Dec. 20, 1960 M. L. SCHAT 2,965,244

DAVITS FOR SHIPPING PROVISIONS, STORES, MACHINERY SPARES AND SIMILAR LOADS

Filed Oct. 8, 1958 4 Sheets-Sheet 1

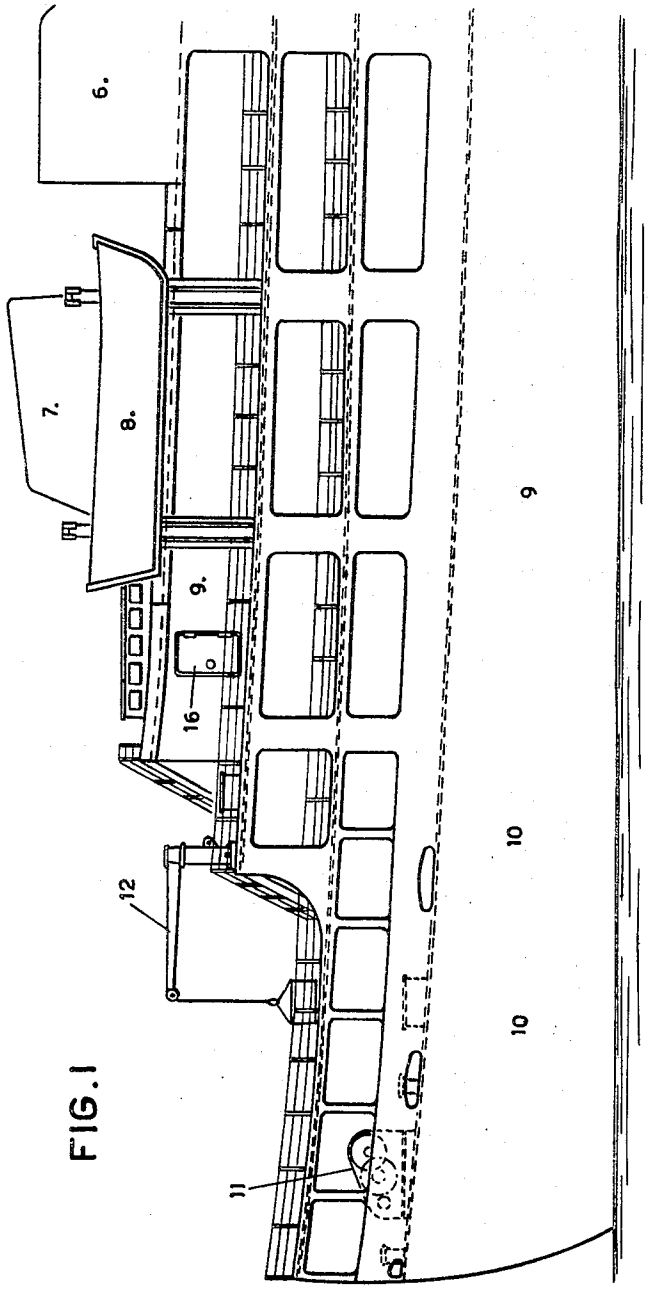


FIG. 1

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4 Sheets-Sheet 2

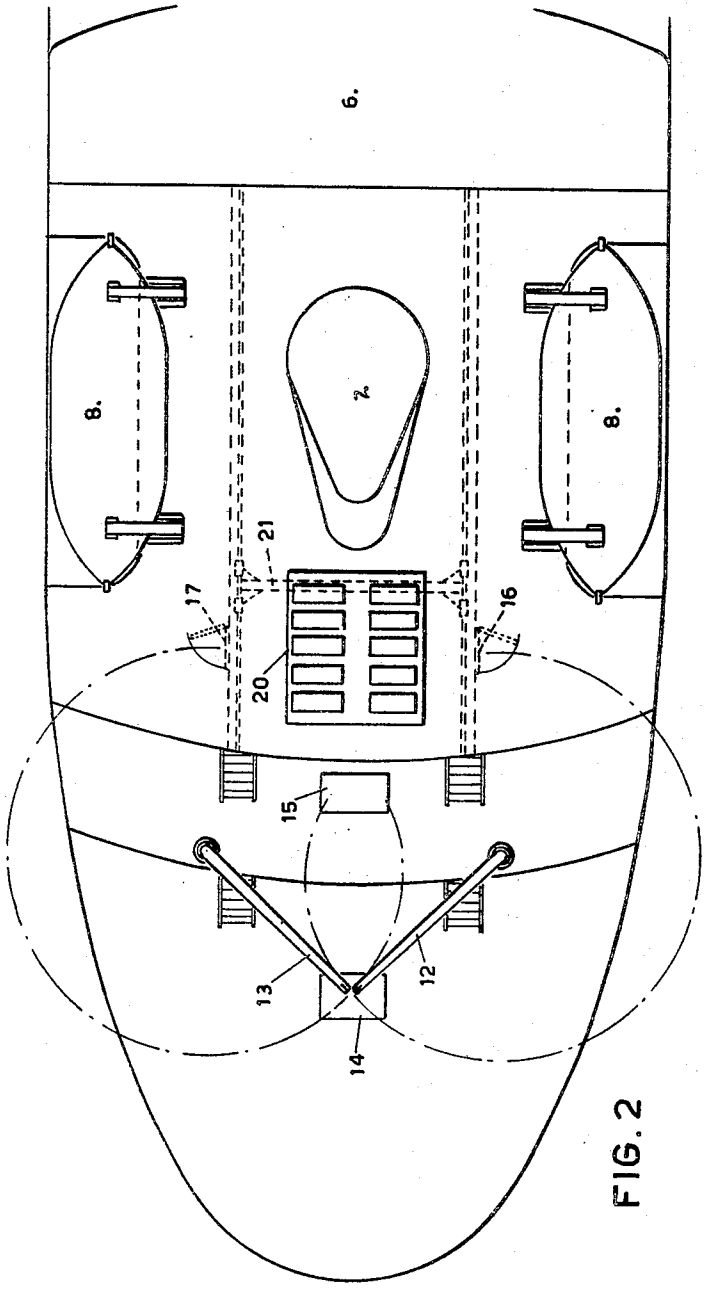


FIG. 2

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4 Sheets-Sheet 3

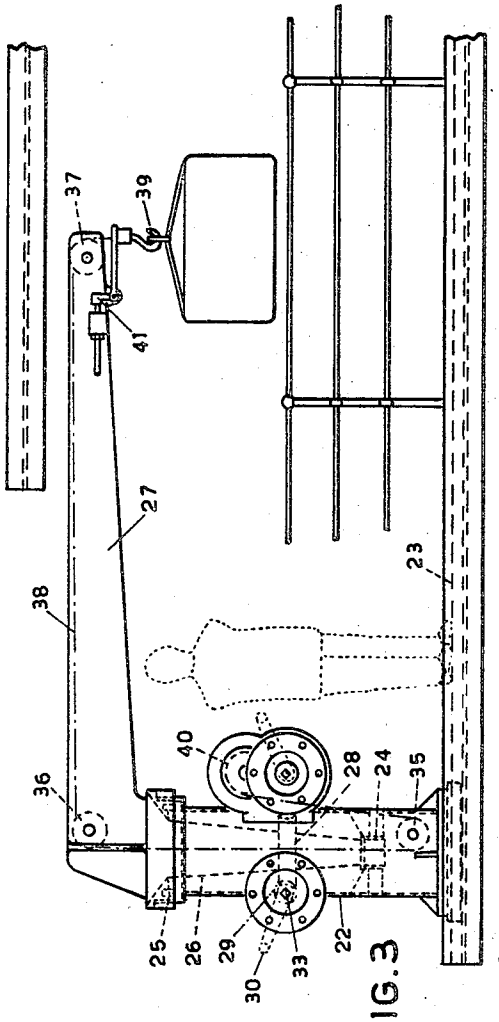


FIG. 3

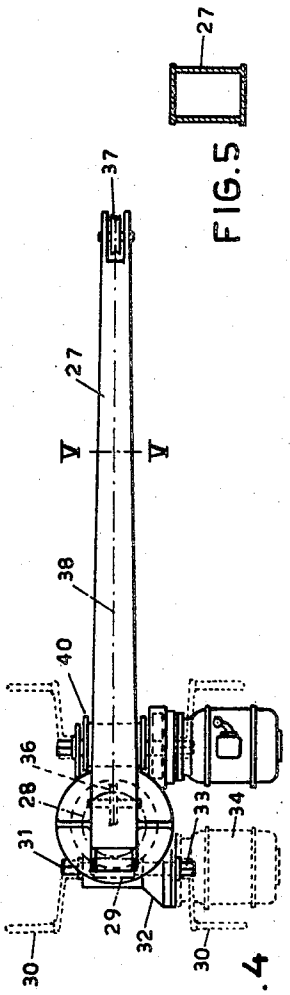


FIG. 4

FIG. 5

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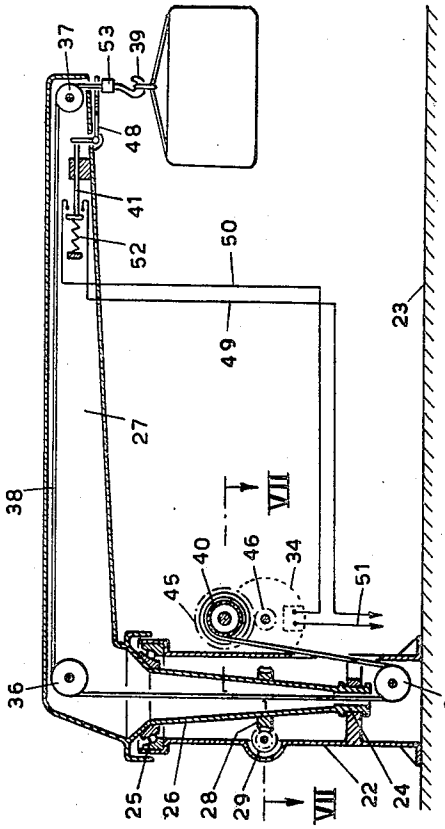


FIG. 6

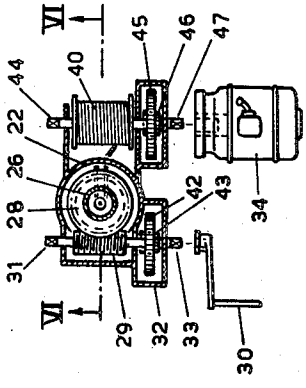


FIG. 7

United States Patent Office

2,965,244

Patented Dec. 20, 1960

2,965,244

DAVITS FOR SHIPPING PROVISIONS, STORES, MACHINERY SPARES AND SIMILAR LOADS

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Filed Oct. 8, 1958, Ser. No. 766,082

1 Claim. (Cl. 212—68)

