

E. B. DESEMBERG & E. S. PILSWORTH.

PROPELLER.

APPLICATION FILED SEPT. 5, 1911.

1,028,333.

Patented June 4, 1912.

2 SHEETS-SHEET 1.

Fig. V.

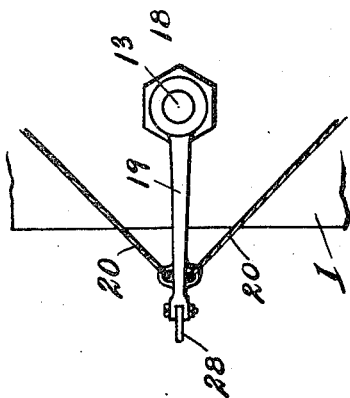
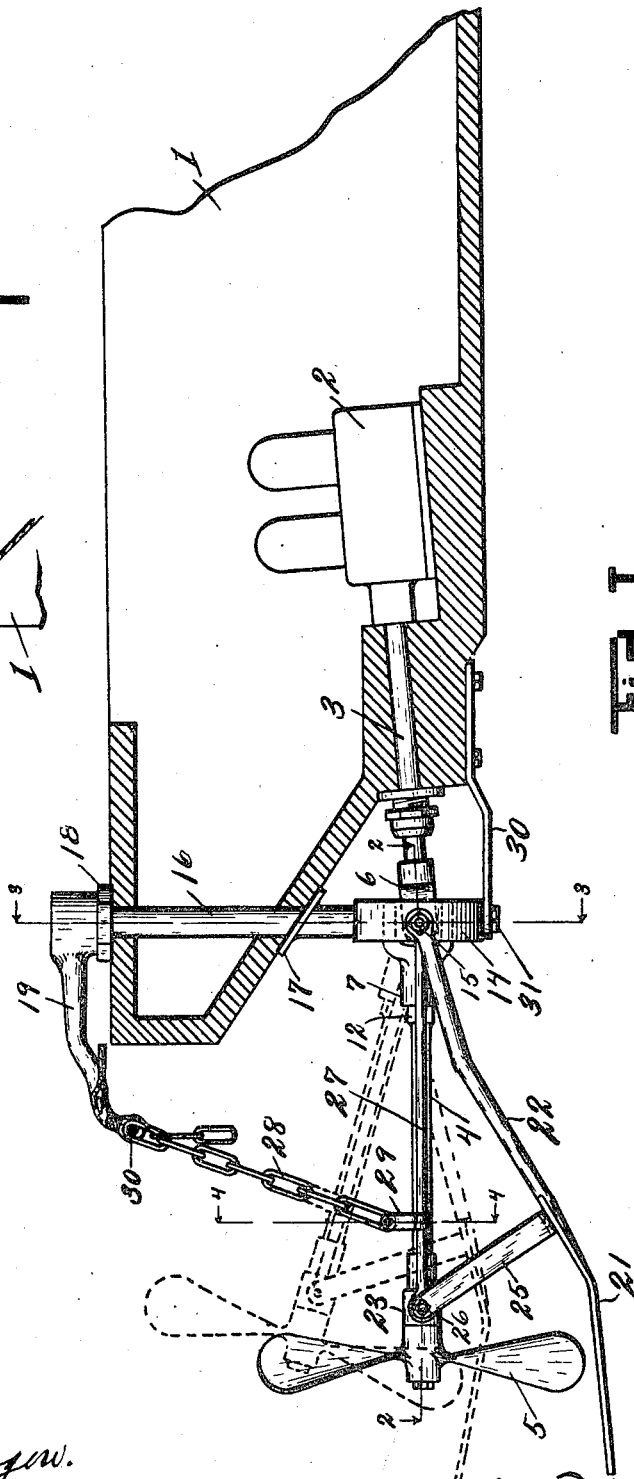


Fig. I.



