W. J. RYAN & L. TANNING.

LOCK FOR DAVITS.

APPLICATION FILED DEC. 11, 1908.

935,413.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

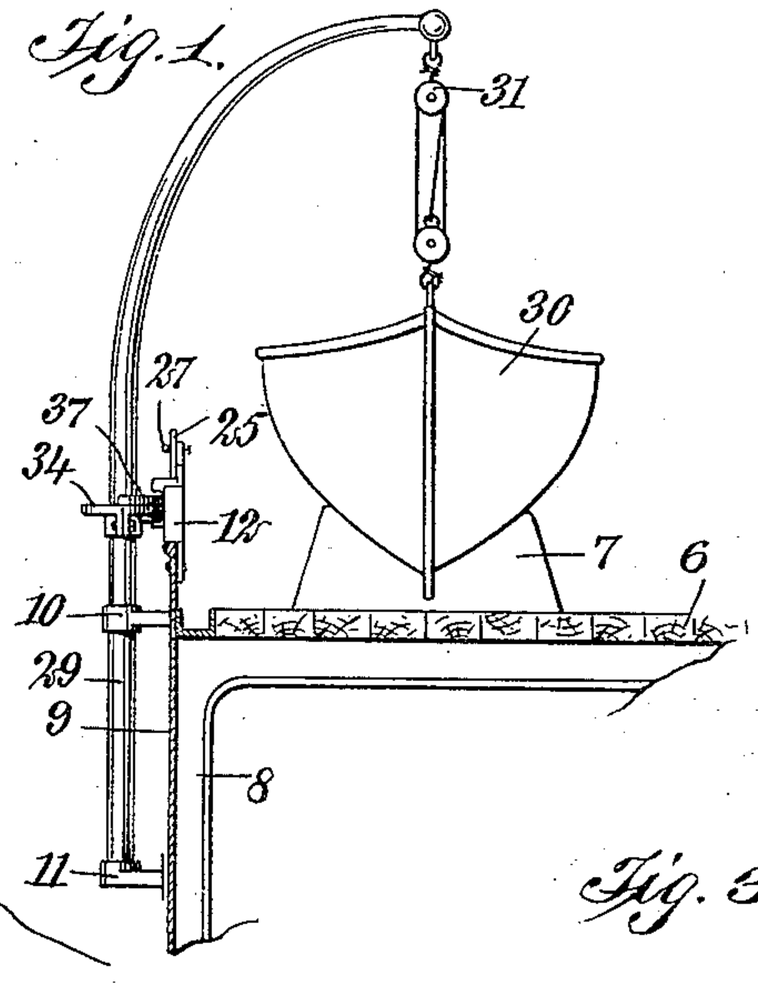


Fig. 2.

