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3,229,926

TAPE DISPENSING HOLDERS

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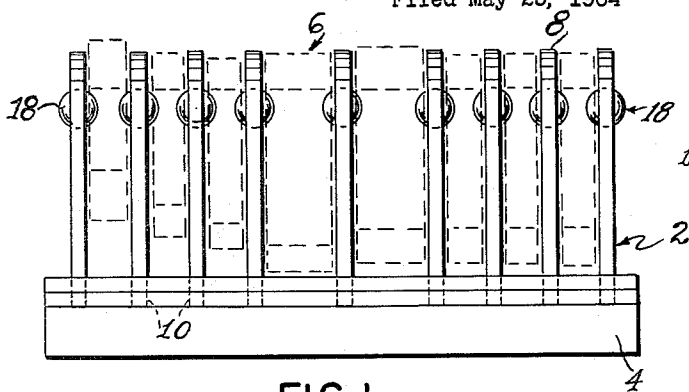


FIG. 1

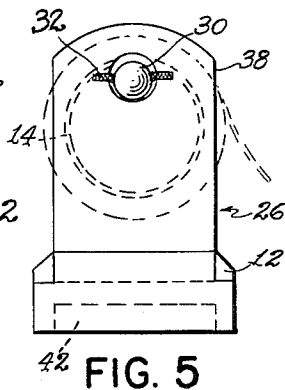


FIG. 5

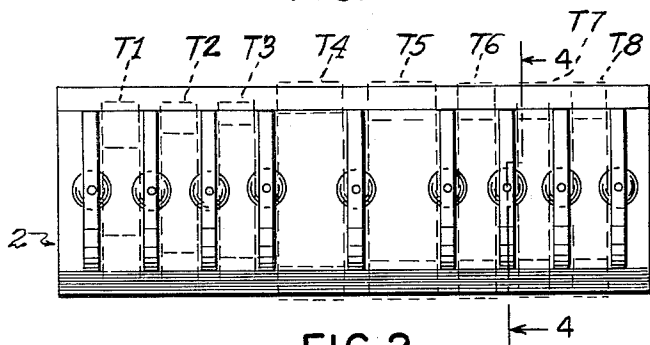


FIG. 2

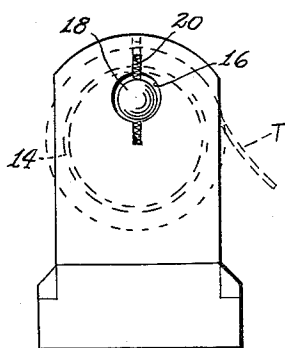


FIG. 3

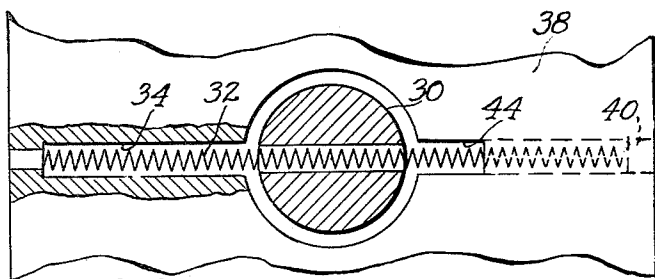


FIG. 6

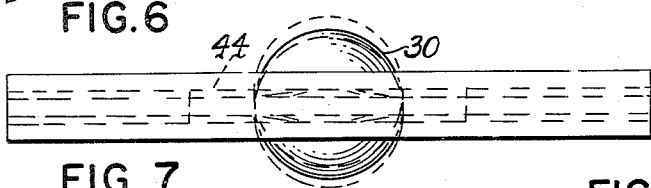


FIG. 7

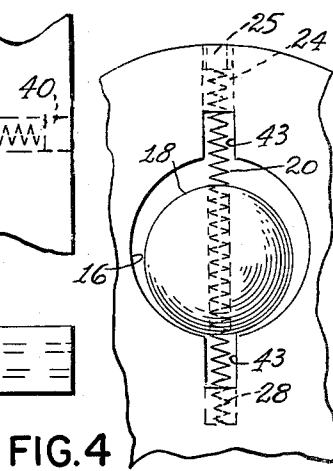


FIG. 4

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TAPE DISPENSING HOLDERS

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6 Claims. (Cl. 242-55.3)

This invention relates to holders, and more particularly to tape dispensing holders for supporting a plurality of rolls of tape, such as used in florist shops.

