

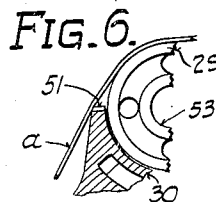
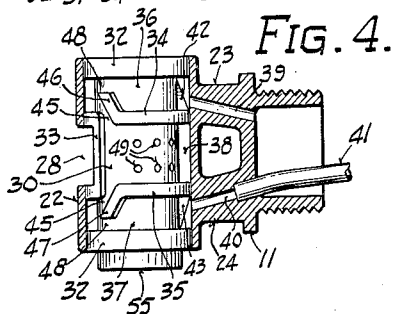
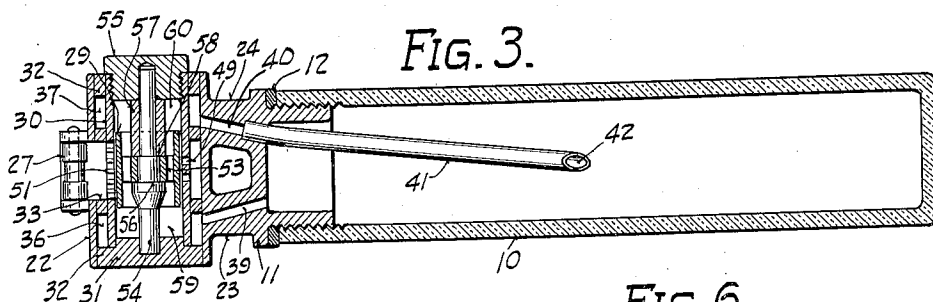
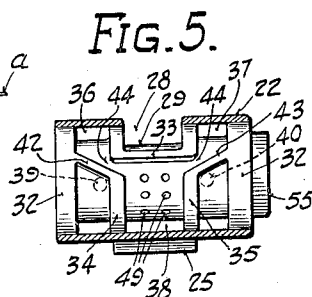
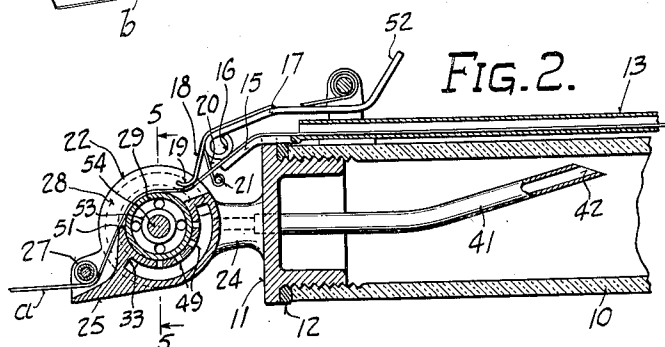
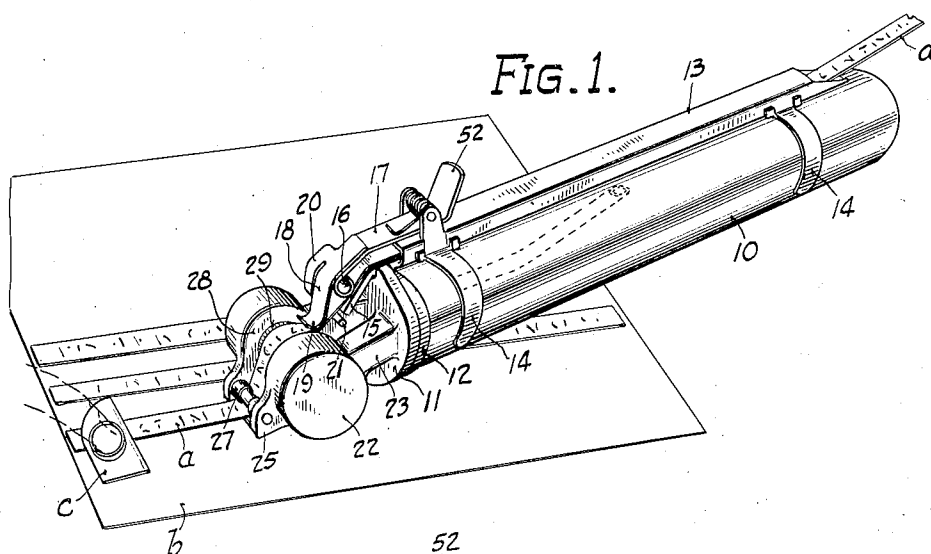
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2,031,597

GUMMED STRIP MOISTENER

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2,031,597

GUMMED STRIP MOISTENER

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16 Claims. (Cl. 91—62.5)

This invention relates to gummed strip moisteners for use primarily in applying message bearing tapes to telegraphic message blanks and particularly to wickless type moisteners for that purpose.

