

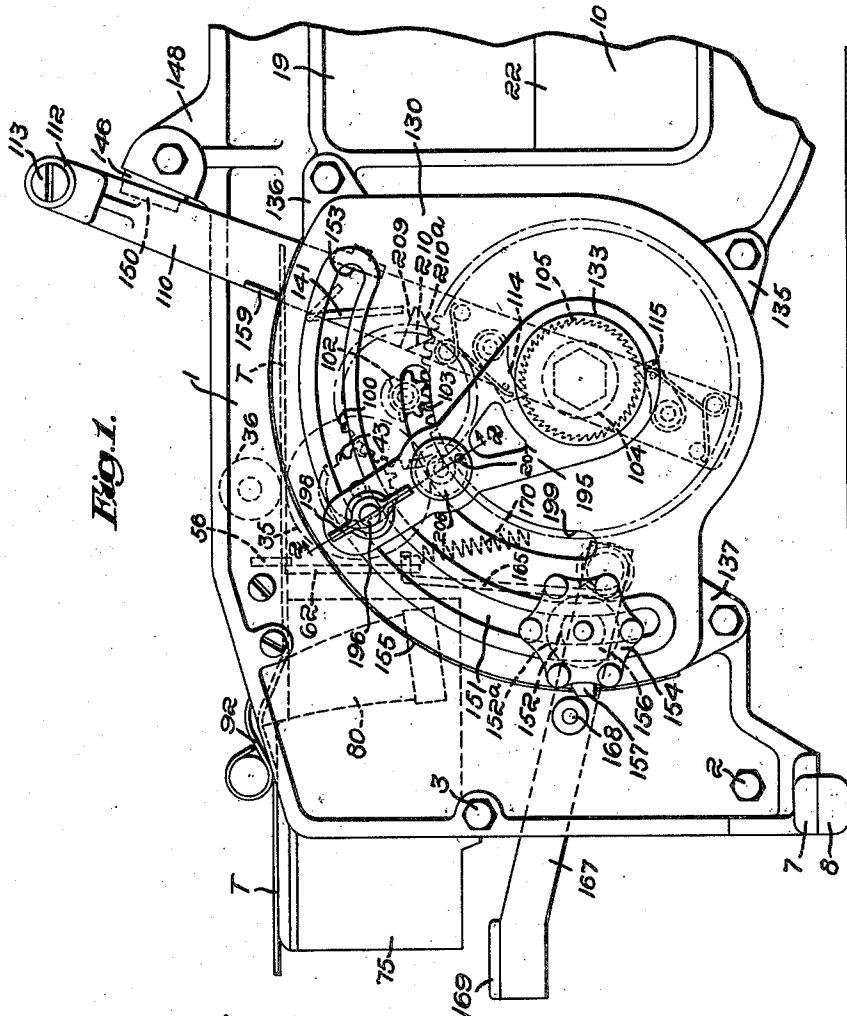
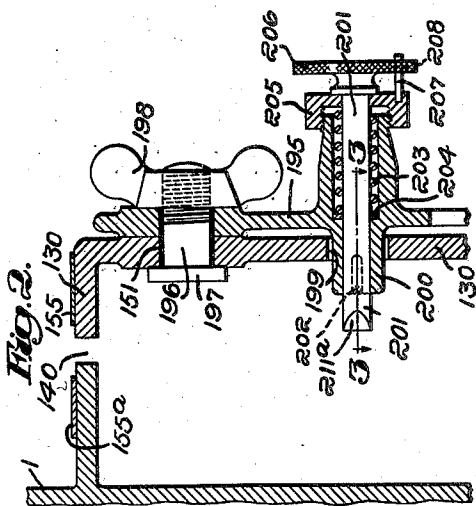
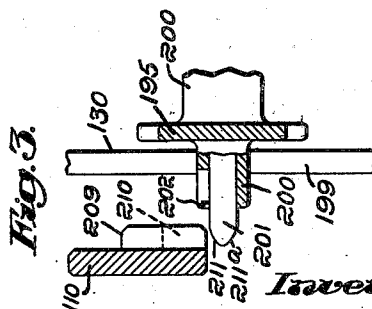
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GUMMED TAPE DISPENSING MEANS

