March 10, 1959 N. J. LUGER 2,876,728

COLLAPSIBLE PONTOON BOAT

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Fig. 1

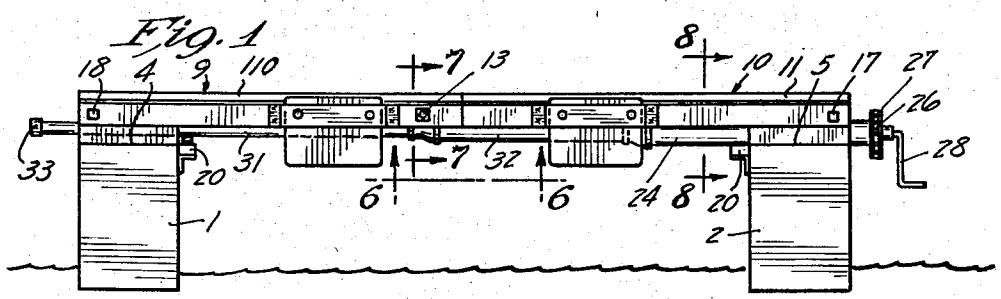


Fig. 2

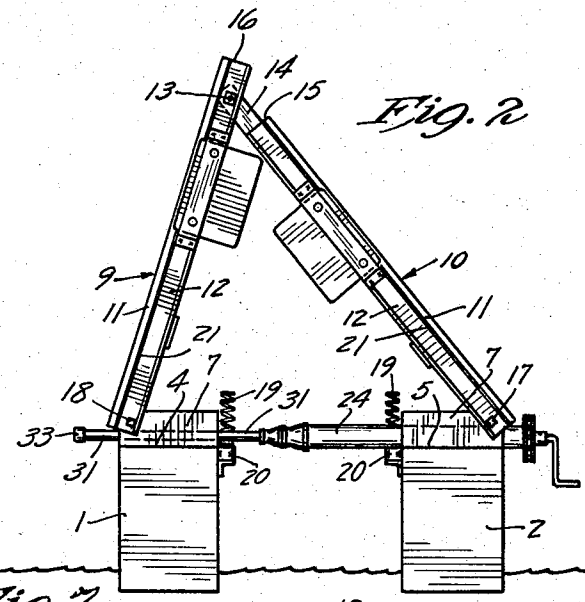


Fig. 7

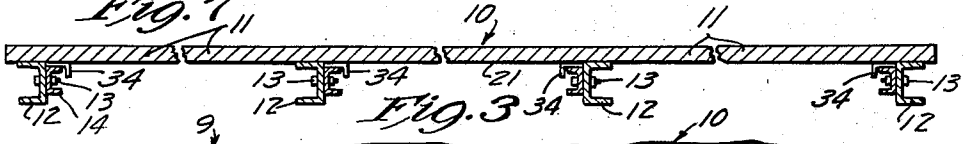
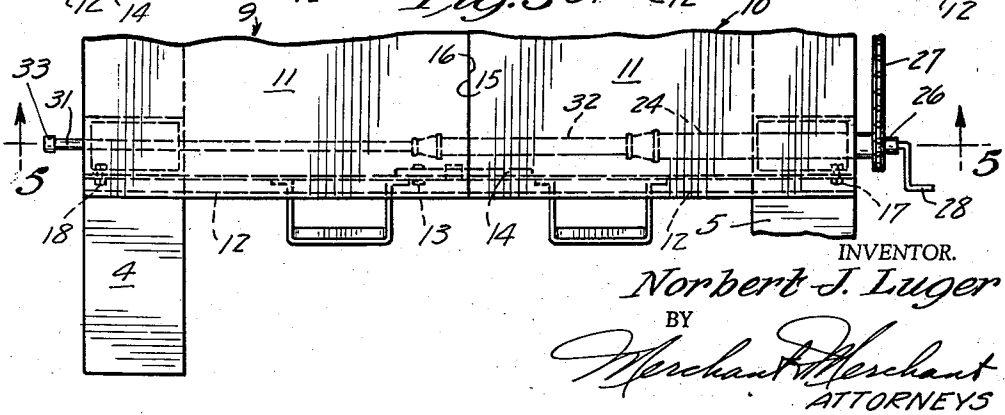


