P. R. MARSHALL.

TAPE APPLYING DEVICE.

APPLICATION FILED JULY 9, 1915.

1,170,083.

Patented Feb. 1, 1916.

2 SHEETS—SHEET 1.

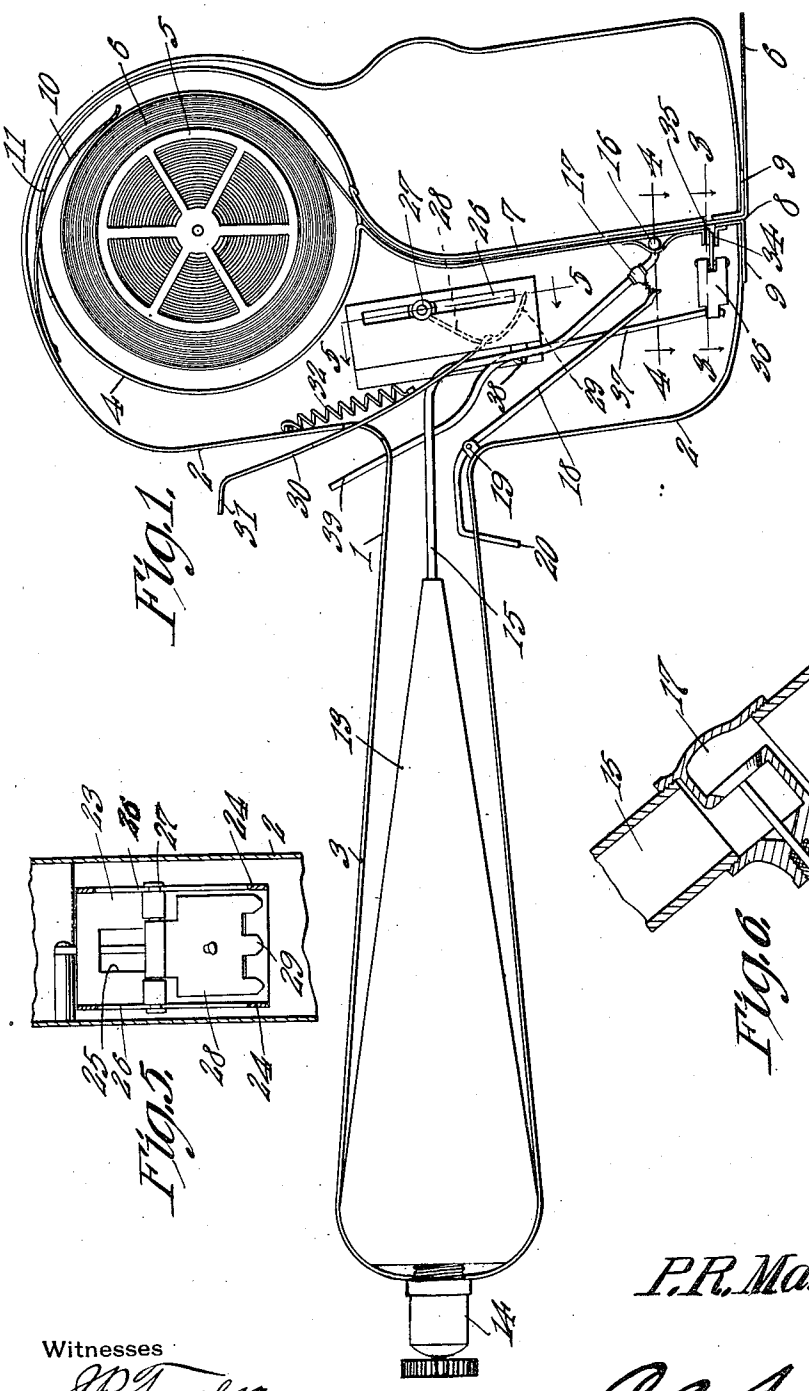


Fig. 1.

Fig. 3.

Fig. 6.

