United States Patent [19]

Corte

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[45] **Nov. 25, 1975**

[54] **HAND LABELLING DEVICE**

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[21] Appl. No.: **416,396**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 287,984, Sept. 11, 1972, Pat. No. 3,774,744, which is a continuation-in-part of Ser. No. 173,456, Aug. 20, 1971, Pat. No. 3,704,771.

[30] **Foreign Application Priority Data**

Jan. 25, 1973 Argentina 246288

[52] **U.S. Cl.** **197/6.7;** 101/18

[51] **Int. Cl.** **B41j 1/30**

[58] **Field of Search** 197/6.4, 6.6, 6.7; 101/18

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Attorney, Agent, or Firm—Molinare, Allegretti, Newitt & Witcoff

[57] **ABSTRACT**

A device for imprinting characters on a belt. The device includes a body, a lever which is pivotally carried on the body, a first rotatable substantially rigid member having a first set of characters for use in imprinting selected ones of said characters onto said belt, and a second rotatable member coaxially and non-rotatably mounted relative to said rotatable member. The second rotatable member has a plurality of flexible arms having characters thereon which are movable into cooperating relationship with each of the first set of characters for the imprinting of the desired selected characters on the belt. The lever selectively moves each of the flexible arms into action for imprinting a selected character on the belt. A guide member is mounted on the body for guiding the belt into the imprinting position intermediate the first and second members. A housing for storing the length of the belt is removably secured to the belt guiding means. The ribbon passes into a position for imprinting characters on the belt from the housing upon passage from the guiding means. Cooperating knife defining means are provided on the first and second members for at least partially severing the belt at a preselected time in response to pivoting of the lever relative to said body.