Fig. 3



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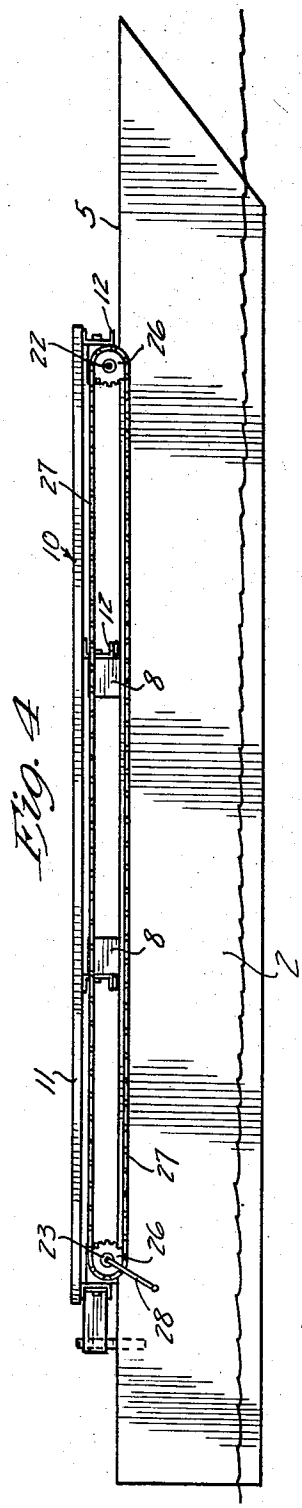


