April 13, 1954 T. H. KRUEGER 2,674,975

MOISTENER FOR SHEETS GUMMED ON BOTH SIDES

Filed Feb. 23, 1951

Fig. 1

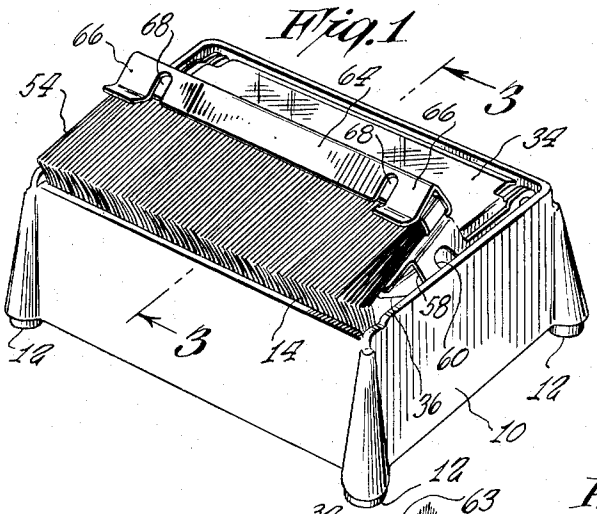


Fig. 4

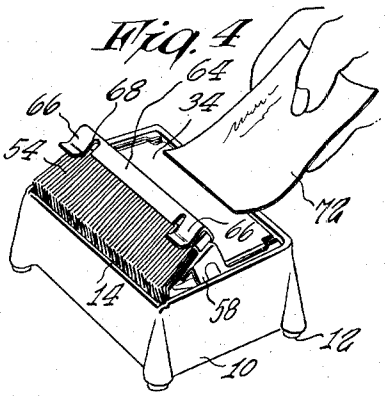


Fig. 2

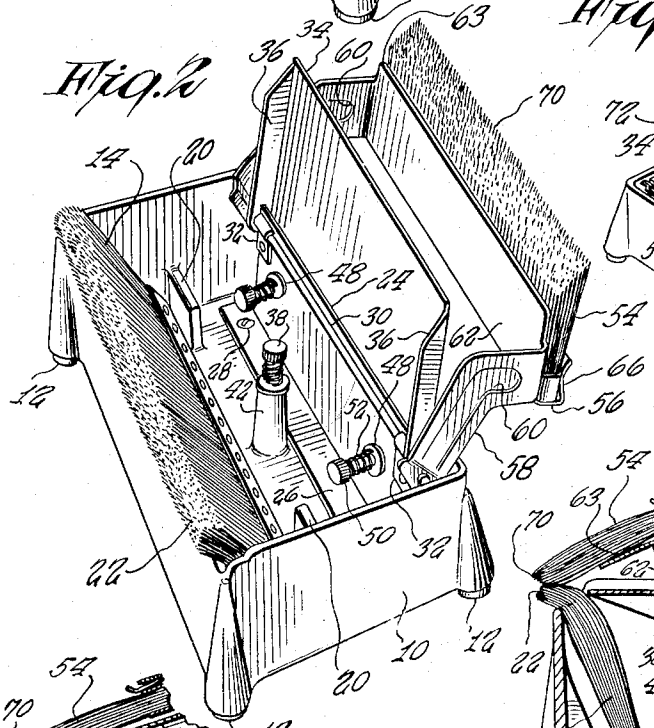


Fig. 5

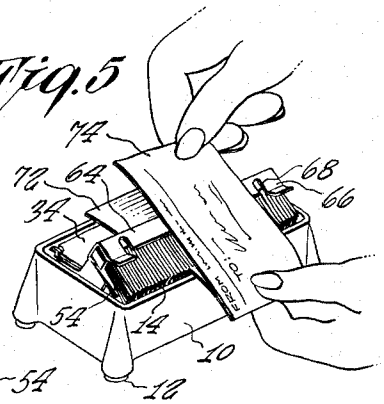


Fig. 3

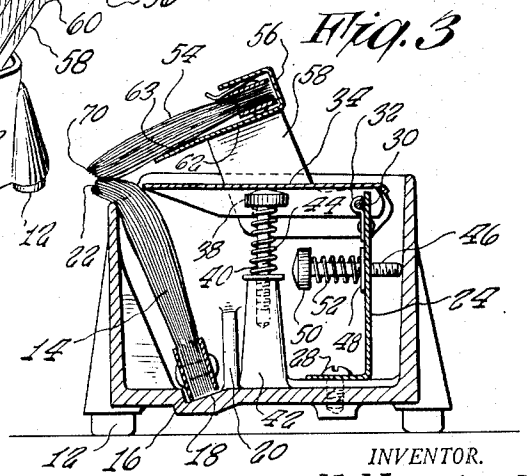
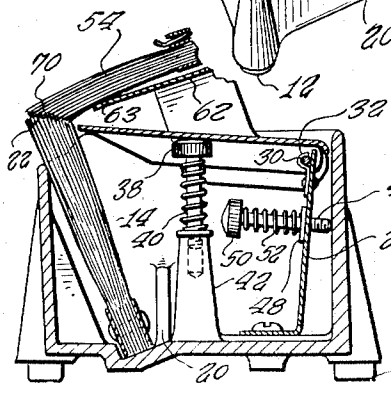


Fig. 6



INVENTOR.
THEODORE H. KRUEGER
BY
Moses, Nolte, Crews & Bebby
ATTORNEYS

Patented Apr. 13, 1954 2,674,975

UNITED STATES PATENT OFFICE

2,674,975

MOISTENER FOR SHEETS GUMMED ON BOTH SIDES

Theodore Henry Krueger, Stratford, Conn., assignor to Better Packages Incorporated, a corporation of New York

Application February 23, 1951, Serial No. 212,267

7 Claims. (Cl. 118—226)

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The invention relates to moisteners for moistening both sides of a sheet such as a mounting paper which has gum on each side thereof. The invention finds particular utility for the moistening of such mounting papers or strips which are used for applying ungummed address labels or sales slips to packages. It has become a widespread practice of department stores and the like when making sales to a customer to have sales slips prepared in manifold with the customer's name and address thereon, one copy of which is attached to the package and provides the delivery address. Such sales slips are usually ungummed and it is therefore necessary to attach the same to the package by the use of glue or paste, or by the use of a mounting paper having gum on both sides which when moistened will attach itself to the address slip and also to the package, thereby holding the address slip in position. One form of the moistener which is particularly