C. G. MORTIMER.

DEVICE FOR DELIVERING TAPE.

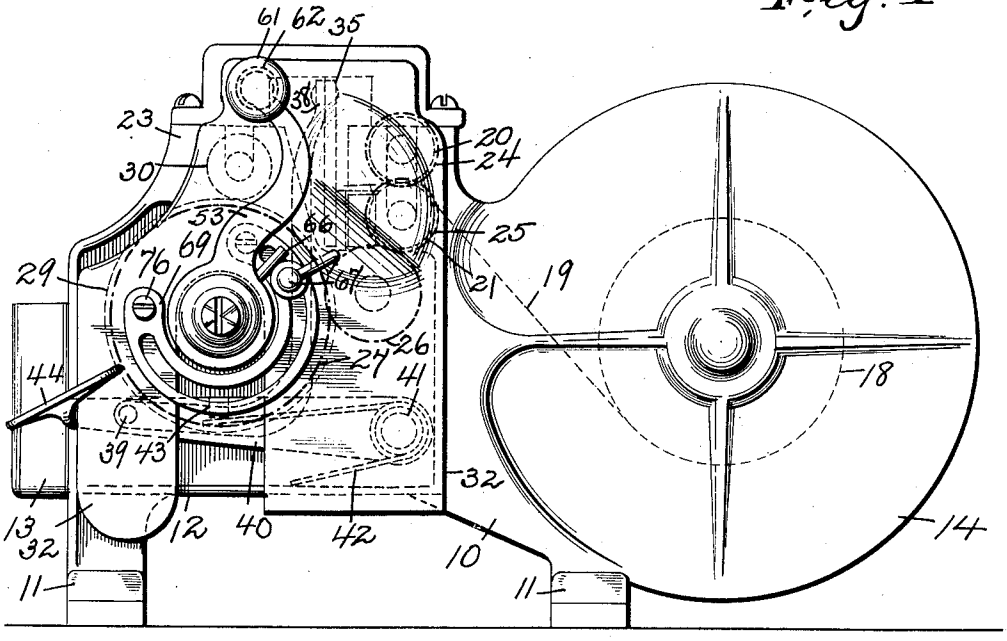
APPLICATION FILED DEC. 29, 1919.

1,364,844.

Patented Jan. 4, 1921.

2 SHEETS—SHEET 1.

Fig. 1



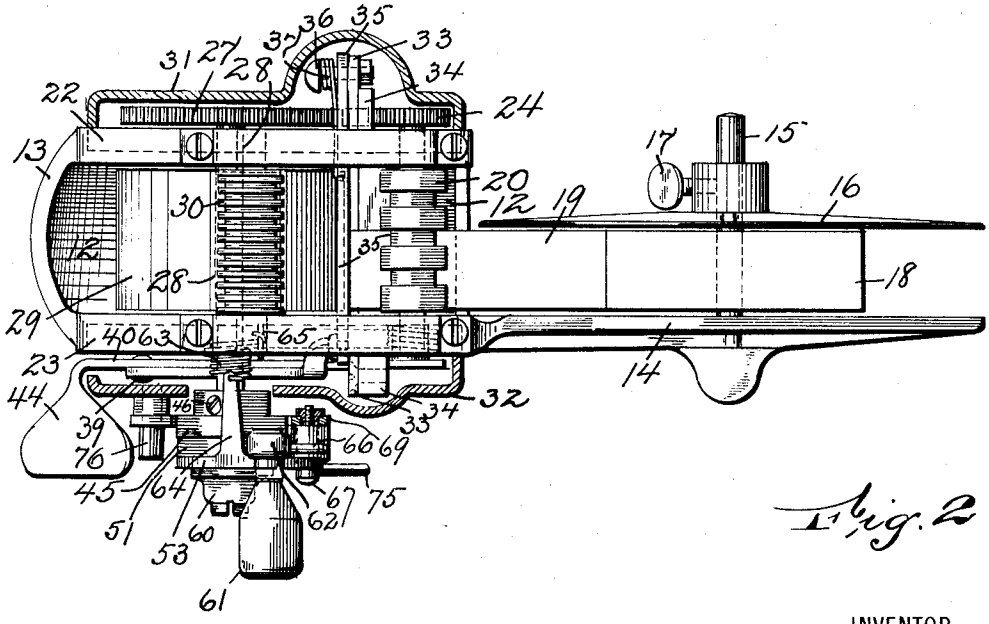




Fig. 2

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2 SHEETS—SHEET 2.