In the preparation of certain types of floral pieces, for example corsages, it is customary to wind tape of a selected color and width around the stems of the flowers and/or other ornamental or decorative components making up the corsage. This technique is used not only for the purpose of producing a pleasing effect, but also to effectively hide or cover up the stems which may be more or less unsightly or of such a nature that they might tear or scratch the corsage wearer.

Heretofore little care has been taken in the handling of supplies of tape in florist shops to insure ready availability in satisfactory condition. The usual practice has been to place a few rolls of tape of several widths and colors on the work counter with the hope that the tape would remain clean and in a supply ready for use. It has been found, however, that when so handled the tape unrolls, falls on the floor, or gets messed up or soiled, and thereby becomes unsuitable for use. This means that a florist, for example, must take time to look for a new supply of tape or attempt to salvage some of the spoiled tape. Thus much time and considerable money are lost, by not having a supply of usable, clean tape handy and within reach at all times.

The present invention constitutes a solution of this problem because it provides a novel device in the form of a tape roll holder or dispenser in which rolls of tape are always ready for use, and danger from waste due to unrolling or dirt is eliminated.

It is, therefore, an object of the invention to provide a novel tape holder or dispenser which is designed to hold a supply of tape of desired widths and maintain the tape always ready for use in a satisfactory condition.

It is a further object of the invention to provide a novel tape dispensing device wherein means are provided for quickly removing an exhausted roll of tape and replacing it with a new roll in a minimum of time and with substantially no effort.

The invention further consists in the provision of a novel construction having a plurality of spaced tape supporting sections of the same or varying widths such that a plurality of rolls of tape can be supported ready for use, and wherein an expended roll can be removed with great ease and replaced in a minimum of time.

The invention is further characterized by the provision of a novel tape holder or dispenser having a plurality of tape supporting sections and wherein each section includes opposed yieldable supporting surfaces for mounting a roll of tape such that the tape can readily be removed for use, and yet each exhausted roll can be removed for replacement with a minimum of effort and in a minimum of time.

It is also an object of the invention to provide a novel tape dispenser having means for supporting a plurality of rolls of tape of selected width and/or colors, which can be carried from one location to another in a shop with little or no effort and thereby insure a readily available supply at whatever location where needed.

With these and other objects not specifically mentioned in view, the invention consists in certain combinations and constructions which will be described fully hereinafter, and then set forth in the claims hereunto appended.

In the accompanying drawings which form a part of

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this specification, and in which like characters of reference indicate the same or like parts:

FIGURE 1 is a front view of a preferred embodiment of the invention.

FIGURE 2 is a plan view of the embodiment of the invention shown in FIGURE 1.

FIGURE 3 is an end view of the device shown in FIGURE 1.

FIGURE 4 is a view of a detail of a preferred form of tape roller support constructed in accordance with the invention.

FIGURE 5 is an end view of a modified form of tape holder embodying the invention.

FIGURE 6 is a view of a detail, partly in section, showing a modified type of tape roll support roller, and

FIGURE 7 is a plan view of the structure shown in FIGURE 6.

Referring to the drawings, FIGURES 1-4 illustrate a preferred form of tape holder, designated generally 2, embodying the invention. Tape holder 2 comprises an elongated base 4, which can be made of wood, plastic, metal or other suitable material or combination of materials. The material from which holder 2 is made should be of such weight that it can be moved readily from one place to another as required for use, unless it is attached permanently to a work bench. It should also be of such weight that it will at all times remain upright when tape is being pulled from a selected roll of tape.

