

C. H. CROWELL.
HAND OPERATED TAPE MOISTENER.
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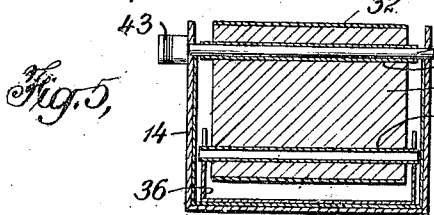
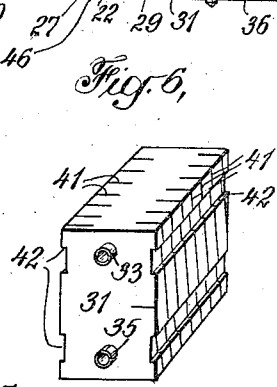
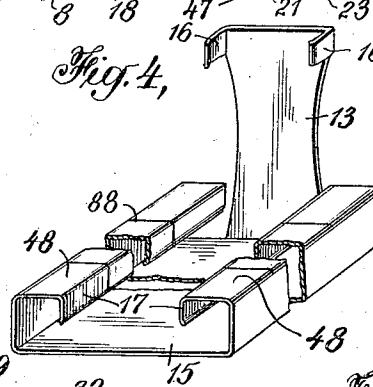
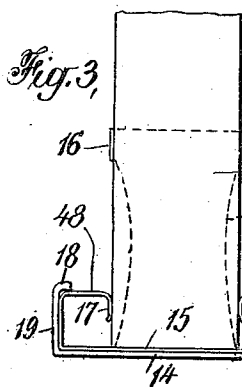
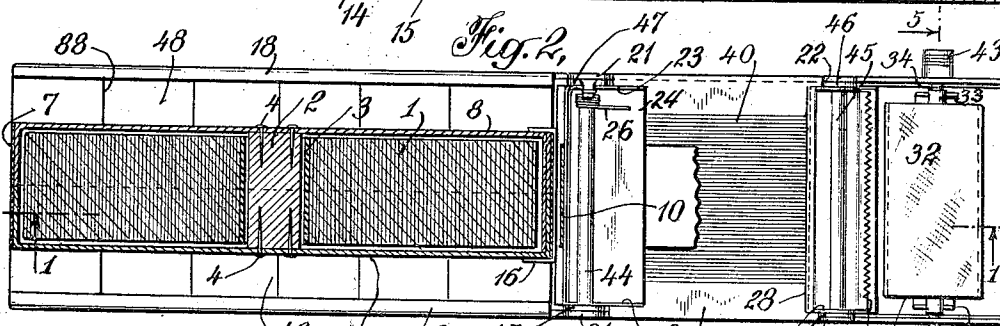
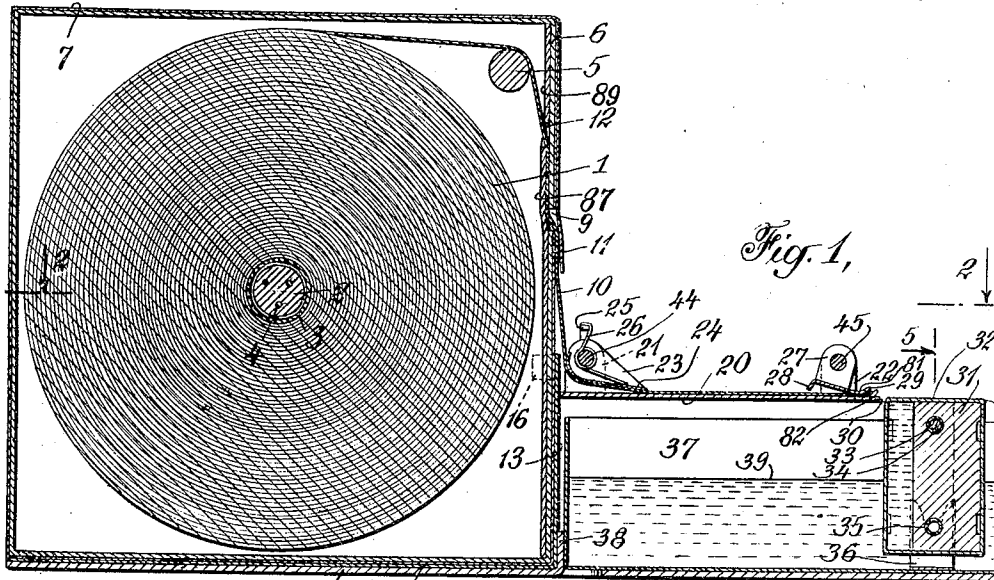