An entirely satisfactory wickless strip moistener is disclosed in my copending application, Serial No. 722,422, filed April 26, 1934. It involves a novel combination of parts so arranged as to assure an adequate and uniform application of moisture to the strip without danger of objectionable leakage or spillage of water from the implement during ordinary use. The moistener therein disclosed is designed for longitudinal passage of the strip crosswise of the implement.

An object of the present invention is to provide a wickless strip moistener having all of the desirable characteristics above mentioned but designed for passage of the strip longitudinally of the implement. This is accomplished by a different combination of parts necessitated by the different mode of manipulation and use of the implement and the difficulty of providing an adequate supply of water without danger of leakage or spillage when so used.

Other more specific objects and advantages will appear, expressed or implied, from the following description of an illustrative embodiment of the present invention.

In the accompanying drawing:—

Figure 1 is a perspective view of a wickless gummed strip moistener constructed in accordance with the present invention.

Fig. 2 is a vertical longitudinal sectional view of the head end of the moistener.

Fig. 3 is a horizontal sectional view.

Fig. 4 is an inverted horizontal sectional view.

Fig. 5 is a transverse sectional view taken along the line 5—5 of Fig. 2.

Fig. 6 is an enlarged detail of the moisture spreader shown in Figs. 2 and 3.

The strip moistener shown is equipped with the usual hollow cylindrical handle 10, constituting an air tight reservoir, closed at its forward end by a cap 11, threaded thereinto, and sealed by an appropriate gasket 12.

The handle 10 also constitutes a support for the usual strip or tape channel 13 extending longitudinally thereof and releasably secured thereto by conventional clips 14. The channel shown is equipped with the usual forwardly projecting lip or ledge 15 against which the tape is held by the rolled end 16 of a spring pressed lever 17 rockably supported on the channel 13 in a conventional manner. In this instance the lever 17 also

carries an extension member 18 having an end 19 fashioned for contact with the tape at a point beyond the ledge 15 to guide the tape. The member 18 is also equipped with a side finger 20 bent downwardly and supporting a pin 21 which extends laterally beneath the tape and by which the tape may be lifted by elevating the lever 17.

The moistener shown also includes a hollow head 22 of substantially cylindrical form carried by and preferably integrally joined to the cap 11 through connectors 23 and 24. A ledge 25 projecting forwardly from the bottom of the head carries an elevated guide roller 27 beneath which the tape is trained. The upper portion of the head 22 is cut away intermediate its ends, as at 28, to form a passageway for the tape and to expose a moisture applying roller 29 disposed within the head and freely rotatable about the longitudinal axis of the head.

It will be noted that the head 22, and consequently the axis of the roller 29, extend crosswise of the device, and that the tape extending through the channel 13, passes beneath the guide member 18, over the roller 29, and then beneath the guide roller 27 carried by the ledge 25.

A hollow cylindrical shell 30 extends from end to end within the head 22. One end 31 of the shell is permanently closed and both ends of the shell are provided with peripheral ribs 32 tightly fitted within the ends of the head 22. The shell is also equipped with an upstanding rib 33 which completely surrounds the cut away portion 28 of the head and which, together with the end ribs 32, provide a complete closure for the space between the head and shell. Two intermediate ribs 34 and 35 separate this space into annular end channels 36 and 37, which encircle the shell 30, and a central channel 38 which extends beneath the roller 29.

As indicated particularly in Figs. 3 and 4, channel 36 communicates with the interior of the reservoir 10 through a horizontal passage 39 in connector 23, and a similar passage 40 in connector 24 provides communication between the channel 37 and an air vent tube 41. Tube 41 is carried by the cap 11 and projects a substantial distance into the reservoir 10 with its open end 42 disposed preferably at a high point in the reservoir.

The channel 36 is blocked by an angularly disposed rib 42 preferably positioned immediately above the connection with passage 39, and channel 37 is similarly blocked by an angularly disposed rib 43 preferably positioned immediately above the connection with passage 40. Gaps or

ports 44 (Fig. 5) above the ribs 42 and 43 provide communication between the upper end of the intermediate channel 38 and channels 36 and 37, and similar gaps or ports 45 (Fig. 4) provide communication between the lower end of the intermediate channel 38 and the channels 36 and 37. Angularly disposed ribs 46 and 47, which are preferably provided adjacent the ports 45, extend only partially across the channels 36 and 37, respectively, with gaps or ports 48 between them and the end ribs 32. The intermediate channel 38 communicates with the interior of the shell 30 preferably through a multiplicity of perforations 49 in the lower intermediate portion of the shell beneath the roller 29.

