March 24, 1970 R. MARIANI 3,502,252

DISPENSER FOR MULTIPLE MARKER TAPES

Filed March 1, 1968

FIG. 1

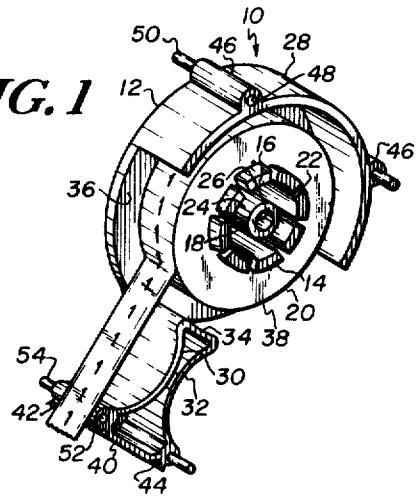
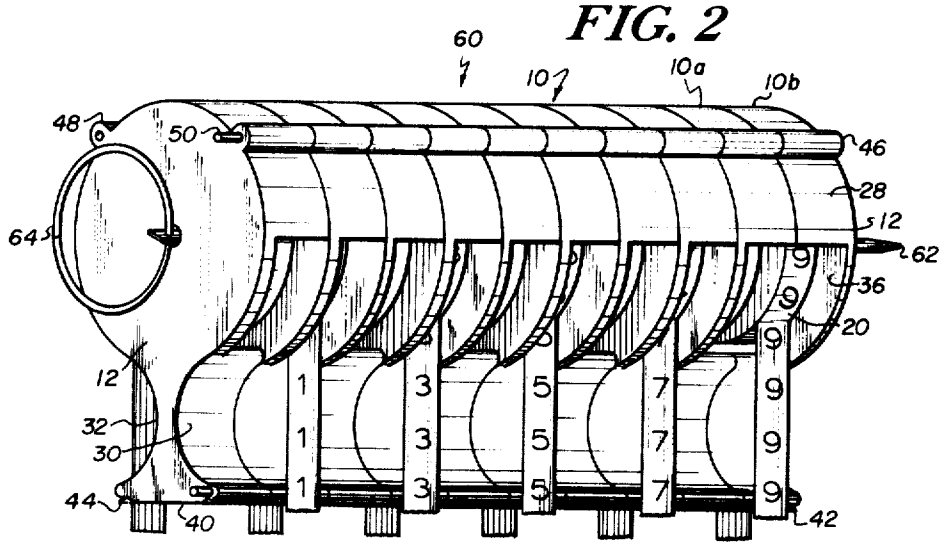


FIG. 2



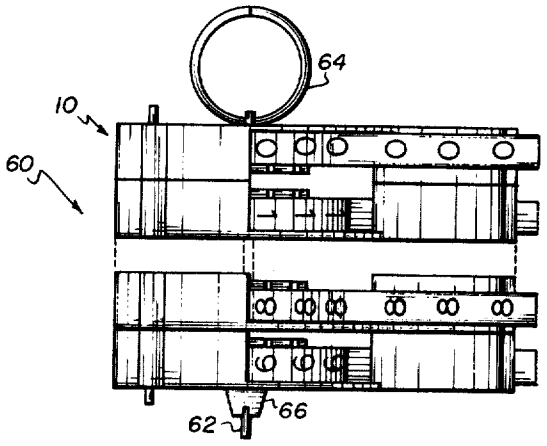


FIG. 3

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DISPENSER FOR MULTIPLE MARKER TAPES

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ABSTRACT OF THE DISCLOSURE

The dispenser is composed of a plurality of discrete modules which can be positioned with respect to one another by hermaphroditic coupling means and joined by a fastening means. Each module comprises one outer wall, a web hub, a tape guide and two cutting edges. The fastening means is removable so that individual modules may be removed or replaced. Alternate use of particular cutting edges permits close spacing of the modules.