Witnesses
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Inventors
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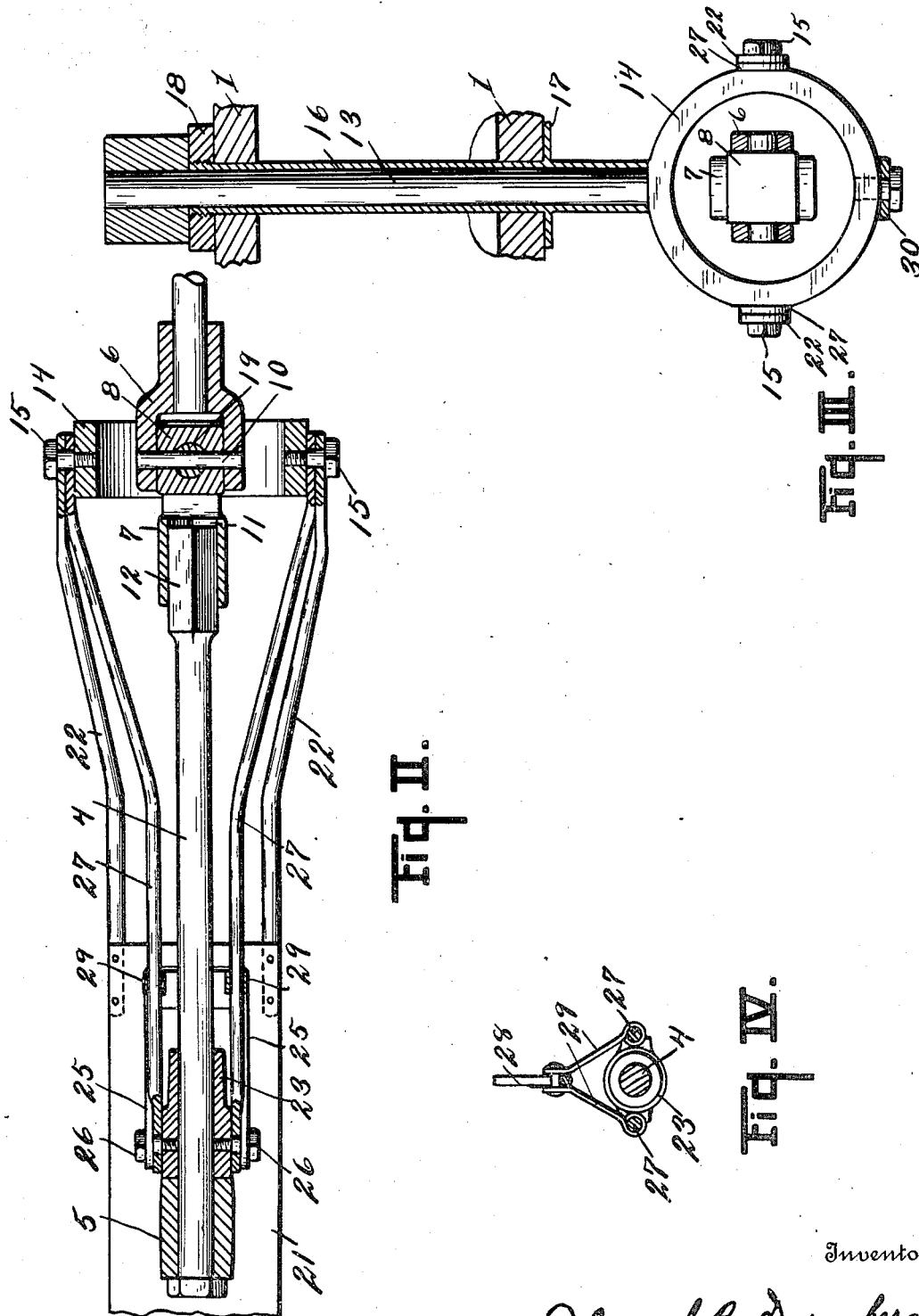


Fig. II.

Fig. IV.

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UNITED STATES PATENT OFFICE.

EDWARD B. DESENBERG, OF KALAMAZOO, AND EDWARD S. PILSWORTH, OF BATTLE CREEK, MICHIGAN.

PROPELLER.

1,028,333.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed September 5, 1911. Serial No. 647,737.

To all whom it may concern:

Be it known that we, EDWARD B. DESENBERG and EDWARD S. PILSWORTH, a citizen of the United States and a subject of the Kingdom of Great Britain, respectively, residing at Kalamazoo, Michigan, and at Battle Creek, Michigan, respectively, have invented certain new and useful Improvements in Propellers, of which the following is a specification.

