Nov. 15, 1955 L. H. BROWN 2,723,640

PEDAL OPERATED PADDLING DEVICE FOR BOATS

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Fig. 1

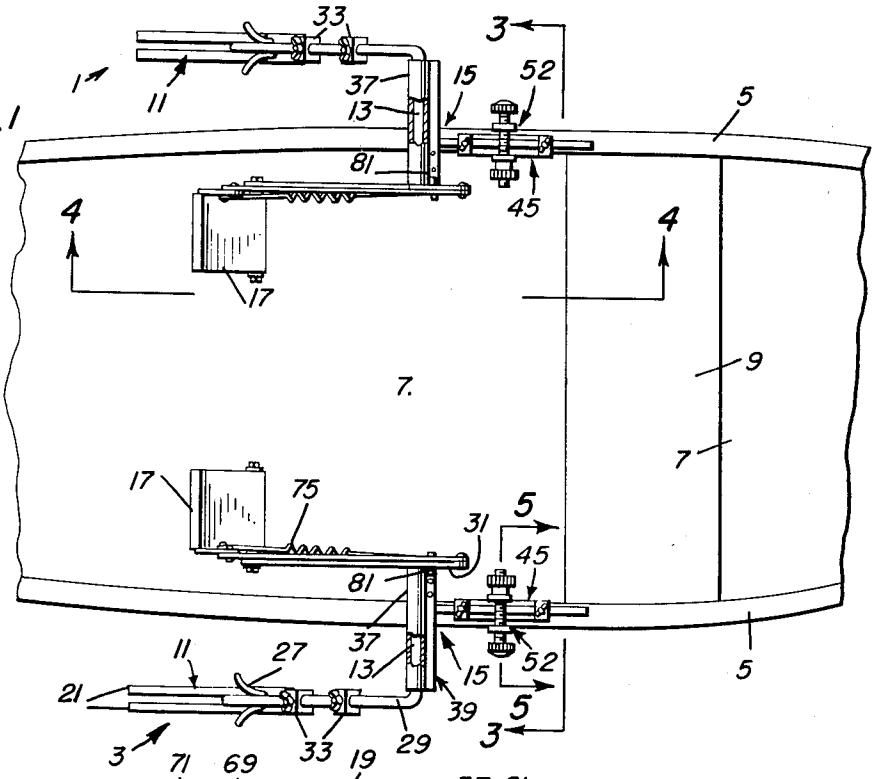


Fig. 2

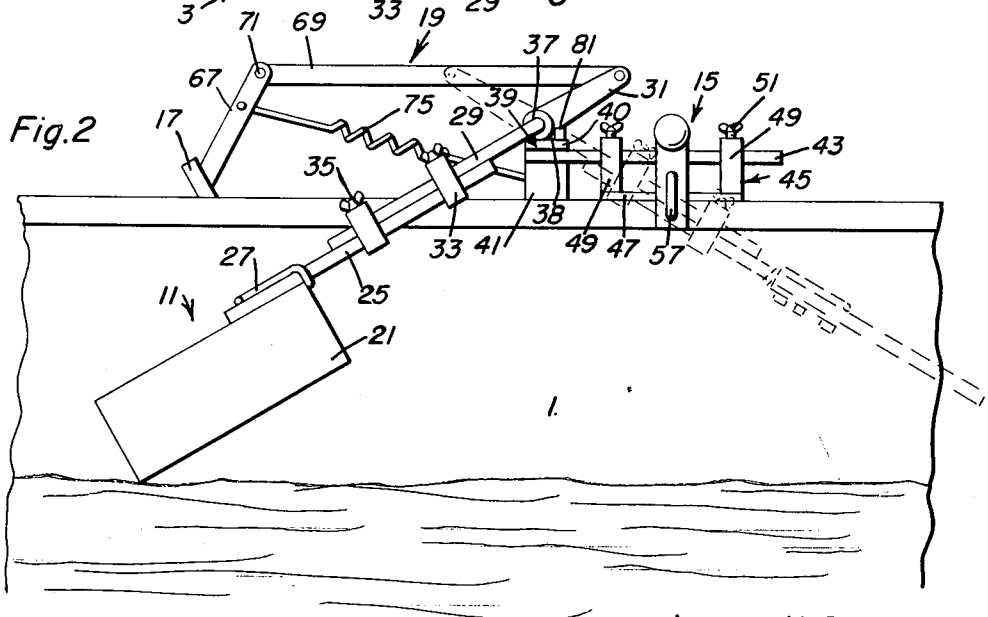
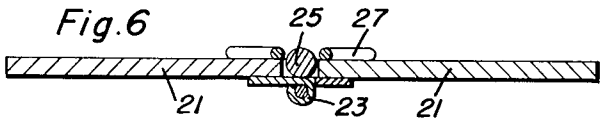


