Oct. 6, 1931. W. E. BENNETT ET AL 1,826,412

TROLLEY CONVEYER

Filed Feb. 20, 1928

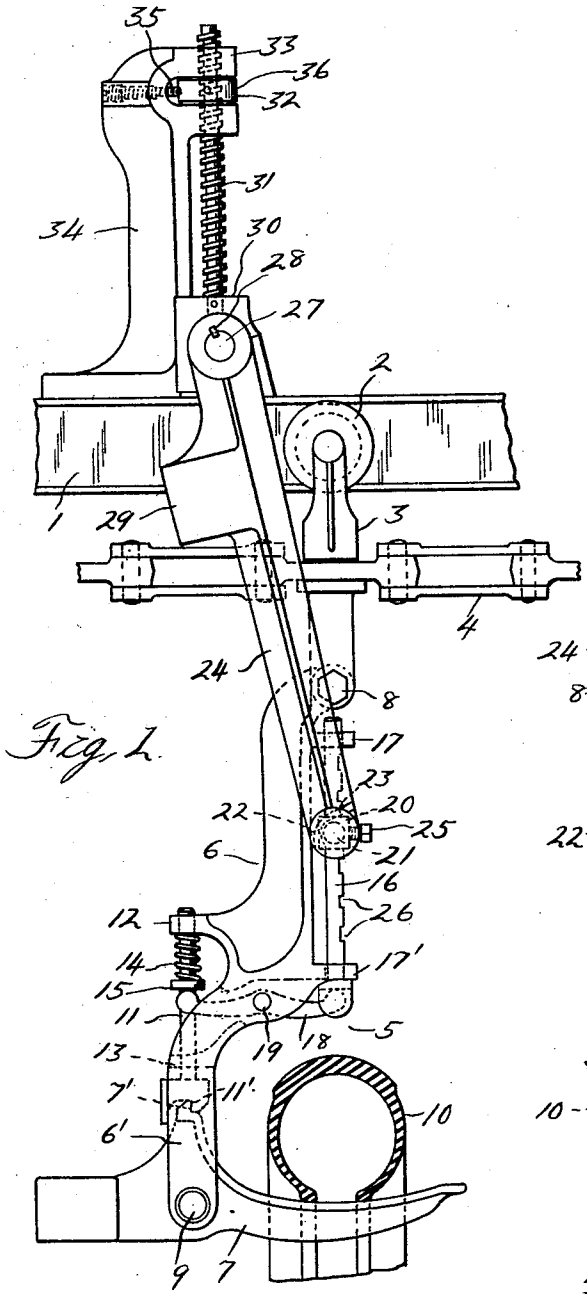


Fig. 1.

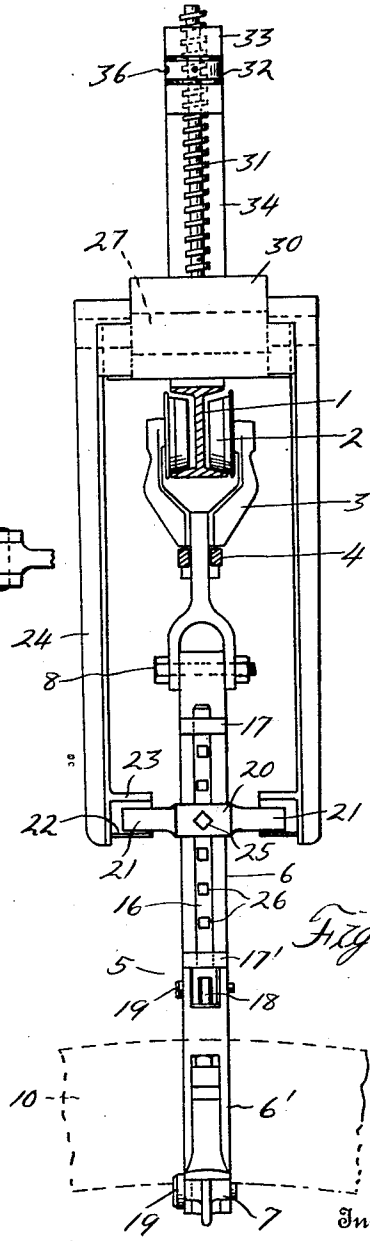


Fig. 2.

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Patented Oct. 6, 1931

1,826,412

UNITED STATES PATENT OFFICE

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TROLLEY CONVEYER

Application filed February 20, 1928. Serial No. 255,780.