This invention relates to improvements in propellers.

The main objects of this invention are:—
First, to provide an improved propeller adapted for use in shallow water and in water filled with water plants, logs, or other debris. Second, to provide an improved propeller having these advantages which is also adapted for use as a steering means. Third, to provide an improved propeller having the advantages above enumerated, which is strong and durable in structure and not likely to be damaged in use and one which is easily manipulated.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of our invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a detail vertical longitudinal section of a flat bottomed boat shown in conventional form, having our improved propeller applied thereto, the propeller being shown in full lines in one position and in dotted lines in a raised position. Fig. II is a detail view partially in horizontal section taken on a line corresponding to line 2—2 of Fig. I. Fig. III is a detail view partially in vertical section taken on a line corresponding to line 3—3 of Fig. I. Fig. IV is a detail view partially in vertical section, taken on a line corresponding to line 4—4 of Fig. I. Fig. V is a detail plan view, showing the tiller ropes 20 connected to the steering post arm 19.

In the drawing, similar reference characters refer to similar parts throughout the several views, and the sectional views are

taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, the boat 1 is of the flat bottom type upon which our improved propeller is especially designed for use, that is, a boat having a shallow draft and adapted for use in shallow water. The engine 2 which is shown in conventional form, is mounted at the rear end of the boat. The propeller shaft is formed of sections 3 and 4, the section 3 being the crank shaft or engine shaft and is supported in suitable bearings to project through the rear end of the boat. The propeller 5 is mounted on the rear end of the section 4. The shaft sections 3 and 4 are connected by a universal joint, comprising the fork members 6 and 7 connected by the journal pin block 8 and the journal pins 9 and 10. The joint member 7 is provided with a socket 11 for the end 12 of the propeller section 4, thus providing a slip joint connection for the section 4 to the universal joint.

The steering post 13 is provided with a ring or annular member 14 at its lower end which surrounds the universal joint described. The vertical axial center of the joint is in alinement with the steering post. The ring 14 is provided with journals 15 which are disposed horizontally and in alinement with the horizontal axial center of the shaft joint. The post is supported in a sleeve 16, the sleeve being provided with a flange 17 engaging the underside of the boat and with a clamping nut 18 on its upper end. On the upper end of the post is a rearwardly projecting arm 19 to which the tiller ropes 20 are connected.

Under the propeller, we arrange a flat shoe 21 which is provided with forwardly projecting arms 22 mounted on the journals 15 on the sides of the member 14 of the steering post.

The bearing 23 for the rear end of the shaft section 4 is supported by a bracket having arms 25 thereon, the arms being secured to the sides of the bearing by means of the screws 26. The bearing is connected by the links 27 to the journals 15 on the annular steering post member 14.

A chain 28 is provided by which the propeller may be adjustably suspended from the arm 19. The lower end of the chain is secured to the links 27 by means of clips 29 and its upper end to the arm by means

of the bolt 30 which may be engaged with any desired link thereof.

To assist in supporting the steering post, we provide an arm 30 which projects
5 through the rear end of the boat beneath the annular member 14 of the post and is secured thereto by the pivot 31.

With the parts thus arranged, the propeller rides over weeds and the like which
10 are kept from fouling the propeller by means of the shoe 21 and the shoe also rides over the logs or other debris, serving as a guard for the propeller, and in shallow water it rides on the bottom preventing the
15 propeller from engaging with the bottom. The propeller can be easily swung to either side so that it serves as a steering means.

We have illustrated and described our improved propeller in detail in the form in
20 which we have embodied the same. We are aware, however, that considerable variation in structural details are possible without departing from our invention. We have not attempted to illustrate such modifications as they will undoubtedly be readily
25 understood by those skilled in the art to which this invention relates.

