(No Model.)

E. B. CLEAVELAND.

BOW FACING OAR.

No. 562,510. Patented June 23, 1896.

Fig. 1.

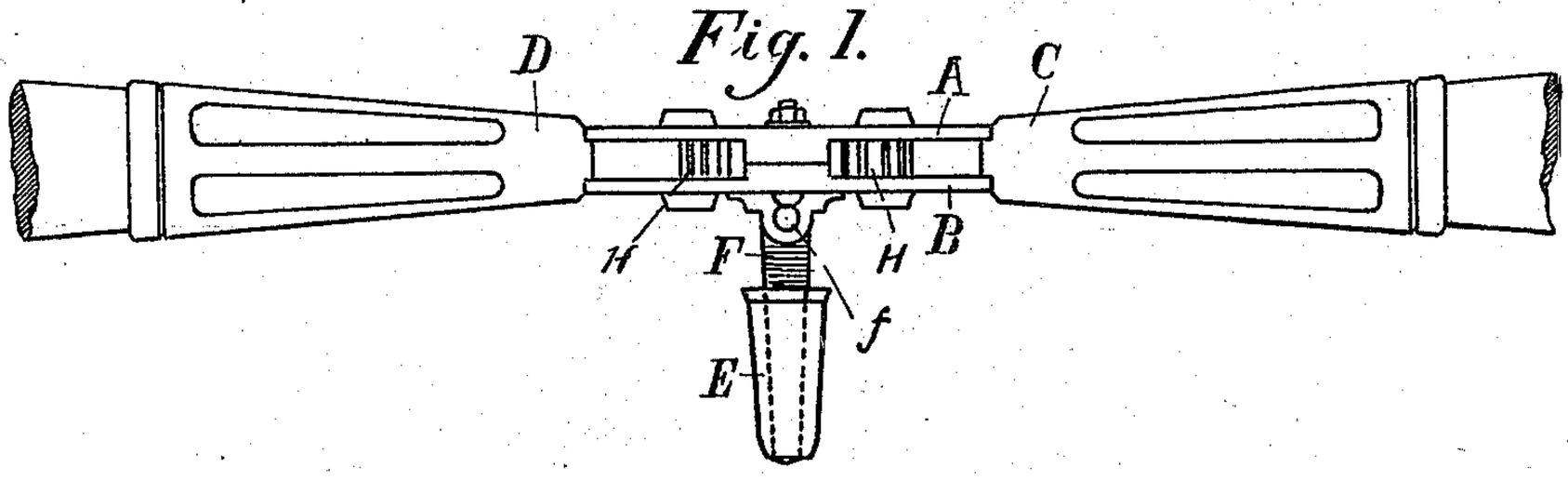


Fig. 2.

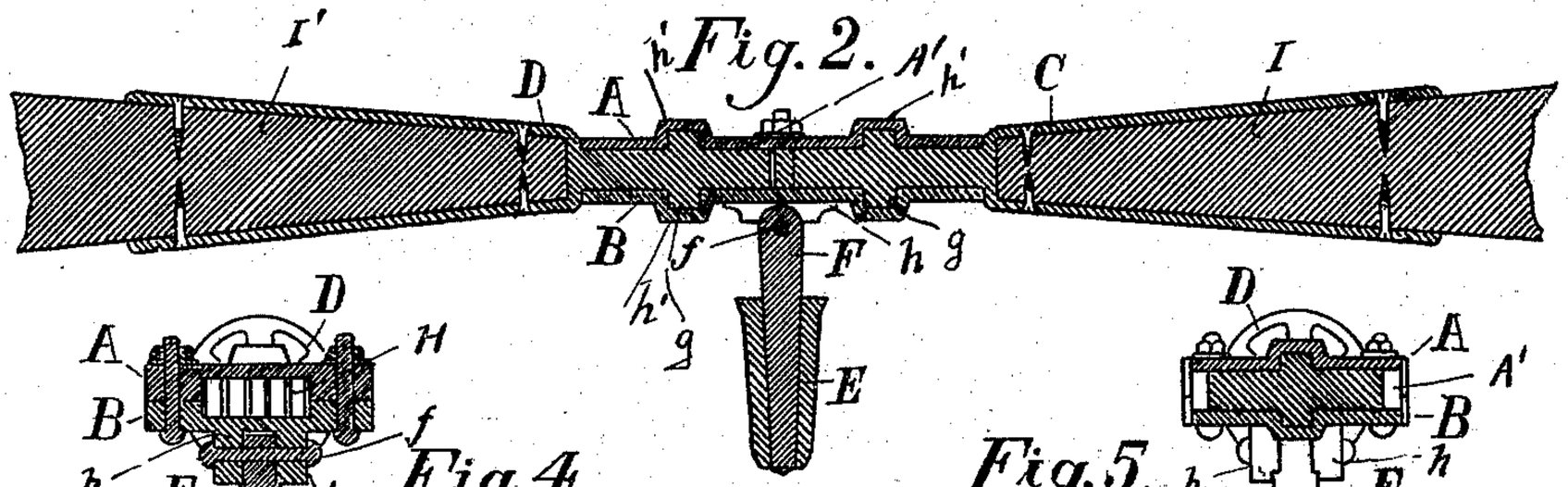


Fig. 4.

