May 22, 1923. 1,455,859

R. M. BROOKS

TAPE FEED AND MOISTENING MACHINE

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Fig. 1.

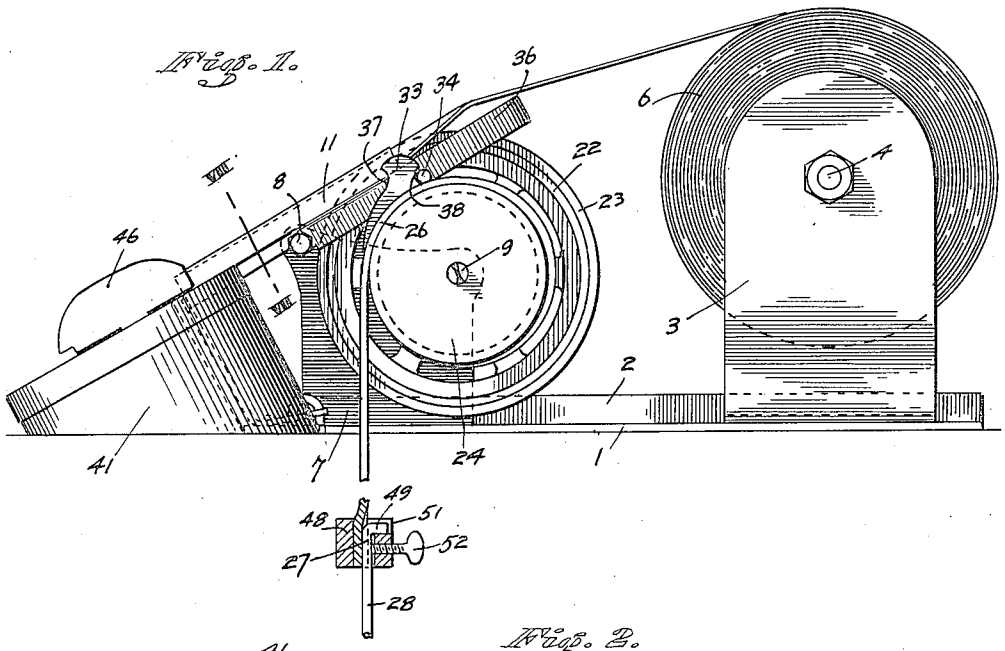


Fig. 2.

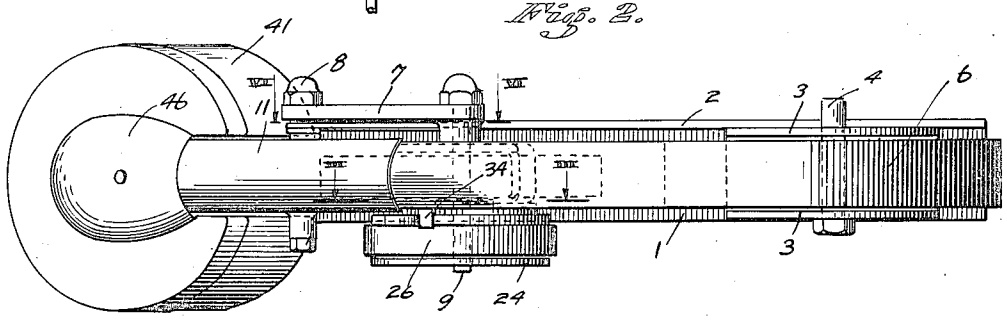


Fig. 3.

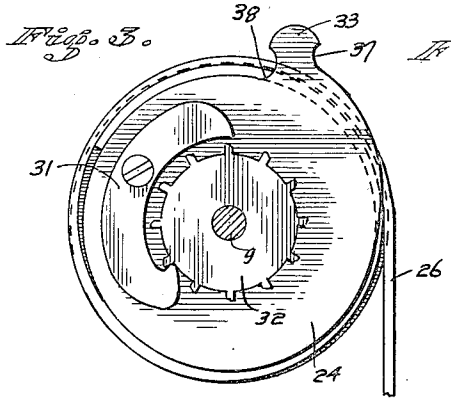
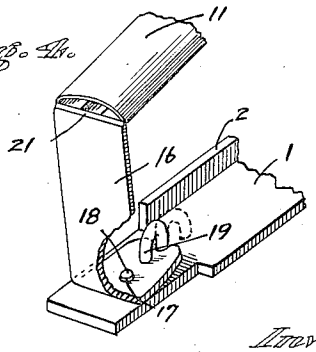


Fig. 4.



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Fig. 5.

