W. F. A. BUEHNER.

ROWBOAT MOTOR.

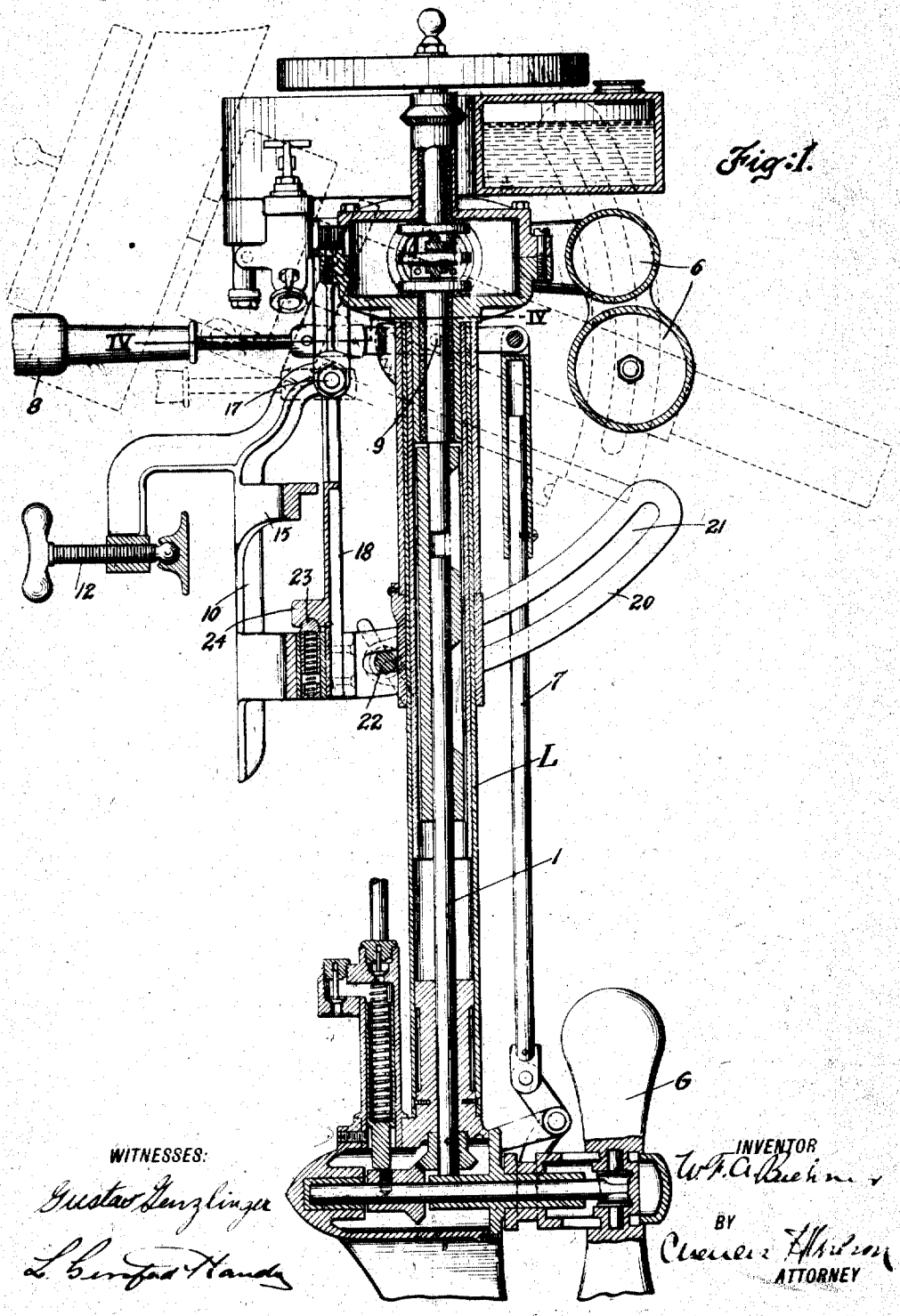
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1,278,585.

