Oct. 20, 1942. T. J. BRITT ET AL 2,299,301

AUTOMATIC ROLL DISPENSER

Filed Oct. 29, 1940

Fig. 1.

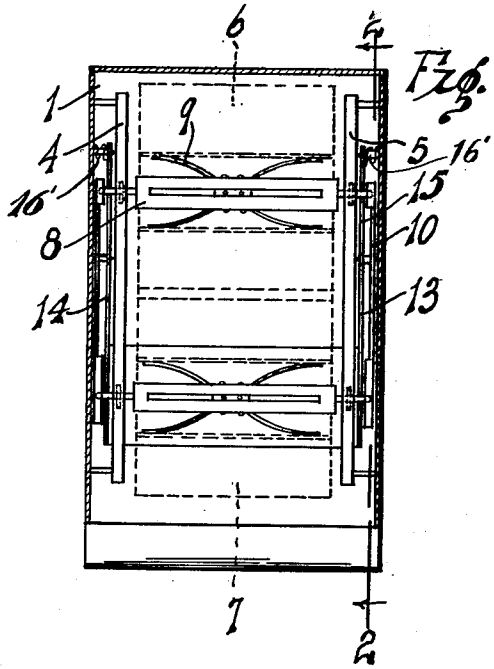


Fig. 2.

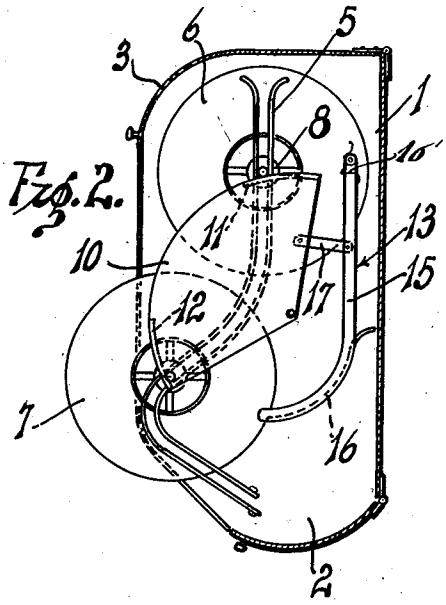


Fig. 3.

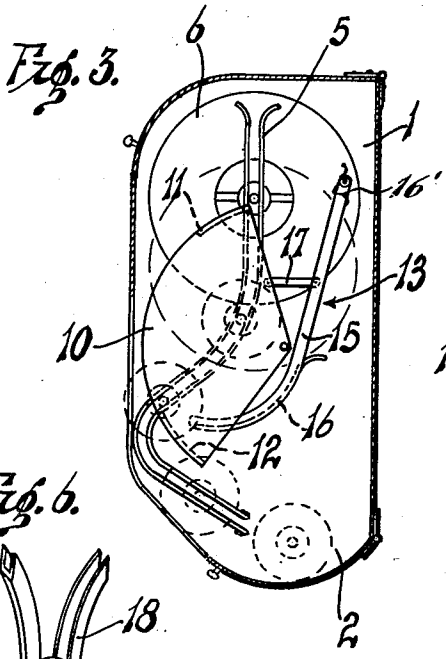


Fig. 4.

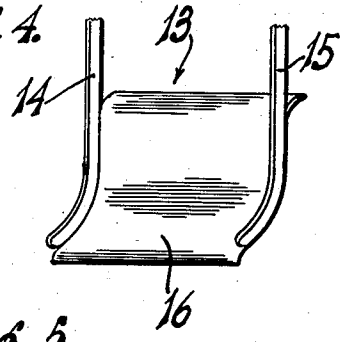


Fig. 5.

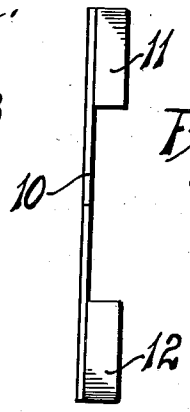
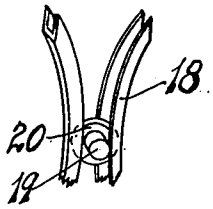


Fig. 6.



