

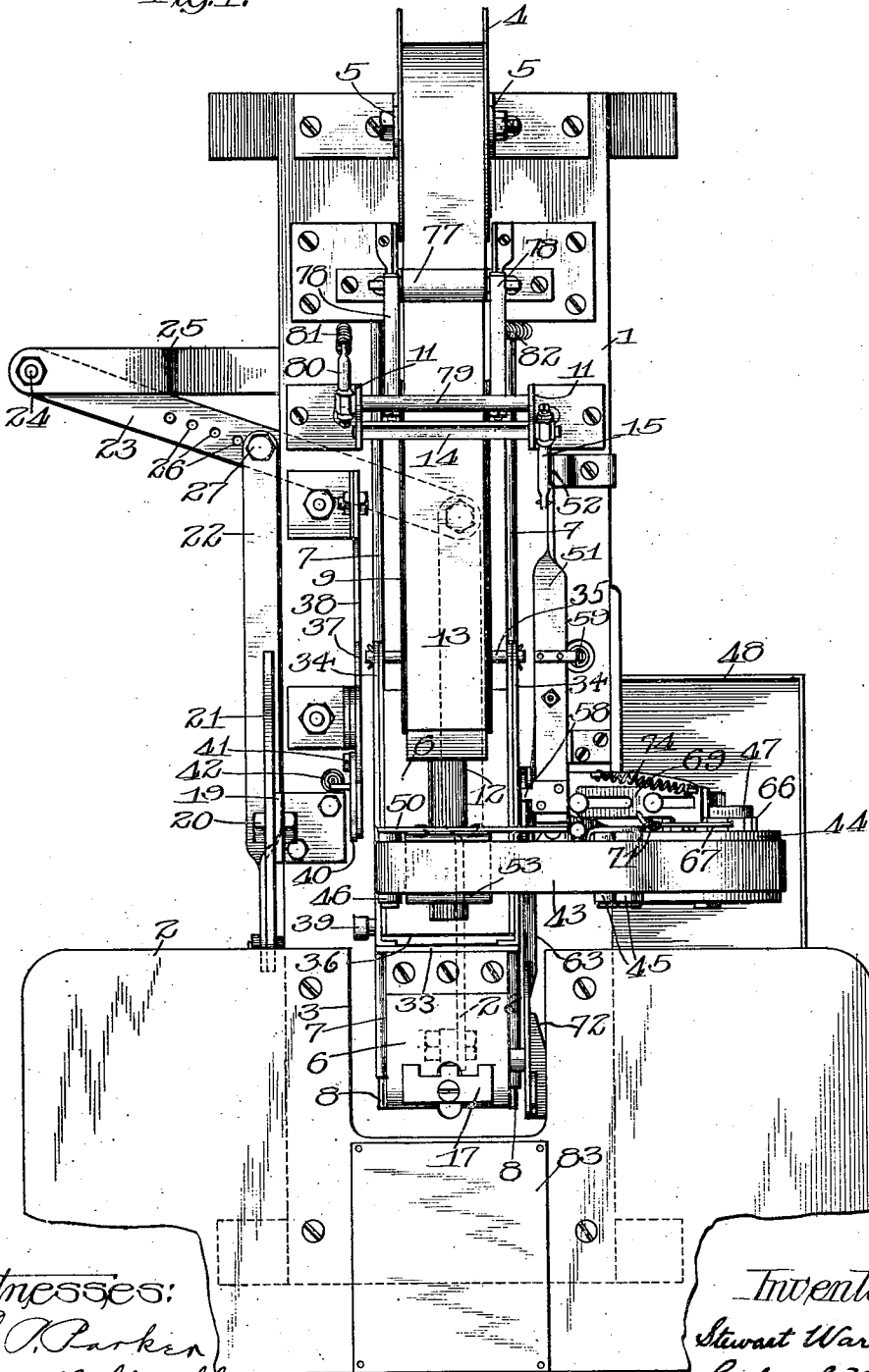
S. WARING.
 STRIP SERVING DEVICE.
 APPLICATION FILED DEC. 16, 1909.

1,012,038.

