June 29, 1943. P. S. MADSEN 2,322,950

ADHESIVE TAPE DISPENSING DEVICE

Original Filed Oct. 9, 1940 2 Sheets-Sheet 1

Fig. 1.

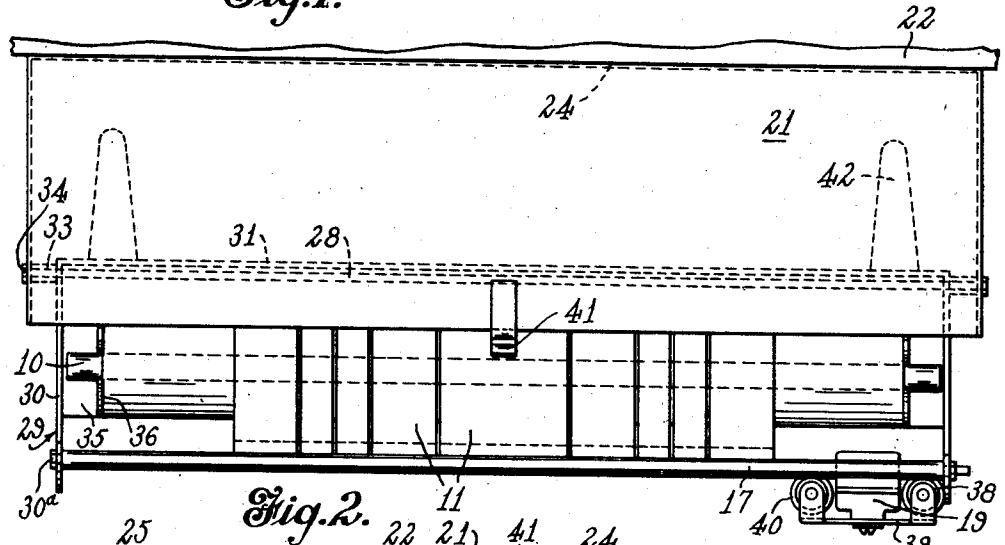


Fig. 2.

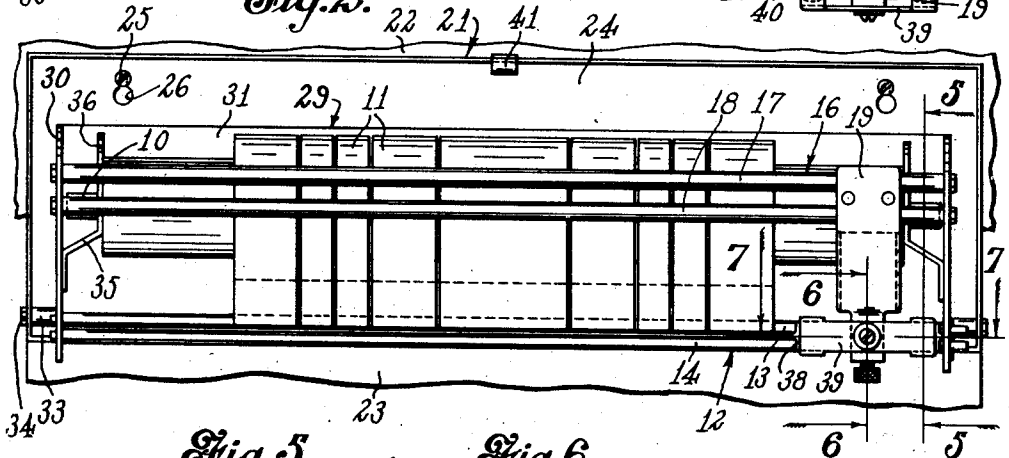


Fig. 5.