5 Claims, 6 Drawing Figures

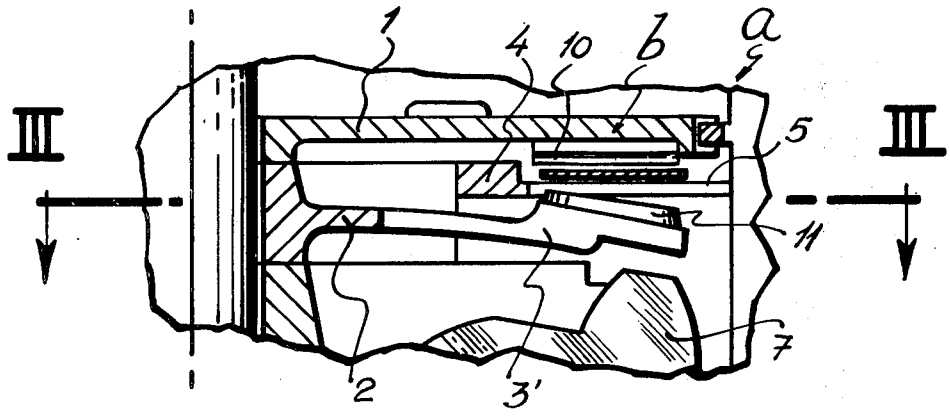


Fig. 1

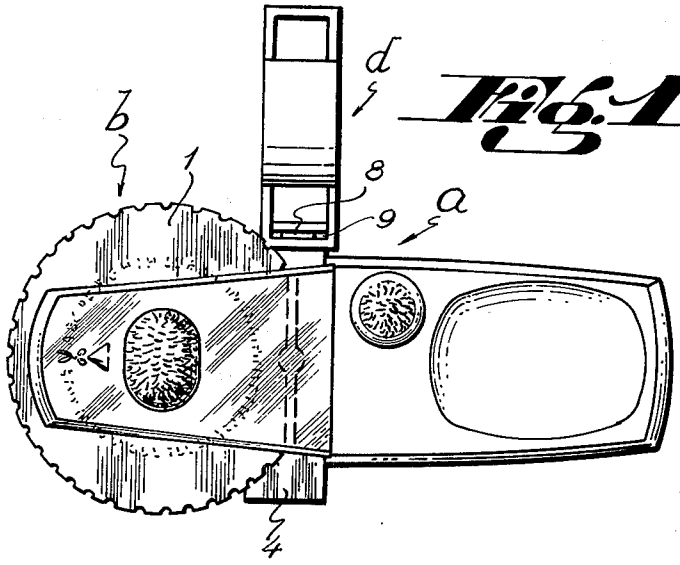


Fig. 2

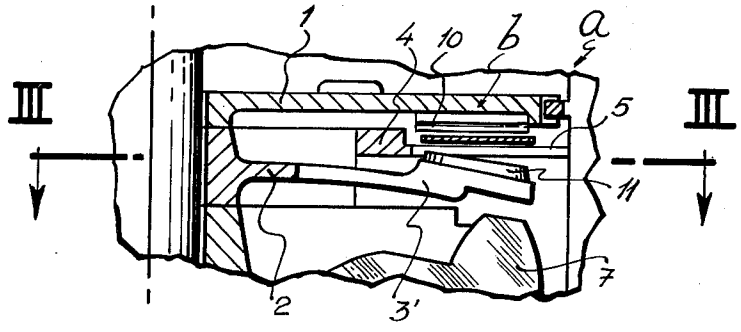


Fig. 3

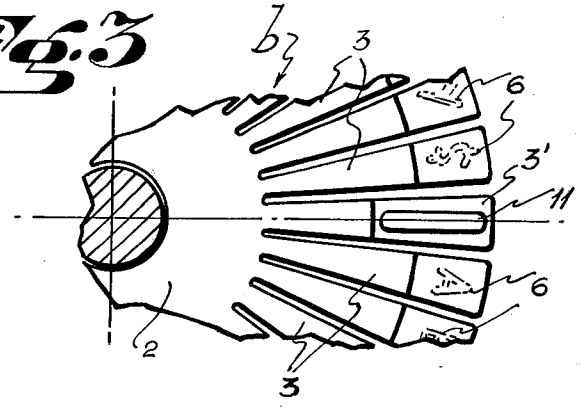


Fig.4

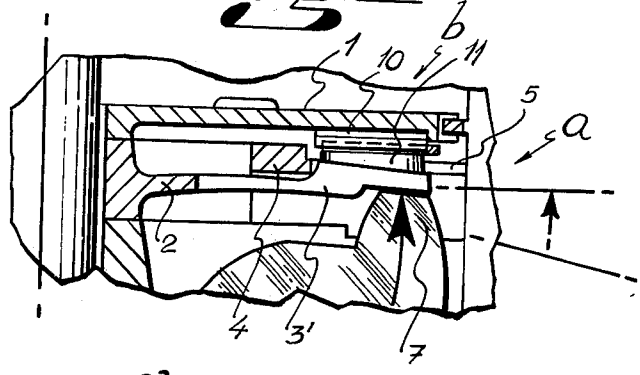


Fig.5

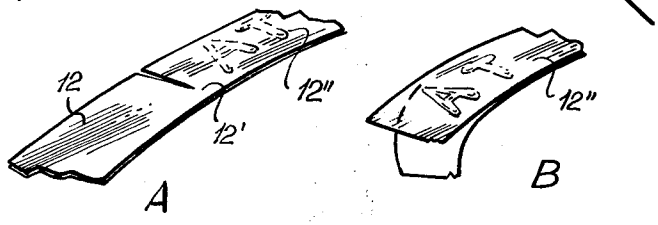
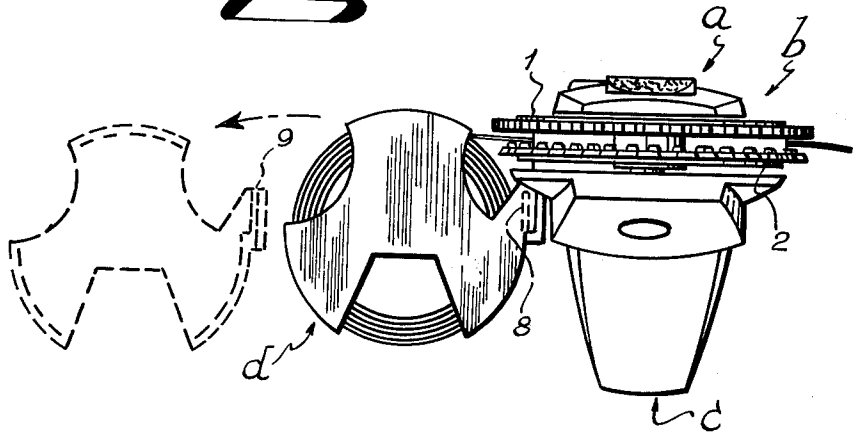


Fig.6



HAND LABELLING DEVICE

REFERENCE TO RELATED APPLICATION

This is a continuation-in-part of my co-pending U.S. patent application Ser. No. 287,984, filed Sept. 11, 1972 now U.S. Pat. No. 3,774,744, which is a continuation-in-part of my U.S. Pat. No. 3,704,771 filed Aug. 20, 1971 as Ser. No. 173,456.

