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E. S. EDWARDS

2,730,249

PACKAGE LOADER FOR TRUCKS

Filed March 8, 1952

3 Sheets-Sheet 1

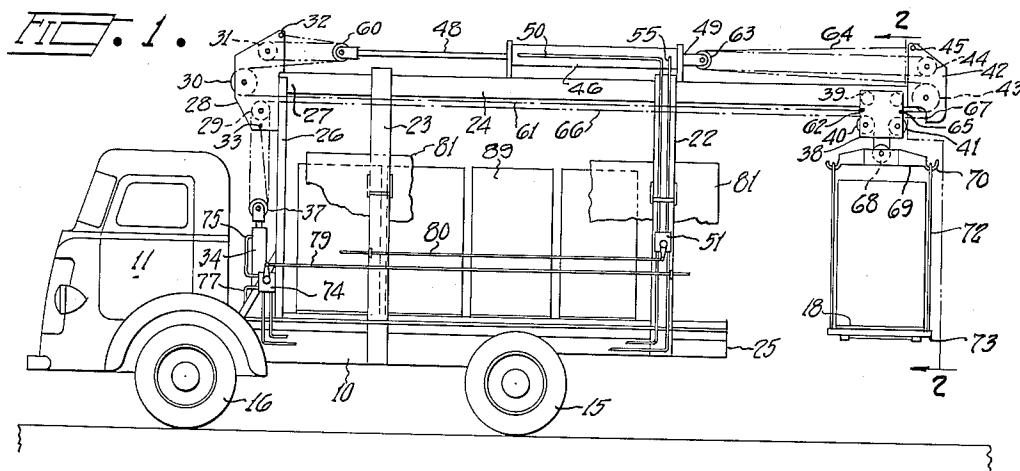


FIG. 3.

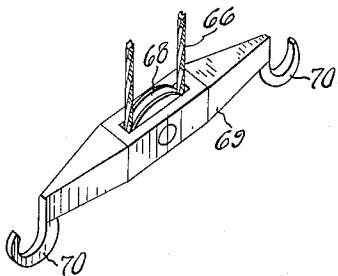


FIG. 2.

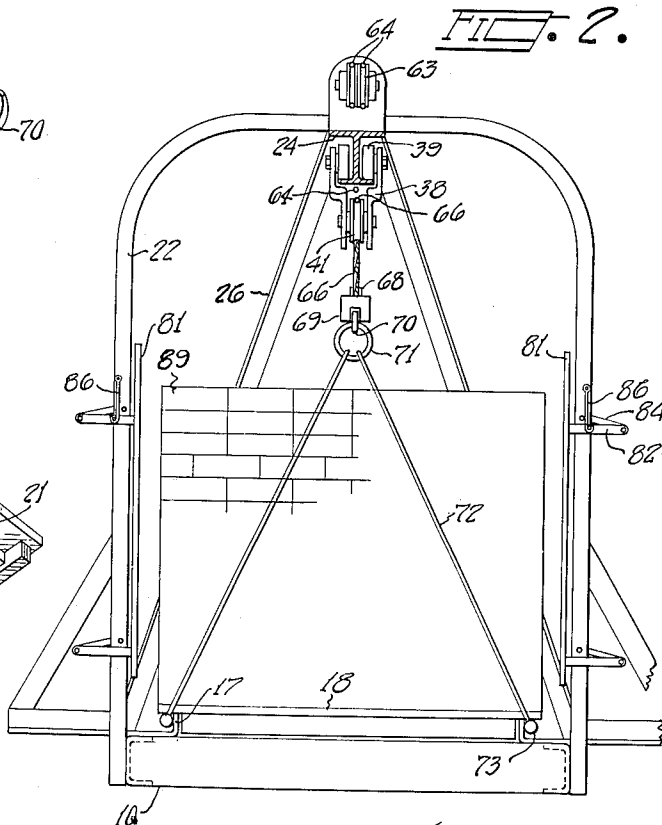
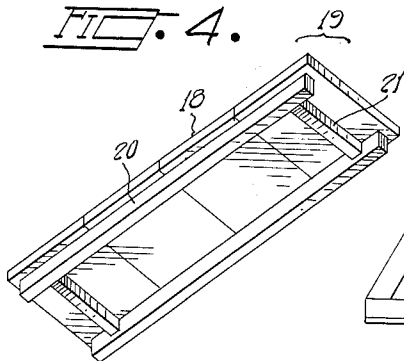


FIG. 4.



