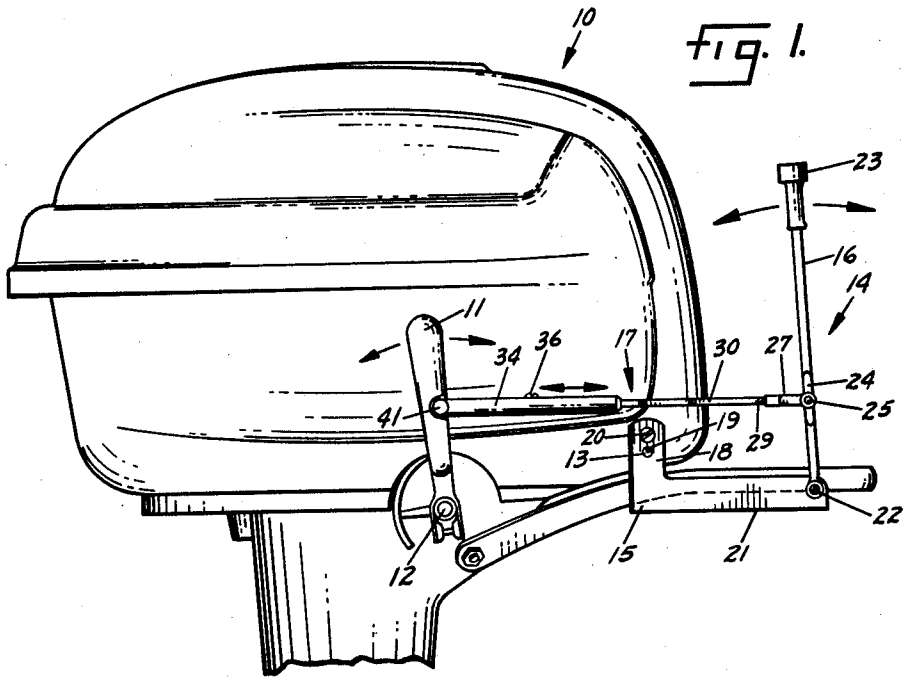
Dec. 8, 1959 W. F. McKAY 2,915,915

AUXILIARY GEAR SHIFT LEVER FOR OUTBOARD MOTORS

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Fig. 1.



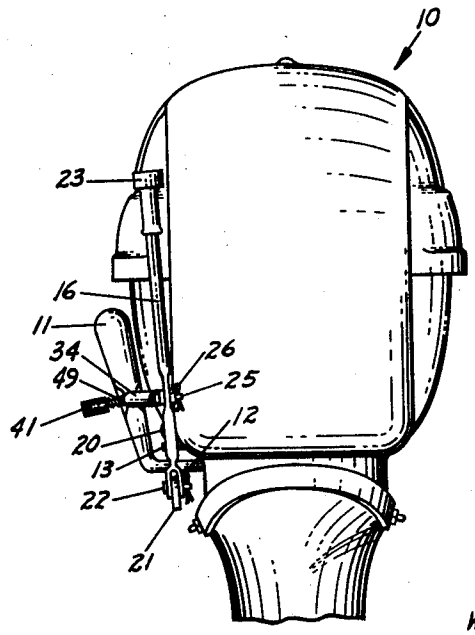


Fig. 2.

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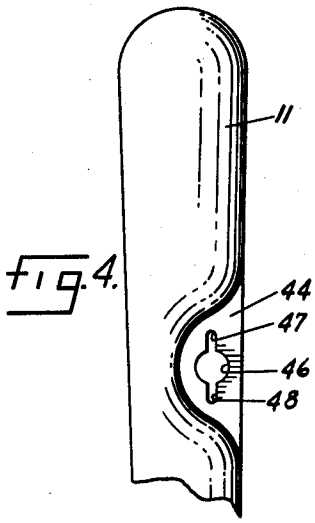
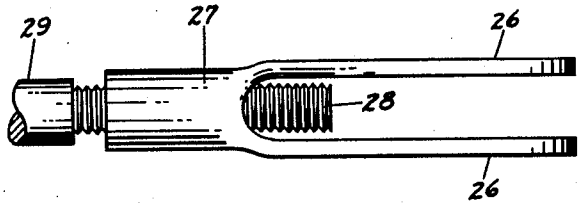


Fig. 4.