Patented Sept. 10, 1918

3 SHEETS—SHEET 1.

Fig. 1.



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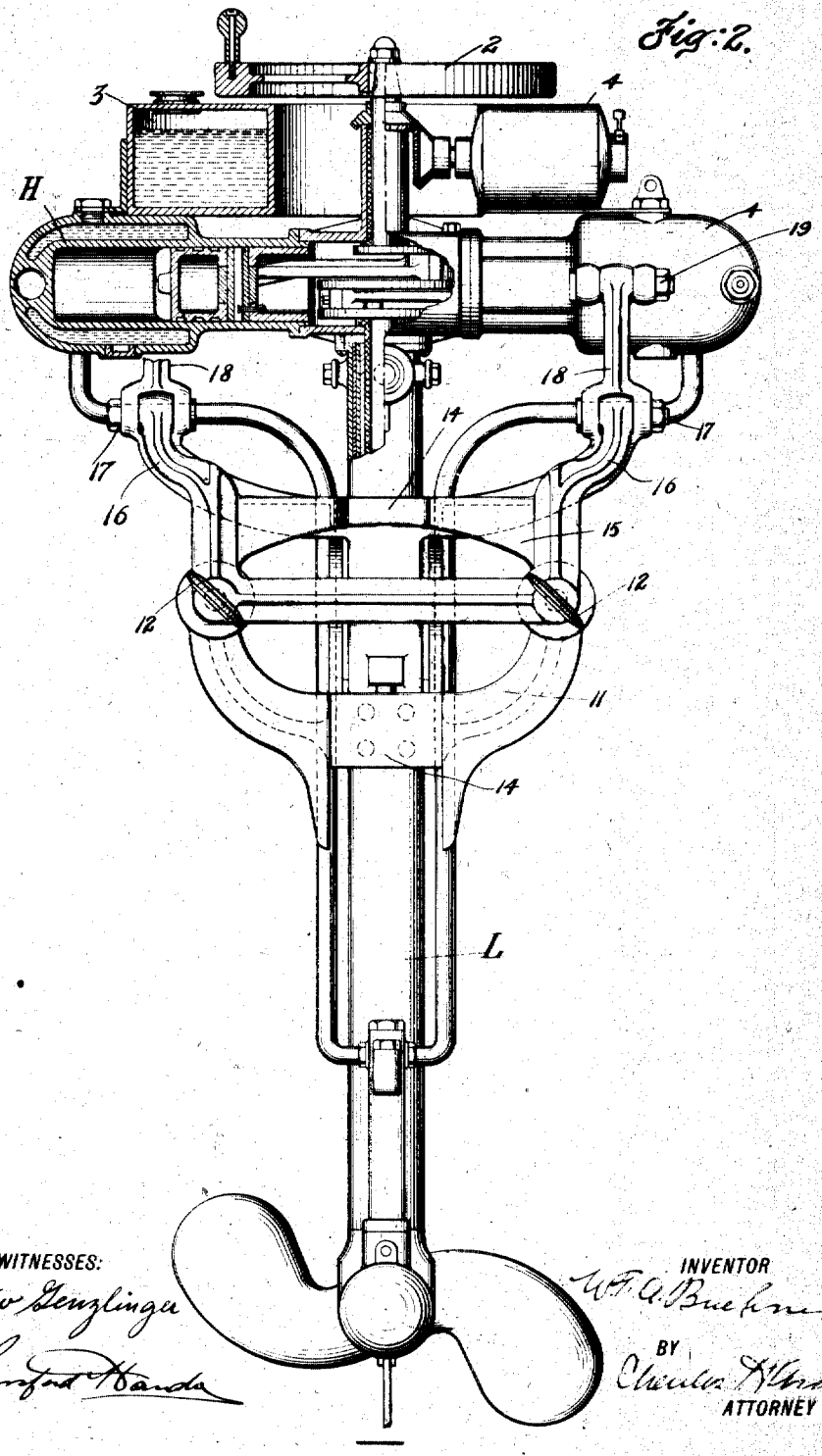
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3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