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GUMMED TAPE DISPENSING MEANS

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3 Claims. (Cl. 271-2.4)

The present invention relates to means for dispensing gummed tape, as for package sealing, wrapping and similar purposes, and more particularly aims to provide in a device of the class referred to improved tape feeding and control means in conjunction with other features whereby the operator, such as a packer in a shipping room, may readily obtain lengths of tape or strip material, in the desired different lengths, in moistened condition for application to a package, shipping container or the like.

This application is a division of my copending application Serial No. 700,235, filed November 29, 1933.

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

Fig. 1 is a right side elevation of the front portion of one form of machine in accordance with the invention;

Fig. 2 is an enlarged section on the line 2-2 of Fig. 1; and

Fig. 3 is a sectional view as on the line 3-3 of Fig. 2.

As herein illustrated, the machine as a whole is housed in a suitable framing, herein including spaced side frames, the right side frame being indicated at 1, Figs. 1 and 2, these members being removably connected as by the tie rods two of which are indicated at 2 and 3. The housing may be equipped with supporting feet 7 desirably provided with rubber or other cushioning members 8.

At the rear portion of the machine the side frames provide between them a well or chamber 10 for the tape supply or roll. Hinged or other cover means for the tape supply chamber and the operating mechanism forwardly thereof may be provided, as in my copending application. The condition of the tape supply roll in its chamber may be observed through an inspection window or opening 19 in one or both side frames. Laterally adjustable guide plates, one of which is seen at 22, Fig. 1, may be provided for accommodating different widths of tape.

The tape T from the roll supply is conducted forwardly between and by means of lower and upper pinch feed rolls or wheels 35 and 36, as seen in dotted line in Fig. 1. The lower feed wheel is adapted to be driven, for feeding the tape forwardly to and past the severing and the moistening means, as by means of a pinion 43 on the same shaft with the lower feed wheel and meshing with an intermediate gear 100 having fixed to it a relatively small pinion 102 in turn meshing with a comparatively large spider or

ring gear 103 on a stud 104 and carrying ratchet disc 105.

The operating element proper for the feed means comprises a lever 110 rockable on the stud 104. The lever is provided at its upper end with an operating handle 112 removably secured to it as by the screw-headed pin 113. The operating lever has a one-way or free-wheel connection with the large gear 103. Such connection may be of any suitable type, as for example a Horton clutch, and I have herein shown for the purpose the spring-pressed pawls 114, 115 pivoted on the operating lever 110. The described gearing and the lower feed roll desirably are proportioned and related in such a way that movement of the feed lever 110 through a comparatively short arc is effective to feed easily and rapidly the maximum desired lengths of tape, for example, up to thirty inches or more. At the same time the machine retains the capacity to serve accurate shorter lengths, thus providing a practical all-purpose high speed counter and shipping room machine which as a whole is of relatively small size and weight having in consideration the rapidity of feed and lengths of tape available, as more fully described in my copending application.

The severing or cut-off mechanism for the tape as herein illustrated in Fig. 1 includes a fixed member or blade 56 extending transversely above the tape path and cooperable with the pivoted blade or knife 62 which normally lies below the path of the tape.

One means for operating the tape knife as herein shown comprises a link 165 having its upper end connected with the movable blade and its lower end fastened to the inner end of a cut-off lever 167 pivoted as at 168 upon the adjacent side frame 1. This lever is extended forwardly to a point convenient to the hand of the operator and is provided with an operating piece 169 whereby it may readily be depressed. The movable knife 62 is normally held down, and the operating end of the cut-off lever 167 consequently up, as by means of a coil spring 170. The cut-off lever 167 is constructed and arranged in relation to the feed lever 110 so that as the operator completes a forward or feeding stroke his hand comes conveniently adjacent the operating piece 169 of the cut-off lever and the latter may be engaged and depressed, if the desired tape length has been obtained, without necessitating the operator to shift his hand from the feed lever handle and substantially as a continuation of the tape feeding movement of his hand or arm.

