C. H. LISTER & J. HEIMER.

CARRIER LOADER.

APPLICATION FILED SEPT. 30, 1907.

1,050,478.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 1.

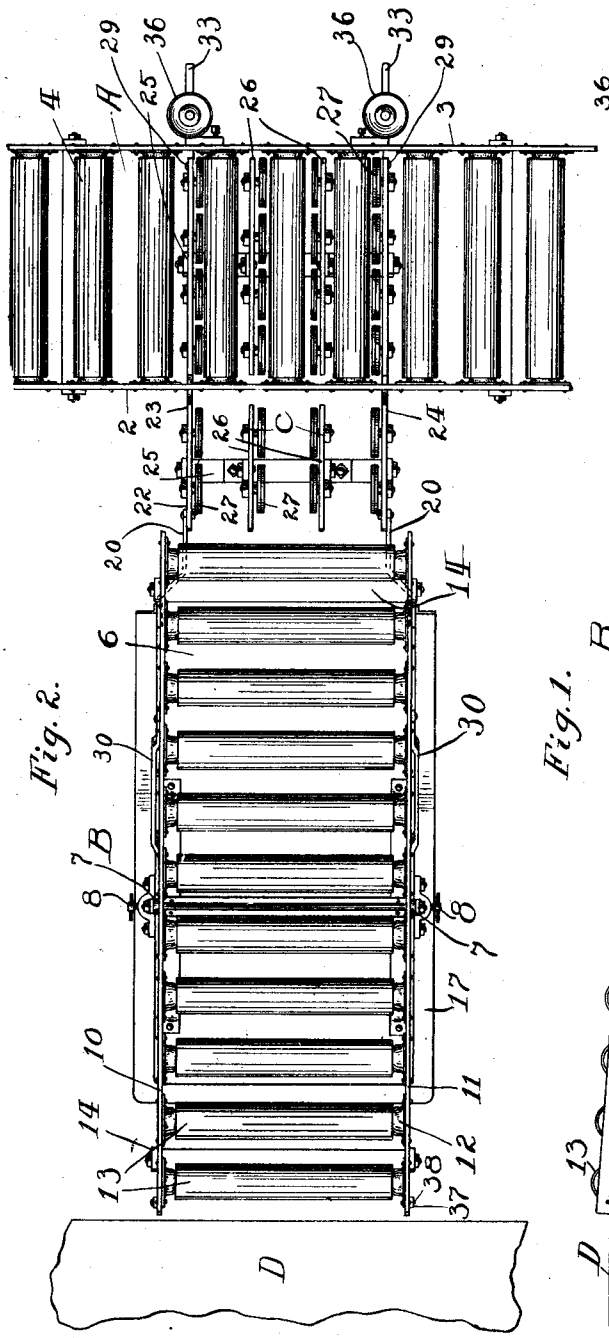

Fig. 2.

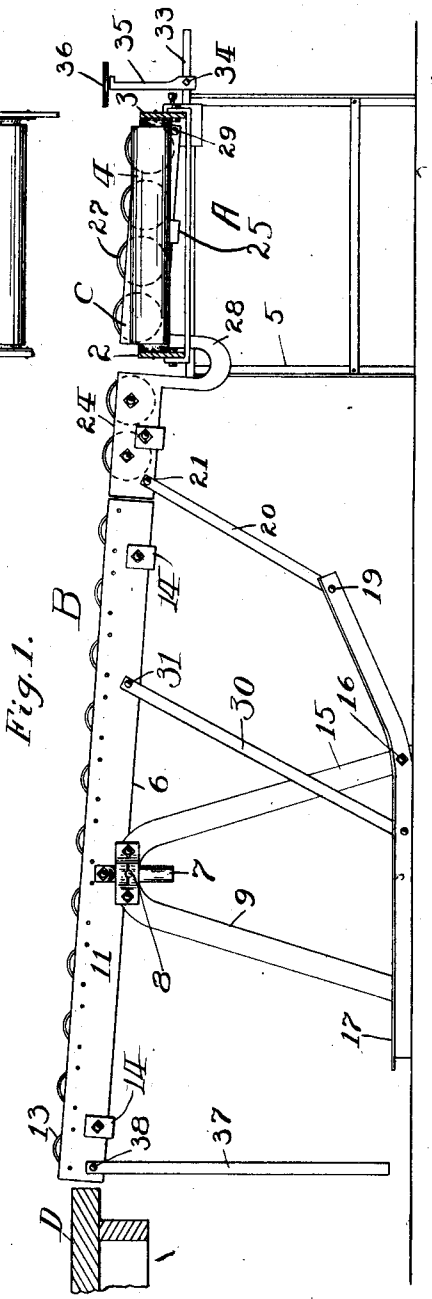

Fig. 1.

