

(No Model.)

3 Sheets—Sheet 1.

M. F. DAVIS.

ROWLOCK.

No. 282,854.

Patented Aug. 7, 1883.

Fig. 1

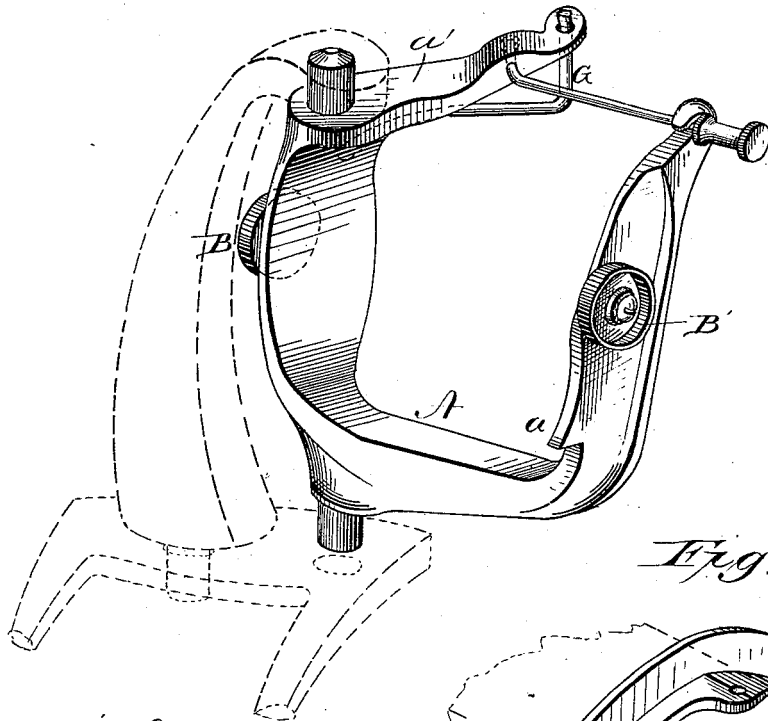


Fig. 2

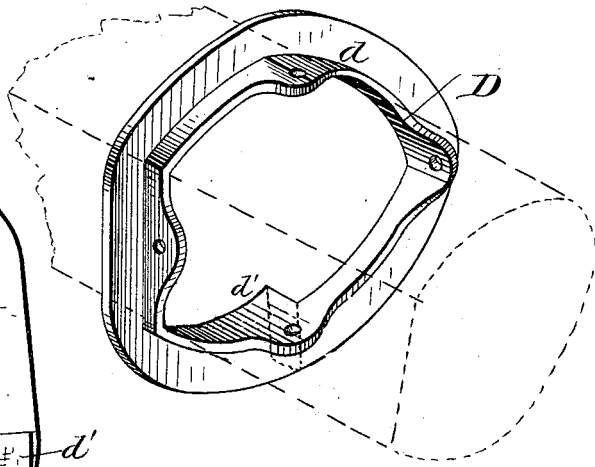
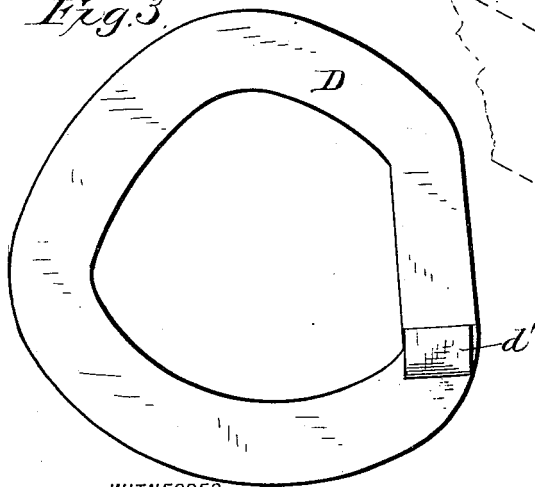


Fig. 3



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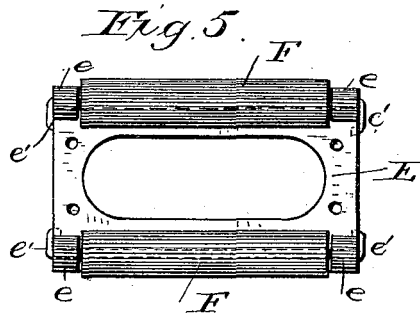
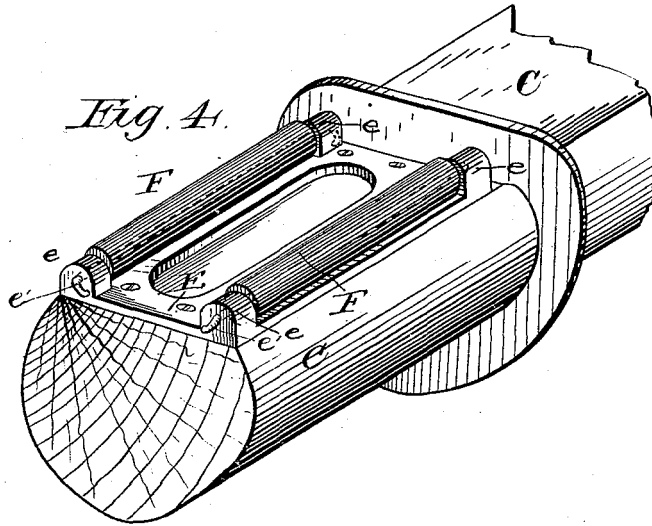
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3 Sheets—Sheet 3.

