

July 29, 1924.

1,503,164

A. KUDLER ET AL

TAPE FEEDER, MOISTENER, AND CUTTING APPLIANCE

Filed Feb. 4, 1922

2 Sheets-Sheet 1

Fig. 1.

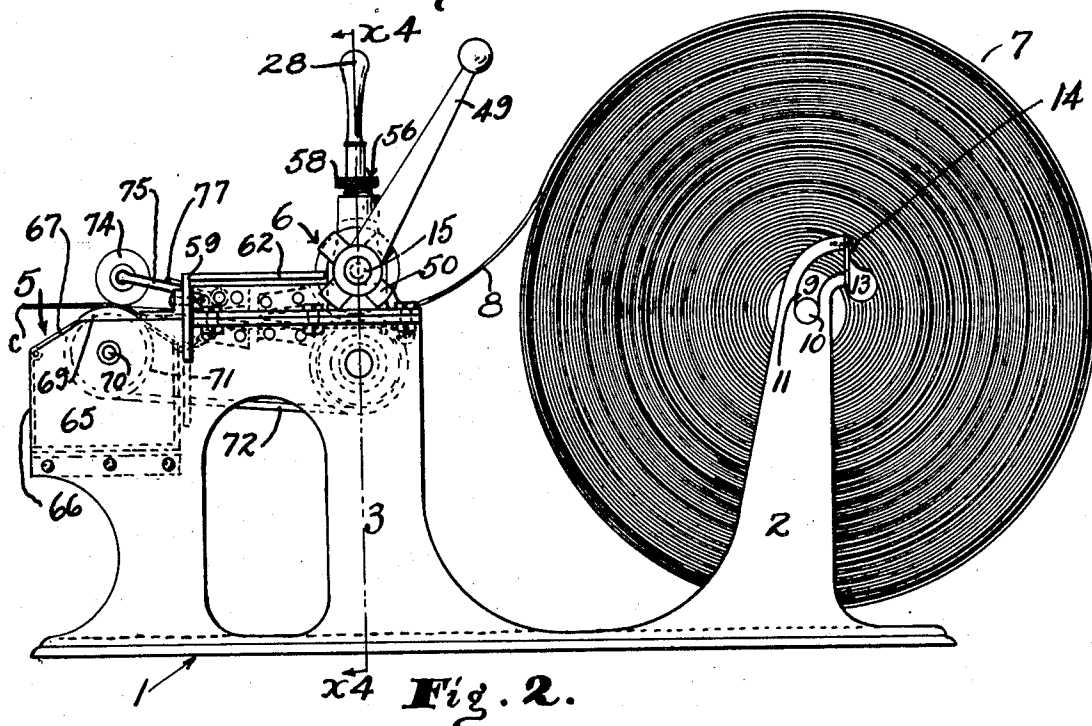
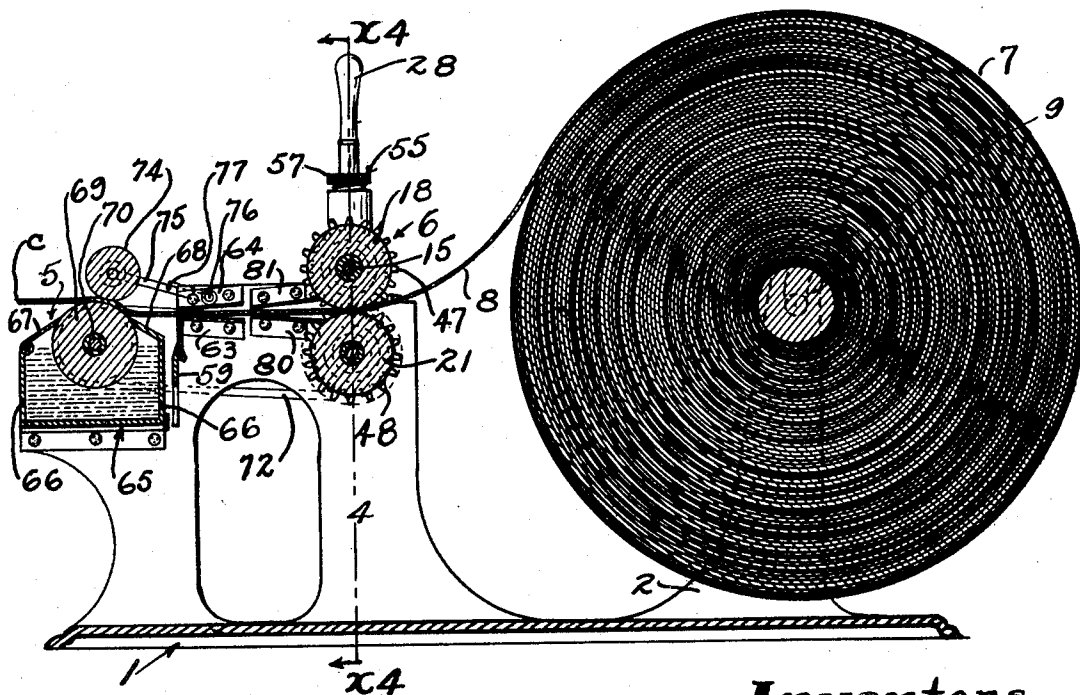