Fig. 6



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Fig. 3

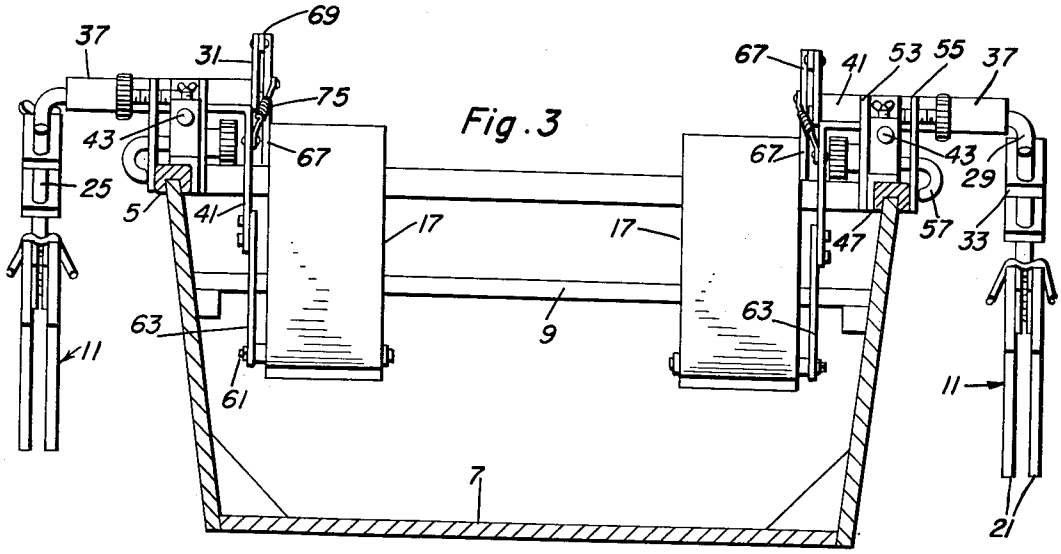


Fig. 4

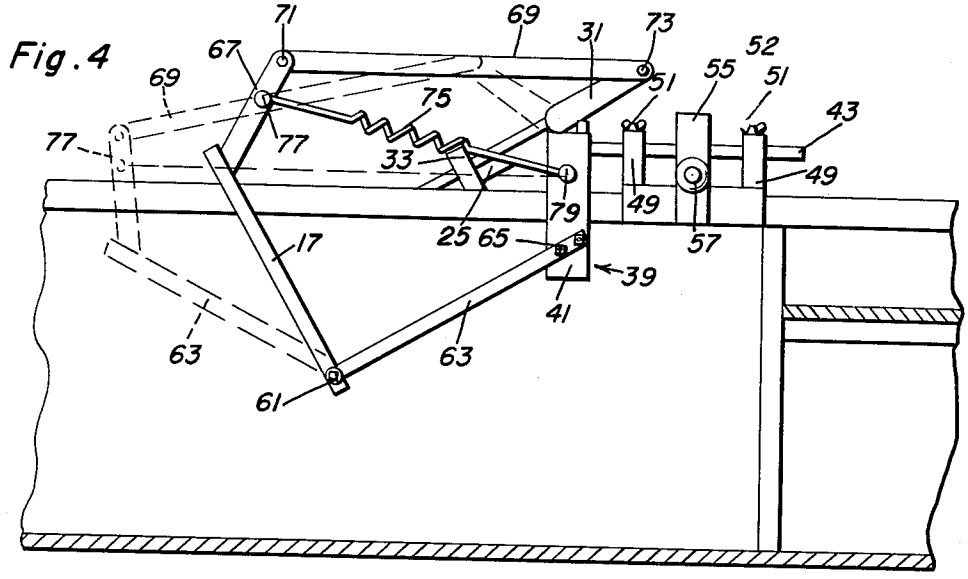
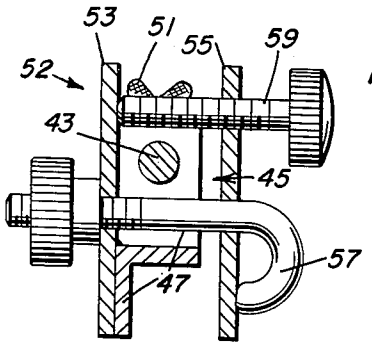


