

(No Model.)

T. J. MURPHY.
BOW FACING OAR.

No. 543,650.

Patented July 30, 1895.

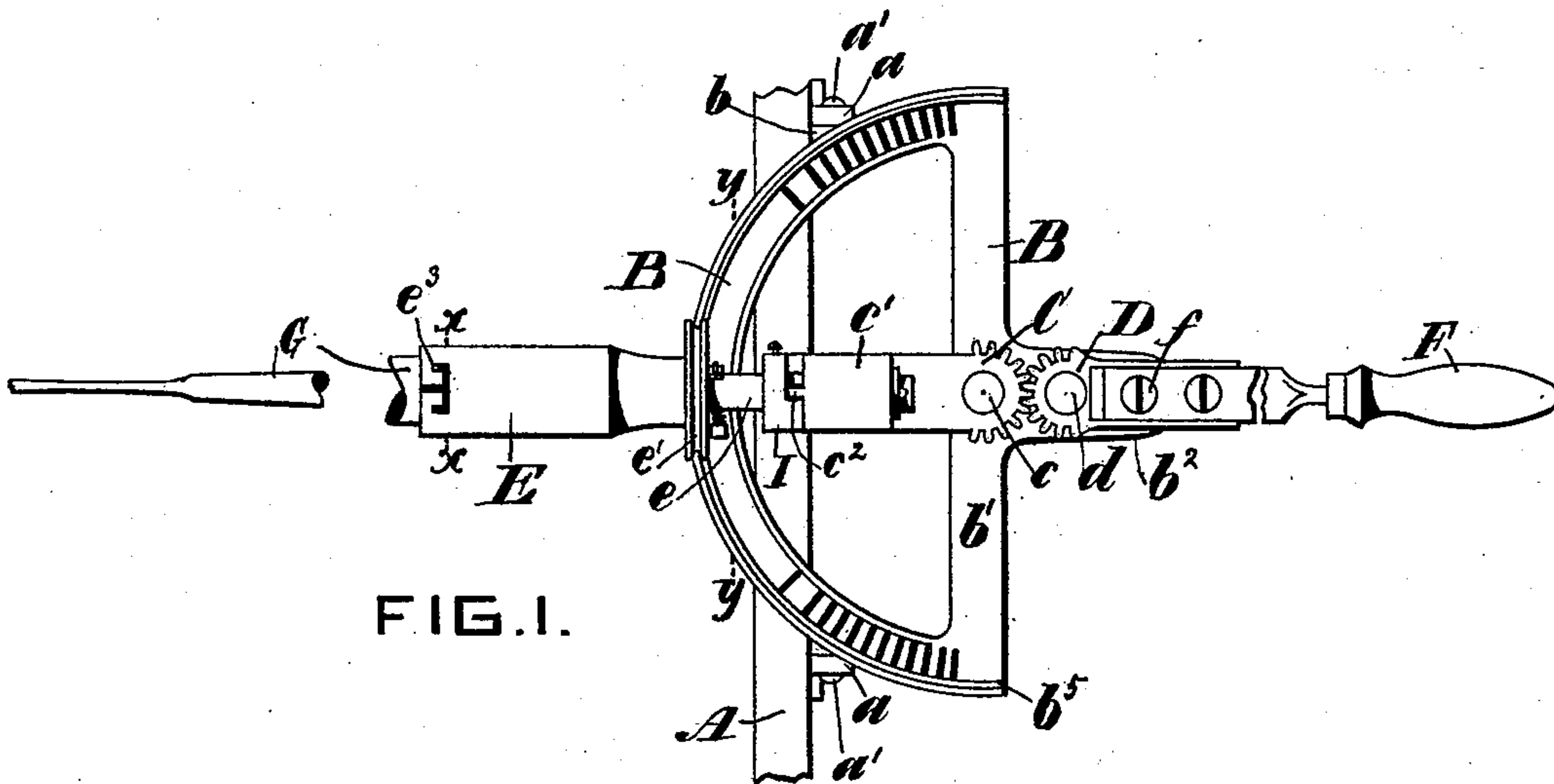


FIG.1.