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Fig. 6.

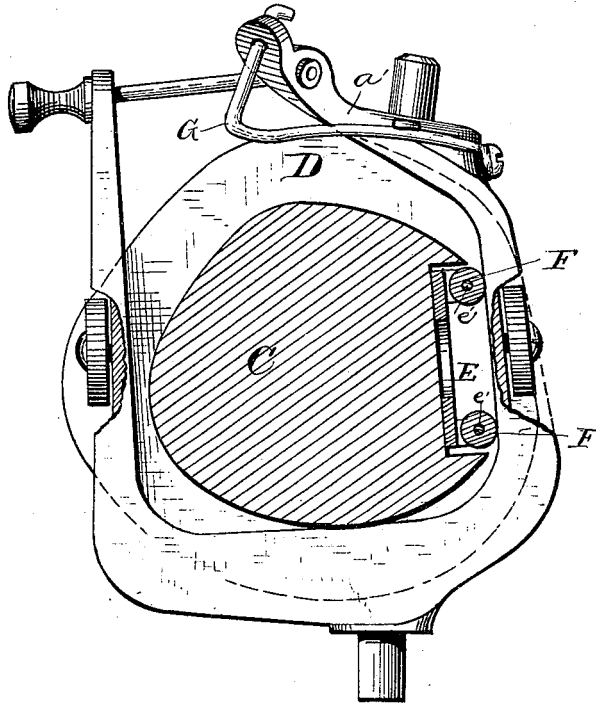
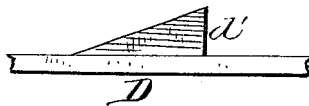


Fig. 7.



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UNITED STATES PATENT OFFICE.

MICHAEL F. DAVIS, OF PORTLAND, MAINE.

ROWLOCK.

SPECIFICATION forming part of Letters Patent No. 282,854, dated August 7, 1883.

Application filed February 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL F. DAVIS, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Rowlocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective of this rowlock. Fig. 2 is a perspective of the button which is secured on the oar. Fig. 3 is a plan view of the inside of said button. Fig. 4 is a perspective view of a piece of the oar, having fixed in position on one side the rolls or anti-friction bearings. Fig. 5 is a plan view of the plate having the rolls or anti-frictional bearings. Fig. 6 is an elevation showing an oar (in section) in the rowlock as in position for use. Fig. 7 is a detail of projection on the button. There has been long desired in racing-boats some improvement in the rowlocks or in the oar, or in both, which should obviate the resistance or friction when in use. Various attempts have been made to afford the desired improvement. Rollers have been placed inside the lock, so that the shaft or loom of the oar might move or turn easily on them, or the shape of the oar body or loom has been made peculiar to give the desired ease of movement; but none of the improvements thus far desired has, in my opinion, fully obviated the difficulties or presented any really desirable or practical solution for all the necessities of the case, or given a device that was a complete desideratum. It has been my aim in the present invention to accomplish this, and I will now proceed to describe more fully how I have done so.

In the accompanying drawings, A denotes, in general structure, such a rowlock as is now in ordinary use in racing-boats, but having on the outside of each fore and aft upright, respectively, the rollers B B'. These come out a little beyond the inside face of these uprights.