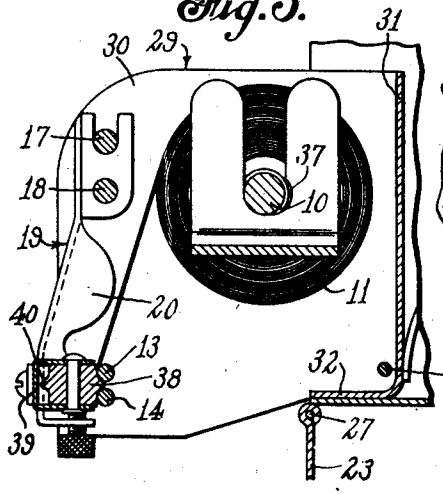


Fig. 6.

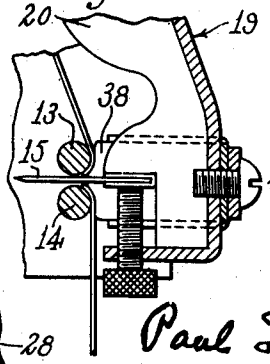
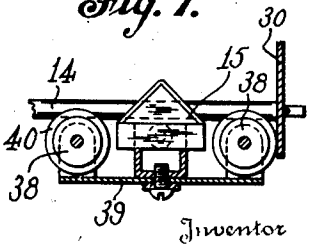


Fig. 7.



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Fig. 3.

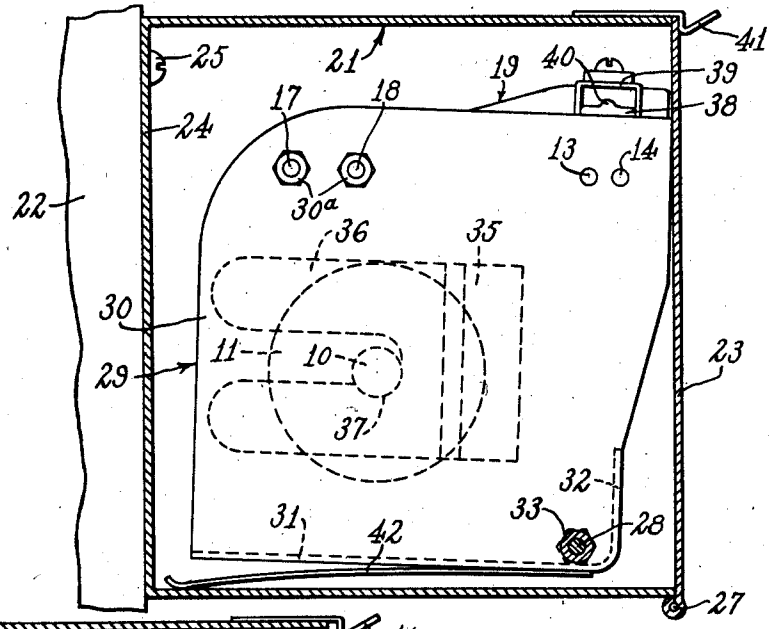
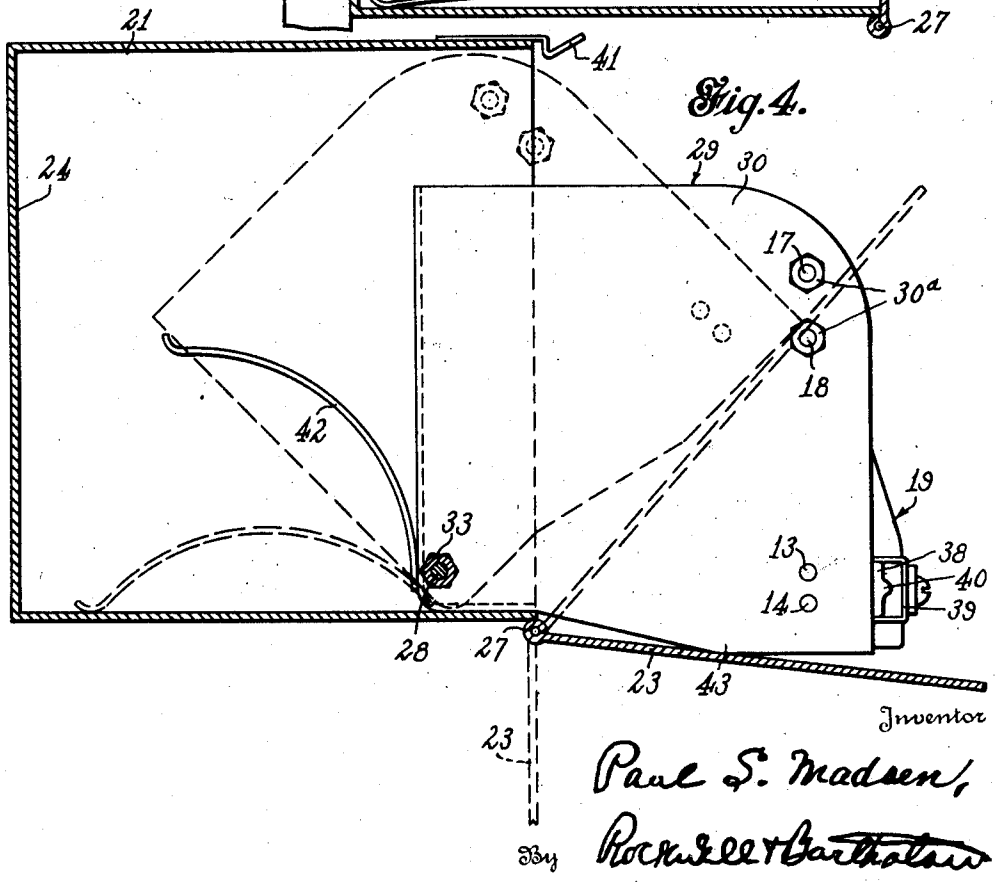


