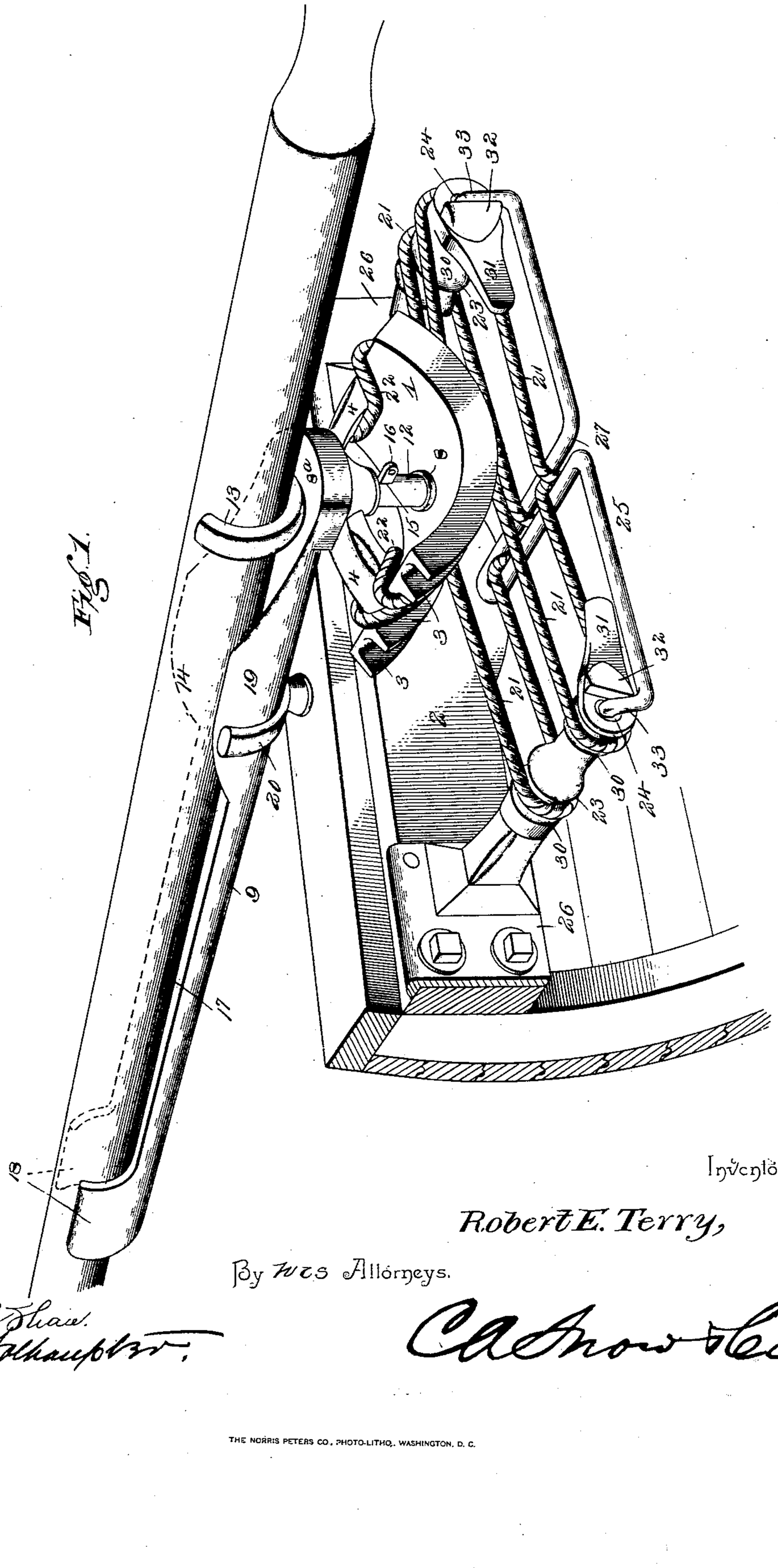
(No Model.) 2 Sheets—Sheet 1.

R. E. TERRY.

FEATHERING DEVICE.