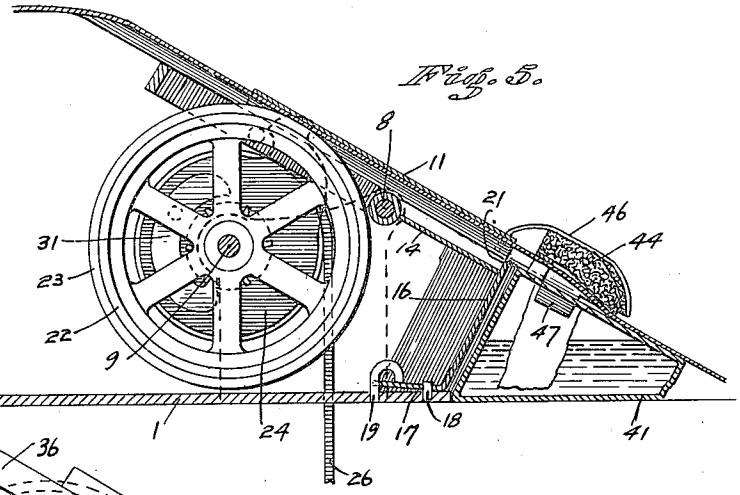


Fig. 6.

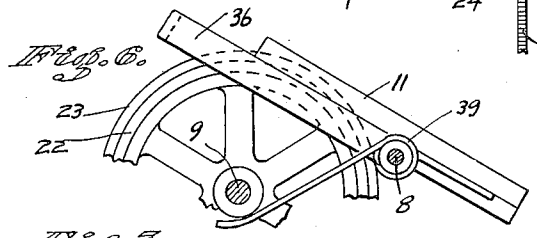


Fig. 7.

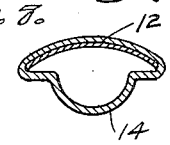


Fig. 8.

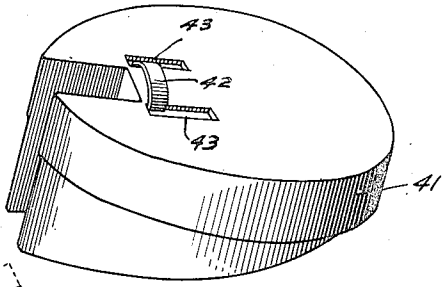


Fig. 9.

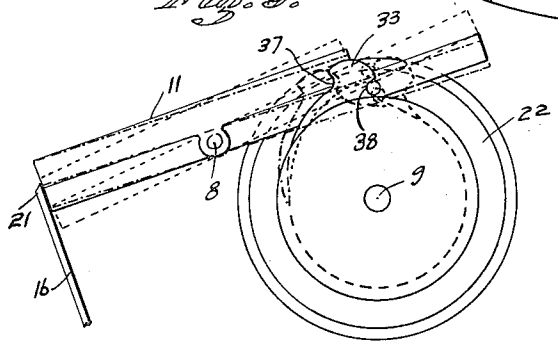
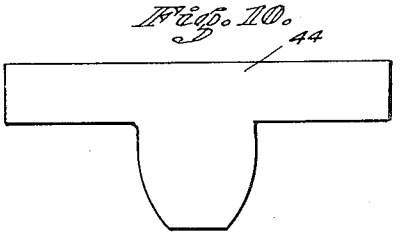


Fig. 10.



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UNITED STATES PATENT OFFICE.

RUFUS MARION BROOKS, OF ROSEBURG, OREGON.

TAPE FEED AND MOISTENING MACHINE.

Application filed November 7, 1921. Serial No. 513,534.

To all whom it may concern:

Be it known that I, RUFUS MARION BROOKS, a citizen of the United States, and a resident of Roseburg, county of Douglas, and State of Oregon, have invented a new and useful Tape Feed and Moistening Machine, of which the following is a specification.

The present invention relates to improvements in tape feeding and moistening devices such as are frequently used in stores for the convenient handling of adhesive tape. A special object of my invention is to provide means by which a portion may be separated from a roll of adhesive tape by merely pressing on a foot pedal and in which the separated piece is moistened simultaneously so that it is ready for immediate use.

With this object in view I illustrate the preferred form of my invention in the accompanying drawings, in which Figure 1 is a side elevation of my device; Figure 2 a top plan view of the same; Figure 3 an enlarged section taken along line III—III of Figure 2; Figure 4 a detail view showing the cutting means in my device; Figure 5 a longitudinal section through my device, a portion being left away; Figure 6 a sectional view along line VI—VI of Figure 2; Figure 7 a cross section taken along line VII—VII of Figure 1; Figure 8 a perspective detail view of a liquid receptacle used in my device; Figure 9 a detail view graphically illustrating the principal working movement of my device, and Figure 10 a detail view of a felt member used in my device. While the drawings show the preferred embodiment of my invention, I wish to point out that the same may be modified in many details without departing from the spirit of the present invention.

