

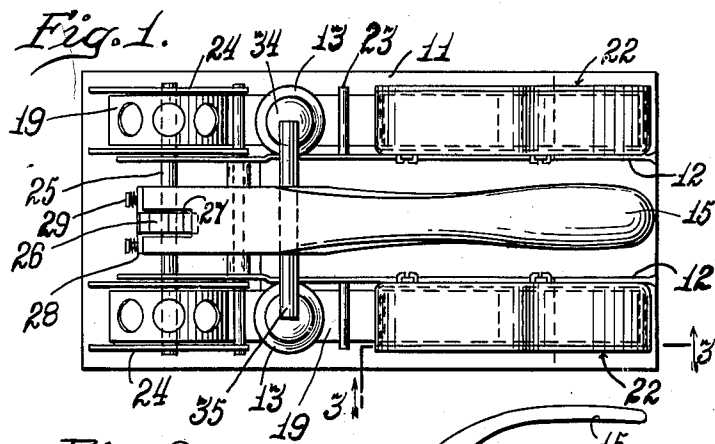
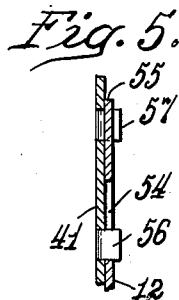
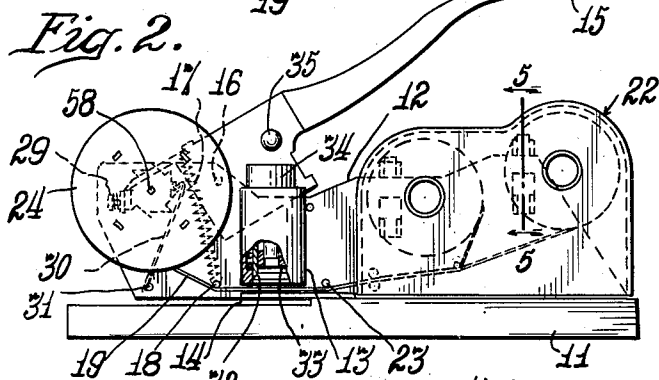
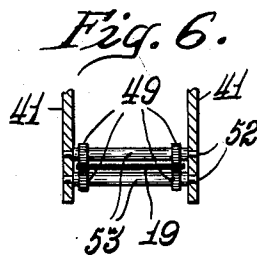
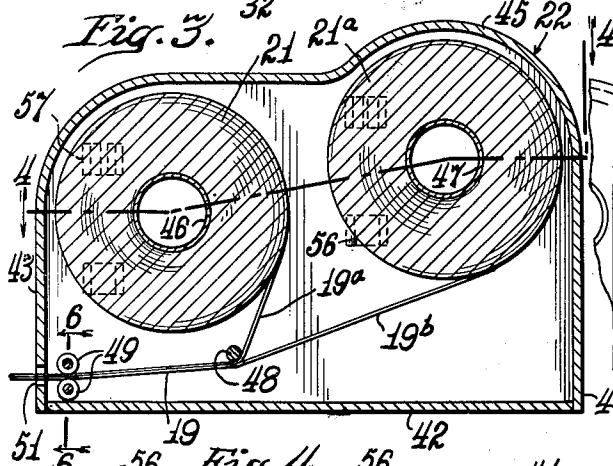
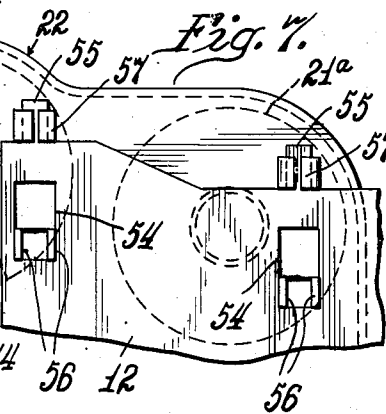
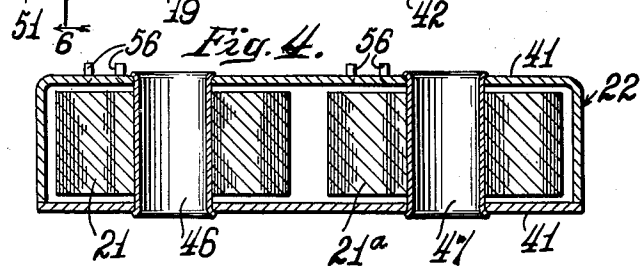
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2,625,200

SUPPLY CONTAINER FOR COMPOSITE TAPE

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SUPPLY CONTAINER FOR COMPOSITE TAPE

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2 Claims. (Cl. 154—37)

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The invention relates to improvements in supply containers for strips in roll form and more particularly to a container adapted to house at least two rolls of adhesive-coated strips and to adhesively join the strips drawn from the rolls into a tear-resisting web of double thickness for delivery to an associated device operable to affix and attach patches severed therefrom onto sheets to be perforated.

