Jan. 5, 1937. T. R. GAUTIER 2,066,619

SELECTIVE LENGTH TAPE DISPENSER

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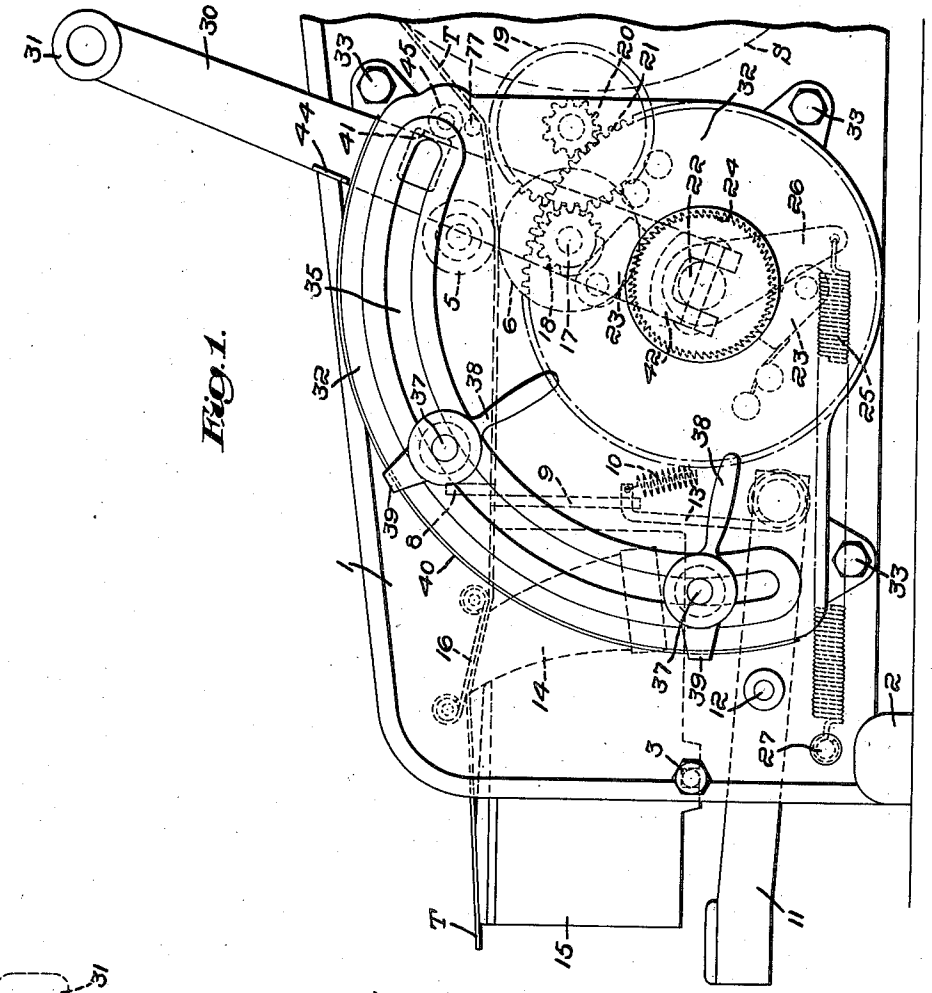


Fig. 1.

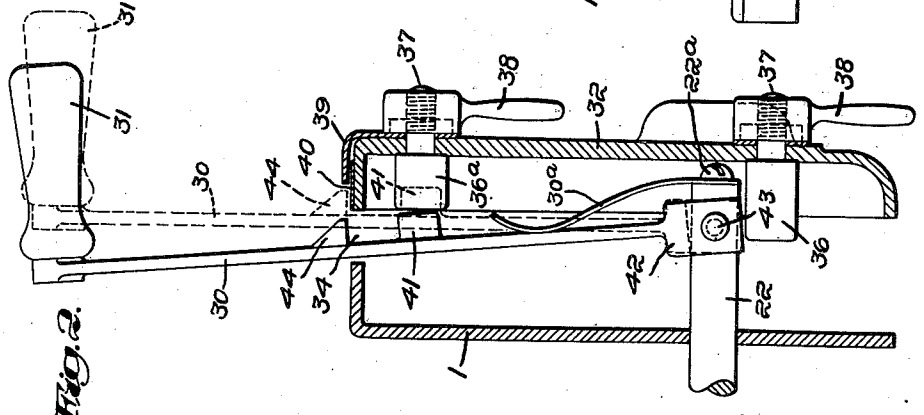


Fig. 2.