BACKGROUND OF THE INVENTION

Field of the Invention and Description of the Prior Art

The present invention relates to improvements in pocket labelling devices or machines, such as shown in the above-mentioned U.S. patent and U.S. patent application. It particularly relates to a labeller that not only has the desired characteristics of maneuverability and of carrying facility, but provides new advantages for feeding the tape, belt or ribbon and for using a desired length of ribbon.

As is already known, the characteristics of the devices regarding their size and shape require the use of a ribbon, pre-cut in sections, as the minimization of the number of component parts and the simplification of the mechanisms prevented, up to the present, the provision of housing means for a rolled ribbon and cutting means for cutting the same to the desired length.

SUMMARY OF THE INVENTION

Such advantages of my prior art devices are solved with this invention wherein the device permits a rolled ribbon, housed in a removable cartridge, to be used, the cartridge being disposable once the ribbon is finished.

Another important advantage of this invention is the provision in the inventive device with cutting means for the ribbon, operated in the same manner as for printing so as to maintain the simplicity of the mechanism of the assembly, the cutting being adjusted to the desired length with the cutting means.

Another advantage of this invention is that the cutting of the ribbon is accomplished by a transverse cutting, while preferably leaving a very small uncut portion to define a ripping edge which, without loosening the printed section, permits the easy separation of the covering sheet of the ribbon from the adhesive surface by grasping the ripping edge.

The foregoing objects and advantages are accomplished by providing a device for imprinting characters on a belt when the device includes a body, a lever pivotally mounted on the body, a rotatable, substantially rigid member having a first set of characters for use in imprinting selected characters on said belt, a second rotatable member coaxial with and non-rotatably mounted relative to said first rotatable member, said second member having a plurality of flexible arms with characters on the arms and being movable into cooperating relationship with each of said first set of characters for imprinting selected characters on said belt, the lever selectively moving each of the flexible arms into action for imprinting a selected character on the belt, a guide means for guiding the belt to the imprinting position intermediate the first and second members, a housing for storing the length of the belt and being removably secured to the belt guiding means, a ribbon passing to a position for imprinting characters on the belt from the housing upon passage on said guiding means, and

cooperating knife defining means on said first and second members for at least partially severing said belt at a preselected time in response to pivoting the said lever relative to the body.

BRIEF DESCRIPTION OF THE DRAWINGS

Other advantages and characteristics of the present invention may be appreciated from the following specification which, for a more clear understanding of the invention, has been illustrated with several figures, in which the aforesaid inventive pocket labelling machine is represented in one of its preferred forms, wherein:

FIG. **1** is a top plan view of the improved pocket labelling machine of the invention wherein the inventive machine is shown with a cartridge containing a rolled ribbon for use therewith;

FIG. **2** is a fragmentary side elevational view of a section of the printing wheel at the level of the cutting means;

FIG. **3** is a fragmentary view taken along the line **3—3** of FIG. **2**, showing the arm which, upon displacement, effects the cutting of the ribbon;

FIG. **4** is a view similar to FIG. **2**, illustrating the cutting of the ribbon by the printing puncher or hammer which is operated by the machine lever;

FIG. **5** is a pictorial view of a partially severed ribbon and also shows the removal of the adhesive backing; and

FIG. **6** is an end elevational view of the labelling machine with the feeding cartridge, in operating arrangement, therewith, and also illustrating in dotted lines the same cartridge which, when empty, is withdrawn from the machine and is to be replaced by a new one.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

In the accompanying drawings, similar or equivalent parts are marked with the same or similar reference numbers.

As seen in FIGS. **1** and **6**, the improved pocket labelling machine of the invention includes, as in the similar machines of the above-identified patent and patent application, a principal hollow body is attached to the stamp assembly *b* operated by means of the lever *c*, which is also hollow and is articulated or pivotally secured to body *a*.

The lever *c* operates to overstrain the tension of an internal spring (not shown) that constitutes the mechanism for returning the lever to its resting position. The angular displacements of the lever *c* also acts on an advance mechanism for the ribbon (not shown), housed in the hollow body *a*.

The stamping assembly *b* has characteristics known and used in known labellers. The stamping assembly *b* comprises a main wheel **1** which is unitary with an arm wheel **2** whose ends **3** includes punches which match with the main portion of the former, the wheels **1** and **2** being coaxially and rigidly mounted on the same axle or shaft.

Transverse of the body *a*, a member **4** is mounted in conformity with the advance track of the ribbon. The member **4** has an opening **5** for the passage therethrough of the end punch **6** on the corresponding radial arm **3** of the wheel **2**, which is coincident therewith, when the end punch **6** is pushed by pressure from the hammer **7** that rises from the interior side of the hollow lever *c*. The member **4** is positioned between the wheels **1** and **2**, as seen in FIGS. **2** and **4**.

