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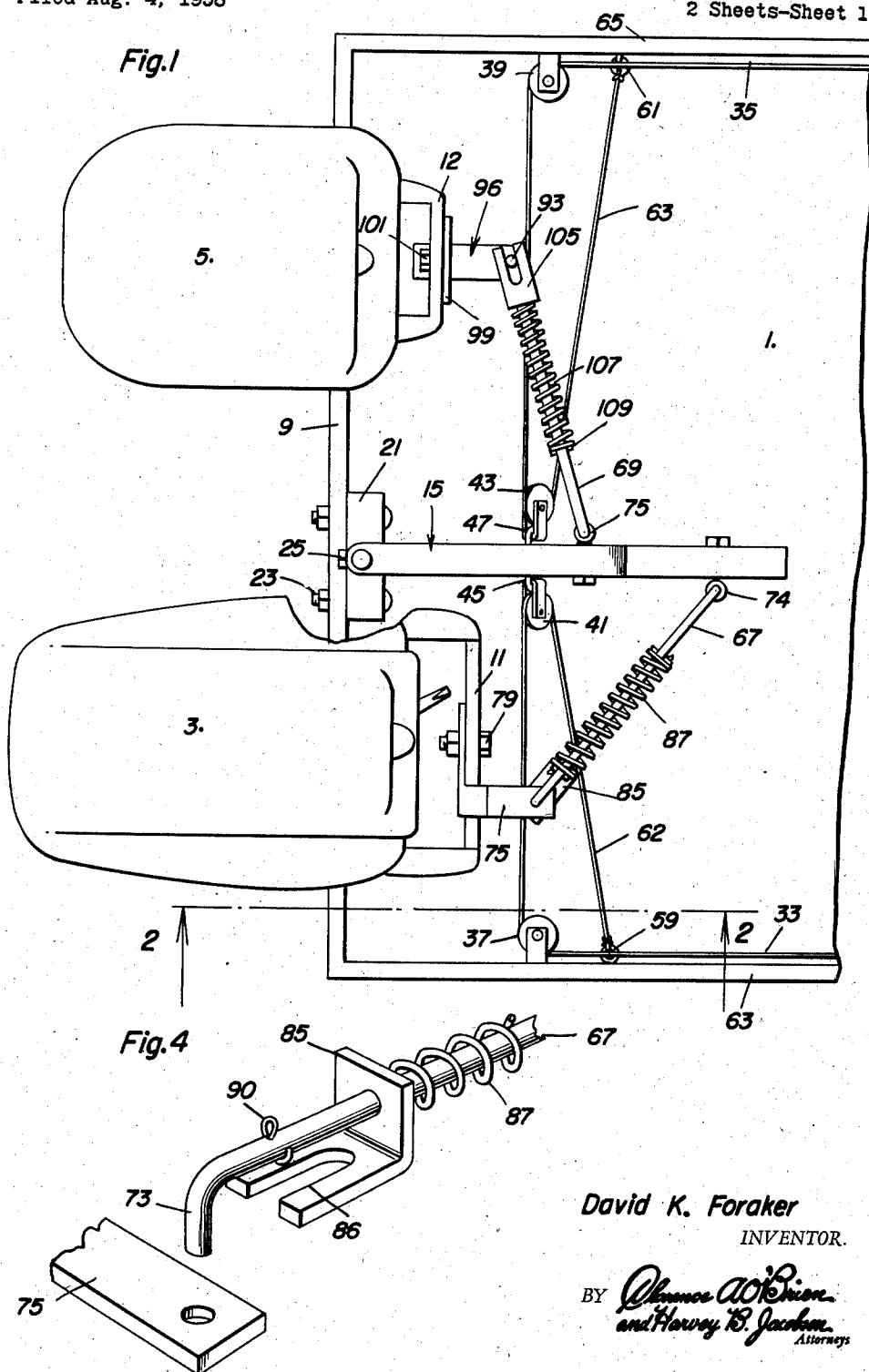
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STEERING MEANS FOR OUTBOARD MOTORS