adapted for this class of work has a pair of opposed brushes between which the mounting paper may be passed and simultaneously moistened on both faces. The construction and arrangement particularly of the upper brush is such that the sales slip or the like may be simultaneously handled with the mounting paper and attached thereto as the latter is drawn through the moistener, whereupon the address slip is in effect provided with a moistened gummed surface which may be directly affixed to the merchandise to be shipped. The invention is not limited to the particular use described, but is applicable to other purposes.

In the accompanying drawings which show one preferred embodiment of the invention:

Fig. 1 is a perspective view of the moistener;

Fig. 2 is a similar view with the upper brush and feed table lifted;

Fig. 3 is a transverse section on line 3—3 of Fig. 1;

Fig. 4 is a perspective view showing the mounting paper about to be fed into the moistener;

Fig. 5 is a perspective view showing the mounting paper being fed through the moistener and the address slip being attached thereto at the same time; and

Fig. 6 is a transverse section showing a different adjustment of the mounting table from that shown in Fig. 3.

Referring to the drawings in detail, the moistener comprises a box-like base 10 open at the top and forming a water reservoir. The base is preferably provided with rubber or felt feet 12. Mounted near the front of the water reservoir is

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a lower brush 14, the butt 16 of which rests in a groove 18, and is held against slipping rearwardly by a pair of lugs 20. The brush 14 is preferably inclined slightly forward and its top end may have the bristles cut in rounded formation as indicated at 22.