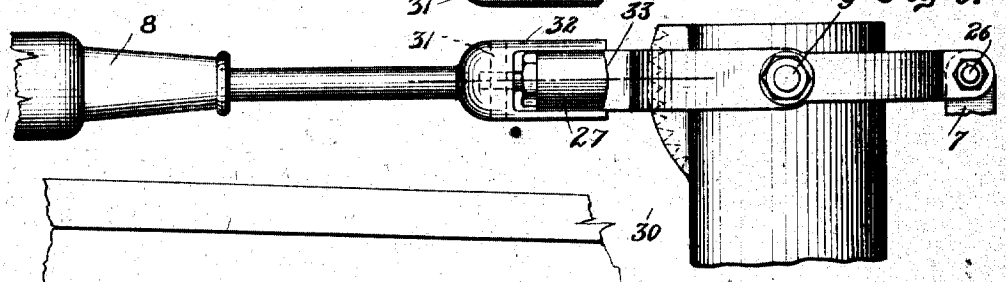
Fig. 7.



Fig. 4.

Fig. 5.

Fig. 6.



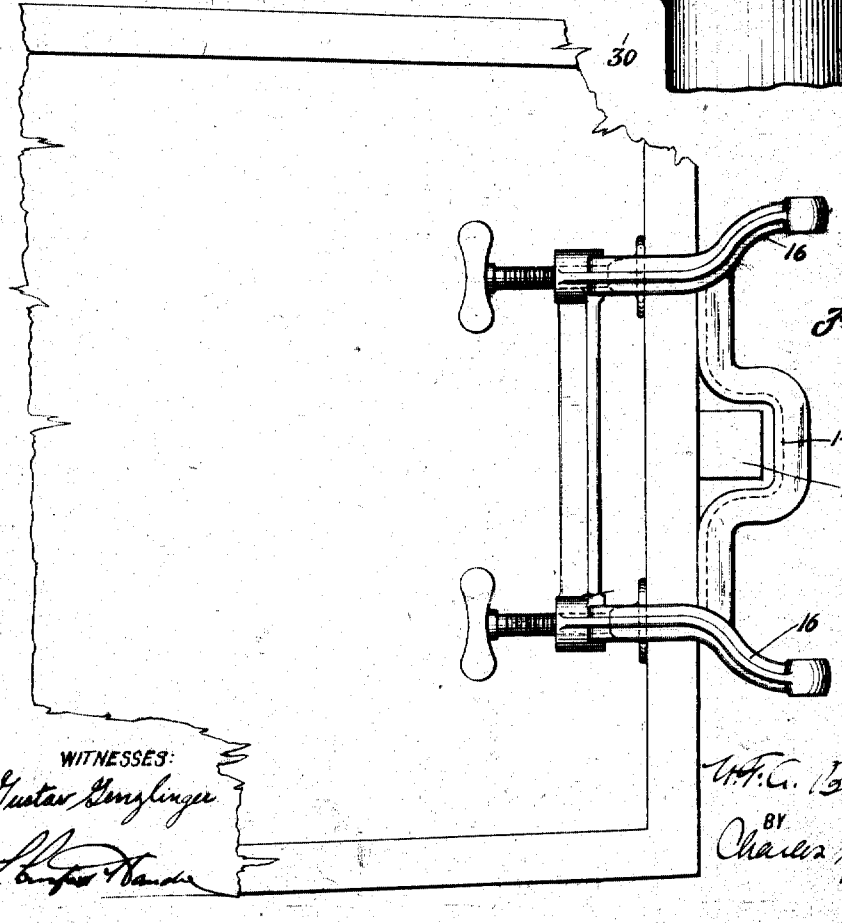


Fig. 3.

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ROWBOAT-MOTOR.

1,278,585. Specification of Letters Patent. Patented Sept. 10, 1918.

Application filed November 24, 1915. Serial No. 63,205.