Witnesses

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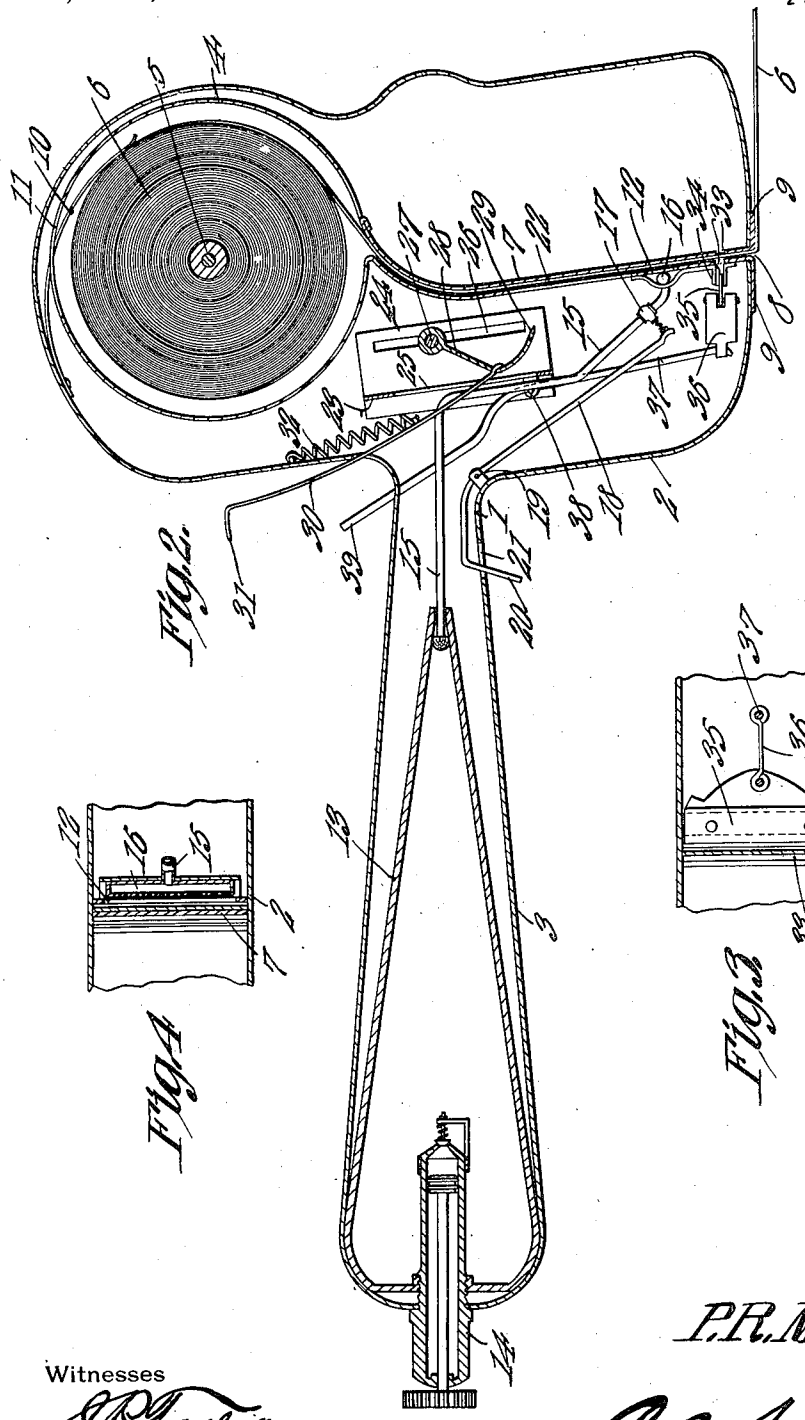


Fig. 2.

Fig. 4.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

PORT RICO MARSHALL, OF HORTON, KANSAS.

TAPE-APPLYING DEVICE.

1,170,083. Specification of Letters Patent. Patented Feb. 1, 1916.

Application filed July 9, 1915. Serial No. 38,948.

To all whom it may concern:

Be it known that I, PORT RICO MARSHALL, a citizen of the United States, residing at Horton, in the county of Brown and State of Kansas, have invented a new and useful Tape-Applying Device, of which the following is a specification.

The present invention is an appliance for applying gummed tape to packages and bundles for binding them with the paper tape or strip, instead of using string, and it is the object of the invention to provide a novel and improved implement of that character adapted to be conveniently manipulated by the hand for applying the gummed tape to the bundle or package.