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FIG. 5.

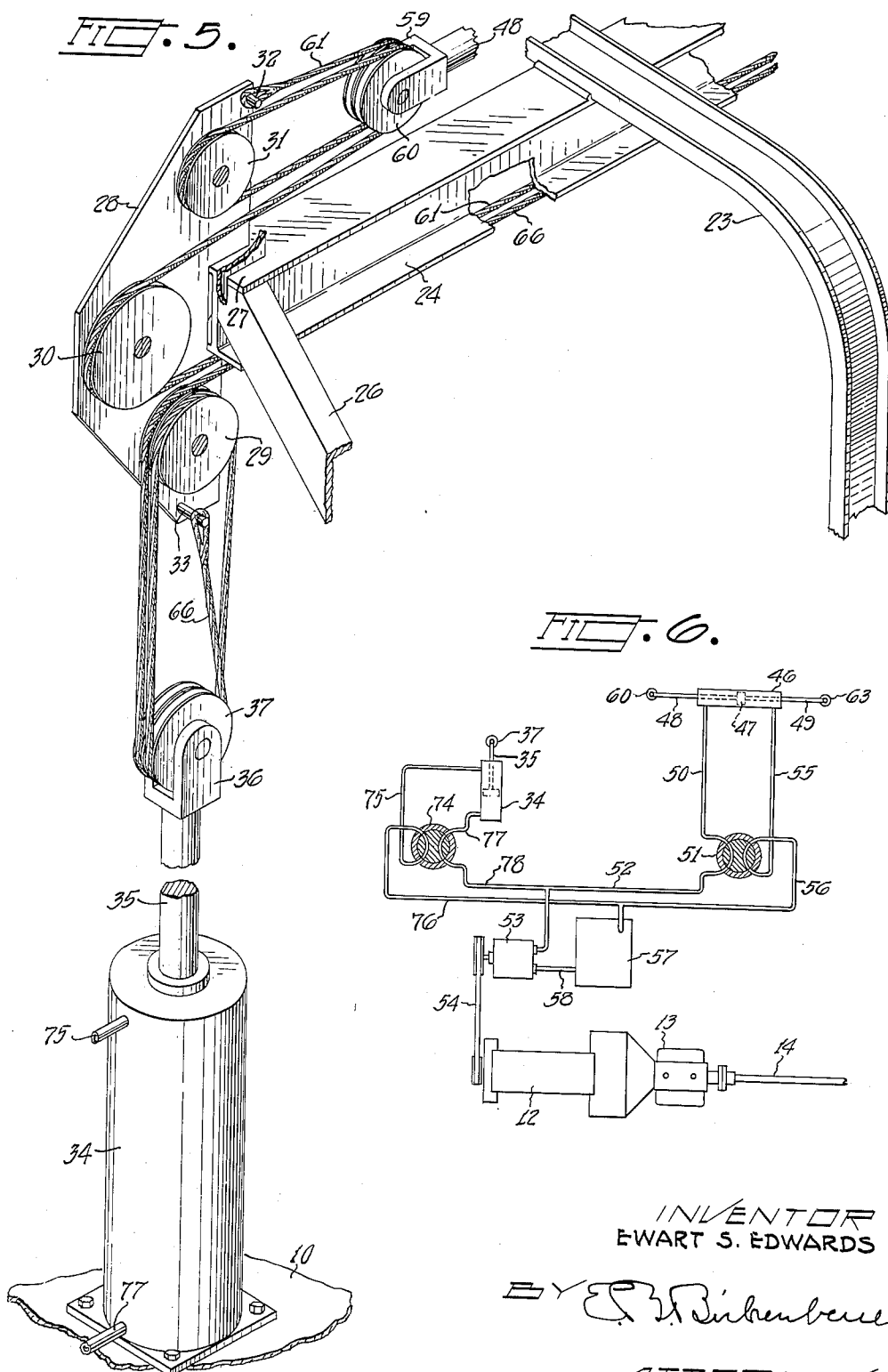
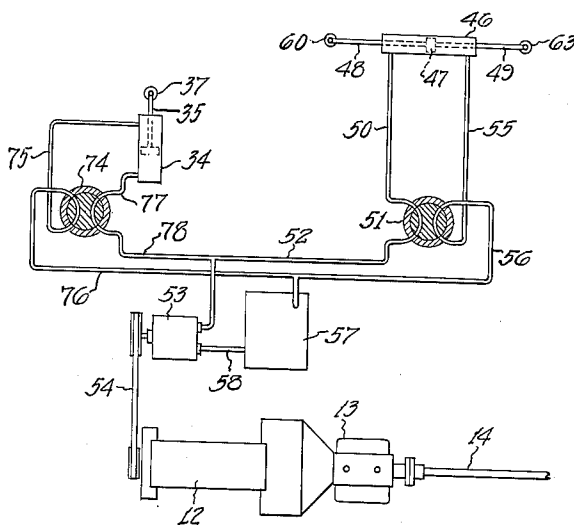


