

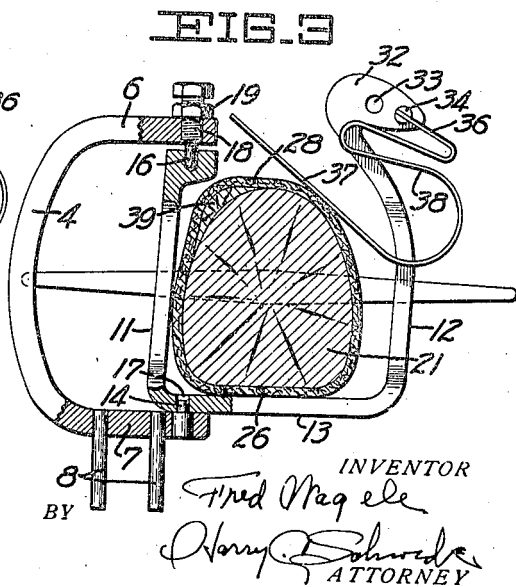
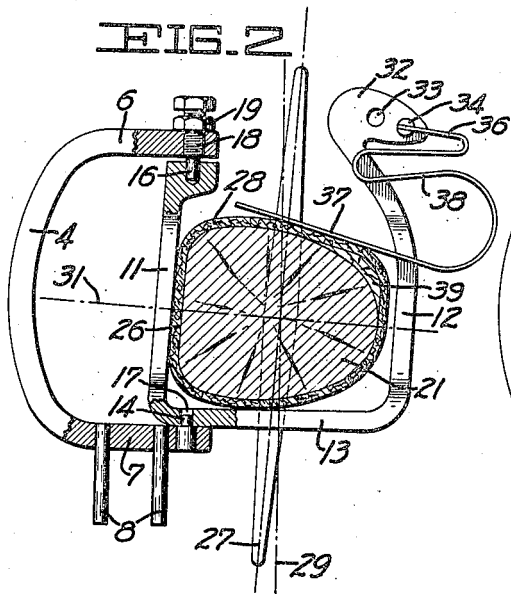
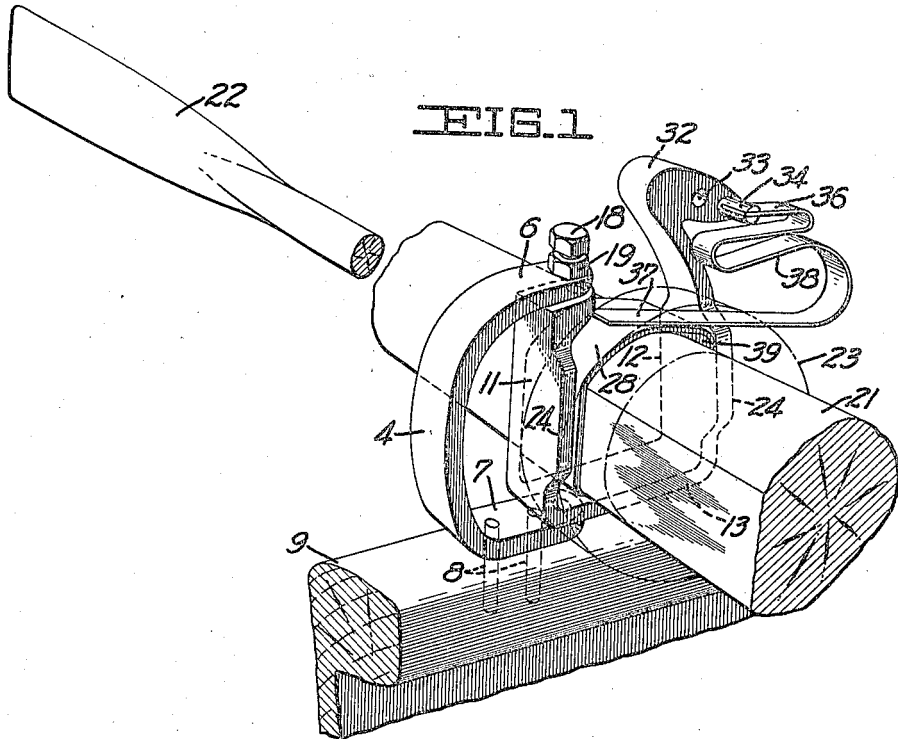
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FEATHERING DEVICE FOR BOAT OARS

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FEATHERING DEVICE FOR BOAT OARS

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5 Claims. (Cl. 9-26)

This invention relates to oar locks for row-boats.

It is an object of the invention to provide an oar lock and an oar for use particularly there-
with which will materially assist in feathering
of the oar during rowing thereby conserving the
strength of the rower and enabling the latter
to maintain a high stroke cadence without be-
coming fatigued.

