

June 20, 1961

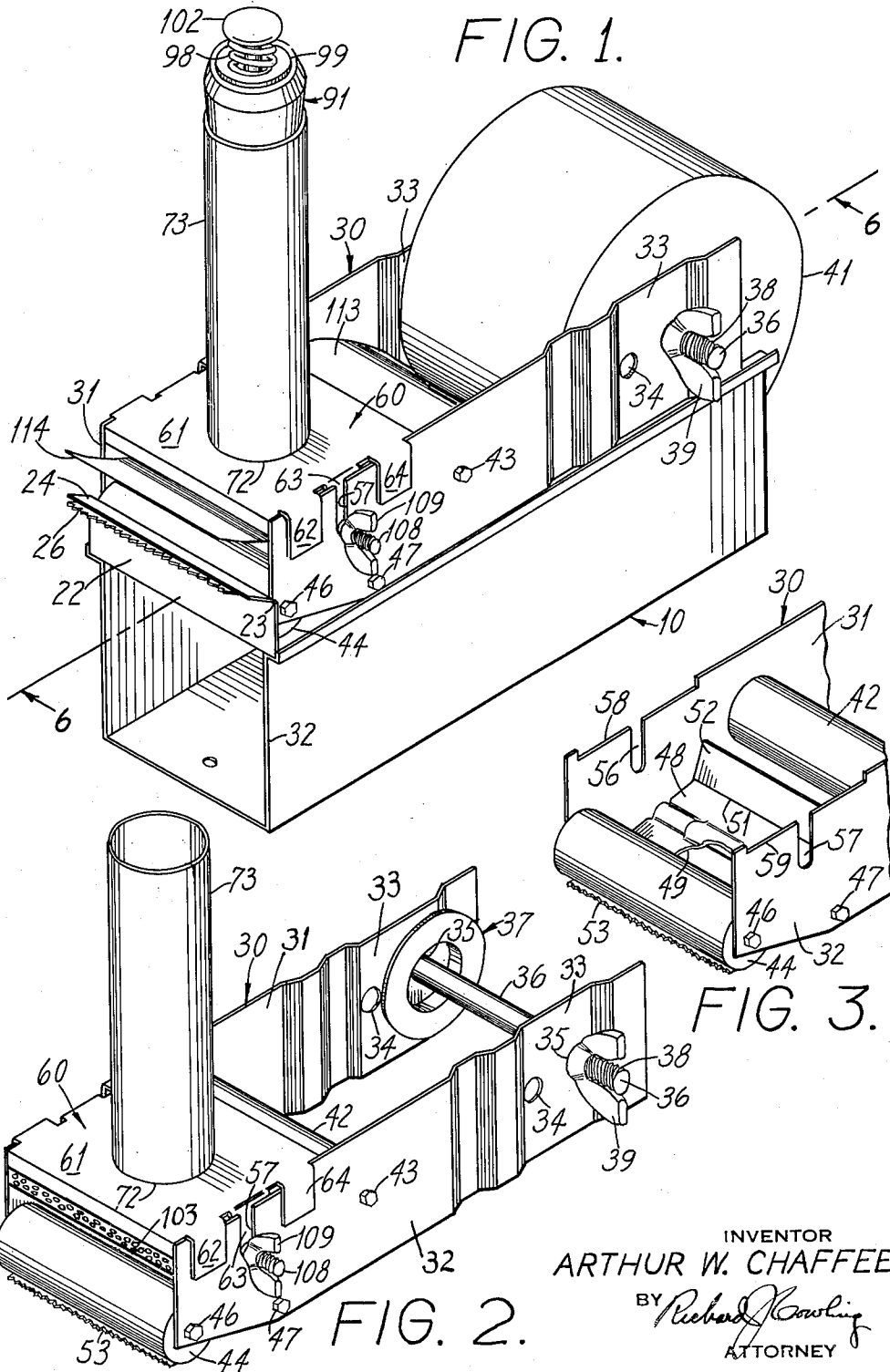
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COMBINATION TAPE DISPENSER AND REMOVABLE LABEL MOISTENER

Filed June 23, 1959

2 Sheets-Sheet 1



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FIG. 4.