Fig. 3.



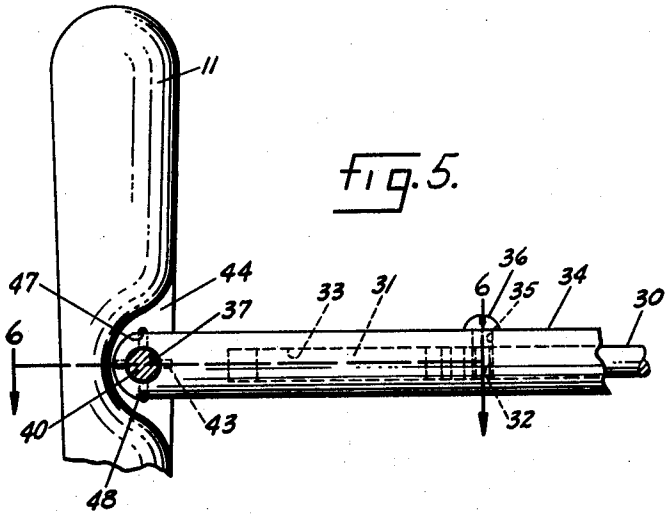


Fig. 5.

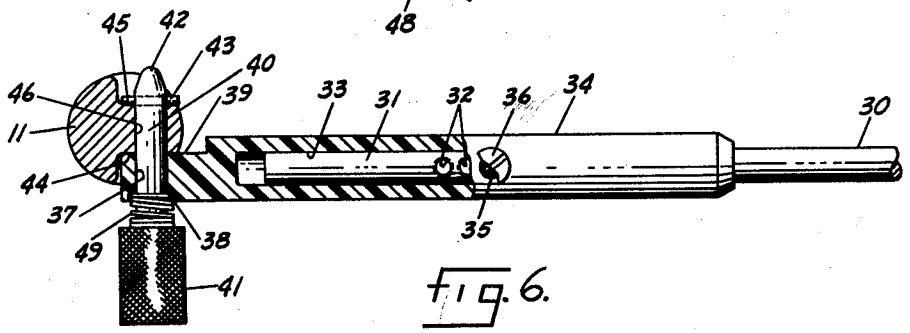


Fig. 6.

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United States Patent Office 2,915,915 Patented Dec. 8, 1959

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AUXILIARY GEAR SHIFT LEVER FOR OUTBOARD MOTORS

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Application January 24, 1957, Serial No. 636,104

7 Claims. (Cl. 74—480)

The present invention relates to an auxiliary gear shift lever for outboard motors, and more particularly to an attachment for motors of the type provided with a manually manipulable control for the selective gear transmission, such attachment providing a lever, readily accessible to the operator of such a motor, and operatively connected to the conventional control.

In outboard motors of the character here under consideration, it is conventional to provide a tiller and a speed control which are readily accessible to an operator seated on the port side of a boat on which the motor is supported, but to mount the control for the selective gear transmission on the starboard side of the motor and in a position which is relatively inaccessible to an operator seated on the port side of a boat. The primary object of the present invention, then, is to provide a readily-mountable and demountable attachment for such motors, including a lever, positioned for ready manipulation by an operator seated anywhere in or near the stern of the boat, and operatively connected to the conventional transmission control device, to facilitate manipulation of the latter. Further objects of the invention will appear as the description proceeds.

To the accomplishment of the above and related objects, my invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that change may be made in the specific construction illustrated and described, so long as the scope of the appended claims is not violated.

Fig. 1 is a side elevation of my attachment mounted on a motor which is fragmentarily and conventionally illustrated;

Fig. 2 is a front elevation thereof;

Fig. 3 is an enlarged fragmentary plan view of a detail;

Fig. 4 is an enlarged fragmentary elevation of a conventional control element;

Fig. 5 is an enlarged, fragmentary elevation of such a control element and the adjacent end of a connector constituting an element of my attachment; and

Fig. 6 is a fragmentary plan view, taken partly in section on the line 6—6 of Fig. 5.