Another object of the invention is to provide a
device of the class described which is capable of
producing perceptible signals which will acquaint
the rower of the position of the oar blade at
any given time during the cycle of a stroke.

A further object of the invention is to provide
an oar lock and an oar particularly adapted
for use therewith which is beneficial in teaching
beginners the proper use of oars in rowing.

The invention possesses other objects and fea-
tures of advantage some of which, together with
the foregoing, will be specifically set forth in the
detailed description of the invention hereunto
annexed. It is to be understood that the inven-
tion is not to be limited to the particular form
thereof shown and described as various other
embodiments thereof may be employed within
the scope of the appended claims.

Referring to the drawing:

Figure 1 is a perspective view of my improved
oar lock, and the oar particularly adapted for
use therewith, mounted on a boat. Only a por-
tion of the boat is shown and portions of the
oar structure are omitted to conserve space in
the drawing and to disclose the construction more
clearly.

Figure 2 is a front elevational view, partly in
section, of the oar lock and shows the position
of the oar with respect thereto during a power
stroke.

Figure 3 is a view similar to Figure 2 showing
the position of the oar with respect to the oar
lock during the recovery stroke.

In detail, the invention comprises a C-shaped
bracket 4 provided with parallel upper and lower
arms 6 and 7, the latter of which is fitted with
a pair of spaced pins 8 depending therefrom
which are insertable in suitable spaced apertures
provided in the gunwale 9 of a boat so as to
fixedly mount the bracket on the latter. Mount-
ed for pivotal motion, in a horizontal plane, on
the bracket 4 is a U-shaped oar lock compris-
ing parallel side members 11 and 12 formed inte-
grally with a bottom member 13. The oar lock
is mounted on the bracket 4 by means of pivot
pins 14 and 16 the former of which is fixed in the

bracket arm 7 and enters an aperture 17, located
adjacent the junction of the side and bottom
members 11 and 13 of the oar lock, and the latter
of which is formed at the end of a screw 18,
threadedly engaged with the upper bracket arm
6, and enters an aperture provided therefor
at the extreme upper end of the side member 11
of the oar lock. The screw 18 provides means
for retracting the pivot pin 16 from its aperture
so as to permit dismounting of the oar lock from
the bracket 4 and a lock nut 19 is provided on
the screw 18 so that the pivot pin 16, when cor-
rectly positioned in its aperture, may be locked
in place. It will be observed that the respective
apertures for the pivot pins 14 and 16 are so
positioned that the side member 11 of the oar
lock is inclined from the vertical. The bottom
member 13 of the oar lock is positioned truly
horizontal thereby forming an acute angle with
the side member 11. The reason for this con-
struction will be presently described.

Adapted for positioning in the oar lock, by in-
sertion through the upper open side of the latter,
is the shaft 21 of an oar provided with the usual
blade 22, which may be the conventional straight
type as shown or the curved spoon type used in
racing oars, a grip which is not shown and a col-
lar 23 which bears against protuberances 24
formed on each of the side members 11 and 12
of the oar lock so as to limit longitudinal move-
ment of the oar with respect to the oar lock. The
collar is an integral part of the oar but has been
indicated by dotted lines in the drawing so as not
to obscure more important features of the struc-
ture. The oar shaft, in the portion thereof with-
in the oar lock, is substantially oval in cross
section and has a portion of its periphery shaped
to provide a flat surface 26 which lies parallel to
the plane 27 passing through the blade 22. A
sheath 28, preferably of leather, is provided
about the portion of the oar shaft within the
oar lock so as to prevent chafing and rapid wear
of the shaft as the oar is plied.

In Figure 2 the position of the oar with respect
to the oar lock is shown during the performance
of a power stroke. In this position the oar blade
22 is vertical with respect to the surface of the
water and the leather sheath along the flat
side 26 of the oar shaft is resting against the
surface of the side member 11. At the comple-
tion of the power stroke and to position the oar
blade to be easily moved through or out of the
water during the recovery stroke, the oar shaft
is given a quarter turn in a counter-clockwise
direction, as viewed in Figure 2, until the blade

22 assumes a horizontal position as shown in Figure 3 and the flat portion of the shaft is resting on the top surface of the bottom member 13 of the oar lock. It will be noted that when 5 the oar is being pulled through its power stroke, as shown in Figure 2, the plane 27 parallel with the broad side of the blade 22 is disposed angularly with the vertical as indicated by the line 29. This is caused by the inclination of the oar 10 lock side member 11 which positions the oar so that its direction of thrust is along the line 31 which slopes upwardly, from the horizontal, toward the forward end of the boat so as to produce an action which tends to lift the boat from 15 the water thereby lessening its displacement during its forward movement and increasing the speed at which it is capable of being propelled.