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SELECTIVE-LENGTH TAPE DISPENSER

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4 Claims. (Cl. 271—2.4)

My present invention relates to dispensing or serving apparatus for strip material such as gummed tape, for packaging and like purposes, and has as a main object to provide such apparatus with improved means for selectively delivering different desired lengths of the strip material.

In the drawing, illustrating by way of example one embodiment of the invention,

Fig. 1 shows in right side elevation the forward portion of a tape dispensing machine in accordance with the invention; and

Fig. 2 is a vertical section through a portion of the machine of Fig. 1, herein the right side, illustrating the selective feed means.

In the illustrative embodiment of the drawing the machine, which as a whole may be considered as typical of the class of devices referred to, comprises a frame or housing, the right side frame being seen at 1 in Figs. 1 and 2. The frame and machine as a whole is suitably supported, for positioning as upon a counter or table of a shipping room or store, as by feet 2, the side frames being connected as by cross bolts one of which is seen at 3. The tape T is supplied, generally in the form of rolls supported, in position to be drawn upon, at the rear of the machine. Feed means for the tape is provided, herein including upper and lower opposed feed rolls 5 and 6 positioned to have operative feeding engagement with the opposite faces of the tape, thereby to advance the same for moistening, severance and delivery. The tape coming from the supply may be guided to the feed rolls as by a guide roll 77.

Forwardly of the feed rolls, in the direction of the delivery point, the tape travels between a fixed upper blade 8 and a movable lower blade 9 constituting severing means. It will be understood that either of the blades may be the movable one. In the present instance the lower blade 9 is normally held below the tape path as by a spring 10 and is adapted to be elevated to cut off the tape at the will of the operator, through the medium of a cut-off lever 11 pivotally supported on the frame as at 12 and connected to the movable blade 9 as by a pivoted link 13. Depression of the forward end of the lever 11 accordingly actuates the severing means under the control of the operator.

After the tape passes the severing means, its gummed face, herein the under face, is moistened by suitable means shown as a brush 14 extending from a liquid reservoir 15 removably positioned between the side frames, as by the cross bolt 3. Overlying guide means 16 serves to effect proper moistening engagement between the moistener element or brush 14 and the tape passing over the latter. Thus lengths of moistened tape are presented, at the front or delivery end of the machine, at the left in Fig. 1, in condition to be cut off, by operation of the lever 11, for application to their intended use.

At least one of the feed rolls, herein the lower feed roll 6, is driven, herein manually, through a one-way drive mechanism and associated gearing connections. For this purpose there is provided on the same stud shaft 17 for the lower feed roll 6 a pinion 18 meshing with a gear 19 provided with a coaxial pinion 20. The latter in turn meshes with and is driven by a relatively large gear 21 loose on the operating shaft 22 journaled in the side frames. The gear 21 carries one or more spring-pressed pivoted pawls 23 adapted to be engaged by a ratchet disk 24 fast on the shaft 22. Turning of the shaft in the counter-clockwise direction as viewed in Fig. 1 accordingly will cause the ratchet disk to drive the large gear 21, through the pawl and ratchet device, the lower feed roll 6 in turn being driven, in the tape feeding direction, through the described gear train. The reverse or return movement of the shaft, without actuating the gearing, is permitted by reason of the described ratchet or one-way drive device, and is effected by a suitable return spring 25 connected at one end to an arm 26 fast on the shaft and anchored upon the frame at its other end, as at 27. If desired the return spring may be led over a roll or the like, not shown, and positioned to bow the spring increasingly as the shaft is turned in the feeding direction, to decrease the tensioning effect upon the spring and avoid excessive rebound movement of the parts.