The machine involving the features of the present invention is of a kind adapted to operate upon the margin of a sheet of material, such as paper, in such manner as to punch one or more holes therein. During machine operation, and just prior to perforating the sheet, a patch of reinforcing material is severed from a supply web and is adhesively secured to the sheet in the area of the perforation to be performed. Thus, when a sheet is perforated, the reinforcing patch likewise is perforated. As a result, the perforation in the sheet is reinforced to resist tearing out.

A device of the general character of the apparatus disclosed herein is shown and described in applicant's copending application, Ser. No. 36,157, filed June 30, 1948.

The present invention distinguishes over the disclosure in that application in various details of construction and principally in the construction of the containers mounted thereon, each being adapted to contain at least two strips of adhesive-coated material in roll form, which strips are adhesively secured one to the other during withdrawal from the container and prior to being fed to the perforating mechanism.

The machine illustrated herein is constructed in the form of a portable manually actuable sheet perforating device, including pairs of severing, attaching and perforating elements. The device illustrated is provided with novel means to carry a plurality of rolls of adhesive-coated strips of reinforcing material, of a kind commonly known as "Scotch" tape, and means to advance a double thickness of said material in the form of a web, step by step beneath said elements in such manner that portions or patches thereof are severed therefrom and are affixed to the sheet prior to the perforating operation. The perforated portions of the web remaining are taken up on suitable spools so as to afford convenient means of disposal.

Accordingly, it is an object of the present invention to provide a novel device of the character described hereinabove.

Another object is to provide a novel structure adapted to house, form and deliver a web of ad-

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hesive-coated material of double thickness to an associated mechanism.

Another object is to provide a novel associated web perforating mechanism and supply container.

Another object is to provide a container for a plurality of rolls of adhesive-coated tape with novel means to mount the container on a supporting wall.

Another object of this invention is to provide a container of the character described which is not difficult or expensive to manufacture, which is easily mounted in position for use, and which is very efficient in operation.

Other and further objects of the present invention will be apparent from the following description and claims, and are illustrated in the accompanying drawing which, by way of illustration, shows an exemplary embodiment and the principles thereof. Other embodiments of the invention embodying the same principles may be used, and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawing:

Fig. 1 is a plan view of the device embodying the features of the present invention.

Fig. 2 is a side elevational view thereof, partially broken away.

Fig. 3 is an enlarged longitudinal sectional view of one of the roll containers.

Fig. 4 is a horizontal sectional view taken substantially on line 4—4 of Fig. 3.

Fig. 5 is a transverse vertical sectional view taken on line 5—5 of Fig. 2.

Fig. 6 is a sectional detail view taken on line 6—6 of Fig. 3.

Fig. 7 is a fragmentary inside elevational view of one of the supporting walls showing a roll container mounted thereon.

Referring specifically to the disclosure in the drawing, the containers embodying the features of the present invention are, when in use, suitably associated with a severing, attaching and perforating device. The device, having the containers associated therewith, is best illustrated in Figs. 1 and 2. As shown, the device includes a substantially rectangular formed base 11 having transversely spaced longitudinally extending upstanding walls 12. The walls 12 afford means for mounting the various operating mechanisms, including the containers of the present invention, on the base 11 and may be formed integral

with the base 11 or be otherwise firmly attached thereto.

A pair of cylindrical guides 13 is mounted in a vertical position, one on the outside face of each wall 12, substantially midway between their ends. Each guide 13 is adapted to contain elements for severing, attaching and perforating patches of adhesive-coated material affixed to sheets placed in a downwardly offset area 14 formed in the base 11 and extending beneath the guides. The various elements carried within the cylindrical guides 13 are adapted to be reciprocated vertically by actuating means provided in the form of an operating handle 15 which is pivotally secured, inwardly of one end thereof, as at 16, to and between the walls 12. A tension spring 17, normally connected at one end to the handle 15 and at its other end to a tie rod 18, holds the operating handle elevated substantially as shown in Fig. 2.