Patented Dec. 19, 1911.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
 C. O. Parker
 George L. Chindehl

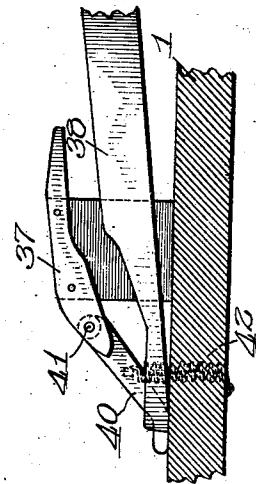
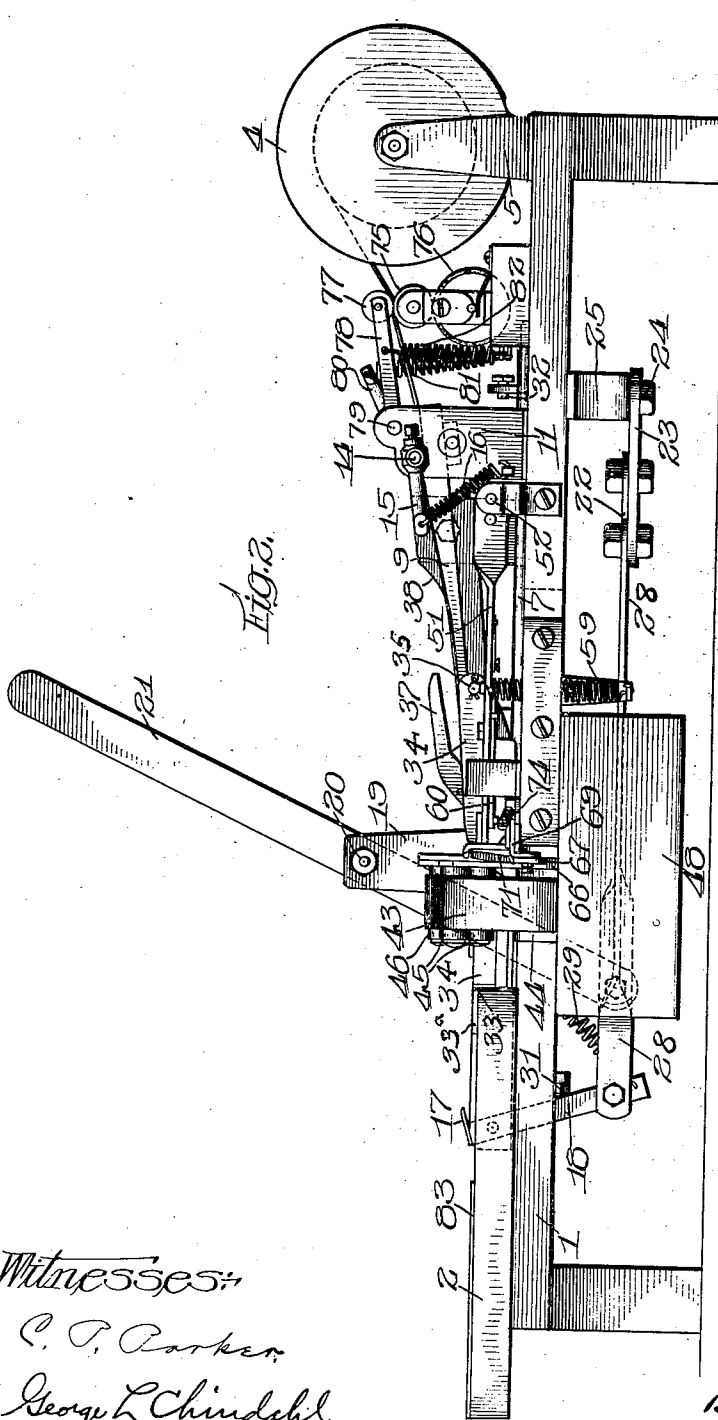
Inventor:
 Stewart Waring
 By Luther L. Miller
 Att'y

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4 SHEETS—SHEET 2.



Witnesses:

C. T. Parker
George L. Chindahl

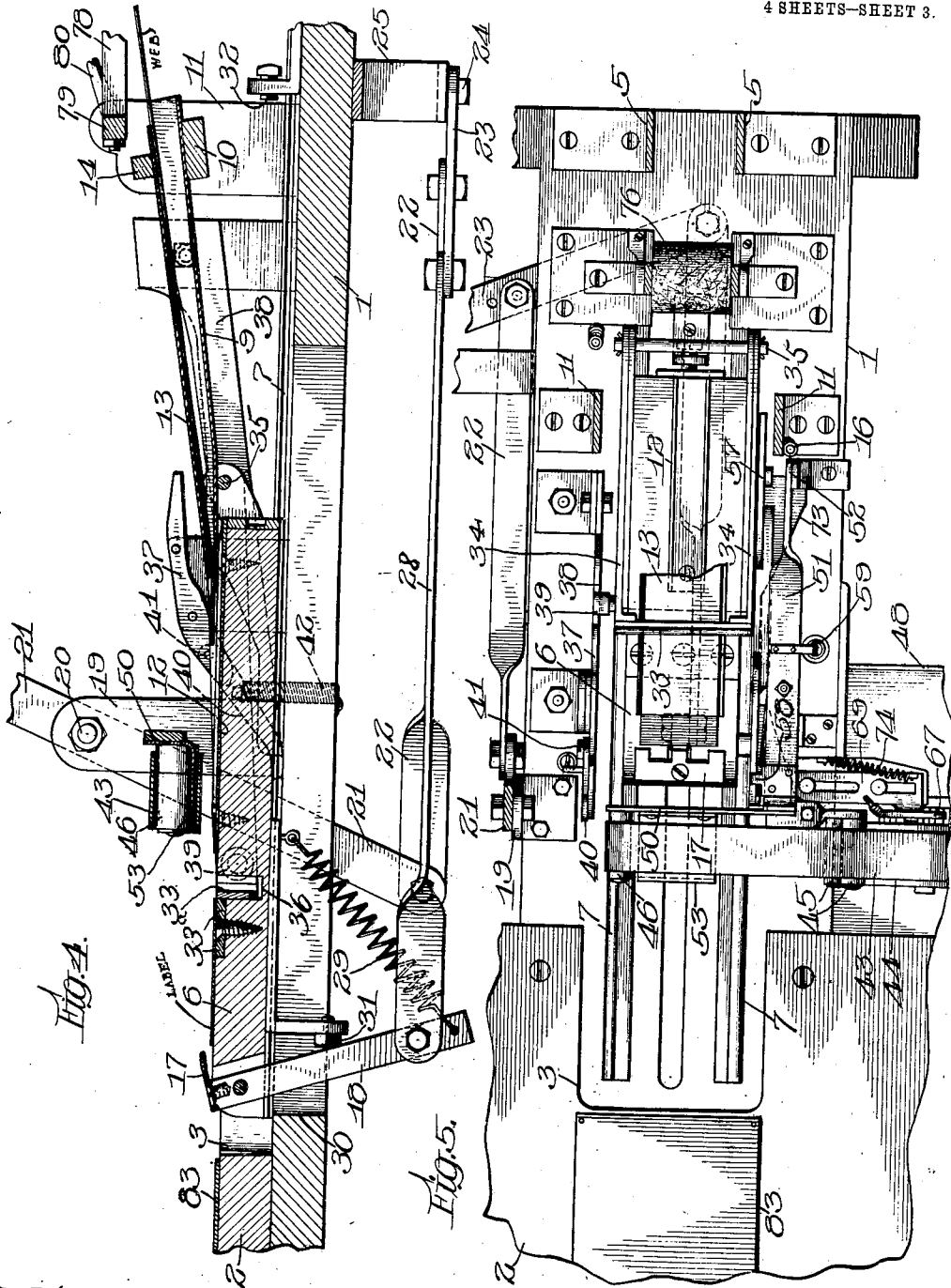
Inventor:

Stewart Waring
By Luther L. Miller
Atty.

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4 SHEETS-SHEET 3.