The invention relates to trolley conveyers and has for its main object to so construct a trolley conveyer that the various classes of work carried by the work holders are automatically released at predetermined points in the advancement of the work holders. Another object is to so construct the mechanisms which control the release of the work from the various work holders so that they do not interfere with each other in releasing the work. With these as well as other objects in view, the invention resides in the novel features of construction and combinations and arrangements of parts as more fully hereinafter set forth.

In the drawings:—

Figures 1 is a side elevation of a trolley conveyer embodying our invention;

Figure 2 is a sectional and elevation thereof.

The support for the trolley conveyer comprises the I-beam track 1 upon the lower flanges of which are mounted the wheels 2 of the carriages 3. These carriages are advanced by means of the conveyer chain 4 which is connected to the carriages and extends longitudinally below the track. Each carriage carries the work holder 5 which comprises the body 6 and the work holding member 7. The body is pivotally connected at its upper end to the lower end of the carriage as by means of the bolt 8 and the work holding member is pivotally connected intermediate its ends to the lower end of the body as by means of the pin 9. The lower portion 6′ of the body is forwardly offset from the upper portion 6^2 preferably a distance such that the work 10, which in the present instance is a tire casing, may be supported upon the work holding member directly below the carriage. Furthermore, the lower portion 6′ is preferably bifurcated and the work holding member 7 extends between the bifurcations.

11 is a longitudinally movable locking bolt which is slidably mounted at its upper and lower ends respectively in the lug 12 and the cross wall 13 of the body 6. This locking bolt has the shoulder 11′ for engaging the shoulder 7′ upon the work holding member to hold the latter in operative position. This locking bolt is normally held in position to engage its shoulder with the shoulder of the work holding member by means of the coil spring 14, the upper end of which abuts the lug 12 and the lower end of which abuts the collar 15 secured upon the locking bolt. For actuating the locking bolt to release the work, we have provided the longitudinally movable rod 16 which extends parallel to the locking bolt and is guided at its upper and lower ends respectively in the lugs 17 and 17′ upon the body 6. This rod is normally in alignment with the longitudinal axis of the carriage 3 and is adapted upon downward movement to raise the locking bolt through the rock lever 18, which is pivoted at 19 intermediate its ends to the body 6. One end of this rock lever is engageable with the lower end of the rod 16 and the other end is engageable with the lower side of the collar 15.

20 is a contact member, preferably sleeved over the rod 16 and having at its opposite sides the transverse projections 21 for contacting with the shoulders 22 and 23 upon the contact members 24. The contact member 20 is adapted to be adjustably secured to the rod at various positions longitudinally thereof as by means of the set screw 25, the inner end of which is engageable in one of the longitudinally spaced notches 26 in the plunger. The shoulders 22 and 23 extend transversely of each other with the shoulders 22 engageable with the front side of the projections 21 and the shoulders 23 engageable with the top sides thereof and the contact members 24 are in the nature of levers pivotally supported upon the track 1. These levers are secured at their upper ends to the shaft 27 as by means of the keys 28 so that they swing in unison. Both levers are provided preferably with the weights 29 which normally maintain the arms inclined in a direction opposite to that of the conveyer chain travel so that during the advancement of the conveyer the transverse projections 21 first engage the shoulders 22 and swing the levers 24, thereby bringing the shoulders 23 down upon the transverse projections to force the rod 16 downwardly and

disengage the locking bolt 11 from the work holding member.

The shoulders 22 and 23 are adjustable relative to the work holder to cooperate with the transverse projections 21 in their various positions of adjustment upon the rod 16. As shown, the shaft 27 is mounted in the head 30 which is secured to the lower end of the screw 31. This screw threadedly engages the nut 32 which is mounted between the bifurcations 33 upon the pedestal 34, the latter being mounted upon the track 1. For holding the nut in its various positions of rotative adjustment there is the set screw 35 threaded in the pedestal and adapted to project into one of the series of recesses 36 in the periphery of the nut.

With this arrangement a number of contact members may be spaced longitudinally of the track and may be arranged so that their shoulders cooperate with the transverse projections of different contact members upon the work holders so that different classes of work may be released at predetermined points in the advancement of the trolley conveyer. Also with this arrangement only the correspondingly adjusted contact members cooperate to release the work.