No. 541,398. Patented June 18, 1895.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

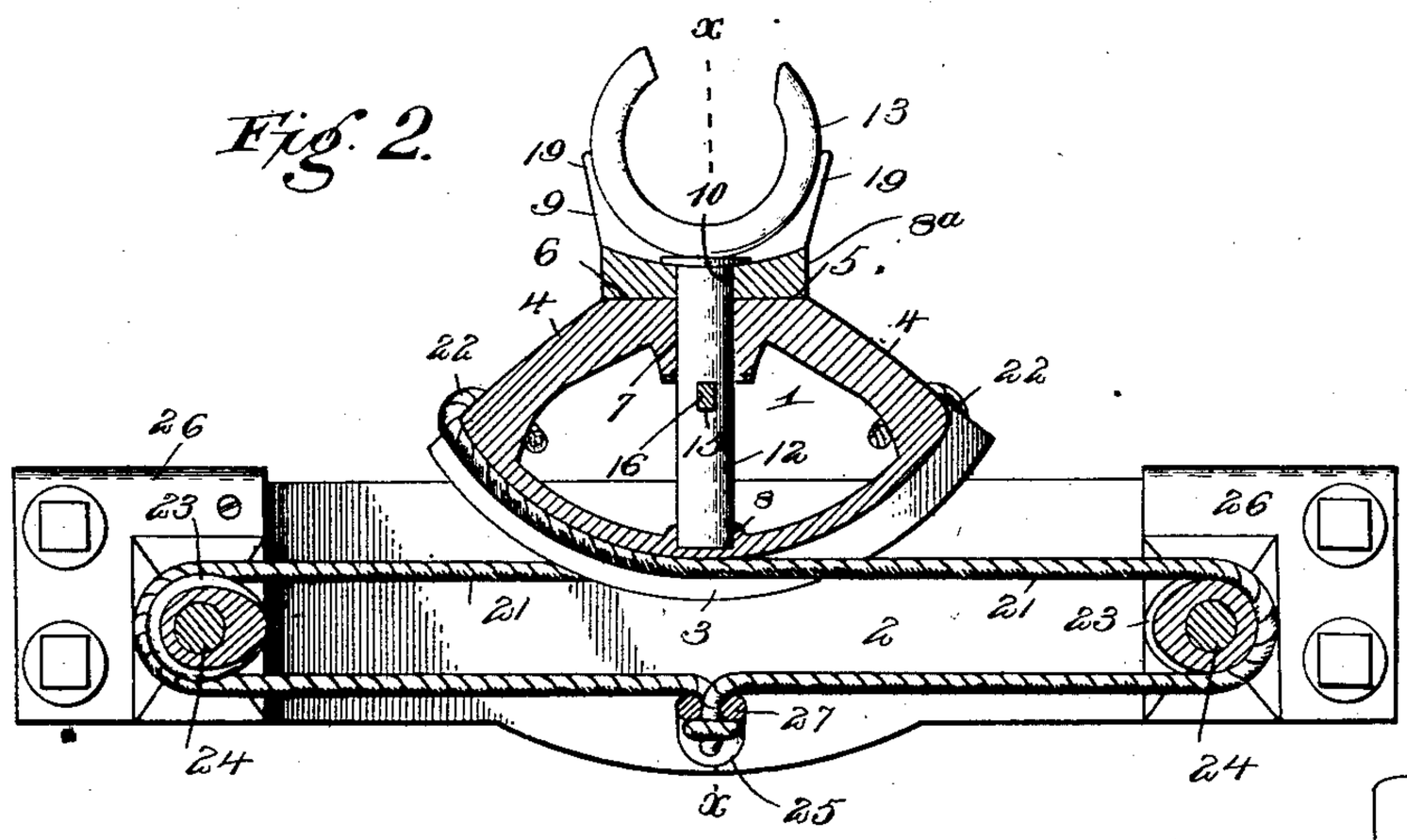


Fig. 3.