My device is mounted on the plate (1) having a flange (2) and being secured by means of screws or in any other well known manner to the top of a counter or desk or table, wherever it is to be used, in such a manner that the left hand portion of the device as disclosed in Figure 1 extends beyond the edge of the support. From the rear portion of the plate (1) rise two parallel supporting members (3) supporting the horizontal shaft (4) on which the spool (6) of adhesive tape is mounted in such a manner that the adhesive side of the tape is turned outward. The members (3) are preferably mounted in such a manner that they slightly converge toward each other so as to exert a light pressure on the spool of tape and thereby cause the latter to offer slight resistance to the unwinding of the same. Forwardly of the spool of tape a vertical supporting member (7) is secured to the flange (2) and carries the two horizontal pins (8) and (9). The former pin pivotally supports a guide way (11) for the tape, which is shown in cross section in Figure 7, from which it will be seen that it has an arched cover (12) and a channel (14). This guide leads to the cutting device illustrated in Figure 4 which comprises a blade (16) bent into angular shape and provided with a perforation (17) at or near its heel adapted to fit on the pin (18) rising from the plate (1), and a clamp (19) also secured in the plate (1) adapted to be pushed over one end of the blade so as to hold the other end (21) which represents the cutting edge of the blade firmly against the end of the guide way. It will be seen that the tape when forced through the guide way will assume its arched shape and that if the end of the guide way which is in contact with the blade is pressed downward the cutting edge (21) will engage the tape, beginning at the two edges and working towards the center so as to cut the same with scissors like action.

To impart motion to the tape I use the wheel (22) mounted on the pin (9) which is adapted at certain times to bear against the under side of the tape and when rotated to advance the tape in the guide way. The wheel is preferably surrounded with a rim (23) made of rubber. It is actuated by means of the drum (24) loosely mounted on the same pin (9) and provided with a belt (26) one end of which is secured to its rim while the other end, after passing around the drum, is led downwardly through the top of the counter to be joined as shown at (27) with a rod (28) adapted to be actuated by a foot pedal not shown in the drawing. The drum is provided on its inside with suitable spring means counter-acting a pull on the belt (26) so that immediately after the latter belt has been released the spring returns the drum to its original position. As shown in Figure 3, there is pivotally se-

cured on the drum the pawl (31) engaging a toothed wheel (32) which is rigid on the shaft. The pawl actuates the toothed wheel in one direction only so that the drum rotates the wheel (22) when actuated by the belt (26), but does not rotate the wheel when turned in the other direction by its spring. The drum is also provided with a cam (33) the shape of which is shown in Figure 1. The cam is designed to co-operate with a stud (34) extending sideways from a metal member (36) forming an integral rear portion of the guide way (11). The cam is adapted to engage the stud with its front face as well as with its rear face, and in either case it raises the stud (34) and thereby pivots the guide way (11) on its support (8). The front face (37) of the cam causes a more pronounced pivotal motion of the guide way (11), however, than the rear face (38). The three possible positions of the guide way are illustrated in Figure 9 and the operation of the cam may be explained as follows:

When the belt (26) is pulled downward by means of the foot pedal the drum rotates counter-clockwise, the stud (34) becomes disengaged from the rear face (38) of the cam and falls down on the surface of the drum so that the rear end of the guide way assumes its lowest position, as indicated in the dash and dot lines in Figure 9. To cause the stud to engage the surface of the drum immediately after being released from the rear face of the cam I provide a spring (39) on the shaft (8) as shown in Figure 6 which has a tendency to press the front end of the guide way upward and its rear end downward. In this position the guide way remains until the drum has nearly completed a full turn, at which time the stud (34) becomes engaged by the front face (37) of the cam which raises the rear end of the guide way and forces down its front end into the position shown in dotted lines in Figure 9. During this movement of the guide way the tape which extended through the guide way is cut by the cutting edge (21) of the blade (16). In the meantime the operator has released the foot pedal and under the influence of its spring the drum returns in a clockwise rotation to its original position. While thus traveling the stud (34) remaining in contact with the surface of the rim of the drum returns the guide way (11) to the dash and dot line position of Figure 9 and is forced at the end of its rotation into contact with the rear face of the cam (33) whereby it is again slightly elevated into the position shown in full lines in Figure 9. In this position the guide way is lifted sufficiently to disengage the tape from the wheel so that when the device is inactive the tape clears the rim of the wheel. I deem this a valuable feature since in damp weather it might happen that under the continuous pressure of the wheel against the tape and the guide way the former might stick to the guide way and thereby render the apparatus inoperative.