The operating handle 15 is effective, also, to actuate means for feeding the webs of adhesive-coated material 19, step by step, beneath the guides 13. This material is provided in roll form and in the present instance the web 19 consists of two thicknesses or strips of adhesive-coated material, each strip being in the form of a roll 21, 21a, suitably carried in a manner to be described in detail hereinafter within a container or housing 22.

It is sufficient to note at this time that two such containers 22 are provided, one being detachably mounted on each of the side walls 12 adjacent the rear ends thereof. The web 19, of double thickness material, is drawn from the container downwardly beneath a transversely projecting guide pin 23, then forwardly below the vertical guides 13 and around the transversely projecting ends of the tie rod 18 from where it is carried upwardly to be wound around a rewind or takeup spool 24.

Step by step advance of the webs 19 beneath the vertical guides 13 is accomplished through intermittent rotation of the take-up spools 24. These spools may be constructed in any suitable manner, and are carried firmly on transversely projecting ends of a rotatable shaft 25 journaled in the walls 12 adjacent the forward upper ends thereof. The intermediate portion of the shaft 25 has a ratchet wheel 26 fixedly secured thereon. Upon referring to Fig. 1, it will be observed that the forwardly extending end of the operating handle 15 is forked, as at 27, to provide an opening through which the ratchet wheel 26 may project. The extreme free ends of the forked portion 27 are turned downwardly and are suitably bridged by a dog 28 which preferably consists of a strap having its ends resiliently held to the downturned end portions, as by means of compression springs and pins 29.

It should be obvious at this time that when the operating handle 15 is swung downwardly to actuate the device, the dog 28 is carried upwardly. Owing to its spring mounting, the dog is held in position to engage beneath one of the teeth of the ratchet wheel 26, whereupon upward movement of the dog rotates the ratchet wheel a distance corresponding to the spacing between the teeth thereof. At this time the dog becomes disengaged from the teeth. This spacing is such that the web 19 is advanced a distance sufficient to locate an unperforated portion thereof beneath the guide 13 after each successive perforating operation. When the operating handle is permitted to return to its normal elevated

position, the spring-pressed dog 28 passes freely over the next succeeding tooth of the ratchet wheel 26 and is thereby positioned for again engaging a tooth when the handle is next operated.

Means is provided to prevent backlash of the ratchet during the return movement of the dog. To this end, a leaf spring or finger 30 carried on a cross-rod 31 has its upper rolled end disposed for latching engagement with the ratchet teeth.

As mentioned hereinabove, the operating handle 15 is adapted, also, to actuate the means for severing, attaching and perforating the web 19 and a sheet of paper inserted therebeneath. Such means is best illustrated and described in the copending application aforementioned. It is believed sufficient, however, for the purposes of this disclosure, to note that each vertical guide 13 has a web severing sleeve 32 reciprocal therein and adapted to be moved downwardly on initial downward movement of the handle 15 so as to sever a circular patch from the web of material 19 lying therebeneath. Slidable within the severing sleeve is a circular pressing shoe or attaching ring 33 which is operatively related to the severing sleeve 32 as to move downwardly, following the severing operation, to press the severed patch firmly against and adhesively secure it to the underlying sheet.

The severing sleeve 32 and ring 33 are actuated in the manner aforesaid upon downward movement of a plunger 34 which is engaged by a transverse pin 35 carried by the handle portion 15. This plunger has its lower end reduced in diameter so as to extend freely through the pressing shoe 33. Its bottom face is provided with a cutting edge so that upon continued downward movement of the operating handle 15, after the severing and attaching operation has been completed, said plunger continues its downward movement to punch a circular opening through the attached patch and sheet.

As noted hereinbefore, each web of adhesive-coated material 19 is initially contained within a container 22. Referring particularly to Figs. 3 and 4, the container 22 consists of spaced apart side walls 41, the bottom wall 42, end walls 43 and 44, and a top wall 45. A pair of tubular hubs 46 and 47 bridge the side walls 41 within the confines of the container. Each hub is adapted to have mounted thereon for free rotation a strip of adhesive-coated material of single thickness in roll form. The strip 19a leading from the roll 21 is carried from the roll downwardly across a transverse rod or roller 48, between knurling rollers 49 to be hereinafter described in detail, and out of the container through an opening 51 in the end wall 43 thereof.