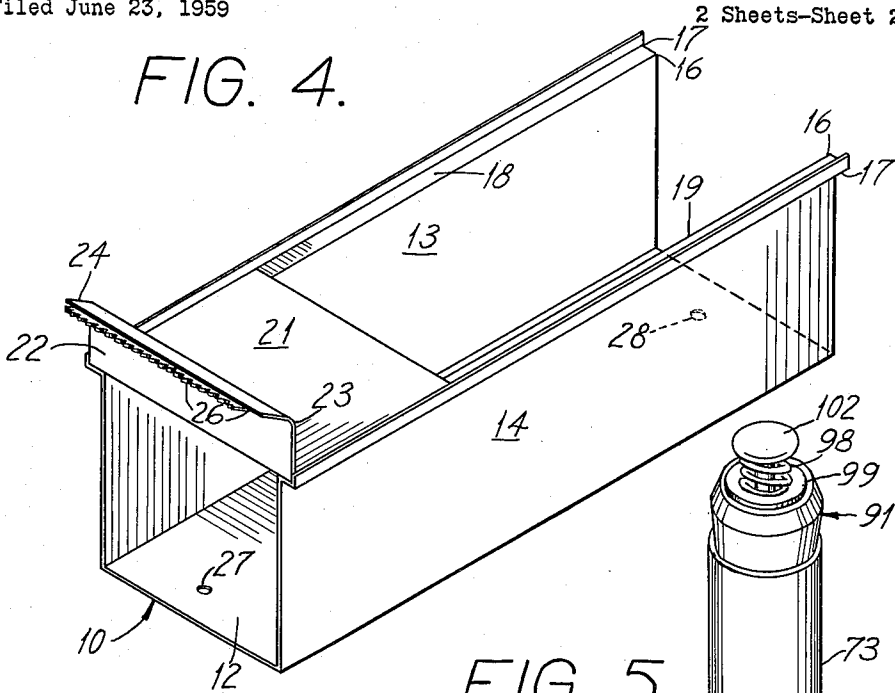


FIG. 5.

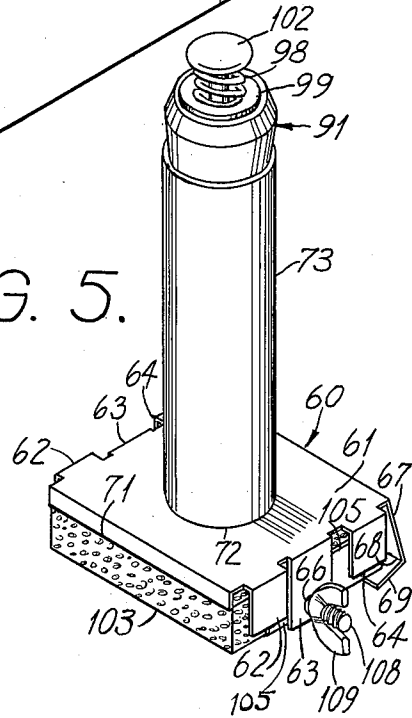


FIG. 7.

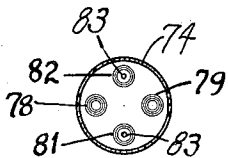
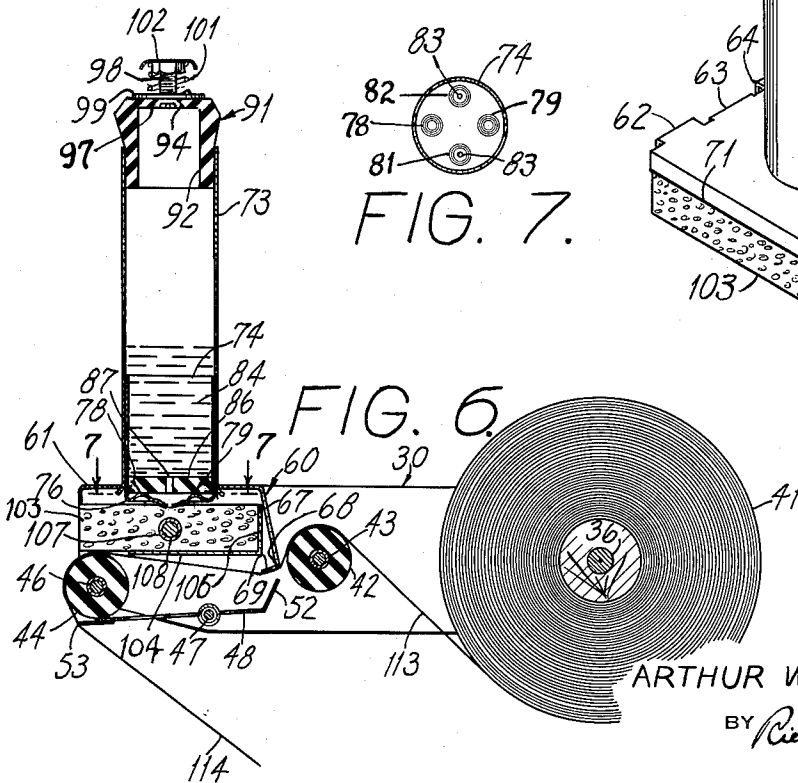


