No. 720,534. PATENTED FEB. 10, 1903.

D. E. NORTON.

PROPELLING MECHANISM FOR BOATS.

APPLICATION FILED NOV. 19, 1902.

NO MODEL.

FIG. 1.

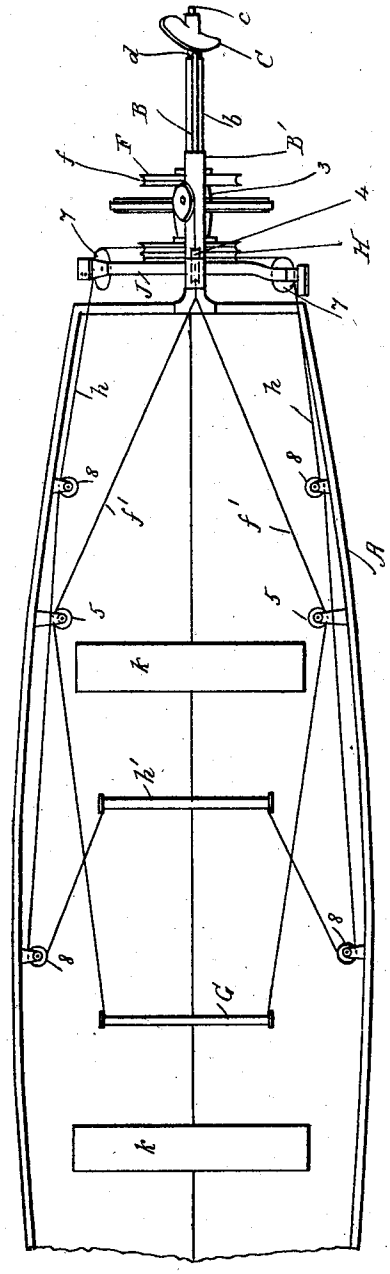


FIG. 3.

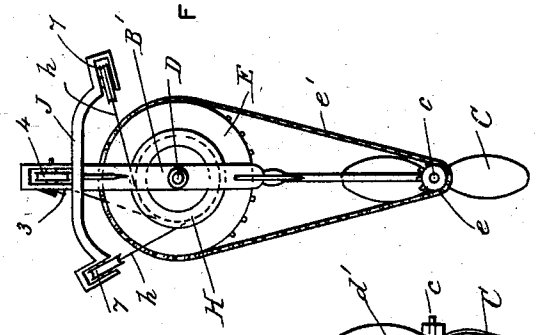
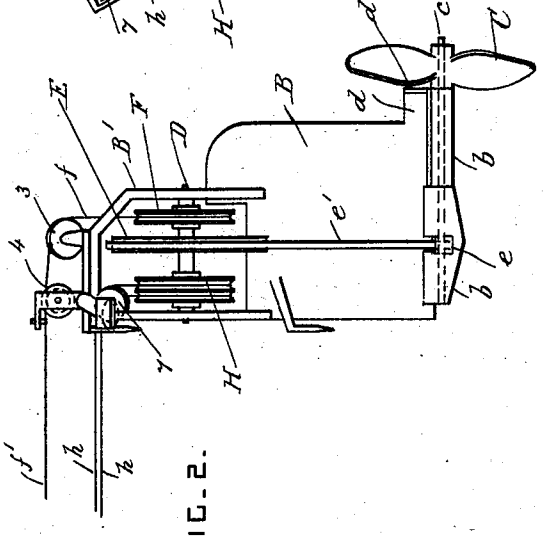


FIG. 2.



WITNESSES

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PROPELLING MECHANISM FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 720,534, dated February 10, 1903.

Original application filed September 2, 1902, Serial No. 121,915. Divided and this application filed November 19, 1902. Serial No. 132,007. (No model.)

To all whom it may concern:

Be it known that I, DOWNES ELLAND NORTON, a subject of the King of Great Britain and Ireland, residing at Hampton Hill, Middlesex county, England, have invented certain new and useful Improvements in Propelling Mechanism for Boats; 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.

This application is a division of the application filed by me on September 2, 1902, Serial No. 121,915.

This invention relates to propelling mechanism for boats; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a plan view of the stern of a boat provided with driving mechanism according to this invention. Fig. 2 is a side view of the driving mechanism. Fig. 3 is an end view of the same.

A is the stern portion of a boat, and B is its rudder, pivoted to the stern in any approved manner.

C is a propeller secured on a shaft *c*, which is journaled in bearings *b* at the lower part of the rudder. The rudder is provided with a projection *d* at its rear, which has sharp edges *d'* adjacent to the blades of the propeller, so that weeds may be cut if they tend to wind about the propeller-shaft. The upper part of the rudder consists of an open frame B', in which a driving-shaft D is journaled.

E is a sprocket-wheel secured on the shaft D, and *e* is a sprocket-pinion secured on the propeller-shaft *c*. A drive-chain *e'* passes over the wheel E and pinion *e* and affords a means for revolving the propeller.

F is a combined spring-pulley and driving-clutch mounted on the driving-shaft D. This device F is of any approved construction and is preferably the same as shown in detail in the said application filed September 2, 1902. A flexible driving connection *f* is connected to the said spring-pulley and passes over guide-pulleys 3 and 4 on the frame B'. Two flexible driving connections *f'* form a continuation of the flexible connection *f* and pass over guide-pulleys 5, carried by the sides of the boat.

G is a handle secured to the free ends of the flexible connections *f'*.

A double combined spring-pulley and driving-clutch H is secured on the shaft D and is constructed substantially the same as the device F. Two flexible driving connections *h* are connected to the device H and pass over guide-pulleys 7, carried by a steering cross-bar J, which is secured to the top of the rudder-frame above its pivots. These flexible connections *h* also pass over guide-pulleys 8, carried by the sides of the boat, and their free ends are connected to a handle *h'*. The operators sit on the boat-seats *k* and pull upon the handles alternately. One of the operators can also steer the boat by placing the handle *h'* in an oblique position, so as to pull upon one of the flexible connections and release the other, thereby turning the rudder on its pivots.

What I claim is—

The combination, with a boat, a rudder pivoted thereto, and a steering cross-bar carried by the said rudder; of a propeller journaled in bearings on the said rudder, a driving-shaft also journaled in bearings on the said rudder, driving mechanism operatively connecting the said driving-shaft and propeller, two combined spring-pulleys and driving-clutches mounted on the said driving-shaft, guide-sheaves carried by the end portions of the said cross-bar, and flexible driving connections for revolving the said pulleys and also operating to steer the boat, substantially as set forth.

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

DOWNES ELLAND NORTON.

Witnesses:

W. W. LEWES,

D. H. SISSON.