This invention relates to davits and the like. It is well known that tankers and bulk-carriers can be provided with derricks of moderate size for handling stores and for general purposes.

It is also well known in the art that a derrick, which must be luffed by tackles and powered by a remote steam or an electric deck winch, has always been at best a cumbersome, costly and inconvenient means for handling comparatively light loads of stores. However, handling stores on board ship is hard work of a kind that ship owners seeking to minimize overtime and crews wish to avoid. On the other hand, the provision of a standard deck crane both on port and on starboard involves a load of several thousands of pounds. Moreover, many owners now prefer horizontally rotating capstan heads or gypsies to winches for waryping purposes, so that the use of derricks has become even less convenient. It is an object of the invention to improve on this situation.

To achieve its objective, the invention provides a davit which is an efficient substitute for a derrick for the purposes under consideration, and it will be clear from the description which follows that this davit is suitable for many types of vessels as well as for tankers and bulk-carriers. As a matter of course, said davits can be mounted in places not covered by normal hoisting gear for loading and unloading cargo, i.e. in the vicinity of the living quarters for the crew, or in the vicinity of the life boats. They meet all requirements, that is to say, they are neither too high nor too low, are capable of carrying relatively heavy loads and of taking up lateral forces, have a long radius or outreach of say 15–22 feet, are easy to handle, are not too great an encumbrance, and are relatively cheap. Preferably, two davits are provided, one on port and one on starboard.

The invention will next be described with reference to the accompanying drawing in which:

Fig. 1 is a somewhat diagrammatic side elevational view of the rear portion of a vessel provided with two davits according to the invention,

Fig. 2 is a plan view of said portion.