FIG. 6.



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**COMBINATION TAPE DISPENSER AND  
REMOVABLE LABEL MOISTENER**

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Filed June 23, 1959, Ser. No. 822,352

9 Claims. (Cl. 118-43)

The present invention is directed generally to a tape dispenser and label moistener, and it has specific relation to a new and combination type of tape dispenser and label moistener which may be used as a stationary pull-and-tear tape dispenser, a portable tape dispenser and sealer and/or a removable label moistener as the occasion requires.

There are many types of tape dispensers and sealers on the market capable of being used as a stationary pull-and-tear dispenser or as a portable dispenser, but they are not separable in such a manner as to make them easy to handle and use as a conventional pull-and-tear dispenser, a portable dispenser and sealer and/or a removable label moistener. Furthermore, in most of the prior art units it is difficult to clean their sponges since they cannot be placed under a faucet and washed for fear of wetting the tape. It is also difficult to reload such devices because they employ a series of rollers and stationary guide plates over and through which the tape must be threaded before using. Such dispensers are not readily separable for reloading with a new roll of tape or for cleaning in any easy and efficient manner by unskilled operators, who require no tools for assembly and disassembly. All of these disadvantages have been obviated by the present invention.

An object of the invention is to provide a durable, efficient, economical and relatively inexpensive tape dispenser and sealer, which may be used (1) as a stationary pull-and-tear dispenser; which is separable without tools to provide (2) an efficient, light weight, easy to handle, portable tape dispenser and sealer; and which is further separable without tools to provide (3) an efficient and extremely light-in-weight label moistener, wherein the wetting sponge may be easily and quickly cleaned by washing under a faucet without danger of wetting the tape.

Another object of the invention is the provision of a novel construction whereby the tape dispensing and sealing unit may be easily and quickly separated from its stationary base to provide a portable tape dispenser and sealer.

A further object of the invention is to provide a portable tape dispensing and sealing unit which is inexpensive in construction, durable, efficient to use, exceedingly light-in-weight and easy to reload with tape.

Another object of the invention is the provision of an easily removable label moistening unit, requiring no skill or tools, whereby it may be used alone as an efficient, durable and economical label moistener unit, having a moistening sponge that may be washed clean under a running faucet without removing the same therefrom.

A further object of the invention is to provide a novel combination manipulating handle and reservoir, which is easily and quickly detachable from the tape dispensing unit for refilling and cleaning, without necessitating any experience or tools, and which is capable for use alone as an efficient portable label moistener.

Another object of the invention is the provision of a large capacity reservoir provided with a novel non-leaking, non-clogging dispensing means capable of evenly wetting a flat sponge.

A further object of the invention is the provision of a novel push-button valve arrangement in the handle reservoir which permits controlled release of additional quantities of the moistening agent when desired.

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Another object of the invention is to provide a portable tape dispenser and sealer capable of operation with all standard sizes of tapes, and which is also provided with means for regulating the amount of tension desirable on the roll from which the tape is withdrawn.