Mounted in the rear part of the water reservoir is a plate 24 preferably made of spring metal and having at its bottom a flange 26 secured to the bottom of the reservoir in any suitable manner as by screws 28. At the top of plate 24 a rod 30 is mounted which extends across the top edge of the plate and is secured near its ends by bracket plate 32. The ends of the rod 30 extend slightly beyond the ends of the plate 24 and pivoted on the rod ends is a feed table 34 which has end flanges 36 which are perforated at their rear ends so as to engage the rod ends. When this feed table is tipped down into operative position, as shown in Fig. 3, its forward, front or free edge is close to the back of the upper part of brush 14 so as to guide the mounting papers over the brush. There is a double adjustment of this table by which its front or free edge may be brought into desired position relative to the brush. The vertical position of the table is adjustable by means of a stop head 38 at the upper end of an adjusting screw 40, which screws into a pillar 42 projecting upwardly from the bottom of the reservoir. The head 38 is preferably knurled so that the screw may be conveniently screwed up and down and a friction spring 44 is mounted thereon which holds the screw in adjusted position. The table 34 may also be adjusted in a substantially horizontal direction towards and from the brush by adjusting the angle of the plate 24. For this purpose a pair of adjusting screws 46 are provided screwing through nuts 48 fixed to the plate 24. The screws are provided with knurled heads 50 and carry friction springs 52 which hold the screws in adjustment while permitting them to be readily turned. The ends of the screws 46 bear against the rear wall of the water reservoir. The plate 24 is of somewhat resilient metal and is bent at such an angle to the flange 26 that it will normally hold the ends of the screws 48 against the reservoir wall. By unscrewing the screws a little way, it will be seen that the resilient plate will move toward the right (Fig. 6), carrying with it the rod 30 and table 34; while by screwing the screws out through the plate, the latter will be pushed towards the left thereby moving the edge of the feed table 34 closer to the brush 14.

The brush 14 constitutes the means for mois-

tening the lower surface of the mounting paper. For moistening the upper face of the paper a second brush **54** is provided, this being carried by a movable brush carrier. The latter consists of a brush holding channel **56** which is carried on angularly shaped arms **58**, the ends of which are pivoted on the projecting ends of the rod **30**. These arms are conveniently provided with offset depressions **60** for stiffening the same. The lower wall **62** of the channel **56** is conveniently made integral with the arms **58**, and is preferably provided with a flange portion **63** extending under the brush bristles to support the same. The flange also acts as an upper guide for directing the edge of the mounting paper towards the brush intersection. The upper wall of the channel preferably comprises a central portion **64** extending over the butt of the brush and two spring ears **66**, which are partially separated from the wall **64** by notches **68** so as to make the ears somewhat more easily bendable. These ears **66** are also depressed slightly with relation to the wall **64** so that when the butt of the brush is pushed into the channel they will snap over the butt strip and retain the brush firmly in the channel. Obviously any other formation for removably holding the brush may be employed.

The edge of the brush **54** is preferably trimmed at an angle as indicated at **70** so that the brush has a chisel shape with the bevel facing down and resting upon the tips of the bristles of the brush **14**. The tips of the bristles of the two brushes may intermingle a little way as indicated in Fig. 6.

When the reservoir is partially filled with water this water will rise up the bristles of the brush **14** by capillary action and similar action will cause the water to pass into the bristles of brush **54** so that the latter will also be maintained sufficiently wet for moistening purposes. This contact of the two brushes will keep a film of water between the tips of both brushes at all times so that during periods of non-use the tips of the brushes will not dry out, but will always be ready for action. In the particular form of the invention illustrated, the spreading of the moisture to the upper brush is promoted by the fact that the upper brush is mounted at a considerable angle from the vertical so that the water does not have to rise vertically in the upper brush, but will spread through the latter at an angle preferably not very much removed from the horizontal. As indicated in Fig. 3 the upper brush is at approximately right angles to the lower brush and at an angle of usually not over about 30° from the horizontal. This particular angular relationship is however not essential so long as the brushes are so arranged as to form an angle which will permit the gummed strips to be passed between them.