It is the object of the invention to provide an implement adapted to be readily handled by one hand, and embodying a unique assemblage of the component parts, whereby the device is thoroughly convenient, practical and efficient in use, the device having means for holding and delivering the tape therefrom, in combination with novel means for feeding, moistening and cutting the tape as required, said feeding moistening and cutting means being readily operated by the thumb and fingers of the hand.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the device with the near side plate of the casing removed to expose the interior parts. Fig. 2 is a longitudinal section of the device taken in a plane between the side plates of the casing. Figs. 3, 4 and 5 are enlarged sectional details taken on the lines 3—3, 4—4 and 5—5, respectively, of Fig. 1. Fig. 6 is an enlarged sectional detail of the water controlling valve of the moistening device.

In carrying out the invention, there is provided a casing 1, forming the frame or body of the implement, and so formed as to be conveniently manipulated by the hand. To this end, the casing 1 is formed at one end with a head 2, and is provided with a hollow handle 3 projecting from the hollow head 2, which handle may be conveniently grasped by the hand for manipulating the tape applying head 2. Secured within one end portion of the head 2 is a circular tape receptacle 4, in which is removably mounted a spool or reel 5 for holding a roll of gummed tape 6, the supply of tape being readily replenished when the respective side plate of the casing is removed to allow the reel 5 to be removed and refilled. A flattened tube 7 extends from the tape receptacle 4 to the opposite end of the head 2, and provides a passage for the tape in order that the tape may unwind from the roll and pass through the tube 7 out through the slot 8 in the end of the head 2 registering with the respective end of the tube 7. Rubber facings 9 are preferably secured to the respective ends of the head at the sides of the slot 8, whereby said facings facilitate the application of the tape to the bundle or package for obvious reasons. A curved leaf spring 10 is secured within the head 2 and projects through an opening 11 provided in the receptacle 4, so that the free end of the spring 10 will bear against the periphery of the roll of tape for frictionally holding said roll, whereby it will not unwind accidentally, although the roll may rotate properly when the tape is fed through the tube 7.

In order that the tape which passes through the tube 7 can be properly moistened, the rear side of the tube 7 is provided with a slot or opening 12 as near as possible to the end of the head 2 having the slot 8. The opening 12 is in the rear side of the tube 7 toward which side of the tube, the gummed side of the tape faces. A suitable water reservoir 13 is disposed within the handle 3 of the casing, and carries an air pump 14 projecting through the end of the handle 3, whereby air may be forced into the reservoir, from time to time, to bring the water within the reservoir under pressure, so that the water will be properly delivered through the tube or pipe 15 which connects the other end of the reservoir 13 and the spray nozzle 16. The spray nozzle 16 is in the form of a T-head which is provided with perforations directed toward the gummed side of the tape through the opening 12, the nozzle 16

being secured within the casing adjacent said opening. The tube 15 has a suitable spring closed valve 17 therein adjacent the nozzle 16, and a lever 18 is fulcrumed, as at 19, within the casing 1 between the head 2 and handle 3, and has one end operatively engaged to the valve 17, while the other end of said lever 18 projects through an opening 21 in the handle 3 to provide a finger piece 20, which when pressed by the finger will swing the lever 18 for opening the valve 17. This will allow the water to flow from the reservoir 13 through the tube 15 and its nozzle 16, whereby a fine spray of water will be delivered against the gummed side of the tape for moistening the adhesive or gum.

The tube 7 is provided with a relatively large opening 22 between the opening 12 and the receptacle 4, the opening 22 being preferably located at the same side of the tube as the opening 12, and the opening 12 accommodates the tape feeding means. This means embodies a guide 23 secured within the head 2 of the casing in any suitable manner adjacent the respective end of the handle 3, and the guide 23 is provided with side flanges 24. The guide 23 has a longitudinal slot 25 in its intermediate portion, and the flanges 24 are provided with longitudinal slots 26. A pin 27 is disposed slidably within the slots 26, so that the said pin can slide and rotate in said slots, and a relatively wide dog 28 is attached to the pin 27 between the flanges 24. The dog 28 has a toothed or serrated edge 29 adapted to move through the opening 22 to engage the tape, the dog 28 being preferably of angular formation, as seen in Fig. 2, so that the serrated free end of the dog may work properly within the opening 22. As a means for actuating the dog 28, a stem 30 which is slidable through the head 2 adjacent the handle 3 has one end pivotally engaged to the dog 28, and is provided at its other protruding end with a thumb or finger piece 31. The stem 30 is connected by a retractile spring 32 with the head 2, whereby the spring 32 normally pulls the stem 30 for retracting the dog 28. The spring 32 not only swings the dog 28 away from the tube 7, but also pulls the dog 28 backwardly to initial or starting position. When the stem 30 is pushed inwardly, it will first swing the dog 28 into the opening 22 to engage the tape, and then the further movement of the stem 30 will slide the dog 28 for moving the tape therewith, so that the tape will be fed outwardly. By operating the stem 30 a number of times, the desired amount of tape may be delivered, although it will be apparent that after the tape has been started out through the slot 8 and is once attached to the bundle or package, the tape may be pulled out, without the assistance of the feeding device.