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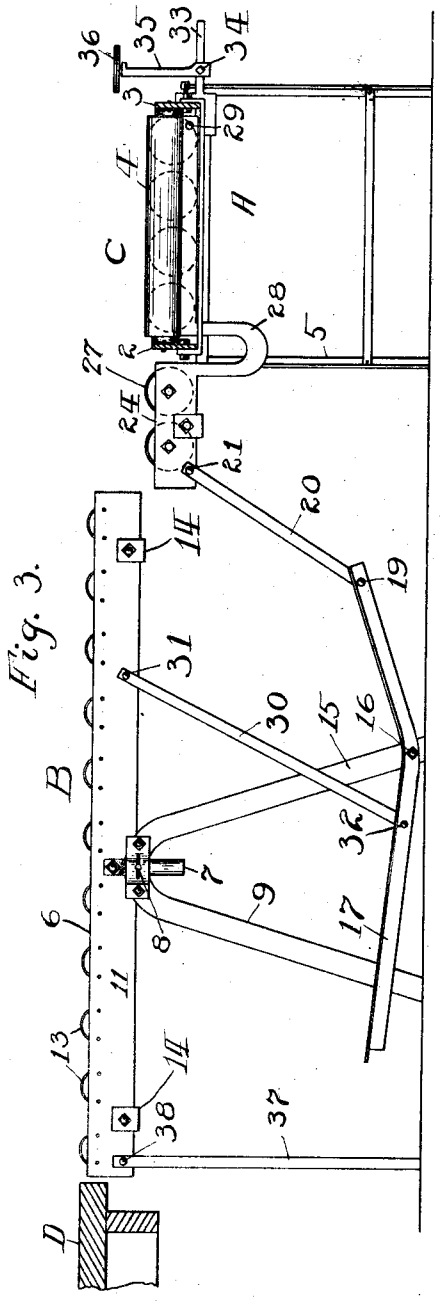

Fig. 3.

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UNITED STATES PATENT OFFICE.

CHARLES H. LISTER AND JOHN HEIMER, OF NORTH ST. PAUL, MINNESOTA, ASSIGNORS TO MINNESOTA MANUFACTURERS ASSOCIATION, A CORPORATION OF MINNESOTA.

CARRIER-LOADER.

1,050,478. Specification of Letters Patent. Patented Jan. 14, 1913.

Application filed September 30, 1907. Serial No. 395,132.

To all whom it may concern:

Be it known that we, CHARLES H. LISTER and JOHN HEIMER, citizens of the United States, residing at the village of North St. Paul, in the county of Ramsey and State of Minnesota, have jointly invented a new and useful Improvement in Carrier-Loaders, of which the following is a specification.

Our invention relates to an improved carrier loader and has for its primary object a device of its kind which is adapted for packing boxes or packages of merchandise and loading them upon a carrier.

Heretofore the operation involved has been performed by hand and the purpose of this invention is to provide a simple and inexpensive device which will accomplish these results.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of our invention; Fig. 2 is a plan view, and Fig. 3 is another side elevation showing the platform on which the articles of merchandise are packed in its normal position.

Our invention in a general way is adapted for use in connection with gravity or power carriers, a portion of such being illustrated by A in the drawings, the particular form shown being adapted to convey articles by gravity from a higher to a lower level and having a pair of side rails 2 and 3 between which anti-friction rollers 4 are suitably journaled. The side rails are supported at a suitable elevation by means of a horse 5. Adjoining this gravity carrier is our improved loader B which consists of a platform 6 adapted to remain normally in horizontal position as shown in Fig. 3 when the boxes or packages are being packed and to tilt downwardly into the position shown in Fig. 1 and automatically place or shift the articles so packed upon the carrier. The platform is pivoted substantially midway between its ends upon vertical posts 7 which are held vertically in position by set screws 8 passing through the sides of a horse 9. The platform is made up of a pair of side rails 10 and 11 upon which are suitably journaled in ball bearing sockets 12 a series of anti-friction rollers 13. The side bars 10 are tied together by means of space bars 14. The front legs 15 of the horse have pivoted thereto near their lower extremities by means of bolts 16 a foot lever 17 which is in the form of a yoke, the ends of which have attached thereto by the pivot 19 a link 20 which in turn is pivoted at 21 to a transverse receiver or transfer device C. This receiver consists of a suitable frame 22 made up of longitudinal sides 23 and 24 which are tied together by space bars 25. The space bars 25 carry short sections of rails 26 and upon the sides 23 and 24 and also upon the sectional rails 26 are suitably journaled anti-friction longitudinal wheels 27. The sides 23 and 24 are formed with yokes or V-shaped offsets 28 below the inner rail 2 of the carrier A, and at their outer ends are pivoted at 29 to the outer rail 3 of the carrier A. In normal position the receiver rests horizontally as shown in Fig. 3 with the anti-friction wheels 27 below the running surface of the rollers 4 of the carrier.