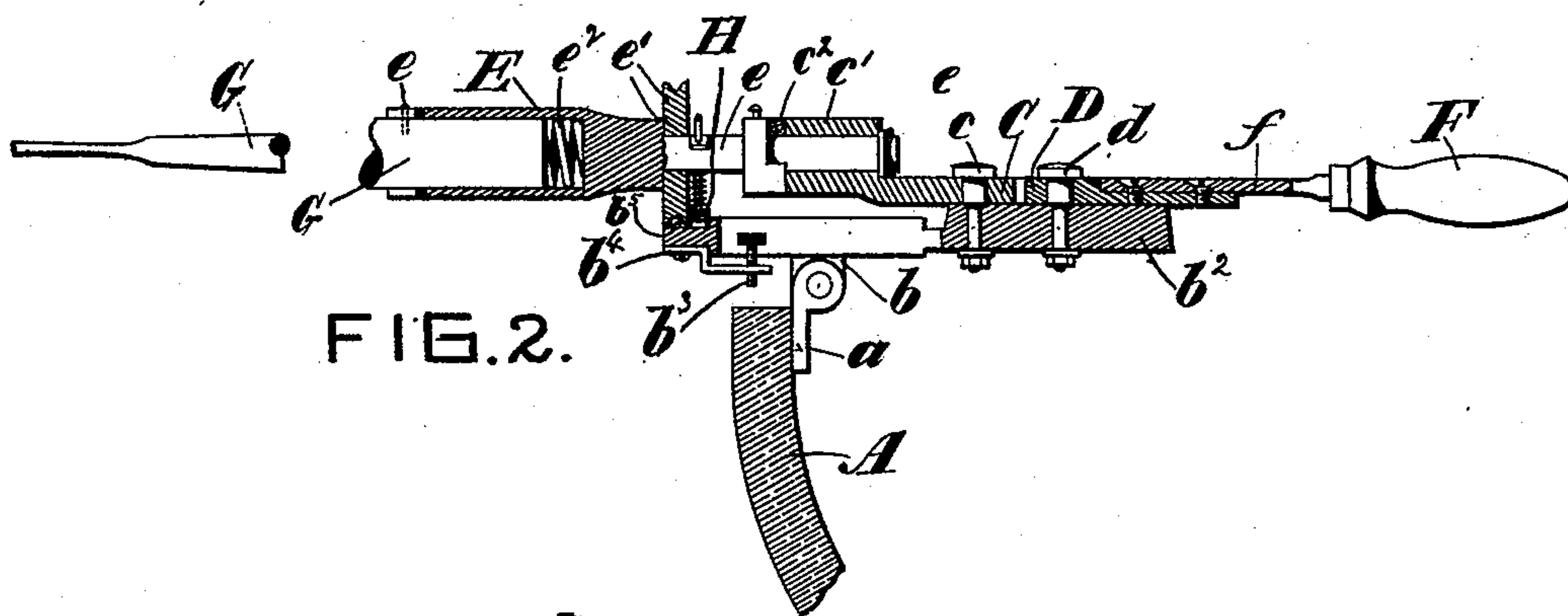


FIG. 2.

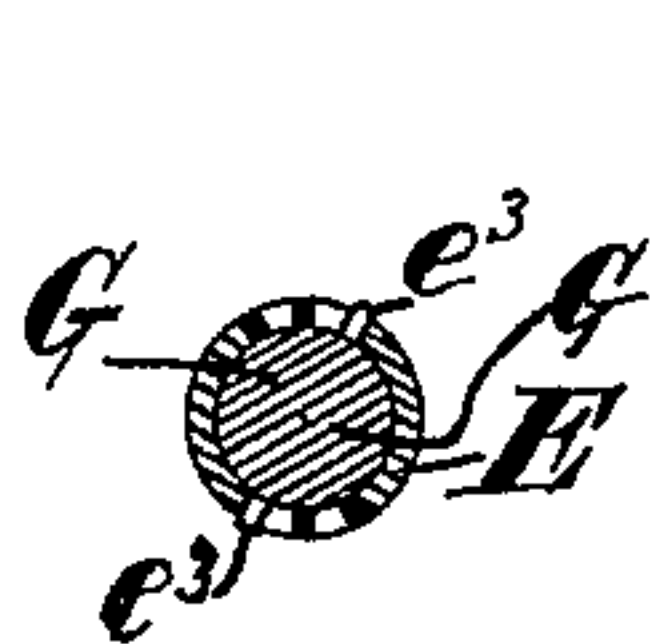


FIG. 3.