The machine is arranged for manual operation under the control of the operator, by means of an operating or feed lever 30 provided with a hand grip 31. It is desirable that the operator be able to obtain quickly and with a minimum of mental effort a plurality of different predetermined or pre-set tape lengths, especially in connection with the wrapping of cartons, bundles and other packages of more or less standard size. In such instances at least two different tape lengths are required with considerable regularity, these lengths corresponding in general to the main dimensions of the package. Accordingly I have herein provided means for readily selectively obtaining two or more tape lengths, said means being such that any one of the lengths may be fed out at any time at the will of the operator,

and may be repeated any desired number of times, any of the lengths being predeterminedly adjustable.

In the illustrative embodiment of the drawing the side frame 1 is provided with a cover plate 32, herein of general quadrant form, and demountably secured in position as by bolts 33. The upper and forward edge portion of the cover plate 32 is formed along an arc struck from the center of the operating shaft 22 and is spaced from the side frame 1 sufficiently to provide an operating slot or channel 34, Fig. 2, for the operating lever 30. The cover plate is formed with an arcuate channel 35, also concentric with the shaft 22 and adapted to receive at variable points along it one or more feed-limiting stops, of which two are represented in the accompanying drawing. These adjustable stop members may be of generally similar construction and may be of the same lengths or, as illustrated, may project inwardly to different extents. The stop element illustrated at the lower position in Figs. 1 and 2 comprises a stop proper 36 having a threaded portion 37 projecting outwardly through the slot and receiving a threaded clamping member 38 whereby the stop may be secured in the desired adjusted position along the slot 35. The other stop element comprises a similar but shorter stop proper 36a with threaded portion 37 and clamping member 38 similar to those for the lower stop. Each of the stops may also be provided with a setting pointer 39 received on the stems 37 between the cover plate and the clamping members 38, the pointer being arranged to project over the edge of the cover plate, for cooperation with a graduated scale or index 40 whereby the stops may readily be set at the positions corresponding to the different tape lengths desired.

The feed lever 30 carries a laterally projecting stop or abutment member 41, at a position in line with the slot 35 of the cover plate and the stops 36, 36a therein.

In accordance with the invention the feed lever and the stop engaging portion thereof are so constructed and arranged that the latter may be shifted, at the will of the operator, out of position to engage one or another of the adjustable stop members. In the illustrated form the lever as a whole has capacity for shifting movement transversely of its feeding and return movement, and laterally of the direction of tape feed, this shifting movement also being in a plane axial of the feed shaft 22. For this purpose the lower or inner end of the lever comprises a yoke 42 adapted to straddle the shaft 22 and pivotally connected to it as by the stud 43. The cross portion of the yoke is spaced from the shaft sufficiently to afford a capacity for lateral shifting movement of the lever as above referred to.

Means desirably is provided for insuring the full return movement of the feed lever, past any intermediate stop, in case the operator's hand is removed from the lever after a feeding operation. One such means as herein illustrated comprises the spring 30a secured to the shaft 22 as by the screw 22a and acting to urge the lever toward and normally retaining it in its inner or full line position of Fig. 2. Other means may be employed for the purpose such as a construction wherein the stop element on the lever or on the fixed part is yieldable and is moved or cammed aside in the event of interengagement, during the return movement only of the lever, automatically to permit its full return passage.

It will be apparent from an inspection of Fig. 2 that when the operating lever is in its outer or dotted line position as there shown it will engage and be stopped, in its advancing or tape feeding movement, by the stop 36a. Hence a length of tape corresponding to the adjusted position of said stop will be delivered. Whenever a longer length is desired, corresponding for example to the setting of the lower stop 36, the operator has but to shift the lever 30 to an inner position, such as illustrated by the full line showing in Fig. 2, whereupon the stop 36a may be passed.