Various other and further objects and advantages of the invention, which result in simplicity, economy and efficiency, will be apparent from the following detailed description, wherein a preferred form of embodiment of the invention is shown, reference being had for illustrative purposes to the accompanying drawings, forming a part hereof, wherein like numerals indicate like parts, in which:

FIGURE 1 is a front perspective view of a stationary pull-and-tear tape dispenser, embodying the principles of the invention;

FIGURE 2 is a front perspective view of the portable tape dispensing and sealing unit, which has been detached from the stationary base shown in FIGURE 1, but with its push-button valve removed;

FIGURE 3 is a fragmentary isometric view of the portable tape dispensing and sealing unit shown in FIGURE 2 with its tape moistening unit removed;

FIGURE 4 is a front perspective view of the stationary base upon which the portable tape dispensing and sealing unit is positioned when the device is being used as a conventional pull-and-tear dispenser;

FIGURE 5 is a front perspective view of the removed moistening unit, which shows the form in which it may be used merely as a portable label moistener;

FIGURE 6 is a longitudinal vertical sectional view of the tape dispensing and sealing unit shown in FIGURE 1, the same having been taken substantially along the line 6-6 thereof, looking in the direction of the arrows; and

FIGURE 7 is a cross-sectional view taken substantially along the line 7-7 of FIGURE 6, looking in the direction of the arrows, showing the construction and spacing of the dual nozzles employed for evenly wetting the flat sponge used to moisten the tape.

Referring now to the drawings, and particularly to FIGURE 4 thereof, there is shown a base member 10, having a closed bottom 12 and integrally formed upstanding sidewalls 13 and 14, which are offset or flanged outwardly, as indicated at 16, and offset or flanged upwardly, as indicated at 17, to form a trackway 18 and 19 for receiving a removable portable tape dispenser and sealer 30 (see FIGURE 2). The forward end of the base member 10 is provided with a top platform 21, which is adapted to be mounted fixedly as by soldering or spot welding to the spaced trackways 18 and 19. The top platform 21 has an integrally formed upwardly extending flange 22 at its forward end, which is bent forwardly and outwardly, as indicated at 23, to provide an obliquely upwardly and forwardly extending flange 24. The flange 24 has along its outer free end a serrated knife blade 26 fixedly secured thereto in any suitable manner and projecting slightly outwardly therefrom. The knife blade 26 serves as a means for cutting the tape being withdrawn from the portable dispensing and sealing unit 30 into desired lengths. The base member 10 is also provided with spaced holes 27 and 28 adjacent its opposite ends, which holes serve as a means for securing or bolting the same to a stationary object such as a post, table, bench, etc.

Referring now to FIGURES 1, 2 and 3, there is shown a portable tape dispensing and sealing unit 30, which is complete in itself, and may be positioned on the base member 10 or removed therefrom and used separately. This unit 30 comprising a pair of spaced side plates 31 and 32, which are held in a suitable fixed position with respect of each other only by the shaft bolts holding the several mechanisms to be mounted therebetween.

Adjacent on end of each of the plates 31 and 32 there is an indented or depressed portion 33 within which there are a series of spaced holes 34 and 35, and the corresponding holes of each side plate are in transverse alignment. Any pair of aligned holes 34 or 35 is adapted to receive a shaft bolt 36, having at one end an integrally formed head (not shown) and at the opposite end a series of threads 38 for detachably securing a wing nut 39 thereon. A roll of glued tape 41 is adapted to be mounted between the plates 31 and 32 on the bolt 36. It will be noted that, when the wing nut 39 is tightened on its threads 38, the indented or depressed portions 33 of the side plates 31 and 32 will be drawn together, frictionally engaging the sides of the roll of tape 41 in proportion to the degree of tightness of the wing nut 39. In this manner suitable tension may be placed on the tape to be dispensed from the roll 41 to prevent undesirable unreeling.

Immediately forwardly of the roll of tape 41 is mounted on idler roller 42 on a shaft bolt 43. A second idler roller 44 is mounted adjacent the forward ends of the plates 31 and 32 on a similar shaft bolt 46. Mounted intermediate the rollers 42 and 43 is a shaft bolt 47, which has mounted pivotally thereon an angular plate member 48. The plate member 48 is mounted pivotally intermediate the ends of the shaft 47 in any suitable manner. In the construction shown, the opposite sides of the plate 48 are bent arcuately in one direction while the center section is bent arcuately in the opposite direction. The plate 48 is provided with a relatively large aperture 49, which will permit insertion of a finger of a hand of an operator therethrough to facilitate sliding the unwound end of the tape being dispensed under the roller 44 should it slide backwardly into the unit at any time.