The arrangement is such that water from the reservoir 10 may flow through the passage 39 into the channel 36 only as it is released by admission of atmospheric air through the vent tube 41 into the reservoir, and the water thus supplied to the channel 36 spreads through the lower ports 45 and 48 into the intermediate channel 38 and other end channel 37 until the lower portions of these three channels and ports 45 and 48 are flooded. Since the upper portion of the channel 37 is blocked by the angular rib 43, air can be supplied to the vent tube 41 only through the lower portion of the channel 37, but when that portion of the channel 37 and both lower ports 45 are flooded the water therein provides a seal against the admission of air to the vent tube 41, thus preventing further flow of water from the reservoir. This automatic sealing of the lower portion of the air channel 37 limits the amount of water within the head.

It is of course understood that the intermediate channel 38 is always open to atmospheric air through one or more of the perforations 49 in the lower intermediate portion of the shell 30, but that air can enter that portion of the channel 37 below the rib 43 only through the lower ports 45 and 48 from the intermediate channel 38.

It is also understood that the intermediate channel 38 is in effect an auxiliary reservoir from which the water finds its way upwardly through the perforations 49, by capillary action and otherwise, and maintains a film of water within the clearance space between the interior of the shell 30 and the roller 29, so that the surface of the roller 29 is always wet.

Although an ample supply of water is thus automatically maintained in the head 22, the construction shown makes impossible the creation of an excess supply, such as would produce objectionable leakage of spillage, regardless of the position assumed. For instance the implement may be tilted about its longitudinal axis, so that the end of the head 22 containing the channel 36 is lowermost and the channel 37 uppermost, and when so tilted water trapped in the channel 37 between the ribs 43 and 47 will seal the passage 40 and thus prevent admission of air to the reservoir 10 and thereby prevent flow of water therefrom; or if the implement be tilted so that the channel 36 is uppermost and the channel 37 lowermost, the water in the channel 37 will seal the port 48 and prevent the admission of air to the passage 40 and vent tube 41.

Furthermore, if the handle 10 of the implement be swung into a vertical position with the head 22 lowermost, the accumulation of water in the channels 36 and 37 will block and seal the ports 48 and thus prevent admission of air through the channel 37 to the vent tube 41. In such position of the implement water from the intermedi-

ate channel 38 flows through the ports 45 into the channels 36 and 37, thus permitting water to drain from the interior of the shell 30 through the perforations 49 into the channel 38. And when the handle is swung further through the vertical position described the water discharged from the intermediate channel 38 into the channels 36 and 37 remains in the latter until the implement approaches the normal position shown in Fig. 1 when some of the water reenters the intermediate channel 38 from the channels 36 and 37 through the ports 44.

In use the implement is ordinarily held in the right hand of the operator in a substantially horizontal position, such as indicated in Fig. 1, the moistened gummed face of the tape *a* being held against the blank *b* by the usual thimble plate *c* on the finger of the left hand, and while so held the implement is moved lengthwise toward the right, so as to draw the tape lengthwise over the moistening roller 29 and to stretch a portion of the tape over and across the blank. The plate *c* is then shifted toward the right along the tape, pressing the latter into sealing contact with the blank, until the edge of the plate *c* reaches a point at which it is desired to sever the tape.

The plate *c* is provided with the usual straight edge by which the tape is severed, the severing being accomplished in the usual manner by lifting and turning the implement toward the operator about its longitudinal axis, so as to tension and kink the far edge of the tape against the straight edge of the plate. The frictional grip of the lever portion 16 against the tape is sufficient to provide the desired tension in the tape necessary to effect the severing operation and necessary to hold the tape against the moistening roller 29 as it is drawn through the implement during application of the tape to the blank.

It will be noted that each time the implement is turned about its longitudinal axis to sever the tape, that end of the head 22 containing the channel 37 is of course elevated, causing the water in that channel to recede. If the water in the head is below a certain minimum this recession of water in the channel 37 unseals the ports 45 and 48 so as to admit atmospheric air from channel 38 to and through the channel 37 and vent tube 41 to the reservoir 10, permitting a small amount of water to enter the head from the reservoir. It has been found that this intermittent turning of the implement may be relied upon to keep a supply of water in the head above that required to thoroughly moisten the roller 29 and below that which would cause objectionable leakage.

