

D. HARRINGTON.

SLIDING OUTRIGGERS FOR BOATS.

No. 188,131.

Patented March 6, 1877.

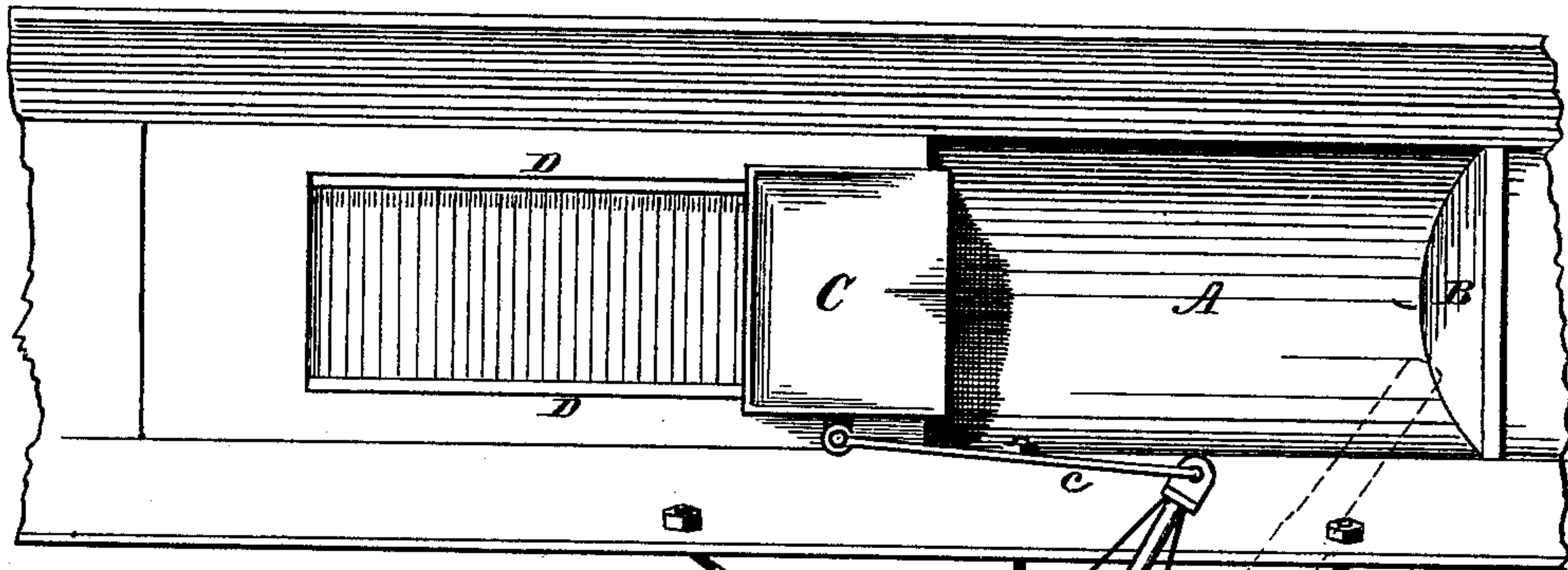


Fig. 1

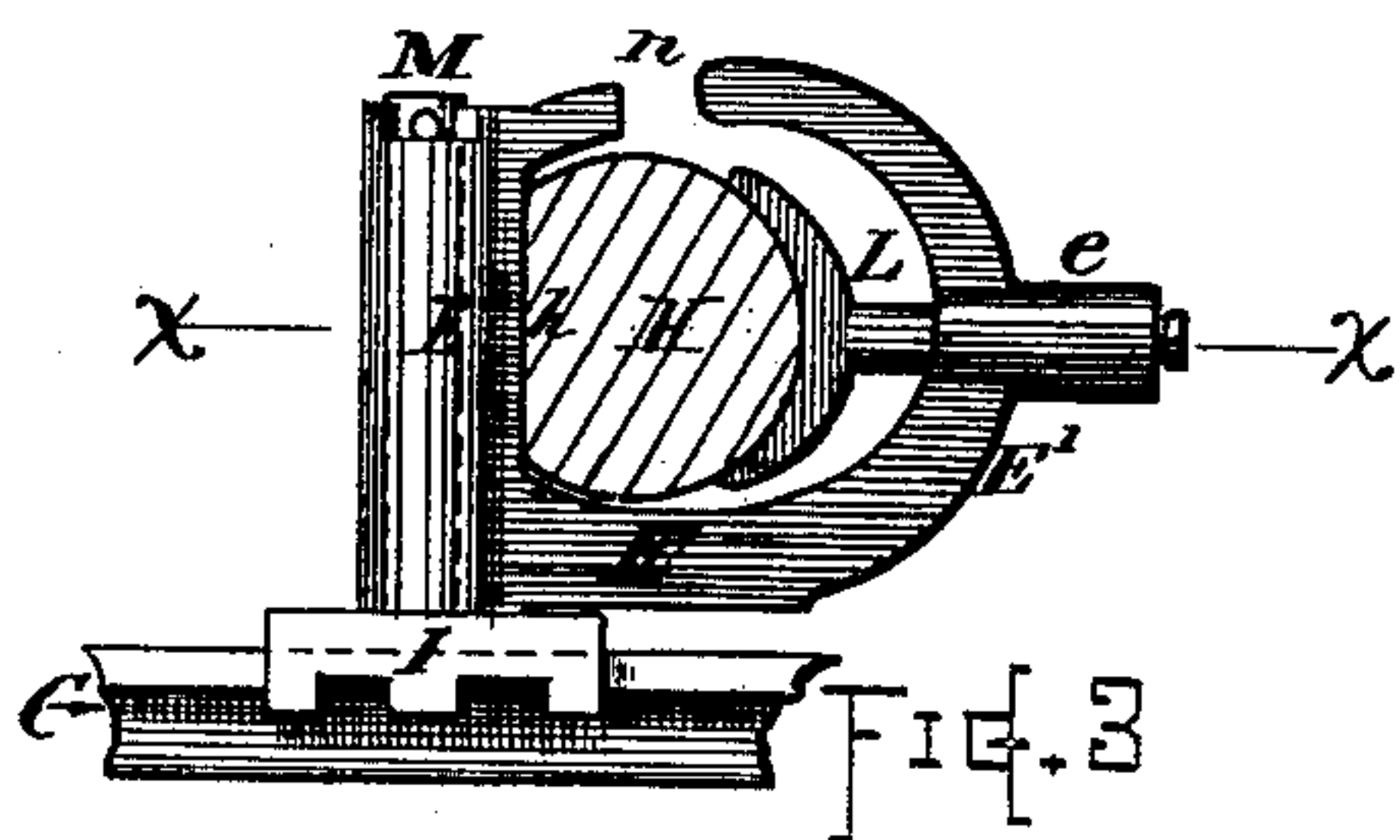