The rear end of the plate member 48 is bent upwardly and outwardly, as indicated at 51, to provide a laterally extending flange 52, which will frictionally engage the underside of the tape and tend to hold it in a stationary position while a portion is to be torn off against a knife blade 53. The knife blade 53 is mounted on the opposite end of the plate member 48, and has a serrated edge. The knife 53 is riveted, welded or otherwise secured fixedly to the plate member 48 with its serrations projecting forwardly thereof.

It will be noted that between the roller 44 and the shaft 47 of the pivotal plate member 48, the top edges of the plates 31 and 32 have elongated slots 56 and 57 extending inwardly thereof in transverse alignment. These slots 56 and 57 serve as part of the means for detachably mounting a tape moistening unit 60 thereon. The top edges of the plates 31 and 32 are cut-away or recessed along a substantial distance, as indicated at 58 and 59, respectively.

Referring now to FIGURES 5 and 6, there is shown in detail the tape moistening unit 60, consisting of a base member 61, which is rectangular in shape, having a series of spaced integrally formed and downwardly projecting flanges 62, 63 and 64 along its opposite lateral sides. The flanges 62 and 64 are identical and project downwardly in a vertical plane outwardly of the intermediate flanges 63 a distance substantially equal to the thickness of the material from which the dispensing unit 30 is being fabricated. The intermediate flanges 63 extend slightly below their lateral flanges 62 and 64, and each is provided with an aperture 66 adjacent its lower end for receiving a locking bolt to be hereinafter described.

The rear or back end of the base member 61 is provided with an integrally formed flange 67, which projects downwardly and below the flanges 63. The flange 67 has its outer end bent inwardly, as indicated at 68, to provide a downwardly and obliquely extending flange 69. The front or forward end of the base member 61 is also provided with a relatively short flange 71, which also extends downwardly and its side edges terminate in alignment with the depending side flanges 63.

The base member 61 is apertured centrally, as indicated at 72, and has a hollow tubular reservoir 73 mounted fixedly therein in any suitable manner. The reservoir is of a substantial length as compared to its cross-sectional dimension, which is of a size that is convenient for grasping in a hand of an operator, since it is also to be used as the manipulating handle means for the same.

Referring now to FIGURE 6, it will be noted that the reservoir 73 is closed at the bottom by mounting telescopically therein the open top end of a relatively short tubular member 74. The closed bottom end 76 of the member 74 is provided with a series of inwardly extending semi-circular protuberances 78 and 79 and also with a second series of outwardly extending semi-circular protuberances 81 and 82, the latter having central apertures 83 therethrough to provide nozzles for the discharge of a moistening agent 84 therefrom. The inwardly extending protuberances 78 and 79 form a suitable boss or abutment for mounting a false bottom plate 86 fixedly therein in any suitable manner, as by soldering. The plate 86 has an axial aperture 87 through which the moistening agent 84 must flow while passing from the main reservoir 73 to the discharge nozzles 81 and 82.

The upper end of the reservoir 73 is open, and is adapted to be closed by means of a removable cap or plug 91 made preferably of a clear plastic material, but rubber or any other suitable material may be used. When a clear plastic material is used for the plug 91, the operator by tilting the dispenser can see the moistening agent in the reservoir, and can thereby determine whether or not a refilling is desirable before waiting for the sponge to run dry. The bottom of the cap or plug 91 is recessed axially and inwardly, as indicated at 92, to provide a hollow interior and reduce its weight. Its closed top 93 is provided with an axial tapered passageway 94 for receiving a valve 96 therethrough. The valve 96 is a conventional screw positioned in the passageway 94 through the recess 92, with its tapered head 97 fitting the tapered passageway 94 and with its threaded shank 98 projecting upwardly and outwardly from the top surface of the cap 91. A washer 99 is positioned over the threaded shank 98, a coiled spring 101 is mounted thereover, and then a dome-shaped button 102 is threaded onto the end of the correspondingly threaded shank 98 in a conventional manner. It will be apparent that, when pressure is exerted on the top of the button 102, the spring 101 will be depressed and compressed against the top flat surface of the washer 99, and the tapered head 97 of the valve 96 will be forced inwardly and out of contact with the inner tapered passageway 94 of the rubber cap 91, thereby allowing air to enter through the passageway 94 and into the reservoir 73 to replace the vacuum created by the withdrawal of the moistening agent 84 therefrom by capillary action.