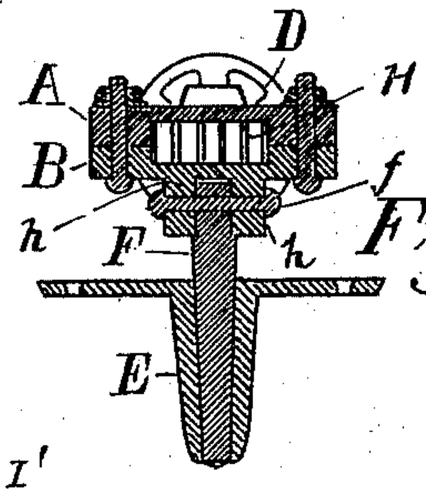


Fig. 5.

Fig. 3.

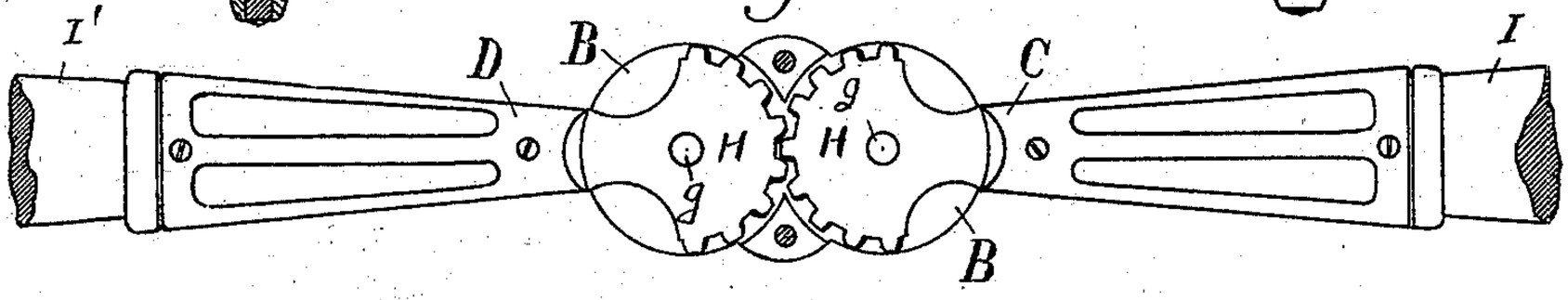
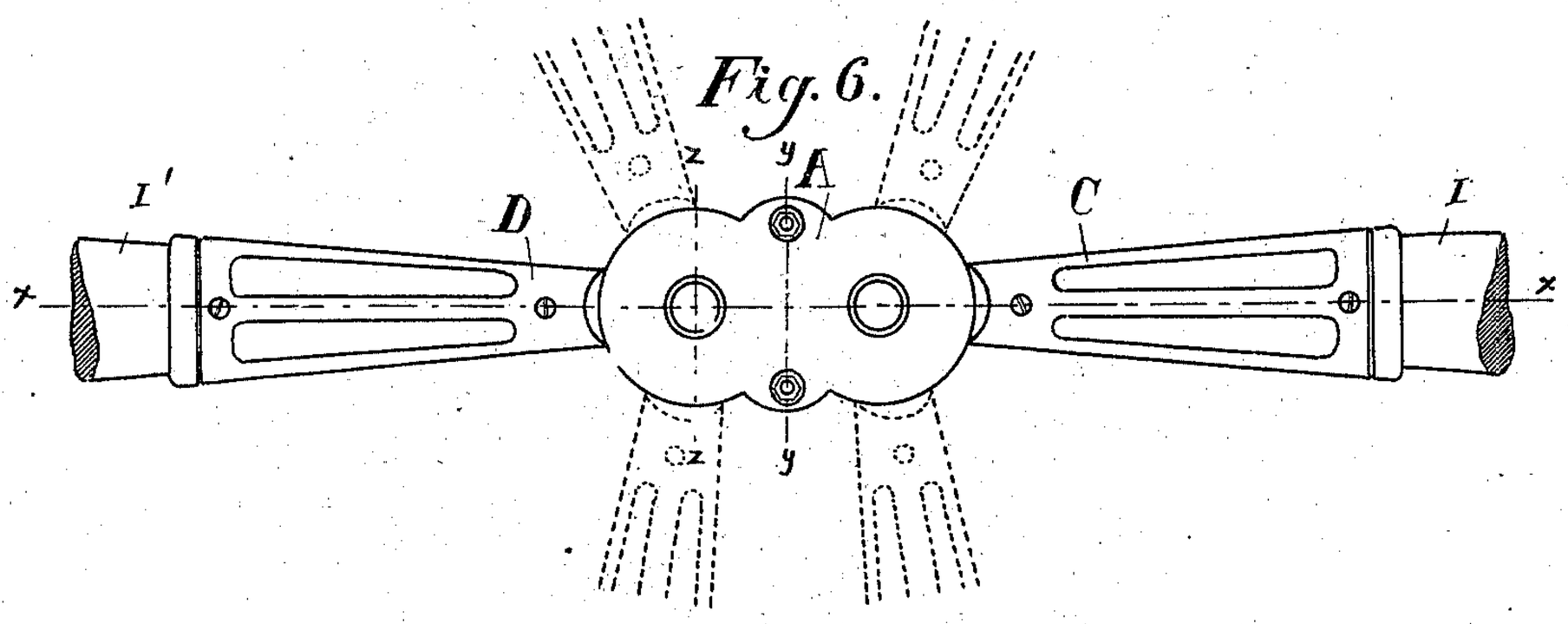