Holder 2 is provided with a plurality of tape roll sections 6. These can be the same in width or of varying widths in order to make it possible to hold rolls of tape of varying widths. In the form of holder shown in FIGURES 1-4, each section 6 comprises two spaced walls or partitions 8. Each wall or partition 8 at its bottom is seated in a transverse slot 10 formed in base 4 and secured permanently therein by suitable conventional means, such as adhesive, preferably waterproof. I have found that a waterproof adhesive made by U.S. Plywood Corporation, New York, N.Y., gives satisfactory results. If desired partitions 8 can be formed as an integral part of holder, and of the same materials. In the form shown and described herein, the holders are made of wood.

A strip of molding 12 is secured, as by the same type of adhesive mentioned above, along each side of base 4 at the foot of each partition 8, as shown in FIGURES 1, 2 and 3.

In holder 2 illustrated in FIGURES 1 and 2, it will be seen that the space in the several sections 6 formed by walls or partitions 8 is such that rolls of tape of varying widths can be supported. It will be understood, however, that tape holders can be designed and constructed in accordance with the invention to hold and make available for use any desired number and widths of rolls of tape and of any desired colors.

An important novel feature of the invention is the means by which each roll of tape is readily removably held in holder 2 in its respective section 6 for pull-off without danger of dropping out or being pulled out when tape is drawn from a selected roll. As shown in FIGURES 1, 2, and 3, each roll of tape T1-T8 comprises a relatively large core 14 which usually is made of stiff paper or paperboard on which the tape is wound. It will be appreciated that the invention is equally effective in providing a holder which can support rolls of tape wound on cores of relatively small diameter.

Each roll of tape T1-T8 is loosely, rotatably supported in a section 6 such that it rotates freely during any pull-off of tape therefrom. As shown in FIGURES 1 and 3, each wall or partition 8 is provided with an opening 16, preferably circular in shape, in its upper

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portion. A ball support 18 is mounted in each opening 16 with its opposite curved portions extending outwardly beyond the vertical planar limits of its supporting wall or partition 8. This construction provides a curved supporting surface for one side of a core 14 of a roll of tape. The next adjacent partition 8 is also provided with a similarly mounted ball support 18 which provides the necessary complementary curved support surface for the other side of the same core 14. In other words, two ball supports 18 in two adjacent partitions 8 forming a tape roll section 6 provide the support means for each roll of tape of the several rolls held by holder 2. Tape T may be made of any suitable plastic, paper or combinations thereof or other web materials capable of satisfying the demands of the trade.

Ball supports 18 are mounted on elongated resilient members 20 in partitions 8. Since the construction of the mounting means for each ball support are the same, only one need be described in detail. As shown in FIGURES 3 and 4, elongated mounting member 20 is an elongated coil spring, which extends loosely through a bore formed centrally in ball support 18. If desired there could be a tight fit between ball support 18 and spring 20. However, it is preferred to mount ball support thereon in such manner that it can be free to move or slide along spring 20 when a roll of tape is inserted in a holder 2 or removed therefrom, and when tape is drawn from a roll. This system of mounting ball support insures the satisfactory operation of the device. Although springs 20 are shown in the drawings as coil springs, it will be understood that different types can be used with equal satisfaction. For example, another suitable type is an elongated solid resilient member, such as a spring steel wire or rod of suitable diameter.

It will be noted that ball supports are shown as being smaller in diameter than openings 16. This arrangement provides for the necessary movement of ball supports 18 in their respective partitions when rolls of tape are inserted in holder 2, or removed therefrom or when tape is drawn from a roll.

While supports 18 are shown as being spherical in shape, if desired, it is also possible to use supports which are shaped in the form of ellipsoids of revolution, and mount them in openings 16 in partitions 8 in the same manner as described in connection with ball supports 18.

Referring to FIGURES 3 and 4, it will be seen that bores 24 and 26 are drilled vertically in partitions or walls 8. A plug 25 of suitable material, such as wood, inserted in the top of bore 24 secures spring 20 in its proper operative position.

