No. 650,224. Patented May 22, 1900.

C. BEYER.

PROPELLING ATTACHMENT FOR BOATS.

(Application filed Mar. 3, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig: 1.

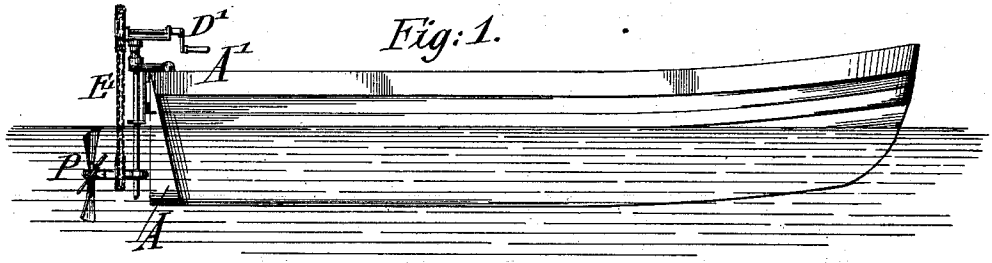


Fig: 2.

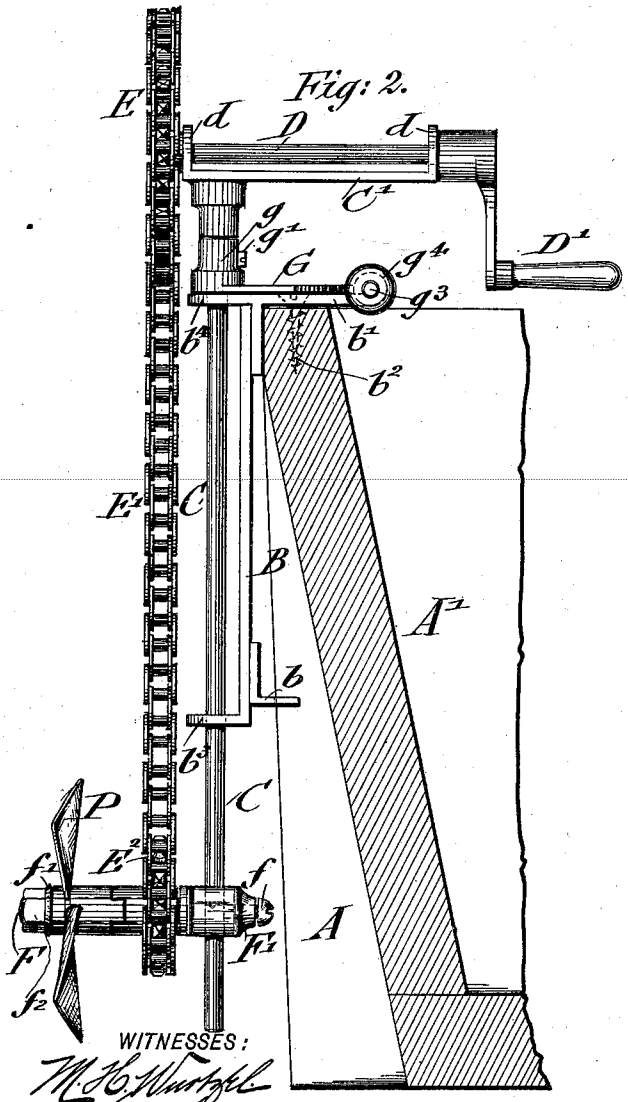
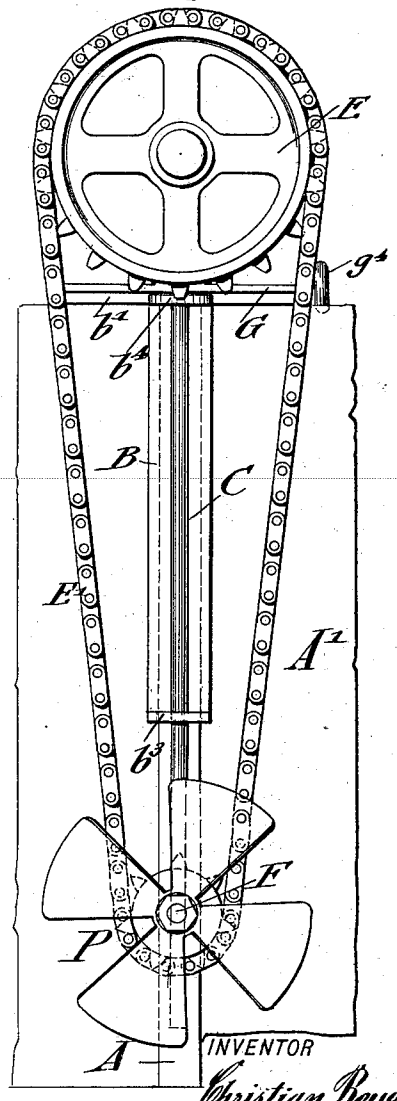


Fig: 3.