Fig. 7.
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HAND-OPERATED TAPE-MOISTENER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES H. CROWELL, a citizen of the United States, and resident of the borough of Brooklyn, county of Kings, city and State of New York, have made a certain new and useful Invention Relating to Hand-Operated Tape-Moisteners, of which the following is a specification, taken in connection with the accompanying drawing, which forms part of the same.

This invention relates especially to tape moistening machines from which the strip of gummed tape is adapted to be withdrawn and simultaneously moistened, the operator placing his fingers on the tape and thereby advancing it along the feed plate so that its end projects sufficiently to be grasped by the operator and withdrawn while being held in contact with a moistener. Then when sufficient tape has been withdrawn from the exposed tape roll or preferably from the sealed tape package used, the length of tape may be conveniently severed by swinging it upward into engagement with a cutter of the stationary type which may, if desired, be allowed a limited swinging movement so that when severing a strip of tape its rear end may swing down into locking position to prevent further forward movement. The machine may also embody interchangeable spring box holding members which may be interchangeably supported or held in the base of the machine so as to yieldingly support a sealed package containing a roll of tape in proper coöperation with the feeding, severing and moistening devices of the machine. The moistener may with advantage comprise a reversible moistener carrier block of wood or other suitable material in which capillary supply slots may be formed adjacent one or more of its vertical sides to carry water up to the top of the block and moistener which may be of fabric in belt form substantially inclosing the block.

In the accompanying drawing showing in a somewhat diagrammatic way illustrative embodiments of the invention,

Figure 1 is a vertical section taken substantially along the line 1—1 of Fig. 2.

Fig. 2 is a horizontal section taken along the line 2—2 of Fig. 1.

Fig. 3 is a partial rear elevation showing the box holding member.

Fig. 4 is a perspective view thereof.

Fig. 5 is a partial transverse section taken substantially along the line 5—5 of Fig. 1.

Fig. 6 is a perspective view of the moistener carrier block; and

Fig. 7 is an enlarged transverse section through a portion of the feed plate.

The machine may with advantage have a base 14 of rather heavy sheet metal having its forward portion bent upward so as to substantially inclose the water tank 37 on both sides, while, if desired, the rear portion of the base may be bent upward to form sides 19 and slightly approaching lips 18 to assist in supporting the tape roll which may be held in longitudinal alinement by the upstanding lug 38 also positioning the water tank 37, as shown in Fig. 1. This water tank of any suitable construction and material may rest upon the base below the feed plate 20 which may extend over this part of the machine while leaving an opening at the front of the water tank through which the moistener may project.

As indicated in Fig. 1 the moistener may comprise a suitable carrier block or support 31 on which the cloth or other porous moistener 32 may be arranged in belt form, for instance, so that preferably the upper end of the moistener is substantially level with the upper side of the feed plate, the forward end 82 of which may approach the moistener quite closely. This moistener carrier block may, if desired, be formed of wood preferably having the grain arranged substantially vertically and to increase the capillary action of the block it may be formed with a series of narrow capillary supply slots, such as 42, on one or more of its vertical faces, these slots preferably extending upward in a slightly diagonal direction on both the front and rear faces of the block with which the moistener engages. By making these slots a 64th of an inch or less in width they serve to freely carry the water up to the top of the moistener by capillary action and this is promoted by forming one or more recesses 42 in these faces of the block. It is desirable to have the moistener and block vertically reversible so that the exposed portion can be turned down occasionally and kept below the water line in the tank which softens or removes any accumulations of gum that may adhere thereto. This may be conveniently effected by having suitable supporting and holding devices to hold

