

(No Model.)

4 Sheets—Sheet 1.

M. F. DAVIS.
OAR.

No. 540,579.

Patented June 4, 1895.

Fig. 1.

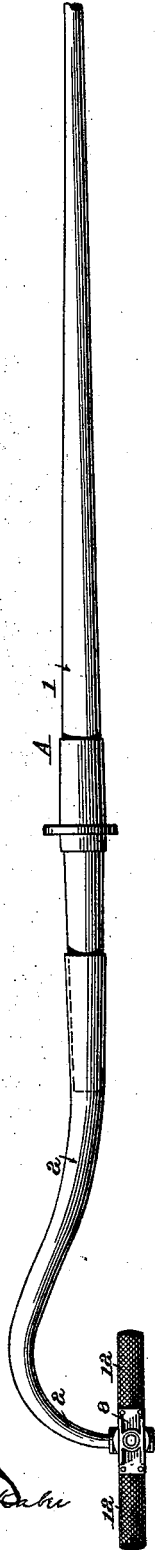
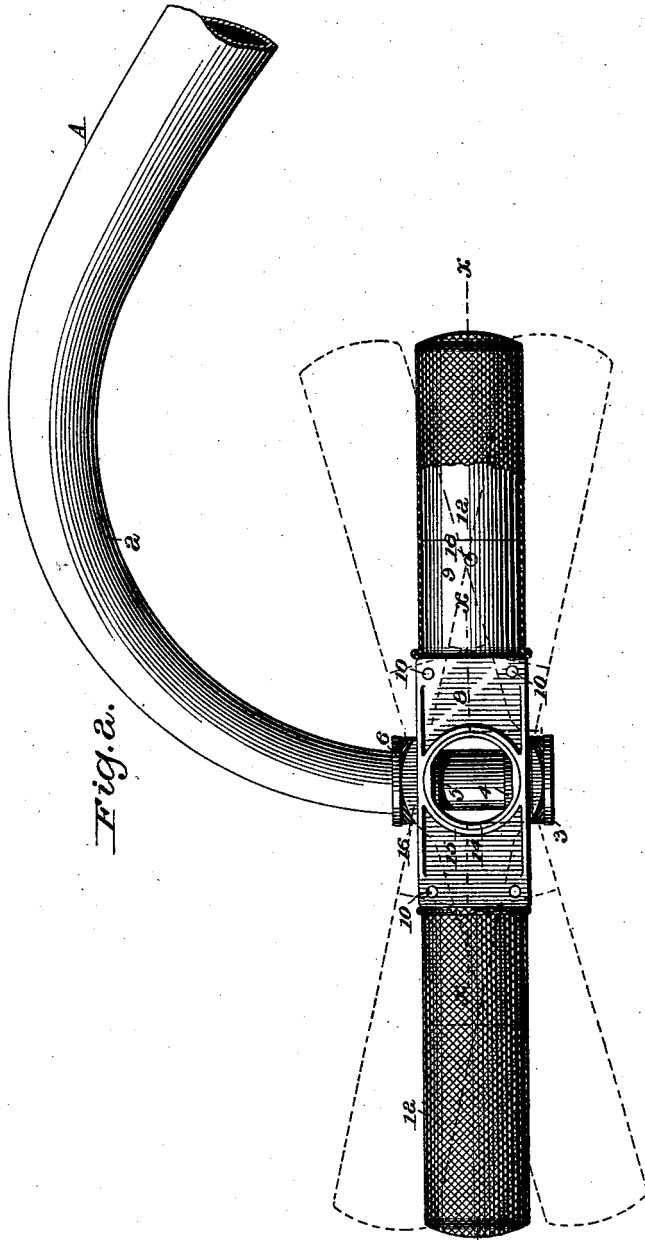


Fig. 2.



Witnesses
 Arthur Ashley
 Lloyd Woodruff

Inventor
 Michael F. Davis
 by R. Deane & Son
 his Attorney

(No Model.)

4 Sheets—Sheet 2.

M. F. DAVIS.
OAR.

No. 540,579.

Patented June 4, 1895.