Fig. 5



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PEDAL OPERATED PADDLING DEVICE FOR BOATS

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Application June 28, 1954, Serial No. 439,669

1 Claim. (Cl. 115—25)

My invention relates to pedal operated paddling devices for rowboats, and the like.

The primary object of my invention is to provide pedal and spring operated paddles for opposite sides of a boat which are attachable to the gunwale, will feather automatically, and are greatly simplified as compared with present day paddling devices operated by pedals.

Another object is to provide devices of the character and for the purpose above set forth embodying means for variably adjusting the paddles to work at different depths in the water.

Still another object is to provide devices for the above purposes which are easy to operate, safe, and not liable to get out of order.

Other and subordinate objects together with the precise nature of my improvements will become readily apparent when the following description and claim are read with reference to the accompanying drawings.

In said drawings:

Figure 1 is a fragmentary view in plan partly broken away and shown in section of my improved paddling device attached to a rowboat;

Figure 2 is a view in side elevation;

Figure 3 is an enlarged view in vertical transverse section taken on the line 3—3 of Figure 1;

Figure 4 is an enlarged fragmentary view in vertical longitudinal section taken on the line 4—4 of Figure 1;

Figure 5 is an enlarged fragmentary view in vertical transverse section taken on the line 5—5 of Figure 1; and

Figure 6 is an enlarged view in transverse section of one of the paddles.

Referring to the drawings by numerals, according to my invention a pair of duplicate right and left paddling devices **1**, **3**, are provided on the gunwales **5** of a rowboat **7** forwardly of the center seat **9**.

Each paddling device comprises an outboard paddle **11**, an operating crank shaft **13** for the paddle, a mounting **15** for attaching the crank shaft **13** to the gunwale **5**, an inboard pedal **17** and means **19** operatively connecting the pedal **17** to the crank shaft **13**.

The paddles **11** each comprise a pair of rectangular paddle blades **21** hinged at confronting longitudinal edges thereof as at **23**, and to the lower end of a shank rod **25**, so that upon swinging of the blades rearwardly in the water said blades will swing into coplanar propelling relation, whereas upon forward swinging of said blades the same will feather by folding into side-by-side relation. A U-shaped stop **27** suitably attached to the shank rod **25** and overlying the pair of blades **21** establishes the coplanar relation of the blades.

The operating crank shaft **13** of each paddle device **3** comprises an outboard crank arm **39** and an inboard crank arm **31** extending oppositely relatively, the outboard crank arm **29** carrying the paddle **11** the shank **25** of which is attached thereto by set collars **33** and setscrews **35** for longitudinal adjustment on said crank arm **29** to vary the working depth of the paddle **1**.