Fig. 4.



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ADHESIVE TAPE DISPENSING DEVICE

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Original application October 9, 1940, Serial No. 360,397. Divided and this application April 10, 1941, Serial No. 387,877

1 Claim. (Cl. 242—55.5)

This invention relates to adhesive tape dispensing devices of the kind described in my application Serial No. 360,397, filed October 9, 1940. The present application is a division of that application, and has to do more especially with means for mounting the rolls of surgical adhesive tape, and the cutting mechanism, in such a manner as to enclose and protect them from dust and dirt when the device is not in use.

One object of my invention is to provide an appliance comprising a casing or cabinet and means adapted to be enclosed in the cabinet comprising, together with a suitable support for a plurality of adhesive tape rolls of different widths, a tape-severing mechanism by means of which tape from a given roll can be cut off in a very easy and convenient manner to the desired length.

It is also desired to provide a device of this nature in which the adhesive rolls and the cutting mechanism, when the device is not in use, are covered over and protected in an effective manner against soiling and contamination, but in which, nevertheless, the tape-severing means when in operation is very readily accessible and can be conveniently operated.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a top plan view of an adhesive tape dispensing device embodying my improvements;

Fig. 2 is a front elevation of the same;

Fig. 3 is an enlarged sectional view showing the casing closed;

Fig. 4 is a view similar to Fig. 3, showing the casing in the open position; and

Figs. 5, 6 and 7 are, respectively, sections on lines 5—5, 6—6 and 7—7 of Fig. 2.

In the form of my device selected for illustration, which is a form well adapted for use in hospitals and in the offices of physicians, a plurality of rolls of surgical adhesive tape of assorted widths are mounted on a bracketed roller or shaft side by side so as to be freely rotatable thereon. Associated with the roller or shaft is a dispensing and cutting mechanism such as described and claimed in my application Serial No. 360,397, comprising a guide or trackway in front of which are pendant in the operative position the free ends of the tape rolls, and to which a portion of the tape is adapted to be secured, in position for cutting, by the adhesive material on the face of the tape. This guideway, comprising two rods or members separated at a slight interval, has a sliding knife projecting between the members or rods adapted to be moved from either side of the device to the other side for the purpose of cutting the tape. The knife is also guided by another guideway, parallel to the first, and is provided with a convenient manipulating handle. The roller or shaft is mounted in a support provided with means for receiving and holding the end portions of the roller in a removable manner, and the tape-severing means, including the knife and the above-mentioned guides, is mounted in this support in fixed relation to the roller or shaft, and this support is movable outwardly of and back into a box-like enclosing casing. This casing is adapted to be mounted at a convenient height on a suitable supporting wall, and is provided with a cover which when opened permits the dispensing device to be moved outward to a convenient operative position, and which when closed, after the dispensing device has been moved back into the casing, fully covers and protects the rolls of tape and the associated tape-severing mechanism.