Forwardly of the severing means the tape is conducted past suitable moistening means which may include a wick, roller, brush or other moistening device. As in the parent application, the illustrated machine is equipped with a reservoir or tank 75 removably supported as upon the upper cross-bolt 3. A capillary moistening element or brush 80 is positioned in the reservoir with its free end projecting upwardly to the tape path, for moistening engagement with the under face of the advancing tape. The latter is guided across the brush in moistening relation with it as by a fixedly positioned deflector or guide 92. The moistened tape is delivered from beneath this deflector, across the top of the reservoir, in readiness for use.

The operating mechanism for the feed means, including the gear train and the inner portion of the feed lever 110, is enclosed by a demountable housing or cover 130, having a hollow boss 133 enclosing the hub of the operating or feed lever. This cover is of general quadrant shape and is removably bolted against the side frame as by means of its attaching ears 135, 136 and 137. Within it is supported the return spring 141 for the feed lever. The inoperative or return stroke of the latter is limited by suitable stop means herein comprising a rubber or other buffer 146 on bracket 148 rising from the side frame 1, the buffer being positioned to abut a lateral projection 150 on the lever.

The feed lever 110 travels in a slot 140, see Fig. 2, provided between the upper arcuate wall of the quadrant cover 130 and a corresponding arcuate flange on the adjacent portion of the side frame. In some instances, particularly where the requirement is predeterminedly for maximum lengths of tape, the forward or maximum feed position of the lever may be determined by its engagement with the bottom end wall of the operating slot. But in order to obtain various selected intermediate lengths of tape, by setting the mechanism to supply such lengths, I desirably provide adjustable stop means associated with the feed lever. As herein illustrated the cover plate 130 is formed with an arcuate slot 151 slidably receiving a stud 152 having an inner end or head 152^a positioned as a positive stop in the path of a finger or projection 153 on the lever; see Fig. 1. The outer end of this stud is threaded to receive a nut 154 adapted to tighten the stop head 152^a against the cover, thereby to hold it adjustably at any selected position along the arcuate slot. The advancing or tape feeding movement of the feed lever 110 thus is positively halted by the described adjustable stop means 152—154, at whatever point this stop is predeterminedly set, corresponding to the desired selected length of tape.

To assist the operator in arriving at known lengths of tape I desirably provide a scale 155, calibrated in units of tape lengths, for example, inches, and the stop may be provided with a setting pointer cooperable with the scale. As illustrated, such pointer herein comprises a separable element having a hub portion 156, Fig. 1, received on a flattened part of the stop stud 152, said pointer including an indicating portion or pointer proper 157 extending to a point adjacent or overlapping the graduated scale 155. The latter is shown as a separable strip on the arcuate flange of the cover plate 130, where it directly faces and may be readily viewed by the operator. Obviously also the scale whether graduated in inches or otherwise affords means whereby the operator

may quickly determine at any instant during an actual feeding operation the particular length of tape which has been delivered past the severing means, and in this connection the leading edge or other part of the operating lever may be utilized as a pointer or indicator in connection with said index or scale 155, or the lever may conveniently be provided with a lateral projection or pointer 159 directly overlying the scale and moving along the latter during the feeding operation.