Upon the loom of the oar C is fixed the but-

ton or ring D, which has a flange, *d*, at right angles to its body and sufficiently wide so that when the oar is placed in the oar-lock this button will readily take upon the wheels or rollers B B' aforementioned on the upright of the rowlock. Thus will be afforded the easiest and most movable bearing between these two parts, providing for the lateral friction; also upon that part of the oar C which in rowing comes into the rowlock is secured the plate E, which has fixed in and to it, at the end of each side, the bearings *e*, carrying the journals *e'*, on which revolve the rollers F. When this plate is fastened to the flat side of the oar and lengthwise with it, and the oar is in position for use, these rollers come on the part of the oar on which its motion takes place as it is partially turned in the operation of rowing. Thus all the strain in the act of pulling will be brought on the rollers, and the rolls made to bear the load of the pull, and when it is necessary to feather, this load can be easily started by the wrists. This operation is not possible in the old way of construction, as in that the oarsman has to let up or "re-nig" on the feather. By this means is afforded a practically anti-friction bearing for the oar in the rowlock, and by the use of these rollers I am enabled to continue the application of the oarsman's power on the feather, as cannot be done without such an appliance, for the reason that the oarsman has not sufficient wrist-power to rock or rotate the oar when the maximum strain is on in the act of rowing. It is of the utmost consequence to have the maximum power at the finish rather than at the beginning of the stroke, as it is essential that the momentum should be then great enough to enable the oarsman to recuperate for the next stroke with a minimum lessening of the speed. The journals *e* are preferably made of steel, and are bent at each end at an angle from the main part, and by these bent ends are secured in and to the frame E. By this peculiar way and manner of fastening these journals in place they can be made secure and firm against any twisting or displacement in use or wear and tear by having double bearings.

In the use of the ordinary oar there is much uncertainty as to the exact instant when the oar catches the water, even with the best made

oars; and this is especially true where the oar has been some time in use. By means of the above-described rolls the "catch" is very sharply defined, and this function or result will not be lessened in delicacy or certainty so long as the rolls last.

To prevent any involvement by thoughtless or careless movement of the oar in the wrong direction, there is placed on the flange of the button or ring D a projection or rib, *d*, and this is usually located across and at the lower end of the straight side on the right hand, as shown in Fig. 3. This rib or projection is sloping, and its office is to engage upon the like rib or projection *a*, preferably on the aft upright of the rowlock. Thus, in rowing, the rolling movement of the oar beyond this point of engagement will be effectually prevented; but when the oar is turned in the opposite direction the projection or rib *d* on the oar-button will very easily slide down over the projection or rib on the side of the rowlock. This construction is of very great importance in rowing, because by preventing the oar from turning beyond this point of contact between these two parts the act of "crabbing" the oar is entirely obviated, while for all purposes of rolling the oar in the rowlock, as in fixing one's self in the boat, or putting in or taking out the oar, the oar can be turned as much as is necessary.

Heretofore one of the great bugbears to the oarsman has been the danger of crabbing his oar, and not even the most skilled professional oarsman was sure that his oar would not "crab." As above remarked, this simple mechanical appliance has effectually obviated all danger of such result. While I have shown this rib or projection on the aft upright, because I prefer that construction, I do not intend to limit its application to that particular point, because it is evident that it can be placed at other points on the lock and accomplish the same result. The rib or projection on the bottom flange will of course be changed in position to match any change, as above, on the rowlock.

It is of course evident that I can use on an ordinary oar a pin or projection that will correspond with the projection on the button D, so that the rolling of the oar may be stopped in like manner, as I have above described. My present invention is designed to cover any means substantially like what has now been generally shown and described for these above purposes.

It may be possible to use one wheel or roll on the upright of the rowlock; but such construction is not by any means so desirable as

that I have now shown and described; or I may have a series of balls, instead of a wheel or wheels, on each upright, the aim and scope of my present invention in this particular being to provide an anti-frictional bearing of any kind on the rowlock to operate in connection with the button on the oar, substantially in the way and for the purposes I have herein set forth.

Sometimes, in rowing, the oar will strike hard or knock against the top part, *a'*, of the lock, and this is always annoying to the oarsman, and jars the boat, and is liable to shake the oar out of his hand. To prevent these results, I have provided a cushion in shape of spring G, in combination with rigid arm *a'* of this lock. This spring is secured at its lower end to the forward upright, extends a little below the rigid arm *a'*, and its outer free end passes through a hole in the end of *a'*, and thus comes inside the rowlock. This construction takes all the impact of the oar at this part of the lock, and wholly obviates the troubles above spoken of.

I am aware that heretofore wheels have been placed on the inner lower side of the rowlock, and do not claim that construction.

Having thus described my invention, what I consider new, and desire to secure by Letters Patent, is—

1. A rowlock provided with laterally-projecting rotating anti-frictional bearings on its uprights, substantially as described.
2. In combination with an oar, a button or ring, D, fixed on its loom, and having an anti-crabbing rib or projection on its flange extending in the direction of the oar-lock, substantially as described.
3. An oar provided with anti-friction rollers or bearings on the part which comes in the rowlock, and adapted to rotate in the oar-lock, substantially as described.
4. A rowlock, as described, provided with a spring on the under side of its overhanging top part, whereby the movements of the oar are cushioned, substantially as described.
5. The rowlock A, having an anti-crabbing rib or projection extending toward the button or ring on the oar, substantially as described.
6. The rowlock A, having anti-friction bearings on its uprights, the projection *a*, and the inside top cushion or spring, G, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL F. DAVIS.

Witnesses:

G. W. BALLOCH,
GEORGE CORNELL.