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F. O. CAIN

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SCULLING APPARATUS

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Fig. 1

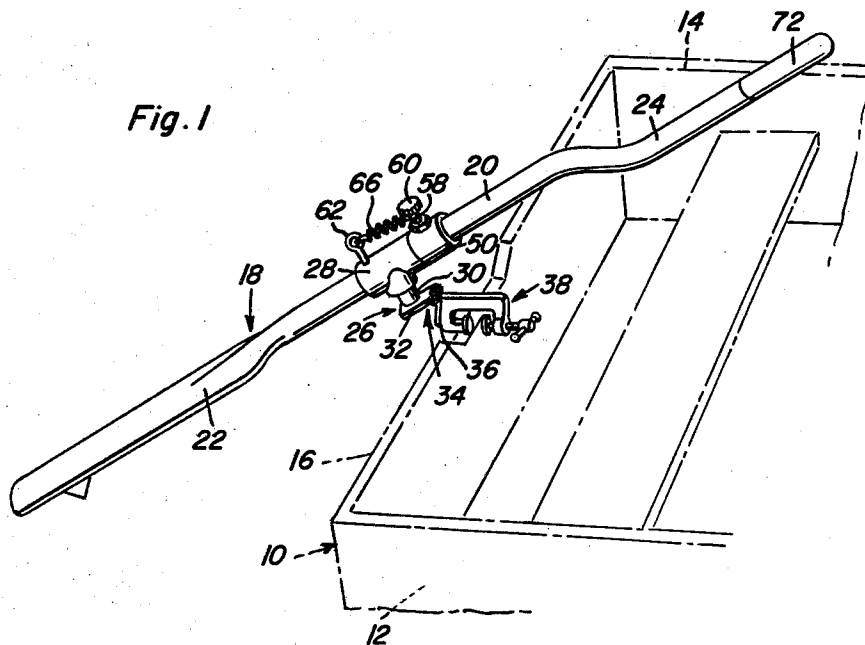


Fig. 2

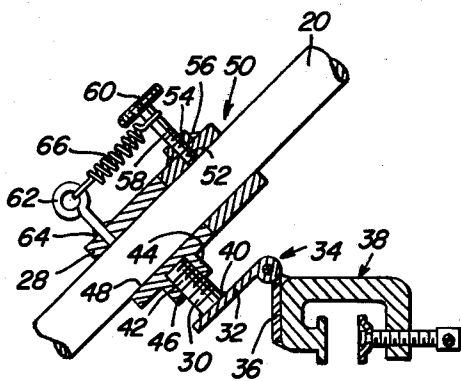
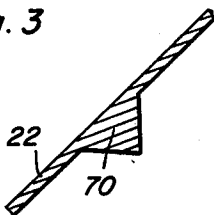


Fig. 3



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**SCULLING APPARATUS**

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12 Claims. (Cl. 115-28)

This invention relates to a novel and useful sculling apparatus and more specifically to a paddle-like member constructed in a manner whereby it is particularly well adapted to propel a boat by sculling with the paddle.

The sculling apparatus of the instant invention includes an elongated shank member having a panel-like blade on one end projecting from opposite sides of the shank member. The other end of the shank member is provided with an elongated handle portion which generally parallels the shank member and is laterally offset from the longitudinal axis of the shank member in a direction extending transversely of the medial plane of the blade. The mid-portion of the shank member is round in cross-section and is thereby adapted to be cradled in an oarlock or the like and oscillated about its longitudinal axis during swinging movement of the sculling apparatus about the axis of rotation of the oar lock.

Because of the laterally offset elongated handle portion, each time force is applied to the offset handle portion in order to swing the sculling apparatus about an axis extending transversely of its mid-portion, the blade of the sculling apparatus will automatically be inclined in the right direction so as to effect a rearward thrust on the water as the blade is swung transversely across the rear end of a boat. Each time the force on the elongated handle portion is reversed, the shank member will be rotated somewhat less than 180 degrees thereby inclining the blade in the opposite direction for the next path across the rear of the boat.

The main object of this invention is to provide a sculling apparatus which will enable experts as well as novices to readily propel a boat by sculling with one hand.

A further object of this invention, in accordance with the immediately preceding object, is to provide a sculling apparatus constructed in a manner whereby the operator using the sculling apparatus is merely required to oscillate the upper end of the elongated shank member, by the elongated handle portion thereof, back and forth across the rear portion of the boat supporting the sculling apparatus.

Another object of this invention, in accordance with the preceding object is to provide a mount for the apparatus including means for rotatably supporting the shank member for oscillation about its longitudinal axis and for pivotal movement about an upstanding axis extending transversely of the elongated shank member and from the transom of a boat.

