Feb. 22, 1938. J. W. CAPSTICK 2,109,328

TAPE BINDING AND PACKAGE CLOSING MACHINE

Filed Aug. 31, 1936

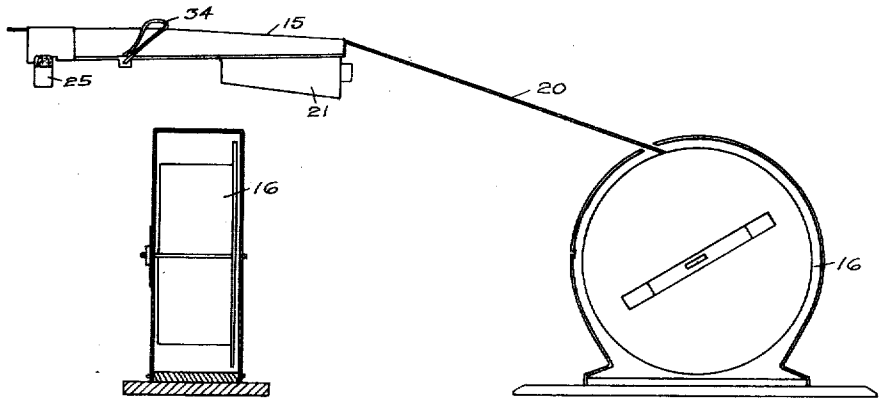


FIG. 2. FIG. 1.

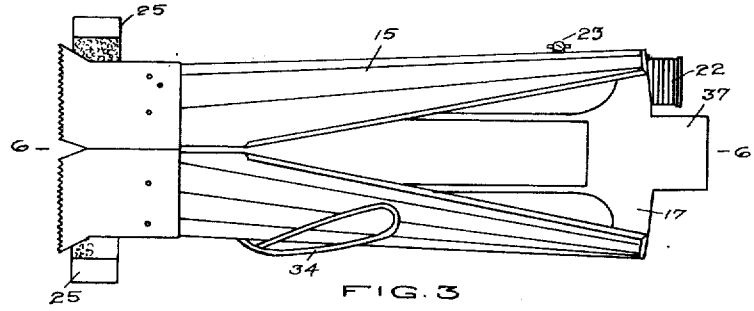


FIG. 3

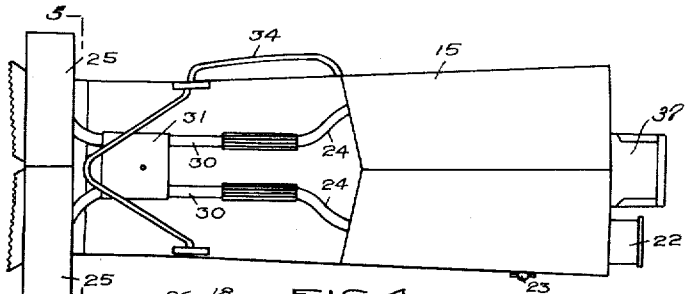


FIG. 4.

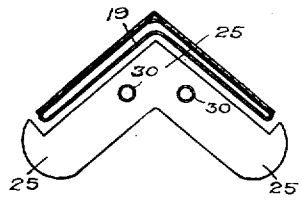


FIG. 5.

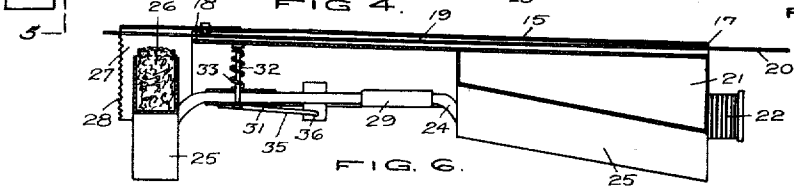


FIG. 6.

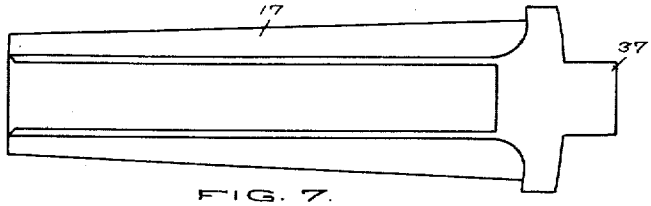


FIG. 7.

INVENTOR.
John William Capstick
By E. J. Fetherstonhaugh.
ATTORNEY.

Patented Feb. 22, 1938 2,109,328

UNITED STATES PATENT OFFICE

2,109,328

TAPE BINDING AND PACKAGE CLOSING MACHINE

John William Capstick, Verdun, Quebec, Canada

Application August 31, 1936, Serial No. 98,756

3 Claims. (Cl. 91—14.5)

This invention relates to a tape binding and package closing machine as described in the present application and illustrated in the accompanying drawing that forms part of the same.

The invention consists essentially in facilitating the rapid and efficient sealing of package goods without waste of material, without blocking or sticking of the machine after standing, as pointed out in the claims for novelty following a description in detail of the feeding and moistening apparatus.