Fig. 3

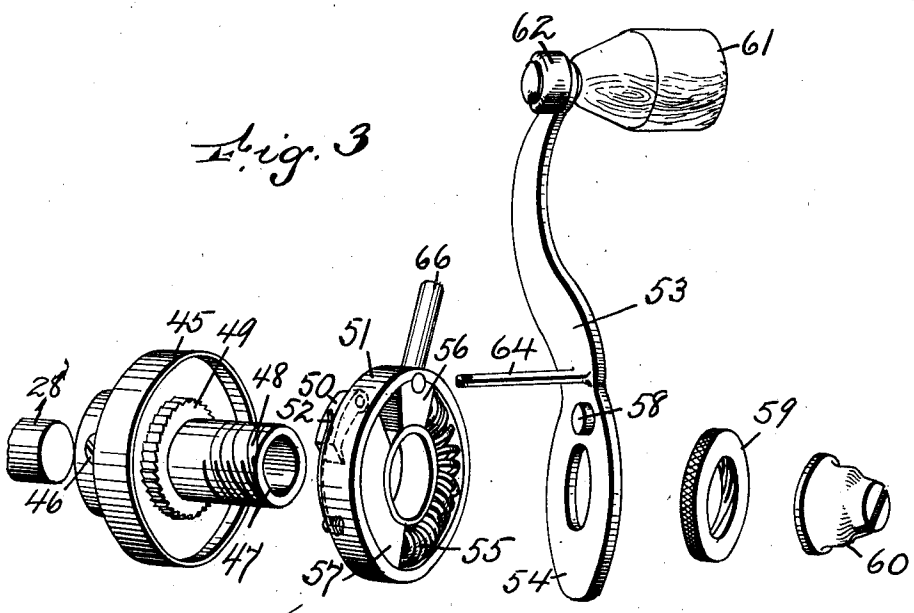



Fig. 5

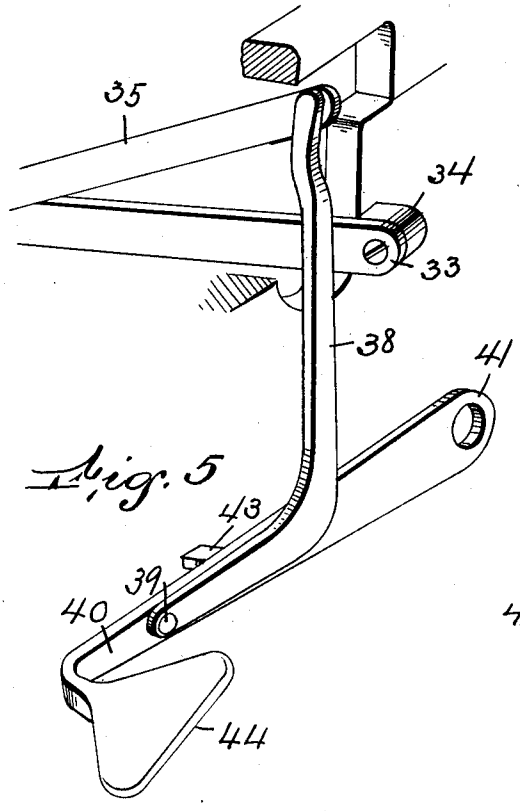



Fig. 4

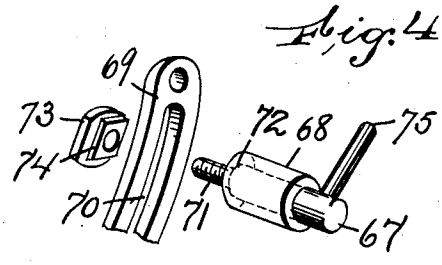
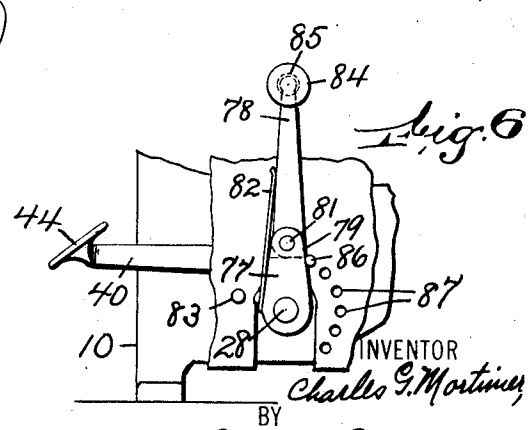



Fig. 6




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# UNITED STATES PATENT OFFICE.