Fig. 2.



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Fig. 3.

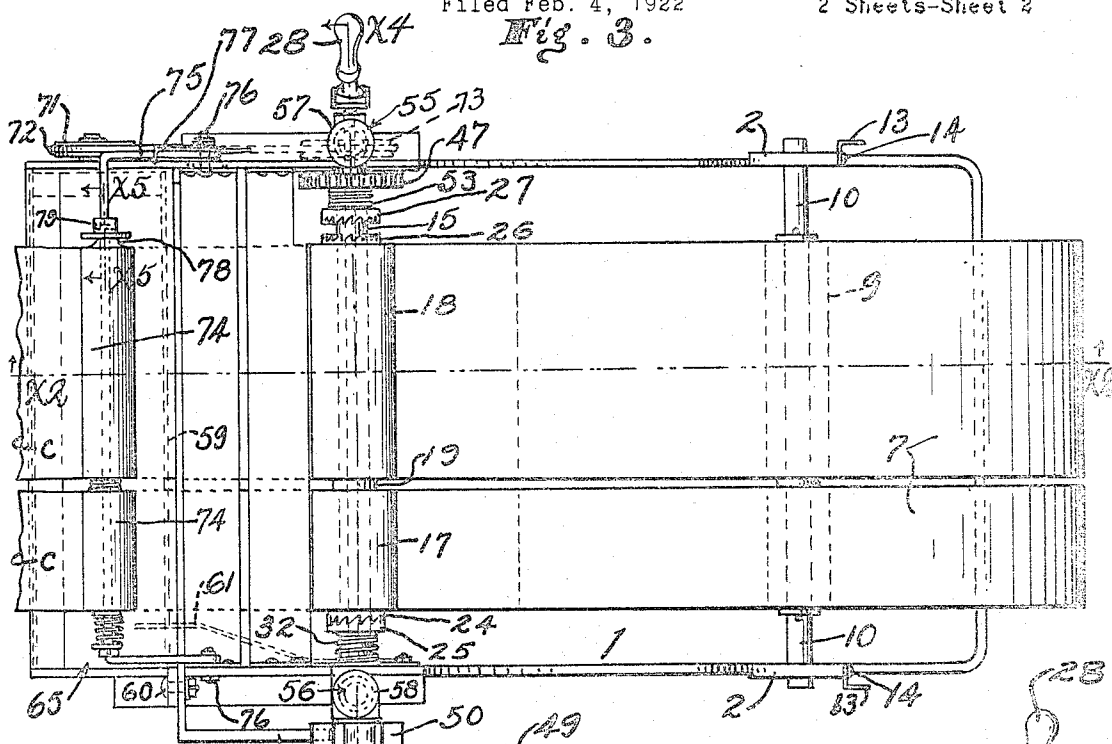


Fig. 4.

