

(No Model.)

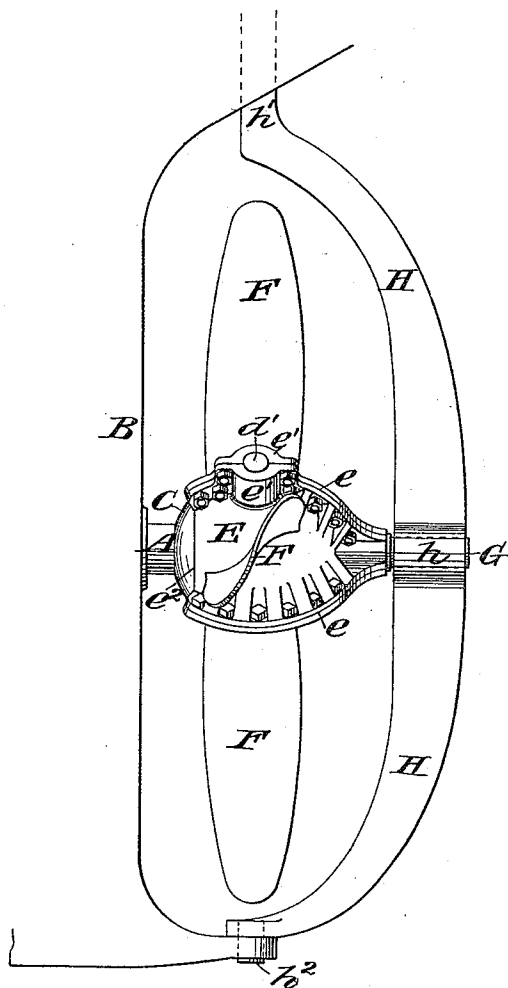
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S. SEABURY.
STEERING PROPELLER.

No. 511,806.

Patented Jan. 2, 1894.

Fig. 1.



Witnesses:
C. Sundgren
George Barry

Inventor
Samuel Seabury
by attorneys
Rownt & Howard

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

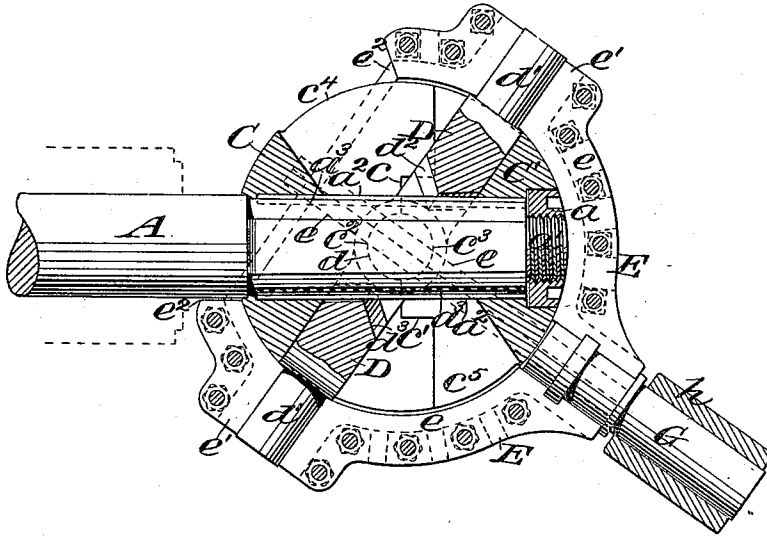
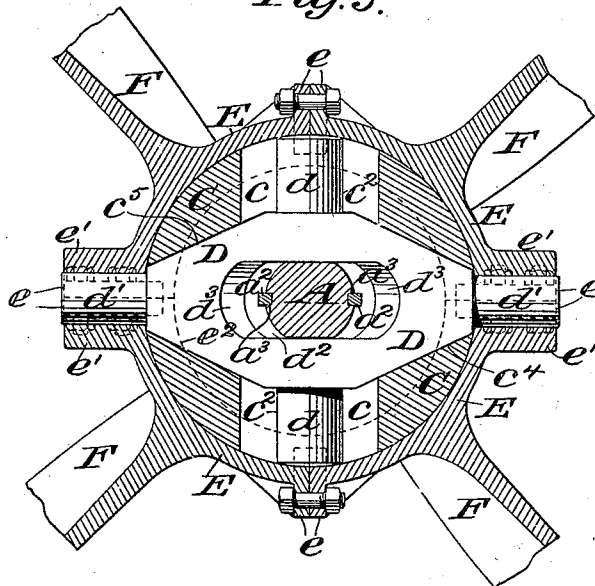


Fig. 3.



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UNITED STATES PATENT OFFICE.

SAMUEL SEABURY, OF BAYONNE, NEW JERSEY, ASSIGNOR OF ONE-HALF TO
HENRY SCHUYLER ROSS, OF THE UNITED STATES NAVY.

STEERING-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 511,806, dated January 2, 1894.

Application filed February 27, 1893. Serial No. 463,807. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL SEABURY, of Bayonne, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Steering-Propellers, of which the following is a specification.

My invention relates to an improvement in steering-propellers and more particularly to the means for securing the propeller to the drive shaft.

The object is to provide an extended bearing for receiving the thrust and variable movement of the propeller hub and to materially strengthen and simplify the connection between the propeller and the drive shaft.

