

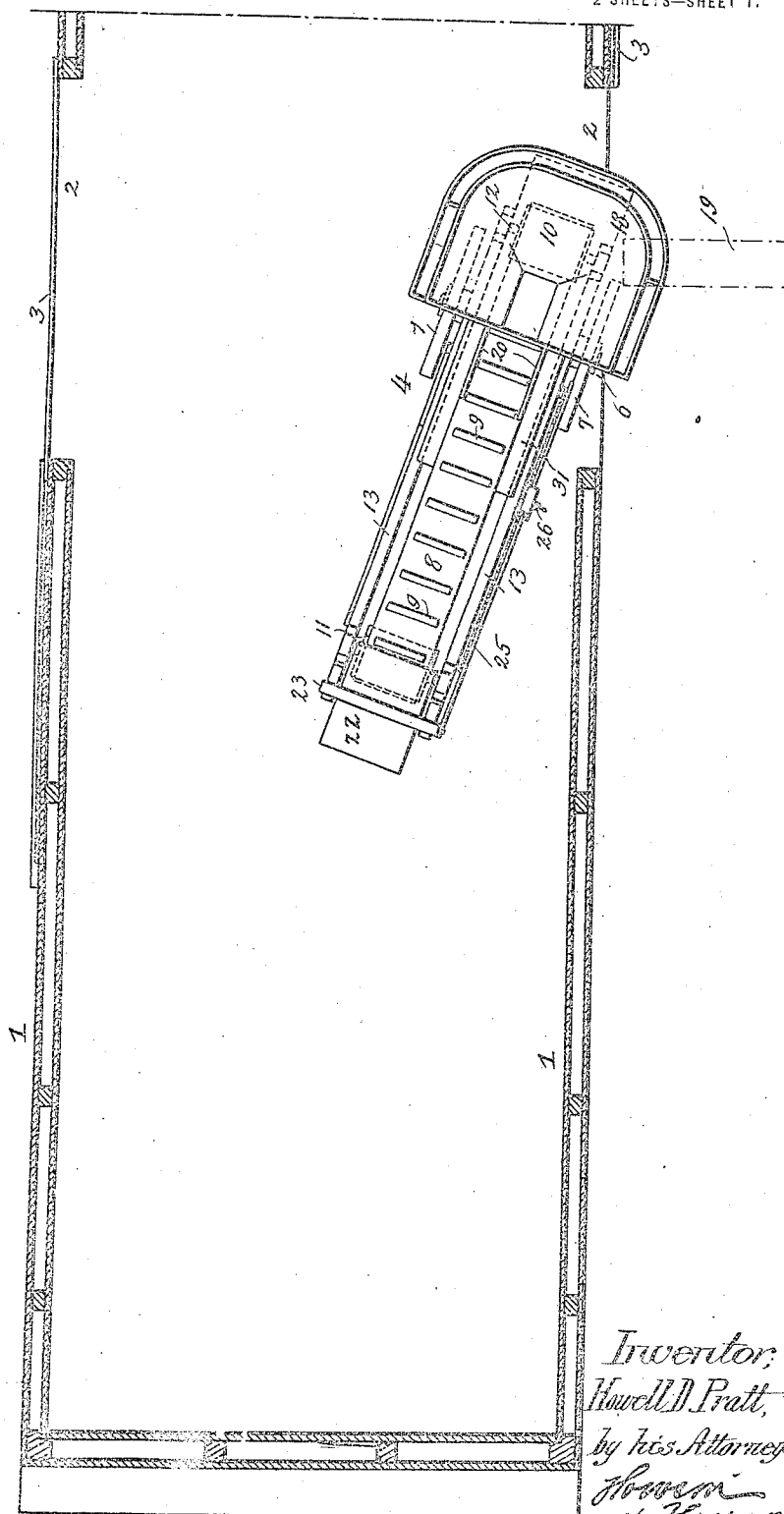
1,381,009.

