May 3, 1932. T. R. GAUTIER ET AL 1,856,628

STRIP GUIDING AND MOISTENING MEANS PARTICULARLY ADAPTED FOR USE WITH STRIP SERVING MECHANISM

Filed Aug. 13, 1929

Fig. 1.

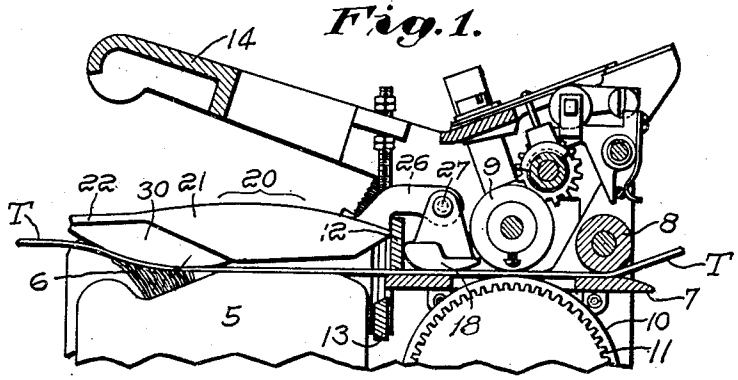


Fig. 2.

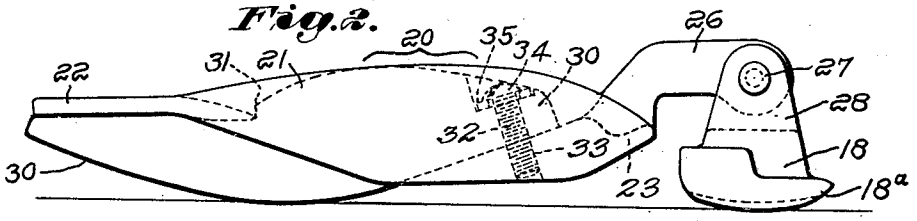


Fig. 3.

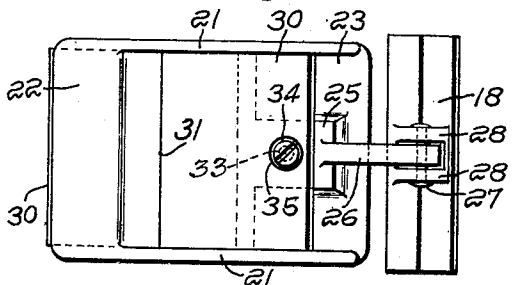


Fig. 4.

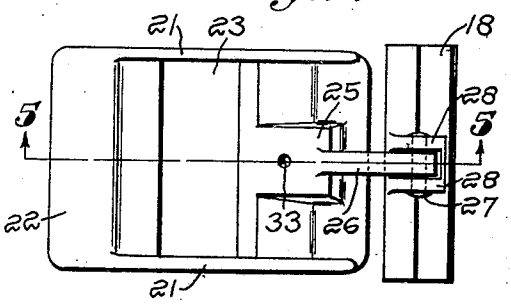


Fig. 5.

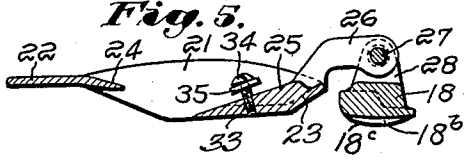


Fig. 7.

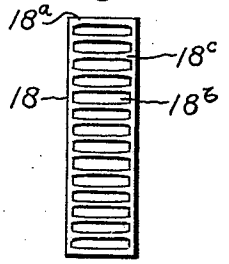
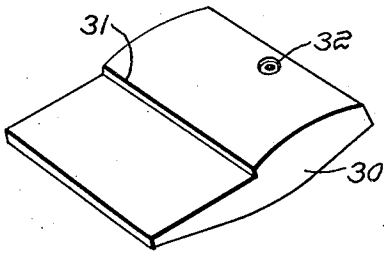


Fig. 6.