the moistener in either of its reversed positions in the tank. This may be accomplished and the moistener also considerably stiffened and kept from warping undesirably by forcing transversely through the same one or more stiff supporting tubes, such as 33, 35, which fit tightly in holes in the block and have ends preferably projecting beyond the block so as to engage suitable supports therefor, such as the supporting yoke 36, which may be secured to the water tank as indicated in Figs. 1, 2 and 5. A suitable holding pin, such as 34, may pass through the upper supporting tube and through holes in the sides of the frame or base member so as to positively hold the moistener in proper vertical alinement with respect to the feed plate 20 and also to prevent its longitudinal movement while by taking hold of the head 43 of the pin and removing it the moistener is instantly released for cleaning or readjustment and its removal makes it possible to withdraw the water tank 37 and renew the supply of water or other moistening liquid 39 therein.

The supply of gummed tape may be supported in any suitable way adjacent the feeding and moistening devices, the ordinary rolls of gummed tape being readily supported on the base in any well-known manner. If desired, however, a substantially sealed package of gummed tape may be mounted on the machine so that the strip of tape may be withdrawn from the package while it is maintained in substantially sealed condition so that the tape is protected from undesirable hygroscopic or other atmospheric influences which seriously affect the moisture absorbent gum coatings which must be used to secure the most desirable quick moistening and adhesive properties. Such a sealed package of gummed tape is shown in the drawings as comprising a roll 1 of gummed tape of this character mounted so as to revolve on a suitable pintle or support 2 inclosed, if desired, by the cardboard or other spacer 3, and held in position by the fasteners or pins 4 passing through the sides 8 of the pasteboard box or other suitable box which may have integral edge flaps 6 bent down into substantial abutting position and joined together as by an adhesive closing strip 7 extending around the box and having, if desired, a projecting closing flap 11 covering the delivery opening 9 therein. On the inside of the box adjacent this delivery opening a suitable closing lip 87 may be secured in position so as to have its upper end resiliently closing this delivery opening on the inside and forming in connection with the member 89 a tape aperture, such as 12, into which the end 10 of the gummed tape may pass preferably after passing over the guide or roll 5. In this way the delivery opening or passage through which the strip

of gummed tape issues from the box remains substantially closed so that moisture cannot undesirably act on the tape roll within and thus the entire roll of tape may be withdrawn and used while it is protected by this substantially sealed container and the adhesive and other qualities of the tape can thus be maintained substantially constant during service. When all the tape in such a package is used up the empty box may of course be removed from the machine and a new sealed package of tape of any suitable construction as it is shipped from the factory may be put in place on the machine and used in the same way.

The tape container may be readily secured in position on the machine by resilient holding devices and an arrangement for this purpose which makes it possible to use tape packages of different widths on the machine may comprise an interchangeable spring box holding member 15 shown in Figs. 3 and 4 as adapted to slip longitudinally into the machine base at its rear end so as to be held in position by the upturned sides and lips 18 while the spring sides and lips 48 of this holding member tend to yieldingly grip a tape package which is forced between them so as to hold it firmly without injury or impairing its sealed condition. The spring lips 48 may, if desired, be severed into a number of independent resilient members by the slots 88 and these spring loops may have inner downwardly extending portions 17 to grip the box throughout a considerable area along its sides. The box may be held vertical in this way, and also, if desired, by suitable holding clips engaging its front end, this clip device, if desired, being formed integral with the holding member as by being bent up from the same strip of material so as to form a front bracket 13 and rearwardly extending resilient holding clips 16. By making these holding members interchangeable they may be supplied in such widths as will accommodate packages holding tape of three-fourths inch width or one and one-half inch width, for instance, or any intermediate or other sizes and this makes it unnecessary to have any elaborate lateral adjustments for the machine and to contribute to its neat and compact appearance.