The tape cutting means is arranged to sever the tape adjacent the slot 8, and to this end, the opposite sides of the tube 7 are provided with transverse slots 33 adjacent the slot 8 or between the opening 12 and the respective end of the head 2. The rear side of the tube 7 is provided with a guide 34 in which a cutter blade 35 is mounted for reciprocation, whereby said cutter blade can be forced through the slots 33 for severing the tape at this point. The blade 35 is connected by a link 36 to one end of an operating lever 37, which is fulcrumed, as at 38, within the head 2. The other arm of the lever 37 projects out through the casing between the head 2 and handle 3 to provide an operating finger piece 39, which when moved properly, will force the blade 35 through the slots 33 for cutting the tape.

The manner of using the implement will almost suggest itself from the foregoing, but briefly stated, is as follows:—After the reservoir 13 is filled with water, and the water is brought under pressure by operating the pump 14, and considering the tape properly applied within the receptacle 4 and tube 7, the operator grasps the handle 3 with his hand, and by pressing the stem 30 one or more times, the tape will be fed through the tube 7. At the same time, the finger piece 20 is operated for opening the water controlling valve 17, to allow the water spray to discharge from the nozzle 16 against the adhesive of the tape, so that the adhesive will be moistened at the same time that the tape is being fed outwardly. Now, when the tape is delivered from the spout 8, it may be readily applied to the package or bundle, and then by passing the implement around the bundle in the desired manner, the tape will be pulled out of the tube 7 without the assistance of the feeding device, and the valve 17 is left open sufficiently to properly moisten the tape as it is withdrawn. After the tape is properly applied to the bundle or package, the valve 17 is closed by simply releasing the finger piece 20, and then by pressing the finger piece 39 properly, the cutter blade 35 is forced through the slots 33 of the tape guiding tube 7, for severing the tape near the slot 8. The head 2 is given a final movement to paste the end of the tape upon the package or bundle, thus completing the binding of the package or bundle, and at the same time the appliance will be put in condition for repeated use without the necessity of resetting or adjusting the same.

With the present implement it is possible to apply the tape or strip to the package or bundle in a facile and satisfactory manner. The advantages incident to the use of gummed tape in lieu of string as ordinarily used are well known and recognized without comment along this line being necessary.

Having thus described the invention, what is claimed as new is:

1. A tape applying device adapted to be manipulated by the hand and comprising a frame having a head and handle, tape holding means carried by said frame, said head having an outlet slot for the tape, means for guiding the tape from said tape holding means to said slot, a water reservoir carried by the frame, a tube connected to said reservoir to conduct water for spraying the tape and having a controlling valve, a cutter carried by the frame for cutting the tape adjacent the slot, feeding means carried by the frame for advancing the tape, and independent actuating means for said valve, blade and feeding means and adapted to be operated by the thumb and fingers of a hand grasping said handle.

2. A tape applying device comprising a casing having a hollow head and handle, tape holding means within one end portion of said head, a tape delivery tube extending from said means to the opposite end of the head, the last mentioned end of the head having a slot registering with said tube, a water reservoir within the handle, a spray nozzle associated with said tube for moistening the tape, a water tube connecting said reservoir and nozzle and having a controlling valve, a cutter associated with the first mentioned tube for severing the tape, a dog operatively mounted within said head and coöperable with the first mentioned tube to feed the tape therethrough, and actuating devices for said valve, cutter blade and dog and adapted to be operated by the thumb and fingers of a hand grasping said handle.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

PORT RICO MARSHALL.

Witnesses:
THOS. E. COFFMAN,
W. W. WEEKS.