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UNITED STATES PATENT OFFICE

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STRIP GUIDING AND MOISTENING MEANS PARTICULARLY ADAPTED FOR USE WITH STRIP SERVING MECHANISM

Application filed August 13, 1929. Serial No. 385,533.

This invention relates to the art of strip serving; more particularly, it pertains to mechanism for serving strips of adhesive tape and the like for package sealing, binding and allied purposes, having as one object to provide improved strip feeding, severing and moistening means, including means for moistening both surfaces of the strip. This application, as to all common subject matter, is a continuation of our copending application, Serial No. 258,875, filed March 3, 1928, now Patent No. 1,732,636, dated Oct. 22, 1929.

In the drawings illustrating one embodiment of the invention, by way of example,

Fig. 1 is a vertical longitudinal section through the upper forward portion of strip serving mechanism, such as that of said copending application;

Fig. 2 is a side elevation upon an enlarged scale of strip guiding and moistening means embodying the invention and particularly adapted for co-action with tape feeding and serving mechanism such, for example, as that of Fig. 1, wherein said means is shown in its cooperative relation to said mechanism;

Figs. 3 and 4 are plan views, on the scale of Fig. 1, of the device of Fig. 2, Fig. 3 showing the complete device and Fig. 4 showing the same with its absorbent element removed;

Fig. 5 is a vertical longitudinal section on the line 5—5 of Fig. 4;

Fig. 6 is a perspective view of the absorbent element of Figs. 1, 2 and 3; and

Fig. 7 is a bottom plan of the strip depressor of Figs. 1 to 5.

The strip feed assisting, guiding and moistening means of our invention may be employed with any suitable strip-serving mechanism. Referring to Fig. 1, we have shown it in operative association with a strip server such as that of our co-pending application above identified with which it peculiarly cooperates, and wherein the moistening means illustrated includes a reservoir or tank 5 from which projects an inverted brush moistener 6; while a brush is herein illustrated, other forms of moisture conveying means may be employed. The tape T is advanced from a suitable supply, not shown, or may be manually moved across the moistening means. As shown, the tape is fed across a table 7 and beneath a guide roll 8 to and past the severing and the moistening means, herein by action of the upper and lower feed rolls 9 and 10, the latter driven in any suitable manner, as by the gear 11 and its operating means, not shown. In advance of the feed rolls, to the left thereof in Fig. 1, the strip or tape passes between the severing blades, including the fixed blade 12 and the movable or swivelled blade 13, and thence across the moistener 6, for delivery in wetted condition. The operative relation of the feed rolls is controlled, in the serving mechanism shown by way of example, by the lever 14.

Between the upper feed roll 9 and the fixed blade 12 the strip is guided and held down in its passage to the severing blades by a removable guide or depressor, or weighted member or guide member 18. This depressor is formed for reception at the position indicated, and to cooperate with the upper feed roll, by which it tends to be held up against the rear face of the fixed blade 12. This member 18 preferably has a somewhat convexed lower face, as indicated at 18^a, and in this and other respects may be generally similar to the device disclosed and claimed broadly in the patent to T. R. Gautier 1,568,506, dated January 5, 1926. Said member 18 herein has a transversely grooved under face providing the latter with a plurality of alternating raised portions or ribs 18^b and depressed portions or grooves 18^c, as best seen in Fig. 7. This overcomes any tendency of the strip to adhere to the under face of the member.

Forwardly of the severing means, the strip is guided in proper moistening relation up to and across the under-surface moistener, herein the brush 6, by means of a pressure element, presser, plate or platen, indicated as a whole by the numeral 20, Fig. 1 and also Fig. 2. This pressure element rests freely upon the strip T as it approaches and crosses the moistener, and insures proper moistening contact of the under surface of the strip with the moistener.