In the drawings the shaft or roller is shown at 10, the rolls of adhesive tape freely rotatable thereon at 11, the guide or trackway for the knife at 12, the same comprising an upper rod 13 and a lower rod 14. The sliding knife is shown at 15. The second guideway spaced from the first is shown at 16 and comprises the upper rod 17 and the lower rod 18. The knife mechanism comprises a knife carrier 19 extending transversely with respect to the guides or trackways and guided thereby, and intermediate of its ends the carrier, which is preferably formed of sheet metal, has rearwardly bent side portions 20 which provide a manipulating handle for the knife. The casing or cabinet, previously referred to, is indicated at 21, and the same is adapted to be mounted at a suitable elevation upon a supporting wall 22. This casing is provided at the front with a cover 23. The casing is adapted to enclose the mounting for the adhesive tape and to enclose the tape-severing mechanism, but when the cover is opened the dispensing device can be moved outwardly to a convenient operative position for dispensing the tape.

In the case illustrated, the casing 21, which is elongated and of approximately square cross-section, may be constructed of suitable material such as sheet metal, and has a rear wall 24 adapted to be secured to the supporting wall 22 by means such as screws 25 engaging keyhole slots 26. The

cover 23 of the casing is pivoted or hinged, as indicated at 27. This cover can be swung outwardly and downwardly until it reaches the pendant position shown in dotted lines in Fig. 4.

Within the casing 21 at its lower front portion is means such as a hinge rod 28 providing a hinge mounting for a swinging support 29 carrying the roller or shaft 16. The support 29 can be conveniently formed of sheet metal, having end walls 30 connected integrally to a longitudinal wall 31. It is to the walls 30 that the rods forming the guideways of the cutting mechanism are attached. In the case illustrated the ends of the several rods 13, 14, 17 and 18 are reduced and passed through perforations in the walls 30, and nuts 30a, threaded on the extremities of the rods 17 and 18, hold the parts in the assembled position. In the position shown in Fig. 3, the longitudinal wall 31 is at the lower part of the support. It is, however, provided with an integral continuation or lip 32 arranged at right angles to its main portion and having the function hereinafter explained. The hinge rod 28 above mentioned passes through the end members 30 in the angle between the parts 31 and 32, and means such as spacing sleeves 33 are arranged in the spaces between the end walls of the casing and the end walls of the support, and the hinge rod 28 is held in place by means such as nuts 34 at the ends.

The end walls of the support 29 are provided with resilient forked brackets 35 for the supporting roller or shaft 16, the forked portions 36 of the brackets being substantially horizontal in the position of Fig. 3, and being provided with notches 37 which engage shaft 16 in such a manner that in this substantially horizontal position the shaft will not be displaced out of its bearings.

In the particular device illustrated I employ spring-pressed rollers 38 operating in advance of the knife for pressing the portion of the tape which is to be severed into adhesive contact with the knife guide. From the knife carrier a resilient metal strip 39 extends laterally in both directions, that is, to the right and left, and the presser rollers 38 are carried at the respective ends of this resilient strip. Each of the rollers 38 is provided with a peripheral rib 40 entering the space between the rods of the knife guide. The action of the spring mounting 39 is to hold the rollers firmly but yieldingly against the guide in the position shown in Fig. 5.

