Feb. 14, 1928. 1,658,989

A. KECK

TAPE DISPENSING MACHINE OR THE LIKE

Filed Oct. 13, 1924 2 Sheets-Sheet 1

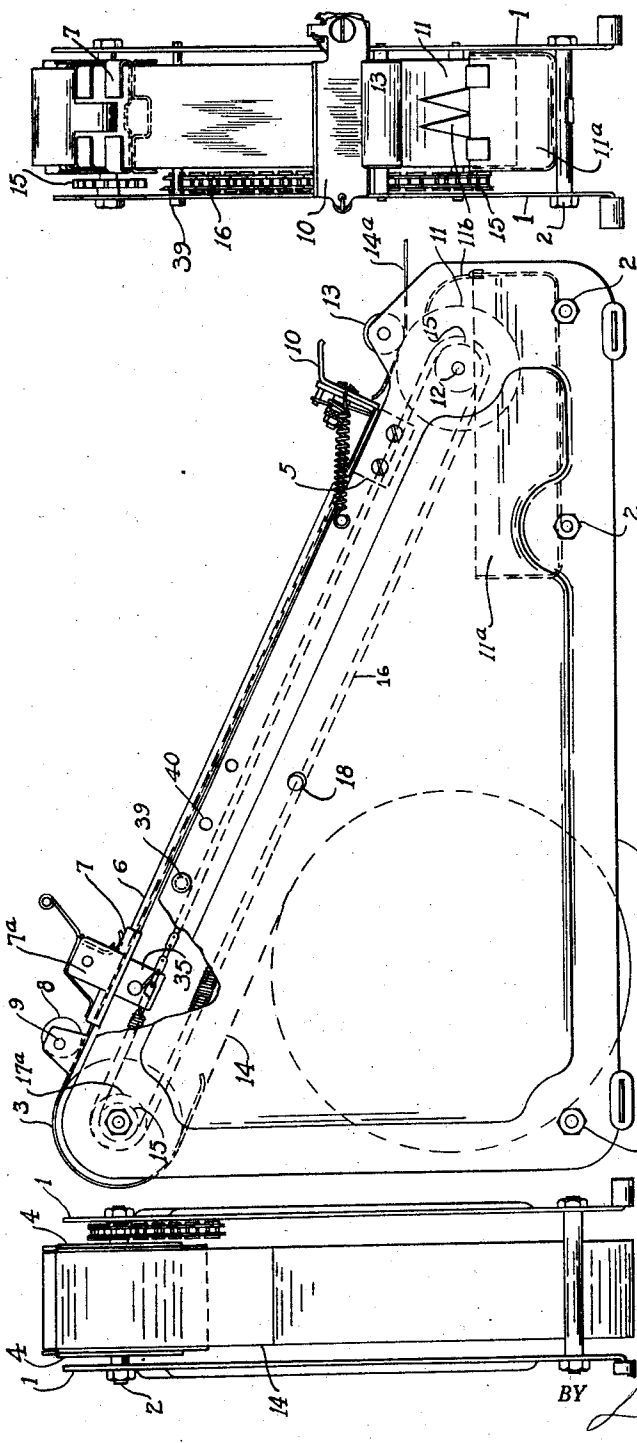


Fig. 3

Fig. 1

Fig. 2

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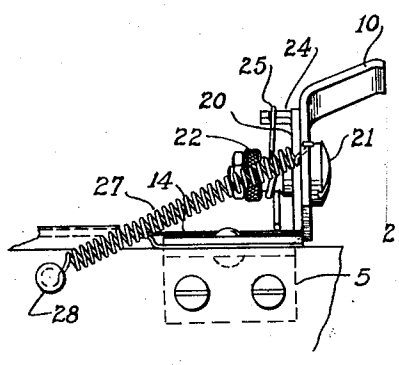