Fig. 4

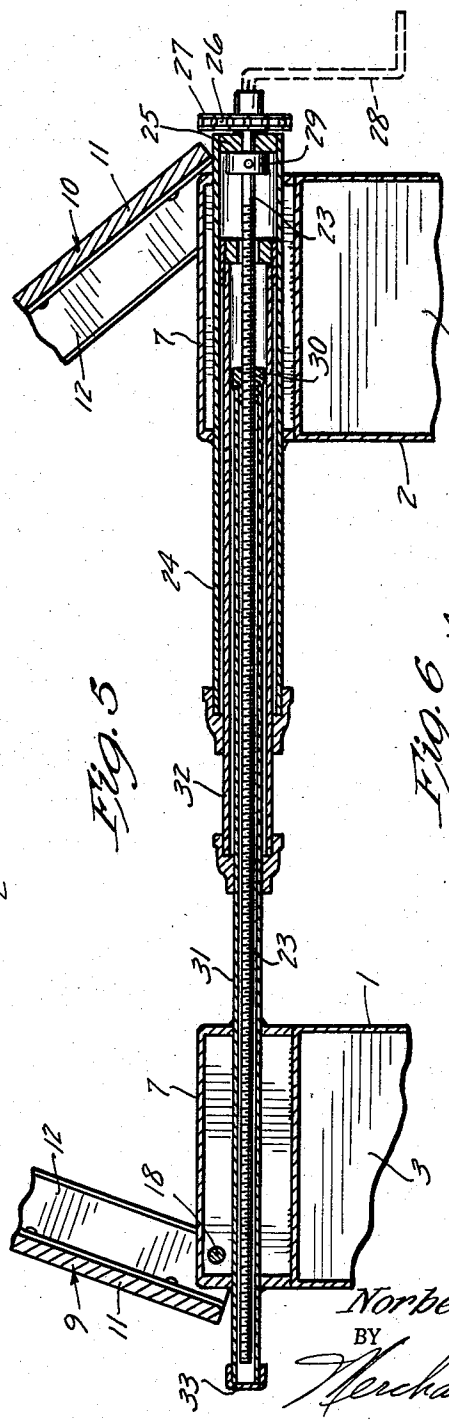


Fig. 5

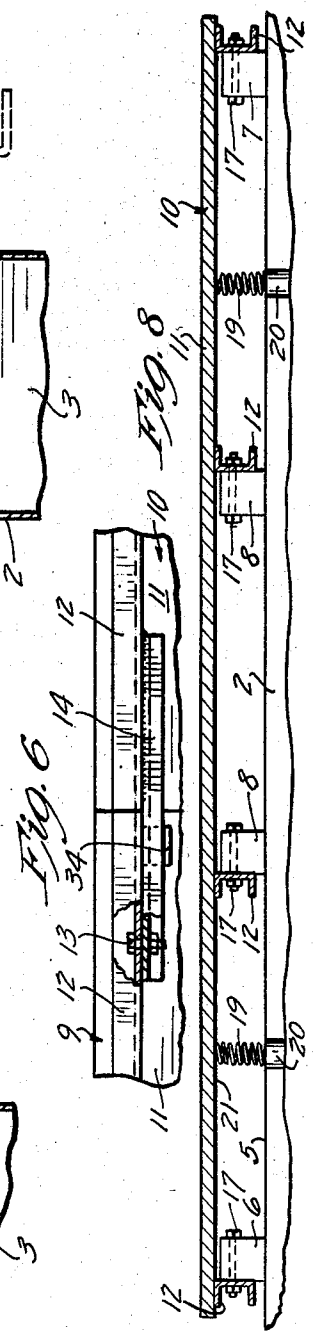


Fig. 6

Fig. 8

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COLLAPSIBLE PONTOON BOAT

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5 Claims. (Cl. 114—61)

My invention relates to boats and more particularly to improvements in pontoon type boats.

The primary object of my invention is the provision of novel means for manually reducing the overall width of pontoon type boats for the purpose of transporting same on relatively narrow trailers and the like or for storing same in relatively narrow places.

A still further object of my invention is the provision of a pontoon type boat having a pair of elongated laterally spaced generally parallel pontoons, a pair of generally rectangular deck sections, means pivotally securing the outer longitudinal side portions of one each of said deck sections to a different one of said pontoons, means pivotally securing together the inner longitudinal edge portions of said deck sections, and means including extensible and retractable elements extending transversely of said pontoons and manually operative to move said pontoons toward and away from each other, whereby to impart swinging movements to the deck sections about their pivotal axes between operative positions in a common horizontal plane and inoperative angularly disposed positions.

A still further object of my invention is the provision of a device of the class immediately above described in further combination with yielding means carried by each of said pontoons biasing said deck sections upwardly from dead center relationship when said deck sections are in their operative positions.

A still further object of my invention is the provision of a device of the class immediately above described wherein said extensible and retractable elements comprise longitudinally spaced transversely extending elevator screws journaled in one of said pontoons for common transverse movements therewith and cooperative nut elements secured to the other of said pontoons for common transverse movements therewith, and linkage connecting said screws for common rotation, one of said screws being provided with a crank.

A still further object of my invention is the provision of a device of the class described which is not unduly expensive to produce, which is foolproof in its operation, and which is rugged and durable.

The above and still further objects of my invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings wherein like characters indicate like parts throughout the several views:

Fig. 1 is a view in rear elevation of my novel structure;

Fig. 2 is a view corresponding to Fig. 1 but showing a different position of some of the parts;

Fig. 3 is a fragmentary view in top plan;

Fig. 4 is a view in side elevation;

Fig. 5 is an enlarged sectional view taken substantially on the line 5—5 of Fig. 3;

Fig. 6 is an enlarged fragmentary detail in bottom plan taken substantially on the line 6—6 of Fig. 1; and

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 1; and

Fig. 8 is a sectional view taken on the line 8—8 of Fig. 1, some parts being broken away.

Referring with greater particularity to the drawings, a pair of matching elongated laterally spaced parallel pontoons are identified by the numerals 1 and 2. The pontoons 1, 2 may be formed from any suitable material such as sheet steel welded to provide water tight shells or compartments 3. Rigidly secured to and projecting upwardly from the upper surfaces 4 and 5 of the pontoons 1 and 2 respectively are longitudinally spaced box-like mounting brackets, the foremost of which are identified by the common numeral 6, the rearmost by the common numeral 7, and the intermediate ones by the numeral 8.

A pair of matching deck sections 9 and 10 each comprising platforms 11 and longitudinally spaced transversely extending connector members 12, shown as four in number, see Fig. 7, preferably and as shown in the nature of channel irons, are connected together at longitudinally spaced points, as indicated by the numeral 13, for swinging movements. Preferabliy, this is accomplished through the medium of a plurality of longitudinally spaced parallel rigid arms 14 carried by the deck sections one each immediately adjacent to a connector member 12 and extending transversely outwardly from the inner longitudinal edge 15 thereof. The outer ends of the arms 14 are pivotally connected to the adjacent aligned connector member 12 transversely inwardly of the inner longitudinal edge 16 of the deck section 9.