What we claim as our invention is:

1. In a trolley conveyer, the combination with a support, of a work holder mounted upon and adapted to be moved along said support, said work holder having a pivotal work holding member, a locking bolt for normally holding said work holding member in operative position, and a longitudinally movable rod carried by said work holder in alignment with the longitudinal axis of the latter and operable to release said locking bolt, and a member upon said support for moving said rod to release the work carried by said work holding member during the advancement of said work holder.

2. In a trolley conveyer, the combination with a track and a carriage upon and movable longitudinally of said track, of a work holder depending from said carriage and having a pivotal work holding member, a locking bolt upon said work holder for normally holding said work holding member in operative position, a rod upon said work holder for releasing said locking bolt, a contact member adjustably mounted upon said rod, and means upon said track and including an adjustable contact member cooperating with said first contact member for releasing the work carried by said work holding member during the advancement of said carriage.

3. In a trolley conveyer, the combination with a support of a work holder mounted upon and adapted to be moved along said support, said work holder having a pivotal work holding member, a longitudinally movable locking bolt for normally retaining said work holding member in operative position, releasing means for the locking bolt including a longitudinally movable rod, and means operable upon longitudinal movement of said rod in one direction to move the locking bolt to released position.

4. In a trolley conveyer, the combination with a support, of a work holder mounted upon and adapted to be moved along said support, said work holder having a pivotal work holding member, a locking bolt reciprocally mounted upon said work holder and having a portion engageable with the holding member for normally maintaining the same in operative position, a rod spaced from the locking bolt and reciprocably mounted upon said holder, means upon the support for reciprocating said rod during the advancement of said work holder, and means for transmitting the reciprocable movement of the rod to a releasing movement of the bolt.

5. In a trolley conveyer, the combination with a support, of a work holder mounted upon and adapted to be moved along said support, said work holder having a pivotal work holding member, a locking bolt slidable longitudinally of the work holder and having a portion engageable with the work holding member for normally maintaining the same in operative position, a rod spaced from the bolt and slidable longitudinally of the work holder, a contact member adjustably mounted upon the rod, means upon the support operable during the advancement of the work holder to engage the contact member aforesaid and move the rod in one direction, and a rock arm pivoted intermediate the ends thereof to the work holder and having its ends engaging the rod and locking bolt for transmitting the movement of the former to a releasing movement of the latter.

6. In a trolley conveyer, the combination with a support, of a work holder mounted upon and adapted to be moved along the support, said work holder having a pivotal work holding member, means for normally holding said work holding member in operative position, means for releasing the means aforesaid including a member carried by the work holder and movable longitudinally thereof, a contact member carried by the member aforesaid and a second contact member pivotally mounted upon the support and having a portion adapted to be engaged by the first mentioned contact member during the advancement of the work holder for imparting a longitudinal movement to the releasing member for releasing the work holding means.

7. In a trolley conveyer, the combination with a support, of a work holder mounted upon and adapted to be moved along said support, said work holder having a pivotal work holding member, means for normally holding said work holding member in operative posi-

tion, means for releasing the means aforesaid including a member carried by the work holder and movable longitudinally thereof, a contact member carried by the member aforesaid and extending transversely thereof, and a second contact member including a pair of levers pivotally mounted upon the support and disposed upon opposite sides of the path of travel of the work holder, said levers having transverse portions engageable with opposite ends of the first mentioned contact member for imparting a longitudinal movement to the releasing member for releasing the work holding means.

8. In a trolley conveyer, the combination with a support, of a work holder mounted upon and adapted to be moved along said support, said work holder having a pivotal work holding member, means for normally holding said work holding member in operative position, means for releasing the means aforesaid, including a member carried by the work holder and movable relative thereto, means for actuating said member to release the work holding means including, a contact member carried by the member and a second contact member pivotally mounted upon the support and having portions disposed upon opposite sides of the path of travel of the work holder operable to engage the first mentioned contact member during the advancement of the work holder and actuate said releasing member.

9. In a trolley conveyer, the combination with a support, of a work holder mounted upon and adapted to be moved along said support, said work holder having a pivotal work holding member, means for normally holding said work holding member in operative position, means for releasing the means aforesaid including a contact member carried by the work holder and movable relative thereto, and a second contact member pivotally mounted upon the support and normally inclined in a direction opposite to the direction of travel of the conveyer and having a portion engageable with said first mentioned contact member during the advancement of said work holder for actuating the releasing member to release the work holding member.

In testimony whereof we affix our signatures.

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