The lower stop 36 is illustrated as a final or non-passable stop, but it will be understood that such stop may be dispensed with, so that the lever is permitted to move to the full limit of the machine, such as completely to the bottom of the slot 35. If desired, two or more passable stops, such as the member 36a, may be utilized, in which case they may be of the same length, or of different lengths so as to be passed by shifting of the lever to corresponding extents. It will also be noted that the operator may make his selection at any time either before starting a feed stroke or during its progress. For the longer lengths he has but to shift the lever laterally or inwardly, by a slight lateral pressure upon it, and permit it to ride along in engagement with a portion of the side frame at the inner face of the lever. Similarly, for shorter lengths the operator will exert a slight outward lateral pressure upon the lever and allow it to travel in side engagement with the inner portion of the cover plate 32. A minimum of attention or mental effort is required upon the operator's part in thus selecting the tape length desired. For the further convenience of the operator the lever 30 may be equipped with a pointer 44 movable along the same scale 40 or along an auxiliary scale reading in one or both directions, for use in visually measuring out any desired length.

The normal inactive or full return rear position of the lever is defined by a stop 45, Fig. 1, engageable by the same stop element 41 on the lever. Said stop 45 also may be made adjustable if desired and it will be understood that the stops such as the elements 36, 36a may be used in connection with the return stroke of the lever, to define different starting positions therefor giving correspondingly different tape lengths, either in addition to or as an alternative for variably and selectively limiting the forward end of the feed stroke of the lever.

From the foregoing it will be seen that my present invention contemplates broadly the provision in a tape dispensing machine of a manual operating element such as a feed lever having a feed stroke and a return stroke and having a portion or element herein fixed upon it and engageable with one or more stop members to limit movement of the lever in one or the other direction, engagement with one or more of such members being avoidable at the will of the operator by shifting of the stop-engageable portion or element of the lever effected by a movement of the lever or of its handle or grip portion other than their usual feeding and return movement. While such other movement of the lever may be variously effected, in the illustrated embodiment, which has the advantage of simplicity, there are no additional parts to be directly engaged by or manipulated by the operator in making his selection as between the predetermined tape lengths available.

My invention is not limited to the particular illustrative embodiment herein shown and de-

scribed, and I set forth its scope in my following claims.

1. In a machine for delivering lengths of moistened gummed tape, in combination with a support for a tape supply, feeding means for the tape, a manual actuating element for the feed means, said element having a feed stroke and a return stroke, one or more stops in the path of said element to determine its feeding movement, means fixed on said element and engageable with the stop or stops, and means whereby said engageable means of said element may be shifted to avoid one or more of said stops at the will of the operator.

2. In a machine for delivering lengths of moistened gummed tape, in combination with a support for a tape supply, feeding means for the tape, a manual operating lever for the feeding means, said lever having feeding and return movements along an operating path, a stop in the path of the lever at a point between the limits thereof, a stop-engageable member on the lever, and means operatively supporting the lever with capacity for movement transversely of its path to avoid said stop at the will of the operator.

3. In a machine for delivering lengths of moistened gummed tape, in combination with a support for a tape supply, opposed feed rolls for advancing the tape from the supply, a feed lever, one-way drive connections between the feed lever and one of said rolls, including a shaft supporting the lever for feeding and return movements, abutment means on the lever and a stop in the lever path engageable by said abutment in one position of the lever, and movable connections between the lever and shaft affording a shifting action for the lever sufficient to clear said abutment means from engagement with the stop.

4. In a tape dispensing machine, means engageable with the tape to advance it, manual operating mechanism for said means including an element to be engaged by the operator, said element having an operating path in which it is reciprocally movable and also having an additional selective shift movement, and a stop in the operating path of said element constructed and arranged to be avoidable upon shifting movement of said element at the will of the operator.

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