Fig. 3 is a side elevational view of the davit, on an enlarged scale,

Fig. 4 is a corresponding plan view,

Fig. 5 is a cross-section along the line V—V in Fig. 4,

Fig. 6 is a sectional view corresponding to Fig. 4, and

Fig. 7 is a sectional view corresponding to Fig. 5.

Referring to Figs. 1 and 2, the bridge of the vessel is designated by 6, the smoke stack by 7, the life boats by 8, the engine room and the engine hatchway by 9, the magazines and stores by 10, 10, the warping and other deck engines by 11, the two davits designed in accordance with the invention by 12 and 13, respectively.

Both davits cover two hatches 14 and 15. Furthermore, the starboard davit 12 covers the starboard door 16, and the port davit 13 covers the port door 17 of the engine hatchway 9.

The skylight cover of the engine hatchway is designated by 20. Mounted close to the top of this hatchway is a travelling runway 21 for a trolley which is not shown. Loads can be hoisted through one of the doors 16, 17, by the corresponding davit to be conveyed, for instance, to a wharf, or to a selected place on deck.

It will be understood that in most cases the height of the davit should not exceed the vertical distance between two adjacent decks, and also, that said height should somewhat exceed man's height, as illustrated in Fig. 3. Furthermore, the spindle of the davit should not extend below the deck to which the davit is secured.

Said requirements are met by the davit illustrated in Figs. 3–7. This davit comprises a hollow, cylindrical sheathlike foot 22 bolted to the deck 23. Rotatably mounted in suitable lower and upper bearings 24 and 25 within said foot is the hollow, downwardly tapering vertical spindle 26 of the davit arm, whose overhanging portion or horizontal boom 27 is substantially straight and extends at approximately right angles to the spindle. Said portion 27 also tapers in outward direction and is square in cross-section, as shown in Fig. 5.

Secured to and concentric with the spindle 26 between bearings 24 and 25 is a worm wheel 28 meshing with a worm 29 whose shaft is rotatably mounted in bearings secured to the foot 22. The inner diameter of bearing 25 is greater than the outer diameter of worm wheel 28. Said shaft has a square end 31 adapted to receive a crank handle 30 shown in dash and dot lines, by means of which the worm can be manually rotated directly for slewing purposes. The other end of the worm is coupled, through reducing gearing mounted within a casing indicated by 32, to a second square 33 also adapted to receive said crank handle, so that by means of said last square the worm can be manually rotated through said reducing gearing. If desired, however, the square 33 could also be connected to a portable electric, pneumatic or hydraulic motor 34 shown in dash and dot lines, for instance, the portable motor that may be used for hoisting the life boats.

Mounted inside the hollow foot 22 and in the hollow portion 27 of the davit arm are sheaves 35, 36, 37 for guiding the hoisting rope 38. One end of said rope carries the hoisting hook 39, the other end being secured to the drum 40 of a winch secured to the foot 22. Said drum can be rotated, either manually or by means of a portable electric motor, in the same manner as described with reference to the worm shaft.

Fig. 3 still illustrates a terminal switch 41 mounted on the head of the overhanging portion 27 and arranged, in known manner, to open the circuit of the electric motor, when the latter is employed, just before the hook 39 during hoisting reaches said head. If the motor is not used, this switch may be employed simply to indicate the position of the hook.

The davit should be capable of taking up lateral forces, and with a view thereto the overhanging portion 27 should be given a rectangular cross-section. Indeed, when a load has been hoisted by the trolley on the travelling runway 21 so as to register with one of the doors 16, 17, it can only be taken over by the corresponding davit by cooperation of two crane operators so that both hoisting ropes are forced to deviate appreciably from the vertical, whereby the arm 27 of each davit is put under considerable bending stress.

What I claim is:

A davit for handling provisions, stores and similar loads, and for use on tankers, bulk carriers and such ships, comprising in combination a hollow, substantially cylindrical sheathlike foot, an arm consisting of a substantially straight and horizontal boom and a vertical spindle connected thereto, an upper bearing and a lower bearing for said spindle housed in the upper and the

lower extremities of said foot, a concentric worm wheel operatively associated with said spindle between said bearings, and a worm cooperating with said worm wheel and operatively associated with said foot, the inner diameter of the upper bearing associated with said foot being greater than the outer diameter of the worm wheel.

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