The inlet end of the member **4** that defines the track for the ribbon is formed downwardly in the shape of a hook **8**, as seen best in FIG. **6**, on which the cartridge *d* is removably secured. The hook **8** is transversely flat with its end portion insertable in the edge opening **9** of said cartridge *d* as seen in FIGS. **1** and **6**.

As seen in FIGS. **1** and **6**, the cartridge *d* has shaped openings and houses the rolled ribbon whose end, coming out through the opening that faces the track formed by the member piece **4**, in the receiving position, is insertable thereinto. When the rolled ribbon is finished, the empty cartridge *d* is withdrawn from the hook **8** and replaced by a new cartridge.

The lower, outer surface of the main wheel **1**, has a sharp blade **10** radially mounted thereon. In the operative position, of the device, the upper side of the wheel **1** is marked with indicia, such as a figure of scissors or knife, as illustrated in FIG. **1**, to indicate the severing position.

The arm wheel **2**, has a unitary radial arm **3'**, with an elongated, raised punch **11** on its outer periphery, the length thereof being substantially the same as the width of the ribbon.

The punch **11** has a plane, defined on its upper face, which in the operative position bears against the lower side of the ribbon (FIG. **4**) and is substantially coplanar therewith. In this manner, when the aforesaid representation of a scissors or knife is placed facing the indicia on the wheel **1**, the blade **10** is located on the ribbon and the arm **3'**, with the punch **11** positioned therebelow. By operating the lever *c*, the pressure part **7** raises the arm **3'** whose punch **11** presses the ribbon against the blade **10** for the cutting thereof.

In the illustrated example, the blade **10** is arranged in such a way that the ribbon is incompletely severed thereby so as to leave a very small portion of an edge **12'** of ribbon **12** which is uncut, as shown in detail in FIG. **5**. The uncut portion **12'** of the ribbon is sufficiently small so as to permit the printed portion of ribbon **12''** to be readily separated from the unprinted portion as the uncut portion is ripped to accomplish the desired separation. The ripped portion also permits easy separation of the cover sheet from the adhesive surface of the printed ribbon in the manner shown at view B of FIG. **5**.

The improved pocket labeller, described above, has the characteristics of simplicity and is easily carried, and may, in addition to possible use with conventional ribbons for labelling, also be used with a rolled ribbon in a removable, disposable cartridge, the cartridge also permitting the replacement of its contents by simple elastic deformation of the new roll to introduce same within the cartridge through the opening therein.

While in the foregoing, there has been provided a detailed description of a particular embodiment of the present invention, it is to be understood that all equivalents obvious to those skilled in the art are to be included within the scope of the invention, as claimed.

What I claim and desire to secure by Letters Patent is:

1. In a device for imprinting characters on a belt, said device being of the type which includes a body, a lever pivotally carried on said body, a rotatable, substantially rigid member, having a first set of characters for use in imprinting selected characters on said belt, a second rotatable member coaxial with and non-rotatable relative to said first rotatable member, said second member having a plurality of flexible arms with characters on said arms and movable into cooperating relationship with each of said first set of characters for imprinting selected characters on said belt, said lever selectively moving each of said flexible arms into action for imprinting a selected character on said belt, the improvement comprising means for guiding said belt to an imprinting position, intermediate said first and second members, a housing for storing a length of said belt, and being removably secured to said belt guiding means, said belt passing to said imprinting position for imprinting characters on said belt, from said housing upon passage from said guiding means, cooperating knife defining means on said first and second members for at least partially severing said belt at a preselected time in response to pivoting of said lever relative to said body, said knife defining means including a blade on said rigid member and a back-up means for said blade on one of said flexible arms, said lever forcing said back-up means towards said blade with said belt therebetween, said guiding means positioning one edge only of said belt laterally away from said blade whereby said belt is severed for its entire width except for said one edge, said blade and said back-up means being the sole parts of said device contacting said belt during said severing operation at said severing position.

2. The device of claim **1** wherein said belt guiding means is unitary with said body, said belt is rolled and said housing is shaped to store said rolled belt and cooperating locking means are on said guiding means and on said housing for removably securing said housing to said guiding means.

3. The device of claim **1** wherein said backup means comprises a radially elongated projection on one of said arms of said second member, said elongated projection being movable into severing relationship with said blade for severing said belt except for said one edge.

4. The device of claim **3** wherein said elongated member is inclined in a longitudinal direction and is of a greater height at its outer portion than at its inner portion.

5. The device of claim **3** wherein said knife blade and said elongated means are radially aligned with the characters on said first and second members.

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