BACKGROUND OF THE INVENTION

Field of the invention

The invention is directed to the field of dispensing selectable lengths of webs initially wound upon a central core. The invention finds particular utility in the field of dispensing marker tapes which comprise a first face upon which one or more indicia may be placed and a second face having a coating of a pressure sensitive adhesive. Such marker tapes may be dispensed in selectable lengths in accordance with the size of the cable to be marked or in accordance with the size of the other objects to be marked. Due to the necessity for a large member of available marking codes a dispenser capable of dispensing a large number of indicia bearing marker tapes is required. Although the device is described in terms of the dispensing of marker tape it is also suitable for the dispensing of any other type of tape material.

Description of the prior art

Prior art devices of the type commonly found for the dispensing of pressure senstive adhesive backed tapes generally do not permit the use of a plurality of marking tapes at the same time. Well known individual dispensers for plastic type mending tapes, permit merely the dispensing of a single roll of such tape. Additionally, dispensers such as the type used to dispense laundry tape, or other water wettable adhesive backed tapes, or providing for semiautomatic metering also permit merely the use of a single type of tape. Dispenser for a plurality of tapes, are quite cumbersome and generally available in only bench type units. In such units a plurality of individual tape rolls are placed upon a central shaft. Spacers are placed between individual ones of the tape rolls and the tapes are then fed across a support. If it is desired to use any one, or all, of the tapes it is necessary that the desired length of tape be pulled from the dispenser and a portion, adjacent that to be cut, be adhered to the support. A razor blade, or other type of traveling knife edge, is then caused to traverse the support thereby severing any of the tapes which have been extended. A device of this type is both heavy and cumbersome and would not permit; for example, the marking of suspended cables due to the absence of nearby benches to support the dispenser.

SUMMARY OF THE INVENTION

The invention overcomes the difficulties noted above with respect to prior art, multiple tape dispensing devices. It makes available a device which is simple, lightweight and which may be easily carried by the user to the marking location without regard as to whether it was at ground

level, above, or below it. No additional supports, such as a worktable, or the like, are required. Said device is a simple, lightweight device which may be easily hand held and may be operated to selectively present the desired marking tapes and which may be cut to desired selectable lengths in accordance with the needs of a particular marking job. In that the length of the tapes are selectable, as to a particular cable size, problems which usually accompany a metering type of dispenser are eliminated. Notably, a metering type of marking tape dispenser would provide approximately 1½ inches of tape. On a very small conductor to be marked, the 1½ inches of tape could result in the build-up of an unwanted shoulder at the point of marking. Such shoulders on a number of wires to be pulled through a conduit might very well prevent their being moved through the conduit and would definitely interfere with their operation.

The present dispenser provides a simple dispenser for a plurality of marking tapes by providing individual dispenser modules, each of which contains a single web of marking tape and which can provide not only for the support of the tape but also for the cutting thereof. Provision is made within each of the modules for the joining of a plurality of modules to build-up a dispenser. A fastening means is then passed through each of the dispenser modules in order to hold them together in a dispenser assembly. The fastening device may also include a ring or other attaching device whereby the dispenser may be readily carried on the belt of the user. By the unique technique of providing two cutting edges for each dispenser the tapes within the dispenser may be alternately arranged so that each odd numbered tape dispenser module will have its tape directed over the upper cutting edge while each even numbered dispenser module will have its tape directed over the lower cutting edge, thereby decreasing their required center to center spacing between successive dispenser modules. It is therefore an object of this invention to provide a simple, lightweight, and easy to use disperser for a multiplicity of marker tapes.

It is still another object of this invention to provide a dispenser composed of a plurality of individual dispenser modules, each of which provides support and locking means for a web of marker tape therein and which provides dual cutting edges.

It is still another object of this invention to provide an improved dispenser for a multiplicity of marking tapes which facilitates the assembly of individual dispenser modules with other similar dispenser modules into a dispenser assembly.

It is yet another object of this invention to provide a dispenser composed of a plurality of dispenser modules having a minimum of center to center spacing by the employment of alternative cutting edges provided on the dispenser modules.