Filed Aug. 4, 1958

2 Sheets-Sheet 1



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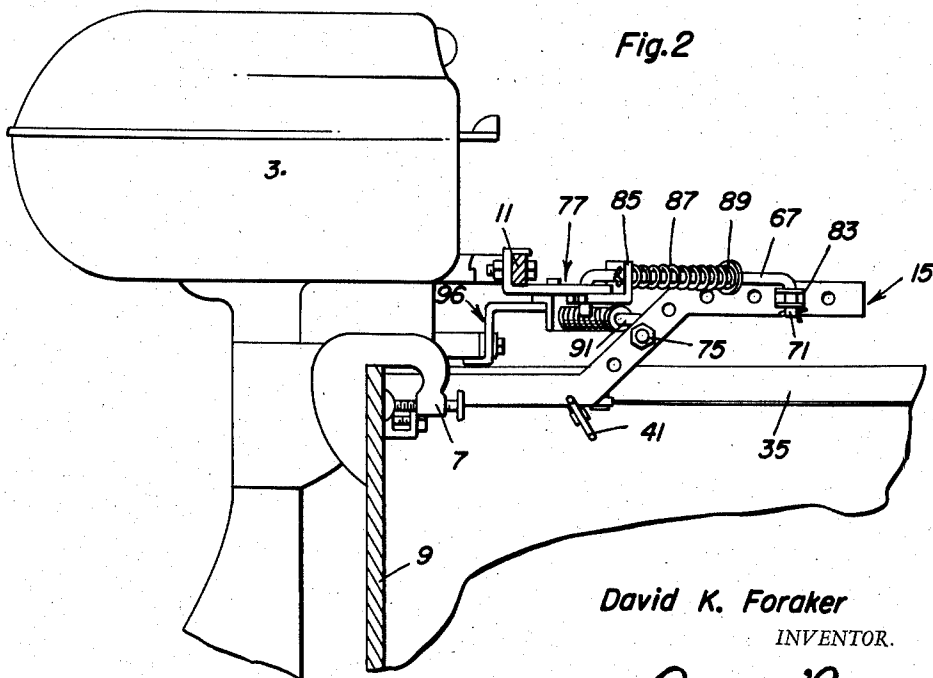
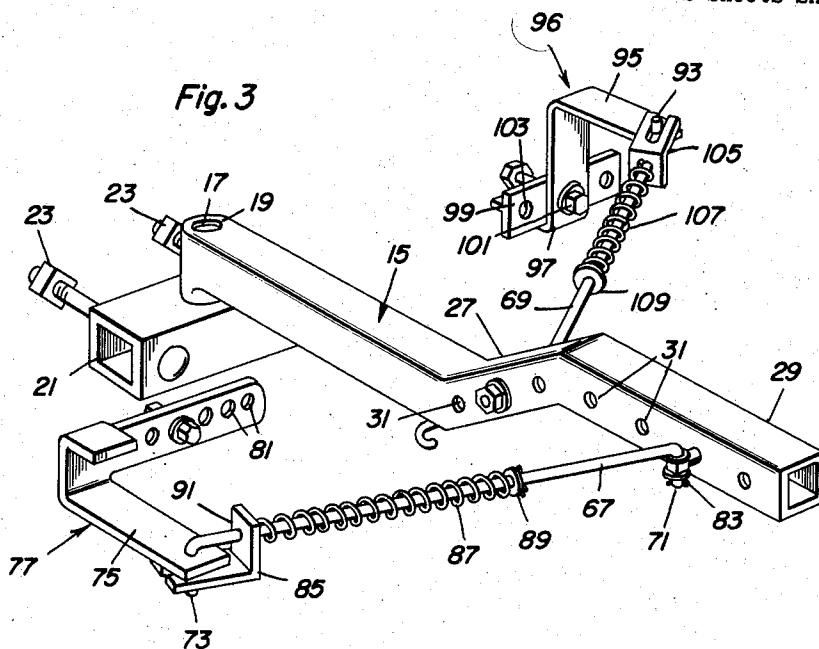
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STEERING MEANS FOR OUTBOARD MOTORS

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2,895,445

STEERING MEANS FOR OUTBOARD MOTORS

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3 Claims. (Cl. 115—18)

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This invention relates to improvements in steering means for twin outboard motors of motor boats.

The primary object of the invention is to provide means for steering either singly, or as a unit, conventional twin outboard motors on motor boats when either or both motors are in use.

Another object is to provide means for the above purpose which is equipped for operation by cables attachable to the steering wheel of a motor boat.

Still another object is to provide means for the above purposes which is of simple, practical and inexpensive construction, and operative, if desired, independently of the steering wheel of a boat.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a fragmentary view in plan of the improved steering means attached to twin outboard motors of a motor boat;

Figure 2 is a fragmentary view in vertical longitudinal section, partly in side elevation, taken on the line 2—2 of Figure 1;

Figure 3 is a perspective view of the steering means, drawn to a larger scale, and detached with the cables removed, and

Figure 4 is a fragmentary exploded perspective view of parts of the steering means for one of the outboard motors.

Referring by numerals to the drawings, the improved steering means of this invention has been shown therein, for illustrative purposes, as applied to a motor boat 1 having a pair of right and left conventional outboard motors 3, 5 secured by the usual clamps, as at 7, on the boat transom 9 for swinging for steering in the usual manner, with carrying handles 11, 13 thereof extending over the transom 9 and the left motor 5 being smaller than the right one and consequently its handle 13 offset at a lower level than the handle 11 of the larger motor 3.

The steering means comprises a tiller lever 15 extending forwardly from the transom 9 and pivotally mounted for horizontal swinging laterally in opposite directions by means of a depending spindle 17 on one end slidable into an opening 19 in its rear end and rotatably fitted in a hollow bearing block 21 bolted, as at 23, to the transom 9 substantially midway between the motors 3, 5 so that it is offset from each motor. A set bolt 25 retains the spindle 17 in the opening 19. The lever 15 is provided with an intermediate upwardly and forwardly inclined portion 27 and with a raised front end portion 29, is hollow for lightness in weight and is provided in both portions 27, 29 with longitudinally spaced pairs of bolt holes 31 in opposite sides thereof.