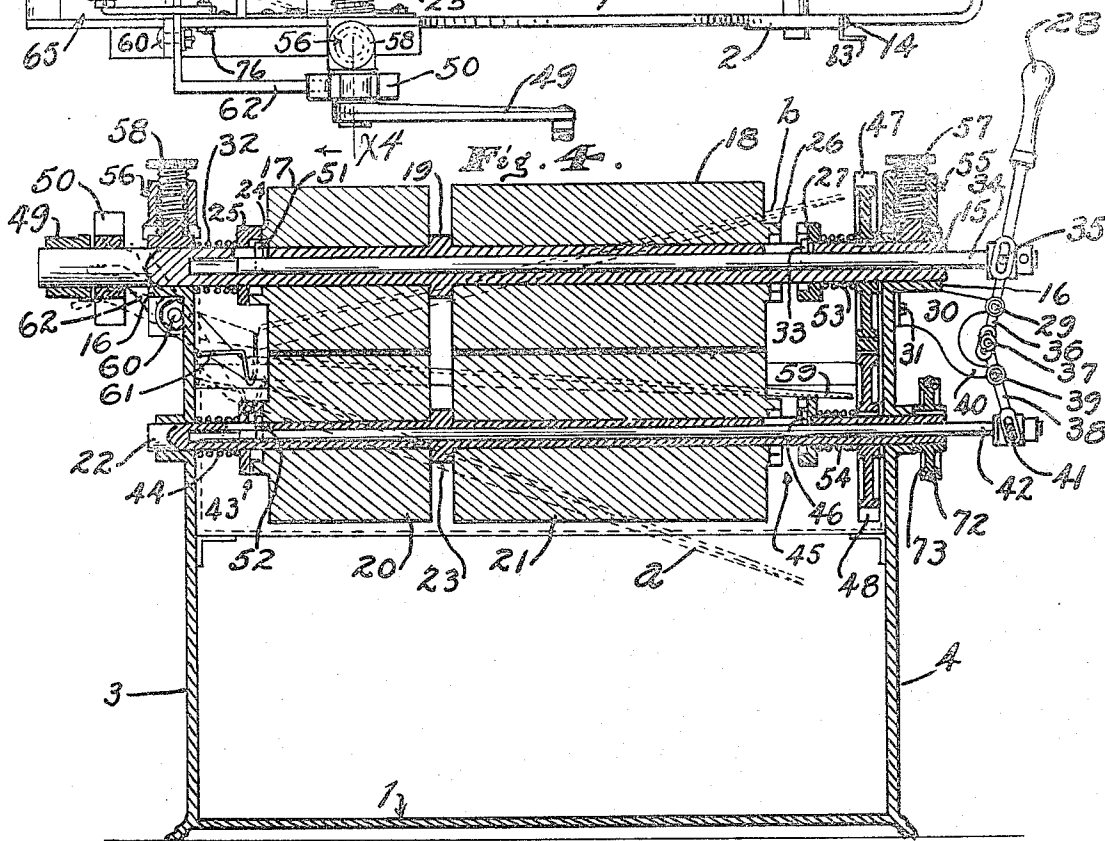
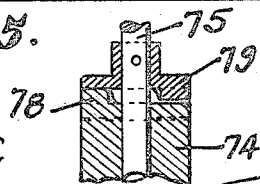


Fig. 5.



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UNITED STATES PATENT OFFICE.

ADOLPH KUDLER AND HENRY ROSENTHAL, OF LOS ANGELES, CALIFORNIA.

TAPE FEEDER, MOISTENER, AND CUTTING APPLIANCE.

Application filed February 4, 1922. Serial No. 534,094.

To all whom it may concern:

Be it known that we, ADOLPH KUDLER and HENRY ROSENTHAL, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Tape Feeder, Moistener, and Cutting Appliance, of which the following is a specification.

This invention relates to an appliance for supplying and moistening strips of gummed tape of various lengths and widths for package sealing purposes. That is, rolls of tape are now prepared in various widths and have one side thereof finished with a gummed surface, which when moistened is adhesive so that short strips of tape from the rolls are used for sealing, instead of tying, paper-wrapped packages or containers.