In the operation of the device the mounting paper **72**, which has gum on both faces is pushed from the rear over the table **34** and passes between the tips of the brushes. This can be readily accomplished preferably by holding the paper so that it is cupped longitudinally between the thumb and finger thereby giving it sufficient stiffness to enable it to be readily pushed between the brushes. After the end of it has been pushed between the brushes, it may be grasped and pulled the rest of the way through and will come out moistened on both sides. When the mounting paper is used for applying address slips or the like it is preferable to lay the address slip **74** on the upper surface of the moistened mounting paper as soon as it is projected from the brush. The mounting paper and address slip may then be grasped, as shown in Fig. 5, and the mounting paper drawn completely through the moistening element, the address slip being adhered thereto as the moistening paper is drawn out of the machine. The address slip with the moistened mounting paper on its back may now be applied to the package exactly as if it were a moistened gummed label.

The method of applying the address slip to the moistened mounting paper as the mounting paper is drawn out from between the brushes is facilitated by the position and manner of mounting of the upper brush. In the particular example of the invention illustrated, it will be seen that the slightly inclined position of the upper brush and its support by arms projecting upwardly from the base of the apparatus keeps the entire brush, including the butt portion thereof, low. There are no obstructions above the brush. This construction permits the address slip to be laid on top of the brush and readily drawn along with the moistened mounting paper as shown in Fig. 5.

It will be seen that relative adjustment of the brush tips may be accomplished by moving the upper brush in a back and forth direction simultaneously with the adjustment of the table **34**. The adjustable mounting of the feed table is important as it permits the table to be properly aligned with the angle between the brushes so that as the label is pushed over the table it is guided to the proper position for passage between the brushes. The brushes are not always the same length so that the up and down adjustment of the table by the screw head **38** permits the elevation of the edge of the table to be regulated. The adjustment of the screws **46** permits the edge of the table to be brought nearer to or removed further from the angle of intersection of the brushes. The line of the brush intersection will change from time to time as the brushes are used. In addition to changes due to ordinary wear the brush bristles get softer and the tip of the lower brush will bend over eventually more or less as shown in Fig. 3. This will necessitate a lowering of the table. If the table were maintained in a raised position the feeding of the labels might be actually prevented by the interference of the upper brush which moves to a lower position as the lower brush bends over.

In the particular construction shown, the arms supporting the upper brush are pivoted at the upper edge of the plate **24** as described. The adjustment of the screws **46** thus permits the upper brush to be adjusted back and forth with respect to the lower brush. Obviously this adjustment might be made in any other way as the brush need not necessarily be supported on the plate **24**.

For removing and cleaning of the brushes and for filling the reservoir with water, the upper brush and feed table may be tilted upwardly as shown in Fig. 2.

While certain preferred embodiments of the invention have been illustrated and described in detail, it is to be understood that changes may be made therein and the invention embodied in other structures. It is not, therefore, the intention to limit the patent to the specific construction illustrated, but to cover the invention broadly in whatever form its principle may be utilized.

I claim:

1. A moistener for sheets gummed on both faces comprising a water reservoir, a lower brush mounted therein in inverted position and an upper brush mounted above the lower brush, both brushes extending substantially the full length of the reservoir, the tips of the brushes contacting and forming a moistening couple, the upper brush normally occupying a position during use in which it is at an angle no greater than about 30° from the horizontal.

2. A moistener for sheets gummed on both faces comprising a water reservoir, a lower brush mounted therein in inverted position and an upper brush mounted above the lower brush, the tips of the brushes contacting throughout their length and forming a moistening couple, the upper and lower brushes normally occupying positions during use about at right angles to one another, the bristles of the upper brush being beveled to give the brush a chisel shape with the bevel facing towards the lower brush.