Means is provided which produces perceptible signals during rotation of the oar from propelling 20 to recovery positions and which assists in maintaining the oar in either of these positions. The upper end of the oar lock side member 12 is extended and is provided with a head 32 having spaced apertures 33 therein adapted to receive and journal a pivot pin 34 which is slotted at 25 one end to receive and hold one end 36 of a leaf spring, the opposite end 37 of which rests and presses against the oar shaft so as to urge the latter downwardly into the oar lock. The portion of the spring intermediate its ends is provided with an S-shaped bend 38 to produce the desired resilience. Built up on a portion of the periphery of the oar shaft, removed from the flattened portion 26 thereof, is a protuberance 35 39 which, as the shaft is rotated between its operative positions, causes flexing of the spring so as to exert a maximum of effort tending to urge the oar against the surfaces of the oar lock. This flexing of the spring to increase the compression thereof also serves to give impetus to 40 the rotation of the oar shaft as the protuberance 39 passes under the end 37 of the spring with the result that the rower, in feeling these impulses, is notified that the oar is passing from one position thereof to the other. The two apertures 32, for the reception of the spring pivot pin 33, are provided so that a variation in the degree of flexing of the spring may be had in order to provide for greater pressure tending to urge the 45 oar shaft into engagement with the oar lock or to intensify the perceptible signals created by the coating protuberance 39 and the spring and the impetus given the oar when passing from one position to the other.

55 With the improve oar lock and oar of my invention above described, any person is enabled to quickly grasp the fundamentals of rowing technique and will, in a short time, be able to handle oars correctly in the conventional type of 60 oar lock. The oar lock and oar find particular utility in racing craft as they enable each man of the crew to maintain the correct rotation of the oars between the power and recovery strokes, to maintain a higher stroke cadence without fatigue 65 than is provided with the conventional type of oar and oarlock, and, by correctly feathering the oar at the transition of one stroke into another, to prevent "breaking water" by any one oarsman with the likelihood of throwing the others out of 70 rhythm.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is:

75 1. The combination of an oar lock having a pair of adjacent angularly related surfaces, an oar

having a surface complementary to each of said oar lock surfaces and movable into alternate engagement with either thereof, a compressible spring carried by said oar lock and engaging a surface of the oar, and means on said oar for 5 compressing said spring during movement of said complementary oar surface to engage both of said oar lock surfaces.

2. The combination of an oar having a blade and a shaft connected with and extending from 10 said blade, said shaft having thereon a flattened surface in parallel relation to a broad surface of said blade, an oar lock for receiving said oar shaft comprising an upright inclined member and a horizontal member formed integrally with 15 said upright member, said upright and horizontal members being engageable alternately by the flattened surface of said oar shaft, and means to urge said flattened surface against either of said members. 20

3. The combination of an oar having a blade and a shaft connected with and extending from said blade, said shaft having thereon a flattened surface in parallel relation to a broad surface of said blade, an oar lock for receiving said oar 25 shaft and in which said shaft may be rotated comprising a U-shaped member enclosing said oar shaft having an upright inclined side and a horizontal bottom formed integrally with said side, said bottom and side being engageable alternately with the flattened surface of said oar shaft as the latter is rotated in said oar lock, and a spring pivotally mounted at one end on said oar lock and, at the other end, contacting 30 said oar shaft for urging the flattened surface thereof into engagement with either said inclined side or horizontal bottom of said oar lock. 35

4. In combination, an oar lock comprising a U-shaped member having an upright inclined side and horizontal bottom extending from said side, an oar, having a shaft provided with a flattened portion positioned for axial rotation adjacent the side and bottom of the oar lock, a spring pivotally mounted at one end thereof on said oar lock and having the other end thereof resting on the periphery of said oar shaft, said spring 45 urging the flattened portion of said oar shaft into engagement with either said side or bottom of the oar lock and contacting a prescribed path on the periphery of the oar shaft as the latter is rotated in the oar lock, and a protuberance rising from the periphery of said oar shaft in the path of contact of said spring. 50

5. In combination, a C-shaped bracket adapted for fixed mounting on a portion of a boat, an 55 oar lock pivotally mounted on said bracket, said oar lock comprising a U-shaped member having an upright inclined side and horizontal bottom extending from said side, an oar, having a shaft provided with a flattened portion, positioned for 60 axial rotation adjacent the side and bottom of the oar lock, a spring pivotally mounted at one end thereof on said oar lock and having the other end thereof resting on the periphery of said oar shaft, said spring urging the flattened portion of said oar shaft into engagement with either said side or bottom of the oar lock and contacting a prescribed path on the periphery of the oar shaft as the latter is rotated in the oar lock, and a protuberance rising from the periphery of said 65 oar shaft in the path of contact of said spring for engaging and flexing said spring during rotation of said oar shaft. 70