The objects of the invention are to feed properly moistened gummed tape over any desired length of surface to be sealed without guesswork as to the length of tape required; to provide means whereby only the desired length of tape will be moistened and cut leaving the new end of the tape dry and clear of the moistening surface; to provide means whereby the tape can be continued around square corners adding greatly to the strength and durability of the sealing; to provide a closing and binding machine which will be light and simple to operate and will reduce to a minimum the actual handling of the tape in its moist condition; and generally to enhance the appearance of package goods particularly for re-shipment.

In the drawing, Figure 1 is an elevational view of the tape machine with the tape threaded through it and fed from the tape drum.

Figure 2 is a vertical sectional view of the tape drum.

Figure 3 is a plan view of the machine showing an adapter fitted in place.

Figure 4 is a plan view looking on the bottom of the machine showing the water connection from the reservoir to the moisture applying surface.

Figure 5 is a vertical cross sectional view on the line 5—5 of Figure 4.

Figure 6 is a longitudinal vertical section showing the movable moisture applying surface.

Figure 7 is a plan view of an adapter for a smaller size tape.

Like numerals of reference indicate corresponding parts in the various figures.

In the drawing, the numeral 15 indicates the tape applying machine while the drum from which the tape is taken is indicated by the numeral 16, and this drum may be placed in any convenient place near the point of binding operations.

The machine 15 is conveniently shaped for gripping in the hand and is provided with the tape inlet 17 at one end and the outlet 18 at the other end. The passage 19 through which the tape 20 is fed through is slightly curved at the entrance 17 and changes to a right angled section at the outlet 18 whereby the strip of tape comes out folded on its center line ready for application to the corners of boxes or cartons, or may be used flat if desired for at this point the tape is moist and soft and can readily be smoothed out on a flat surface.

The reservoir 21 is at the back and below the tape inlet 17 and is provided with a water inlet 22 while an air valve 23 ensures a free flow of the water through the outlet pipes 24 to the moisture applicator which is in the form of an open top casing 25 offset from the center line to form two surfaces at right angles to each other and conforming to the shape of the tape outlet 18. This casing 25 contains a suitable material such as felt 26 which will remain in a damp condition. A combined cutter and shield 27 extends outwardly from above the outlet 18 to beyond the casing 25 and terminates in a serrated cutting edge 28.

The outlet pipes 24 from the reservoir 21 to casing 25 are in two sections with intermediate sections of rubber tubing 29 connecting them and forming flexible joints whereby the casing and the outer sections 30 of the pipes can be moved freely to and from the tape 20.

A clamp 31 about the outer section 30 of the water pipes is freely mounted on the hanger bolt 32 suspended from below the tape passage 19 while the intervening spring 33 depresses the casing 25 with its moist felt down and away from the tape 20. A hand grip 34 is in the form of a lever 35 pivoted at 36 and contacting the under side of the clamp 31 and under pressure of the hand raises the casing up against the tape 20.

In the operation of this device, the tape from the stationary drum is threaded through the passage 19 and with the device gripped in the operator's hand and at the same time depressing the lever 35 to move the casing 25 with its moist felt into contact with the gummed side of the tape 20. The end of the tape is now drawn out and moistened and is attached to the box or package to be sealed. The device is then moved around following the edges to be sealed and at the completion of the seal, a slight twist right and left of the device cuts the tape by means of the serrated edge of the device. In the sealing of a box where it is necessary to pass the tape around corners from one edge to another on the same plane, it is not necessary for the tape to be broken and another length started; the operator

merely gives the device a twist to one side thereby cutting the tape on one side of the center line and by folding the cut edges under and over each other, the tape will be readily laid out on the new alignment and at the same time giving a neat and strong seal at the corner of the box where it is particularly required and without rough broken edges of tape showing.

Should a variety of packages require sealing such as repackaged goods, or packages of various sizes and weights requiring the use of different sizes of tape, the changeover can be made, without waste of time as it is only necessary to withdraw the tape and slide the adaptor **37** into the passageway **19** as shown in Figure 3. This adaptor **37** can be made in various sizes to take the different sized tapes.

With this device there is no restriction as to its use about the packing room as it is only necessary that it should be used within a reasonable distance of the drum **16** in order that the intervening length of tape may not become entangled as the operator moves around the packages.

What I claim is:—

1. In a tape binding and package closing machine, an extended frame forming a tape passageway and supporting a water reservoir, a moistener suspended from said frame and flexibly connected with said reservoir, and means to bring said moistener into contact with the tape against spring pressure.

2. In a tape binding and package closing machine, a bifurcated frame having a V shaped head supporting a water reservoir, paper guides and a tape passage, a cutter mounted above and extending beyond said frame adapted to slit the tape at the corners of the package, a moistener suspended from said frame and flexibly connected with said reservoir, and means to bring said moistener into contact with the tape against spring pressure.

3. In a tape binding and package closing machine, a bifurcated frame having a V shaped head supporting a water reservoir and paper guides extending from said head forming a tape passageway to receive an adaptor for the use of different width of tape, a moistener suspended from said frame and flexibly connected with said reservoir, and means to bring said moistener into contact with the tape against spring pressures.

JOHN WILLIAM CAPSTICK.