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Fig: 4.

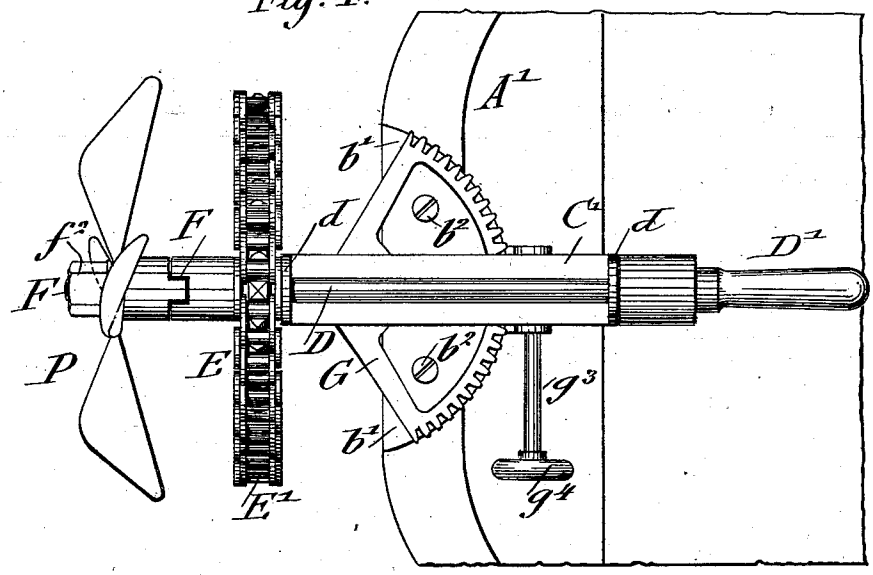
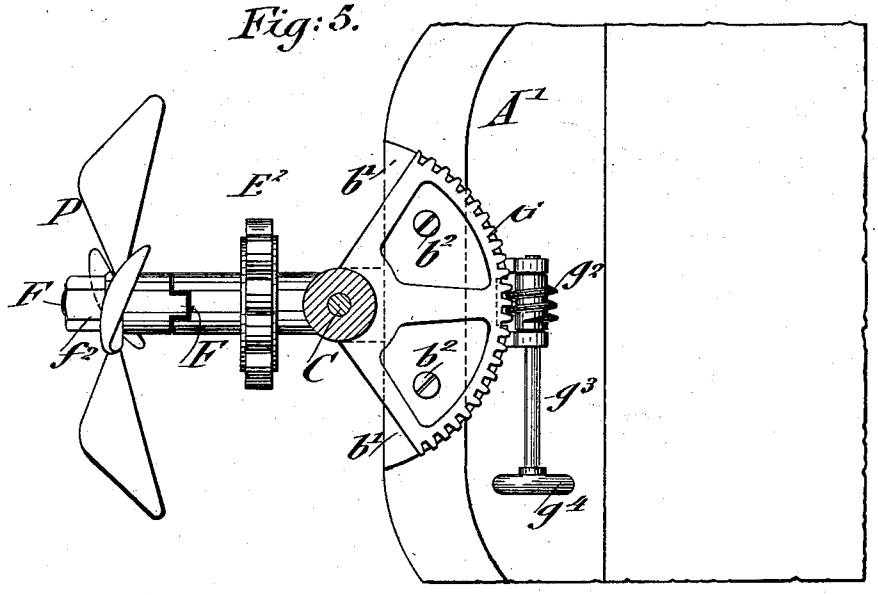


Fig: 5.



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UNITED STATES PATENT OFFICE.

CHRISTIAN BEYER, OF HOBOKEN, NEW JERSEY.

PROPELLING ATTACHMENT FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 650,224, dated May 22, 1900.

Application filed March 3, 1900. Serial No. 7,155. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN BEYER, a citizen of the United States, residing in Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Propelling Attachments for Boats, of which the following is a specification.

This invention relates to propelling attachments for small boats by which the use of oars and rudder are dispensed with, the device being so constructed that it can be readily attached to the stern of a boat and operated by a person therein simultaneously for propelling and steering the boat.

The invention consists of a propelling attachment for boats, comprising a supporting-frame adapted to be attached to the stern of a boat, a vertical spindle supported by said frame, a horizontal driving-shaft supported at the upper end of said spindle, a horizontal propeller-shaft secured to said spindle at its lower portion, means for adjusting said shaft on said spindle, a propeller on the propeller-shaft, and a sprocket-and-chain transmission between the driving and propeller shafts; and the invention consists, further, in the specific construction of the supporting-frame, whereby the mechanism is reliably secured to the boat.