A sponge 103 of rectangular shape, being of a substantial length as compared to its width dimensions and of a thickness substantially equal to the space between the top of the front roller 44 and the undersurface of the platform 61, is adapted to be mounted immediately below and centrally of the spaced nozzles 81 and 82. The sponge 103 is positioned in a metal frame-like cover guide or holder 104, which is open at its top side and along its front or forward end but closed at the sides 105 and rear end 106. This cover-guide or holder 104 limits the moistening area of the sponge 103 to its extreme forward end, which is substantially adjacent the cutting knives. The sponge 103 is of a length and width that its forward open end completely fills the space above the front roller 44, whereby its bottom front edge is always in direct contact with the forward edge of the tape 113 at the cutting position. The sponge 103 is provided with a tubular member 107, which is of a length adapted to fit between the upstanding sidewalls 105 of the cover-guide holder 104. A shaft bolt 108 is mounted

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through the holes 66 of the flanges 63, through corresponding holes in the sides 105 of the holder 104 (not shown) and through the hollow tubular member 107. The threaded end of the bolt 108 has a wing nut 109 for mounting the sponge 103 and its holder 104 removably within the label moistening unit 60. In the event the extreme forward edge of the tape 113 should dry out between the edge of the cutting blade 53 and the end of the sponge due to lapses of time between uses, said edge is so short that it can be pushed or turned upwardly and easily moistened again by pushing it against the forward end of the wet sponge 103.

The label moistening unit 60, as thus assembled, is now ready for use individually as an applicator for moistening the dried glue side of conventional labels (not shown). It may be carried to a water faucet (not shown), its cap 91 removed and its reservoir refilled with water or any other suitable moistening agent 84. When filled, the cap 91 is replaced and the unit 60 is ready for use again. After use or whenever desired, it is easy to clean the sponge 103 since it may be held under a faucet and washed in its running water. If, in use, the sponge 103 becomes too dry, additional moistening agent 84 may be discharged onto it by merely depressing the button 102. Once the sponge 102 is thoroughly wetted, its direct contact with the discharge nozzles 81 and 82 will cause enough capillary action to continue to keep the same moist until the reservoir 73 runs dry.

When it is desired to use the label moistening unit 60 in conjunction with its portable tape dispensing and sealing unit 30, it is only necessary to position its base member 61 in the recesses 58 and 59 of the side plates 31 and 32 thereof. When in this position, the projecting flanges 62 and 64 of the base member 61 will project downwardly contiguous to the outer surface of the side plates 31 and 32, and the projecting flanges 63 of the base member 61 will also project downwardly but contiguous to the inner surface of the plates 31 and 32, as best shown in FIGURE 2. The apertures 66 in the flanges 63 will now be in transverse alignment with the slots 56 and 57, and a bolt 108, which is also used to mount the sponge 103 and its holder 104 may be positioned therethrough. Its head end (not shown) will be drawn against the side plate 31, while a wing nut 109 is threaded onto its shank end 108 projecting through the opposite side plate 32. In this manner, the label moistening unit 60 may be readily separable but fixedly secured to the portable dispensing and sealing unit 30.

It will be noted in FIGURE 6 that the unwound tape 113 is threaded up and over the first roller 42, under the flat sponge 103 and guide-cover 104 and up and over the second roller 44. In using the portable tape dispensing and sealing unit 30, the free projecting end 114 of the unwound wetted tape 113 is manually applied to the surface to be sealed, the dispensing and sealing unit 30 is then pulled across such surface, keeping the reservoir handle 73 in a horizontal position, which position is parallel to the surface being sealed. To cut-off the tape 113, it is merely necessary to lift the handle 73 and give it a diagonal twist, whereupon the knife 53 will sever the tape.

The sponge 103, which is preferably made of cellulose, must be thoroughly wet with the moistening agent 84 when using for the first time. Once said sponge 103 becomes thoroughly wet, it will remain moist through capillary action as long as there is moistening agent in the reservoir 73. If additional moisture is required on the sponge 103, a pressing of the button 102 will cause the discharge of additional moistening agent 84 from the nozzles 81 and 82 until the button 102 is released.