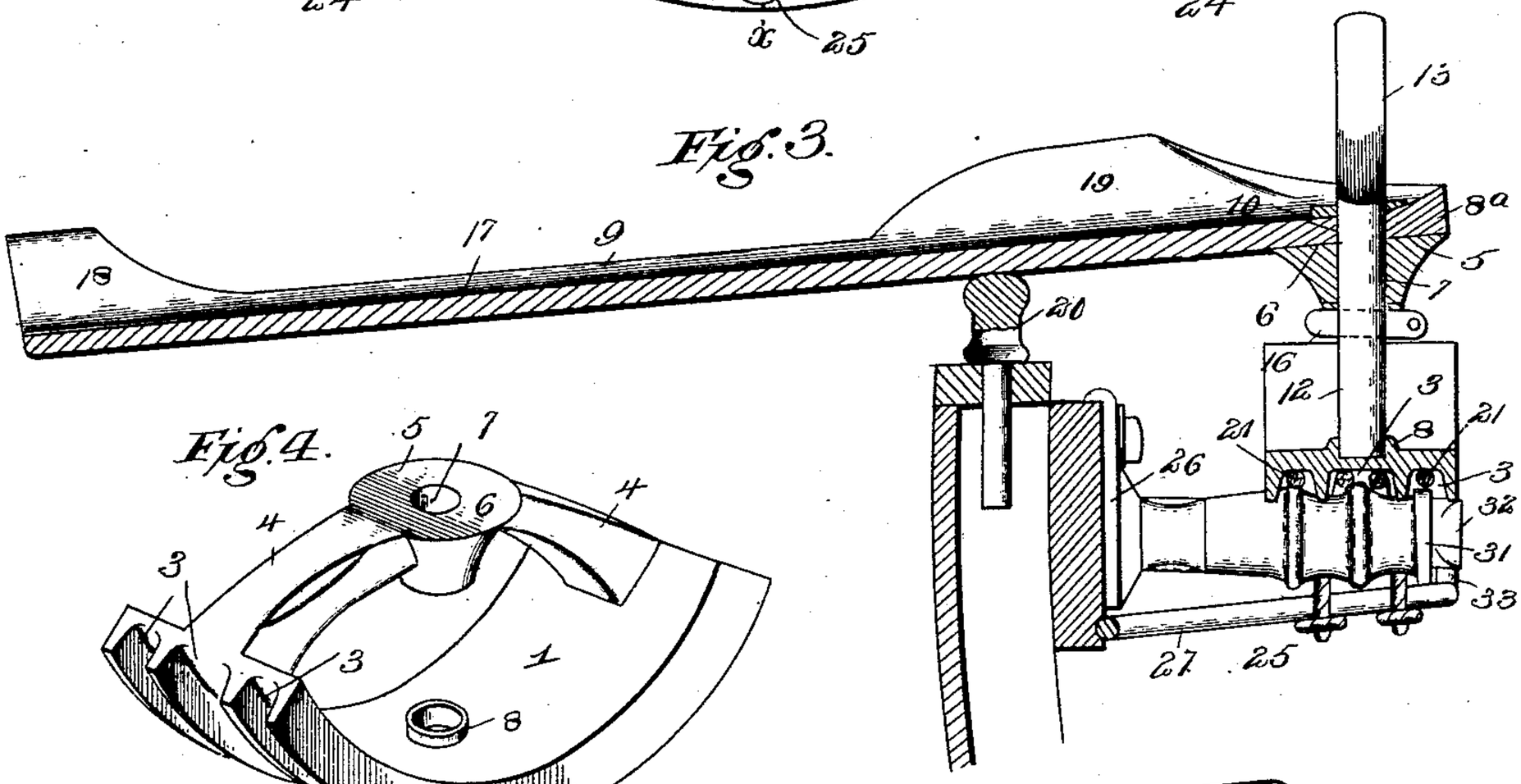
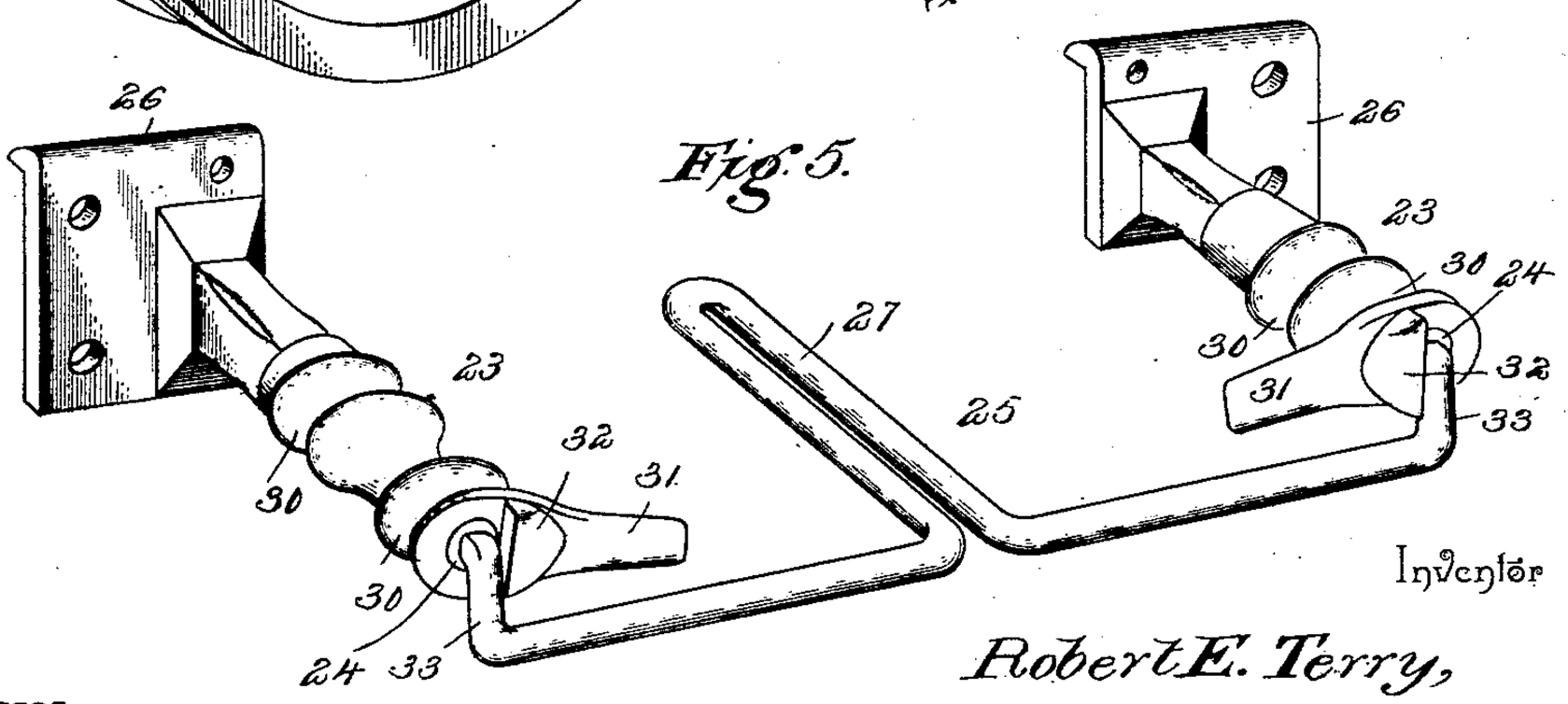