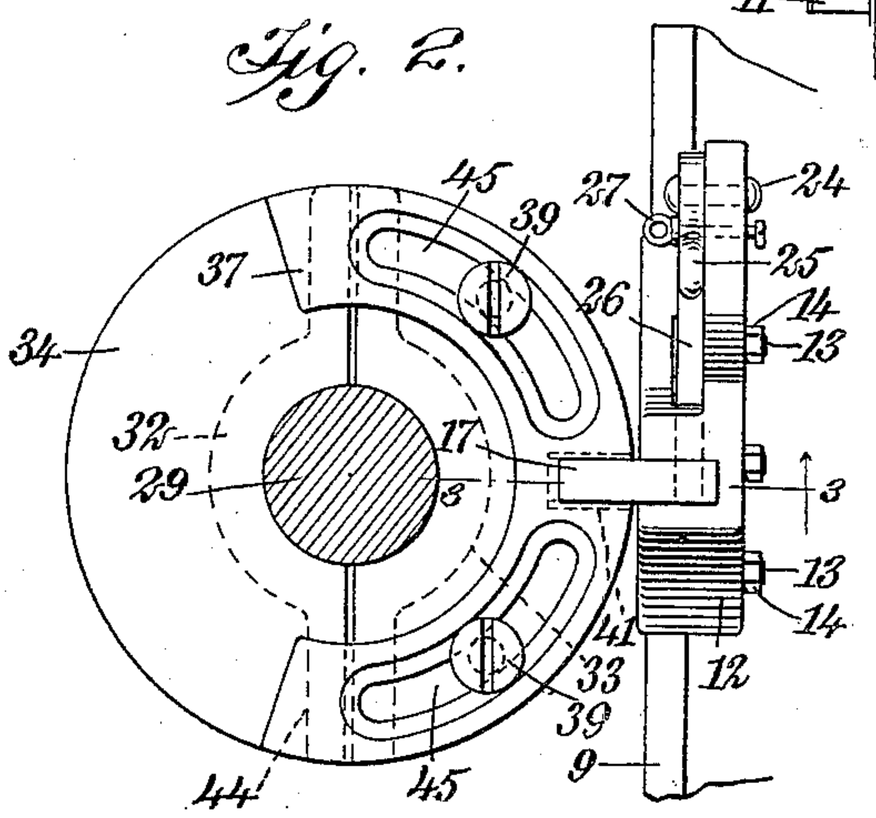


Fig. 3.

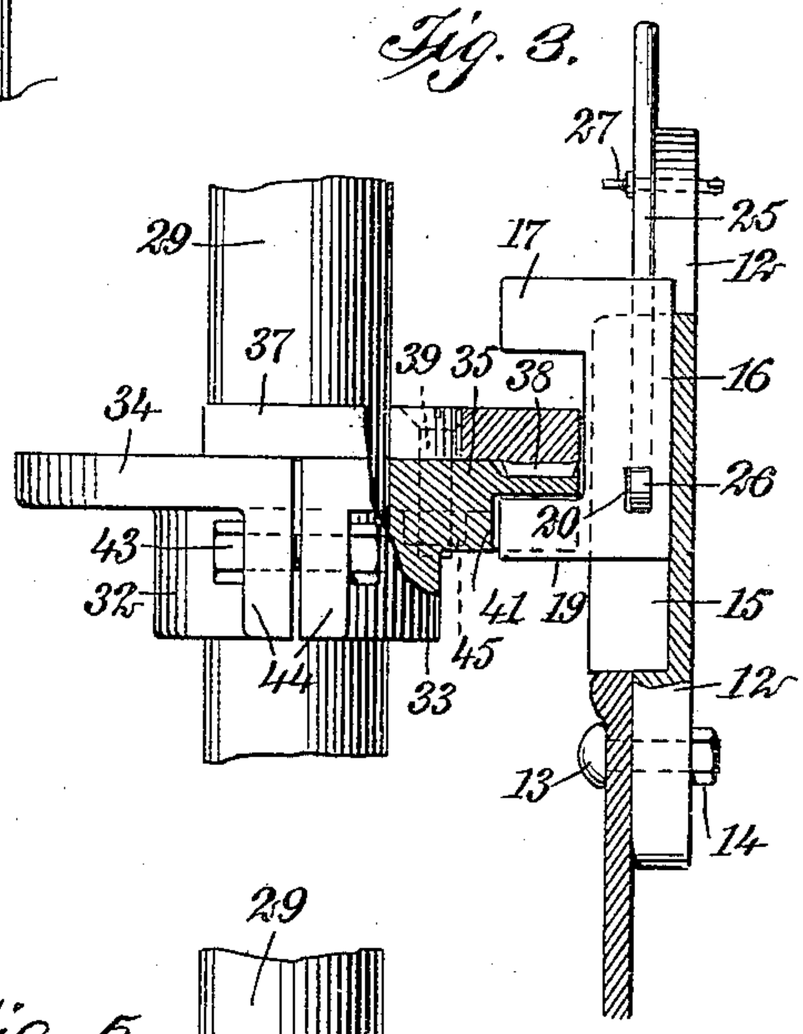


Fig. 4.

