

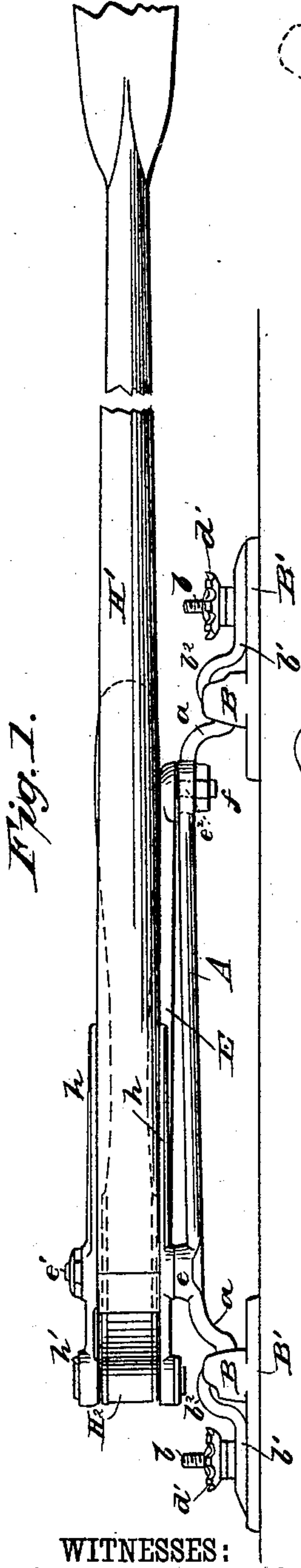
(Model.)

O. TIPPY & F. D. SMITH.

ROWING GEAR.

No. 389,989.

Patented Sept. 25, 1888.



WITNESSES:

George Winstenburgh
C. Sedgwick

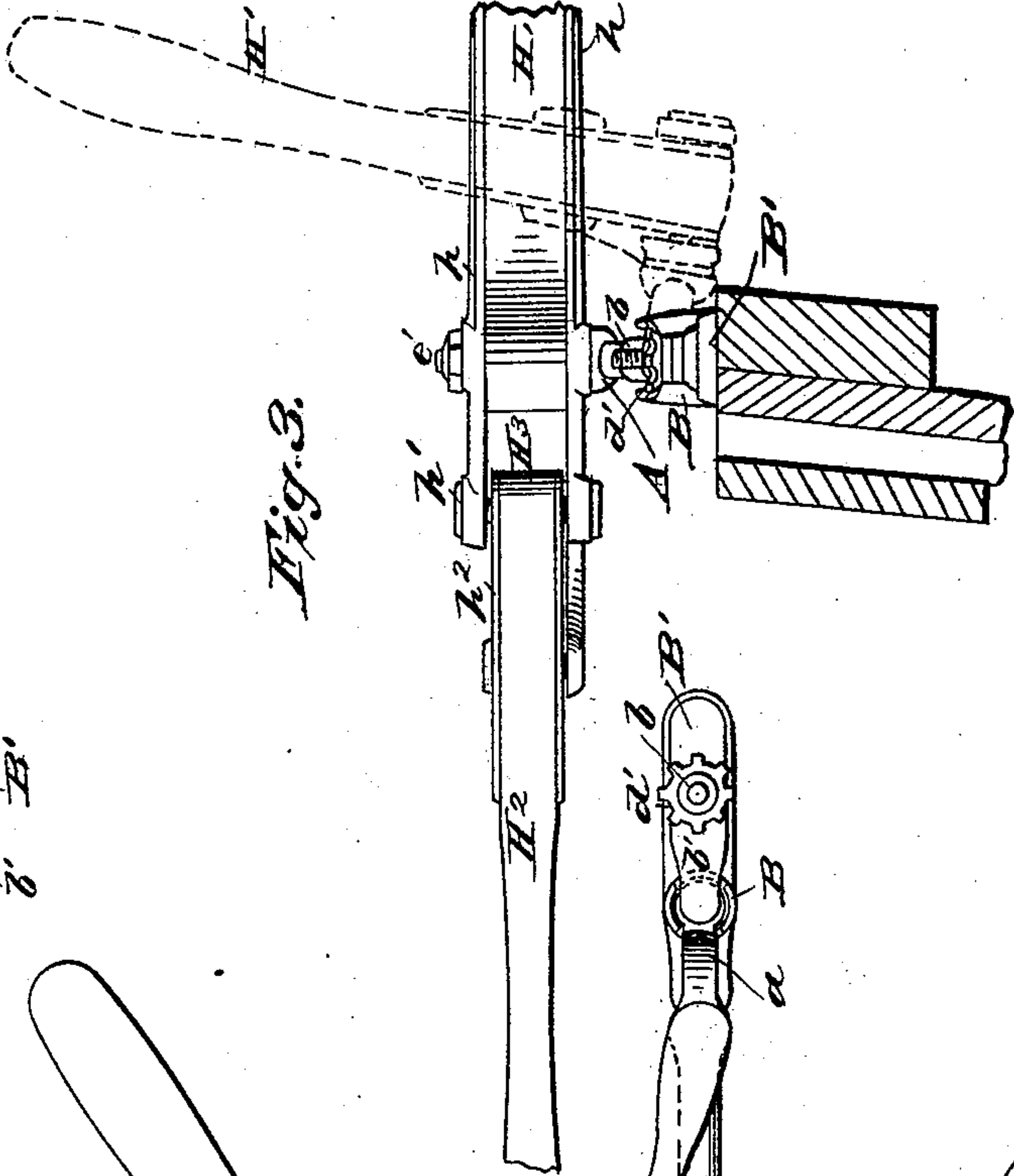


Fig. 3.

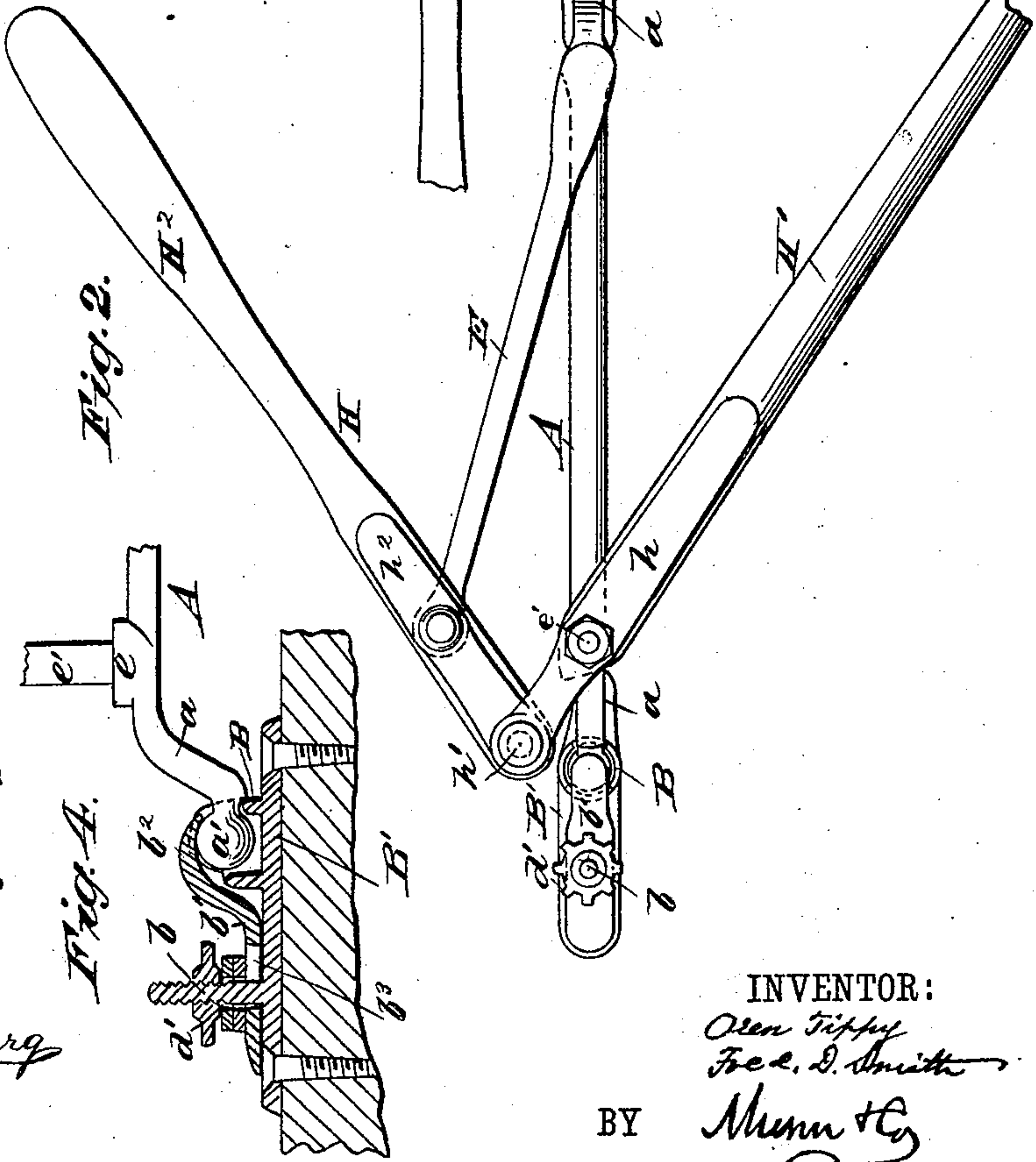


Fig. 2.

Fig. 4.

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OREN TIPPY AND FRED D. SMITH, OF NEW CARLISLE, INDIANA; SAID
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ROWING-GEAR.