At the rear of its fulcrum support 16 the foot lever is pivotally connected with the forward end of the platform by means of a link 30 pivoted at 31 to the platform and at 32 to the lever, whereby, when the foot lever is depressed, the forward end of the platform will be tilted down, while the receiver C, being pivotally connected with the foot lever forwardly of the lever support 16, will in the same movement of the lever be tilted up upon its pivotal support 29, bringing the platform and receiver into alinement, as shown in Fig. 1, so that they will form a continuous downwardly inclined runway to the outer rail 3 of the carrier A.

At the lower end of the receiver and fastened upon the carrier are a pair of horizontal supports 33 upon which are adjustably secured by means of set bolts 34 vertical supports 35 which carry upon their upper ends horizontal anti-friction stop wheels 36. These wheels are freely journaled upon said vertical supports and are adapted to impede further progress of the articles of merchandise down the receiver C so that when said receiver is lowered into the position shown in Fig. 3 the articles of merchandise rest upon the rollers 4 of the carrier A and are free to travel by gravity down the same. The upper end of the loader is provided with a pair of legs 37 which are freely suspended by the pivot 38 upon the side bars of the platform so as to support one end of the platform in horizontal position upon the floor.

In use, the articles of merchandise such as

boxes or packages are placed upon the platform B when the latter is in horizontal position, and packed, a table or bench D adjoining the parts being placed within convenient reach of the operator for the purpose of holding the boxes to be packed. After such packing operation is completed the lever 17 is depressed and the box which is packed runs by gravity down the platform and receiver until it impinges against the stop wheels 36. Thereupon the lever 17 is released and the parts assume the position shown in Fig. 3, the article resting upon the anti-friction rollers 4 of the carrier A down which it moves either by gravity or power as desired.

Having described our invention, what we claim as new and desire to protect by Letters Patent, is:—

1. A loader of the class set forth, comprising a suitable platform having anti-friction devices upon its surface, a suitable support upon which said platform is pivoted, a receiver at one end of said platform, a carrier co-acting with said receiver, and means for simultaneously lowering one end of said platform and raising one end of said receiver, for the purposes specified.

2. Apparatus of the class set forth, comprising, in combination, a longitudinal carrier, a loading carrier, a receiver between the carriers and means for simultaneously raising said receiver and lowering said loading carrier.

3. A loader of the class set forth, comprising, in combination, a longitudinal gravity carrier, a transverse receiving section of gravity carrier below the surface of said longitudinal carrier, a platform at one side of said longitudinal carrier and adjoining said receiving section, and means for moving said transverse section and platform to cause them to coincide and form a continuous inclined way down which articles of merchandise are adapted to run above said longitudinal carrier and be deposited upon said longitudinal carrier when said transverse section and platform assume normal position.

4. A loader of the class described, comprising a carrier, a loading platform associated therewith and tiltably mounted, a transfer device interposed between said carrier and said platform and also tiltably mounted, and means for simultaneously tilting the loading platform and the transfer device, whereby to bring the same into coincidence, and move the articles from the loading platform over the transfer device and onto the carrier.

5. A loader of the class described, comprising a carrier, a loading platform associated therewith, a support for said platform and upon which the latter is tiltably mounted, a transfer device interposed between the carrier and said loading platform and tiltably mounted upon said carrier, and means for simultaneously raising said transfer device and lowering the contiguous end of the platform whereby to bring the latter and the transfer device into coincidence, and thereby move the articles from the loading platform over the transfer device and onto the carrier.

6. A loader of the class described, comprising a carrier, a loading platform associated therewith, a support for said platform and upon which the latter is tiltably mounted, a transfer device interposed between said carrier and the loading platform and tiltably mounted in relation to the latter, a manually-operated lever fulcrumed upon the support of the loading platform, and connections between said lever and the loading platform and transfer device, whereby said lever is caused to simultaneously tilt the loading member and transfer device into coincident relation, and thereby move the articles from the loading platform over the transfer device and onto the carrier.

7. A loader of the class described comprising a longitudinal carrier, a transverse receiving section of gravity carrier pivotally supported at its outer end upon the outer side of the longitudinal carrier, and standing normally below the surface thereof, a platform at the inner end of said receiving section but standing normally above the same, and means operatively connected with the inner end of said receiving section for tilting the same upwardly upon its pivotal support, whereby to bring the inner end thereof into alinement with said platform, and to form a continuous inclined runway over the longitudinal carrier to the outer side thereof.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

CHARLES H. LISTER.
JOHN HEIMER.

Witnesses:
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F. G. BRADBURRY.