FIG. 6.



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FIG. 7.

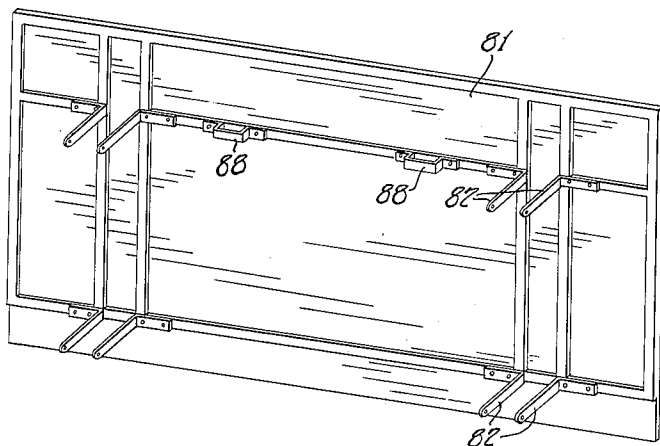


FIG. 8.

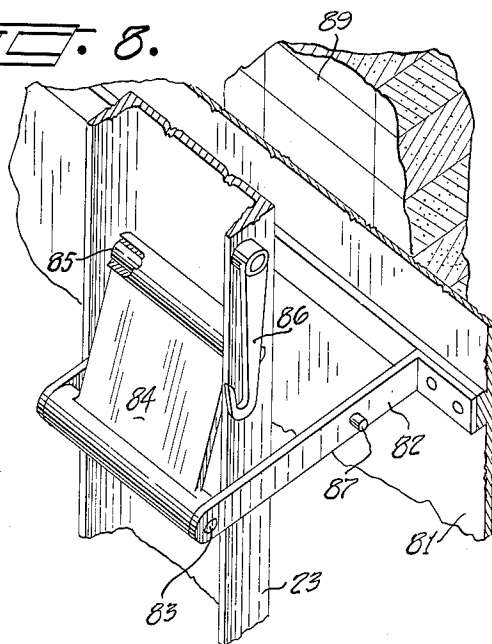
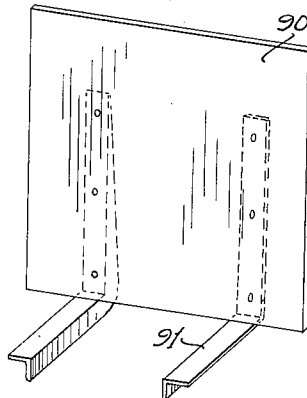


FIG. 9.



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PACKAGE LOADER FOR TRUCKS

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4 Claims. (Cl. 214—75)

This invention relates generally to transportation and particularly to a package loader for trucks of which the following is a specification.

The main object of this invention is to provide a package loader for trucks whereby quantities of brick and tile can be conveniently loaded on or unloaded from a truck, using the power of the truck therefor.

The second object is to provide a truck having an automatic take-up of the sides thereof for the purpose of preventing undue lateral movement of the truck load.