Springs 20 function to support ball supports 18 in such manner that they can yield relative to a core 14 of a roll of tape and thereby present yielding resiliently mounted curved or arcuate surfaces to the core when a roll of tape is being placed in or being removed from a holder 2, or when a pull-off of tape occurs. The strength and tension of springs 20 is such that each roll of tape T1-T8 is firmly resiliently supported on and by the opposed curved surfaces of two axially aligned ball supports 18 which extend through partitions 8 into the space therebetween.

In inserting or removing a roll of tape or an empty core from between the curved surfaces of two opposed ball supports or when tape is drawn from a roll, there is a resilient outward movement of the ball supports relative to their respective mounting partitions, and a more or less rolling action of a ball support in each partition relative thereto. The loose mount of each ball support on its supporting spring 20 also permits a slight movement of the ball supports relative thereto. In the case of removal or insertion of a roll of tape or empty core, or a new roll of tape, the extent of outward movement is such that there can be an easy removal and replacement, as desired. In the case of a pull-off of tape, there may be some slight separation of the ball supports holding

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the roll of tape from which tape is being pulled. However, this movement will be insufficient to allow the roll of tape to drop out of the holder.

As noted hereinabove, openings 16 are larger in diameter than ball supports 18. Because of this when there is a push or pull on a roll of tape or empty core ball supports 18 which support the roll of tape can move radially in openings 16 as well as axially, and thereby a controlled movement of the ball supports 18 is effected.

The construction and operation of holder 26 shown in FIGURES 5, 6 and 7 are essentially the same as those of holder 2 disclosed in FIGURES 1-4 and described hereinabove. The main difference is the location of the mounting means of ball supports 30. These supports are mounted on horizontally disposed elongated springs 32 similar to springs 20 described above. Springs 32 extend loosely through an axial centrally located bore in ball supports 30, and have their free ends seated in horizontal bores 34, 36 formed as by drilling, in partitions 38. Plugs 40 similar to plugs 25 mentioned hereinabove secured in the open ends of bores 34 maintain springs 32 in operative positions.

As stated hereinabove, holders 2 and 26 can be formed of any suitable materials or combinations thereof. The construction is such that preferably, the holder can be moved from one place to another as desired or required for use. If desired, a holder can be fixedly attached to the work bench, as by screws or nails. Under some conditions, depending upon its weight, it may be desired to insure that the holder will always remain upright and ready for use, without the use of attaching means. In a case like this a weight, such as a strip or piece of metal 42, such as iron or steel, as shown in FIGURE 5, can be secured in the base 4 of the holder. If the holder is to be used where there is an iron or steel plate available, then the weighting metal strip 42 can be replaced in whole or in part by a magnet. It will be appreciated that both holders 2 and 26 can be constructed with attaching means or weighting means as described.

As shown in FIGURES 3 and 4, the ends of springs 20 which support balls 18 are located in slots 43 which terminate in bores 24 and 28. These slots extend radially outwardly from the periphery of each opening 16. In FIGURES 3 and 4 slots 43 are formed in vertically aligned relationship. It will be noted, however, that a different aligned relationship can be used. Referring to FIGURES 5 and 6, it will be seen that slots 44, which correspond to slots 43, are formed in a horizontal relationship. Slots 43 and 44 allow supporting springs 20 and 32, respectively, of roller supports 18 and 30, respectively, to flex outwardly along a controlled path of travel when an exhausted roll is being removed or replaced by a full roll, or when the two complementary roller supports which support a roll are placed under a load, i.e. when tape is being pulled from the supply.

What I claim is:

1. A tape roll dispenser comprising an elongated base, a plurality of spaced pairs of upright partitions carried by said base forming spaced tape roll supporting sections, the upper portions of each of said partitions being provided with a circular opening, and each of said circular openings being aligned with the others, a ball located in each of said openings, spring means suspending each of said balls in said openings for free movement relative thereto with the opposite curved portions thereof extending outwardly beyond the planar surfaces of the respective partition in which it is mounted into two adjacent sections and complementary curved portions of two adjacent balls extending into each section forming a resilient support for a roll of tape, and means for supporting the ends of said spring means in said partitions.