Fig. 3.

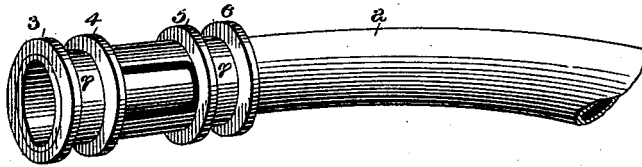
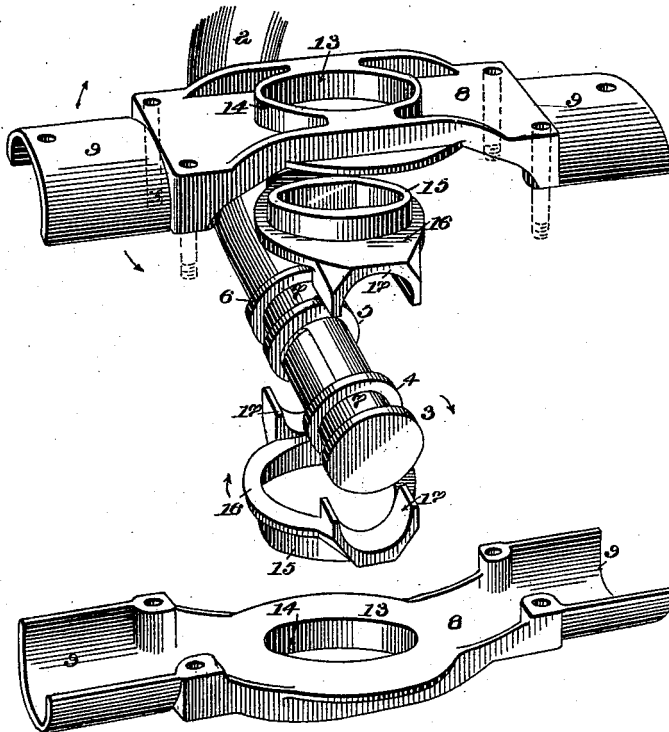


Fig. 4.



Witnesses
Arthur Ashley
Lloyd Mordant

Inventor
Michael F. Davis
by *L. Deane & Son*
his Attorneys

(No Model.)

4 Sheets—Sheet 3.

M. F. DAVIS.
OAR.

No. 540,579.

Patented June 4, 1895.

Fig. 5.

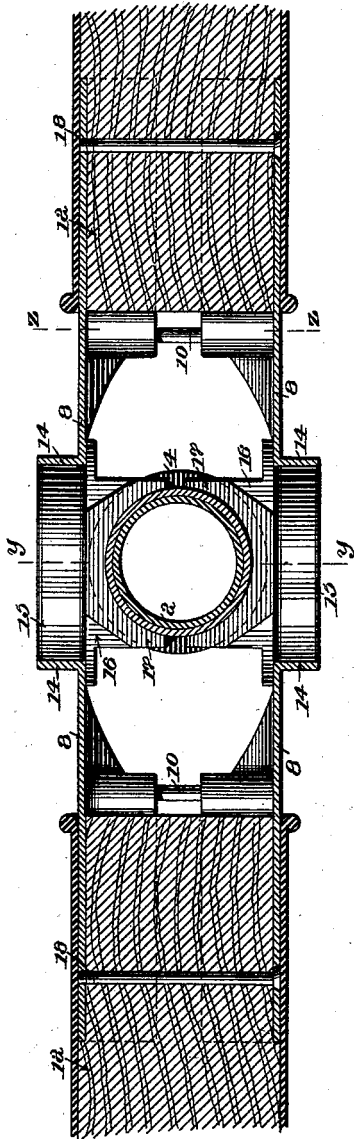


Fig. 7.