A pair of right and left forwardly extending cables 33,

35 at opposite sides of the lever 15, respectively, are provided for swinging the same. The cables 33, 35 are trained rearwardly around a pair of fixedly mounted pulleys 37, 39 on the sides of the boat 1 and extend from the pulleys 37, 39 to and around a pair of right and left pulleys 41, 43 swiveled on hooks 45, 47 on opposite sides of said lever 15, said cables being terminally connected to eye-bolts 59, 61 on the opposite sides 63, 65 of the boat 1 in front of the pulleys 37, 39 to form loops 62, 63 operatively connected by the pulleys 41, 43 to opposite sides of said lever 15 so that pull on the right and left cables 33, 35 will swing the lever 15 toward the right and left respectively. The cables 33, 35 may be operatively connected, in any usual manner, to the steering wheel, not shown, of the boat 1 in the forward part of said boat 1.

The steering lever 15 is operatively connected to the motors 3, 5 for steering the same as follows. A pair of operating rods 67, 69 for the right and left motors 3, 5 extend outwardly in rearwardly inclined position from opposite sides of the lever 15 respectively.

The operating rod 67 is formed with downturned inner and outer ends 71, 73, the inner ends 73 being removably swivelled in an eye-bolt 74 in a selected pair of the bolt holes 31 in the raised front portion 29 of the lever 15, and the rear end 73 being removably swivelled in a forwardly extending arm 75 on a right angled horizontal bracket 77 bolted, as at 79, to the handle 11 of the right motor 3. The bracket 77 is provided with horizontally spaced bolt holes 81 for selective insertion of the bolt 79 therethrough to adjust said bracket along the handle 11. Thus as will be seen, the bracket 77 and eye-bolt 74 may be adjusted, the one on the handle 11 and the other on the lever 15 so that the right motor 3 may be variably positioned along the transom 9 in different locations thereon. A cotter pin 83 retains the inner end 71 in the eye-bolt 74.

The outer end 73 of the rod 67 is retained in the arm 75 by a right angled apertured latch lug 85 slidable on the rod 67 to insert a bifurcated end 86 thereof under the arm 75 to straddle the outer end 73 of said rod 67. A helical spring 87 on the rod 67 between the lug 87 and a fixed collar 89 on the rod 67 yieldingly retains the latch lug 85 in place against a cotter pin 90 in the rod 67.

The operating rod 69 for the left motor 5 is disposed at a lower level than that of the rod 67 for attachment to the lower level handle 12 on said motor 5. The rod 67 is provided with downturned and upturned inner and outer ends 91, 93, respectively, the inner end being swivelled in an eye-bolt 75 on the intermediate portion 27 of the arm 15, and the outer end 93 being pivotally inserted upwardly through an apertured, elevated end 95 of a Z-shaped bracket 96 having a lower end 97 and a cross-piece 99 on said lower end, and a bolt 101 attaching the lower end 97 and the cross-piece 99 to the handle 12. Added attaching bolts, not shown, may be used in bolt holes 103 in the cross-piece 101, if desired.

A latch lug 105 on the rod 69, like the lug 77, but overlying the arm 95 is provided together with a spring 107 and collar 109 like the spring 87 and collar 89 for the same purpose as the spring 87 and collar 89. As will be observed, the bracket 96 is adapted to be adjusted along the handle 11 and the eye-bolt 75 selectively inserted in different pairs of the bolt holes 31 to compensate for variably positioning the left motor 5 along the transom 9. As will also be observed, either of the described operating connections from the lever 15 to the motors 3, 5 may be detached, in a manner which will be clear, whereby the steering means is adapted for use with either motor alone.

The operation of the invention will be readily understood from the foregoing. Suffice it to further explain that

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the operating connections from the lever 15 to the motors 3, 5 may be used on the other sides of the lever 15 than that illustrated in the drawings and described herein so that the motors 3, 5 may be interchanged on the transom 9.

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. In a boat having a transom, and twin outboard motors mounted on said transom at opposite sides of the boat and swingable to steer the boat, means for swinging said motors in unison comprising a tiller lever extending

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forwardly from said transom, means terminally mounting said lever on said transom for swinging in opposite directions, cable and pulley means attached to opposite sides of said lever and to opposite sides of the boat for swinging said lever, and operating connections extending from opposite sides of said lever to said motors, respectively, for swinging of said motors in response to swinging of said lever in opposite directions.

2. The combination of claim 1, said operating connections comprising a pair of rods terminally swivelled on said lever and a pair of brackets attached to said motors respectively and to which said rods are pivoted and detachably attached.

3. The combination of claim 2, and releasable latch means on said rods coacting with said pair of brackets to hold said rods attached to said pair of brackets.

No references cited.