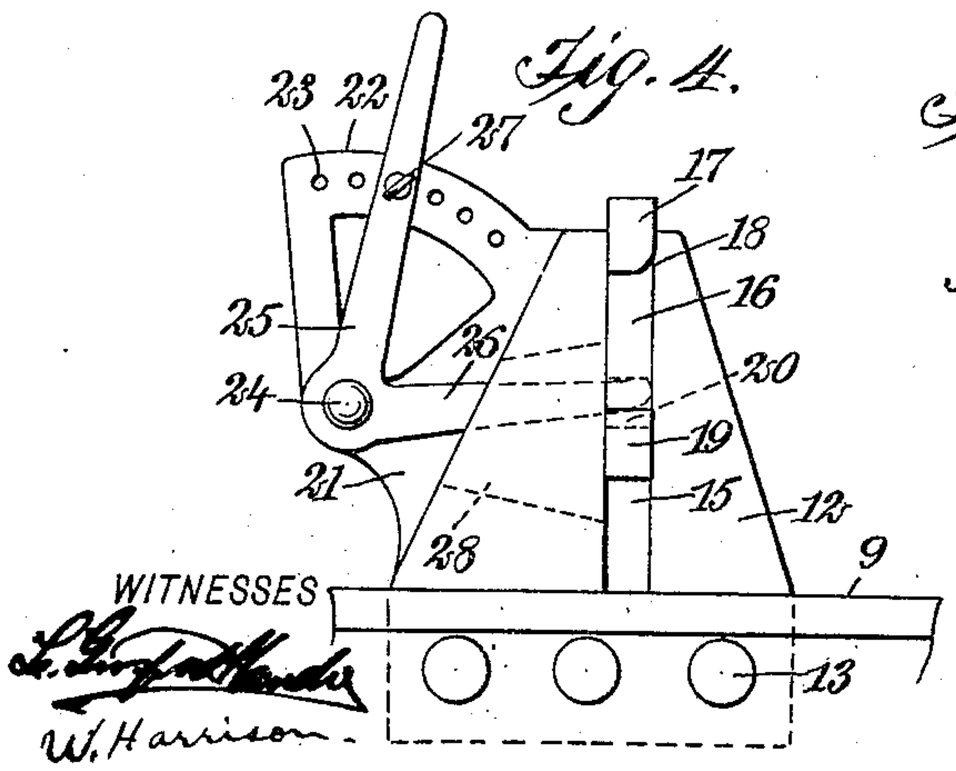
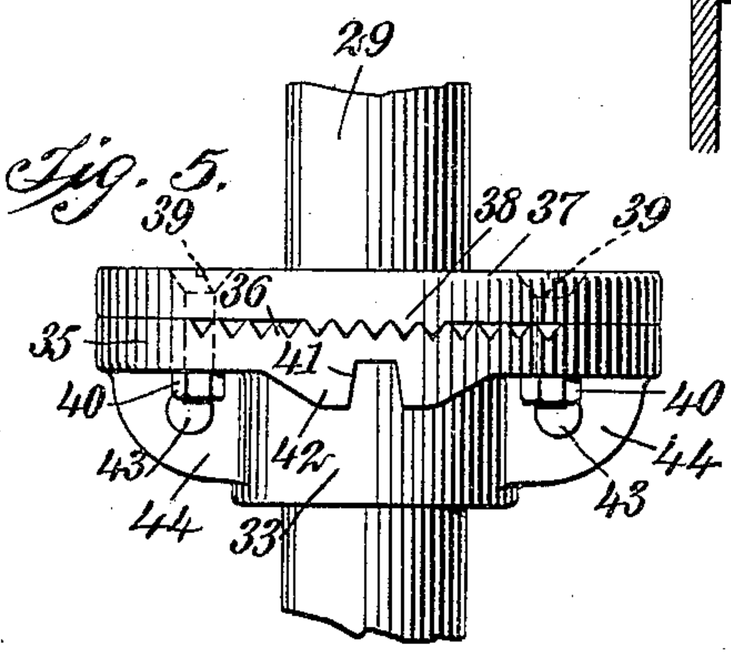


Fig. 5.



WITNESSES

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2 SHEETS—SHEET 2.