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

ROBERT EMETT TERRY, OF MOBILE, ALABAMA.

FEATHERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 541,398, dated June 18, 1895.

Application filed October 16, 1894. Serial No. 526,096. (No model.)

To all whom it may concern:

Be it known that I, ROBERT EMETT TERRY, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented a new and useful Rowing-Gear, of which the following is a specification.

This invention relates to rowing gear; and it has for its object to provide a new and useful gear for row boats, that provides for the attainment of greater speed in boats by rowing, and particularly contemplates a quick and easy feathering of the oars.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of a rowing-gear constructed in accordance with this invention, shown as applied to a side rail of an ordinary row-boat. Fig. 2 is a longitudinal sectional view of the gear. Fig. 3 is a sectional view on the line *x x* of Fig. 2. Fig. 4 is a detail in perspective of the segmental rolling fulcrum-head. Fig. 5 is a similar view of the offstanding U-shaped bracket-rod with the cam or eccentric collars attached.

Referring to the accompanying drawings, 1 designates a segmental rolling fulcrum head that is arranged to work inside of a row boat adjacent to the side rail 2, thereof, and said segmental rolling fulcrum head 1, is provided in its curved under side with a series of parallel longitudinal guide grooves 3, and projected inwardly and integrally from the upper side of the head 1, at the opposite ends thereof, are the inwardly disposed supporting arms 4, that connect with a central circular bearing plate 5, having a flat inclined top surface 6, and provided with a central bearing opening 7, that is aligned with a flanged bearing step 8, formed centrally on the upper side of the segmental head 1.