To all whom it may concern:

Be it known that I, WILLIAM F. A. BUEHNER, a subject of the Emperor of Germany, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Rowboat-Motors, of which the following is a specification.

This invention relates to a rowboat motor and is particularly directed to the manner of supporting the motor upon a rowboat or the like and to the manner of controlling the direction and speed of the craft.

A particular object of the invention is to provide means whereby the motor may be free to swing to a safe position in case an obstruction is encountered by the propeller or adjacent parts.

A further object is to provide means whereby the above object may be accomplished without interfering with the device or devices by which the motor is made adjustable to suit different requirements of position upon a rowboat or the like.

A further object is to provide means for controlling the angular disposition of the blades of the propeller, and therefore the speed and direction of the craft, so that said control means will be free to accommodate itself to the unnatural position which the motor may assume in case an obstruction is met by the propeller or adjacent parts.

Other objects and aims of the invention, more or less specific than those referred to above, will be in part obvious and in part pointed out in the course of the following description of the elements, combinations, arrangements of parts and applications of principles, constituting the invention; and the scope of protection contemplated will be indicated in the appended claims.

In the accompanying drawings which are to be taken as a part of this specification, and in which I have shown a merely preferred form of embodiment of the invention:

Figure 1 is a transverse vertical central sectional view through a device constructed in accordance with the provisions of this invention.

Fig. 2 is an elevational view, partly in section, of the device shown in Fig. 1, the view being taken at right angles to Fig. 1 from the left-hand or forward side thereof.

Fig. 3 is a fragmentary view showing a portion of the rear of a rowboat or the like and illustrating the clamp forming a part of this invention applied thereto.

Fig. 4 is an enlarged horizontal sectional view taken substantially upon the plane of line IV—IV of Fig. 1.

Fig. 5 is a fragmentary side elevational view of a part of the structure shown in Fig. 4.

Fig. 6 is a side elevational view of the part shown in Fig. 4, but illustrating the control handle as being rotated into operating position; and

Fig. 7 is a fragmentary sectional view taken upon the plane of line VII—VII of Fig. 4.

Referring to the drawings for a detailed description of the structure illustrated therein, the reference character L indicates the main standard of the device through which the drive-shaft 1 rotatably extends, and to the lower end of which is connected the propeller G and to the upper end of which is connected the motor proper, comprising the opposed cylinders H. A suitable flywheel 2 is arranged above the cylinders and a fuel supply tank 3 and a magneto 4 are also connected above the cylinders.

A carbureter 5 and a muffler mechanism 6 are associated with the cylinders and all of said parts are fixed so as to move with the standard L in any adjustment which may be given to said standard as will be described.

The propeller G at the lower end of the standard is preferably provided with adjustable blades which may be moved into any desired angular position by longitudinal movement of a rod 7 which is mounted to extend substantially parallel with the standard L and which is under the control of a control handle 8 pivotally mounted as at 9 upon the standard.

A bracket clamp 10 is provided for fixing the device to the tail-board of a rowboat in the usual manner, said bracket clamp comprising a part 11 for resting against the rear surface of the tail-board and a pair of clamp screws 12 for engaging against the forward surface of the tail-board.

In order that the stern-post as 13 of the boat may not interfere with the proper positioning of the clamp, the part 11 is provided with a depressed or offset portion 14 for accommodating the stern-post. A brace member 15 comprised in the clamp is like-

wise provided with an offset portion 14 for the same purpose. The offset portions 14 incidentally serve to indicate to the operator exactly where the clamp should be attached to the tail-board. They thus serve to center the clamp on the tail-board.

Suitable extensions 16 are provided for forming pivotal connection with the remainder of the structure as at 17.

The pivotal connection at 17 is made with an auxiliary frame 18 which is in turn pivotally connected as at 19 to a part rigid with the standard L. This auxiliary frame continues from the pivotal connections 19 downwardly beyond the pivotal connection 17 and carries a pair of segmental guide bars 20 arranged concentric to the pivotal connection 19. The guide bars 20 are formed with slots 21 for engagement by a clamp screw 22 carried by the standard L through the medium of which the standard may be held in any adjusted position along the guide rods relatively to the frame 18 in the customary manner.

