March 24, 1936. R. W. PHILLIPS 2,035,374

MEANS FOR RENDERING STRIP MATERIAL ADHESIVE

Original Filed May 12, 1930

Fig. 1.

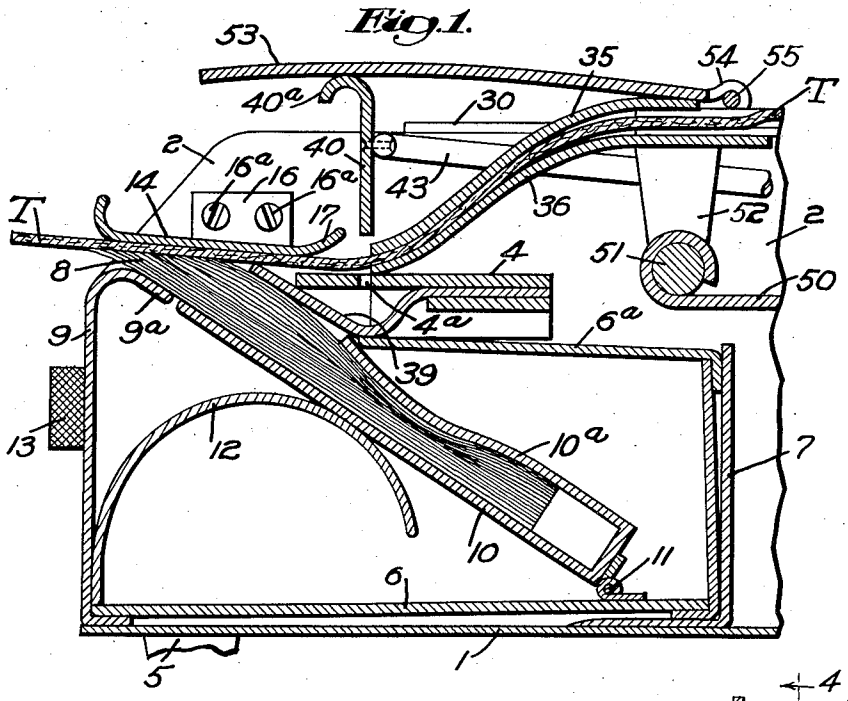


Fig. 4.

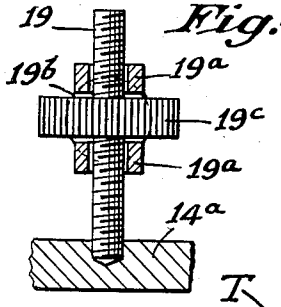


Fig. 3.

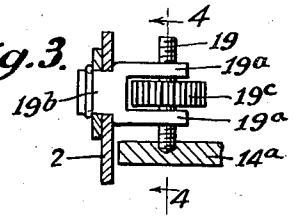
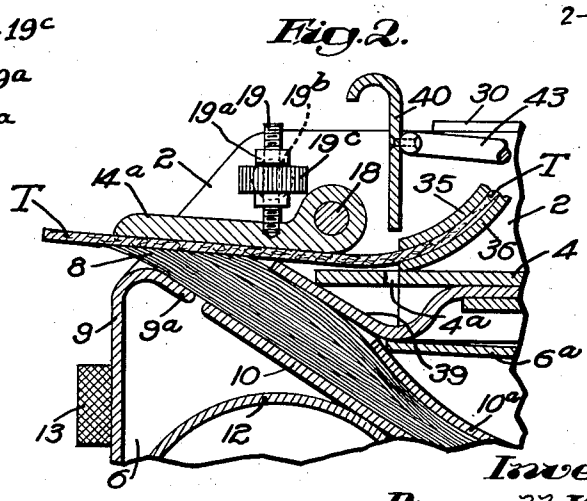


Fig. 2.



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MEANS FOR RENDERING STRIP MATERIAL ADHESIVE

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Original application May 12, 1930, Serial No. 451,773, and April 7, 1932, Serial No. 603,777. Divided and this application April 9, 1934, Serial No. 719,715

4 Claims. (Cl. 91—14.5)

My present invention relates to means for moistening strip material, or for delivering strip material in moistened or adhesive condition, such material including adhesive or gummed tape and labels, particularly for use in connection with packaging, labeling and the like. It aims to provide an efficient, simplified and otherwise improved means of the class referred to. This application is a division of my copending application S. N. 451,773, filed May 12, 1930, now patent No. 1,959,293, dated May 15, 1934, and also of my copending application S. N. 603,777, filed April 7, 1932 as a continuation in part of said first mentioned application.