The invention briefly stated contemplates a globular bearing fixed directly on the drive shaft, a journal piece comprising a single forging having two sets of journals located upon axes at right angles to each other, one set of journals being mounted in bearings in the aforesaid globular bearing and the other set having the propeller hub mounted thereon, the propeller hub at the same time embracing and bearing upon the curved face of the globular bearing.

In the accompanying drawings, Figure 1 represents in side elevation, a four bladed steering-propeller in operative position at the stern of a boat. Fig. 2 is an enlarged horizontal section through the globular bearing, showing the propeller hub turned off to one side, the blades of the propeller being omitted, and Fig. 3 is a transverse section through the globular bearing, showing the hub of the propeller in position in alignment with the drive shaft.

The drive shaft is denoted by A. Its end, which protrudes through the stern post B on the vessel, has keyed thereon a globular bearing connecting the two sections C and C'. The meeting faces of the sections C and C' interlock, a recess *c*, which extends diametrically across the face of the section C, being adapted to receive a corresponding tongue *c'* which extends diametrically across the face of the section C'. Half bearings *c*² and *c*³ are formed in the bottom of the recess *c* and face of the tongue *c'* respectively, upon opposite sides of the shaft A, for the reception of the set of journals *d* of the journal piece D and

when the latter is in position, and the sections of the globular bearing adjusted with their faces in proximity to each other, the said sections are locked against longitudinal displacement along the shaft by a nut *a* screwed onto the threaded end *a'* of the shaft. The sections C and C' may be keyed to the shaft to rotate therewith by a feather *a*² and groove *a*³.

The piece D which I have termed a journal piece is, by its set of journals *d*, itself journaled in rocking adjustment to the globular bearing fixed to the shaft A and, said journal piece is further provided with a set of journals *d'* which projects beyond the curved face of the globular bearing for connection with the hub of the propeller. The journal piece D is made to straddle the shaft A and the opening *d*² therein through which the shaft extends is elongated and preferably has its ends beveled, as shown at *d*³, to permit the rocking movement of the piece D on its journals *d*. Provision is further made for such rocking movement of the journal piece by openings *c*⁴ and *c*⁵ in the globular bearing, which openings extend in opposite directions from the center of the globular bearing to its outer surface, and are formed with a view of the free passage of the opposite ends of the piece D back and forth in its rocking movement. The piece D, because of the means for adjusting it in working position, may be forged of a single piece of material.

The hub of the propeller is formed in quarter sections E, provided with connecting flanges *e*, and adapted, when assembled, to embrace the globular bearing, but cut away at the end toward the stern post to permit the hub to assume varying positions on the bearing. The said quarter sections E are further provided on opposite sides of the hub with bearings *e'* for the reception of the set of journals *d'* on the journal piece D. The propeller blades F radiate from the hub, in the present instance one from each quarter section, and a spindle G fixed to the rear end of the hub, has a bearing *h* in an arched rudder post H pivoted to the boat above and below the propeller, as for example as at *h'* and *h*² and in the plane of the center of the globular bearing.

The fit of the hollow propeller-hub to the globular bearing is preferably such that, while the hub may rock on the journals d' of the journal piece, and is locked to rotate with the drive shaft and globular bearing by such journal connection, the interior of the hub will nevertheless bear upon the curved face of the globular bearing rather than on the journals d' .

10 To insure the openings c^4 and c^5 from the accumulation therein of any foreign substance, I provide openings e^2 in the quarter sections E through which a current of water will naturally rush when the wheel is in motion.

15 By the above structure and arrangement of parts, I am enabled to locate the combined main driving-and-steering wheel under cover of the stern in proximity to the stern post and supported upon an extended bearing directly upon the main shaft and to provide a strong economical journal piece in a single forging, while the manipulation of the wheel is easy and its frictional wear upon its bearing slight.

25 While I have chosen a propeller wheel to illustrate a practical embodiment of my invention, it is obvious that the connection may be utilized to connect the hub of a pulley or power transmitting shaft to the drive shaft, and such applications of the above described connection are intended to be embraced in this invention.

What I claim is—

1. The combination with a shaft having a globular bearing fixed thereon, of a part to be driven having a hollow hub for embracing the globular bearing and having a bearing contact therewith, and a connecting piece having a rocking engagement with the globular bearing, the hollow hub having a rocking en-

gagement with the connecting piece, substantially as set forth.

2. The combination with a shaft having a globular bearing fixed thereon, of a part to be driven having a hollow hub for embracing the globular bearing and a journal piece formed of a single forging and provided with two sets of journals, one for connecting the piece with the globular bearing and the other set for connecting the hollow hub with the journal piece, substantially as set forth.

3. The combination with a shaft having a sectional globular bearing fixed thereon, and a journal piece mounted in the globular bearing, of a part to be driven having a hollow hub for embracing the globular bearing, the said hollow hub having a rocking connection with the journal piece, substantially as set forth.

4. The combination with the drive shaft having a globular bearing fixed thereon, of the propeller wheel provided with a hollow hub adapted to embrace and bear upon the globular bearing, a rocking connection between the hub and the globular bearing and the swinging rudder post connected with the hub of the propeller wheel, substantially as set forth.

5. The combination with the drive shaft having a globular bearing fixed thereon, of a sectional propeller wheel having its hub fitted to embrace and bear upon the globular bearing, and a journal piece journaled to the wheel hub and to the globular bearing, substantially as set forth.

SAMUEL SEABURY.

Witnesses:

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