Witnesses:
C. T. Parker,
George L. Chindahl

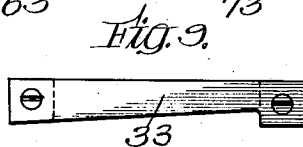
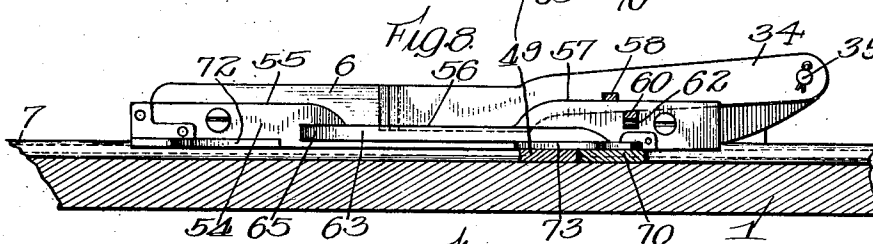
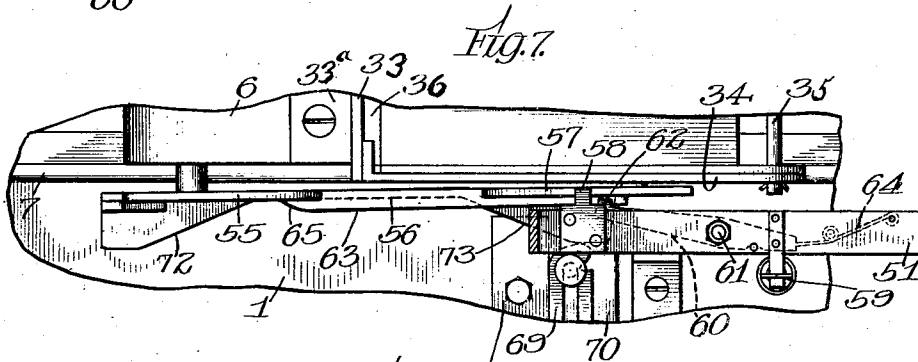
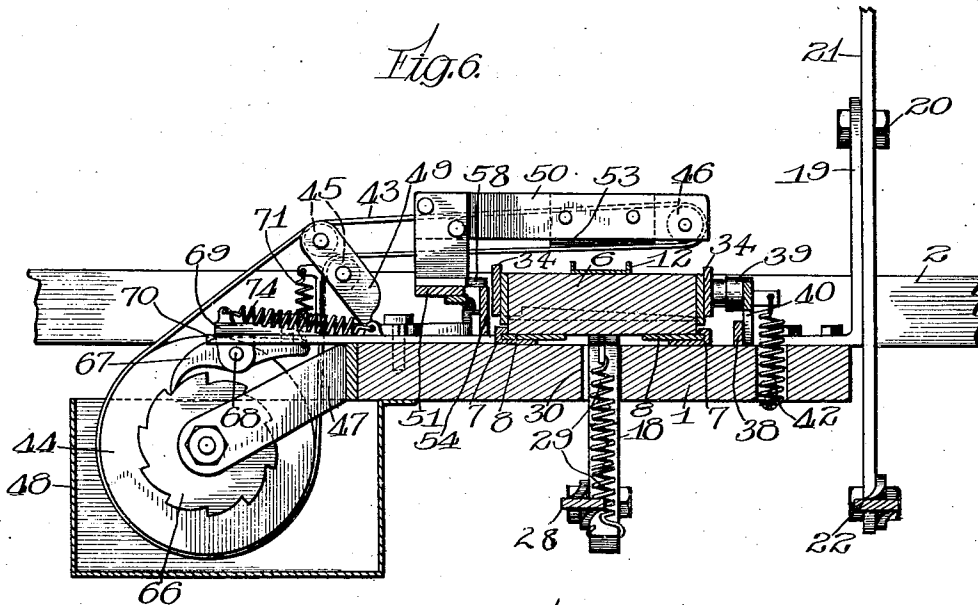
Inventor:
Stewart Waring
By Luther L. Miller,
Att'y

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4 SHEETS—SHEET 4.



Witnesses:
C. J. Parker
George L. Chindahl

Inventor:
Stewart Waring
By Luther L. Miller
att.

UNITED STATES PATENT OFFICE.

STEWART WARING, OF EVANSTON, ILLINOIS, ASSIGNOR TO SEARS, ROEBUCK AND CO.,
OF CHICAGO, ILLINOIS, A CORPORATION OF NEW YORK.

STRIP-SERVING DEVICE.

1,012,038.

Specification of Letters Patent.

Patented Dec. 19, 1911.

Application filed December 16, 1909. Serial No. 533,338.

To all whom it may concern:

Be it known that I, STEWART WARING, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Strip-Serving Devices, of which the following is a specification.

It has been the custom among manufacturers of wall paper to market the rolls of paper with the outer end of the web loose. In handling the rolls, the paper has often become partially unrolled, and various other disadvantages have resulted from the practice of leaving the end of the web unattached. Efforts have been made to secure the end of the web to the roll by means of a gummed label or sticker applied by hand, but such efforts have always been discontinued, chiefly because the rolls become soiled through the inevitable soiling of the operative's hands.

I have devised a machine for facilitating the securing of the outer ends of rolled wall paper by means of sections of gummed tape, which machine may be rapidly operated, and without soiling the rolls. An incidental advantage attending the use of the machine is that the sections of gummed tape may be utilized as labels to indicate the character of the paper or to convey any other desired information.

I will describe my invention as embodied in a machine of the character referred to, although it will be understood that the invention is susceptible of various other uses.