A still further object of this invention is to provide the means by which the sculling apparatus is mounted for oscillation about its longitudinal axis and swinging movement about an axis extending transversely of its shank portion with clamp means whereby the entire sculling apparatus may be removably clamped to the transom of a boat which is to be propelled.

A final object of this invention to be specifically enumerated herein is to provide a sculling apparatus in accordance with the preceding objects which conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device that will be economically feasible, long lasting and relatively trouble free in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter

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described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the sculling apparatus shown clamped to the stern portion of a boat which is shown in phantom lines;

FIGURE 2 is a fragmentary longitudinal sectional view taken through the assembly by which the elongated shank member of the sculling apparatus is rotatably supported for oscillation about its longitudinal axis and mounted for pivotal movement about an axis extending transversely of its shank portion; and

FIGURE 3 is an enlarged fragmentary longitudinal sectional view taken through a portion of the blade carried by one end of the shank member.

Referring now more specifically to the drawings the numeral 10 generally designates a boat which includes a pair of sides 12 and 14 interconnected at their rear ends by means of an upright transom 16. The sculling apparatus of the instant invention is generally referred to by the reference numeral 18 and includes an elongated shank member 20 having a panel-like blade 22 on one end which projects from opposite sides of the shank member 20. The end of the shank member remote from the blade 22 is provided with an elongated handle portion 24 which is laterally offset from the longitudinal axis of the shank member in a direction extending transversely of the medial plane of the blade 22.

A mounting assembly generally referred to by the reference numeral 26 is provided and includes a sleeve member 28 which rotatably and slidably receives the shank member 20 intermediate the blade 22 and the offset handle portion 24. The sleeve member 28 is pivotally secured to a shank 30 which has one end secured to one leaf 32 of a hinge 34. The other leaf 36 of the hinge 34 has a C-clamp assembly generally referred to by the reference numeral 38 secured thereto. The shank 30 is fixedly secured to the leaf 32 in any suitable means such as by welding 40 and is externally threaded on the other end as at 42. The sleeve member 28 includes a socket member 44 which defines a threaded bore 46 extending transversely of the longitudinal bore 48 formed through the sleeve member 28. The threaded end portion of the shank 30 is threadedly engaged in the threaded bore 48 and in this manner the sleeve member 28 is pivotally secured to the leaf 32.

A stop collar generally referred to by the reference numeral 50 is slidably mounted on the shank member 20 intermediate the sleeve member 28 and the handle portion 24 and has a radial bore 52 formed therein. A threaded nut 54 is secured to the collar 50 in any suitable manner such as by welding 56 and in alignment with the bore 52. A setscrew 58 is threadedly engaged with the nut 54 and is forced against the outer surfaces of the sleeve member 20 to fix the collar 50 in adjusted positions along the shank member 20. The outer end of the setscrew 58 is provided with a wheel portion 60 whereby the setscrew 58 may be readily loosened and again retightened each time it is desired to adjustably position the collar 50 longitudinally of the shank member 20.

An anchor eye 62 is secured to the sleeve member 28 in any convenient manner such as by welding 64 and an expansion spring 66 is secured between the anchor eye 62 and the portion of the setscrew 58 disposed between the nut 56 and the hand wheel portion 60. Thus, it will be noted that the shank member 20 is yieldingly urged to the position illustrated in FIGURES 1 and 2 of the drawings and against rotation in either direction from the position illustrated in FIGURES 1 and 2 of the drawings.

From a comparison of FIGURES 1 and 3 of the drawings it will be noted that the panel-like blade 22 is pro-

vided with a small stabilizing fin 70 which is disposed at substantially right angles to the median plane of the blade 22 and extends longitudinally thereof. It will also be noted that the stabilizing fin 70 projects outwardly from the blade 22 in the same direction in which the handle portion 24 is laterally offset from the shank member 20.

With attention again invited to FIGURE 1 of the drawings, it may be seen that the free end portion of the handle portion 24 is provided with a handgrip portion 72 which is rotatably mounted on the handle portion 24 for rotation about the longitudinal axis of the handle portion 24.

In operation, after the sculling apparatus 13 has been secured to the transom 16 by means of the C-clamp assembly 38, a person seated in the rear of the boat 10 may grasp the handgrip 72 and urge the handle portion 24 in a counterclockwise direction as viewed in FIGURE 1 from above. This will cause, because of the laterally offset handle portion 24, the shank member 20 to rotate in a counterclockwise direction about its longitudinal axis as viewed from the handle portion end of the shank member 20. Accordingly, it will then be noted that the blade 24 will have its leading edge portion inclined toward the transom 16 of the boat 10. Upon completion of the movement of the handle portion 24 to the port side of the boat 10, the spring 66 will again return the shank member 20 to the rotated position illustrated in FIGURE 1 of the drawings. Then, upon the application of force to the handgrip 72 to swing the handgrip 72 toward the starboard side of the boat, the shank member 20 will be rotated in a clockwise direction from the position illustrated in FIGURE 1 of the drawings and as seen from the handle portion end of the shank member. This will, of course, incline the opposite edge of the blade 22 which now comprises the leading edge thereof in a forward direction in order that the movement of the blade 22 to the port side of the boat 10 will effect a rearward thrust on the water in which the blade 22 is disposed.