When the portable tape dispensing and sealing unit 30 is to be used as a conventional pull-and-tear dispenser, it is only necessary to position it on the base member 10. It is not necessary to fasten it in any way to said base member 10. The knife-cutting blade 53 of the portable unit 30 lays flat upon the platform 21, and is not used.

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However, the knife cutting blade 26, forming a part of the base member 10, is now to be used for tearing the unwound tape from the roll 113.

It will be obvious that the portable tape dispensing and sealing unit 30 may be used with various sizes or widths of tape. If the roll of tape 41 is narrower than the space between the side plates 31 and 32, then one or more spacers may be used to take up the unused space on the bolt 36. One form of conventional spacer is shown in FIGURE 2, as indicated by the numeral 37.

The dispensing and sealing unit 30 may also be used for dispensing a pressure-sensitive tape with the same ease and efficiency as a glued tape that requires moistening. In the event a pressure-sensitive tape is being used, the sponge 103 and its guide holder 104 may be removed, and then the tape may be passed under the forward roller 44 instead of over it so that it will emerge from the unit directly above the severing knife blade 53.

Although I have shown and described only one form which the invention may assume, it will be apparent to those skilled in the art that the invention is not to be so limited, but that various other modifications may be made therein without departing from the spirit thereof or from the scope of the appended claims.

What I claim is:

1. In a tape dispenser, a readily separable base member of substantial length as compared to its cross-sectional dimensions having spaced upstanding side rails, a knife mounted over said base member and projecting over one end thereof, and a portable tape dispensing and sealing unit adapted to be positioned removably on said base member, said unit having spaced side plates, means for mounting a roll of tape therebetween and adjacent one end thereof, a series of spaced rollers mounted between said side plates forwardly of said roll of tape, said portable unit having a readily separable tape moistening unit adapted to be mounted for wetting the tape being drawn over said rollers.

2. In a tape dispenser, a readily separable base member of substantial length as compared to its cross-sectional dimensions having spaced upstanding side rails, a platform mounted over said rails adjacent one end thereof, said platform having a knife projecting therefrom against which a tape being dispensed may be torn, and a portable tape dispensing unit adapted to be positioned removably on said platform and between said side rails, said unit having spaced side plates, means for mounting a roll of tape therebetween and adjacent one end, a series of spaced rollers mounted between said side plates forwardly of said roll of readily separable tape, said portable unit having a tape moistening unit for wetting the tape being dispensed therefrom, said tape moistening unit having an elongated upwardly standing reservoir which forms a handle by which the portable unit may be manipulated.

3. In a tape dispenser, a readily separable base member of substantial length as compared to its cross-sectional dimensions having spaced upstanding side rails, a platform mounted over said rails adjacent one end thereof, said platform having a knife projecting therefrom against which a tape being dispensed may be torn, and a portable tape dispensing unit adapted to be positioned removably on said platform and between said side rails, said unit having spaced side plates, means for mounting a roll of tape therebetween and adjacent one end, a series of spaced rollers mounted between said side plates forwardly of said roll of tape, said portable unit having a readily separable tape moistening unit for wetting the tape being dispensed therefrom, said tape moistening unit having an elongated upwardly standing reservoir which forms a handle by which the portable unit may be manipulated.

4. In a tape dispenser, a readily separable base member of substantial length as compared to its cross-sectional dimensions having spaced upstanding side rails, a platform mounted over said rails adjacent one end thereof, said platform having a knife mounted thereon against

which a tape being dispensed may be torn, and a portable tape dispensing unit adapted to be positioned on said platform and between said side rails, said unit having spaced side plates, means for mounting a roll of tape between and adjacent one end of said side plates, a series of spaced rollers mounted between said side plates forwardly of said roll of tape, said portable unit having a readily separable tape moistening unit for wetting the unwound tape passing over said rollers, said tape moistening unit having an elongated hollow handle which forms a reservoir for holding a quantity of moistening agent used to moisten a sponge, and a sponge mounted below said reservoir and extending between said side plates for moistening the tape as it is withdrawn over said rollers.