The cover or lid 23 is held in the closed position by means such as a spring catch 41. Means are provided within the casing for urging the dispensing device to an outer operative position such as shown in Fig. 4, and this means may comprise leaf springs 42 acting against what may be termed the back wall of the support for the dispensing device or mechanism. In the case shown, each of the springs 42 has one end attached to the wall 31 of the support, while the other end is arranged to press against the bottom of the casing, the pressure, however, being insufficient to release the catch or holding device 41 for the cover. Upon releasing the catch 41 the springs swing the support on its pivot in a forward direction, so that it can be readily moved to the operative position shown in Fig. 4, as the cover of the device is opened. Fig. 4 shows the position of the cover as the support reaches the fully operative position in which the lip or wall member 32 comes into engagement with the floor of the casing acting as a stop. In this position the support is for the greater part projected out of the open mouth of the casing. The cover 23 is then permitted to continue its swinging movement until it reaches the depending position shown in the dotted lines in Fig. 4, in which position it is out of the way. In the operative position the frame supporting the knife is substantially vertically disposed in front of the tape rolls. The tape can then be dispensed by selecting a roll of the desired width, grasping the free end of the tape, pulling it down to the desired extent until the portion at which severance is to be effected is opposite the knife guide, and then giving the knife carrier the necessary lateral motion from the right or the left, as the case may be, to roll the tape into adhesive contact with the knife guide and sever the tape as the knife comes along behind the roller.

After the tape-cutting operation has been completed, the device can be readily restored to the closed position shown in Fig. 3. In doing this the cover 23 is first swung up to engage the support or frame 29 at the lower part thereof, the engagement in this instance occurring at obtusely angular portions 43 at the edges of the walls 30. Thereafter by swinging the cover the support or frame can be swung back to the stored-away position, being pushed ahead of the cover. The springs 42 are re-energized by being somewhat confined and straightened between the frame and the floor of the casing. The normal curve of these springs is shown in full lines in Fig. 4. The catch 41, acting on the cover 23, restrains the outward movement of the frame and thereby maintains the springs in the energized position. Upon release of the catch the unit comprising the frame, the support for the rolls of adhesive, and the tape-severing device, is projected by the springs toward the outward operative position.

By my invention I provide a conveniently operable tape-severing device, the rolls of tape and the severing mechanism being readily accessible for the dispensing of the tape. As pointed out in application Serial No. 360,397, the knife-severing device is of such a character that it can be operated by one hand, thus leaving the other hand of the physician or nurse free for other work. As a result of the manner in which the parts are mounted, also, the rolls of tape and the tape-severing device are well protected against dust and dirt or other contamination or soiling when the device is not in use. It is of considerable importance to maintain the tape in a clean, sanitary condition and to prevent anything of a foreign, dirty or toxic character from coming into contact with or accumulating upon the rolled-up tape or wet bandage during the intervals in which tape is not being dispensed, and this condition is met by the employment of a dispensing structure such as herein described. Notwithstanding these advantages, however, the structure of the improved device is simple and compact, and the same can be produced at relatively low cost.

While I have shown only one form of my improved tape-dispensing device, it is to be understood that the invention can take various forms, and that various modifications and changes in the organization of parts and in the details can be made without departing from the principles of the invention or the scope of the claim.

What I claim is:

In a dispensing device for adhesive tape, a frame having a back wall and end walls but open at the front, a shaft removably supported in position between said end walls, a plurality of

wound rolls of tape arranged on said shaft side by side, a guideway mounted on said end walls substantially parallel to said shaft having elongated members slightly spaced apart to which the ends of the adhesive tape are adapted to be secured by means of their adhesive material, a cutter guided along and extending into said guideway and adapted to cut tape from said rolls, and a box-like casing in which said frame is mounted so that it can be moved to two distinct positions, one of said positions being a stored-away position and the other being a forwardly projecting position of the frame in which the ends of tape are exposed at the front of the device in pendant relation with the guideway behind the tape ends and a manipulating portion of the cutter at the front of the guideway.

PAUL S. MADSEN.