Referring more particularly to the drawings, a part of a conventional outboard motor is indicated generally by the reference numeral **10**. At **11**, I have illustrated a manually manipulable element connected to a rock shaft **12** forming a part of the gear transmission through which the power of the motor may be delivered to the propeller (not shown). In accordance with conventional practice, the transmission is of such character that, when the element **11** is in its illustrated position, the propeller will not be driven; when the lever is moved appropriately in a clockwise direction from its illustrated position, the propeller will be driven in a direction to drive the boat forwardly; and when the element **11** is shifted appropriately in a counter-clockwise direction from its illustrated position, the propeller will be driven in a direction to drive the boat rearwardly. As will be clear from

a casual examination of the drawings, the element **11** is relatively inaccessible to an operator seated on the port side of the motor, since said element **11** is located on the starboard side and an appreciable distance behind the forward end of the motor.

Conventionally, motors like that illustrated at **10** are provided with means, on their starboard sides and toward the forward ends thereof, for mounting attachments, such as remote-control assemblies. In at least one form of motor now on the market, such means comprises a pin **13** projecting from the motor frame in a starboard direction, and a tapped hole immediately above the pin.

An attachment constructed in accordance with the present invention is indicated generally by the reference numeral **14**, and includes an L-shaped bracket **15**, a lever **16** and link means **17**. The short arm **18** of the bracket **15** is formed with an opening **19** therethrough adapted snugly to receive the above-mentioned pin **13**, and with another hole which, when the bracket is mounted on the pin **13**, will register with the above-mentioned tapped hole to receive a screw **20**. Thus, the pin **13** and screw **20** constitute means for mounting the bracket **15** rigidly in place on the motor **10** so that, when the motor is removed from the boat, the bracket and its associated parts may remain, as an assembly, in operative association with the motor and will be there, ready for use, when the motor is again mounted on the boat.

The other arm **21** of the bracket **15** projects generally forwardly to a point beyond the forward end of the motor **10**, and supports a pivot pin **22** upon which the lower end of the lever **16** is mounted for oscillation. Preferably, the upper end of the lever **16** will carry a knob **23**.

Intermediate its ends, the lever **16** is formed with a flattened region **24** through which is formed a perforation to receive a pivot pin **25** which passes, also, through perforations in the arms **26**, **26** of a clevis **27**, said arms straddling the flattened region **24**. The opposite end of the clevis **27** is formed with an internally threaded, axial bore in which is adjustably received a threaded section **28** at one end **29** of a rod **30**.

The other end **31** of the rod **30** is formed with a plurality of axially spaced, transverse bores **32**, and is telescopically received in an axial bore **33** of a sleeve **34**. Said sleeve **34** is formed with a transaxial bore **35** with which any one of the bores **32** may be registered to receive a locking screw **36**.

A transaxial bore **37** is formed through that extremity of the sleeve **34** opposite that through which the bore **33** opens; and preferably said sleeve end is flattened as at **38** and **39** in planes normal to the axis of the bore **37**.

A pin **40** is reciprocably mounted in the bore **37**, said pin having a knurled head **41** at one end and preferably being tapered, as at **42**, at its opposite end. Near the tapered end **42** of the pin **40**, a pin **43** is mounted in a transaxial bore to project radially oppositely from said pin **40**.

As is most clearly illustrated in Figs. 4 and 6, the element **11** is preferably formed with opposite flat surfaces **44** and **45** intermediate its ends, and in the region of those surfaces, said element is formed with a double keyhole bore comprising a cylindrical section **46** and diametrically opposite wings **47** and **48**.

