

Aug. 29, 1950

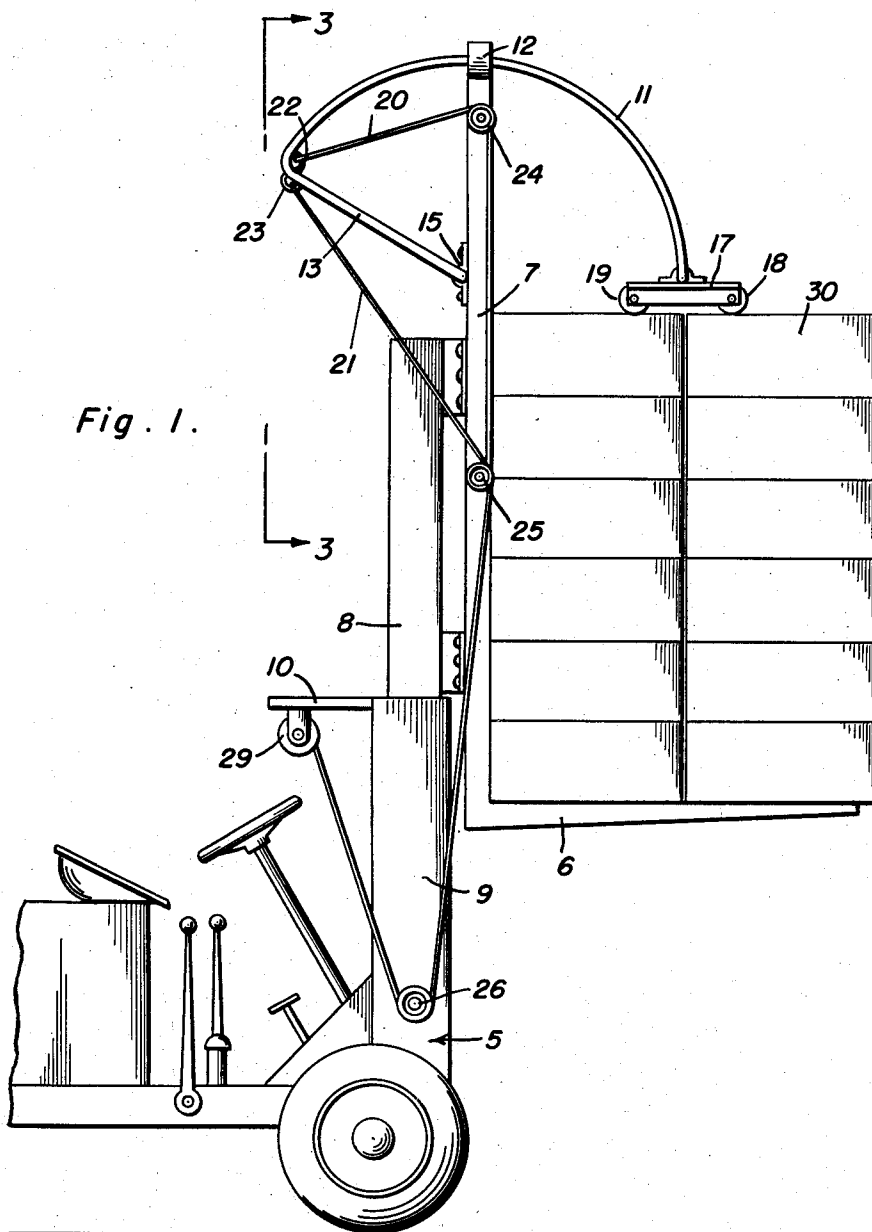
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2,520,564