Heretofore appliances of this nature have been limited to a single roll of tape of fixed width and an object of this invention is to provide a satisfactory and convenient means for moistening and severing the tape in desired lengths.

An object of this invention is to provide an appliance in which a plurality of tapes having various widths can be employed and a wide or narrow tape selected as desired. That is, the appliance can be operated to feed out, moisten and sever a narrow strip of tape without moving or effecting the wide tape, and vice versa; and in this respect the invention is broadly new, basic and pioneer.

A feature of this invention is shown in the novel means for mounting tape rolls of different widths on the same shaft and feeding them out independently of one another.

Another feature of this invention is shown in the novel means for feeding out the tape and then severing it by a reverse movement of a hand crank.

Objects of this invention are simplicity, durability and cheapness of construction, together with ease and effectiveness of operation.

Heretofore appliances of this nature have consisted of a single tape roll with no means except with the operator's fingers, for feeding the tape over the moistener. That is, to obtain a piece of tape from other appliances now in use, the operator reaches under a stationary knife to obtain a finger hold on the end of the tape which is then drawn forward to the required length, and is then severed by an angular pull over the stationary knife, in which operation the operator

is likely to soil his fingers and make them sticky with mucilage so that after sealing a package he must wash his hands before handling other articles.

By this invention operators can obtain strips of tape of the selected length and width by appropriately rotating the hand crank so that the hands need not be soiled by contact with the tape. In operation the package to be sealed is held in position to receive the tape as it is fed out of the appliance and the tape may be then pressed into place by a suitable means as by a pad.

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

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation of an appliance constructed in accordance with this invention.

Fig. 2 is a longitudinal sectional view on line x^2 , Fig. 3.

Fig. 3 is a plan view of this appliance.

Fig. 4 is a sectional view taken on line x^4 , Figs. 1, 2 and 3.

Fig. 5 is an enlarged fragmental sectional view taken on line x^5 , Fig. 3.

The frame 1 comprises the tape roll supporting arms 2 and the side members 3, 4, which support the moistener 5 and the tape feeding and severing means 6.

Tape is supplied from any source and in the drawings is shown as comprising a roll of tape 7 which is gummed on one side 8 and is wound upon the core 9 which has the pintles 10 that are adapted to be inserted in the slots 11 formed in the upper ends of the supporting arms 2. A plate 13 is pivoted as at 14 to the supporting arm 2 and prevents the pintles 10 from being displaced.

A shaft 15 arranged parallel with and in advance of the core 9 is mounted in the bearings 16 and has short and long tape feed rolls 17, 18 loosely mounted thereon. The annular ring 19 spaces the rolls 17, 18 apart on the shaft 15. Cooperating with the feed rolls 17, 18 are the short and long feed rolls 20, 21 which are loosely mounted on the shaft 22 that is also arranged parallel with and in advance of the core 9. The annular ring 23 spaces the feed rolls 20, 21 apart on the shaft 22 and in alinement with the feed rolls 17, 18. The feed rolls 17, 20

and 18, 21 comprise pairs of feed rolls adapted to be selectively operated independent of each other.

The narrow feed roll 17 has fixed thereto the clutch member 24 which is adapted to be selectively engaged by a cooperating clutch member 25 which is operably connected to the shaft 15.

The wide feed roll 18 has a clutch member 26 fixed thereto and is adapted to be selectively engaged by a cooperating clutch member 27 which is fixed to the shaft 15. The cooperating feed rolls 20, 21 are provided with similar clutch members.

When it is desired to feed the narrow tape the lever 28 is moved to the position shown in Fig. 4. The lever 28 is pivotally mounted at 29 to the supporting member 30 that is attached to the side member 4 by means of the bolts 31. The clutch member 25 will be shifted into engagement with the clutch member 24 by means of the spring 32 and the clutch member 27 will be held out of engagement by means of the pin 33 which is fixed to the rod 34 that extends axially in the shaft 15 and is operably connected to the lever 28 as at 35.