The third object is to provide a platform handling mechanism which can be raised or lowered with relation to the truck body and moved longitudinally therewith.

I accomplish these and other objects in the manner set forth in the following specification as illustrated in the accompanying drawings, in which:

Fig. 1 is a side elevation of the truck and the package loader with parts of the truck sides broken away.

Fig. 2 is a broken vertical section taken along the line 2—2 in Fig. 1.

Fig. 3 is a perspective view of the lifter yoke.

Fig. 4 is a perspective view of a platform taken from the under side.

Fig. 5 is a fragmentary perspective view of the lifter mechanism.

Fig. 6 is a diagrammatic view showing the relation of the involved elements.

Fig. 7 is a perspective side elevation of a truck side in detail.

Fig. 8 is a fragmentary perspective view of the crowd-ers and latches for the side members.

Fig. 9 is a perspective view of the endgate.

Like numbers of reference refer to the same or similar parts throughout the several views.

Referring in detail to the drawing, there is shown a truck chassis 10 on whose forward end is a cab 11 near which is disposed a truck motor 12 from which power is transferred through the gearing contained within the case 13 to the propeller shaft 14 by means of which the rear wheels 15 are driven in the conventional manner. The front wheels 16 are the same as those in common use.

On the chassis frame 10 are secured the angular rails 17 upon which are supported the decks 18 of the platform 19, the pieces of each deck 18 being secured on the sills 20 supported by the braces 21. Arched frames 22 and 23 are secured to the chassis 10 and support the eye beam track 24 which projects beyond the rear end 25 of the chassis 10. The foremost end of the track 24 is supported by the inclined braces 26. Secured to the foremost end 27 of the track 24 is a vertical plate 28 on which I have mounted a double sheave 29, a single sheave 30 and a second single sheave 31, together with the topmost anchor pin 32 and the lowermost anchor pin 33.

Secured on the chassis 10 is a hydraulic cylinder 34 on whose piston 35 is formed a fork 36 on which are mounted the double sheaves 37 which are in alignment with the sheaves 29.

On the track 24 is mounted a carriage 38 on the rollers

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39. The carriage 38 also has a pair of sheaves 40 and 41. On the end of the track 24 is an upright plate 42 which carries the large sheave 43 and a small sheave 44. On the upper end of the plate 42 is disposed an anchor 45. Mounted on the track 24 is a hydraulic cylinder 46 whose piston 47 is connected to the piston rods 48 and 49.

Oil is supplied to one end of the cylinder 46 through a pipe 50 which is controlled by a two-way valve 51 and connected with a pipe 52 communicating with the pressure side of the pump 53 which is driven through the belt 54 from the motor 12. The opposite end of the cylinder 46 is connected by means of a pipe 55 to the valve 51 and by a pipe 56 from the valve 51 to the oil tank 57 from which a return pipe 58 is connected to the intake of the pump 53.

On the piston rod 48 is a fork 59 on which are mounted the double sheaves 60. A line 61 secured to the anchor pin 32 passes around the double sheaves 60 and the single sheave 31, then around the sheave 30 to an anchor point 62 on the carriage 38.

On the rod 49 is mounted a pair of sheaves 63. The line 64 is attached to the anchor 45, passes around the sheaves 63 and 44, then around the sheave 43 to the anchor 65 on the carriage 38.

A line 66 is attached to the anchor 67 on the plate 42 and thence passes over the sheave 41, under the sheave 68, over sheave 40, around the double sheaves 29 and 37 and terminates at the anchor pin 33. The sheave 68 is mounted in the center of a yoke 69 having upturned hooks 70 on the outer ends thereof. Each hook 70 can receive a ring 71 from the sling 72, the lower ends of which are attached to the rods 73 which engage the under side of a deck 18.

The flow of oil to the cylinder 34 is controlled by a valve 74 through which communication is afforded between the top end of the cylinder 34 and the pipe 56 by means of the pipes 75 and 76. The lower end of the cylinder 34 is connected to the pipe 52 through the valve 74 by means of the pipes 77 and 78.

For the purpose of illustration, the valve 74 is shown at the forward end of the truck, while the valve 51 is shown at the rearward end and actuator rods 79 and 80 therefor are indicated as extending along the length of the truck side in order to make the valves operable from any position along the truck side.

