

Sept. 3, 1940.

H. H. WHITEHEAD

2,213,538

SELF-FEATHERING SCULLING OAR

Filed Sept. 10, 1938

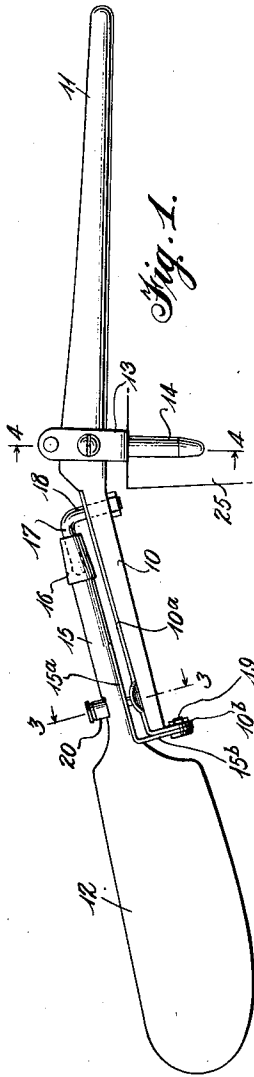


Fig. 1.

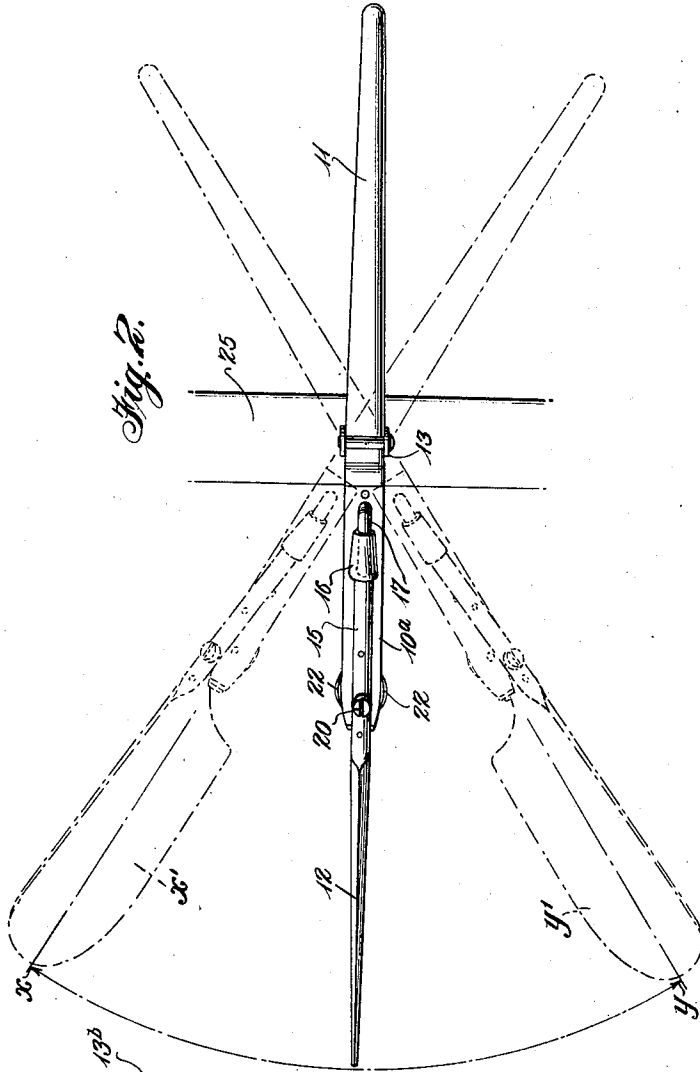


Fig. 2.

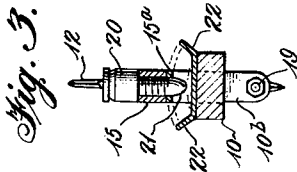


Fig. 3.

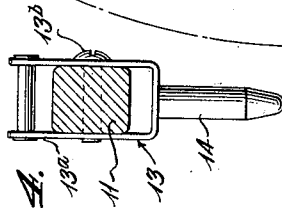


Fig. 4.

Inventor  
*Hugh Holmes Whitehead*

334 *Paul J. Walters*  
his Attorney

# UNITED STATES PATENT OFFICE

2,213,538

## SELF-FEATHERING SCULLING OAR

Hugh Holmes Whitehead, Palmetto, Fla.