In the drawing, illustrating by way of example certain embodiments of the invention,

Fig. 1 is a longitudinal vertical section through the fore portion of a strip-serving machine or apparatus and illustrating one form of strip delivering, and moistening or adhesive-rendering means, in accordance with my invention;

Fig. 2 is a corresponding view of a modified form of the moistener-cooperative strip-guiding means of Fig. 1;

Fig. 3 illustrates the positioning and adjusting means of Fig. 2, looking at said figure from the left; and

Fig. 4 is an enlarged section on the line 4—4 of Fig. 3.

Referring first more particularly to Fig. 1, the means there illustrated comprises a frame or housing, including a base 1 and side walls, one of which is seen at 2. The side frames may be suitably interconnected, as by means of the cross strap seen in section at 4. The housing may be formed of one or more sections of sheet metal, or otherwise constructed, and desirably rests on cushioned feet, one of which is indicated at 5.

In Fig. 1 I have illustrated sufficient of the forward or delivery end of the apparatus to afford a complete understanding of the invention. The strip-moistening or adhesive-rendering means comprises a reservoir 6 adapted for removable reception on the base 1 and between the frame sides 2, wherein it may be longitudinally positioned as by a rear stop 7. The reservoir herein includes a rear top wall 6a.

In conjunction with the reservoir I have herein provided novel means for supporting a capillary-feed or brush moistener 8 in improved cooperative relation with the strip to be moistened. It will be understood that in the case of previously gummed strips the reservoir is supplied with water for conduction to the strip by the brush moistener, or if used with non-gummed material the reservoir is supplied with suitable adhesive, such as mucilage or the like. In the present embodiment of the invention the moisture-conveying fibers or hairs of the brush 8 are held against objectionable flexing either at their free ends or elsewhere. For this purpose, the front wall 9 of the reservoir is extended inwardly and downwardly as indicated at 9a, at an angle approaching the horizontal, approximately 45 degrees as shown.

In substantial continuation of the inclined portion 9a is a flat brush rest 10 in which the moistener or brush is removably but firmly positioned as by the reversely extending clamp or holder 10a. This brush support as a whole is vertically yieldable, and for this purpose the rest or support 10 is in this instance pivoted on the reservoir in any suitable manner, as by means of the pivotal connection illustrated at 11, and the rest is urged upwardly as by the spring means 12. The reservoir and brush are removable from the apparatus as a unit, a finger piece 13 being herein provided to facilitate their insertion and removal.

The strip or tape T coming from a suitable supply, generally in roll form, is passed across the brush in a path herein approaching parallelism with its hairs or bristles. In cooperative relation with the brush, I provide an overlying plate or guide 14, which may be variously constructed and arranged. In the form of Fig. 1, such plate or guide comprises the cross-member 14, seen in section, between the side frames 2 and having lateral flanges 16 by which it is secured to the latter, as by means of the bolts or screws 16a. The rear edge of the guide or plate 14 preferably is upturned as at 17 for reception of the leading end of the strip or tape T and to assist in guiding it to and across the moistener, the latter being urged upwardly by the spring means 12 into efficient moistening relation with the under face of the tape as it passes between the brush moistener 8 and the guide or plate 14.

The strip guide or feeding means and the means for cutting off a length of the strip are sufficiently illustrated in Fig. 1 to afford an understanding of their cooperative relation to the described moistening means, and of the operation of the apparatus as a whole, it being understood that the moistening device or unit is susceptible of use separately, as for moistening labels and the like, and in combination with strip-serving apparatus of various constructions. In the apparatus illustrated by way of example, there is in-

cluded a vertically movable cover spanning and supported on the side frames, its front portion being seen at **30**. The cover carries a strip guide throat including the spaced upper and lower walls **35** and **36** which provide between them a forwardly and downwardly directed channel for conducting the tape to the severing and the moistening means. These channel or throat members **35, 36** terminate substantially at the point at which the strip is to be cut off, from which point the strip is accurately guided for delivery to and past the moistener, herein by the fore portion of the cross-strap **4** previously mentioned, serving as a table or platform, in cooperation with the upturned rear edge **17** of the guide plate **14** and with a preferably somewhat resilient piece **39** secured to the cross-strap **4** and formed to extend across from the front edge of reservoir top wall **6***a* into substantial engagement with the brush **8** adjacent the line of engagement of the strip T with the latter. The front portion of said piece **39** desirably is in substantial parallelism with the brush and assists in properly directing its hairs or bristles.