3. A moistener for sheets gummed on both faces comprising a lower brush mounted in inverted position, an upper brush mounted above the lower brush at an angle thereto, the tips of the brushes contacting to form a moistening couple, means for supplying moisture to the brushes, a feed table mounted in a position intermediate the brushes and having its plane directed substantially towards the line of intersection of the brushes so as to guide sheets passed over its surface between the tips of the brushes, means for adjusting the elevation of the front edge of the table so as to bring it into alignment with the line of intersection of the brush tips, and means for adjusting the table in its own plane so as to adjust the position of the front edge of the table towards and from the brush tips.

4. In a moistener of the character described, an open top reservoir, an inverted brush mounted in said reservoir, a table carrier mounted in said reservoir, a feed table mounted in the reservoir and pivoted at its rear edge to said carrier for pivotal movement about a horizontal axis and having its free edge in juxtaposition to the upper part of the inverted brush, means for adjusting the elevation of the feed table about said horizontal axis, and means for adjusting the part of the table carrier to which the table is pivoted in a substantially horizontal direction thereby adjusting said table in a substantially horizontal direction so as to bring the edge of the table into the desired position relative to the upper part of the inverted brush.

5. In a moistener of the character described, an open top reservoir, an inverted brush mounted in said reservoir, a table carrier mounted in said reservoir having an upper part movable in a generally horizontal direction, a feed table mounted in the reservoir and pivoted at its rear edge to said upper part of said carrier for pivotal movement about a horizontal axis and having its free edge in juxtaposition to the upper part of the inverted brush, means for adjusting the elevation of the feed table about said horizontal axis, and means for adjusting the part of the table carrier to which the table is pivoted in a substantially horizontal direction thereby adjusting said table in a substantially horizontal direction so as to bring the edge of the table into the desired position relative to the upper part of the inverted brush, a brush carrier above the water reservoir pivoted to the table carrier for movement about a horizontal axis and an upper brush carried by said pivoted brush carrier and having the ends of its bristles normally in contact with the ends of the bristles of the lower brush.

6. A moistener of the character described comprising a water receptacle open at the top, means for holding an inverted brush in the forward part of the said receptacle, a resilient flanged plate mounted in a substantially vertical position in the rear part of said receptacle with the flanged portion of the plate screwed to the bottom of the receptacle, an adjusting screw carried by the resilient plate and bearing against the back of the receptacle, a feed table mounted in the reservoir pivoted at its rear edge to the top of said resilient plate for movement about a horizontal axis, and having its free edge in juxtaposition to the upper part of the inverted brush, a pillar rising from the bottom of the receptacle and carrying an adjusting screw, the head of which is adapted to bear against the under side of said table, an upper brush carrier comprising a horizontally arranged brush holding channel having downwardly projecting arms at the ends thereof, means for pivotally mounting said arms at the ends of the upper edge of said resilient plate for movement about a horizontal axis, and an upper brush carried by said upper brush carrier and having the tips of its bristles engaging the top of the lower brush.

7. A moistener for a mounting sheet gummed on both faces, comprising a water reservoir having a substantially flat open top, a lower brush mounted therein in inverted position, a feed table mounted near the top of the reservoir in a substantially horizontal position, an upper brush mounted above the feed table and at an angle thereto, the tip of the upper brush contacting the tip of the lower brush, and means for supporting the upper brush from the water reservoir comprising supporting means near the top of the reservoir near the side of the same remote from the tips of the brushes, arms pivotally connected to said supporing means for pivotal movement about a horizontal axis, said arms projecting upwardly and forwardly near the ends of the water reservoir, a brush carrier connecting the upper ends of said arms and extending horizontally between the same, the butt of the upper brush being secured to said carrier, no part of the arms, brush carrier or tank extending substantially above the upper level of the butt of the brush so as to obstruct the passage of a sheet over the brush for attachment to a gummed mounting sheet passed between the brushes to be moistened thereby.

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