It is yet another object of this invention to provide a dispenser composed of a plurality of dispenser modules which may be assembled together by a selective locking means which permits the removal and reinsertion of dispenser modules at will.

Other objects and features of the invention will be pointed out in the following description and claims and illustrated in the accompanying drawings, which disclose, by way of example, the principles of the invention, and the best mode which has been contemplated for carrying it out.

BRIEF DESCRIPTION OF THE DRAWING

In the drawings:

FIG. 1 is an isomeric view of a tape dispenser module constructed in accordance with the concepts of this invention.

FIG. 2 is an isometric view of a dispenser assembly composed of a plurality of dispenser modules as shown in FIG. 1.

FIG. 3 is a side elevation of a dispenser assembly illustrating the details of the fastening device for assembling the dispenser modules into the dispenser assembly as shown in FIG. 2.

Similar elements are given similar reference characters in each of the respective figures.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to FIG. 1 there is shown a dispenser module **10** constructed in accordance with the concepts of the invention. Module **10** has a back member **12** but no complementary front member. Coupled to the back member **12**, on the inside surface thereof, and extending in a direction transverse to the plane of the back member **12** are a plurality of hub nibs **14**. Certain of the hub nibs **14** have attached thereto, at their remote ends, locking tabs **16** which are arranged to engage the outer surface of a core **18** of a web of marker tape **20** inserted thereon. The hub nibs **14** are spread, as by slots **22** therebetween, to permit the flexing of the individual ones of the hub nibs **14** to conform to the inside diameter of the core **18** of tape **20** placed upon the hub nibs **14**. The relaxed position of the hub nibs **14** is slightly greater in diameter than the inside diameter of the core **18** and thus as the core is placed over the hub nibs **14** they will be forced to contract and thus will accommodate the core size. A central hub **24** also extends from the base member **12** in a direction transverse to the base member **12**. The height of the central hub **24** is made approximately the same as the height of the individual hub nibs **14**. An aperture **26** extends through the central hub **24** and through the base member **12** for the passing therethrough of a fastening device to be described below with reference to FIGS. 2 and 3.

Extending about a portion of the base member **12** is a side wall **28**. Attached at one end of the base member **12** are support members **30** and **32**. Coupled to the support members **30** and **32** is a further support member **34** which further serves to define, with the side walls **28**, a partial enclosure for the roll of tape **20** placed on the hub nibs **14**. Between the support member **34** and the side walls **28** are provided slots **36** and **38** to permit the web of tape **20** to be conducted from within the enclosed portion of the module **10** to the region of the support members **30** and **32**. Coupled at the other ends of support members **30** and **32** is support member **40**, having at its ends an upper cutting edge **42** and a lower cutting edge **44**. Tape wound, in the manner shown in FIG. 1, will be conducted from within the dispenser **10** through the slot **36** over the support **30** and thence over the cutting edge **42**, whereas an oppositely wound tape **20** will pass through the slot **38**, past the support means **32** and thence pass over the cutting edge **44**.

Coupled to the side wall **28** are extensions **46** provided with apertures **48** therethrough. Press fitted into selected ones of these apertures **48** are pins **50**. Additionally, in the support members **30** and **32** there are provided further apertures **52** which also selectively receive in a press fitted arrangement pins **54**. Alternatively, pins **50** and **54** may be formed as a part of the extensions **46** and the support members **30** and **32**. By arrangement of the apertures **48** and **52** and the pins **50** and **54**, a hermaphaditic coupling arrangement is provided whereby the individual modules **10** may be assembled into a dispenser assembly. The closed face of the dispenser module **10**, closed by means of the base members **12**, is known as the back face whereas the open exposed portion, through which the tape **20** is inserted, is called the front face. By means of the hermaphaditic coupling arrangement, the individual dispenser modules **10** may be joined in a front to front, front to back, or back to back arrangement,

which arrangement will be better understood with reference to FIG. 2.