The guide way leads the tape to the moistening device which comprises a receptacle (41) preferably filled with water and provided with a small arch (42) which spans the two perforations (43) through which a strip of felt may be inserted into the receptacle so that its ends extend into the water and its central portion rests on the arch (42). The tape slides underneath the arch (42) and after passing the same comes in contact with the felt (44) in the manner illustrated in Figure 5, the felt being kept moist by capillary attraction.

The fact that the guide way has an arched top and thereby imparts the same shape to the passing tape presents two advantages: in the first place, it facilitates the proper cutting of the tape, and in the second place it stiffens or braces the tape so that the latter will make a better contact with the moistened felt. A cap (46) covers the felt and is secured on the receptacle by means of two clips (47) adapted to be pressed into the perforations (43) alongside the felt (44).

A special means for securing the belt (26) to the rod (28) is shown in Figure 1 and comprises a sleeve (48) adapted to receive the end of the belt as well as the end of the rod (28), the latter being provided with a hook (49) adapted to be received in a recess (51) of the sleeve (48). A setscrew (52) penetrates the sleeve (48) and presses the rod (28) into firm contact with the lower end of the belt (26) so that neither the belt nor the rod can be withdrawn from the sleeve as long as the screw (52) is tight.

I claim:

1. A device of the character described, comprising a pivoted guide way for a tape, a wheel associated with the guide way, means for engaging the wheel with the tape when the wheel is active and separating the tape from the wheel when the latter is inactive.

2. A device of the character described, comprising a pivoted guide way for a tape, a wheel associated with the guide way, means for engaging the wheel with the tape when the wheel is active and separating the tape from the wheel when the latter is inactive, the latter means including a drum actuating the wheel, a pin on the guide way engaging the peripheral surface of the drum and normally allowing the wheel to engage the tape and a cam on the drum adapted to disengage the tape from the wheel when engaging the pin.

3. A device of the character described, comprising a pivoted guide way for a tape, means for cutting the tape at one end of the guide way, and means associated with the

guide way for advancing the tape in the guide way and for actuating the cutting means at predetermined times.

4. A device of the character described, comprising a pivoted guide way for a tape, means for cutting the tape at one end of the guide way, and means associated with the guide way for advancing the tape in the guide way and for actuating the cutting means at predetermined times, said means including a wheel associated with the guide way for advancing the tape and a cam engaging the guide way for turning the same on its pivot at predetermined times, whereby the cutting means is actuated.

5. A device of the character described, comprising a pivoted guide way for a tape, means for cutting the tape at one end of the guide way, and means associated with the guide way for advancing the tape in the guide way and for actuating the cutting means at predetermined times, said means including a wheel associated with the guide way for advancing the tape, a projection on the guide way and a drum for actuating the wheel having a cam thereon for engaging the projection at predetermined times whereby the guide way is turned on its pivot and the cutting means actuated.

6. A device of the character described, comprising a pivoted guide way for a tape, means for cutting the tape at one end of the guide way, a wheel associated with the guide way for advancing the tape, and means for actuating the wheel and the guide way adapted to disengage the tape from the wheel when the latter is inactive, to press the tape against the wheel when the latter is active and to actuate the cutting means at predetermined times.

7. A device of the character described, comprising a pivoted guide way for a tape, means for cutting the tape at one end of the guide way, a wheel associated with the guide way for advancing the tape, and means for actuating the wheel and the guide way adapted to disengage the tape from the wheel when the latter is inactive, to press the tape against the wheel when the latter is active and to actuate the cutting means at predetermined times, said means including spring means for normally disengaging the tape with the wheel, a projection on the guide way, a drum for actuating the wheel having a cam thereon adapted to engage the projection at predetermined times so as to turn the guide way on its pivot whereby the cutting means is actuated, spring means for returning the drum to its original position whereby the other side of the cam is forced into engagement with the projection so as to separate the tape from the wheel.

8. In a device of the character described, an arched guide way for a tape being pivotally supported, a cutting blade operatively associated with the guide way, and means for turning the guide way on its pivot at predetermined times whereby the blade is rendered operative.

9. In a device of the character described, an arched guide way for a tape being pivotally supported, cutting means comprising a blade bent into angular shape having a perforation at the heel, a fixed pin for engaging said perforation, means for clamping one end of the blade to a fixed support whereby the other end is forced against the guide way, and means for turning the guide way on its pivot whereby the blade is rendered active.

10. In a device of the character described, an arched guide way for a tape, means for cutting the tape at the end of the guide way, and a moistening device for receiving the tape from the guide way comprising an arched guide and moistening material mounted rearwardly of the same, the arched guiding means bracing the tape so as to establish a firm contact between the latter and the moistening means.

RUFUS MARION BROOKS.