LOAD HOLDING ATTACHMENT FOR INDUSTRIAL TRUCKS

Filed Nov. 8, 1948

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

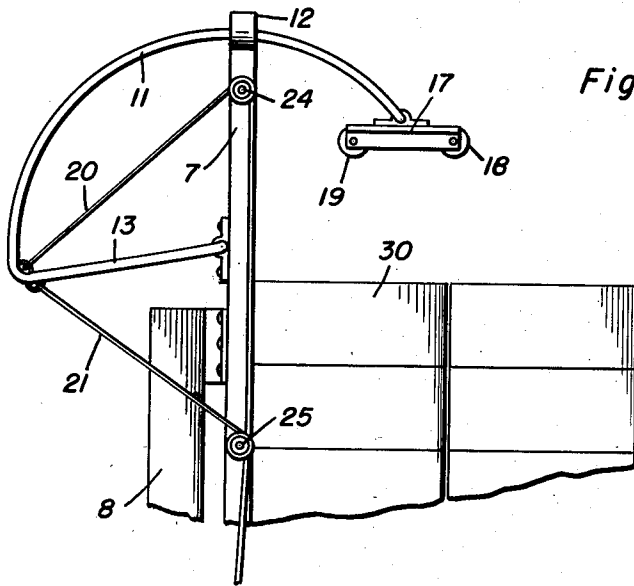


Fig. 2.

Fig. 4.

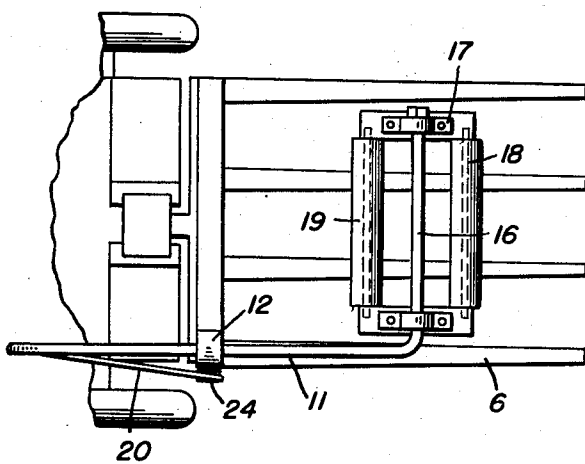


Fig. 3.

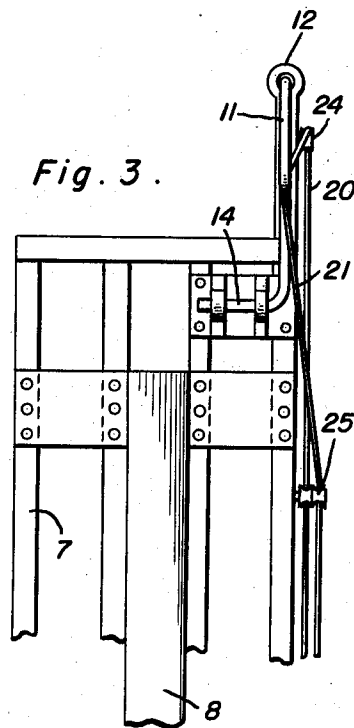
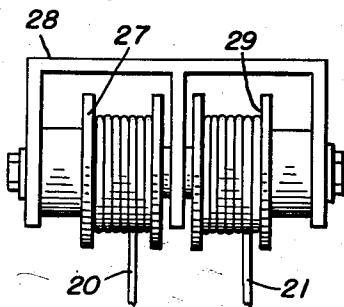


Fig. 5.



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UNITED STATES PATENT OFFICE

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LOAD HOLDING ATTACHMENT FOR INDUSTRIAL TRUCKS

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Application November 8, 1948, Serial No. 58,853

6 Claims. (Cl. 214-66)

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The present invention relates to new and useful improvements in industrial trucks and more particularly to a load holding attachment for the truck.

An important object of the invention is to provide an attachment for industrial trucks whereby a considerable number of superposed containers may be firmly held in position on the load carrying platform without danger of slipping or dislodgement of the load whereby to save the containers from damage while being handled by the trucks.

A further object of the invention is to provide a load holding clamp mounted on the frame of the load holding platform for movement into and out of position on top of the load under control of the driver of the truck and which may be easily and quickly attached in position to the truck without necessitating any changes or alterations to the construction thereof.