The mounting **15** for each crank shaft **13** comprises a sleeve bearing **37** in which the crank shaft is journaled intermediate the crank arms **29**, **31** transversely of the gunwale **5** for rocking movement with the outboard crank arm depending alongside the boat **7** and the inboard crank arm **31** upstanding. The bearing **37** is welded as at **38**, on top of an angle bar **39** having a depending inboard portion **41** for a purpose presently clear. The angle bar **39** is welded as at **40** transversely on the front end of a horizontal rod **43** slidably adjustable forwardly and rearwardly in a mounting bracket **45** on the gunwale **5** to correspondingly adjust the paddle **11**, crank shaft **13**, pedal **17** and connecting means **19** according to operating requirements.

The mounting bracket **45** comprises an angle iron **47** extending along the gunwale **5** with a pair of upstanding front and rear end posts **49** in which the rod **43** is slidable and setscrews **51** in said posts **49** for locking the rod **43** in adjusted position. It is explained at this point, that the rod **43** is also rockably adjustable in the mounting bracket **45** to correspondingly adjust the paddle **11**, crank shaft **13**, pedal **17** and means **19** according to operating requirements.

A clamp **52** detachably attaches each mounting bracket **45** to the gunwale **5** and comprises a pair of inboard and outboard upright bars **53**, **55** engaging the angle iron **47** and gunwale **5**, a J-bolt **57** connecting said bars on which bar **55** fulcrums into clamping relation to the bar **53**, and a screw bolt **59** in bar **55** for turning against bar **53** to fulcrum bar **55**.

The pedal **17** of each device **1**, **3** is rectangular and slants in upended position forwardly and upwardly, and is pivoted as at **61** at one lower corner on the front end of a supporting bar **63** inclining downwardly and forwardly from and bolted to, as at **65**, the inboard portion **41** of the angle bar **39**. The pedal **17** is operatively connected to the inboard crank arm **31** by a rigid upstanding post **67** on the upper end of the pedal and a link **69** extending forwardly from the crank arm **31** and pivoted at its ends to the post **67** and said crank arm **31**, as at **71**, **73**. A coil spring **75** has its ends attached to the post **67** and said portion **41** below the link **69** and the axis of the crank shaft **13** as at **77**, **79**, and yieldingly holds the pedal **17** in a rearward swung normal position.

As best shown in Figures 2 and 4, in the normal position of the pedals **7**, the inboard crank arms **31** incline upwardly and rearwardly, and the outboard crank arms **29** and paddles **11** incline downwardly and forwardly out of the water and are yieldingly retained in such normal positions by the coil springs **75** with the inboard crank arms **31** engaging stop lugs **81** on angle bar **39** and establishing the normal position of the pedals **17**, crank shafts **13**, paddles **11**, all as shown on full lines in Figures 2 and 4. To propel the boat **7**, the pedals **17** are pushed forwardly and downwardly in opposition to the coil springs **75** whereupon the links **69** are pulled forwardly to swing the inboard crank arms **31** downwardly and forwardly, as shown in dotted lines in Figure 4. Thus the crank shafts **13** are rocked counterclockwise as viewed in Figures 2 and 4 to swing the paddles **11** rearwardly, as shown in dotted lines in Figure 3, through a propelling stroke for return to normal position when pressure on the pedals **17** is relieved. The blades **21** of the paddles **11** feather during the return stroke in the manner previously described.

The foregoing will suffice to impart a clear understanding of my invention without further explanation.

Manifestly the invention is susceptible of modification without departing from the inventive concept and right is herein reserved to modifications falling within the scope of the appended claim.

What is claimed is as follows:

In a paddling device for a boat, a crank shaft having inboard and outboard crank arms, respectively, means rockably mounting said crank shaft on the gunwale of a rowboat, including an angle bar extending across said gunwale and having a depending portion and a horizontal portion on which said crank shaft is journaled transversely of said gunwale, a paddle, means attaching said paddle to said outboard crank arm, a pedal, a supporting bar for said pedal fixed to said depending portion and on which said pedal is pivoted for vertical rocking movement, operating connections between said pedal and said outboard crank arm, and spring means tensioning said operating connections against operation, said first named means further including a horizontal rod supporting said angle bar, and a bracket in which said rod is longitudinally and rotatably adjustable.

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