The strip 10 of gummed tape from the container may be fed along the feed plate 20 in any suitable way, and may, if desired, extend beneath a suitable alining member or clamping dog 24 having a front edge in such position as to facilitate the proper engagement of the tape by the operator's finger during the feeding movement. This device may, if desired, be pivotally mounted on the machine frame as by having its lips or side members 23 pivoted on the bar 44 mounted in lugs 21 of the frame which may

also secure the rear end of the feed plate by passing through the lugs 47 thereon, as shown in Figs. 1 and 2. A light spring such as 26 may normally hold this alining device downward in contact with the gummed tape by having the upper end of this spring engage the projection or lug 25 on the part 47, for instance. To facilitate feeding of the gummed tape the feed plate is preferably longitudinally corrugated, the corrugations or lines 40 extending in the direction that the tape is fed along the table, as shown in Fig. 2. By corrugating this plate and providing it with such longitudinally extending separated ribs, such as 80, indicated in a somewhat exaggerated manner in Fig. 7, the feeding of the tape is greatly facilitated since adhesion between the tape and feed plate is minimized even after the machine has been left idle for considerable periods. Also when the tape is pressed down by the operator's finger and fed forward in this way these ribs tend to guide the tape straight forward along the feed plate so that it is much less likely to move transversely out of alinement. The extent of forward movement allowed between the alining device 24 and the rear end 28 of the cutter is preferably so arranged that the tape is fed forward through a distance sufficient to leave its forward end projecting slightly beyond the front of the moistener so that this forward end of the tape may be readily engaged by the operator's fingers and pressed downward on the moistener and simultaneously drawn forward to the extent desired.

The lengths of moistened tape may be readily severed by any form of cutter, such, for example, as the stationary type cutter 29 which may, if desired, have a serrated cutting edge so as to sever the lengths of gummed tape when the tape is swung upward against the cutter in the well known way. For some purposes it is desirable to have the forward end of the cutter project upward slightly, as from the bend 81 therein so that during the severing operation the end of the gummed strip will be bent upward sufficiently to remain in a somewhat upwardly bent condition so that this tape end 82 will ride up over the moistener 32 more readily and certainly when it is fed forward as above described. It is desirable to have a suitable locking device in connection with the cutter so as to prevent the tape slipping while severance is taking place and this may be effected by giving the cutter a slight swiveling movement as by pivoting the ears 27 of the cutter on the cutter bar 45 which may pass through the lugs 22 on the frame and also through the lugs 46 on the feed plate so as to support its forward end. Thus every time a strip of tape is severed on the cutter its forward end is swung upward

slightly and its rear end 28 is swung downward to form a cutter lock engaging the tape strip to practically prevent its forward movement so long as the cutter is being held upward at its front end by the tape.

This invention has been described in connection with a number of illustrative embodiments, forms, arrangements, proportions, parts, materials, constructions, and methods of use, to the details of which disclosure the invention is not of course to be limited; since what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claims.

1. In tape moisteners, a sheet metal frame having sides bent up at the forward portion of the machine to inclose a water tank and having rear bent up sides and inwardly projecting lips, a removable water tank, a feed plate secured to said frame above said water tank and having longitudinally extending corrugations to facilitate manual finger feeding movement of gummed tape over said plate, a reversible moistener mounted in said tank with its upper exposed portions substantially in line with said feed plate, a serrated cutter movably mounted above said feed plate adjacent said moistener and having a cutter lock to engage and hold the gummed strip during severing movement, an alining spring clamping member adjacent the rear of said feed plate, an interchangeable spring holding member removably engaging the rear of said frame and having inwardly extending spring lips to engage a tape package and a sealed container mounted in said holding member and inclosing and protecting a roll of gummed tape, the end of said tape extending through a substantially closed delivery opening in said container to be moistened and severed.

