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2,414,447

OIL DRUM UNLOADING DEVICE

Filed Dec. 18, 1944

3 Sheets-Sheet 1

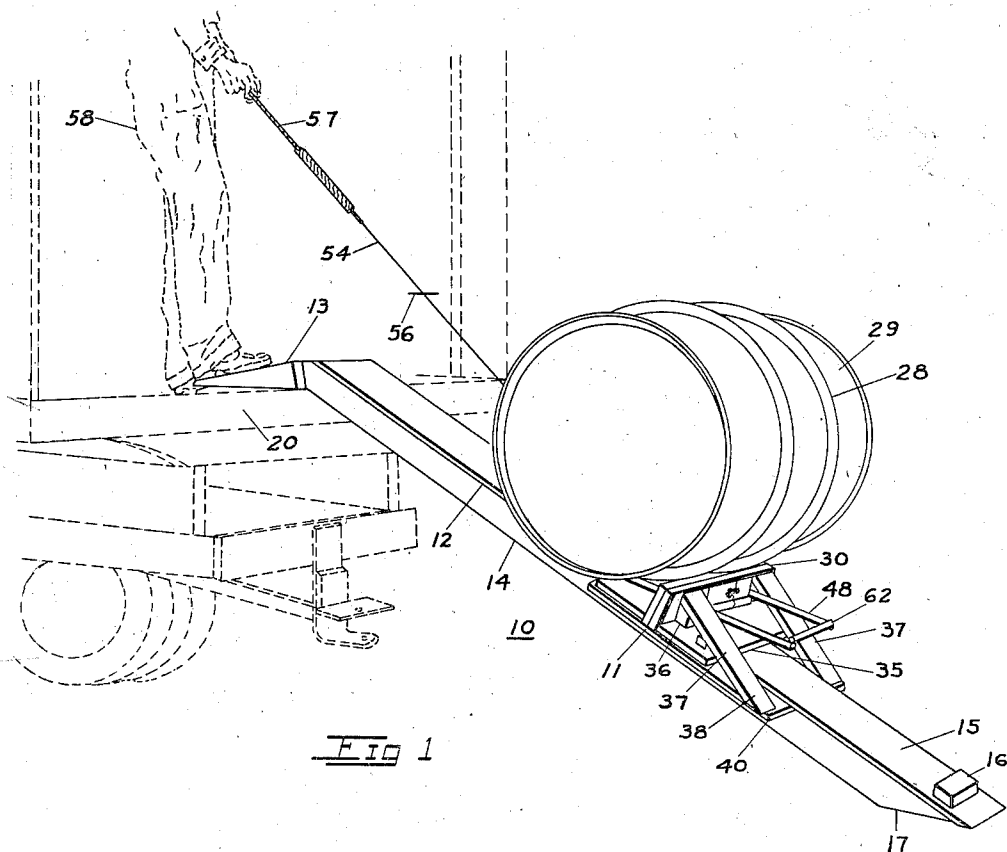


FIG 1

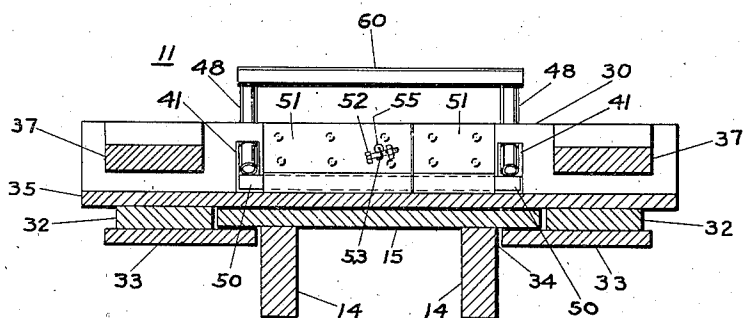