An extension 36 of the lever 28 is pivotally connected at 37 to the auxiliary lever 38 which is pivoted at 39 to an arm 40 of the supporting member 30. The auxiliary lever 38 is pivotally connected at 41 to a rod 42 which extends axially of the shaft 22. The clutch members 43 will be moved into operative position by means of the spring 44 and the clutch members 45 will be held spaced apart by means of the pin 46 which is fixed to the rod 42. The shafts 15 and 22 are connected together by means of the gears 47, 48 and a hand crank 49 is fixed to the shaft 15 so that the same may be operated to rotate the shafts 15, 22, and also actuate the cams 50.

When it is desired to feed the wide tape, a reverse movement of the lever 28 will cause the pins 51 and 52 to hold the clutch members 24, 25, and the clutch members 43, apart; and the springs 53, 54, will force the clutch members 26, 27, and the clutch members 45 into operative position so that when the hand crank 49 is operated, the wide tape will be fed by rotation of the pair of feed rolls 18, 21.

The shaft 15 which carries the feed rolls 17 and 18 is so mounted as to allow various thicknesses of tape to be used and also to keep the feed rolls 17, 18, in frictional contact with the feed rolls 20, 21 when the thinnest of tape is used.

This is accomplished by the well known spring means 55, 56 which have the members 57, 58, for applying various degrees of tension to the tape fed between said feed rolls.

A tape cutter 59 is pivotally connected at 60 to the side member 3 and is normally

held by means of spring 61 in the intermediate position shown partly by full and dotted lines in Fig. 4. The knife 59 has an extension 62 which is adapted to be engaged by the cams 50. When the hand crank 49 is operated so as to feed tape, the cams 50 engaging the extension 62 will cause the knife to move into the lower dotted line position indicated at *a*, Fig. 4. When a predetermined length of tape is fed through the rolls a reverse movement of the hand crank 49 will cause the cams 50 to move the knife into the dotted line position indicated at *b*, Fig. 4, and when moved to this position indicated at *b*, the knife will sever the tape before it has fully passed over the moistener. Plates 63, 64 cooperate with the knife 59 during its severing action, and also serve as guides for the tape during feeding action.

The moistener 5 comprises a reservoir 65 which has side walls 66 and the sloping top members 67, 68. A moistening roll 69 mounted on the shaft 70 is adapted to carry water from the reservoir to moisten the gummed surface of the tape 8. A pulley 71 is fixed to one end of the shaft 70 and is connected by means of the belt 72 to the pulley 73 which is fixed to the shaft 22.

The roll 74 is loosely mounted on a rod 75 that has its end portions turned at right angle to the roller 74, and the ends are pivotally connected at 76 to the side members 3, 4. A spring 77 engages the rod 75 and keeps the roll 74 in frictional engagement with the moistening roll 69 so that the tape will contact with the moistening roll.

The roll 74 has a cam member 78 that engages a cam member 79 fixed to the rod 75 and the cam member 78 is held in engagement with the member 79 by a coil spring on the rod 75 which construction and arrangement of parts effects a slight transverse movement of the roller 14 as it revolves that irons the tape onto the moistening roll 69 so that the gummed surface will be entirely moistened and adhesive.

An advantage of the foregoing construction and arrangement of parts is that the tape will be severed before it is fully passed over the moistening roll and ironed as it passes over so all the severed tape will be moistened as it is drawn off the moist roll for use; and also so that no moistened tape will be left in the appliance.

In practical operation the rolls of tape will be mounted on the supporting arms 2 and the free end *c* will be passed between the rolls 17, 20 or 18, 21 as the case may be, the crank 49 will be rotated which will feed the tape forward between the guides 80, 81, the guides 63, 64 and the sloping top member 68 will guide the tape between the moistening roll 69 and the roll 74.