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## DEVICE FOR DELIVERING TAPE.

1,364,844. Specification of Letters Patent. Patented Jan. 4, 1921.

Application filed December 29, 1919. Serial No. 348,104.

*To all whom it may concern:*

Be it known that I, CHARLES G. MORTIMER, a citizen of the United States, and a resident of East Orange, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Devices for Delivering Tape, of which the following is a specification.

This invention relates to an improved tape feeding means, and is particularly adapted for feeding paper tape that is gummed on one side and is used in lieu of string for securing the ends of wrappings on bundles and packages.

The invention relates to a machine of this kind in which but a single operation or movement of the hand is necessary, the handle being connected to a feeding means and a cutting device, so that a partial rotation of the handle successively operates the machine to project a predetermined length of tape, and, when such predetermined length has been fed, to cut the tape. When the cutting operation begins, the feeding means is automatically stopped.

The invention further consists of mechanism disposed so that the operation of feeding and then cutting takes place without any reversal of the handle, the handle being reversed only after the operation has been completed.

The invention further consists of a device of this kind which permits of a feeding of the tape to any desired length by manipulating the handle back and forth, each movement terminating short of contact with the cutting device, such cutting device being operable, at the desired time, by a movement of the handle forward to its limit of movement.

The invention is further designed to provide a machine of this kind in which an adjustment is possible, so that various lengths of tape can be fed, according to the adjustment of the machine, so that when the machine has been adjusted and the handle is operated, the length of tape that is to be delivered and severed is known.

The invention further consists in certain details of construction to be hereinafter more fully described and finally embodied in the claims.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a side view of the improved machine. Fig. 2 is a top view, with two shields or covers used on opposite sides of the machine for covering the operating parts shown in section. Fig. 3 is a view showing the parts of one form of handle mechanism, the parts being shown slightly separated to more clearly illustrate their construction. Fig. 4 is a perspective view of the parts slightly separated, illustrating a stop that is adjustable and which predetermines the initial starting point of the handle and thus can be used for regulating the length of tape to be fed. Fig. 5 is a perspective view showing that part of the machine which includes the lever for operating the cutting or severing device, and Fig. 6 is a side view of the lower part of the machine, illustrating a modified form of handle mechanism.

It has been common practice, in machines of this kind, to provide handles for manipulating the mechanism for feeding and also for cutting, but these have been complicated and have required a double operation of the handle, that is, the handle is operated in one direction for the feeding operation, and then reversed back to its initial starting point to complete the cutting operation, this requiring two positive movements of the hand, which takes time when compared with a machine of this kind in which the handle is swung forward, and when so swung forward it feeds an amount of tape and then cuts it off and the handle is released, and, having no other function to perform, is swung back to its initial position, this latter operation being usually performed by a spring.

The machine comprises a casing 10, which is preferably mounted on suitable feet 11, and it is provided on its forward end with a small receptacle or tank 12, this tank being provided with a filling and over-flow lip 13, this tank also being provided in those machines where it is necessary to apply moisture to the tape, and on the rear of the machine is a tape support in which coils of tape are adapted to be inserted, the form shown comprising a fixed flange 14, from which projects a stud 15, and the flange 16 is fastened by a suitable set-screw 17 and confines the coil 18 of tape, from which a strip 19 is drawn by the feeding means.

The feeding means, in the form shown, consists of two rollers 20 and 21 mounted in bearings in the side plates 22 and 23 of the

machine and are provided, respectively, with the gears 24 and 25, which are in mesh, and one of which is in mesh with the gear 26, which, in turn, is driven from the gear wheel 27 mounted on the main shaft 28, which main shaft is operated from the handle mechanism to be hereinafter described, and which also is used for supporting the moistening roller 29, this moistening roller being usually made of clay or similar porous material and is adapted to moisten the under side of the gummed tape that is fed through it, its passage over the moistening roller being facilitated and also all parts of the tape being assured of moistening by means of the pressure roller 30 which is mounted over the moistening roller.

Suitable shields or plates 31 and 32 are secured to the sides of the machine to cover the working parts thereof and to give the machine a smoother appearance on the outside.