In the accompanying drawings, Figure 1 is a top plan view of a machine embodying the features of my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a detail view of certain cams for operating a knife comprised in the machine. Fig. 4 is a fragmental longitudinal vertical central section. Fig. 5 is a fragmental top plan view. Fig. 6 is a detail view illustrating the moistening apparatus. Fig. 7 is a top plan and Fig. 8 is a side elevation of various cams and the parts actuated thereby. Fig. 9 is a detail view of the movable knife.

The embodiment herein shown of my invention comprises means for supporting a roll of gummed tape, means for cutting off a section of tape, means for moistening the severed section, and means for presenting said section, with its gummed and moistened

face uppermost, at a point where the operator can conveniently lay a roll of paper or other article on said section, and without handling the latter.

The mechanisms of the machine may be supported upon a framework of any suitable construction, said framework, in this instance, comprising a base 1. Upon the forward end of the base is a table 2 having a recess 3 in its rear edge. Upon the rear end of the base 1 is a reel of any suitable construction, as, for example, a spool 4 rotatably supported in brackets 5. The spool has wound thereon a quantity of tape, which in this instance is gummed upon one side. A slide 6 is arranged to be reciprocated between the table 2 and the reel, said slide, in this instance, being mounted upon two parallel rails 7 fixed to the base 1. See Fig. 6. Upon the lower side of the slide 6 are outwardly extending flanges 8 which are mounted within the bent flanges of the rails 7. Forwardly of the reel is a chute 9 fixed at its rear end upon a cross bar 10 (Fig. 4) extending between two posts 11 fixed upon the base, the forward end of said chute resting upon the slide 6. On the rear portion of said slide is fixed a rail 12 upon which the forward end of the chute rests at times. The web extends from the reel into and through the chute with its gummed side uppermost, and is confined in said chute by a cover plate 13 fixed near its rear end to a bar 14, said bar being pivotally supported in the posts 11. Upon one end of the bar 14 is fixed an arm 15. A coiled spring 16 extending between the free end of said arm and a fixed point upon the frame of the machine, holds the cover plate yieldingly against the web lying within the chute. The length of travel of the slide 6 is such that when the slide is in its rearward position the forward end of the chute overlies the forward part of said slide, and presents the end of the web in position to be grasped by suitable means provided for that purpose upon the slide. Said means may consist, as herein shown, of a clamping jaw 17 fixed to the upper end of an arm 18 pivoted in the slide. In the embodiment herein illustrated, said clamping jaw is actuated and the slide reciprocated by a single means, which means, in this instance, is manually operated.

On a bracket 19 fixed to the base 1 is pivoted at 20 a hand lever 21, the lower

end of which lever is connected by means of a link 22 to the mid portion of an arm 23 which is pivoted at 24 to the bracket 25 fixed to the base. One end of said arm is connected by means of a link 28 to the lower end of the arm 18. If desired, the point of connection between the link 22 and the arm 23 may be made adjustable, as by providing a plurality of openings 26 each adapted to receive the pivot 27. A coiled spring 29 extending between the lower end of the arm 18 and a fixed point upon the slide 6 tends to swing said arm in the direction to open the clamping jaw 17. Whenever the hand lever 21 is released by the operator, the spring 29 rocks the arm 18 and opens the clamping jaw 17. A slot 30 (Figs. 4 and 6) is provided in the base 1, through which slot the arm 18 extends.

31 is a stop on the slide 6 to limit the rearward swinging movement of the arm 18. The rearward travel of the slide 6 is limited by any suitable means, as an adjustable stop 32 (Fig. 4). In this embodiment the forward limit of movement of the slide is determined by the contact of the arm 18 with the forward end wall of the slot 30, but obviously any other suitable stop means may be employed.

Assuming the hand lever to have been swung rearwardly: when the operator grasps the handle and draws it toward himself, the slide 6 will be moved rearwardly until the rear end thereof strikes the stop 32, bringing the clamping jaw 17 near the free end of the web. When the operator swings the hand lever rearwardly, the clamping jaw 17 is first closed, pinching the free end of the web between itself and the upper surface of the slide, and then the slide is advanced until the forward portion of the slide enters the recess 3 in the table 2.