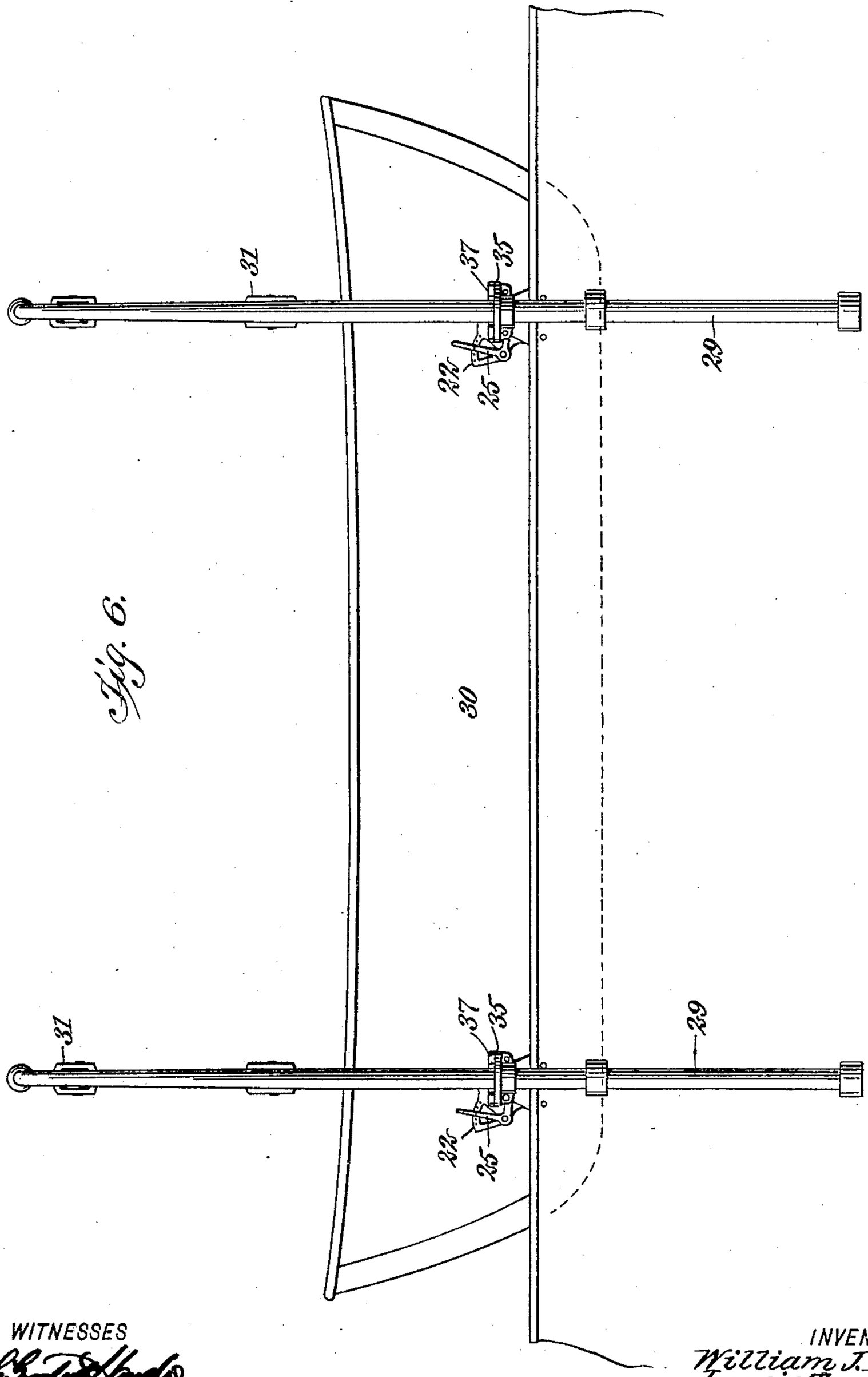

Fig. 6.

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LOCK FOR DAVITS.

935,413. Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed December 11, 1908. Serial No. 466,985.

To all whom it may concern:

Be it known that we, WILLIAM J. RYAN, a citizen of the United States, and a resident of the city of New York, Winfield, borough of Queens, in the county of Queens and State of New York, and LEWIS TANNING, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Lock for Davits, of which the following is a full, clear, and exact description.

Our invention relates to davits and associate mechanism for handling small boats on shipboard.

More particularly stated, our invention comprehends a davit including a staff which may be turned for the purpose of handling a boat, the limits of the turning being adjustable at will.

Our invention further contemplates the addition of locking mechanism to the davit, whereby it may be locked securely in a predetermined position and instantly released from said position.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a fragmentary view showing a vessel provided with a davit, and further provided with our improved lock for the davit; Fig. 2 is an enlarged horizontal section showing a portion of the improved locking mechanism for the davit; Fig. 3 is a view, partly in elevation, and partly in section on the line 3—3 of Fig. 2, broken away for the purpose of showing more particularly the locking mechanism for the davit; Fig. 4 is a side elevation showing a part of the locking mechanism, including a hand lever for actuating said locking mechanism; Fig. 5 is a fragmentary elevation of a portion of the locking mechanism, this view further showing means for adjusting two parts of the davit relatively to each other in order to give the bolt supported by the davit a different position; and Fig. 6 is an elevation showing a portion of a ship equipped with davits and with our improved locks for said davits.