Having thus described our invention, what we claim as new and desire to secure by
30 Letters Patent is:

1. The combination with a boat, of a propeller; a propeller shaft comprising an engine section and a propeller section; a universal joint connecting said shaft sections,
35 the propeller section being connected to said universal joint by a slip joint; a vertically disposed steering post having an annular member at its lower end embracing said universal joint and having journals disposed
40 in alinement with the horizontal axial center of said universal joint, the vertical axial center of said joint being in alinement with the said post; an arm on said boat to which the under side of said ring is pivotally secured,
45 the pivot being in axial alinement with the post; a shoe arranged below said propeller, said shoe being provided with forwardly projecting arms mounted on said journals on said post member; a bearing for the rear end of said propeller section of said shaft; upwardly projecting arms on said shoe on which said bearing is mounted;
50 links connecting said bearing to said journals on said post; an arm on the upper end of said post; and a chain connected to said bearing supporting links and adjustably connected to said post arm.

2. The combination with a boat, of a propeller; a propeller shaft comprising an engine section and a propeller section; a universal joint connecting said shaft sections, the propeller section being connected to said universal joint by a slip joint; a vertically
60 disposed steering post having an annular member at its lower end embracing said

universal joint and having journals disposed in alinement with the horizontal axial center of said universal joint, the vertical axial center of said joint being in alinement with the said post; a shoe arranged below
70 said propeller, said shoe being provided with forwardly projecting arms mounted on said journals on said post member; a bearing for the rear end of said propeller section of said shaft; upwardly projecting arms on said shoe on which said bearing is mounted; links connecting said bearing to said journals on said post; an arm on the upper end of said post; and a chain connected to said bearing supporting links and
80 adjustably connected to said post arm.

3. The combination with a boat, of a propeller; a propeller shaft comprising an engine section and a propeller section; a universal joint connecting said shaft sections, the propeller section being connected to said universal joint by a slip joint; a vertically
85 disposed steering post having an annular member at its lower end embracing said universal joint and having journals disposed in alinement with the horizontal axial center of said universal joint, the vertical axial center of said joint being in alinement with the said post; an arm on said boat to which the under side of said ring is pivotally secured, the pivot being in axial alinement with the post; a shoe arranged below
90 said propeller, said shoe being provided with forwardly projecting arms mounted on said journals on said post member; a bearing for the rear end of said propeller section of said shaft; upwardly projecting arms on said shoe on which said bearing is mounted; and links connecting said bearing to said journals on said post.
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4. The combination with a boat, of a propeller; a propeller shaft comprising an engine section and a propeller section; a universal joint connecting said shaft sections, the propeller section being connected to said universal joint by a slip joint; a vertically
110 disposed steering post having an annular member at its lower end embracing said universal joint and having journals disposed in alinement with the horizontal axial center of said universal joint, the vertical axial center of said joint being in alinement with the said post; a shoe arranged below said propeller, said shoe being provided with forwardly projecting arms
115 mounted on said journals on said post member; a bearing for the rear end of said propeller section of said shaft; upwardly projecting arms on said shoe on which said bearing is mounted; and links connecting said bearing to said journals on said post.
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5. The combination with a boat, of a propeller; a propeller shaft comprising an engine section and a propeller section; a universal joint connection for said shaft sec-
125 130

tions; a vertically disposed steering post having an annular member at its lower end embracing said universal joint and having journals disposed in alinement with the horizontal axial center of said universal joint, the vertical axial center of said joint being in alinement with the said post; a shoe arranged below said propeller, said shoe being provided with forwardly projecting arms mounted on said journals on said post member; a bearing for the rear end of said propeller section of said shaft carried by said shoe; an arm on the upper end of said post; and a chain adjustably connecting said shoe to said arm.

6. The combination with a boat, of a propeller; a propeller shaft comprising an engine section and a propeller section; a universal joint connection for said shaft sections; a vertically disposed steering post

having an annular member at its lower end embracing said universal joint and having journals disposed in alinement with the horizontal axial center of said universal joint, the vertical axial center of said joint being in alinement with the said post; a shoe arranged below said propeller, said shoe being provided with forwardly projecting arms mounted on said journals on said post member; and a bearing for the rear end of said propeller section of said shaft carried by said shoe.

In witness whereof, we have hereunto set our hands and seals in the presence of two witnesses.

EDWARD B. DESENBURG. [L. s.]

EDWARD S. PILSWORTH. [L. s.]

Witnesses:

BURRITT HAMILTON,

WALTER PAYNE.