A still further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view showing the load holding attachment in position on the truck;

Figure 2 is a fragmentary side elevational view showing the load holding clamp in a raised position;

Figure 3 is a fragmentary rear elevational view;

Figure 4 is a top plan view and;

Figure 5 is an enlarged elevational view of the spring loaded drum for taking up slack in the operating cable.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention the numeral 5 designates an industrial truck of a conventional type and which includes a vertically movable load holding platform 6 having an upstanding rear frame 7 secured to a plunger 8 working in a hydraulic cylinder 9. An arm 10 extends rearwardly from the upper portion of cylinder 9.

The load holding attachment forming the subject matter of the present invention comprises an arcuate clamping arm 11 slidable in a guide 12

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supported in an upstanding position at the top of frame 7, the rear end of arcuate clamping arm 11 being formed with an inwardly extending supporting arm 13 having a horizontal shaft 14 at its inner end journaled in a bearing bracket 15 secured to the frame 7.

The front end of arcuate arm 11 is formed with the transversely extending horizontal bar 16 on which a roller frame is rockably supported and in which front and rear clamping rollers 18 and 19 are journaled in a position transversely with respect to platform 6.

A pair of ropes or cables 20 and 21 have their upper ends attached respectively to eyes 22 and 23 at the rear portion of arcuate arm 11, the cable 20 extending forwardly over an upper pulley 24 journaled at the upper side portion of frame 7 and downwardly at the front of a double pulley 25 also journaled at the side of frame 7 and under a lower double pulley journaled at the lower portion of cylinder 9. The cable 20 extends upwardly from the lower pulley 26 to a spring loaded drum 27 journaled in a bracket 28 suitably secured to the underside of arm 10.

The cable 21 extends downwardly from the rear end of arcuate arm 11 in a forward direction and also around double pulleys 25 and 26 for attaching to a second spring loaded drum 29 also journaled in bracket 28.

In the operation of the device after a load of boxes or containers 30 have been placed on lift platform 6 in a superposed relation the lower portion of cable 20 in the region of drum 27 is pulled by the operator of the truck whereby to swing clamping arm 11 forwardly and downwardly to clamp rollers 18 and 19 against the top of the load and thus firmly hold the load on the platform 6.

When the load is to be released for unloading, the cable 21 is pulled which raises the arm 11 and rollers 18 and 19 into the position shown in Figure 2 and the truck may then be unloaded.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the construction, operation and advantages of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

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Having described the invention, what is claimed as new is:

1. In combination, an industrial truck including a vertically movable load carrying platform having an upstanding frame, a guide carried by the frame, an arcuate arm slidable in the guide and having a load clamping end, means pivotally connecting the arm to the frame for sliding into and out of clamping engagement with a load carried by the platform, and flexible means connected to the arm for oppositely actuating the same.

2. In combination, an industrial truck including a vertically movable load carrying platform having an upstanding frame, an arcuate arm pivotally and slidably supported on the frame for movement of one end of the arm into and out of load clamping position, and flexible means connected to the arm for actuating the same.

3. In combination, an industrial truck including a vertically movable load carrying platform having an upstanding frame, an arcuate arm pivotally and slidably supported on the frame for movement of one end of the arm into and out of load clamping position, flexible actuating means for the arm including pull cables.

4. In combination, an industrial truck including a load carrying platform having an upstand-

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ing frame, a guide on top of said frame, an arcuate arm having a load clamping member on one end thereof and being slidable in said guide in an arcuate path in opposite directions to move said member into and out of load clamping positions, respectively, and cable means for sliding said arm in opposite directions.

5. The combination according to claim 4, wherein said cable means comprises a pair of cables fixed to the other end of said arm and operative to slide said arm in opposite directions.

6. The combination according to claim 4, wherein said arm is pivotally mounted on said frame for sliding in said arcuate path.

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