The described positive stop means provides for obtaining predetermined maximum tape lengths less than the extreme maximum available from a single operating stroke of the feed lever. It will be understood that where repeated lengths up to the single-stroke capacity of the machine are likely to be required, the stop 152 may be set at the extreme forward bottom end of the slot 151, or may be removed entirely. This adjustable positive stop 152, however, provides for but a single predetermined, although adjustable or variable length. Under some working conditions it is found desirable to be able to dispense optionally, at the will of the operator, either of two predetermined or set lengths of tape, whether alternately or in any plurality of one length followed by one or more of the other length. Of course any shorter length may be had at any time merely by use of the visual scale, the operator following the edge of the feed lever or its pointer 159 along the scale and halting the feed movement at the desired point. This requires special attention on the operator's part, however, so that he cannot give his entire attention at such time to other operations.

In order to assist the operator in obtaining such alternative lengths, selectively, I have herein provided a telltale, signaling or indicating means, which dispenses with visual effort on the operator's part. As herein illustrated, and referring now to Figs. 2 and 3 as well as to Fig. 1, I have shown for the purpose an arm 195 loosely pivoted on the boss 133 of the gear cover 130. This arm is normally stationary but may be swung to various adjusted positions corresponding to the desired less-than-one-stroke length of tape, or corresponding to a required over-length.

The arm 195 is of a length to extend over the arcuate guide slot 151 for the stop 152. In line with this slot the arm 195 carries a pin 196 having a headed portion 197 at its inner end and threaded at its outer end for reception of a tightening wing nut 198, so that the arm as a whole may be fixedly secured in the desired position of adjustment. A second arcuate slot 199 is formed in the cover plate 130, concentrically with the boss 133 and intermediate the latter and the stop slot 151. This second slot receives slidably a lateral boss 200 at the inner face of the arm 195. This boss houses the spring-pressed telltale member or signaling plunger 201, this latter having a pin-and-slot connection 202 with the boss, to prevent their relative rotation. The telltale 201 is normally urged inwardly by a coil spring 203 bearing between a collar 204 on the telltale and a cap 205 adjustably threaded on the outer end of the boss 200. A knurled head or finger piece 206 is secured to the outer end of the telltale, for holding the latter out of operative position at such times when it is not desired for use. Ordinarily, however, the telltale will remain in its position as in Fig. 2, irrespective of whatever length of tape is to be dispensed, and the operator obtains the desired length either by halting the feed lever

when he is informed that it is at the telltale or by simply disregarding the telltale and continuing the feed to the required length. The head 206 desirably is rotatable with respect to the telltale itself. A pin 207 projects outwardly from the cap 205, this pin being of a length to retain the telltale in inoperative position by abutting engagement with the inner face of the head 206. The latter has an aperture 208 adapted to be turned opposite the pin 207 and to receive the latter, so as to let in the telltale when it is to be used.

The feed lever 110 is provided with a cam-like projection 209 for cooperation with the telltale 201, said member having beveled faces as indicated at 210, 210^a for contact, depending on the direction of the feed lever, with the corresponding beveled face 211 or 211^a at the inner end of the telltale.

Assume now that the supplemental arm 195 has been set in some such position as shown in Fig. 1, and that first a relatively long length of tape is desired, for example, corresponding to the position of the stop 152^a as seen in said figure.

As the feeding lever is drawn forwardly, the cam formation 210 of the cam 209 on the feed lever contacts the beveled face 211 of the telltale, which latter yields and permits the feed lever to pass forwardly beyond it, until halted by the stop 152^a.

The length of tape thus fed may be cut off, by depressing the lever 167, or an additional length may first be fed out. At the end of the feed stroke, wherever terminated, the usual procedure is that the operator lets go of the lever, which automatically is returned to its initial or full back position, as in Fig. 1. If then the shorter length of tape is desired, the lever is moved forwardly until the telltale signals said length. The operator then has but to release the lever or halt the forward movement of his arm, leaving the required short length of tape in readiness to be cut off and used.

It will be understood that the telltale serves to give notice to the operator that the feed lever is at or adjacent that measured or predetermined point in its path demarked by the telltale. This signal may be availed of during travel of the lever in either direction, but in actual use will probably more often be utilized during the forward or feeding stroke of the lever, since it is generally more convenient to release the lever after a feeding movement and to allow it to return automatically to the full back initial position as in Fig. 1.