2. In tape moisteners, a sheet metal frame having sides bent up at the forward portion of the machine to inclose a water tank and having inwardly projecting lips, a removable water tank, a feed plate secured to said frame above said water tank and having longitudinally extending corrugations to facilitate manual finger feeding movement of gummed tape over said plate, a moistener mounted in said tank with its upper exposed portions substantially in line with said feed plate, a cutter movably mounted above said feed plate adjacent said moistener and having a cutter lock to engage and hold the gummed strip during severing movement, and an interchangeable spring holding member removably engaging the rear of said frame and having inwardly extending spring lips to engage a tape package.

3. In tape moisteners, a sheet metal frame having sides bent up at the forward portion of the machine to inclose a water tank and having inwardly projecting lips, a remov-

able water tank, a feed plate secured to said frame above said water tank and having longitudinally extending corrugations to facilitate manual finger feeding movement of
 5 gummed tape over said plate, a moistener mounted in said tank with its upper exposed portions substantially in line with said feed plate, a cutter mounted adjacent said moistener and having a cutter lock to engage and
 10 hold the gummer strip during severing movement, and a spring holding member engaging the rear of said frame and having inwardly extending spring lips to engage a tape package.

15 4. In tape moisteners, a sheet metal frame having sides bent up at the forward portion of the machine to inclose a water tank and having rear bent up sides and inwardly projecting lips, a removable water tank, a
 20 feed plate secured to said frame above said water tank, a moistener mounted in said tank with its upper exposed portions substantially in line with said feed plate, a stationary type serrated cutter mounted above
 25 said feed plate adjacent said moistener, an interchangeable spring holding member removably engaging said lips at the rear of said frame and having inwardly extending spring lips to engage a sealed tape package
 30 and having a front bracket and holding clamps to embrace the front of said package and a sealed container mounted in said holding member and inclosing and protecting a roll of gummed tape.

35 5. In tape moisteners, a sheet metal frame having rear bent up sides and inwardly projecting lips, tape moistening and severing devices mounted on the forward portion of
 40 said frame, an interchangeable spring holding member removably engaging said lips at the rear of said frame and having inwardly extending spring lips to engage a sealed tape package and having a front
 45 bracket and holding clamps to embrace the front of said package and a sealed container mounted in said holding member and inclosing and protecting a roll of gummed tape.

6. In tape moisteners, a frame having bent up sides and inwardly projecting lips,
 50 tape moistening and severing devices mounted on said frame, an interchangeable spring holding member removably engaging said lips and having inwardly extending spring
 55 lips to engage a tape package and having a front bracket and holding clamps to embrace the front of said package.

7. In tape moisteners, a frame having bent up sides and inwardly projecting lips, tape moistening and severing devices mount-
 60 ed on said frame, an interchangeable spring holding member removably engaging said lips and having inwardly extending spring lips adapted to engage a supply of gummed
 65 tape.

8. The tape moistener comprising a frame

having sides to inclose a water tank, a removable water tank supported by said frame, a fabric covered reversible moistener having a wood carrier block vertically
 70 mounted in said tank, said carrier block being arranged with a grain of the wood substantially vertical and being provided with capillary supply slots in the faces adjacent the fabric covering vertically separated
 75 stiffening supporting tubes embedded in said block and having projecting ends, supporting yokes in said water tank to support and align the lower supporting tube and a holding pin extending through the upper sup-
 80 porting tube to removably hold said moistener and water tank in said frame.

9. The tape moistener comprising a frame having sides to inclose a water tank, a removable water tank supported by said frame, a fabric covered reversible moistener
 85 having a wood carrier block mounted in said tank, said carrier block being provided with capillary supply slots in the faces adjacent the fabric covering, separated stiffening supporting tubes embedded in said block
 90 and having projecting ends, and supporting and holding devices cooperating with said supporting tubes to removably hold said moistener and water tank in said frame.