The pressure element or platen 20, as illustrated, comprises a frame or body including the side pieces 21, 21, a front cross-piece

or nose 22, and a rear cross-member 23, all desirably formed integrally as a single casting, preferably of a relatively light material such as aluminum or an aluminum alloy. The rear portion of the nose 22 is bevelled off, between the side pieces 21, 21 and somewhat depressed, as best seen in Fig. 5, to provide a shoulder 24. The rear cross member 23 is forwardly and downwardly inclined at its upper face, as also best seen in Fig. 5, and toward its rear is cut away adjacent the side pieces 21, 21 leaving a centrally disposed block 25, Figs. 3 and 4, from which a finger 26 projects rearwardly.

The strip depressor 18 is herein pivotally connected to the end portion of this finger, as at 27, said depressor being formed with a pair of upstanding ears 28, 28 between which the finger 26 is received. As seen in Fig. 1 this finger 26, in the operative position of the parts extends rearwardly above and across the fixed blade 12, which serves as a fulcrum about which the platen 20 may pivot vertically, while the finger constitutes a downwardly open bearing connection between the fixed blade and the platen, enabling the latter readily to be removed bodily when desired, as for inspection, cleaning or the like, as disclosed and claimed in the copending application of T. R. Gautier, Serial No. 135,062, filed September 13, 1926, Patent No. 1,732,637, dated Oct. 22, 1929. In some instances the platen 20 and the depressor 18 may be disconnected, but their connection as shown is desirable, insuring proper positioning of the parts and making for convenience in the assembling or removal thereof, inasmuch as the platen and the depressor, as shown, may be bodily removed from or placed in the mechanism of Fig. 1 together, as one unit.

The platen 20 in the form illustrated is particularly adapted for use in moistening both the lower and the upper faces of a strip or tape which is gummed on both sides. Such double moistening is frequently desirable, as in connection with binding loose sheets, in certain packaging operations, or in securing together any two overlapped sheets or members. Accordingly the platen carries an upper-surface moistener 30, of any suitable absorbent material, such as felt.

As illustrated this upper moistener 30 has the general form of a pad, see Fig. 6, of a width to fit between the side pieces 21, 21 of the platen. It is preferably somewhat convex on its under face, see also Figs. 1 and 2, to facilitate the passage of the strip in proper moistening relation with and between the brush or lower moistener 6 and the upper moistener 30, and to insure proper delivery of the strip in wetted condition.

As best seen in Fig. 6, the upper moistener or pad 30 is formed at its upper face with a transverse step or shoulder 31 adapted to abut the shoulder 24 of the platen, to position the pad thereon. Near the rear edge of the pad is formed an aperture 32, in alignment with a threaded recess 33 in the block 25 of the platen, whereby the pad may be removably secured in proper position on the platen, as by the screw 34 and washer 35.

It will be understood that, except during actual strip serving operations, the platen rests with its moistener or pad 30 directly in contact with the lower moistener or brush 6 which latter transfers moisture to the upper moistener or pad from the reservoir, thus keeping the pad always in condition to moisten the upper surface of a strip as fed. At intervals, for example, at the times when the reservoir 5 is to be refilled, the upper moistener may be given an additional, separate wetting, if desired, or considered necessary. Normally, so long as the reservoir contains liquid, the upper moistener is kept in proper moistening condition through its contact with the lower moistener 6.

When it is not desired to moisten the upper face of the strip, the pad 30 may be removed and the platen 20 permitted to function merely as a depressor and guide, in cooperation with the lower moistener 6, or a separate platen may be used, interchangeably.

Our invention is not limited to the illustrative embodiment shown and described, its scope being set forth in the following claims.

Claims:

1. In a strip serving machine having a strip severing device and a moistener in advance of the latter, the combination therewith of a removable guide member adapted to rest upon the strip to the rear of the severing device, a non-rotary presser to rest upon the strip as it crosses the moistener, and means extending across the severing device and operatively pivotally connecting the presser and said guide-member.

2. Strip depressing and guiding means for use in a strip serving machine having a moistening element, said means comprising a presser having at its under portion a formation for engagement with the upper face of the strip, in opposition to the moistening element, a guide adapted to rest upon the strip rearwardly of the moistening element, and a rearward extension on the presser pivotally connected to said guide.