Fig. 3

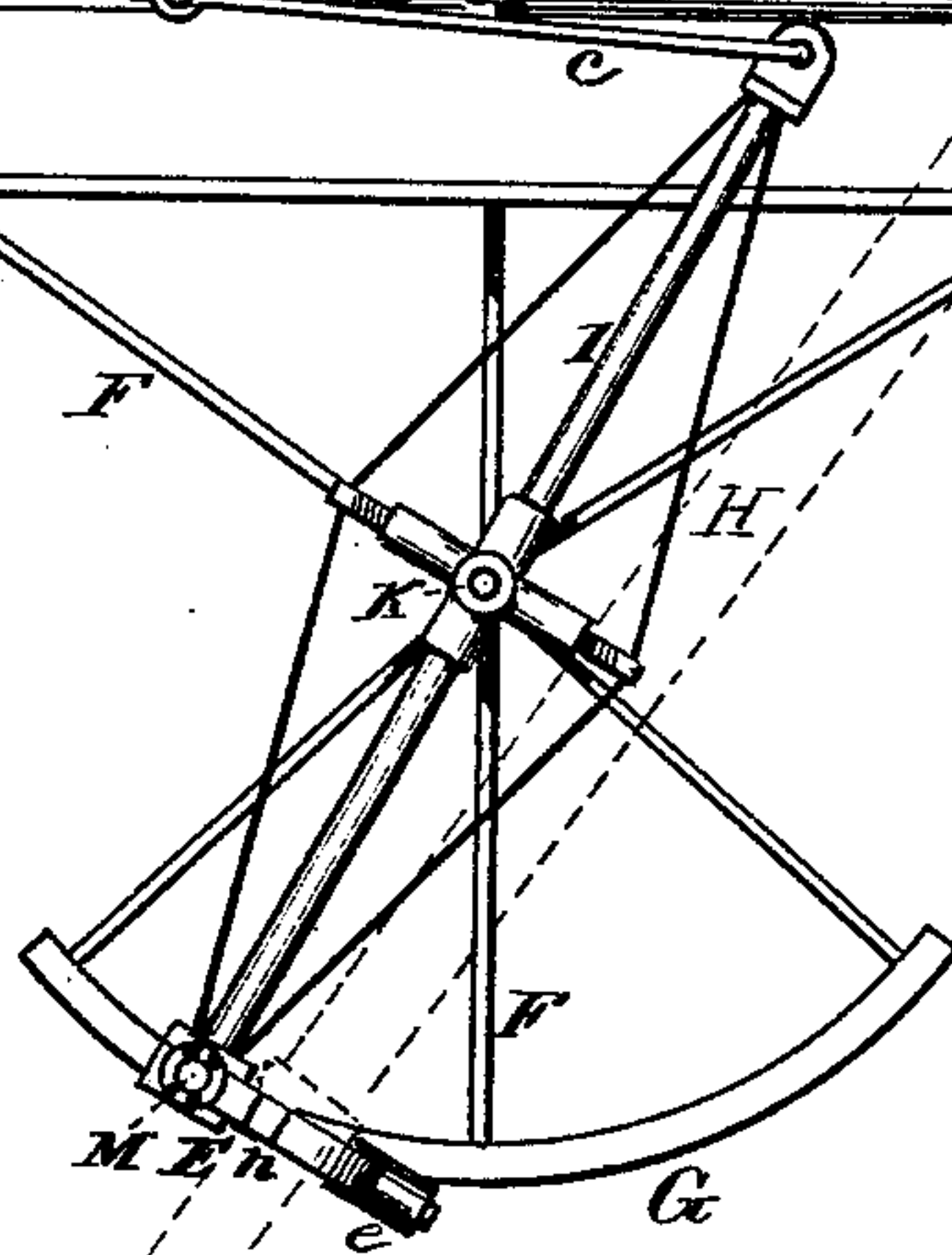


Fig. 2.