While any preferred means may be employed for cutting off the strip I have illustrated for that purpose mechanism as more fully shown and described in my copending applications mentioned. This severing or cutting mechanism comprises a movable knife or blade **40**, the lower cutting edge of which may be tapered or otherwise inclined transversely as in said previous applications. This knife is carried on a vertically movable knife lever, the front end of which is seen at **43**. The knife and its lever are normally urged upwardly by suitable spring means, not shown, and which, as in the copending applications, may bear between the lever and a shelf, the front end of which is seen at **50**, supported on a stud **51** on a post **52** hung from the cover **30**. The knife **40** may be depressed to sever the tape by manually engaging its flanged portion **40***a*, or a knife actuator or operating plate **53** may be provided. As shown, this knife-operating-plate is formed with eyes **54** by which it is pivoted on a bar **55** on the cover **30**, the actuator bridging the space between the upper level of the tape guide channel **35, 36**, and the severing blade **40**. By means of the actuator **53** the blade is adapted to be operated during a substantially straight-line continuation of the movement of the operator's hand in the direction of the tape feed. That is, the operator's fingers move uninterruptedly from the bar **53**, which acts as a stop or limiting means for the tape feed, across the plate or actuator **53** and thereby depress the knife **40** and sever the tape or strip against the cross-member **4**, the latter being slotted as at **4***a* for the passage of the blade.

One modified construction for the strip guiding plate which cooperates with the brush moistener is illustrated in Fig. 2, wherein like reference numerals refer to like parts as in Fig. 1 and parts not otherwise referred to may be understood to be the same as in said figure. Referring to Fig. 2, I have therein provided a guide element or strip depressor **14***a*. This guide element is disposed in opposing cooperative relation to the brush moistener **8** and, as in Fig. 1, is normally stationary but is variably positionable. It is pivotally supported as by the stationary pin **18** extending transversely of the side frames **2**, and has attached to it an upright post **19** projecting loosely through spaced ears **19***a* on a lug **19***b* which is pivoted in the adjacent side wall **2**. A nut **19***c* is adjustably threaded on the post **19**, between the ears **19***a*; thus by turning the nut, the guide element or plate **14***a* may be raised or lowered and held in the desired adjusted position with respect to the brush, the ears and their lug **19***b* swiveling in the side frame to permit the desired positive adjustment. During operation of the moistening means the plate thus remains fixed in its desired adjusted position, the brush being urged upwardly against the plate, or against the under face of the strip when the latter is present below the plate, by its spring means **12**.

It will be understood that the invention is not limited to the particular illustrative embodiments thereof as shown and described, its scope being pointed out in the following claims.

I claim:

1. In a strip serving device, a liquid reservoir, an inverted brush therein, a brush carrier including a member inclined in the direction of strip feed and supporting the hairs or bristles through the major portion of their length, said carrier having its lower portion hingedly connected to the reservoir, and spring means urging the carrier upwardly about its hinge.

2. In a strip serving device, a liquid reservoir, an inverted brush therein, a brush carrier including a member inclined in the direction of strip feed and supporting the hairs or bristles through the major portion of their length, said carrier having its lower portion hingedly connected to the reservoir, spring means urging the carrier upwardly about its hinge, a housing receiving the reservoir, and a stationary guide on the housing overlying the upper end of the brush in position to guide a strip in moistening relation to it.

3. In a strip serving device, strip moistening means comprising a reservoir, an inverted brush in the reservoir, extending upwardly and forwardly at an angle distinctly removed from the vertical and having its upper end projecting from the reservoir, a brush rest comprising a plate within the reservoir and underlying the brush to position the latter at said angle, spring means supporting said plate in said position, and means to hold the brush flatwise on said rest.

4. In a strip serving device, a housing, a reservoir supported thereby, an inverted moistening brush projecting upwardly from the reservoir, a plate-like strip guide element overlying the projecting end of the brush and vertically movable about a horizontal pivot for adjustment toward or away from the brush, and means for positioning and positively performing vertical adjustments of said strip guide element, said means comprising an element mounted for swiveling movement about a fixed horizontal axis, a threaded post fixed on one of said elements, a pair of vertically spaced members on the other element, and a nut received on the post and positioned thereby between said pair of spaced members, turning of said nut on the post serving positively to move the strip guide element toward or away from the moistening brush thereby to effect positive incremental vertical adjustments of said strip guide element in either of said directions and of any desired extent within the operating limits, the adjusted positions of the strip guide element including positions wherein the latter is out of contact with the moistening brush in the absence of a strip between it and the brush.

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