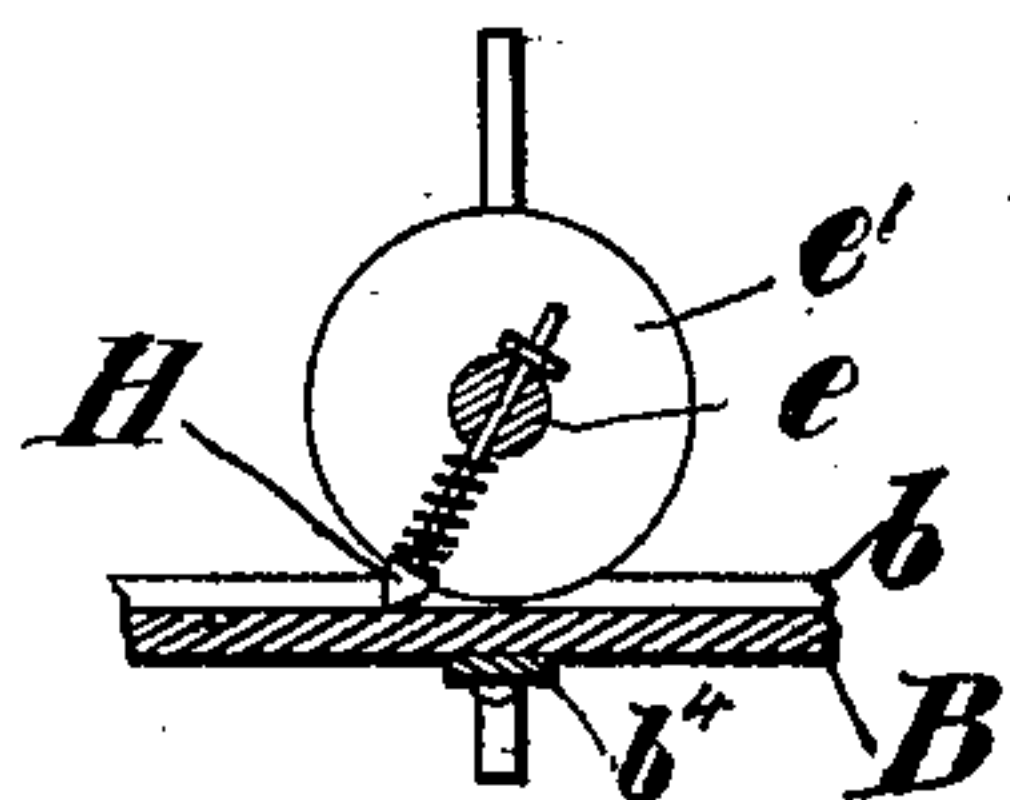


FIG. 4.

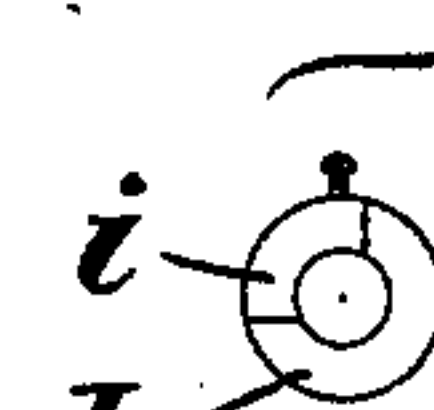


FIG. 5.

