

(Model.)

H. N. STAATS.  
Apparatus for Steering Row Boats.

No. 235,823.

Patented Dec. 21, 1880.

Fig-1.

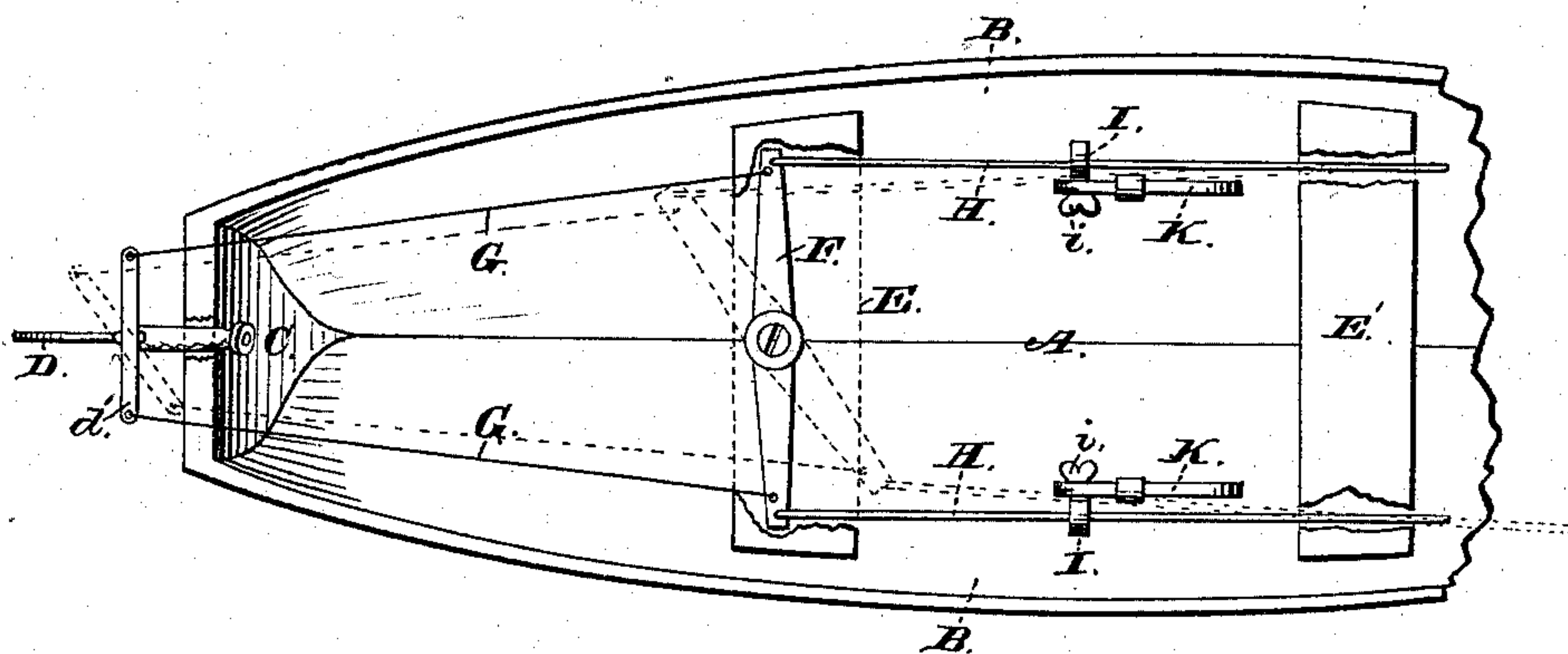
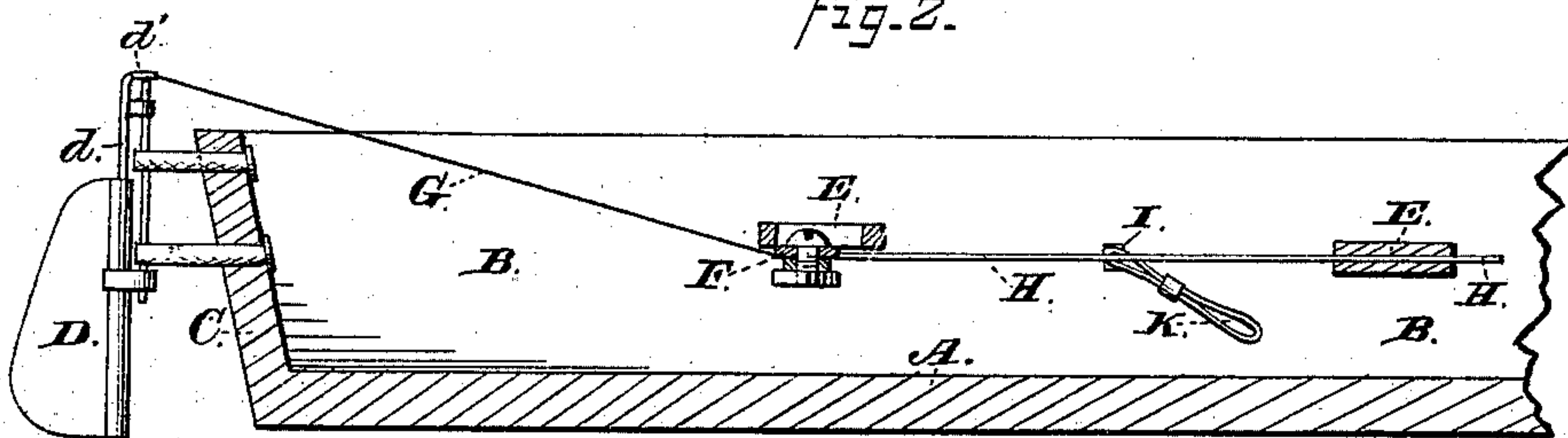


Fig-2.