SPECIFICATION forming part of Letters Patent No. 389,989, dated September 25, 1888.

Application filed September 8, 1887. Serial No. 249,167. (Model.)

To all whom it may concern:

Be it known that we, OREN TIPPY and FRED D. SMITH, of New Carlisle, in the county of St. Joseph and State of Indiana, have invented
5 a new and Improved Rowing-Gear, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in rowing-gear, and has for its object to provide
10 a device by means of which a boatman may pull a boat in the direction in which he is facing, wherein the advantage is afforded the operator of keeping the object to which he is steering in full view while pulling toward it.

15 The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the device. Fig. 2 is a plan view of the same. Fig. 3 is
25 an end view of the device, and Fig. 4 is a partial longitudinal section.

In carrying out the invention, A represents a rock-shaft provided with downwardly-curved ends *a* and balls *a'*, or spherical projections extending horizontally outward from
30 said ends, which balls may be either attached thereto or integral therewith. The spherical ends of the rock-shaft are journaled in sockets B, integral with one end of a base-plate, B', two of which plates are secured, by screws or
35 otherwise, to the gunwales at each side in transverse alignment, the sockets of each pair facing. Between the outer ends of the base-plates and the socket a threaded pin, *b*, is secured to the upper surface, and a locking-plate,
40 *b'*, provided with a longitudinal slot, *b''*, and an upwardly-curved end, *b''*, is made to rest upon the base-plate, the pin *b* passing through the slot *b''*, the curved end of the locking-plate being adapted to engage the spherical
45 end of the rock-shaft, as shown in Fig. 2, and the latter is held securely, yet permitted to turn in their sockets, by pressure brought to bear upon the locking-plate, through the medium of washers entered over the pin *b* and

bearing upon the locking-plate, together with a set-nut, *d'*, traveling upon the threaded pin to a bearing upon the washers. The washers may be omitted and the nut *d'* be made to bear
55 directly upon the locking-plate.

Near one end of the rock-shaft A a boss, *e*, is produced upon the upper surface, and centrally from said boss a vertical pin, *e'*, is projected. Near the opposite end the rock-shaft
60 is provided with an aperture.

The oar H is divided into two sections—the blade or outboard section H' and the handle or inboard section H²—the two parts being united by a toggle-joint, H³, the joint being produced in the following manner. Clips *h* are
65 attached at top and bottom of the outboard section, the blade being in a perpendicular position, which clips extend a distance beyond the inner end, the outer ends of the inboard section being pivoted between the extremities
70 of the clips *h* by a pivotal bolt, *h'*. The top and bottom sides of the inboard section are also provided at the outer end with clips *h''*, the said clips, however, terminating flush with the said end. Near the inner end of the out-
75 board section H' a vertical aperture is produced, extending through the clips adapted to receive the rock-shaft pin *e'*, the oar being held to revolve thereon by a nut screwed upon the head of the pin. By this means the oar is se-
80 curely and conveniently pivoted upon the rock-shaft, yet held free to oscillate therewith.

As a fulcrum for the inboard section H² of the oar which acts in the capacity of a lever, an arm, E, is pivoted to the under surface of
85 the inner section at one end, and at its opposite end to the rock-shaft by means of a pin, *f*, on the said arm, engaging an aperture, *e''*, in the said rock-shaft.

From the foregoing description, taken in
90 connection with the drawings, the operation will be readily understood.

It is obvious that every motion requisite in rowing may be obtained by the use of our device, and the oar be manipulated with effi-
95 ciency and ease.

When desired, the oars may be shifted inboard by rocking the shaft A toward the operator, or, as partially shown in dotted lines, Fig. 3, be carried outboard parallel with the
100

side of the boat, the flat of the blade resting upon the water.

By loosening the thumb-nuts and removing the locking-plates from contact with the rock-shaft the said shaft, together with the oars, may be readily unshipped.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

10 1. The combination of the sockets B, the rock-shaft A, having downwardly-curved ends a , and provided with the balls a' , the pin e' , and the aperture e^2 , the oar-section H, provided with an aperture near its inner end to
15 receive the pin e' , the oar-section H^2 , pivoted to the section H, and the arm E, pivoted to the section H^2 and provided with the pin f at its other end for engaging the aperture e^2 of the rock-shaft, substantially as described.

2. The combination, with the sockets B, of 20 the rock-shaft A, having the downwardly-curved ends a , and provided with the balls a' , the pin e' and aperture e^2 , the oar-section H' , apertured near its inner end to receive the pin e' , and provided with the clips h , the oar-section H^2 , provided with the clips h^2 , and piv- 25 oted between the clips h of the section H' by the bolt h' , and the arm E, provided with the pin f at one end engaging the aperture e^2 of the rock-shaft and having its other end piv- 30 oted to the oar-section H^2 , substantially as herein shown and described.

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Witnesses:

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