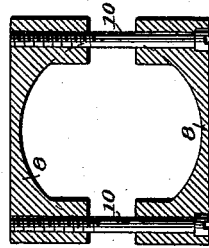
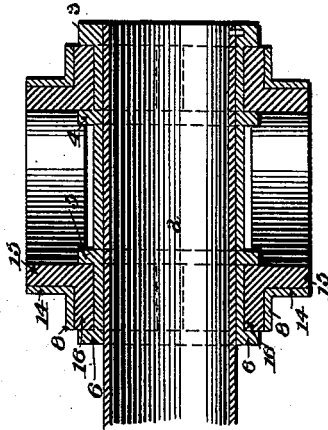


Fig. 6.



Witnesses
 Arthur Ashley
 Lloyd Mordake

Inventor
 Michael F. Davis
 by L. Deane & Son
 his Attorney

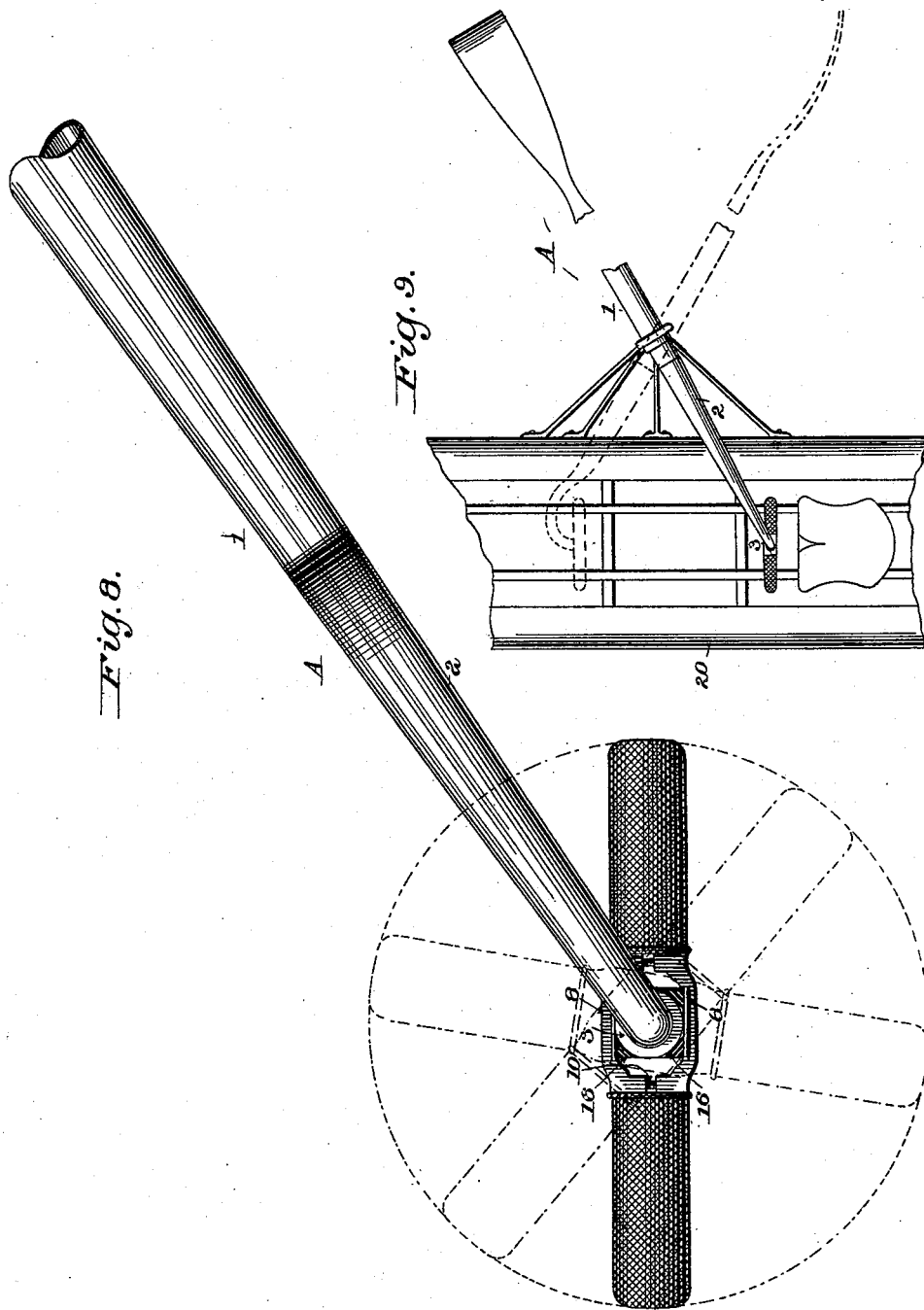
(No Model.)