By reason of the double beveled construction of the telltale and cooperating cam member 209, the feed lever is never positively stopped thereby and need not be halted or retarded at the short-length point unless the operator so elects, but may intentionally be moved or allowed to move past it, in either direction. The spring loading upon the telltale may be so adjusted that the operator is readily able to sense or feel that the feed lever has arrived at the telltale, as indicated by the pressing contact between the latter and the member 209 upon the lever. Thus the telltale may be utilized to signal for a termination of a forward or feeding stroke of the lever at a selected point short of the full feed stroke, or it may be used to inform the operator as to a point in the return path of the lever, so that he can obtain a determined short length by starting the next feed stroke at such intermediate point rather than at the full return position of the lever.

Generally, as above noted, when alternate or

other succession of long and short lengths are desired it is more convenient to allow the lever to make its full return, and to start each feed stroke with the lever positioned as shown in Fig. 1. For the longer lengths the lever is moved until positively stopped by the adjustable stop 152 or by the end wall of the slot 151 if such stop is not being used. For the shorter lengths, under this method of operation, the fully returned lever is moved from the same initial position, the operator feeling for the telltale and letting go of the lever when the signal is received. If it is considered more convenient, however, in any case the operator may use the telltale signal in connection with a controlled return stroke, halting the lever before it has fully returned and then feeding either an additional length or a separate short length, depending on whether he has cut off the previously fed strip, starting such additional or separate length with the lever at or adjacent the telltale. As shown in Fig. 2, a second, separate scale 155^a may be provided, as at the other side of the feed lever from the scale 155 and graduated to read upwardly, with the lowest unit adjacent the front limit of the stroke of the lever, to assist in setting the telltale for use in association with the back stroke of the feed lever, such scale being adjustable if desired in conformity with the adjusted position of the stop 152.

From the foregoing it will be apparent that whenever any successive plurality of the greater lengths of tape is desired, the telltale is disregarded, during movement of the feed lever in both directions. No special attention is required by the operator, who need but release the lever after any feed stroke, whereupon it automatically passes the telltale and makes its full return stroke. A shift to a shorter length is readily made at any time, without manipulation of any part, merely by observing the signal conveyed by the telltale. It will be understood that the described telltale device may be used in conjunction with an adjustable stop such as the stop means 152—154 or independently of the latter, or that one or more additional arms 195 together with the associated parts may be supplied if it is desired to provide for readily obtaining visually a greater plurality of different but adjustable tape lengths.

My invention is not limited to the particular illustrative embodiment herein shown and described, its scope being set forth in the appended claims.

I claim:

1. In a gummed tape serving machine, in combination with a frame and tape roll support, means for engaging and advancing the tape, a feed lever having a feed movement and a return movement, an adjustable stop in the path of the feed lever to predetermine the extent of its feed movement, one or more telltale elements in the lever path, rearwardly of said stop, said elements and the feed lever having yielding interengageable means to signal the movement of the lever past them sufficiently for informative purposes but permitting passage of the lever at the will of the operator.

2. In a gummed tape serving machine, in combination with a frame and tape roll support, means for engaging and advancing the tape, a feed lever, an adjustable member in the lever path, and interengageable means between said member and the lever opposing passage of the lever sufficiently only to inform the operator of the position of the lever relative to said member and allowing passage of the lever on application of

additional moving force, and means to render said member and means mutually inoperative when desired.

3. In a tape dispensing machine, in combination, a supporting frame including a tape roll support, tape feeding means, a manual operating element for the feeding means, and yieldable telltale means to signal a position of the manual element thereby to inform as to a corresponding length of tape feed, said telltale means including

contactable parts, one carried by the manual element and the other having a normally stationary position adjacent the path of said element, said parts being relatively yieldable readily to permit continued movement of the manual element but contacting sufficiently to inform the operator when said element is at a predetermined point along its path.

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