The means herein shown for severing the web to provide a section of suitable length consists of a knife 33 (Fig. 9) secured to the forward end of two arms 34, said arms being pivotally mounted upon a pin 35 carried by said slide. A transverse opening 36 is provided in the slide into which the knife descends upon the completion of a cutting movement. Fixed to the slide 6 is a stationary knife or shear blade 33^a coacting with the movable knife 33 in cutting the tape. Means is provided for actuating the knife to sever the web after a sufficient portion thereof has been drawn out of the chute by the clamping jaw 17 in the forward movement of the slide. Said knife-actuating means, in this instance, comprises two cam plates 37 and 38 fixed upon the base 1 at the side of the path of movement of the slide. Upon one of the arms 34 is mounted a roller 39 adapted to move through the space between the cam plates 37 and 38 and over the upper side of the cam plate 37.

Upon the rearward movement of the slide 6 the roller 39 is directed over the cam plate 37 by means of a switch cam 40 pivoted at 41 in position to close the space between the cam plates 37 and 38, a spring 42 yieldingly holding said switch in the position just referred to. When the slide 6 moves forward, the roller 39 travels through the space between the cam plates, the knife 33 being depressed into the opening 36 at the proper moment to sever the web. In its forward movement the roller raises the switch cam, but upon the return movement of the slide the roller is directed by the switch cam onto the upper surface of the cam plate 37, dropping thence onto the rear portion of the cam plate 38. As the slide 6 moves forward, the severed section of tape is drawn beneath a suitable means for moistening the gum upon the section. In this instance, the moistening means comprises an endless belt 43 of felt or other suitable absorbent material, said belt running over pulleys 44, 45 and 46. The pulley 44 is carried upon a bracket 47 fixed to the base 1 and lies within a pan 48 containing water. The idlers 45 are mounted upon a bracket 49 fixed to the base. The idler 46 is attached to the angular portion 50 of an arm 51 which is pivoted at 52 to the machine frame. The arm portion 50 extends transversely of the path of movement of the slide 6, and is arranged to support a part of the lower run of the moistening belt above the path of movement of the slide. 53 is a backing plate fixed to the angular arm-portion 50 and overlying the lower run of said belt.

The arm 51 is rocked to depress the belt onto the section of tape, and to raise it therefrom, by means of a plate 54 having cam surfaces 55, 56 and 57 thereon, said plate being fixed to the side of the slide 6. See Fig. 8. A projection 58 fixed upon the arm 51 is held in contact with said cam surfaces by a coiled spring 59. When the slide is in its forward position the cam surface 57 holds the arm 51 elevated, and when the slide is in its rearmost position the cam 55 performs a similar function. When the slide is moving forward the projection 58 follows the contour of the cam surfaces 55, 56 and 57, thereby causing the belt to be depressed onto the severed section at the proper time, and raised. On the return or rearward movement of the slide, however, the clamping jaw 17 is open, and therefore the arm 51 must remain elevated so as to hold the moistening belt out of the path of movement of the clamping jaw. The means herein shown to attain this result comprises an arm 60 (Fig. 7) pivoted at 61 upon the under side of the arm 51 and carrying at its free end a projection 62 which is adapted to ride upon the upper side and the outer edge of a cam strip 63 fixed to the cam plate

54. A spring 64 tends to swing the arm 60 so as to hold its free end in contact with the cam strip 63. When the slide 6 begins its forward movement the projection 58 is supported upon the cam surface 55, and before said cam projection reaches the declivity leading from the surface 55 to the surface 56, the surface 65 of the side edge of the cam strip 63 engages the projection 62 and rocks the arm 60 so that the latter lies at the side of the cam strip. As the slide continues its forward movement, the spring 59 draws the projection 58 down the declivity leading to the cam surface 56, thereby depressing the belt onto the severed section of tape. As the slide approaches its forward position the projection 58 rides up onto the cam surface 57, thereby raising the belt-carrying arm 51 and with it the arm 60 until the projection 62 on said arm 60 is above the cam strip 63, when the spring 64 rocks said arm 60 to place said projection directly behind the beveled rear end of said cam strip. When the slide moves rearwardly, the projection 62 rides up onto the upper surface of the cam strip 63, thereby supporting the belt-carrying arm 51 upon said cam strip and preventing the spring 59 from depressing said belt-carrying arm. When the slide nears its rearward position, the cam strip 63 moves out from under the projection 62, whereupon the projection 58 drops onto the surface 55.