4 Sheets—Sheet 4

M. F. DAVIS.
OAR.

No. 540,579.

Patented June 4, 1895



Witnesses
Arthur Ashley
J. L. Mordant

Inventor
Michael F. Davis
by *L. Deane T. Son*
his Attorney &c.

UNITED STATES PATENT OFFICE.

MICHAEL F. DAVIS, OF DETROIT, MICHIGAN.

OAR.

SPECIFICATION forming part of Letters Patent No. 540,579, dated June 4, 1895.

Application filed March 15, 1895. Serial No. 541,927. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL F. DAVIS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Oars; 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.

Figure 1 is a top plan view of a sweep, showing my invention applied to the inboard end, the sweep being on the pull. Fig. 2 is a like view showing an enlarged detail, the curved portion of the sweep having on its inboard end the double and movable handle. Fig. 3 is a perspective view in detail of the inboard end of the sweep, from which the handle portion has been removed. Fig. 4 is a perspective showing the structure by which the handles can be moved on the end of the sweep, the parts being slightly detached. Fig. 5 is a longitudinal section, on line *xx*, Fig. 2, of the handles and connections. Fig. 6 is a cross-section of the same on line *yy* of Fig. 5. Fig. 7 is a section on line *zz* of Fig. 5. Fig. 8 is a top plan showing the sweep on the feather near the end of the stroke, the horizontal movements of the handles indicated in dotted lines. Fig. 9 is a view showing a part of a boat and the oar in the rowlock, the oar indicated in full lines on the feather and in dotted lines on the pull.

This invention belongs to the general class of oars and more particularly to that species known to those skilled in this art as sweeps.

The general points of novelty which I have aimed to cover in this invention are to provide a sweep the inboard part of which is made of metal; and in attaching to the inboard or metal end of the loom handles or a double handle such construction of the handle part that they will have a motion up and down or horizontally independent of the sweep itself; and in curving the loom of the sweep or that portion that comes inboard and to the end of which the aforementioned handles are swiveled or otherwise suitably attached to produce the results above specified; and in such combination of the movable double handle with the oar that all the desired motions in rowing can be accomplished with-

out tiring or cramping the arm or arms of the oarsman or annoyance to his body; and such construction and combination of the operative parts of the sweep as will enable the user to apply the force perpendicular to the handles and parallel to the line of progress.

While these are in general the main points of my invention, in carrying these out or developing the structure that enables them to be practically carried into effect, I accomplish many other points of valuable importance.

All these points of general and special improvement and the subsidiary ones now alluded to will be more fully and clearly explained in this specification, as well as pointed out in the claims.

In the oar or sweep as heretofore made having a straight or continuous loom there have been so many disadvantages as in way of completion of the stroke or feathering that it has been found absolutely necessary for economy of force and for effective use of the sweep to provide handles that will permit every desired movement. A longer stroke of the sweep can be made without correspondingly increasing the stretch or position of the arms and the blade travel is very much greater with the same inboard reach than with any construction heretofore known or used. In the old constructions one hand would alternately be in advance of the other, while by means of my movable handles both hands and arms move uniformly, and by which also any desirable movement can be given to the handle of the oar or sweep.

Having thus briefly outlined my invention I will now proceed to describe the same in detail, and referring to the said drawings, the numeral 1, designates the outboard portion of the sweep A and which is secured at its inner end to the curved metal inboard portion 2, which for economy and lightness is made hollow.

By the "inboard" portion of the oar I mean more particularly that part which comes inside the row lock and is secured near the inside of the row lock to the outboard portion; and by the "outboard" portion the loom or that part of the oar which in use comes outside of the row lock, but in the present instance its inner end extends slightly within the row lock to enable the end of the inboard portion to

be secured to it. It is obvious, however, that the foregoing is only a general description, for the attachment of the two parts can be made at a point that in use comes outside as well as at a point that in use comes within the row lock.