2. A holder for rolls of web material comprising a base, a plurality of longitudinally spaced transversely extending partitions carried by said base and projecting upwardly therefrom, each of said partitions having an opening

aligned with corresponding openings in said other partitions, and each adjacent pair of partitions forming a web material supporting section, a roller support located in each of said openings with its opposite curved portions extending outwardly beyond the planar limits of its supporting partition, said curved portions providing curved supports for said roll of web material, means resiliently mounting each of said roller supports in its respective opening in a partition, whereby complementary curved portions extending into a roll supporting section provide yielding support means for each roll of web material rotatably supported in a section, each of said roller supports comprising a spherical member, and said resilient mounting means comprising an elongated coil spring extending through said member, means mounting the ends of said coil springs loosely in bores formed in said partitions, and said coil springs supporting said spherical members loosely thereon for rotary movement relative thereto, whereby a roll of web material may rotate on said complementary portions of two adjacent roller supports during pull-off of web material from said roll, and during removal and replacement of rolls of web material between said complementary portions of said roller supports.

3. The invention defined in claim 2, wherein slots are provided on opposite sides of said openings in said partitions, and said coil springs can move and flex in said slots when a roll of web material is placed between said complementary portions of said roller supports or removed therefrom and when web material is pulled from said roll.

4. A tape roll dispenser comprising an elongated base, a plurality of spaced pairs of upright partitions carried by said base, the upper portion of each of said partitions being provided with a circular opening, and each of said circular openings being aligned with the others, a ball located in each of said openings, spring means mounting each of said balls with the curved opposite portions thereof extending outwardly beyond the planar surfaces of the respective partition in which it is mounted and complementary curved portions of two adjacent balls forming a resilient support for a roll of tape, each of said balls being loosely mounted on its respective spring means, and said spring means comprising elongated springs, said partitions being provided with slots extending radially outwardly from the opposite sides of each of said openings, bores formed in the ends of said slots for holding the ends of said springs and said slots being operative to control the path of flexing of said springs when a roll of tape is being placed between a pair of partitions or being removed therefrom, and when tape is being pulled from a roll of tape supported on said complementary curved portions of

said two balls extending into the space between two adjacent partitions.

5. A web material roll holder comprising in combination, a pair of upright spaced walls, a base supporting said walls, aligned circular openings formed in said walls, a ball positioned in each of said wall openings, and resilient means mounting each of said balls in its respective opening with complementary curved portions thereof projecting outwardly beyond the planar faces of said walls into the space between said walls to provide a resilient support for a roll of web material between said walls, means for limiting and controlling the movement of said balls, outwardly relative to the planar faces of said walls, said resilient means comprising elongated springs, and said walls having diametrically opposite slots formed adjacent said openings, and bores formed at the closed ends of said slots, said bores being constructed and arranged to receive and hold the ends of said springs, and to control the outward direction of flexing of said springs when under load.

6. A holder for rolls of web material comprising a base, a plurality of longitudinally spaced transversely extending partitions carried by said base and projecting upwardly therefrom, each of said partitions having an opening aligned with corresponding openings in said other partitions, and each adjacent pair of partitions forming a web material roll supporting section, a roller support located in each of said openings having opposite curved portions extending outwardly beyond the planar limits of its supporting partition, said curved portions providing curved supports for said roll of web material, means resiliently mounting each of said roller supports in its respective opening in a partition for bodily movement relative thereto, whereby complementary curved portions extending into a roll supporting section provide yielding support means for each roll of web material rotatably supported in a section, each of said roller supports comprising a ball-like member, and said resilient mounting means comprising an elongated spring extending through said member, and means for mounting the ends of said springs in said partitions.

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