FIG 4

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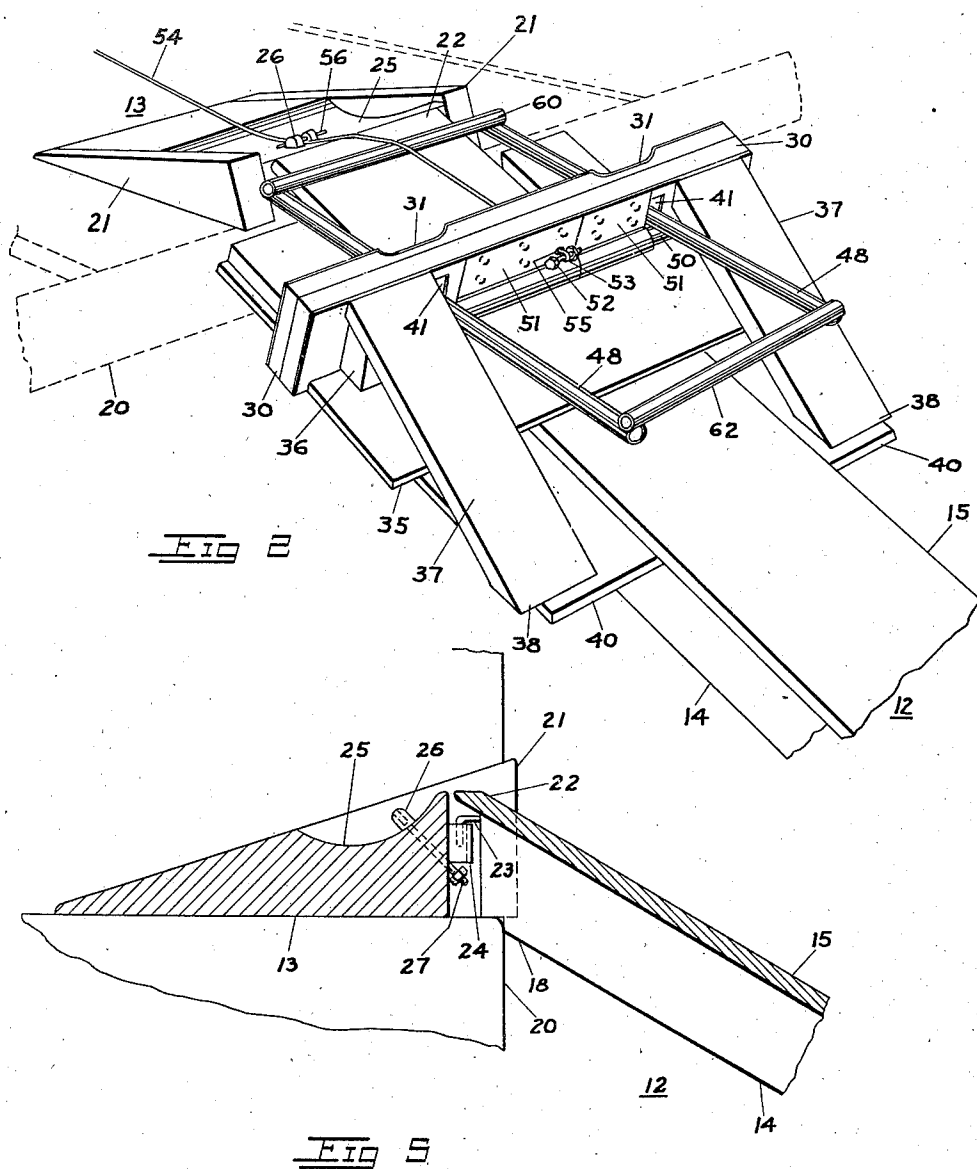
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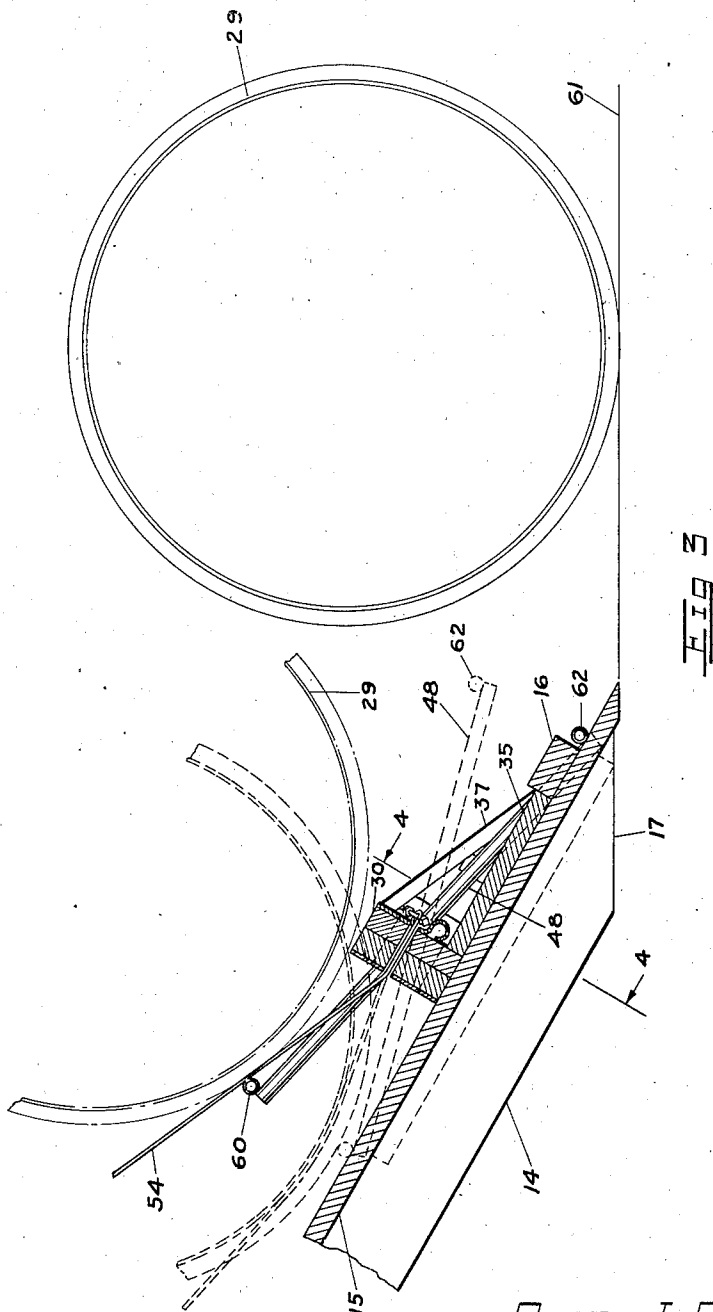