In order to retain the auxiliary frame 18 normally fixed to the bracket clamp 10, and yet afford a means whereby it may be freed to swing about the pivotal connection 17, when occasion arises, a spring pressed lug 23 is provided for the bracket clamp in a position to engage within a seat formed in a projection 24 provided upon the auxiliary frame. The auxiliary frame will thus be held by friction under normal circumstances but will be free to swing outwardly when undue force is brought to bear upon the lower end of the standard.

It will thus be seen that any degree of adjustment relatively to the vertical may be given the standard through the medium of the pivotal connection 19 and the guide bars and such an adjustment positively maintained by means of the clamp screw 22. This adjustment is independent of the pivotal connection between the auxiliary frame and the bracket clamp.

When the lower end of the standard strikes an obstruction in the river bed, or when for any reason undue backward pressure is applied to the lower end of the standard, then the frictional connection between the spring catch 23 and the auxiliary frame will be released and the auxiliary frame with all of the remainder of the device, excepting the bracket clamp, will swing about the pivotal connection 17 toward or into the position shown by dotted lines in Fig. 1.

On account of the fact that the control handle 8 projects forwardly and is liable to damage when the standard assumes the position shrown in dotted lines in Fig. 1, it is desirable that a means be provided to avoid injury to the control handle. Such a means is illustrated in Figs. 4 to 7 and the same includes provisions whereby the control handle is made capable of bending without injury.

The structure shown in Figs. 4 to 7 comprises a yoke 25 which spans the standard L and takes the pivotal connection 9. The rear end of the yoke is pivotally connected as at 26 to the upper end of the rod 7. The forward end of the yoke is provided with a tubular extension 27 carrying a movable plunger 28. A spring 29 is arranged within the extension to press the plunger backwardly toward the standard L and into engagement with the teeth of a rack 30. The outer end of the plunger 28 carries a cross pin 31 which constitutes a pivotal connection for the hand grip part of the control handle, which part is separately formed and independently movable with respect to the yoke about the pin 31.

The hand grip part of the handle is bifurcated and provided with extensions 32, which continue along the sides of the extension 27. The extension 27 is cylindrical and the hand grip part is freely rotatable thereabout. When the hand grip part is rotated into a position in which the pin 31 is horizontal then said hand grip part is free to swing in a vertical plane about said pivot pin. By maintaining the hand grip part in this position it will thus be free of likelihood of injury in case the standard should swing to the position shown by dotted lines in Fig. 1.

When it is desired to operate the rod 7 however, the hand grip part is simply rotated so as to dispose the pin 31 in a vertical position, whereupon vertical movement of the hand grip part will be directly communicated to the yoke 25 and through the same to the rod 7.

In order to maintain the hand grip part normally in alinement with the yoke 25 when the pivot pin 31 is in horizontal position, the extensions 32 are arranged to engage against concaved shoulders 33 formed at the base of the extension 27. The spring 29 serves to hold the parts 32 against the shoulders 33 at all times.

The frictional connection thus afforded between the hand grip part and the yoke is preferably sufficient so as to cause the downward movement of the rod 7 prior to the giving way of the frictional engagement between said hand grip part and the yoke. By this means the angular disposition of the propeller blades will be automatically changed so as to tend to pull backward and thereby assist in the upward movement of the lower end of the standard L.

As many changes could be made in this construction without departing from the scope of the following claims, it is intended that all matter contained in the above description or shown in the accompanying

drawing shall be interpreted as illustrative only and not in a limiting sense.

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

1. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, and a bracket pivotally connected with the standard for attaching said standard to a rowboat or the like, of means for retaining the standard against pivotal movement with respect to the bracket except when undue pressure is brought to bear upon the lower end of the standard.

2. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, and a bracket pivotally connected with the standard for attaching said standard to a rowboat or the like, of means for retaining the standard against pivotal movement with respect to the bracket comprising a spring catch engaging between said bracket and a part movable with the standard, said spring catch frictionally retaining the standard against pivotal movement with respect to the bracket.

3. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, and a bracket pivotally connected with the standard for attaching said standard to a rowboat or the like, of means for retaining the standard against pivotal movement with respect to the bracket comprising a spring catch engaging between said bracket and a part movable with the standard, said spring catch frictionally retaining the standard against pivotal movement with respect to the bracket, and means whereby the standard is rendered adjustable with respect to said mentioned part carried thereby for determining the normal position of the standard relatively to the bracket.

4. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, and a bracket for supporting the standard upon a rowboat or the like, of an auxiliary frame interposed between the standard and the bracket, means whereby said auxiliary frame is adjustably connected to the standard, means whereby said auxiliary frame is pivotally connected to the bracket, and friction means for retaining said auxiliary frame against pivotal movement with respect to the bracket.

5. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, and a bracket for supporting the standard upon a rowboat or the like, of an auxiliary frame interposed between the standard and the bracket, means pivotally connecting the auxiliary frame with the standard, an arcuate guide bar carried by said auxiliary frame, clamp means carried by the standard for engaging said arcuate guide bar whereby the standard may be adjusted about its pivotal connection with said auxiliary frame, means pivotally connecting said auxiliary frame with said bracket, means for retaining said auxiliary frame against movement about its pivotal connection with said bracket, and means whereby the retaining means is rendered easily releasable when undue strain is applied tending to move the auxiliary frame about its pivotal connection with the bracket.

6. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, a bracket for pivotally supporting the standard upon a rowboat or the like, frictionally releasable means for retaining the standard in an adjusted position with regard to its pivotal mounting adapted to permit easy release of the standard when pressure is brought to bear tending to swing the standard about its pivotal connection with the bracket, a control handle for controlling the propelling means, and means whereby a part of the control handle is free to swing with regard to another part thereof when the standard is caused to swing about its pivotal connection with the bracket, for the purpose set forth.

7. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, a bracket for pivotally supporting the standard upon a rowboat or the like, means whereby the standard is free to swing about its pivotal support, a handle movable with the standard and liable to injury when the standard swings, and means whereby a part of the handle is free to swing with regard to another part thereof for preventing injury to the handle.

8. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, a bracket for pivotally supporting the standard upon a rowboat or the like, means whereby the standard is free to swing about its pivotal support, a handle movable with the standard and liable to injury when the standard swings, means whereby a part of the handle is free to swing with regard to another part thereof for preventing injury to the handle, and frictional means engaging between said two mentioned parts of the handle to normally retain the same in substantial alinement.

9. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, of a control handle for

controlling the propeller, means pivotally connecting the control handle with the standard, the control handle comprising two parts pivotally connected together to swing in a plane transverse to the length of the control handle, said two parts being also rotatable with respect to each other about the longitudinal axis of the handle, and means whereby the transverse pivotal connection is rendered inoperable except when the parts of the handle are rotated about the longiudinal axis thereof into a given position.

10. In a device of the class described, the combination with a standard having a motor at its upper end and propelling means at its lower end, of a control handle for controlling the propeller, means pivotally connecting the control handle with the standard, a rack carried by the standard, a spring pressed plunger for engaging the rack to retain the handle in any adjusted position, the handle comprising two parts pivotally connected together, and means whereby the plunger serves to retain said two parts frictionally in operable position.

11. In a row boat motor, the combination of a suitable motor, a tubular rudder stock, a tiller lever pivoted by a horizontal pivot at the top thereof, connections from said lever to a suitable bell crank, and a reversible propeller connected to said bell crank to be operated by the raising and lowering of the tiller lever to control the said reversible propeller, as specified.

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

WILLIAM F. A. BUEHNER.

Witnesses:
LOUIS BRANDWEIN,
L. GESSFORD HANDY.