INVENTORS.
THOMAS J. BRITT.
EDMUND A. TREVINO.
BY.
H. A. Dieckman
ATTORNEY.

Patented Oct. 20, 1942 2,299,301

UNITED STATES PATENT OFFICE

2,299,301

AUTOMATIC ROLL DISPENSER

Thomas J. Britt, Long Beach, and Edmund A. Trevino, Los Angeles, Calif.

Application October 29, 1940, Serial No. 363,286

8 Claims. (Cl. 242—55.3)

This invention relates to an automatic roll dispenser, the prime object of which is to automatically replace an exhausted or used roll of paper, or the like, with a fresh roll, the used roll being released and the fresh roll replacing the same.

Another object of our invention is to provide a novel automatic roll dispenser, in which a plurality of rolls are mounted in a cabinet, the one roll being held in operable position and the second roll in reserve, by a novel trip or latch element, said trip or latch element being operable by a finger engaging the roll which is in use.

Still another object is to provide a novel automatic roll dispenser of the character stated, which is simple in construction and effective in operation.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description, and the appended claims.

In the drawing:

Figure 1 is a front elevation of our automatic roll dispenser, with the front wall removed to show interior construction.

Figure 2 is a vertical, sectional view taken on line 2—2 of Figure 1.

Figure 3 is a view similar to Figure 2 showing the course of travel of the rolls after the lower one has been completely exhausted.

Figure 4 is a fragmentary, perspective view of the actuating finger.

Figure 5 is an enlarged side elevation of the latch or trip plate.

Figure 6 is a fragmentary, perspective view of a modified form of a track.

Referring more particularly to the drawing, the numeral 1 indicates a housing or case, substantially rectangular in form, and provided with a suitable sump or basin 2 in the bottom thereof, into which the used roll will fall, and a suitable cover 3 at the top through which the additional rolls are fed into our dispenser. A pair of tracks 4 and 5 are fixedly attached to the side walls of the housing, and are spaced inwardly from these side walls substantially as shown in Figure 1. These tracks are somewhat tortuous, the upper portion being substantially vertical, the middle portion curving outwardly for the purpose of moving the roll into operative position, and the lower portion inclining downwardly and rearwardly for the purpose of disposing of the shell of the roll after the material has been used therefrom.

An upper roll 6 is mounted in the tracks 4 and 5, and a lower roll 7 is also mounted in the tracks, and is in useable position. Each of these rolls is mounted on a spool 8, the pintles of which extend outwardly, and fit in the tracks 4 and 5, thus guiding the rolls 6 and 7 in a manner to be subsequently described. The spools 8 are provided with spring fingers 9, which engage the cardboard spool upon which the paper roll or the like is wound. On each side of the housing 1, there is pivotally mounted an arcuate latch plate 10. These latch plates are pivotally secured to the side walls of the housing, and each is provided with an upper cam surface 11 and a lower cam surface 12. The roll 6 normally rests on the cam surface 11, while the roll 7 normally rests against the cam surface 12, substantially as shown in Figure 2. The rolls 6 and 7 are thus restrained against downward movement and the lower roll 7 can be used in the normal manner.

A control finger 13 comprises a pair of arms 14, 15, which are pivotally mounted on the side walls of the housing. A cam plate 16 connects the arms 14, 15, and this plate extends transversely across the housing, and is arranged below the roll 6, and back of the roll 7, substantially as shown. The lower edge of the cam plate 16 engages the periphery of the roll 7, and is held against this roll by suitable spring pressure such as the springs 16'. Links 17, 17 are pivotally attached to the arms 14 and 15, and to each of the latch plates 10, thus simultaneously controlling these latch plates, and causing the same to swing on their pivots as the cam plate 16 is swung inwardly following the contour of the used roll 7, as the material is used from said roll.