Fig. 4

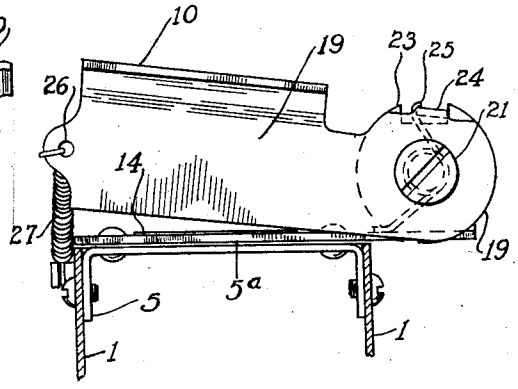


Fig. 5

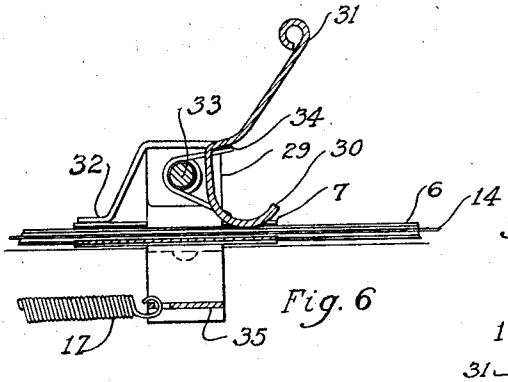


Fig. 6

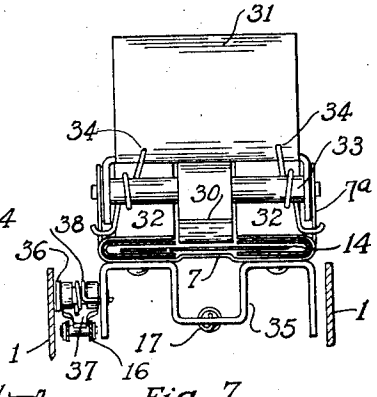


Fig. 7

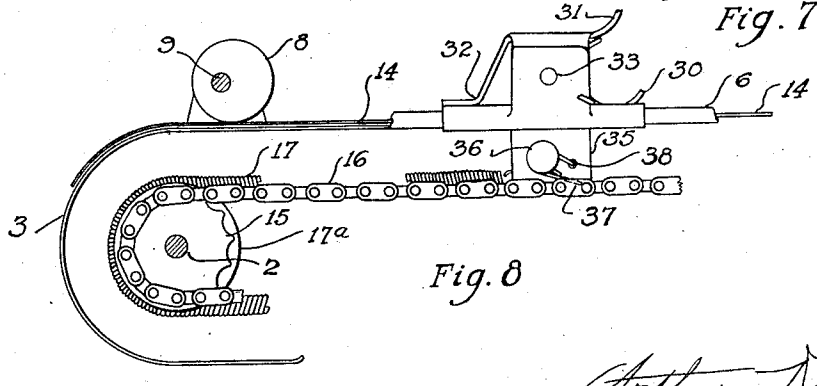


Fig. 8

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Patented Feb. 14, 1928. 1,658,989

UNITED STATES PATENT OFFICE.

ARTHUR KECK, OF DAYTON, OHIO, ASSIGNOR TO PACKAGE SERVICE CORPORATION, OF DAYTON, OHIO, A CORPORATION OF OHIO.

TAPE-DISPENSING MACHINE OR THE LIKE.

Application filed October 13, 1924. Serial No. 743,424.

This invention relates to improvements in tape dispensing machine.

The main object attained in the invention consists in a tape dispensing machine adapted in all its parts for cheap production, neat and compact in design, and simple and convenient in use.

Machines for dispensing gummed tape for sealing packages have come into extensive use. Their economic value as time savers, the neatness of appearance and effective sealing or binding of packages which is made possible with their use, and the convenient and inexpensive means of carrying an advertisement of the establishment afforded by the sections of tape applied to the packages, gives to machines of this character recognition as a commercial necessity.

As the devices are used in great numbers in establishments where speed in preparing packages is essential, and neatness and effectiveness of the packages is required, and also in small stores where the first cost of the machines and subsequent service cost are determining conditions of their use, the improvements of the present invention are of great importance in the field to which the invention relates.

In the accompanying drawings:

Fig. 1 is a side elevation of the improved machine;

Figs. 2 and 3 are opposite end elevations;

Figs. 4 and 5 are detail views of the tape severing mechanism;

Figs. 6, 7 and 8 are detail views of the tape advancing mechanism.