5. A portable tape dispensing unit of the character described, a frame structure of substantial length as compared to its cross-sectional dimensions comprising a pair of spaced side rails, means for mounting removably a roll of tape between said side rails, a series of rollers mounted between said side rails spaced forwardly of said roll of tape and longitudinally of said rails, a knife blade mounted pivotally between said side rails behind the front roller and projecting forwardly thereof, and a readily separable moistening unit adapted to be mounted above said side rails intermediate the roll of tape and the forward end of said rails, said unit having a hollow elongated handle which forms a reservoir for a quantity of moistening agent and a sponge mounted below said reservoir and projecting between its side rails sufficiently to contact the tape passing around said spaced rollers.

6. A portable tape dispensing and sealing unit of the character described, a frame structure of substantial length as compared to its cross-sectional dimensions comprising a pair of spaced side rails, means for mounting a roll of tape between said rails, said side rails having inwardly and oppositely extending projections intermediate its ends for frictionally engaging the opposite sides of a roll of tape when the same is mounted therebetween and said rails are drawn together by said means for mounting said roll whereby tension may be applied to the roll as the tape is being withdrawn therefrom, a series of rollers mounted between said side rails spaced forwardly of said roll of tape and spaced longitudinally thereof, a plate member mounted pivotally intermediate its ends on said side rails between said roll of tape and the forward end thereof, a knife edge provided along the forward end of said member against which the tape to be dispensed may be torn, and a readily separable moistening unit adapted to be mounted detachably above said side rails intermediate the roll of tape and its forward end, said unit having a hollow elongated handle which forms a reservoir for a quantity of moistening agent, said unit having a sponge mounted below said reservoir and projecting into said portable unit between its side rails sufficiently to contact the tape passing over said spaced rollers.

7. A portable tape dispensing and sealing unit of the character described, a frame structure of substantial length as compared to its cross-sectional dimensions comprising a pair of spaced side rails, means for mounting a roll of tape between said side rails, said side rails having inwardly and oppositely extending projections intermediate its ends for frictionally engaging the opposite sides of a roll of tape when the same is mounted therebetween and said rails are drawn together by said means for mounting said roll whereby tension may be applied to the roll as

the tape is being withdrawn therefrom, a series of rollers mounted between said side rails spaced forwardly of said roll of tape and spaced longitudinally thereof, a plate member mounted pivotally intermediate its ends on said side rails between said roll of tape and the forward end thereof, a knife edge provided along the forward end of said member against which the tape to be dispensed may be torn, said member having an outwardly projecting flange for engaging said tape when pressure is being applied to said knife edge, and a readily separable moistening unit adapted to be mounted detachably above said side rails intermediate the roll of tape and its forward end, said unit having a hollow elongated handle which forms a reservoir for a quantity of moistening agent, said unit having a sponge mounted below said reservoir and projecting into said portable unit between its side rails sufficiently to contact the tape passing over said spaced rollers.

8. In a tape moistening unit of the class described, a base member adapted for attachment to a tape dispenser, means for detachably mounting a sponge of substantial length as compared to its cross-sectional dimensions below said base member, an elongated open-ended tubular reservoir extending outwardly from the top of said base member for holding a quantity of moistening agent, said reservoir having a length and width adapted to facilitate as a handle therefor, said tubular reservoir having a bottom closure adapted to fit telescopically within its open bottom end, said bottom closure having a false bottom spaced inwardly from its real bottom, said false bottom having a central opening therein and said closed real bottom having a series of spaced nozzles to discharge said moistening agent onto said sponge at spaced points, and a plug having valve means positioned within said reservoir and above said nozzles for increasing the discharge of the moistening agent therefrom.

9. In a tape moistening unit of the class described, a base member adaptable for attachment to a tape dispenser, means for detachably mounting a flat sponge of substantial length as compared to its cross-sectional dimensions below said base member, an elongated open-ended reservoir extending outwardly from the top of said base member for holding a quantity of moistening agent, said reservoir having a length and width adapted to facilitate as a handle therefor, the lower end of said reservoir being closed with a telescopically fitted tube having a series of spaced nozzles in its outer end to discharge said moistening agent onto said sponge at spaced points, a false bottom positioned within said tube and above said nozzles for restricting the discharge of the moistening agent from said reservoir to said nozzles, and a plug for closing the upper open end of said reservoir, said plug having valve means for permitting under pressure the entrance of air therein to break any vacuum formed in said reservoir and thereby increase the flow of the moistening agent through said nozzles and onto said sponge.

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