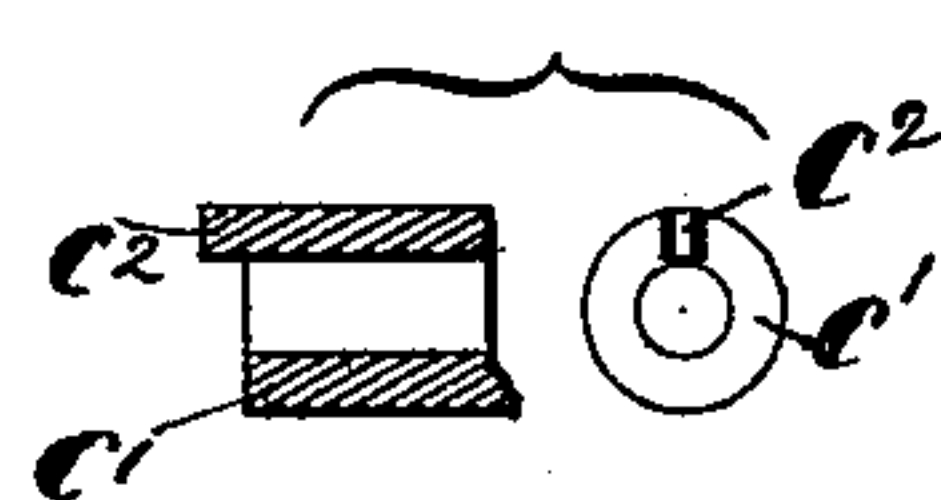


FIG. 6.

Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS JAMES MURPHY, OF CINCINNATI, OHIO.

BOW-FACING OAR.

SPECIFICATION forming part of Letters Patent No. 543,650, dated July 30, 1895.

Application filed February 27, 1895. Serial No. 539,851. (No model.)

To all whom it may concern:

Be it known that I, THOMAS JAMES MURPHY, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Bow-Facing Oars, of which the following is a specification.

My invention relates to what is known as "bow-facing" oars, or that class of oars in which the oarsman faces in the direction the boat is traveling; and it consists in the mechanism hereinafter described, by which the oars may be automatically feathered, whether the oarsman is facing in the direction in which the boat is traveling or in the opposite direction, and the boat may be backed or moved without feathering the oars.

It also consists in mechanism for adjusting the blades to the depth of the water and so arrange them that they may be readily swung into the boat at either end to take them out of the way of any obstruction.

It also consists in the means by which the oar can be quickly removed from its socket when it is desired to push the boat from the shore, and the oars may be used interchangeably as right and left hand oars.

The invention will be first fully described, in connection with the accompanying drawings, and then particularly referred to and pointed out in the claims.

Figure 1 is a top or plan view of my oar-operating mechanism attached to the gunwale of the boat. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a vertical transverse section taken through the oar-socket on line *xx* of Fig. 1. Fig. 4 is a similar section taken through line *yy* of Fig. 1, looking outward from the boat. In the compound view, Fig. 5, the view to the left is an inside edge elevation of the collar secured upon the oar-socket shaft and the view to the right is an edge elevation of the same illustrating the notch in the edge of the collar which limits the feathering motion of the oar. The compound view, Fig. 6, is a detail of the bearing for the socket-shaft, the view to the left being in axial section, showing the projecting tooth to enter the notch in the collar, Fig. 5, to limit the feathering action of the oar, and the view to the right is an edge elevation of the same.

Referring to the parts which are indicated by similar reference-letters wherever they occur throughout the various views, A indicates the upper portion of one side of a boat, to the inside of which are secured two lug-plates *a*, which project above the gunwale and furnish bearings for the journal or pivot-pins *a'*, which also pass through lugs *b*, which project downwardly from the semicircular rocking plate B, upon which the oar-operating mechanism is mounted. The plate B has projecting inwardly from its diametrical bar *b'* an arm *b²*. The diametrical bar *b'* and the arm *b²* are perforated to receive the shanks of journal-studs *c* and *d*, which furnish bearings for the toothed segments C and D. The segment C has an arm projecting from it which terminates in a tubular bearing *c'*, which furnishes the journal for the shaft *e* of the oar-socket E. The segment D has also an arm projecting inwardly from it which furnishes a socket for the shank *f* of the handle F.

The cogged segments C and D mesh with each other, and the oar-socket is feathered in either direction by moving the handle in the same direction, and the oar is dipped in or taken out of the water by rocking the carrying-plate B. The depth to which the oar is dipped into the water may be regulated by a set-screw *b³*, which passes through an angle-plate *b⁴*, which plate is secured centrally to the under side of the semicircular plate B. The end of the screw striking on top of the gunwale of the boat limits the dip of the oar.