As shown in Figs. 1, 2 and 3 the machine as a whole is a compact portable unit adapted to set on a counter or table. The frame structure consists of opposite side members 1, punched from sheet metal and formed to give an artistic effect to the machine, the side members being joined one to the other by spacing bolts 2.

At the left end of the machine as viewed in Fig. 1 a curved guide plate 3 and opposite side guide plates 4 are supported between the side members 1. At the opposite end of the machine the side members 1 are braced between their upper edges by a transverse frame member 5 which seems to stiffen the frame adjacent the tape severing mechanism.

A longitudinally extended guide 6 is supported between side members 1 along their upper edge, the guide being provided on its opposite side edges, as best shown in cross section in Fig. 7, with inwardly curved open flanges which are adapted to receive the web 14 of tape therebetween as the same is drawn forward from a roll supported between the side members.

The means for drawing the tape forward consist of a supporting member 7 arranged to slide telescopically over the guide member 6, as best shown in Fig. 7 and having opposite portions 7^a thereof extended upwardly to form supports for a pivoted tape engaging member comprising downwardly extended bearing portions 29, a downwardly curved portion 30 adapted to engage the tape, an upwardly extended finger piece 31, a rearward and downwardly extended stop 32, a shaft 33 upon which the part as a whole is supported, and a spring 34 which acts to hold the part inoperatively out of engagement with the tape.

When tape is to be supplied from the machine, pressure is applied to the finger piece 31 in the forward direction thus causing the tape to be gripped between part 30 and the lower span of part 7 and at the same time acting to move the entire unit longitudinally of guide 6 which results in drawing the length of tape, to which the machine is regulated, from the supply roll, the length being regulated by stop 39 adapted to be set in one of a series of spaced apertures 40 arranged along the upper edge of one of the side members 1, the stop being in the path, inside frame 1, of part 35 and adapted therefore to limit the forward movement of the tape advancing mechanism. When stop 39 is removed the maximum length of tape that can be delivered from the machine will be determined by the full movement of part 7. A tension spring 17 is connected to part 35 at one end, anchored at its opposite end as at 18 between side members 1, the intermediate portion of the spring being drawn over a rotatable drum 17^a as best shown in Fig. 8.

As the tape is drawn from the supply roll the same passes over guide plate 3 and roller 4 and under an eccentrically mounted pinch roller 8 pivoted on a shaft 9 supported in brackets extended upwardly from plate 3, which acts to engage the tape and to

prevent retraction thereof in the opposite direction after each dispensing operation.

At the opposite end of the machine, the right end as viewed in Fig. 1, tape feed rollers 11 and 13 are supported between side members 1, the web 14 being between the rollers. Roller 11 is supported on a shaft 12 and has its lower portion submerged in a water pan 11[a] and acts therefore to apply moisture to the gummed side of the tape. The roller is rotated by means of a chain 16 traversing sprockets 15, the chain being drawn forward by means of a spring pawl 37 pivoted on a stud 36 supported in a bracket 35 secured to part 7, a spring 38 acting to cause the pawl to engage a link of the chain when part 7 is moved in the forward direction and permitting the pawl to move idly over the chain when part 7 is retracted in the opposite direction.

The means for severing the tape consist of pivoted blade 19 having an upwardly extended finger piece 10 adapted to be engaged at the limit of the forward movement of the tape advancing mechanism to actuate the blade for severing the tape. Coacting with blade 19 is a cutting blade 5[a] which is secured to bracket 5 and is provided with an upwardly extended portion 24 to which blade 19 is pivoted by means of a blade adjusting screw and nut 21—22. The blade 19 is held in normally raised relation by a spring 25 and is held yieldingly in cutting relation with the cutting edge of block 5[a] by a spring 27 which is connected at one end to the blade and is anchored at its opposite end to one of the side members 1.

Operation of the machine, as will be apparent from the foregoing detailed description, consists in actuating the tape advancing mechanism with a downward sweep of the hand, the hand passing with a short continuous movement in the same direction, upon releasing the tape advancing mechanism to the tape severing mechanism, the arrangement being thus effective with the minimum movement and in the shortest time to deliver a severed length of tape from the machine. As the tape is severed the portion cut off is drawn from rollers 11—13 and applied to the package,—a stripper blade 11[b] acting to prevent the tape adhering to roller 11.