The cutting mechanism is mounted preferably directly in front of the feed rollers 20 and 21 and consists of a fixed blade 33 secured to the lugs 34 of the frame, and the swinging blade 35 is pivoted at one end to a stud 36, and a spring 37 is utilized for pressing the movable blade so that its cutting edge is close up to the fixed blade so as to provide an efficient shear cut. The free or swinging end of the movable blade is pivoted to the end of an arm 38, more clearly seen in Fig. 5, the lower end of which projects forward and is pivoted, as at 39, near the front end of a lever 40, which is pivoted at 41 and normally held in its raised position by a suitable spring 42, one end of the spring bearing on the frame and the other end bearing under the lug 43.

The end of the lever 40 has an element by means of which it is operated, and by means of which it can be manually operated independent of the feeding means, if desired, in the form shown this comprising a plate 44. The arm 38 is swung **forward** at the bottom and pivoted at its **forward** end to the lever, so as to give it a maximum amount of movement, so that the swinging plate can be brought down to its closed position without undue movement of the end 44 of the operating lever 40.

The handle mechanism, which causes an operation of the feeding means, and which, when the feeding means is halted, still continues forward to operate the cutting device, is illustrated more particularly in Fig. 3. The end of the main shaft 28 is provided with what I will term a ratchet member 45, which is fastened, as by means of a screw 46, to the shaft 28, this causing the shaft to rotate with the ratchet member, the ratchet member having a sleeve 47 which fits around the end of the shaft 28 and is screw-threaded, as at 48, and within the ratchet member is a ratchet 49 which receives the pawl 50 of the pawl member 51, so that the two members are operatively connected when rotating in one direction, and disconnected when rotating in the other direction. The spring 52 insures the contact of the pawl with the ratchet.

The crank handle 53 has the disk 54 which bears up against the open face of the pawl member and closes it, so as to incase a spring 55, which is a substantially stout spring, one end resting against the fixed member 56 and the other against a sliding block 57, this sliding block being arc-shape and moving in the circular chamber in which the spring is located, and a stud 58 fits between the fixed block 56 and the sliding block 57, the parts being held in place by a nut 59, which in turn is prevented against retreating by a lock nut 60, the nut 59 on the lock nut 60 fitting on the screw-threaded end 48 of the sleeve 47.

On the end of the crank handle 53 is a handle 61, in rear of which is a suitable projection, such as the roller 62, the roller 62 being so disposed that when it is swung down it will engage the plate 44 on the end of the lever 40. The handle is held in its normal position by means of a spring 63, fastened on one end to the arm 64 and on the other end to a pin 65 on the frame of the machine. The reverse movement of the pawl member 51 is limited by the radial pin 66 engaging a projection, which, in the form shown, is the stud 67, preferably covered with a sleeve 68 of rubber or similar material to deaden the noise, and being adjustable in a circular guide 69, the slot 70 of which receives the reduced end 71 of the stud 67, and the shoulder 72 bears against the front of the guide 69, and a nut 73 has a projection 74 on its inner face to fit in the slot 70, so that the nut 73 can not turn, and when the stud 67 is screwed up tight by means of the handle 75 or similar means, the stud 67 is secured in position. The position of this stud defines the initial starting point of the handle.

The forward movement of the radial pin 66 is limited by suitable means, in the form shown this forward stop comprising a screw 76 which is also utilized to fasten one end of the curved guide 69 and also has its head projecting out far enough to be engaged by the radial pin 66.

In Fig. 1 the parts are shown in their normal inoperative position, and it will be seen that when the handle is grasped and pulled forward, the stud 58 bears against the sliding block 57, but the spring 55 is strong enough to resist compression, and, by reason of its abutting against the fixed block 66, causes the pawl member 51 to be rotated, and the pawl 50 and the ratchet 41 coöperate so that the ratchet member 45 rotates also, and being secured to the main shaft 28, the main

shaft 28 is rotated, and, by means of the gears 27, 26, 25 and 24, causes a feeding of the strip 19, which continues until the pin 66 engages the stud 76, which positively halts the pawl member, and consequently that part of the machine dependent upon its rotation, and a continued movement of the handle causes the spring 55 to be compressed, which allows such additional movement of the handle. About the time the pin 66 engages the stop 76, the roller 62 engages the plate 44, and coincident with, or immediately following, the stopping of the pawl member, and therefore of the feeding means, the operation of the cutting device begins and the operating lever 40 is swung down and carries with it the arm 39 and the movable or swinging blade 35 and the strip of tape is severed. The handle is now released, the spring 55 forces the sliding block 57 back to its original position and the spring 63 coöperates by swinging the crank handle 53 around to its original position, this being a somewhat noiseless operation on account of the resilient covering 68 of the rear stud 67.