Application September 10, 1938, Serial No. 229,353

6 Claims. (Cl. 9—24)

The present invention relates to a sculling oar of the type employed at the stern of boats for effecting propulsion thereof.

It is common practice to propel small water craft by a single oar placed at the stern of the boat and oscillated transversely of the stern of the boat. In order to effect the proper propulsion of the boat the blade of the oar is feathered during its oscillating movement by motion of the wrist of its operator, which requires knack developed only by long experience.

The object of the present invention is to provide a sculling oar of the above stated type which will be self-feathering as the oar is oscillated by its operator, thus requiring no skill on the part of the operator and in the event of experienced operators does not require the tiring wrist movement necessary for effecting feathering.

Another object of the invention is the provision of a self-feathering sculling oar of the above stated character having a simple, economical, durable and novel construction whereby the blade may be oscillated alternately to assume oppositely oblique feathering positions with respect to the plane of movement of the oar and to more readily assume these positions in response to the pressure of the water thereagainst, according to the direction of movement of the handle; and further, whereby the pitch of the propelling action may be adjusted to the angle most efficient on the boat with which it is being used.

With the above and other objects in view the invention resides in the sundry details of construction, combination of parts hereinafter more fully described and pointed out in the appended claims.

In the drawing, which shows one preferred embodiment of the invention:

Figure 1 is a side elevation of the oar constructed in accordance with the present invention and shown placed in position on the stern or transom of a boat;

Figure 2 is a top plan view of Figure 1, showing in dotted lines the different positions the blade assumes during operation;

Figure 3 is a vertical sectional view taken substantially on line 3—3 of Figure 1; and

Figure 4 is a vertical sectional view taken substantially on line 4—4 of Figure 1.

Referring in detail to the drawing, in which like characters refer to similar and like parts throughout the several views, 10 denotes the loom having at one end a handle portion 11 and having pivotally mounted on its other end a blade 12.

The loom 10 and the handle 11 may be made of one piece of material, preferably wood, and the loom preferably extends at an obtuse angle with respect to the handle. In sculling oars of the type above indicated the handle 11 is made relatively long in order to provide a required leverage and further to better accommodate the oar to the position of its operator, who usually stands in the stern portion of the boat.

The blade 12 may be of any desired shape or construction but in order to facilitate the propulsion is relatively long and wide, as shown in the drawing, and has extending from its rear end a shank 15. The outer end of the shank 15 is pivotally secured to the loom, while the inner end of the shank is pivotally secured to the outer end of the loom, these pivots being arranged out of alignment or offset with respect to each other so as to effect a feathering action of the blade as the handle 11 oscillates the loom in a direction transverse of the boat or craft.

More specifically, it is preferred to have a collar 16 surrounding the outer end of the shank 15 and providing a longitudinal socket in the end of the shank 15 into which loosely extends an arm 17 laterally extending from a stud 18, projecting, preferably, but not necessarily, for a distance from the upper surface of the loom; while the inner end of the shank 15 has a laterally extending arm 15 pivotally secured to the outer end of the loom 10.

In order to strengthen the loom and to provide a convenient construction for the pivot 19, the upper face of the loom is covered by a metal plate 10a, the outer end 10b of which is bent downwardly over the end of the loom 10 and projects below the same for a distance. The pivot 19 extends through the ends of the element 10b and the arm 15b, which latter is preferably provided by a laterally extending portion of a reinforcing plate 15a secured to the shank 15. Thus, it will be seen that the pivots 19 and 17 are on different centers, so as to give the blade a proper oblique feathering pitch on opposite sides of the loom during the transverse oscillating movement of the handle 11. Because of the disposition of the pivots and the manner in which they are connected with the blade or the shank thereof, it will be obvious that the blade will swing from said pivots in opposite directions laterally of the loom so that the blade will shift laterally of the loom when alternately moved to its feathering positions.