Having described my invention, I claim:

1. A tape dispensing machine including in combination a roller acting to apply moisture to the tape, tape severing mechanism, chain and sprocket connections for actuating said roller and means operable manually for engaging the chain whereby to advance the chain and the tape simultaneously relative to said roller.

2. A tape dispensing machine including in combination a roller acting to apply moisture to the tape, tape severing mechanism, chain and sprocket connections for actuating said roller and means for engaging the tape and said chain for advancing the same simultaneously relative to said roller.

3. A tape dispensing machine including in combination a roller acting to apply moisture to the tape, tape severing mechanism, chain and sprocket connections for actuating said roller and means for engaging the tape and said chain for advancing the same relative to said roller and adapted to release the same simultaneously and to be retracted idly thereover in the opposite direction.

4. A tape dispensing machine including in combination, a roller supported in a water pan for applying moisture to the tape strip as the same is advanced on said machine, chain and sprocket connections for operating said roller, manually operable means adjacent the roller for severing the tape, manually operable means for advancing the tape and said chain, said means being supported at a higher elevation and operable in an inclined plane toward the tape severing and moisture applying mechanisms, said manually operable means being in said inclined plane of operation and adapted to be actuated by a continuous forward movement of the hand.

5. A tape dispensing machine including in combination, a roller for applying moisture to the tape, chain and sprocket connections for actuating said roller, tape advancing means comprising mechanism associated operatively with said chain and adapted to be actuated manually to engage the tape strip to draw the same forward from a supply roll and simultaneously to advance the chain to like extent whereby to deliver a measured portion of tape with moisture applied thereto from said machine.

6. A tape dispensing machine including in combination, a roller for applying moisture to the tape, tape severing mechanism, tape advancing mechanism and a guide for the tape interposed in an angular plane between the tape advancing and the tape severing mechanisms, an endless actuator, operably connected to said roller and extended adjacent to and in a plane parallel with said guide, and means operatively associated with the tape advancing mechanism and said endless connection for actuating the same simultaneously.

7. A tape dispensing machine including in combination, a roller for applying moisture to the tape, tape severing mechanism, tape advancing mechanism, a guide for the tape interposed between said mechanisms, means acting to prevent retraction of the tape after each forward movement thereof, and means operatively associated with the tape advancing mechanism and said roller whereby advancing of the tape and actuation of the roller to apply moisture thereto are simultaneously effected.

8. A tape dispensing machine including in combination, a roller for applying moisture to the tape, tape severing mechanism, tape advancing mechanism operable manually in the forward direction and spring retracted in the opposite direction, means acting to prevent retraction of the tape after each forward movement thereof, and means operatively associated with the tape advancing mechanism and said roller whereby advancing of the tape and actuation of the roller to apply moisture thereto are simultaneously effected.

9. A tape dispensing machine including in combination, means for applying moisture to the tape, tape severing mechanism, an endless actuator extended parallel with the tape and acting to operate said moisture applying mechanism, and means associated with the tape advancing and the tape severing mechanisms whereby the same are adapted to be actuated manually by an uninterrupted forward movement of the hand.

10. A tape dispensing machine including in combination, means for applying moisture to the tape as delivered from said machine, connections operable parallel to the plane of movement of the tape for actuating the moisture applying means and for advancing the tape, tape severing mechanism in the line of movement of the tape and means for actuating said connections simultaneously.

11. A tape dispensing machine including in combination, means for applying moisture to the tape as delivered from said machine, connections for advancing the tape and for actuating the moisture applying means, tape severing mechanism in the line of movement of the tape and means operable manually in one direction parallel to the movement of the tape and a spring for retracting the tape advancing means.

12. A tape dispensing machine including in combination, means for applying moisture to the tape, means for severing the tape, means for advancing the tape and for actuating the moisture applying means operable in an inclined plane toward said tape severing and moisture applying mechanism, and connections operable manually in a direct continuous movement for actuating said mechanisms.

In testimony whereof, I affix my signature.

ARTHUR KECK.