WITNESSES:

Geo. E. Hutchinson.  
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Geo. S. Prindle, his  
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# UNITED STATES PATENT OFFICE.

HENRY N. STAATS, OF AUBURN, NEW YORK.

## APPARATUS FOR STEERING ROW-BOATS.

SPECIFICATION forming part of Letters Patent No. 235,823, dated December 21, 1880.

Application filed October 8, 1880. (Model.)

*To all whom it may concern:*

Be it known that I, HENRY N. STAATS, of Auburn, in the county of Cayuga, and in the State of New York, have invented certain new and useful Improvements in Apparatus for Steering Row-Boats; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my apparatus as applied to a boat, and Fig. 2 is a side elevation of the same.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to enable a row-boat or other small pleasure-boats to be easily steered by the feet of the person operating the propelling mechanism; and to this end it consists, principally, in combining with the longitudinally-movable rods and with the tiller-ropes at their points of attachment a bar extending transversely between said parts, and pivoted at its center to or upon a fixed support, substantially as and for the purpose hereinafter shown.

It consists, further, in combining with the steering mechanism and with the longitudinally-movable rods foot-loops attached to the latter and capable of adjustment lengthwise of the same, substantially as and for the purpose hereinafter set forth.

It consists, finally, in the combination of the various parts of my apparatus with each other, the boat, and the tiller, substantially as and for the purpose hereinafter shown and described.

In the annexed drawings, A represents the bottom, B and B the sides, and C the stern, of a boat of usual construction, which is provided with a rudder, D, that is hinged or pivoted to or upon said stern, and has attached to the upper end of its post  $d$  a tiller,  $d'$ .

Pivoted at its center upon the under side of a seat, E, or other fixed support, is a bar, F, which has such length as to enable its ends to swing clear of the sides B, and is adapted to be moved upon its axial bearing so as to cause its ends to move in a horizontal plane toward or from the stern C.

From each end of the bar F a rope or chain,

G, extends to and is connected with the corresponding end of the tiller  $d'$ , and by turning said bar upon its pivotal bearing said tiller and the rudder D will be correspondingly moved.

To each end of the bar F is pivoted one end of a rod, H, which from thence extends horizontally forward, and has its opposite end contained within a guide that is formed within or attached to a seat, E', or other fixed support, the arrangement being such as to permit said rod to move freely in a longitudinal direction while being confined in lateral position. Each rod H is provided with a collar, I, which encircles the same, is capable of being moved lengthwise of said rod, and is secured in position, when adjusted thereto, by means of a set-screw,  $i$ , that passes radially inward, and has its inner end in engagement with said rod.

Upon the boss or neck through which passes the set-screw  $i$  is loosely attached one end of a loop, K, the opposite end of which is adapted to receive the toe of a person's foot, the length of the latter being such as to enable the heel of the foot to rest upon the bottom A while its toe is thus engaged with said loop.

The apparatus is now complete, and is used as follows, viz: The operator takes his place upon either of the seats E or E', and, resting his feet in a natural position upon the bottom A of the boat, loosens and moves the collars I until the loops K are in position for engagement with his toes, after which said collars are secured in place and the position of the rudder D controlled by the movements of the operator's feet transmitted through said loops, the rods H, bar F, ropes G, and tiller  $d'$ .

The operation of the apparatus is easy, and in no manner does it interfere with the movements of the operator necessary for the propulsion of the boat. The adjustability of the foot-loops enables the position of the same to be varied to suit the position naturally occupied by the operator, whether he be tall or short, or whether he face the bow or stern.

The function of the pivoted bar F is to enable the rearward thrust of each rod H to move the rudder, as without such bar it would be necessary to perform such operation by the forward movements only of said rods, which would prevent the operator from sitting with

his face to the stern in the position necessary while using oars of ordinary construction.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

5 1. In combination with the longitudinally-movable rods and with the tiller-ropes at their points of attachment, a bar extending transversely between said parts, and pivoted at its  
10 center to or upon a fixed support, substantially as and for the purpose shown.

2. In combination with the steering mechanism and with the longitudinally-movable rods, foot-loops attached thereto and capable  
15 of adjustment lengthwise of the same, substantially as and for the purpose set forth.

3. In combination with the boat and with the tiller  $d'$ , the pivoted cross-bar F, the connecting-ropes G and G, the operating-rods H and H, pivoted to or upon said cross-bar, and 20 the collars I and I and foot-loops K and K, attached to or upon said rods and made adjustable lengthwise of the same, substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I 25 have hereunto set my hand this 20th day of August, 1880.

HENRY N. STAATS.

Witnesses:

H. D. WELTY,  
F. H. BROOKS.