The means herein shown for moving the moistening belt 43 comprises a ratchet wheel 66 (Fig. 6) fixed to the side of the pulley 44, and a pawl 67 arranged to engage the teeth of said ratchet wheel and pivoted at 68 upon a slide 69 mounted upon a plate 70 fixed to the base. A spring 71 holds the pawl in engagement with the ratchet wheel. The slide 69 is moved by two cams 72 and 73 fixed upon the slide 6, and a spring 74 that holds the forward end of said slide 69 in contact with said cams. In this instance, the slide 69 is given two movements in each movement of the slide 6. When the slide 6 is moved the slide 69 is reciprocated by the cams 72 73 and the spring 74.

If desired, descriptive matter may be printed upon the ungummed side of the tape. I have herein shown a form roller 75 (Fig. 2) rotatably supported in suitable bearings upon the base of the machine; an inking roller 76 also rotatably supported in suitable bearings just below the form roller; and an impression roller 77 for holding the tape in contact with the form. Said impression roller is rotatably mounted on arms 78 fixed upon a rock shaft 79, said shaft being supported in the posts 11. Any suitable means may be provided for yieldingly holding the impression roller against the tape, as, for example, an arm 80 fixed upon one end of the rock shaft 79, a spring 81

exerting its force upon said arm and a spring 82 tending to draw one of the arms 78 downward. When the tape is moved by the clamping jaw 17, the rollers 75 76 77 are rotated, and an impression is made upon the under side of the tape.

At a suitable place, as upon the table 2 in front of the recess 3 is located means for absorbing superfluous moisture from the label, as, for example, a pad 83 of felt or blotting paper.

Assuming a roll of tape to be in place in the machine with the free end of the tape threaded between the form roller 75 and the impression roller 77 and through the chute 9, and further assuming that the slide is in its rearmost position, as shown in Fig. 5, the operation is as follows: The operator pushes the hand lever 21 rearwardly, thereby closing the clamping jaw 17 upon the free end of the tape and moving the slide 6 forwardly with the tape. During the forward movement of the slide the cam plates 37 and 38 between which the roller 39 travels causes the knife 33 to be depressed, thereby severing a section of the tape. The movement of the web thereupon ceases, the slide continuing its forward movement with the severed section or label lying upon the forward portion of the slide. Just as the label reaches the moistening belt 43 said belt is depressed onto said label, and remains depressed until the label has passed, whereby the gum upon the upper side of the label is moistened. When the slide 6 reaches its forward position, the forward portion thereof lies within the recess 3 with the label lying on the slide with its gummed and moistened surface uppermost. The operator now takes a roll of wall paper or any other article to be labeled or fastened together, and presses said article upon the label; then laying the roll upon the table in such position that the label lies upon the absorbent pad 83, the operator rolls the article to and fro until all parts of the label have been pressed against the roll and any surplus water expressed from beneath the label, such surplus moisture being absorbed by the pad 83.

It will be seen that the machine is capable of rapidly forming gummed labels, moistening them and presenting them in such place and position that they may be used without handling, thereby preventing soiling of the operative's hands and consequent soiling of the articles operated upon.

The foregoing detailed description of the present embodiment and its special use is not to be understood as an undue limitation of the invention.

I claim as my invention:

1. In a machine of the character described, the combination of means for gripping the end of a web; means for traversing said