The oar-socket shaft *e* has fitted upon it a grooved wheel *e'*, and the semicircular plate has an upwardly-projecting rib *b⁵*, which serves as a track for the grooved wheel *e'*. The shaft *e* back of this wheel is perforated, and through the perforation passes a spring-pressed detent H, which engages the circular racks formed in each end of the semicircular plate B when the oar is thrown in either direction for the purpose of feathering the oar at the completion of the stroke, and returning it again to its working position when the oar is swung back preparatory to commencing the stroke. The semicircular plate, between the segmental racks at each end, has a plain depression, so that if it is desired to backwater or row in short strokes the blade of the oar will maintain its perpendicular position with-

out being feathered, the stroke, of course, being limited to the space between the segmental racks at each end of the plate.

The feathering action of the oar is limited by a tooth c^2 , which projects from the end of the bearing c' into a notch i in the collar I, which is secured upon the socket-shaft e . The oar-socket E has secured within its base a spiral-spring e^2 , and the forward end of the socket has T-shaped notches formed in its edge diametrically opposite each other which form a lock to hold the oar in place. The inner end of the oar is round to snugly fit within the socket, and has inserted in it a pin or pins e^3 , which pass through the slot in the end of the socket when the oar is inserted, and by turning it locks the oar in position.

It will be seen that by inserting the end of the oar in the socket with the pin opposite the opening leading to the locking-notch, and pressing the oar back against the tension of the spring until the pin strikes the rear wall of the notch, and then by turning the oar in either direction and releasing it the pin will enter one of the short longitudinal notches in the socket and will be held in that position by the tension of the spring until the oar is again pressed back and the pin turned to the opening-notch in order to release it. By this means the oar may be quickly released and as quickly applied in place, and it is often found convenient to release the oar for the purpose of pushing the boat out or over any obstruction that it may ride upon.

One advantage also of my improved construction is that the oars may be readily thrown into the boat, either in front or back of the oarsman, when the boat is not in use, or in case it should come near any obstruction which would be liable to break or injure the oars, and the socket and oar can be readily removed by removing the pin e^4 , which secures the socket-shaft e in its bearing c' .

It is obvious that the device may be changed in minor details of construction without departing from the spirit and scope of my invention. I do not, therefore, desire to be limited to the specific details shown.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the rocking support for the oar operating mechanism, intermeshing segmental gears pivoted upon said support, each of said gears having radially projecting arms, one of said arms carrying the bearing for the oar socket, the oar socket fitted to turn in said bearing, the opposite gear having an arm for the handle, the han-

dle secured to said arm, and the oar blade detachably secured in its socket, substantially as shown and described.

2. The combination of the semi-circular supporting plate for the oar operating mechanism mounted to rock above the edge of the boat, intermeshing segmental gears having radially extended arms pivoted upon said support, the oar holding socket having a shaft journaled in the arm of one of said segments, the operating handle secured to the arm of the opposite segment, a wheel secured upon the oar socket shaft and resting upon the segmental bearing, and the oar detachably secured in the socket, substantially as shown and described.

3. The combination, substantially as herebefore set forth, of the semi-circular rocking plate for the oar operating mechanism, having segmental racks at each end, the supports for said plate adapted to be secured to the side of the boat, the intermeshing segmental gears having radially extended arms, said gears being pivoted upon said support, one of said arms provided with a bearing for the shaft of the oar socket and the arm of the opposite segment provided with a seat for the shank of the operating arm, the oar socket having a shaft journaled in the bearing of one of the arms, the grooved wheel fitted upon said shaft to bear upon the semi-circular support, a spring pressed detent, the shaft of which is adapted to slide through the perforation in the shaft of the oar socket, the detent being held with spring pressure upon the semi-circular bearing to engage the toothed segments at each end thereof, for the purpose of turning the oar socket at each end of the stroke for the purpose of feathering the oar and returning it to its working position, and means such as shown to limit the feathering motion of the oar socket.

4. The combination of the rocking support for the oar operating mechanism, the segmental gears having radially projecting arms pivoted upon said support, the oar socket fitted in one of said arms, and the handle secured to the opposite arm, a plate secured to the under side of the rocking support and projecting over the top edge of the boat, and an adjusting screw tapped through said plate to limit the dip of the oar, substantially as shown and described.

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Witnesses:

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