FIG. 3

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UNITED STATES PATENT OFFICE

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OIL DRUM UNLOADING DEVICE

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Application December 18, 1944, Serial No. 563,740

4 Claims. (Cl. 214—100)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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This invention relates to an oil drum unloading device which has for an object to provide an improved oil drum or barrel unloading device, particularly intended for unloading cylindrical objects such as drums or barrels from the end of a truck or door of a freight car or other vehicle to the ground, and vice versa may likewise be used in loading such objects from the ground to the vehicle.

A further object of this invention is to provide a drum unloading device which is labor and time-saving and may be operated by a single individual for unloading the drum from the vehicle or other elevated platform to the ground.

A still further object of this invention is to provide a drum unloading device including a slide along which the drum moves from the elevated platform to the ground, wherein the drum on the slide is at all times under the control of the operator and can be stopped and maintained at any position along the slide, whenever necessary.

With the foregoing and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth, claimed and illustrated in the drawings in which:

Fig. 1 is a perspective view of the invention in use.

Fig. 2 is a perspective view of the drum unloader ready to receive a drum for unloading.

Fig. 3 is a sectional view showing the drum carriage in the process of discharging a drum at the bottom of the bed.

Fig. 4 is a sectional view on line 4—4 of Fig. 3, and

Fig. 5 is a sectional view through the top of the slide and the tapered carriage loading board.

There is shown at 10 the oil loading device of this invention, consisting of a drum carriage 11, a carriage bed 12 and a drum loading tapered board 13. The carriage bed 12 consists of a pair of girder boards 14 on which is mounted a bed board 15, the girder boards 14 being spaced inwardly from the edges of the bed board 15, as shown. The lower end of the bed board 15 is provided with a chock 16 and the lower ends of the girder boards 14 are beveled, as shown at 17, so as to provide a level support for the lower end of the bed 12 when its upper end 18 is resting on the end 20 of an elevated platform such as a truck or other vehicle.