The flat top surface 6, of the central bearing plate 5, of the head 1, is inclined outwardly toward the side rail of the boat at an angle of about twenty-five degrees in order to provide for giving the proper inclination to the oar and to increase the travel thereof, and said flat top bearing plate 5, is adapted to have pivotally secured thereon the inner flattened bearing end 8^a, of the elongated oscillating oar supporting arm 9. The inner flattened bearing end 8^a, of the arm 9, is provided with an opening 10, that is adapted to align with the central bearing opening 7, of the plate 5, to loosely receive the pin or shank 12, of a U-shaped oar lock 13, that works on top of the inner bearing end 8^a, of the arm 9, and is adapted to receive therein the oar 14, that is supported for its movement on the arm 9. The pin or shank 12, of the oar lock 13, is provided at an intermediate point with a squared key opening 15, adapted to removably receive the squared fastening key 16, that engages under the central circular bearing plate 5, of the head 1, and serves to secure the oar lock 13, in position, and to hold the said oar lock, the supporting arm 9, and the rolling head 1, pivotally connected together.

The oscillating oar supporting arm 9, is provided with a concaved upper side 17, conforming to the configuration of the oar 14, in order that the oar may snugly rest therein, and at its outer end the said oar rest 9 is provided with the upwardly extending and inwardly curved oar lock flanges or clamping support 18, that partly embraces the upper side of the oar 14, and serves to lock the oar in position on the oscillating supporting arm, so that it will not slip off of the same during rowing, and the oar can only be taken from the supporting arm, in the same manner as from most of the ordinary oar locks, and that is by pulling the same in until the narrow part of the oar near the blade is brought to the lock flanges and then slipped out of the same, as will be easily understood. Near its inner end the oscillating oar supporting arm 9, is further provided at its opposite edges with the wide curved wear flanges 19, that are adapted to work inside of the ordinary oar lock 20, that is mounted on the side rail 2, of the boat, in the usual manner, and the said flanges 19, serve to protect the oar from wearing in the ordinary oar lock 20. At this point the oar supporting arm 9, is somewhat larger or wider than the outer portion thereof in order to give a free travel for the oar, so

that as the fulcrum head 1, is rocked or rolled, the supporting arm 9, resting in the oar lock 20, will freely swing with the oar.

The segmental rolling fulcrum head 1, is preferably arranged to roll on the flexible supporting ropes or chains 21, that are stretched thereunder and connected thereto. The said flexible supporting ropes or chains 21, are reversely arranged with respect to each other, and one of the ropes or chains is looped at an intermediate point as at 22, around one of the opposite inwardly disposed supporting arms 4, of the fulcrum head, and the other of said ropes or chains is similarly looped at an intermediate point around the other of said supporting arms 4, and from their point of connection with the opposite ends of the rolling fulcrum head, the separate portions of said ropes or chains are passed in the bottom guide grooves 3, of the head beyond the opposite ends thereof, and are arranged to pass around the peripherally grooved cam or eccentric collars 23, that are mounted to turn on the opposite horizontal end arms 24, of the offstanding U-shaped bracket rod 25. The offstanding U-shaped bracket rod 25, is connected at its opposite ends to the attaching plates 26 that are bolted or otherwise suitably secured to the inner side of the side rail of the boat, and at an intermediate point the longitudinal portion of said bracket rod is provided with an integral narrowed loop portion 27, in which are fastened the ends or terminals of the flexible supporting ropes or chains 21.

The peripherally grooved cam or eccentric collars 23, are provided with a series of two or more grooves 30, according to the number of ropes or chains employed, and at one end the said collars are provided with the handles or crank arms 31, providing means for turning the said collars to maintain the ropes or chains stretched at the proper tension. At the same end as the handles or crank arms 31, the said collars 23, are further provided with the stop lugs 32, adapted to engage at either side of the bent stop shoulders 33, formed at the opposite inner corners of the U-shaped bracket rod 25.

From the above it will be understood that with the cam or eccentric collars properly adjusted to hold the ropes or chains taut, a flexible support is provided for the fulcrum head 1, so that the same may roll or rock thereon and be guided in this motion by reason of the engagement of said ropes or chains in the grooves of said head. As the fulcrum head is rocked back and forth by the motion of the oar, an oscillating motion will be given to the oar supporting arm 9, and by reason of this construction and operation of gearing the oar can be quickly and easily feathered. To adjust the oar in position in connection with the gear it is simply necessary to introduce the smallest part thereof near the blade in the oar lock 13 and the oar lock flanges or clamp 18, as will be easily understood, and to unship the oar it is simply necessary to press down on the handle and to swing backward until the blade is brought into the boat, while to reship the oar, by grasping the handle and pulling slightly toward the center of the boat, it is only necessary to press downward and swing forward until the arm 9, rests in the ordinary oar lock 20.