As shown particularly in Figs. 2 and 6 the window in the shell 30 through which the roller 29 is exposed terminates at its forward end in a substantially horizontal shoulder 51 so arranged that the tape, after leaving the roller 29, contacts with the forward edge of the shoulder. This shoulder 51 functions as a spreader to evenly distribute the moisture over the gummed face of the tape. As the tape is drawn over the roller 29, the roller rotating with it, the shoulder 51 intercepts excess moisture from the tape and from the roller, so that a temporary accumulation of water builds up thereon between the roller and tape and spreads uniformly across the face of the tape. To facilitate this effect the face of the shoulder 51 is preferably transversely slotted or grooved or otherwise broken to increase its water holding capacity.

Between periods of use the tape is ordinarily

lifted clear of the roller 29 so as to avoid its sticking to the roller. This is accomplished by depressing the thumb piece 52 of the lever 17 so as to elevate the lever and thereby cause the pin 21 to lift the tape. This action provides sufficient slack in that part of the tape between the foot 19 and guide roller 27 so that that portion remains in an elevated condition clear of the roller when the lever 17 is again lowered by release of the thumb piece 52.

The roller 29 may be variously mounted for free rotation within the shell 30 and beneath the window 28. The mounting means shown has proven entirely satisfactory and makes possible the ready removal and replacement of the roller and associated parts for easy cleaning. In this instance the roller 29 is provided with a central hub 53 closely but freely journaled upon the intermediate portion of a shaft 54 having one end seated in a socket formed in the closed end 31 of the shell 30 and the other end seated in a socket formed in a closure plug 55 screwed in or otherwise removably fixed in the opposite end of the shell. The hub of the roller is confined between a shoulder 56 on the shaft and a spacer sleeve 57, which latter is confined between the plug 55 and a shaft shoulder 58.

It will be noted that the shell 30 extends well beyond the roller 29 in both directions so as to form end chambers 59 and 60 arranged at opposite sides of and beyond the open window 28 through which the roller is exposed. It will also be noted that the roller 29 is hollow, the central supporting web thereof having holes there-through, as shown in Figs. 2 and 3, so that the chambers 59 and 60 are in open communication. By reason of that construction any water within the bottom of the shell 30 may readily flow and will flow from one chamber 59 or 60 to the other rather than through the open window 28 when the implement is tilted, turned, or rolled about its longitudinal axis. These end chambers thus serve as traps which, in normal use of the implement, prevent objectionable discharge through the window 28 of any small amount of water as may be in the shell 30.

Various changes may be made in the embodiment of the invention hereinabove specifically described without departing from or sacrificing the advantages of the invention as defined or attempted to be defined in the appended claims.

I claim:—

1. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried by said handle, means for conducting liquid from said handle to said head, a roller in said head freely rotatable about an axis disposed crosswise of said handle and contacting the liquid in said head, said head having an opening through which said roller is exposed, a vent passage for admitting air from said head to said handle, means for limiting the supply of liquid to said head in all positions of said implement, said means including a plurality of liquid controlled passages in said head for controlling the admission of air to said vent passage, and means for directing a strip to be moistened over and in rolling contact with said roller.

2. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried by said handle, means for admitting air from said head to said handle and for supplying liquid from said handle to said head, a strip moistening roller freely rotatable in said head about an axis disposed crosswise of said

handle and contacting the liquid in said head, said head having an opening through which said roller is exposed for contact with the strip to be moistened, and means effective in all positions of the implement for limiting the supply of liquid to said head, said last named means comprising liquid controlled passages in said head coacting with said first named means to control the admission of air to said handle.

3. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried by said handle, means for admitting air from said head to said handle and for supplying liquid from said handle to said head, a strip moistening roller freely rotatable in said head and contacting the liquid therein, said head having an opening through which said roller is exposed for contact with the strip to be moistened, and liquid controlled passages in said head coacting with said first named means for limiting the supply of water to said head in all positions of said implement.

4. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried thereby and having a chamber therein, an auxiliary reservoir in said head in direct communication with the bottom of said chamber, a roller freely rotatable in said chamber and moistened by liquid from said auxiliary reservoir, an opening in said head through which said roller is exposed for contact with the strip to be moistened, and means for supplying liquid from said handle to said auxiliary reservoir, said means including liquid controlled passages communicating with said auxiliary reservoir and said handle and effective in all positions of the implement to limit the supply of liquid to said head.

5. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried thereby and having a chamber therein, an auxiliary reservoir in said head in direct communication with the bottom of said chamber, a roller freely rotatable in said chamber and moistened by liquid from said auxiliary reservoir, said head having an opening through which said roller is exposed for contact with a strip to be moistened, channels in said head arranged to receive liquid from said auxiliary reservoir when the implement is tilted, and means for supplying liquid from said handle to said auxiliary reservoir through one of said channels.

6. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried thereby and having a chamber therein, an auxiliary reservoir in said head in direct communication with the bottom of said chamber, channels at opposite sides of said auxiliary chamber communicating therewith at points below said chamber, means communicating with said channels and said handle through which liquid is supplied from said handle to said auxiliary chamber, and a roller freely rotatable in said chamber and moistened by liquid from said auxiliary reservoir, said head having an opening through which said roller is exposed for contact with a strip to be moistened.

7. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried thereby and having a chamber therein, spaced channels in said head encircling said chamber, an auxiliary reservoir in said head between said channels and communicating therewith at points below said chamber, said auxiliary chamber having direct communication with the bottom of said chamber, means com-

communicating with said channels and said handle through which liquid is supplied to said auxiliary reservoir, and a roller freely rotatable in said chamber and moistened by the liquid in said auxiliary reservoir, said head having an opening through which said roller is exposed to the strip to be moistened.

8. A strip moistener implement comprising a hollow handle forming an air tight-reservoir, a hollow head carried thereby and having a chamber therein, spaced channels in said head encircling said chamber, an auxiliary reservoir in said head between said channels and having direct communication with the bottom of said chamber, communicating ports between said auxiliary reservoir and said channels, said ports being disposed below said chamber, a blocking partition in each of said channels, communicating ports between said auxiliary reservoir and said channels disposed above said partitions, passages connecting said handle and said channels below said partitions, and a roller freely rotatable in said chamber and moistened by liquid from said auxiliary reservoir, said head having an opening through which said roller is exposed for contact with a strip to be moistened.

9. A strip moistener comprising a hollow body having a chamber therein, a reservoir directly communicating with the bottom of said chamber, a roller in said chamber moistened by liquid from said reservoir, said body having a top opening through which said roller is exposed for contact with the strip to be moistened, and channels at opposite sides of said reservoir into which the liquid from said reservoir may escape when said body is tilted to thereby avoid objectionable discharge of liquid through said chamber and opening.

10. A strip moistener comprising a hollow body having a chamber therein, a reservoir in said body directly communicating with the bottom of said chamber, a roller in said chamber moistened by liquid from said reservoir, said body having a top opening through which said roller is exposed, and means in said body for receiving the liquid of said reservoir when said body is tilted to thereby avoid objectionable discharge from said reservoir through said chamber and opening, said means being arranged to return the liquid to said reservoir when said body is returned to normal position.

11. A strip moistener comprising a hollow body having a chamber therein, a reservoir in said body directly communicating with the bottom of said chamber, a roller in said chamber moistened by liquid from said reservoir, said body having an opening through which said roller is exposed, means in said body into which liquid

from said reservoir may drain when said body is tilted, said chamber being extended to form end pockets at opposite sides of said opening to receive and hold any liquid that may be in said chamber when said body is tilted.

12. A strip moistener comprising a hollow body having a chamber therein, a reservoir in said body below said chamber, liquid supply means for said reservoir, means for automatically controlling the supply of liquid to said reservoir, a roller freely rotatable in said chamber, and perforations in the wall of said chamber through which liquid is transmitted from said reservoir to said chamber to moisten the roller therein, said body having an opening through which said roller is exposed for contact with the strip to be moistened.

13. A strip moistener comprising a hollow body having a substantially cylindrical chamber therein and an opening in the top thereof, a shaft supported coaxially of said chamber, a roller carried by said shaft and freely rotatable beneath said opening, a reservoir beneath said chamber for supplying liquid to said chamber and said roller, and a closure for the end of said chamber removable to permit axial withdrawal of said roller from said chamber.

14. A strip moistener comprising a hollow body having a substantially cylindrical chamber therein, and also having a closed space directly communicating with the bottom of said chamber, means controlled by liquid in said space for maintaining a predetermined supply of liquid therein, and a roller in said chamber moistened by liquid from said space, said body also having an opening through which said roller is exposed for contact with a strip to be moistened.

15. A strip moistener comprising a hollow body having substantially cylindrical chamber therein and also a closed space directly communicating with the bottom of said chamber, means controlled by liquid in said space for maintaining a supply of liquid therein, and a roller in said chamber moistened by liquid from said space, said body also having an opening through which said roller is exposed, said chamber being extended beyond the sides of said opening to form liquid retaining end pockets in said chamber.

16. A strip moistening implement comprising a hollow handle forming an air tight reservoir, a hollow head carried by said handle and supplied with liquid therefrom, a roller in said head moistened by the liquid therein, said head having an opening through which said roller is exposed, and channels formed in said head at opposite sides of said opening into which the liquid in said head may flow when said head is inverted.

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