15 for floating vessels as I shall describe referring to the accompanying drawings.

Figure 1 is a side view partly in section. Fig. 2 is a sectional plan, and Fig. 3 is a transverse section of the stern part of a vessel provided with a propeller according to my invention.
20

Two propeller blades G, which may be rectangular as shown, project, one on each side, from a boss F which is rigidly attached to the
25 end of a connecting rod H. This connecting rod is linked to a crank K on a shaft L which is worked by a pair of engines arranged as shown or otherwise. The crank K, connecting rod H and boss F are all inclosed in a casing, through stuffing boxes D D in the sides
30 of which the shaft L passes. The boss F may work in straight guide slots in the side plates of the casing, or it may be, as shown, linked to a radius link R and pass freely through the side slots without being guided by them.
35 The radius link may extend aft, as indicated at R', the inclosed space in the deadwood being suitably shaped, to admit of its movement. The propeller blades G being rigidly attached

to the connecting rod H, are variously inclined 40 as they ascend and descend in conformity with the varying inclinations of the connecting rod as its head travels along the circular path of the crank. The displacement of the water by the blades so moving is such that 45 the reaction on them operates to propel the vessel.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim— 50

1. The herein described propeller for vessels, comprising a boss and propeller blades rigidly attached thereto and projecting therefrom in combination with a rod rigidly attached to said boss at one end and at its other 55 end linked to a crank, and means for operating said crank, substantially as described.

2. The herein described propeller for vessels, comprising a boss and propeller blades rigidly attached thereto and projecting therefrom, in combination with a connecting rod 60 rigidly attached to said boss at one end and at its other end linked to a crank, means for operating said crank, and a guide for guiding the connecting rod, substantially as described. 65

In testimony whereof I have hereto set my hand and seal, in presence of two subscribing witnesses, this 6th day of February, A. D. 1893.

CHARLES F. OSBORNE. [L. s.]

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