In the accompanying drawings, Figure 1 represents a side elevation of a boat with my improved propelling attachment in position at the stern of the same. Fig. 2 is a vertical longitudinal section through the stern of the boat, showing my improved propelling attachment in side elevation and drawn on a larger scale. Fig. 3 is a rear elevation of the attachment. Fig. 4 is a plan view of the attachment secured to the stern of a boat, and Fig. 5 is a similar view with certain parts of the attachment removed.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the stern-post of an ordinary row-boat, and B the supporting-frame of the propelling attachment, which is secured by means of a fork-shaped lug b at the lower end of the frame B to the stern-post A and by screws b^2, passing through the segmental plate b', to the stern A′ of the boat, as shown in Fig. 2. The frame B is preferably made of wrought-iron and is provided at its lower end with a rearwardly-extending perforated lug b^3, which, like the rearwardly-projecting portion b^4 of the plate b', is provided with a hole for a vertical spindle C. To the upper end of the spindle C is fixed a horizontal bracket-arm C′, that is provided with bent-up lugs $d\,d$ at its ends, which are perforated for supporting a horizontal shaft D, provided with a crank D′ at its forward end, while to its rear end is keyed a sprocket-wheel E, which transmits, by a sprocket-chain E′, motion to a sprocket-wheel E^2, the hollow hub of which is connected by interlocking teeth and recesses with the corresponding recesses and teeth of the hub of the propeller P, as shown clearly in Fig. 2. The hubs of the sprocket-wheel E^2 and propeller P are supported on a short shaft F, which is carried by a socket F″, that is secured by a set-screw f to the lower end of the vertical spindle C. The hubs of the sprocket-wheel E^2 and propeller P are retained on the horizontal shaft F by means of a collar f', which is clamped to the end of the shaft F by a screw-nut f^2, so that the sprocket-wheel and propeller are retained on the shaft F and permitted to turn freely thereon, following the motion of the sprocket-wheel-and-chain transmission.

When it is desired to rotate the propeller so as to move the boat in forward direction, the crank-shaft D is rotated by a person in the boat, the proportion between the sprocket-wheels E and E^2 being such that a number of rotations of the propeller is made for each rotation of the crank-shaft D, so that an effective forward motion of the boat is obtained.

In connection with the propelling mechanism is arranged a steering-gear, by which the propeller can be turned to any desired angle with the boat, so that the propeller serves also as a steering device for the boat. For this purpose a toothed segment G, which is provided with a hub g, is secured to the spindle C by a set-screw g', as shown in Fig. 2. The toothed end of the segment G is placed in mesh with a worm g^2, which is keyed to a shaft g^3, which is supported in bearings of the plate b' and provided with a crank or hand-wheel g^4. When the hand-wheel is

turned, the turning of the worm-shaft produces the corresponding turning of the supporting-spindle C, to which the propelling attachment is applied, so that the propeller serves not only for propelling the boat, but also for simultaneously steering the same in any direction desired. In place of the crank and hand-wheel for turning the motion-transmitting mechanism and the steering-gear, any other operating devices may be arranged whenever, as in a large boat, it is desirable to provide means whereby a number of persons can assist in propelling the boat. Foot-operated devices can be substituted for operating the steering-gear of the boat. I do not confine myself to the special operating devices shown for imparting motion to the propelling and steering mechanisms.

The upper part of the sprocket-chain and upper sprocket-wheel are preferably covered by a sheet-metal guard or hood of any suitable construction, (not shown in the drawings,) so as to prevent the splashing of the water carried up by the sprocket-chain when the attachment is operated at full speed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A propelling attachment for boats, consisting of a supporting-frame adapted to be attached to the stern of a boat, a vertical spindle supported by said frame, a horizontal driving-shaft supported at the upper end of said spindle, a horizontal propeller-shaft secured to said spindle at its lower portion, means for adjusting said shaft on said spindle, a propeller on the propeller-shaft, and a sprocket-and-chain transmission between the driving and propeller shafts, substantially as set forth.

2. In a propelling attachment for boats, the combination, with a supporting-frame provided at its upper portion with a plate adapted to be secured to the stern of a boat and having a rearwardly-extending perforated lug, and provided at its lower portion with a fork-shaped lug and a rearwardly-extending perforated lug, of a spindle passing through said perforated lugs, a driving-shaft supported at the upper end of said spindle, a propeller-shaft at the lower portion of said spindle, a propeller on said shaft, and power-transmission mechanism between the driving and propeller shafts, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CHRISTIAN BEYER.

Witnesses:
PAUL GOEPEL,
M. H. WURTZEL.