In operation, the rolls are arranged in superposed relation as shown in Figure 2. The lower roll 7 protrudes somewhat from the housing 1, and is used as desired. As this used roll is reduced in diameter, the cam plate 16 will swing inwardly, following the periphery of the used roll, and thus gradually tilting the latch plates 10 on their pivots until the position is reached as shown in Figure 3. In this position, the latch plates 10 are tilted forwardly so that the cam plates 11 and 12 disengage the pintles of the rolls 6 and 7. The lower roll then drops downwardly by gravity into the sump 2. The upper roll drops downwardly by gravity, as shown in dotted lines in Figure 3, until it strikes the cam plate 16, pushing the cam plate rearwardly, and thus swinging the latch plate 10 to the original or latching position, as shown in Figure 2.

In Figure 6 a grooved or channel-like track 18 is shown, and the spool pintle 19 is provided

with a disk 20 which fits in the grooved track, thus preventing transverse movement of the roll.

Having described our invention, we claim:

1. An automatic roll dispenser comprising a housing, a plurality of rolls positioned in the housing, guide means in which said rolls are mounted, latch means engaging the rolls and trip means operably connected to said latch means whereby the latch means is released when one of the rolls has been used, said trip means engaging the used roll.

2. An automatic roll dispenser comprising a housing, a plurality of rolls mounted in the housing, a track in which the rolls are mounted, a latch plate pivotally mounted in the housing, means on the latch plate engageable by each of said rolls, trip means operatively connected to the latch plate, said trip means engaging the used roll and operable from said used roll whereby the latch plate is tripped to release said rolls when the used roll is consumed.

3. An automatic roll dispenser comprising a housing, a plurality of rolls mounted in the housing, a track in which the rolls are mounted, a latch plate pivotally mounted in the housing, means on the latch plate engageable by each of said rolls, a cam plate pivotally mounted in said housing, said cam plate engaging the used roll, a link connecting the cam plate and the latch plate whereby said latch plate is tilted to release the rolls when the used roll is consumed.

4. An automatic roll dispenser comprising a housing, a pair of superposed rolls in the housing, tracks in the housing in which the rolls are mounted, a latch means engaging each of the rolls, and trip means pivotally mounted in the housing and engaging the used roll, said trip means being linked to the latch means whereby the latch means is released from said rolls when the used roll is consumed.

5. An automatic roll dispenser comprising a housing, a pair of superimposed rolls in the housing, a pair of trackways in the housing in which the rolls are slidably mounted, a latch plate pivotally mounted in the housing, a pair of cam surfaces on the latch plate, each of the rolls engaging a cam surface, and trip means in the housing, said trip means engaging the used roll, said trip means being operatively connected to the latch plate whereby the latch plate is swung on its pivot to release the rolls when the used roll is consumed.

6. An automatic roll dispenser comprising a housing, a pair of superimposed rolls in the housing, a pair of trackways in the housing in which the rolls are slidably mounted, a latch plate pivotally mounted in the housing, a pair of cam surfaces on the latch plate, each of the rolls engaging a cam surface, trip means including a cam plate engaging the roll in use, means pivotally mounting the cam plate in the housing, and a link connecting the cam plate and the latch plate whereby said latch plate is actuated as the cam plate follows the contour of the used roll.

7. An automatic roll dispenser, comprising a housing, a plurality of rolls positioned in the housing, a track in which the rolls are mounted, said track being grooved, a disk on each of the rolls fitting in the grooved track, a latch plate pivotally mounted in the housing, means on the latch plate engageable by each of said rolls, a cam plate pivotally mounted in said housing, said cam plate engaging the used roll, a link connecting the cam plate and the latch plate whereby said latch plate is tilted to release the rolls when the used roll is consumed.

8. An automatic roll dispenser, comprising a housing, a plurality of rolls positioned in the housing, each of said rolls being mounted on a spool, spring fingers on the spool engaging the roll, guide means in which said rolls are mounted, latch means engaging the rolls and trip means operatively connected to said latch means, whereby the latch means is released when one of the rolls has been used, said trip means engaging the used roll.

THOMAS J. BRITT.
EDMUND A. TREVINO.