The loom as shown at its inner end is curved and is formed with four annular collars 3, 4, 5 and 6, forming cylindrical bearings 7, 7.

The numerals 8, 8, designate two metal plates or brackets each being formed at the ends with a semi-circular extension 9, so formed that when the plates are connected together by the screw rods or bolts 10, they will form sockets to receive the handles 12. These plates or brackets at their centers are formed with circular apertures 13, for the purpose of reducing weight and are provided on their outer sides with annular flanges 14, forming bosses with which engage annular flanges 15, on plates 16, so that when said flanges are inserted in the bosses the plates 16, can rotate thereon. These plates on their inner sides are formed with semi-circular recesses or half round boxes 17, 17, which engage with the bearings 7, 7, of the loom.

In Fig. 9, is shown the oar or sweep as applied to a boat or canoe. In this figure 20, indicates the cock pit section of a row boat with this sweep or oar 1, 2, as applied to use, the full lines showing same on the feather and the dotted lines showing it on the pull.

The operation is as follows: The outboard portion is secured to the outer end of the inboard portion, and the bearings or boxes 17, engaged with the bearings 7, of the inboard. These plates are then secured together by the screw bolts or rods 10, and the handles inserted in the sockets formed by the extensions 9, and secured in position by screws 18. From the above construction it will be seen that the brackets or plates to which the handles are secured have a universal movement.

It will be readily understood by oarsmen and those familiar with the use of these devices from the above description of the mechanical structure by which I carry out my invention, how the oar or sweep will work in practice, and how the general advantages, set out in the beginning of the specification, can be accomplished in the most complete manner. It will also be understood that by the facility with which the handle part of the device is adapted to any desired or necessary position when in use that the device will more effectually perform its functions while at the same time giving special advantages to the user not possible from the ordinary handle. In practice it has been amply demonstrated that there is a large saving of the force spent in operating the device not only in the pull but in feathering, so that there is saved by the use of this device a considerable portion of the strength or force developed in operating the device and this salvage necessarily gives greater speed to the boat.

While I have described how the handles can be swiveled or connected to the inboard end of the oar or sweep so as to enable them to have the desired motions, it must be understood that I do not wish to be confined to the mere mechanical details of structure set forth, for the same results can be obtained by many changes in these mere mechanical details.

It will of course be evident that in the mere detail of the joinder of the metal part to the wooden part of the oar this end can be accomplished in many other merely mechanical ways than that above described. I aim to cover in this application the combination in an oar of the inboard metal part with an outboard wooden blade part in any way it may be done, though I much prefer the way of uniting the two parts together as above described.

Having thus fully described my invention, what I claim is—

1. The combination with an oar or sweep of the handles connected with the inboard portion thereof by a universal joint.

2. The combination with an oar or sweep, of the plates or brackets connected together and formed with semi-circular extensions and the handles connected with said extensions, substantially as described.

3. The combination with an oar or sweep and the annular collars on the inner ends of the inboard portion, of the plates or bearings having semi-circular extensions the handles secured to said extensions, and the boxes engaging with the bearings on the inboard portion, substantially as described.

4. A sweep or oar made in two parts, the loom or outboard portion being of wood, and the inboard portion being hollow and curved and made of metal, and said parts being firmly connected together at a point which in use comes near the row lock, substantially as described.

5. A sweep or oar made in two parts, the loom or outboard portion being of wood, and the inboard portion being hollow and made of metal and said parts firmly connected together, and the handles pivotally connected with the curved end of the inboard portion, substantially as described.

6. A sweep or oar made of wood and metal in manner set forth and having its metal inboard portion secured to and on the wooden outboard portion, as described, and provided at its inboard end with a movable handle part adapted to have vertical or horizontal movements with relation to the oar, substantially as described.

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

MICHAEL F. DAVIS.

Witnesses:

WILLIAM W. DEANE,
H. M. STERLING.