H. D. PRATT.
BOX CAR LOADER.
APPLICATION FILED DEC. 24, 1917.

Patented June 7, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

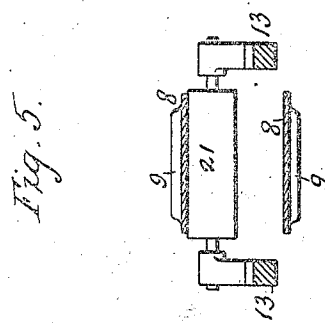
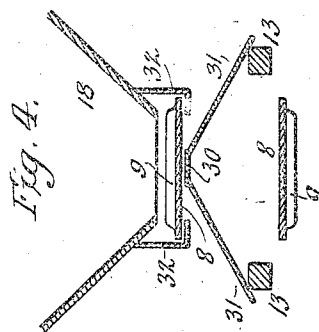
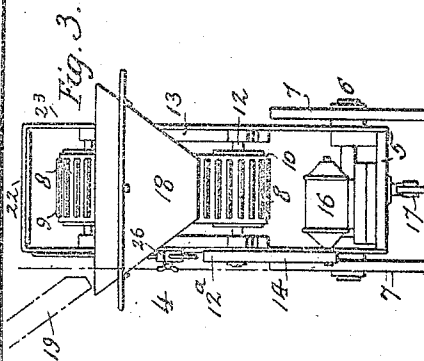
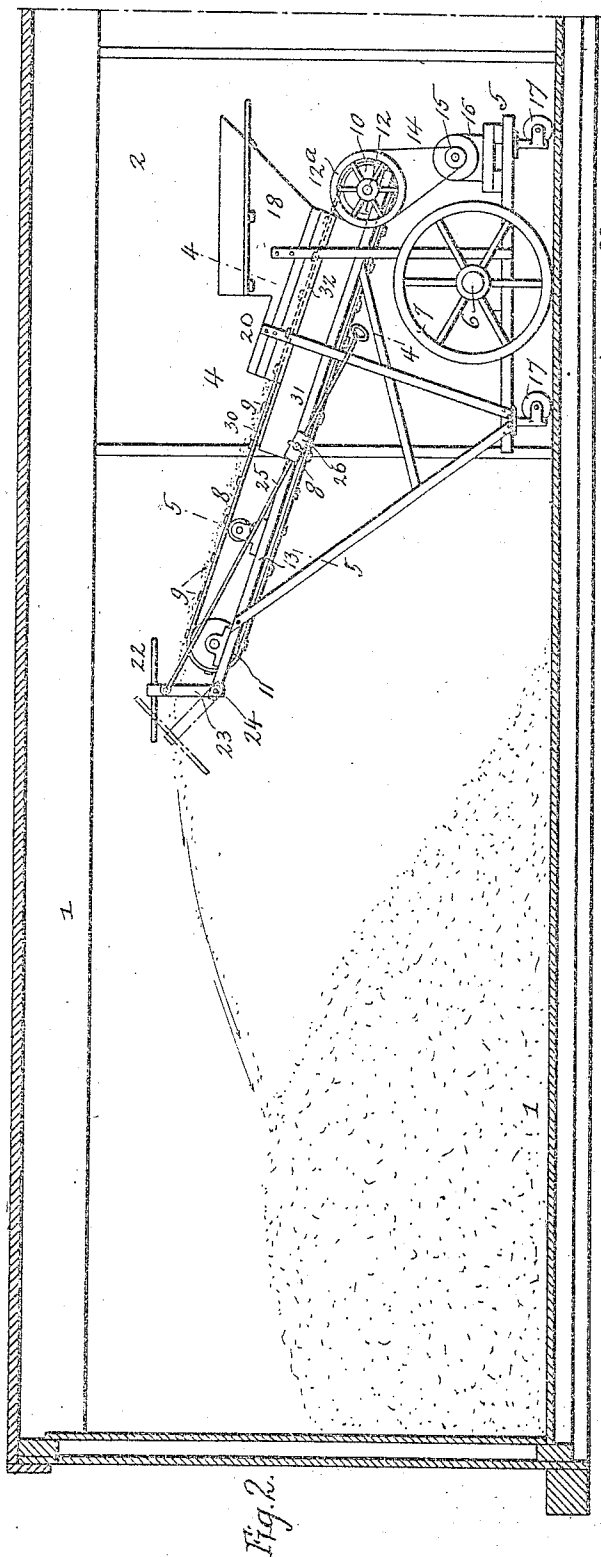


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H. D. Pratt
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2 SHEETS—SHEET 2.



Inventor,
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UNITED STATES PATENT OFFICE.

HOWELL D. PRATT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO LINK-BELT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BOX-CAR LOADER.

1,331,009.

Specification of Letters Patent.

Patented June 7, 1921.

Application filed December 24, 1917. Serial No. 208,644.

To all whom it may concern:

Be it known that I, HOWELL D. PRATT, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Box-Car Loaders, of which the following is a specification.

One object of my invention is to construct a portable device for loading box cars with granular material so that it can be mounted on the floor of a car and shifted to any angle desired to discharge its load to the extreme ends of the car, or to any other point within the car.

A further object of the invention is to provide means for discharging the material to any point within the car by controlling the speed of the belt.

A still further object of the invention is to mount the driving motor on the device so that the device can be shifted without interfering with the driving mechanism.

A still further object of the invention is to design the device so that the hopper will project beyond the sides of the car at the door opening to receive material from an outside chute at any position of the belt.