10. The tape moistener comprising a frame having sides to inclose a water tank, a removable water tank supported by said frame, a covered reversible moistener hav-
 95 ing a carrier block mounted in said tank, said carrier block being provided with capillary supply slots in the faces adjacent the covering, supporting tubes embedded in said block and supporting and holding devices
 100 cooperating with said supporting tubes to removably hold said moistener and water tank in said frame.

11. The tape moistener comprising a frame having sides to inclose a water tank, a removable water tank supported by said frame, a covered reversible moistener hav-
 110 ing a carrier block mounted in said tank, said carrier block being provided with capillary supply passages in the faces adjacent the covering, supporting tubes embedded in said block and supporting and holding de-
 115 vices cooperating with said supporting members to removably hold said moistener.

12. In tape moisteners, a removable water tank, a feed plate above said water tank and having longitudinally extending closely
 120 spaced separate ribs to facilitate finger feeding movement of gummed tape strip along said feed plate, a reversible moistener mounted in said tank with its upper exposed portions substantially in line with the rib-
 125 bed surface of said feed plate, a stationary type serrated cutter mounted above said feed plate adjacent said moistener and having an upwardly bent portion adjacent its severing edge to bend up the end of the gummed
 130

strip during severing movement and an alining spring clamping member adjacent the rear of said feed plate to regulate the initial forward movement of the gummed strip.

5 13. In tape moisteners, a water tank, a feed plate having longitudinally extending closely spaced separate ribs to facilitate finger feeding movement of gummed tape strip along said feed plate moistener mounted in said tank with its upper exposed portions substantially in line with the ribbed surface of said feed plate, a stationary type cutter mounted above said feed plate adjacent said moistener and having an upwardly bent portion adjacent its severing edge to bend up the end of the gummed strip during severing movement and an alining member adjacent the rear of said feed plate to regulate the initial forward movement of the gummed strip.

14. In tape moisteners, a water tank, a feed plate having longitudinally extending separate ribs to facilitate finger feeding movement of gummed tape strip along said feed plate, a moistener mounted in said tank with its upper exposed portions substantially in line with the ribbed surface of said feed plate, a stationary type cutter mounted above said feed plate adjacent said moistener and means to bend up the end of the gummed strip during severing movement.

15. In tape moisteners, a water tank, a feed plate to allow manual feeding movement of gummed tape strip along said feed plate, a moistener mounted in said tank with its upper exposed portions substantially in line with the surface of said feed plate, a cutter mounted adjacent said moistener and means to bend up the end of the gummed strip during severing movement.

16. In tape moisteners, a water tank, a feed plate having a corrugated upper surface to facilitate finger feeding movement of gummed tape strip along said feed plate,

a cooperating moistener mounted in said tank and a stationary cutter mounted adjacent said moistener.

17. In tape moisteners, a water tank, a feed plate formed with separated supporting projections to allow manual feeding movement of gummed tape strip along said feed plate and minimize contact with the gummed tape, a moistener mounted in said tank with its upper exposed portions substantially in line with the surface of said feed plate, a cutter mounted adjacent said moistener and means to bend up the end of the gummed strip during severing movement.

18. In tape moisteners, a feed plate to guide a gummed tape strip in its movement toward a moistener, a moistener with a substantially flat active moistening surface arranged substantially in line with the surface of said feed plate, a stationary cutter mounted adjacent said moistener and formed with means acting during severance of a strip section to bend back away from said moistener the extreme end of the remaining gummed strip to facilitate its subsequent movement over said moistener.

19. In tape moisteners, means by which the end of a gummed tape strip may be pushed forward and guided in its movement toward a moistener, a moistener mounted with its active moistening surface substantially in line with the path of said gummed tape strip, a cutter adjacent said moistener and means cooperating with said cutter to bend back the tip of the remaining end of said gummed tape strip away from said moistener during the severing of a strip section so that said tip remains bent back and can ride over the moistener.

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Witnesses:

J. HENTER,
M. BETTEX.