The deck of a vessel is shown at 6 and supported by it are chocks 7. The coamings appear at 8 and the sheathing or exterior surface of the vessel, at 9. This sheathing projects slightly above the deck, as will be understood from Fig. 1. An annular bearing bracket 10 is secured upon the side of the vessel, and disposed below this bracket and in alinement therewith is a cup bearing 11. A frame 12 is secured firmly in position by aid of bolts 13, the latter being held by revoluble nuts 14. The frame 12 is provided with a slot 15 and slidably mounted within this slot is a dog 16 provided with projecting portions 17, 19 integral therewith. The portion 17 (see Fig. 4) is beveled or rounded at 18, and a slot 20 extends through the dog 16. The frame 12 is provided with a web 21 integral with it, the upper portion of this web being fashioned into a quadrant 22 provided with holes 23. A pivot pin 24 is mounted rigidly upon the web 21 and journaled upon this pivot pin is a hand lever 25 provided with a projecting portion 26 extending into the slot 20 for the purpose of shifting the position of the dog 16. A locking pin 27 is provided for the purpose of holding the hand lever 25 rigidly in relation to the quadrant, as will be understood from Fig. 4. This locking pin can extend through the hand lever into any one of the holes 23, thereby securing the hand lever 25 in any one of a number of different positions.

The frame 12 is provided with a slot 28 through which the arm 26 extends, as will be understood from Fig. 4. The davit stem is shown at 29 and extends through the bearing bracket 10 so as to rest in the bearing cup 11. A boat 30 is supported upon the davit stem by aid of tackle 31, the boat normally resting upon the chocks 7. Two semi-collars 32, 33 are provided integrally with semi-disks 34, 35, the two semi-disks mating each other and together constituting a disk. The semi-disk 35 is provided with teeth 36 flush with its upper surface. Resting upon the semi-disks 34, 35 is a locking plate 37 of substantially arcuate form, this plate being provided with teeth 38 for engaging the teeth 36. Bolts 39, provided with revoluble nuts 40, are used for securing the locking plate 37 firmly in position upon the semi-disks, said bolts passing through slots 45 for that purpose. The locking plate 37 may be adjusted relatively to the semi-disks, and when once adjusted is secured in position, and need not thereafter be disturbed for a long period of time or perhaps unless the davit is moved from one ship to another or is used to handle boats of a vastly different size or character

from those usually employed. The semi-disk 35 is provided with a slot 41, and incidental to the formation of this slot the plate is provided with a thick portion 42, as will be understood from Fig. 5. Bolts 43 connect together the semi-collars 32, 33 and semi-disks 34, 35, these parts being provided with flanges 44 for this purpose, as will be understood from Fig. 3. By loosening the bolts 43 the semi-collars can be adjusted relatively to the davit stem 29, and being once tightened need not usually thereafter be disturbed.

When the parts above described are placed together they appear substantially as indicated in Figs. 2 and 3. The dog 16 is adapted to slide vertically in the slot 15 and has two principal positions. One of these positions is indicated in Fig. 3, a portion 19 of the dog being in the slot 41 of the semi-disk 35, and the dog being locked for the reason that the locking pin 29 extends through the hand lever 25 and engages the quadrant 22. In order to lower the dog 16, the operator withdraws the locking pin 27 and throws the hand lever 25 backward—that is, to the right according to Fig. 4. This lowers the dog 16 and brings the projecting portion 17 of this dog into engagement with the upper face of the locking plate 27. This also removes the projecting portion 19 of the dog from the slot 41 and leaves the disk 35, and consequently the davit, free to turn.