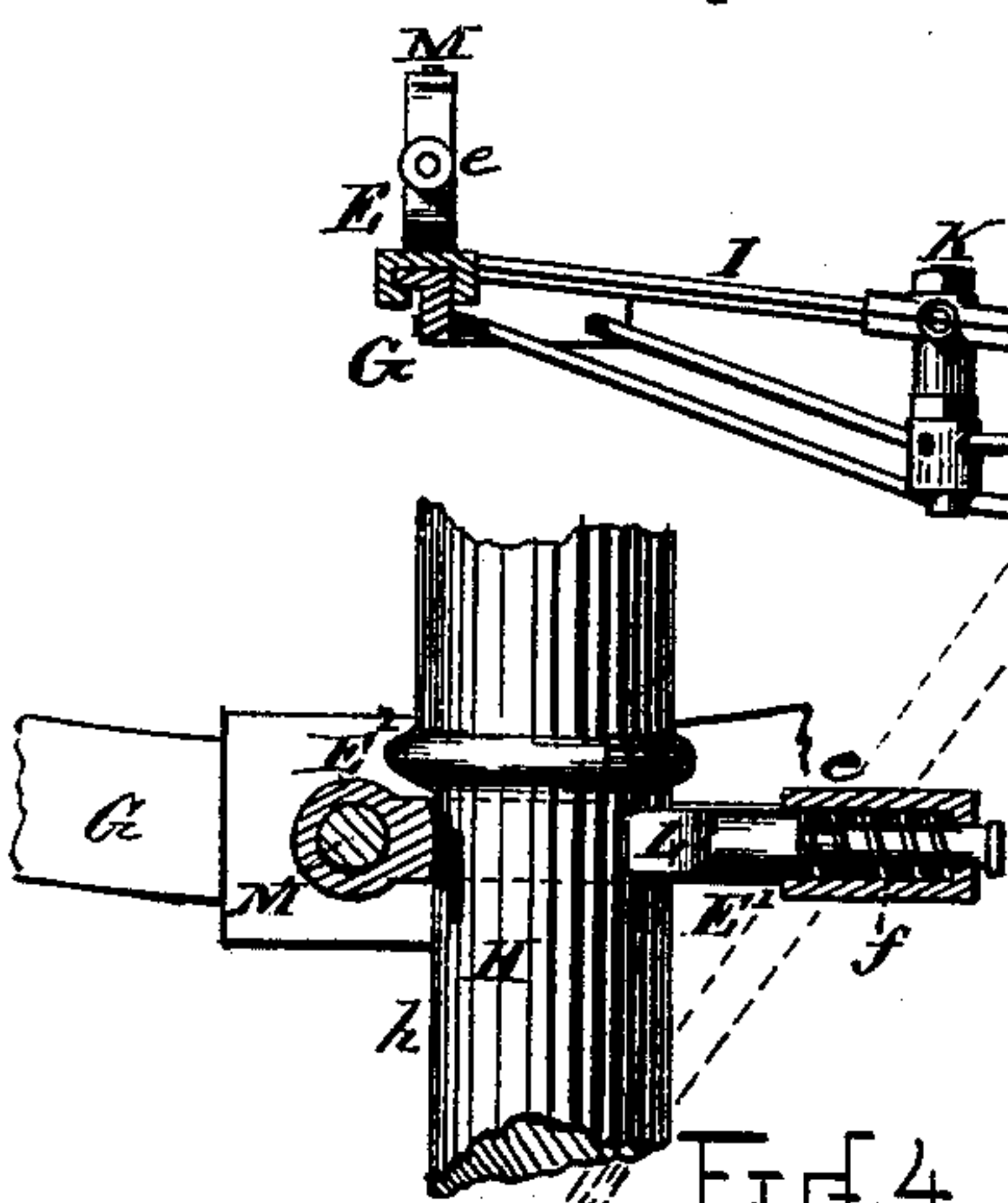


Fig. 4

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN SLIDING OUTRIGGERS FOR BOATS.

Specification forming part of Letters Patent No. **188,131**, dated March 6, 1877; application filed April 3, 1876.

*To all whom it may concern:*

Be it known that I, DAVID HARRINGTON, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Rowlocks and Outriggers for Boats; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 represents a plan view of an outrigger and rowlock constructed in accordance with my invention. Fig. 2 represents a transverse sectional view of the same. Fig. 3 represents a detail view of the oar-locking device; Fig. 4, a horizontal section at line *x x*, Fig. 3; and Figs. 5 and 6 show modifications of construction and method of operating.

The object of this invention is, first, to provide a means of imparting to the oar a longer and more powerful stroke without overtaxing the arm-muscles of the oarsman; and, second, to provide a means whereby a flat-sided oar can be firmly retained in the rowlock without interfering with the freedom of action in all movements necessary for feathering and rowing.

One feature of my invention consists in mechanism, such as hereinafter described, for changing the rowlock or oar-fulcrum during the time the oar is performing its stroke, for the purpose set forth.

A second feature of my invention consists in an expansible or yielding oar lock or clamp mechanism, whereby an oar of irregular shape can be held securely in position against its fulcrum-bearing without interference with its freedom of action in all necessary movements, substantially as hereinafter explained.

A third feature consists in an expansible oscillating rowlock, as herein described.

My invention is designed with a special reference to its use upon shell or racing boats, but it may be employed on any style of boat desired, whether made with outriggers or gunwale-rowlocks.