It should be observed at this time that the roll 21 is of a kind having the adhesive-coated surface disposed outwardly so that the portion of the strip extending between the rod 48 and the discharge opening 51 has its adhesive-coated surface disposed downwardly. The other roll 21a of adhesive-coated material is wound in a similar manner so that its adhesive-coated surface is disposed downwardly when the strip 19b is withdrawn from the roll in the manner illustrated. As shown, this strip 19b is carried in the direction of the rod 48 and is tensioned slightly thereby so that its top surface is brought into contact with and is adhesively secured to the bottom face of the strip 19a. In this manner the strips 19a and 19b, leaving the rolls 21 and 21a, are adhe-

sively secured together and pass out of the container in the form of a single web 19 of double thickness and consequently of double strength.

For a purpose to be better understood as the description proceeds, the marginal edges of the adhesively joined strips 19a and 19b may be pressed firmly together prior to their withdrawal from the container. To accomplish this, pressing means, preferably in the form of rollers 49, are provided. As best shown in Fig. 6, these rollers are carried on parallel shafts journaled at their ends in the side walls 41 and are suitably held spaced apart by spacers 53 mounted on said shafts between said rollers.

It is intended that containers of the kind described, with supply rolls 21 and 21a enclosed therein, be furnished to users of the device. Accordingly, means is provided on each container and on the device for cooperative association to afford means whereby the containers may be firmly and securely mounted in position quickly. Such means on the device preferably consist of the longitudinally spaced vertically disposed slots 54 and vertically aligned projections formed in each of the side walls 12.

One of the container walls 41 is provided with longitudinally spaced pairs of vertically aligned projections 56 and 57. The projections 56 preferably consist of struck-out lugs adapted to be engaged in the slots 54 when the container is held in contact with the wall upon which it is mounted. The other pair of projections 57 preferably consists of struck-out pairs of ears adapted to engage over the wall projections 55 when the container is mounted. To mount a container, the lugs 56 are initially inserted into the slots 54. With the container held elevated so as to locate the lugs 56 at the upper ends of the slots, the ears 57 are aligned with the projections 55. The container then is moved downwardly into the position shown in Fig. 7, with the ears engaged over projections 55.

It should be quite evident that a loaded container may be easily and quickly mounted in place and, when empty, may be removed without difficulty.

The rewind spools 24 are, as mentioned hereinbefore, firmly mounted upon the transverse ratchet shaft 25. Inasmuch as the specific structure of these spools forms no part of the present invention, it is sufficient to note at this time that each is provided in one of its walls with a squared opening 58 to fit snugly the squared end of the ratchet shaft 25 when mounted in place thereon.

When the web of adhesive material has been perforated, the area surrounding the perforation becomes stretched. Such stretching is minimized by the firm adhesion of the marginal edges of the strips constituting the web. Consequently, perforated web wound upon the rewind spools 24 will lie substantially flat without undue bulkiness or bulging.

Although an exemplary embodiment of the present invention has been disclosed in detail in

the accompanying drawing and has been specifically described in the foregoing specification, it should be understood that the structure as a whole is capable of embodying a wide variety of modifications in detail and that the device as a whole, including the containers and spools, may be enclosed within a suitable cover or casing. Also, the containers may be of a size to accommodate three or more strips in roll form so as to facilitate the feeding of a tape of triple or greater strength. It should be further understood that the improved container herein disclosed may be utilized in association with reinforcing and perforating devices of a character other than that described, all without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A dispensing container including side walls and a connecting wall between said side walls, a pair of hubs bridging said side walls, two strips of adhesive coated tape in roll form mounted one on each hub, a rod bridging said side walls and over which the tapes from both rolls are drawn so as to adhesively attach one to the other, the connecting wall having an opening through which the adhesively attached tapes are drawn, and two pairs of rollers arranged in the container adjacent to said opening, said pairs of rollers being spaced apart so that the rollers of each pair bear on opposite faces of the margins of the tapes to press the margins firmly together.

2. A dispensing container including side walls and a connecting wall between said side walls, a pair of hubs bridging said side walls, two strips of adhesive coated tape in roll form mounted one on each hub, a rod bridging said side walls and over which the tapes from both rolls are drawn so as to adhesively attach one to the other, the connecting wall having an opening through which the adhesively attached tapes are drawn, and rollers arranged in pairs within said container and between which the attached tapes pass, said rollers being located to engage the margins only of the attached tapes to press them firmly together.

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