It will be evident that the rear stud 67 can be shifted, and the farther back it is placed, the more tape will be fed before it is cut off, and in this way any establishment utilizing about the same length of tape continuously can fix the stud 67 to deliver the proper lengths of severed strips of tape, but if at any time, a longer length is to be desired, a reciprocation of the handle between the forward and rear stops, without engaging the cutting mechanism, will continuously feed tape forward, so that when it is eventually cut off the strip can be of any desired length.

A modified form of construction is shown in Fig. 6, in which the handle is made in two sections, the section 77 being fastened to the main shaft 28, and the extension 78 being hinged thereto and limited in its forward movement with respect thereto by the ends 79 engaging the members 80, and being hinged at 81, it can be swung forward against the pressure of the spring 82, which spring, however, is strong enough to hold the handle members in line while the feeding means are being operated, but when the member 77 hits the forward stop 83, the feeding stops and any further movement of the handle 84 carries the roller 85 in contact with the plate 44 of the lever 40 and thus actuates the cutting device. A pin 86 limits the backward movement of the handle and is adjustable by reason of its adaptability to fit in any of the openings 87 in the side of the machine.

It will be understood that various changes and modifications can be made without departing from the scope of my invention.

I claim:

1. A tape feeding machine comprising a feeding means, a handle adapted to operate said feeding means, an independently operable cutting device including a lever with means thereon for manual operation thereof and located in the path of the handle, and means for disconnecting the feeding means from operative relation with the handle before the handle engages the manually operable part of the lever.

2. A tape feeding machine comprising a feeding means, a handle adapted to operate the feeding means, a connection for transmitting motion from said handle to the feeding means and including a yielding element to permit excess movement of the handle, a stop for halting said feeding means to permit operation of the yielding element, and a cutting device including a lever having its end adapted for manual operation, said end being disposed in the path of the excess movement of the handle.

3. A tape feeding machine comprising a feeding means, a handle adapted to operate the feeding means, a connection for transmitting motion from said handle to the feeding means and including a yielding element to permit excess movement of the handle, a stop for halting said feeding means to permit operation of the yielding element, a cutting device including a lever having its end adapted for manual operation, said end being disposed in the path of the excess movement of the handle, means for reversing the handle to its normal position when released, and means for adjusting the stop of the feeding means.

4. A tape feeding machine comprising a feeding means which includes a shaft, a ratchet member secured to the shaft, a pawl member having a pawl to engage the ratchet, a stop for the pawl member, a sliding block arranged to move circumferentially in the pawl member, a spring to yield to movement of the sliding block, a handle rotatable on the shaft and having a stud to rest on the block to move it when the handle is turned beyond the position it is in when the pawl member engages the stop, and a cutting means including a lever which is disposed so as to be engaged by the handle during such excess movement.

5. A tape feeding machine comprising a feeding means which includes a shaft, a ratchet member secured to the shaft, a pawl member having a pawl to engage the ratchet, a stop for the pawl member, a sliding block arranged to move circumferentially in the pawl member, a spring to yield to movement of the sliding block, a handle rotatable on the shaft and having a stud to rest on the block to move it when the handle is turned beyond the position it is in when the pawl member engages the stop, and a cutting means including a lever having a manually operable part so that it can be in-

dependently operated, said part being arranged in the path of excess movement of the handle.

6. A tape feeding machine comprising a frame, a main shaft, feed rollers operated from the main shaft, a ratchet member on the main shaft, a pawl member engaging the ratchet member and adapted to be connected to or disconnected from the ratchet member, according to the direction of rotation, an adjustable stop for defining the starting point of the pawl member, a stop for limiting the movement of the pawl member, a crank handle having a compression means stronger than the resistance of the feed rollers, whereby the handle operates the pawl member and has an excess movement relative thereto when the pawl member is stopped, a cutting device, and a lever for actuating the cutting device, the lever being so disposed as to be operated by the handle in its movement after the pawl member has been stopped.

In testimony that I claim the foregoing, I have hereto set my hand, this 26th day of December, 1919.

CHARLES G. MORTIMER.