In the drawings, A denotes the shell or boat; B, the stretcher or foot-board; C, the sliding seat moving on the ways or guides D; E, the rowlock or oar-fulcrum; F, the out-

rigger-braces supporting the traverse-way G and rowlock mechanism, and H the oar.

The traverse-way G is, in the present instance, arranged as a horizontal curve, (see Fig. 1,) the chord of said curve being parallel, or nearly so, with the side of the boat A.

A lever, I, properly braced or stiffened, is pivoted on a suitable stud or fulcrum-pin, K, supported by the outrigger-bars F in such manner that its outer end can sweep along the traverse-way G, while its inner end moves along the side of the boat. The rowlock E is attached to the outer end of said lever I, while its inner end is connected, by a rod, c, or otherwise, to the sliding seat C, whereby the movement of the seat C effects the movement of the rowlock along the traverse-way G, or changes the oar-fulcrum during the time the oar is performing its stroke—the result thus attained being an increase in the length of oar-stroke, while the oarsman is enabled to render the stroke more powerful and effective, since the force is principally imparted by the action of the strong muscles of the legs and body, while the arms are extended or in their strongest position, the arm-muscles not being overtaxed for the extra force and movement obtained; or the result attained is somewhat the same as though the oar was moved through a stroke by the muscular action of the legs, with a fulcrum at K, or half-way between the rowlock and hand, and also adding thereto the stroke or force imparted by the muscular action of the arms with the fulcrum at E—the rowlock. The rowlock E I provide with a yielding presser-piece, L, (see Figs. 3 and 3,) having its shank fitted through or into a socket, e, formed with the rear part E<sup>1</sup> of the rowlock, while a spring, f, around said shank forces the presser-piece L forward against the oar H, and retains it firmly against the front part E<sup>2</sup> of the rowlock. The presser or clamp L embraces the oar sufficiently to hold it elevated from the bottom of the rowlock, and, being arranged to turn in its socket, allows free up-and-down movement of the ends of the oar, while the yielding of the spring f permits the rolling of an irregular-shaped oar, for the feathering movement, without allowing any looseness or backlash in the rowlock. An



irregular-shaped oar or one flattened, as at *h*, is generally considered preferable, since the flat portion, when turned against the fulcrum or front part of the rowlock, indicates the proper position of the oar-blade in the water, while it also assists the grasp of the oarsman, and renders the oar less liable to turn from its true position during the stroke; but with an ordinary rowlock the backlash or looseness, when turning the oar, partially overcomes the benefits derived from such irregular form, whereas, with an expansible rowlock, such as described, the full benefit of the irregular shape is obtained, while the oar is also held from any tendency to slide longitudinally.

In the present instance, the rowlock *E* is pivoted at its front part *E*<sup>2</sup> on a stud or pin, *M*, so as to oscillate and accommodate itself to the sweep of the oar *H*. The parts *E*<sup>1</sup> *E*<sup>2</sup> are curved inward at the top, with a narrow space, *n*, through which to enter and remove the oar at or near its blade.

This yielding or expansible feature may be employed for stationary rowlocks, if desired, as well as for traversing and oscillating rowlocks.

In lieu of attaching the lever *I* or connecting device directly to the seat, a strap or harness may be used to pass around the body of

the oarsman, or other mechanism may be employed for changing the oar-fulcrum during the stroke, if desired, without departing from the spirit of my invention.

Having described my improvements in rowlocks and outriggers for boats, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. In combination, substantially as described, the outrigger *F*, traverse-way *G*, swinging lever *I*, rowlock *E*, sliding seat *C*, and connection-rod *c*, for the purposes set forth.

2. The combination, in a rowlock or outrigger, of a straight thole or fulcrum-bearing and a yielding clamping device, arranged for holding an irregular-shaped oar without backlash, and for indicating the proper position of the oar-blade for rowing, substantially in the manner set forth.

3. In combination, substantially as described, the pivot-stud *M*, oscillating socketed frame *E*<sup>1</sup> *E*<sup>2</sup>, and yielding presser-piece *L*, for the purposes set forth.

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