3. In a strip serving machine, in combination with a device for moistening a strip passed across it, a pressure plate having a portion overlying the moistening device, a member at the rear of the moistening device extending transversely of and above the path of the strip, means at the rear portion of the pressure plate having overlying free engagement with said transverse member, and a strip guiding depressor to the rear of said transverse member and connected to the portion of the presser plate which overlies said transverse member.

4. In a strip serving machine, in combination, a liquid reservoir, a moistener projecting therefrom, means to pass a strip to and across said moistener, a movable, gravity operated platen above the path of the strip and in opposition to said moisture, to rest on the strip as it crosses the latter, and a moistener for the upper face of the strip, carried by said platen.

5. In a strip serving machine, in combination, a liquid reservoir, a moistener projecting therefrom, means to pass a strip to and across said moistener, a movable platen above the path of the strip and in opposition to said moistener, to rest by gravity on the strip as it crosses the latter, and an absorbent member on the platen, in position to rest upon and receive moisture from said moistener during the absence of a strip, and to moisten the upper face of a strip passed between said member and underlying moistener.

6. In a strip serving machine, in combination, a reservoir, a brush moistener projecting upwardly therefrom in position to moisten the under face of a strip passed across it, and means cooperating with and receiving moisture from said brush moistener to moisten the upper face of such strip.

7. In a strip serving machine having a strip severing device and a moistener in advance of the latter, the combination therewith of a removable guide member adapted to rest upon the strip to the rear of the severing device, a presser to rest upon the strip as it crosses the moistener, means extending across the severing device and connecting the presser and said guide-member, and means on said presser member for moistening the upper surface of the strip.

8. Strip depressing and guiding means for use in a strip serving machine having a moistening element, said means comprising a presser having at its under portion a formation for engagement with the upper face of the strip, in opposition to the moistening element, a guide adapted to rest upon the strip rearwardly of the moistening element, a rearward extension of the presser, connected to said guide, and means on said presser for moistening the upper surface of the strip.

9. In a strip severing machine having a moistener up to and across which the strip is fed, strip depressing and guiding means comprising a presser adapted to engage the upper face of the strip as it crosses the moistener, a separately formed guide member adapted to rest upon the strip to the rear of the moistener, means uniting the presser and said guide member, and means on said presser member for moistening the upper surface of the strip.

10. In a strip serving machine, in combination with a device for moistening a strip passed across it, a pressure plate having a portion overlying the moistening device, a member at the rear of the moistening device extending transversely of and above the path of the strip, means at the rear portion of the pressure plate engageable with said transverse member in a manner permitting vertical pivotal movement of the pressure plate and also permitting the latter to be bodily lifted for removal, a strip guiding depressor to the rear of said transverse member and connected to the pressure plate for bodily removal therewith, and means on said pressure plate for moistening the upper surface of the strip.

11. Moistening means for strip material comprising a reservoir, a lower moistener projecting therefrom, and an absorbent upper moistener movably supported and normally resting freely on said lower moistener to receive moisture therefrom, whereby a strip passed between said moisteners is wetted upon both faces.

12. Moistening means for strip material comprising a reservoir, a lower moistener projecting therefrom, and an upper moistener normally resting by gravity upon and receiving its moisture from said lower moistener, said moisteners together adapted to moisten both faces of a strip passed between them.

13. In a strip serving machine, in combination, moistening means comprising a reservoir, a lower moistener projecting therefrom, an absorbent upper moistener adapted to rest freely on said lower moistener, means to feed a strip up to and between said moisteners for wetting thereby upon both its faces, and strip severing means to the rear of and operatively associated with said moistening means.

14. In a strip severing machine having a moistener up to and across which the strip is fed, strip depressing and guiding means comprising a presser adapted to engage the upper face of the strip as it crosses the moistener, a separately formed guide member adapted to rest upon the strip to the rear of the moistener, and means uniting the presser and said guide member, said guide member having suction or adhesion preventing formations upon its under face.

In testimony whereof, we have signed our names to this specification.

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HAROLD E. NICHOLS.