The herein described rowing gear will be found to possess many advantages for use in connection with boats requiring both lightness and speed, and in the attainment of the objects sought for, it will be obvious that the construction described is susceptible to many modifications, and therefore changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention, and at this point it is to be particularly noted that the flexible supports for the rolling fulcrum head may consist not only of ropes or chains, but equally as well of belts or other flexible supporting mediums.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a rowing gear, the combination of a rolling fulcrum head, and an oscillating oar supporting arm pivotally connected with said head, substantially as set forth.

2. In a rowing gear, the combination of a rolling fulcrum head adapted to be arranged in a boat, an oscillating oar supporting arm adapted to rest in the oar lock on the rail of a boat and pivotally connected at its inner end to said head, and a supplemental oar lock arranged at the inner end of said arm, substantially as set forth.

3. In a rowing gear, the combination of a rolling fulcrum head, an oscillating oar supporting arm adapted to rest in the oar lock on the rail of a boat and pivotally connected at its inner end to said head and provided at its outer end with a clamping support, and a supplemental oar lock arranged at the inner end of said arm, substantially as set forth.

4. In a rowing gear, the combination of a rolling fulcrum head, an oscillating oar supporting arm adapted to rest in the oar lock on the rail of a boat, and an oar lock pivotally connecting the inner end of said supporting arm with said fulcrum head, substantially as set forth.

5. In a rowing gear, the combination of a rolling fulcrum head, an oscillating oar supporting arm adapted to rest in the oar lock on the rail of a boat and provided at its outer end with an integral clamping support, and a separate oar lock pivotally and detachably connecting the inner end of said supporting arm with said fulcrum head, substantially as set forth.

6. In a rowing gear, the combination of a rolling fulcrum head carrying an oar lock, and an oscillating oar supporting arm adapted to rest in the oar lock on the rail of a boat and

pivotally connected at its inner end with said head, said oar supporting arm being provided with a concaved upper side, a supporting clamp at its outer end, and wide curved wear flanges near its inner end to fit within the rail oar lock, substantially as set forth.

7. In a rowing gear, the combination of a rolling fulcrum head provided with a central bearing plate having a flat inclined top surface, an oscillating oar supporting arm having an inner flattened bearing end working on said bearing plate, and an oar lock pivotally connecting the inner end of said arm to said fulcrum head, substantially as set forth.

8. In a rowing gear, the combination of a rolling fulcrum head provided in its upper side with a flanged bearing step and with a central circular bearing plate located above said step and having a central bearing opening therein, an oscillating oar supporting arm having an inner flattened bearing end working on said bearing plate and provided with an opening aligning with that in the plate, an oar lock having the pin or shank thereof passed through said aligned openings and resting in said bearing step, said pin or shank being provided with a key opening therein, and a fastening key adapted to removably fit in said key opening below the bearing plate of the fulcrum head, substantially as set forth.

9. In a rowing gear, the combination of a flexible support, a fulcrum head arranged to roll on said support and carrying an oar lock, and an oscillating oar supporting arm pivotally connected at its inner end with said head, substantially as set forth.

10. In a rowing gear, the combination of a stationary supporting bracket, flexible supporting ropes or chains stretched on said bracket, means for adjusting said ropes or chains, a segmental fulcrum head connected to and rolling on said ropes or chains, an oscillating oar supporting arm, and an oar lock pivotally connecting one end of said arm to said head, substantially as set forth.

11. In a rowing gear, the combination of a U-shaped bracket rod adapted to be attached to the inner side of the rail of a boat and provided at an intermediate point with an integral narrowed loop portion, peripherally grooved cam or eccentric collars journaled on the horizontal end arms of said bracket rod and provided at one end with adjusting handles, a segmental rolling fulcrum head provided in its under side with a series of parallel guide grooves, and with opposite inwardly disposed supporting arms, an oscillating oar supporting arm, an oar lock pivotally connecting one end of said arm to said head, and opposite reversely arranged flexible supporting ropes or chains looped at an intermediate point around the inwardly disposed supporting arms of the head at the ends thereof, passed in the grooves of the head beyond the ends thereof, around said cam or eccentric collars, and secured at their extremities in the narrowed loop portion of said bracket rod, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT EMETT TERRY.

Witnesses:
FRANK S. HORTON,
WINFIELD S. LEWIS.