The operation of our device is as follows: The parts being arranged as described and the locking plate 37 being adjusted relatively to the semi-disks 34, 35, the device is ready for use. If, now, a boat 30 is to be lifted by aid of the davits in connection with the tackle 31, the operator throws the hand lever 25 backward (to the right according to Fig. 4), thereby lowering the dog 16 and freeing the davit which is then turned substantially in the usual manner. If the davit stem is turned far enough to allow the portion 17 of the dog to clear the locking plate 37, the dog can drop down still farther, and this it does by its own weight, turning the hand lever with it, as will be understood from Fig. 4. The davit has now a limited play upon the axis of the davit stem as a center, the amount of play being determined by the distance apart of the ends of the locking plate 37. That is to say, the locking plate 37 being of substantially arcuate form, the davit stem is free to rock in a horizontal plane until one or the other of the ends of the locking plate is brought against the projecting portion of the dog 16, the dog being low enough relatively to the frame 12 to permit this result. When it is desired to turn the davit stem back into its normal position, as indicated in Fig. 1, the hand lever 25 is moved forward (to the left according to Fig. 4) so that the dog 16 is raised a little—just far enough for the portion 17 to clear the locking plate 37. The davit stem is next turned into its normal position and when this is done the lever 25 is moved still farther in the same direction as that in which it last moved, the result being that the portion 19 of the dog 16 enters the slot 41 and thus holds the davit firmly locked in position. Suppose, now, that owing to a change in the type of boat handled by the davit, or to a reconstruction of the vessel, or to the removal of the davit from one vessel to another, or from any other cause, it be desired that the davit stem shall occupy a slightly different position relatively to the semi-disks 34, 35. For this purpose, the bolts 39 are loosened and the locking plate 27 is shifted to a slightly different position, the teeth 38 of the locking plate catching a new grip upon the teeth 36 of the semi-disk 35. The bolts 39 being again tightened by aid of the nuts 40, and the semi-disks being brought into proper relation with the dog 16 and parts associated therewith, the davit stem 29 will be found to occupy a new position relatively to the semi-collars and semi-disks, and this new position affects not only the position of the slot 41 relatively to the position of the tackle 31 and boat supported thereby, but also relatively to the arc of a circle in which the davit has freedom of movement when the boat is swung outwardly. The teeth 36, 38 constitute so-called "friction surfaces" which hold the locking plate 37 very rigid in relation to the semi-disks.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. The combination of a revoluble davit stem, a member mounted thereupon and provided with a slot; a dog provided with a portion for entering said slot in order to hold said member and consequently to hold said davit stem, and means controllable at will for shifting said dog from one position to another.

2. The combination of a davit stem, a plurality of semi-disks secured thereto, a locking plate engaging said semi-disks, means controllable at will for securing said locking plate in different positions relatively to said semi-disks, a dog provided with a portion for engaging the ends of said locking plate, thereby limiting the degree of turning movement possessed by said davit stem, and means controllable at will for changing the position of said dog.

3. The combination of a revoluble davit stem, a disk secured thereto and provided with a slot, a locking plate mounted upon said disk, a dog provided with a portion for extending into said slot and further provided with another portion for extending partially into the path of travel of said locking plate, a frame for slidably support-

ing said dog, and means controllable at will for shifting the position of said dog relatively to said frame.

4. The combination of a revoluble davit stem, a disk mounted rigidly thereupon and provided with teeth, a locking plate engaging said disk and provided with teeth mating said teeth of said locking plate, said locking plate being adjustable relatively to said disk, fastening members for holding said locking plate rigidly in relation to said disk, a dog provided with a portion to be engaged by the ends of said locking plate in order to limit the turning of said davit stem, and means controllable at will for shifting the position of said dog.

5. The combination of a revoluble davit stem, a disk mounted upon said revoluble davit stem, a locking plate connected with said disk and adjustable at will relatively to the same, a dog provided with a portion for engaging said disk in order to hold the same in a predetermined position, said dog being further provided with a portion to be engaged by the ends of said locking plate when said davit stem is turned into a different position, and means controllable at will for shifting the position of said dog.

6. The combination of a revoluble davit stem, a dog, a locking plate having normally a fixed position relatively to said davit stem, means controllable at will for adjusting said locking plate relatively to said davit stem, and mechanism provided with a portion for extending into the path of travel of said locking plate in order to limit the degree of turning of said revoluble davit stem, and means controllable at will for moving said member into and out of the path of travel of said locking plate.

7. The combination of a revoluble davit stem, a disk mounted thereupon, a locking plate disposed adjacent to said disk and provided with slots of arcuate form, bolts extending through said slots and engaging said disk so as to allow said locking plate to be adjusted relatively to said disk, and means including a member disposed adjacent to the path of travel of said locking disk for the purpose of engaging said locking plate and thereby preventing motions of said davit stem.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM J. RYAN.
LEWIS TANNING.

Witnesses:
F. R. PURCELL,
J. H. THROSBY.