The drum loading tapered board 13 is placed near the end 20 of the elevated platform and cooperates with the bed board 15. This tapered board 13 is cut between its thick rear ends 21 so as to provide a recess for the bed board 15 to have its end 22 extend therebetween, the bed board end 22 being provided on the bottom with a hook 23 adapted to cooperate with an eye 24

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mounted on the tapered board 13. The tapered board 13 is also recessed as at 25 and in this recess 25 there is provided a slotted cable hook 26 secured thereto by a bolt and nut 27. If the end 20 of the platform or truck is provided with gate holes, the hook 23 may be dropped in one of such gate holes instead, if desired.

The carriage 11 consists of a crossblock 30 which may be provided with recesses 31 at one edge to cooperate with the ribs 28 of a drum 29. Secured to the bottom of the crossblock 30 are a pair of guide blocks 32 which extend lengthwise on either side of the crossblock 30 and are slightly thicker than the bed board 15. Secured to the bottom of the guide blocks 32 are slide boards 33 having inwardly extending edges 34 which extend under the edges of the bed board 15 and thus insure that the carriage 11 will remain on the bed 12. A bumper crossboard 35 is secured across the guide blocks 32 on the lower or discharge side of the crossblock 30. Secured on blocks 36 above the bumper board 35 are a pair of discharge boards 37 whose lower ends 38 are fastened to the extended ends 40 of the slide boards 33. Extending through vertical slots 41 in the crossblock 30 is a lever 42 shaped like a squared 8 and having a fulcrumed shaft 50 pivoted in a pair of hinge plates 51 secured to the discharge side of the crossblock 30. Also mounted on one of the hinge plates 51 is a crosspin 52 adapted to receive the end 53 of a wire cable 54 which extends through a hole 55 in the crossblock 30. This wire cable 54 is provided with a second crosspin 56 at such a distance from its end 53 that it will cooperate with the cabled hook 26 in the recess 25 of tapered board 13 when the carriage 11 is at the upper end of the bed 12. Secured to the other end of the wire cable 54 is a handling line 57 for an operator 58.

In operation, when unloading, the bed 12 is placed in cooperative position with the tapered board 13, as shown in Fig. 2, with the wire cable 54 extending over the upper crossbar 60 of lever 48 and the crosspin 56 is hooked behind the cable hook 26. The drum 29 is then rolled up the tapered board 13 on to the carriage 11 and rests between the lever crossbar 60 and the crossblock 30. The operator 58 then picks up the handling line 57 and lifts the crosspin 56 away from the hook 26, permitting the carriage 11 to slide down the bed board 15, which has been previously greased. If necessary, he will have to push forward on the drum 29 and apply a slight pressure to start the carriage into motion. He then pays out the handling line 57 and permits the carriage 11 to approach the lower end of the bed at such a speed that he can ease it to a stop if necessary. When the carriage 11 approaches the lower end of the bed 12, the bumper board 35 will strike the chock 16 and the speed

of the bed 12 should be such that the sudden stop plus the slight lifting pressure of the wire cable 54, as apparent in Fig. 3, will cause the drum 29 to ride over the crossblock 30 and down the discharge boards 37 to the ground 61. If the bumper board 35 does not hit the chock 16 with sufficient speed, either the carriage 11 may be pulled up a bit and then released at a greater speed, or the lower crossbar 62 of lever 48 may be displaced, preferably by a long stick and not by the operator's foot, so as to avoid the danger of the drum injuring the operator.

The device may be used for loading as well, provided the platform or truck has a loading winch as conductor to which the handling line 57 may be connected. In such a case, the drum to be loaded will be rolled manually up the discharge boards 38 until it is over the crossblock 30 and then the winch is operated to pull the carriage and drum up the carriage bed until it reaches the top of the platform.

Other modifications and changes in the number and arrangement of the parts may be made by those skilled in the art without departing from the nature of this invention, within the scope of what is hereinafter claimed.