Fig. 6.



Witnesses.
Philip A. Masi
Geo. N. Antrobus

Inventor:
Elisha B. Cleaveland
by E. W. Andrews
his Atty.

UNITED STATES PATENT OFFICE.

ELISHA B. CLEAVELAND, OF SNOHOMISH, WASHINGTON.

BOW-FACING OAR.

SPECIFICATION forming part of Letters Patent No. 562,510, dated June 23, 1896.

Application filed August 3, 1895. Serial No. 558,113. (No model.)

To all whom it may concern:

Be it known that I, ELISHA B. CLEAVELAND, a citizen of the United States, and a resident of Snohomish, in the county of Snohomish and State of Washington, have invented certain new and useful Improvements in Bow-Facing Oars; and I do 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side view of the invention, oars broken. Fig. 2 is a section on line *x x*, Fig. 6. Fig. 3 is a plan view of invention with top plate A removed. Fig. 4 is a section on line *y y*, Fig. 6. Fig. 5 is a section on line *z z*, Fig. 6. Fig. 6 is a plan view of invention with oars broken and different positions of same indicated by dotted lines.

The object of this invention is to provide an improvement in bow-facing oars wherein the oars are straight, easily worked, and to a large degree noiseless; and the invention consists in the novel construction and combination of parts, all as hereinafter described.

Referring to the accompanying drawings, the letters A and B designate a pair of metallic plates, which are applied to each other in the manner shown to form a shell in which is a chamber A′. On the under side of the lower plate B are formed lugs *h*, which constitute a socket to receive the upper portion of a squared pin or plug F, which is held therein by a loose bolt or pivot *f*. This connection is such, as will be obvious, as will permit the shell to oscillate in a vertical plane. The pin or plug F is received in the corresponding socket E, which is set into and suitably secured to the gunwale of the boat.

C and D designate opposite tapered socket-pieces, each of which is made fast to a toothed segment H, which is journaled within the chamber of the shell, the two segments being in gear with each other. The journals for the said segments consist of integral studs *g*, which project from the upper and lower faces thereof into bearings formed in offset portions *g′* of the respective plates A and B. It will be observed that by this manner of journaling the segments there is much less wear than is the case where a loose pin or pivot therethrough and through the shell is employed, and that there is also less noise and rattle, and less lost motion. The arrangement is also one of greater strength.

I I′ designate the loom and oar, which are made in sections, the blade-section I being fixed in the socket C, while the handle-section I′ is fixed in the socket D.

The manner of using the oar will be obvious from the drawings. The squared form of the pin F and of the socket E, in which it fits, prevents said pin from turning as the oar is worked. The shell being fulcrumed, the movement of the oar can be controlled perfectly.

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

In a bow-facing oar, the combination of the socket E fixedly secured in the gunwale of the boat, the thole-pin F non-rotatably seated in said socket, the two-part shell pivoted to said pin to oscillate in a vertical plane, and having upper and lower offset bearings therein, the toothed segments formed with integral journal-studs on their upper and lower faces which engage the said bearings, and the two-part oar the loom and blade of said oar being secured at their respective inner ends in sockets of the said segments, substantially as specified.

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

ELISHA B. CLEAVELAND.

Witnesses:

T. COFFEY,

J. V. BOWEN.