Turning now to FIG. 2 there is shown a dispenser assembly **60** constructed of individual dispenser modules **10**. Individual dispenser modules **10**, with the exception of the end module **10***b*, are assembled in a front to back relationship so that the back member **12**, of each succeeding module **10**, serves as a cover for the preceeding module **10** and thereby effectively seals the tape **20** between the back member **12** of its own module **10** and that of the next adjacent module **10**. The end module **10***b* is arranged however in a front to front relationship with module **10***a*, whereby the back members **12** of the two adjacent dispenser modules **10***a* and **10***b* form a chamber for two tapes **20**. If desired, all modules **10** may be assembled in a front to back relationship and an additional cover plate, having the general shape of back member **12**, may be added at the end.

The first tape **20**, indicated by the reference numbers "0" upon it (see FIG. 3) is caused to pass in a counterclockwise direction through the slot **38** (not visible in the fig.) and thence over the support member **32** and finally over the cutting edge **44**. This same arrangement will be true of the tapes from each one of the odd numbered dispenser modules. That is, the tapes **20** with the indicia 0, 2, 4, 6 and 8 will each pass under the dispenser module and will be engaged by cutting edges **44**. Tapes from even numbered dispenser modules **10**, that is those having the positions **2**, **4** and each additional even position and bearing the indicia 1, 3, 5, 7 and 9 are permitted to pass through these slots **36** in a clockwise direction over the support member **30** and engage the cutting edge **42**. As a result of the alternative arrangement of the tapes a closer center to center distance, or spacing, is possible than would be achieved were all the tapes passed over the same cutting edge. The entire assembly will be held together by means of an elongated member **62** having at a first end thereof a ring **64** (see FIG. 3) which acts jointly as a stop for the elongated member **62** to prevent its being pulled through the stack of dispenser modules and also provides a ring for attachment to a workman's belt or similar device.

Turning now to FIG. 3 the details of the fastener for coupling together the individual dispenser modules **10** into a dispenser **60** is shown. The elongated member **62** is shown to pass through each one of the dispenser modules **10**. A locking head **66** is provided at one end thereof, may be slid upon the elongated member **62** to a position in contact with the assembled dispenser modules **60** to rigidly hold them in locked relationship. Lockable head **66** will engage the member **62** to provide the necessary locking and holding force. However, the lockable head **66** may be selectively unlocked to permit the head **66** to be removed from the elongated member **62** so that individual modules **10** may be added or subtracted as desired, or replaced, as the tape **20** therein is exhausted. Further, if the locking head **66** is a single direction locking device, the ring **64** may be removed first and the elongated member **62** removed from the dispenser assembly **60**. Head **66** can then be removed from elongated member **62** and latter repositioned as desired. As is stated above, the ring **64**, at the opposite end of the elongated member **62**, provides both a stop to prevent the elongated member **62** from being pulled through the stack of dispenser modules **10** and also provides for ready attachment to the belt of a workman or other person doing the marking job or for other purposes. If desired, the elongated member **62** may be replaced by a bolt and wing nut arrangement or any similar fastening device.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to the preferred embodiment, it will be understood that various omissions and substitutions and changes in the form of and details of the device il-

lustrated and in its operation may be made by those skilled in the art, without departing from the spirit of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A dispenser for dispensing selectable lengths of a web of material placed therein comprising: a base member; an aperture in said base member; a plurality of hub nibs coupled to said base member and arranged in a generally circular configuration about said aperture; said hub nibs arranged to receive and engage thereon the core of a web of material placed thereon; support means coupled to said base member; to cutting edges on a first face of said support means; each of said cutting edges being disposed at one end of said first face permitting the web of material to be moved over either one of said cutting edges depending upon the positioning of said web and material in said dispenser; side walls coupled to said base member and extending transverse thereto; said support means having a second face extending transverse to said base member; said side walls and said second face generally defining an enclosure for said web of material in said dispenser; first and second exit slots between said side walls and said second face; each of said exit slots permitting said web of material to be removed from said core and directed over its associated cutting edge, whereby said web of material may be removed from said dispenser and cut into desired lengths regardless of the positioning of said core upon said hub nibs.