- gripping means; a knife traversed with said gripping means and operable to sever said web; and moistening means into contact with which the web is carried in the traveling movement of said gripping means.
2. In a machine of the character described, the combination of a reciprocatory slide; means on said slide for engaging the end of a web; moistening means adjacent to the path of movement of said slide; means on said slide for severing the web, said severing means being movable into position to pass beneath the moistening means; and means for actuating said severing means.
3. In a machine of the character described, the combination of a reciprocatory slide; means on said slide for engaging the end of a web; moistening means arranged above the path of movement of said slide; a knife pivotally supported on said slide and arranged to lie substantially below the upper surface of said slide so as to pass beneath said moistening means; and means for actuating said knife.
4. In a machine of the character described, the combination of a reel for a web; web-engaging means reciprocable toward and away from said reel; web-severing means arranged to sever the web after the latter has been moved some distance from the reel by said engaging means; and moistening means located adjacent to the path of movement of said web-engaging means and arranged to moisten the severed section.
5. In a machine of the character described, the combination of a reel for a web; a slide reciprocable toward and away from said reel; web-engaging means and web-severing means on said slide; means for actuating said severing means to sever the web after the latter has been moved some distance from the reel by said engaging means; and a moistening means located adjacent to the path of movement of said slide and arranged to moisten the severed section.
6. In a machine of the character described, the combination of a reel for a web; a moistening means; reciprocatory web-engaging means movable from said reel to and past said moistening means; and means for severing the web prior to the operation of the moistening means.
7. In a machine of the character described, the combination of a support for a roll of tape; drawing means for unwinding tape from the roll; means for cutting off the end of the unwound portion of tape; and means for applying liquid to the upper side of the severed section of tape, the drawing means being arranged to support the severed section and convey the same entirely beyond and forward of the liquid-applying means.
8. In a machine of the character described, the combination of a roll-support; a chute forward of the roll-support and arranged to receive the web unwound from the roll; a slide reciprocable forward and back beneath the chute; means on said slide for gripping the ends of the web projecting from said chute; means for severing the web adjacent to the forward end of the chute; and means for applying a liquid to the upper side of the severed section of web.
9. In a machine of the character described, the combination of a slide; means on the forward portion of said slide for gripping one edge of a label; means for applying liquid to the upper side of the label; and means for reciprocating said slide beneath said liquid-applying means, the forward movement of the slide carrying the label to a point forward of the liquid-applying means.
10. In a machine of the character described, the combination of label-engaging means; means for reciprocating said label-engaging means; a moistening device arranged adjacent to the path of movement of said label-engaging means; and means for placing said moistening device in contact with the label upon the movement of the clamping means in one direction and for holding said moistening device out of the path of movement of said label-clamping means upon the movement of said clamping means in the opposite direction.
11. In a machine of the character described, the combination of a slide; label-clamping means on said slide; a movable member; a label-moistening device carried by said member; and means operable by said slide in the reciprocation of the latter for moving said member into and out of label-contacting position.
12. In a machine of the character described, the combination of a slide; label-engaging means on said slide; a movably supported member; a label-moistening device carried by said member; and cam means on said slide arranged to engage and move said member to place said moistening device in and out of label-contacting position.
13. In a machine of the character described, the combination of a slide; label-engaging means on said slide; a movably supported member; a label-moistening device carried by said member; cam means carried by said slide and arranged to engage said member; and a spring holding said member in contact with said cam means, said cam means being adapted to depress said member in the movement of the slide in one direction and to hold said member elevated in the movement of the slide in the opposite direction.
14. In a machine of the character described, the combination of a slide; label-engaging means on said slide; moistening means comprising an endless belt; a pawl and ratchet mechanism for moving said

belt; and devices carried by said slide for actuating said pawl and ratchet mechanism.

15. In a machine of the character described, the combination of a reciprocatory slide; moistening means arranged adjacent to the path of movement of said slide; means on said slide for engaging the end of a web; two arms pivotally connected to said slide and carrying a knife, said slide having an opening therein to receive said knife so that the latter may pass the moistening means; and means for swinging the arms to actuate the knife to sever the web.

16. In a machine of the character described, the combination of a reel for a web; a slide arranged to reciprocate toward and away from said reel; means extending over the path of movement of said slide for supporting and yieldingly holding the end of the web; a web clamp located upon the forward end of said slide; means carried on said slide for severing the web; means for actuating said severing means during the travel of the slide; and means for moistening the severed section of web.

17. In a machine of the character described, the combination of a web reel; a slide arranged to reciprocate toward and away from said reel; a chute overlying the path of movement of said slide for guiding the end of a web extending from said reel; a clamp on the forward end of said slide for engaging the end of a web extending from said chute; arms pivoted to the rear end of said slide; a knife fixed to the forward ends of said arms, said slide having a transverse opening therein to receive said knife; stationary cam devices arranged adjacent to the path

of said slide for swinging said knife-carrying arms to sever the web during the forward movement of the slide; and means for moistening the severed section of the web during the forward movement of the slide.

18. In a machine of the character described, the combination of label-moving means; a movable member; a label-moistening device carried by said member; and means operable by said label-moving means in the movement of the latter, for moving said member into and out of label-contacting position.

19. In a machine of the character described, the combination of label-moving means; a movable member located above the path of movement of a label carried by said moving means; a label-moistening device carried by said member; means for depressing said member to bring said moistening device into contact with a label on the moving means; and means moving with the label-moving means for controlling the movements of said movable member.

20. In a machine of the character described, the combination of label-moving means; a movably supported member; a label-moistening device carried by said member; a spring for moving said member to place said moistening device in contact with a label on said moving means; and means moving with said label-moving means for controlling said spring.

STEWART WARING.

Witnesses:

C. PAUL PARKER,
GEORGE L. CHINDAHL.