When it is desired to feed the narrow tape

the lever 28 will be shifted to the position shown in Fig. 4. The hand crank 49 will be rotated which will rotate the pair of feed rollers 17, 20. The moistening roll 69 will be rotated by the belt connection 72 and by the time the tape has been advanced from the place where it was severed to the moistening roll, the moistening roll will have revolved so as to present a moistened surface to the gummed side of the tape and thereby thoroughly moisten all of the gummed surface. The roll 74 will be reciprocated transversely to iron the tape against the moistening roll. When a predetermined length of tape has been moistened, the hand crank 49 will be reversed which causes the cams 50 to engage the extension 62 and thereby raise the knife 59 into the dotted position shown at b, Fig. 4 in which position the knife will sever the tape before it has fully passed over the moistening roll 69. The tape may then be withdrawn from the moistening roll 69 and roll 74 by the operator without operation of the hand crank 49.

We claim:

1. The tape appliance set forth comprising a frame; shafts in said frame; a tape cutter in said frame; a long pair of rollers on said shafts for feeding a wide tape toward said cutter; a short pair of rollers on said shafts for feeding a narrow tape toward said cutter, said pairs of rollers loosely mounted on said shafts; and selective means for clutching one or the other of said pairs of rollers into driving engagement with said shafts.

2. The tape appliance set forth comprising a frame; a tape cutter on said frame; hollow shafts mounted on said frame; a pair of long rollers loosely mounted on said shafts, said rollers adapted to feed a wide tape toward said cutter; a pair of short rollers loosely mounted on said shaft, said short rollers adapted to feed a narrow tape toward said cutter; clutches for engaging said pairs of rollers with said shaft; rods extending into said shafts for engaging said clutches; and means for actuating said shafts.

3. The tape appliance as set forth comprising a frame having a tape core that is adapted to carry a wide and narrow tape; shafts supported by said frame; a pair of feed rollers loosely mounted on said shafts for the wide tape; another pair of feed rollers loosely mounted on said shafts for the narrow tape; pairs of clutch members on said shafts; pairs of clutch members on said rollers; means for engaging a pair of clutch members of said shaft with the clutch members of its respective pair of rollers; means for actuating either pairs of rollers to force tape over a moistener in said frame; and a tape cutter for severing the tape in desired lengths.

4. The tape appliance set forth comprising

a frame having a tape core mounted thereon that is adapted to carry wide and narrow rolls of gummed tape; shafts in said frame; a pair of long rollers on said shafts for feeding the wide tape; a clutch connection between said shafts and long rollers; a pair of short rollers on said shafts for feeding the narrow tape; a clutch connection between said shafts and short rollers; rods for engaging and disengaging said clutch connections; and means for actuating said shafts to rotate said pairs of rollers.

5. The tape appliance as set forth comprising a frame having a tape core mounted thereon that is adapted to carry a roll of gummed tape; hollow shafts in said frame; a pair of rollers on said shafts arranged to engage and feed tape from the roll; clutches adapted to engage said rollers with said shafts; springs for actuating said clutches; rods slidably mounted in said shafts; pins on said rods for disengaging said clutches; a lever for sliding said rods to move said pins so that said springs can move said clutches into clutching engagement; means for actuating said shafts; and means for moistening and severing said tape.

6. An appliance of the character set forth comprising a long and short pair of feed rolls arranged on hollow shafts and adapted to feed a wide or narrow gummed tape through the respective pairs of rolls; a moistener; selective means including sliding rods in the hollow shafts adapted to select the pair of feed rolls desired to be rotated; means for rotating said selected pair of feed rolls to feed tape to said moistener; means for ironing the tape as it is passed over said moistener; and means operated by a reverse movement of feed rotating means to sever the tape.

7. An appliance of the character set forth comprising parallel hollow shafts a long and short pair of feed rolls loosely arranged on said shaft and adapted to feed a wide or narrow gummed tape through the respective pairs of rolls; a moistener; selective means including rods extending into the hollow shafts and which are actuated by a lever to clutch the pair of feed rolls desired to be rotated; means for rotating said selected pair of feed rolls to feed tape to said moistener; means for ironing the tape as it is passed over the moistener; and means operated by a reverse movement of said feed rotating means to sever the tape in predetermined lengths before the same has been fully passed over said moistener.

In testimony whereof, we have hereunto set our hands at Los Angeles, California, this 27th day of January, 1922.

ADOLPH KUDLER.
HENRY ROSENTHAL.

Witness:

WM. M. GENTLE.