The invention herein described and claimed may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What is claimed is:

1. A drum or barrel loading and unloading device comprising a carriage bed adapted to extend between an elevated surface and a lower surface, a tapered approach board adapted to be placed on the elevated surface in cooperation with said carriage bed and a drum-carrying carriage movable over said carriage bed between the elevated surface and the lower surface, a handling line secured to said carriage for controlling the movement of said carriage over said bed, said tapered approach board being centrally recessed, a cable-engaging hook countersunk in said recess and a cross-pin in said handling line adapted to cooperate with said hook to hold said carriage in drum-receiving position at the upper surface end of said carriage board.

2. A drum or barrel loading and unloading device comprising a carriage bed adapted to extend between an elevated surface and a lower surface, a tapered approach board adapted to be placed on the elevated surface in cooperation with said carriage bed and a drum-carrying carriage movable over said carriage bed between the elevated surface and the lower surface, said carriage bed comprising a bed board and a pair of girder boards secured to said bed board along its lower surface and spaced inwardly from its side edges, said girder boards being beveled at their lower ends to cooperate with the lower surface.

3. A drum or barrel loading and unloading device comprising a carriage bed adapted to extend between an elevated surface and a lower surface, a tapered approach board adapted to be placed on the elevated surface in cooperation with said carriage bed and a drum-carrying carriage movable over said carriage bed between the elevated surface and the lower surface, said carriage bed comprising a bed board and a pair of girder boards secured to said bed board along its lower surface and spaced inwardly from its side edges,

a bumper block on said carriage bed board adjacent its lower end, said drum-carrying carriage comprising a crossblock adapted to extend across said bed board, a pair of guide blocks secured to the bottom of said crossblock adapted to extend along the sides of said bed board, a slide block secured to the bottom of each guide block and extending under the edges of said bed board toward said girder boards, a bumper board secured to said guide blocks on the lower surface side of said crossblock and a lever member pivotally secured to said crossblock and extending therethrough to both sides thereof, said lever member being substantially square 8 in shape, the center bar acting as a pivot, the upper bar being adapted to rest against said bed board and cooperate with said crossblock to provide a drum-receiving cradle, a pair of drum discharge boards extending between the upper edges of the lower surface side of said crossblock and the lower ends of said slide boards and a handling line extending through said crossblock for controlling the movement of said carriage over said carriage bed, said bumper board cooperating with said bumper block when meeting the sufficient speed to cause the drum to roll over said crossblock on to said discharge boards to the lower surface.

4. A drum or barrel loading and unloading device comprising a carriage bed adapted to extend between an elevated surface and a lower surface, a tapered approach board adapted to be placed on the elevated surface in cooperation with said carriage bed and a drum-carrying carriage movable over said carriage bed between the elevated surface and the lower surface, said carriage bed comprising a bed board and a pair of girder boards secured to said bed board along its lower surface and spaced inwardly from its side edges, a bumper block on said carriage bed board adjacent its lower end, said drum-carrying carriage comprising a crossblock adapted to extend across said bed board, a pair of guide blocks secured to the bottom of said crossblock adapted to extend along the sides of said bed board, a slide block secured to the bottom of each guide block and extending under the edges of said bed board toward said girder boards, a bumper board secured to said guide blocks on the lower surface side of said crossblock and a lever member pivotally secured to said crossblock and extending therethrough to both sides thereof, said lever member being substantially square 8 in shape, the center bar acting as a pivot, the upper bar being adapted to rest against said bed board and cooperate with said crossblock to provide a drum-receiving cradle, a pair of drum discharge boards extending between the upper edges of the lower surface side of said crossblock and the lower ends of said slide boards and a handling line extending through said crossblock for controlling the movement of said carriage over said carriage bed, said tapered approach board being centrally recessed, a cable-engaging hook countersunk in said recess and a crosspin in said handling line adapted to cooperate with said hook to hold said carriage in drum-receiving position at the upper surface end of said carriage board, said bumper board cooperating with said bumper block when meeting the sufficient speed to cause the drum to roll over said crossblock on to said discharge boards to the lower surface.

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