It will be seen that the threaded engagement of the portion **28** of the rod **30** with the clevis **27** provides for adjustment of the rod **30** relative to said clevis; and that the provision of the plural bores **32** for cooperation with the screw **36** provides for axial adjustment of the sleeve **34** relative to the rod **30**. With the bracket **15** in place on the motor **10**, the lever **16** mounted on the pivot **22** and the clevis **27** mounted on the pivot **25**, the lever **16**

will be held in a suitable intermediate position and the link means **17** will be adjusted to an effective length such that, when the pin **41** is entered in the bore **46**, the element **11** will occupy its neutral position. Now, with the pin **40** rotated to a position such as to bring the ends of the pin **43** into registry with the wings **47** and **48**, the pin **40** is projected through the bore **46** until the pin **43** emerges beyond the surface **45**. Thereupon, the pin **40** will be rotated upon its axis to move the pin **43** out of registry with the key-hole wings **47** and **48**, in the manner illustrated in Fig. 5, whereby withdrawal of the pin **40** from the bore **46** is prevented. Preferably, a coiled spring **49** will be sleeved on the pin **40** and will be confined between the surface **38** and the enlarged, knurled head **41**. With the parts in the relative positions of Fig. 6, the spring **49** is greatly compressed and will tend to hold the pin **43** against the surface **45** with sufficient force to prevent accidental rotational movement of the pin **40**.

It will be clear that, thus, the lever **16** has been operatively connected to the element **11** so that, if said lever **16** is moved in either direction from its illustrated position, the element **11** will be correspondingly moved in a corresponding direction. Since the lever **16** is bodily positioned ahead of the forwardmost portion of the motor **10**, it is readily accessible for manipulation by an operator seated on the port side of the motor. And since the disclosed attachment as a whole is supported directly from the motor, it is unnecessary to disassemble the attachment or to remove any of its parts from any extraneous supports when the motor is, for any reason, removed from the boat.

I claim as my invention:

1. The combination with an outboard motor having a transmission-ratio-selector element mounted wholly on that side of the motor remote from the normal position of an operator for oscillation about an axis located a significant distance astern the forward end of the motor, of an attachment comprising a bracket, means securing said bracket to said motor, a lever, means providing a pivotal mounting for said lever on said bracket, said bracket being so proportioned and arranged as to dispose an arm of said lever forwardly beyond the body of said motor, link means having one end pivotally connected to said lever at a point spaced from said pivotal mounting means, and means carried by said link means for establishing an operative connection between said link means and such a selector element.

2. The combination of claim 1 in which said bracket is formed with a pair of spaced openings therethrough

for concurrent registration with connector means conventionally provided on such a motor, and said means securing said bracket to said motor includes at least one screw passing through one of said openings and threadedly received in a threaded opening in said motor registering therewith.

3. The combination of claim 1 in which said link means comprises at least two, relatively axially adjustable elements.

4. The combination of claim 1 in which said link means comprises a clevis pivotally attached to said lever, and a rod axially threadedly adjustably connected to said clevis.

5. The combination of claim 1 in which said link means comprises a clevis pivotally attached to said lever, a rod having one end axially threadedly adjustably connected to said clevis, an element telescopically associated with the other end of said rod, and means for selectively connecting said element with said rod in any one of a plurality of positions of relative axial adjustment.

6. The combination of claim 1 in which said last-named means comprises a pin reciprocably mounted in a transaxial bore in said link means and having a radial projection therefrom near one end thereof, and spring means resiliently urging said projection toward said link means, said end of said pin being projectible through a key-hole opening in such a selector element.

7. The combination with an outboard motor having, at one side thereof, a hand-operated control for manually controlling a gear shift, of an attachment comprising a bracket formed with two spaced openings therethrough for concurrent registration with attachment means provided on the same side of said motor, and further formed to project forwardly beyond the front end of said motor when said openings so register with such attachment means, a lever, means pivotally supporting said lever from said bracket near the forward end thereof, a link having one end pivotally connected to said lever, and means carried by said link near the opposite end thereof and operatively engaged with said control.

References Cited in the file of this patent

UNITED STATES PATENTS

1,302,957	Owen	May 6, 1919
1,310,757	Letord	July 22, 1919
2,543,553	McAllister	Feb. 27, 1951
2,572,404	Stoltenberg	Oct. 23, 1951
2,618,985	Morey	Nov. 25, 1952
2,705,444	McCormick	Apr. 5, 1955
2,836,077	Belanger	May 27, 1958