It will be understood that the blade may assume any position, when the sculling oar is not in

operation and is illustrated in full lines as being vertically disposed. However, this vertical position of the oar is merely for convenience of illustration as the oar may assume any tilt or pitch position when idle. When the oar is being operated, however, in the direction indicated by the arrow  $x$  (Figure 2) the blade will assume the position indicated at  $x'$ , whereas when the oscillation of the blade is reversed at the end of its movement  $x$ , the blade will be instantly flipped, by the pressure of the water thereagainst and the movement of the handle 11, to feather the blade to the position shown at  $y'$ , the positions  $x'$  and  $y'$  may be considered as the limit of motion of the blade in the directions  $x$  and  $y$ .

The degree of diagonal or oblique feathering pitch of the blade 12 on opposite sides of the loom should be increased and decreased for different crafts in order to obtain the most efficient results, and to this end means has been provided for varying the degree of the self-feathering pitch. This means may be of any suitable character but is here shown as comprising a set screw 20 extending through the shank 15 of the blade and threaded in the plate 15a. The end 21 of the set screw is designed to contact upstanding flanges or stops 22 on opposite edge portions of the plate 10a and which are arranged in the path of movement of the end 21 of the set screw 20 when the blade is feathered. These flanges 22 are inclined outwardly from the plate so as to enable a wide degree of variation of pitch by moving the end 21 of the set screw away from or closer to the plate 10a as may be desired.

The oarlock 13 preferably has the handle portion 11 at a point adjacent the loom pivotally mounted in a stirrup 13a on a horizontal axis 13b provided by a bolt or other suitable means as shown in the drawing. Thus by means of the spindle 14 and the pivot 13b the movement of the blade may be universal within its limit of movement at the stern of the craft 25.

From the above it will be seen that a very simple, effective, and desirable self-feathering oar has been provided, the blade of which will respond more readily to the pressure of water impinging thereagainst to shift to alternate feathering positions for sculling purposes, which may be used by unskilled persons by not requiring the wrist or turning movement of the handle for effecting the feathering operation and wherein the feathering action can be adjusted to meet the requirements of any particular boat capable of being sculled.

Having thus described the invention and the manner in which the same is to be performed, it is to be understood that the invention is not to be limited to the exact details of construction herein shown and described, as the invention contemplates modifications and variations within the scope of the appended claims.

What is claimed is:

1. A self-feathering oar comprising a handle, loom and blade, pivot means connecting the blade to the loom at two points, the axes of said pivots

extending in the general longitudinal direction of the loom and offset one above the other, whereby the blade may oscillate to alternately assume oppositely oblique feathering positions more readily in response to the pressure of the water thereagainst according to the direction of movement of the handle.

2. A self-feathering sculling oar as set forth in claim 1 further characterized by adjustable means for varying the degree of oscillatory movement of said blade for adapting the oar to the requirements of different boats.

3. A self-feathering sculling oar comprising a handle, loom and blade, pivot means securing the blade to the loom at remote points along the length of the loom, the axes of said pivots being offset one above the other, whereby the blade may oscillate to alternately assume oppositely oblique feathering positions more readily in response to the pressure of the water thereagainst according to the direction of movement of the handle.

4. A self-feathering sculling oar comprising a loom having a handle end, a blade having a shank extending therefrom, pivot means connecting the free end of the shank to the loom at a point removed from the other end of the loom, and pivot means securing the shank to the loom at said other end portion of the loom, the axes of both said pivot means extending in the same direction and being offset one above the other, whereby the blade may oscillate to alternately assume oppositely oblique feathering positions more readily in response to the pressure of the water thereagainst according to the direction of movement of the handle.

5. A self-feathering sculling oar comprising a loom having a handle end, a blade disposed at the opposite end of the loom and having a shank overlying the loom, pivot means connecting the free end of the shank to the loom at a point removed from said opposite end of the loom, a depending lateral flange at said opposite end of the loom, and pivot means securing the blade to the outer end portion of said flange, the axes of said pivots extending in the general longitudinal direction of the blade.

6. A self-feathering sculling oar comprising a loom having a handle end, a blade disposed at the opposite end of the loom and having a shank overlying the loom, pivot means connecting the free end of the shank to the loom at a point removed from said opposite end of the loom, and pivot means securing the shank to the loom at said opposite end portion of the loom, the axes of said pivots and the loom extending in the same direction with the axes of said pivots offset with respect to each other whereby the blade may be moved alternately to oppositely oblique feathering positions, an adjustable member on the shank and arranged to engage the loom, for varying the degree of movement of the blade about said pivot means to adapt the oar to the requirements of different boats.