The deck section 10, as shown in Fig. 8, is pivotally secured along its outer longitudinal edge to the pontoon 2 through the medium of aligned pivot pins 17 passing through connector members 12 and the longitudinally spaced mounting brackets 6, 7, 8. Similarly, the deck section 9 is pivotally secured adjacent its longitudinal outer edge to the pontoon 1, as indicated by the numeral 18. Coil compression springs 19, shown as seated in upwardly opening sockets 20 carried by both the pontoons 1, 2, engage the undersurfaces 21 of the platforms 11 and bias the deck sections 9, 10 upwardly from a dead center relationship when the deck sections 9, 10 are in their operative positions of Figs. 1, 3 and 4, wherein they occupy a common horizontal plane. The obvious purpose of this is, of course, to facilitate bringing the pontoons 1, 2 together to reduce the overall width of the boat, by mechanism which will now be explained in detail.

A pair of elevator screws 22 and 23 are secured fast to the pontoon 2 for common movements therewith, the former forwardly and the latter rearwardly with respect thereto. Specifically, this is accomplished through the medium of horizontally disposed tubular shields 24 which encompass the adjacent end of the screws 22, 23 and which project through and are welded or otherwise made fast to the mounting brackets 6, 7 respectively, see Fig. 5 which shows this relationship with respect to the mounting bracket 7 carried by the pontoon 2. This construction is identical in the mounting bracket 6, although not shown. Referring again to Fig. 5, it will be noted that the outer end of the shield 24 is closed by a head 25 which is fast thereon and which journals the outer end of the screw 23. Fast on the outer ends of the elevator screws 22, 23 are identical sprockets 26 over which is entrained a chain 27. For the purpose of imparting common rotation to the sprockets 26 a crank 28 is secured to the outer end of one of the screws 22, 23, shown as being screw 23. A stop collar 29 fast on the screws 22, 23 immediately inwardly of the heads 25 assures common movements of the pontoon 2 with the screws 22, 23.

Identical nuts 30 on the screws 22, 23 are welded or otherwise rigidly secured to the inner ends of tubular shield sections 31 which pass through and are welded to the front and rear anchoring brackets 6, 7 carried by the pontoon 1, thus assuring common movements of the pon-

toon 1 with the nuts 30 as they travel on the screws 22, 23. Concentrically disposed and telescopically slideable between the shield 24 and the shield section 31 is a sleeve 32. To completely seal the screws 22 and 23, a cap 33 is provided on the outer end of the shield section 31.

For the purpose of imparting stability to the structure, when the deck sections 9, 10 are in their operative positions of Figs. 1 and 4, I provide a plurality of downwardly opening yoke elements 34 rigidly secured to the undersurface of the deck section 9 intermediate the pivotal connections 13 and the inner longitudinal edges 16 thereof. As shown, these yoke elements 34 snugly receive the intermediate portions of the arms 14, thus taking the strain off the pivotal connections 13.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the above objects and while I have shown a preferred embodiment thereof, I wish it to be understood that same is capable of modification without departure from the scope and spirit of the appended claims.

What I claim is:

1. In a device of the class described, a pair of elongated laterally spaced generally parallel pontoons, a pair of generally rectangular deck sections, means pivotally securing the outer longitudinally side portions of one each of said deck sections to a different one of said pontoons, means pivotally securing together the inner longitudinal edge portions of said deck sections and means including extensible and retractable elements extending transversely of said pontoons and operative to move said pontoons towards and away from each other, whereby to impart swinging movements to said deck sections about their pivotal axes between operative positions in a common horizontal plane and inoperative angularly disposed positions.

2. The structure defined in claim 1 in further combination with yielding means carried by each of said pontoons biasing said deck sections upwardly from dead

center relationship when said deck sections are in their operative positions.

3. The structure defined in claim 1 in which said extensible and retractable elements comprise longitudinally spaced transversely extending elevator screws journaled to one of said pontoons for common transverse movements therewith and cooperative nut elements secured to the other of said pontoons for common transverse movements therewith, and linkage connecting said screws for common rotation, one of said screws being provided with a crank.

4. The structure defined in claim 1 in which the means pivotally securing together the inner longitudinal edge portions of said deck sections includes a plurality of longitudinally spaced parallel rigid arms carried by one of said deck sections and extending transversely outwardly from the inner longitudinal edge thereof, the outer ends of said arms being pivotally connected to the other of said deck sections transversely inwardly of the inner longitudinal edge thereof upon a common axis longitudinally of said deck sections, the inner edge portion of said other deck section being supported by the extended end portions of said arms when said deck sections are moved to their operative positions.

5. The structure defined in claim 4 in further combination with a plurality of downwardly opening yoke elements carried by said other of said deck sections, each of said yoke elements receiving an adjacent one of said arms in laterally spaced relation to the pivotal connection thereof.

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