Repeated oscillation of the handle portion 24 will, of course, effect intermittent forward thrust on the blade 22 to propel the boat 10.

The hinge 34 enables the desired angle of the shank member 20 relative to the horizontal to be achieved even though various transoms to which the C-clamp assembly 38 is secured may be inclined differently.

The stabilizing fin 70 also assists in oscillating the shank member 20 about its longitudinal axis as the handle portion 24 is swung back and forth across the boat 10. The drag of the stabilizing fin 70 on the water through which the blade 22 is being moved will increase the forces applied to rotate the shank member 20 in the correct direction. While the tension of the spring 65 is sufficient to return the shank member 20 to its rest position in substantially all cases, the stabilizing fin will also assist in this function when the handle portion 24 is oscillated rapidly.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A sculling apparatus including an elongated shank member having a panel-like blade on one end projecting from opposite sides of said shank member, the other end of said shank member including an elongated handle portion generally paralleling said shank member and laterally offset from the longitudinal axis of said shank member in a direction extending transversely of the medial plane of the blade, said shank member including means intermediate said handle portion and said blade adapting said shank member to be pivotally supported from the transom

of a boat for rotation about an upstanding axis extending transversely of said shank member and for oscillation about the longitudinal axis of said shank member.

2. The combination of claim 1 wherein said panel-like blade includes a small stabilizing fin disposed at substantially right angles to the medial plane of said blade, extending longitudinally thereof, and projecting outwardly from said blade in the same direction in which said handle portion is laterally offset from said shank member.

3. A sculling apparatus including an elongated shank member having a panel-like blade on one end projecting from opposite sides of said shank member, the other end of said shank member including an elongated handle portion generally paralleling said shank member and laterally offset from the longitudinal axis of said shank member in a direction extending transversely of the medial plane of the blade, said shank member including means, intermediate said handle portion and said blade adapting said shank member to be pivotally supported from the transom of a boat for rotation about an upstanding axis extending transversely of said shank member and for oscillation about the longitudinal axis of said shank member, said means comprising a sleeve member rotatably journaled on said shank member adapted to be pivotally secured to said transom for rotation about an axis extending transversely of said sleeve member.

4. The combination of claim 3 including means interconnected between said sleeve member and said shank member yieldingly urging said shank member toward one position of rotation relative to said sleeve and against rotation of said shank member in both directions relative to said sleeve member from said one position.

5. A sculling apparatus including an elongated shank member having a panel-like blade on one end projecting from opposite sides of said shank member, the other end of said shank member including an elongated handle portion generally paralleling said shank member and laterally offset from the longitudinal axis of said shank member in a direction extending transversely of the medial plane of the blade, said shank member including means intermediate said handle portion and said blade adapting said shank member to be pivotally supported from the transom of a boat for rotation about an upstanding axis extending transversely of said shank member and for oscillation about the longitudinal axis of said shank member, said means comprising a sleeve member rotatably and slidably disposed on said shank member adapted to be pivotally secured to said transom for rotation about an axis extending transversely of said sleeve member.

6. The combination of claim 5 including means interconnected between said sleeve member and said shank member yieldingly urging said shank member toward one position of rotation relative to said sleeve and against rotation of said shank member in both directions relative to said sleeve member from said one position.

7. The combination of claim 6 wherein said shank member includes stop means engageable with said sleeve for limiting longitudinal sliding movement of said shank member in a direction moving said blade away from said sleeve member.

8. The combination of claim 7 wherein said means interconnected between said sleeve member and said shank member also yieldingly urges said stop member toward a limit position defined by said sleeve member.

9. The combination of claim 3 wherein said sleeve member has a clamp assembly pivotally secured thereto for rotation about an axis extending transversely of said sleeve member and adapted for clamping engagement with said transom.

10. The combination of claim 9 wherein said sleeve member also slidably receives said shank member for longitudinal reciprocation of the latter.

11. The combination of claim 10 wherein said shank member includes stop means engageable with said sleeve

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for limiting longitudinal sliding movement of said shank member in a direction moving said blade away from said sleeve member.

12. The combination of claim 11 including means interconnected between said sleeve member and said shank member yieldingly urging said shank member toward one position of rotation relative to said sleeve and against rotation of said shank member in both directions relative to said sleeve member from said one position, said means interconnected between said sleeve member and 10

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said shank member also yieldingly urging said stop member toward a limit position defined by said sleeve member.

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