2. A dispenser for dispensing selectable lengths of a web of material placed therein comprising: a base member; an aperture in said base member; a plurality of hub nibs coupled to said base member and arranged in a generally circular configuration about said aperture; said hub nibs arranged to receive and engage thereon the core of a web of material placed thereon; support means coupled to said base member; two cutting edges on a first face of said support means; each of said cutting edges being disposed at one end of said first face permitting the web of material to be moved over either one of said cutting edges depending upon the positioning of said web of material in said dispenser; side walls coupled to said base member and extending transverse thereto; said support means having a second face extending transverse to said base member; said side walls and said second face generally defining an enclosure for said web of material in said dispenser; first and second exit slots between said side walls and said second face; each of said exit slots permitting said web of material to be removed from said core and directed over its associated cutting edge; and a hollow central hub about said aperture, said central hub being coupled to said base member and extending transverse thereto; said central hub being equal in height to said side walls.

3. A dispenser for dispensing selectable lengths of a web of material placed thereon comprising: a base member; an aperture in said base member; a plurality of hub nibs coupled to said base member and arranged in a generally circular configuration about said aperture; said hub nibs arranged to receive and engage thereon the core of a web of material placed thereon; support means coupled to said base member; two cutting edges on a first face of said support means; each of said cutting edges being disposed at one end of said first face permitting the web of material to be moved over either one of said cutting edges depending upon the positioning of said

web of material in said dispenser; side walls coupled to said base member and extending transverse thereto; said support means having a second face extending transverse to said base member; said side walls and said second face generally defining an enclosure for said web of material in said dispenser; first and second exit slots between said side walls and said second face; each of said exit slots permitting said web of material to be removed from said core and directed over its associated cutting edge; and hermaphroditic coupling means comprising pins and slots on the surface of said base member remote from said side walls and on said side walls and support means whereby a plurality of individual ones of said dispensers may be joined.

4. A dispenser for dispensing selectable lengths of a plurality of webs of materials placed therein; said dispenser comprising a plurality of dispenser modules, each module comprising: a base member; an aperature in said base member; a plurality of hub nibs coupled to said base member and arranged in a generally circular configuration about said aperture; said hub nibs arranged to receive and engage thereon the core of a web of material placed thereon; support means coupled to said base member; at least one cutting edge coupled to said support means; hermaphroditic coupling means on said base member and support means to join said plurality of dispenser modules; and selectively operable locking means for locking together said plurality of dispenser modules whereby said dispenser modules can be locked together or individual modules replaced at will.

5. A dispenser as defined in claim 4, comprising two cutting edges on a first face of said supporting means; each of said cutting edges being disposed at one end of said first face; said webs of material being arranged in said dispenser modules in an alternate fashion whereby the web of material in the first and each odd numbered module is directed over first ones of said two cutting edges and the web of material in the second and each even numbered module is directed over the second ones of said two cutting edges.

6. A dispenser as defined in claim 4, wherein said selectively operable locking means comprises an elongated member and a lockable head arranged to be positioned along said elongated member and locked into positio with respect to said elongated member; said lockable head being releasable to reposition said head with respect to said elongated member or removed therefrom.

7. A dispenser as defined in claim 6, further comprising a loop coupled to said elongated member at an end remote from said lockable head, said loop acting as a stop for said assembled dispenser modules to prevent their removal from said elongated member and to facilitate the carrying of said assembled dispenser modules.

References Cited

UNITED STATES PATENTS

876,866	1/1908	Downing et al.	225—38 X
1,487,607	3/1924	Rosen	225—34 X
2,414,915	1/1947	Ziegler	225—33
2,640,656	6/1953	Donkin	225—77 X

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225—38, 77