In the accompanying drawings:—

Figure 1, is a sectional plan view of one half of a box car showing the loader in position to discharge material toward the left hand end of the car;

Fig. 2, is a sectional elevation of the car showing the loader in position;

Fig. 3, is an end view of my improved loader;

Fig. 4, is a sectional view on the line 4—4, Fig. 2; and

Fig. 5, is a sectional view on the line 5—5, Fig. 2.

Referring to the drawings, 1 is a box car of the ordinary type, having central openings 2, 2 closed by doors 3, 3. 4 is my improved box car loader, consisting of a platform 5 on which are the bearings for an axle 6 for the two wheels 7, which are the main supports for the loader. At each end of the platform are pivotally mounted casters 17, and these casters act to steady the structure. By this construction, one man can readily shift the loader to any position desired and can roll it into and out of the car.

8 is a belt conveyer having cleats 9, in the present instance, and the conveyer passes around wheels 10 and 11, the wheel 10 being mounted on a driven shaft 12. Both shafts

are adapted to boxes carried by a frame 13, of any suitable construction, the frame being light and substantial. On the shaft 12 is a pulley 12^a around which passes a belt 14 from a pulley 15 on the shaft of a motor 16, the motor being mounted on the platform 5. Ordinary means are provided for regulating the speed of the motor so that the belt can be driven at any speed desired. The conveyer is inclined, as shown, and directly above the lower end of the conveyer is a hopper 18, preferably curved at the rear, as shown in the plan view, Fig. 1, and of such a size that it will project beyond the line of the car so that it can receive material from a chute 19, shown by dotted lines in Figs. 1 and 3.

Extending from the hopper and projecting over each side of the conveyer for a certain distance are guides 20 which hold material onto the conveyer.

The conveyer belt 8 is supported, in the present instance, between the two wheels 10 and 11 by one or more rollers 21 and a longitudinal support 30 having inclined deflectors 31 which prevent any material falling onto the lower run of the belt from the hopper or upper run, and at each side of the upper run of the belt are intumed guards 32 which extend under the upper run of the belt, as shown in Fig. 4.

In order to aid in directing the material to different portions of the car, I provide a deflector 22 mounted on arms 23 pivoted at 24 to the outer end of the frame 13. Attached to one of the arms is an adjusting rod 25 having a handle which extends to a point within easy reach of the operator; the rod is held in position by any suitable means, in the present instance the rod passes through a swivel clamp 26 secured to the frame 13. By adjusting the rod 25 the deflector 22 can be moved to different angles, such as shown in dotted lines Fig. 2.

In operating my improved box car loader, if an empty car is brought to the platform, the loader is pushed into the car and the delivery end is turned toward one end of the car, as shown in Fig. 1. The hopper of the loader is located directly under a chute 19 on the outside of the car leading from an overhead bin, or other container. The material flows through this chute into the hopper and onto the inclined belt which carries the

material forward and discharges it from the outer end of the loader. The speed of the motor can be regulated so as to increase or diminish the travel of the conveyer, and thus increased or decreased the extent of travel of the material after leaving the conveyer, so that by regulating the travel of the conveyer the material can be thrown to the end of the car or to any point desired between the end of the car and the conveyer, and to facilitate the movement of the material, without materially decreasing the travel of the conveyer, I provide the deflector 22, which can be shifted so as to be clear of the material after it leaves the conveyer, or so the material will strike the deflector and will be discharged onto the floor, or onto the material directly below the end of the conveyer.

The belt 8 is run at high speed and by means of the cleats 9 material can be thrown to the end of the car; this makes possible a short belt and a comparatively light structure so that it is easy to handle. The cleats may be of various forms to suit different materials, and the speed of the belt is varied to obtain the best results for loading wet, dry or granular material.

I prefer to make the hopper rounded at the back so that, irrespective of its position, a portion of the hopper extends beyond the side of the car so as to be in position to receive material from an outside chute.

When the car has been loaded to a point where it is necessary to close a portion of the side opening, the device can be removed from the car and located on the platform with the discharge end of the conveyer projecting into the car and the balance of the car may be loaded to the level desired.

I claim:—

The combination of a portable car loader adapted to be moved bodily into a car and of such length as to be turned within a car to discharge material into the ends thereof, and a platform, wheels supporting the platform, a frame carried by the platform and an inclined conveyer frame thereon having bearings at each end and a shaft mounted in each bearing, a wheel on each shaft, an endless belt conveyer passing around the wheels and arranged to carry the material, transverse slats on the belt, a hopper directly above the lowest portion of the belt and arranged to feed material to the belt, said hopper being of greater width than the belt so as to project beyond the car body to allow material to be discharged from a chute on the outside of the car into the hopper and a support under the belt and inclined deflectors on each side of the support to prevent the material from falling onto the lower run of the conveyer belt.

In witness whereof I affix my signature.

HOWELL D. PRATT.