In Figs. 2, 7 and 8 are shown the means for eliminating lateral movement on the part of the load. In Fig. 7 is shown a truck side 81 having guiding forks 82 projecting outwardly therefrom and guiding on the frames 22 and 23. On the outer ends of the forks 82 is mounted the pin 83 of the double hinge 84 whose pin 85 is mounted in the frames 22 and 23. On the side of the frame 23 is pivoted a hook 86 adapted to engage a pin 87 on the guiding forks 82 so that when the entire side 81 is raised by means of the handles 88 and swung outwardly on the hinges 84, then the weight of the side walls 81 will be carried by the hooks 86 and the side walls 81 be held outwardly against the frames 22 and 23.

The purpose of this construction is to facilitate the loading of the truck and permit the final take-up of the clearance between the load and the side walls which is accomplished by merely releasing the hooks 86 and permitting the walls 81 to descend under their own weight and crowd against the load of bricks 89.

In Fig. 9 is shown an endgate 90 having the right angle members 91 attached thereto. These are of angular cross section and their purpose is to permit sliding them under the last platform of bricks loaded on the truck so that as the weight is lowered upon the members 91, the endgate 90 is held rigidly in place against the load.

The operation of the device is as follows:

When it is desired to load a platform 19 with its load

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89 upon the truck, the slings 72 are put in place with relation to the platform 19 and the yoke 69 and pressure admitted to the cylinder 34, causing a downward pull on the piston rod 35 and the overhauling of the line 66 with the resulting elevation of the load to the position shown in Fig. 1. Now, if the pressure is admitted to the cylinder 46 causing its rod 48 to move rearwardly, it will move the carriage 38 forwardly until the desired position on the truck is reached where it can be stopped and lowered by a movement of the cylinder 34 through its rod 35.

This operation is repeated until the load is completed and, before the last platform is lowered, the endgate 90 is put into place and the lowering of that portion of the load will hold the endgate in place. The side members 81 are then lowered from the position shown in Fig. 2 to the position shown in Fig. 8, thereby holding the load against lateral movement.

It must be borne in mind that numerous variations of mechanical elements may be employed to accomplish the same or similar results. It is, therefore, not my intention to be limited to this precise construction but I do intend to cover all such forms and modifications of the device as fall fairly within the appended claims.

I claim:

1. A package loader for trucks having in combination a vehicle, a deck having laterally movable sides, a track over the center of the truck and projecting from the rear end thereof, a carriage mounted on said track, a platform supported by said carriage, means for elevating a load above the top of said deck, and an endgate having horizontal members projecting under the rearmost portion of the load which may be placed on said deck.

2. In a package loader for trucks, the combination of a vehicle including a load supporting deck and having laterally movable sides including means for crowding said side walls inwardly against the load and an endgate having horizontal projections extending under the load and held thereby, whereby the endgate is held against said load.

3. In a truck, a deck, upstanding side frame members having upper portions extending transversely across said deck in an elevated position thereabove, a longitudinal track supported by said frame members above said deck

and projecting rearwardly therebeyond, a carriage on said track, load carrying and lifting means supported by said carriage, hinge arms pivotally mounted on said frame members to swing transversely of the truck, and side walls pivotally mounted on said hinge arms for gravity movement from a predetermined raised position downward and laterally inward toward the center of the truck, the weight of said movable side walls exerting a clamping pressure against opposite sides of a load of predetermined width on said deck.

4. In a truck, a deck, upstanding side frame members having upper portions extending transversely across said deck in an elevated position thereabove, a longitudinal track supported by said frame members above said deck and projecting rearwardly therebeyond, a carriage on said track, load carrying and lifting means supported by said carriage, front and rear upper and lower hinge arms pivotally mounted on said frame members to swing transversely of the truck, side walls pivotally mounted on said hinge arms for gravity movement from a predetermined raised position downward and laterally inward toward the center of the truck, the weight of said movable side walls exerting a clamping pressure against opposite sides of a load of predetermined width on said deck, and hooks on said frame members arranged to hold said side walls in said predetermined raised position while said deck is being loaded by said carriage.

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