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2,598,892

IDENTIFICATION TAPE AND METHOD OF MAKING SAME

Original Filed July 18, 1942

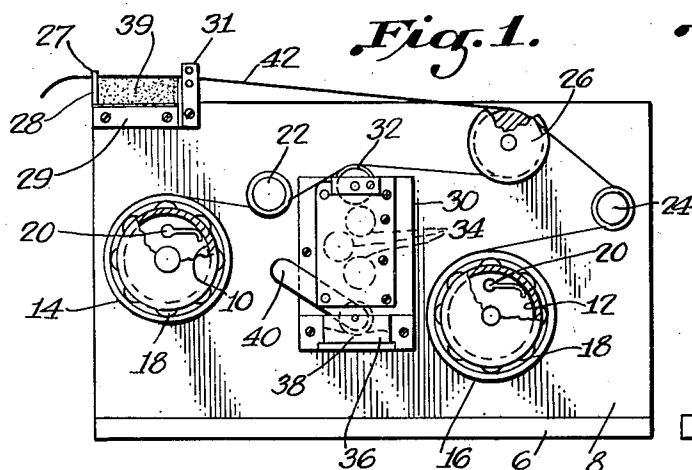


Fig. 2.

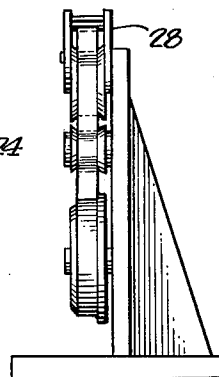


Fig. 3.

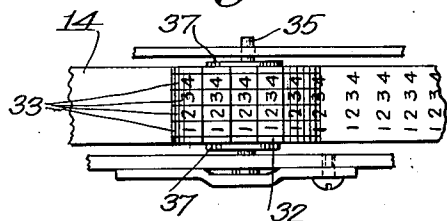


Fig. 4.

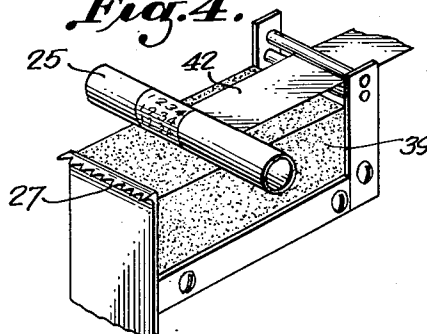
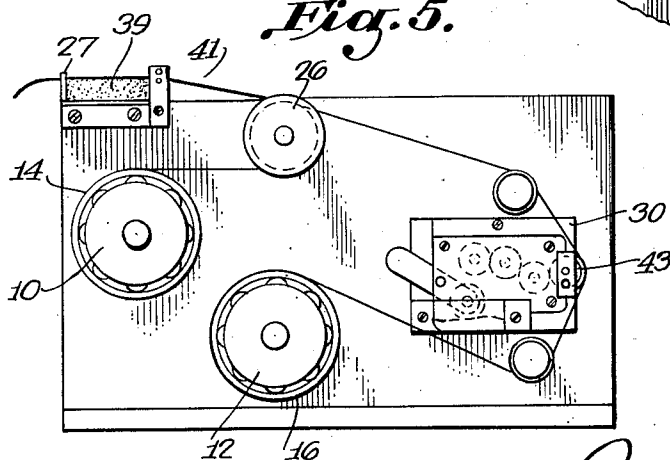


Fig. 5.



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UNITED STATES PATENT OFFICE

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IDENTIFICATION TAPE AND METHOD OF
MAKING SAME

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Original application July 18, 1942, Serial No.
451,490. Divided and this application January
24, 1945, Serial No. 574,390

2 Claims. (Cl. 154—121)

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This invention relates to a method of marking, for identification purposes, small assembly parts by means of a particular identification tape and a machine for making the tape as it is needed, and dispensing such tape in a manner that facilitates the application of the tape to the material to be marked.

This application is a division of application Ser. No. 451,490, filed July 18, 1942, now abandoned.

In many industries, particularly in the aircraft industry, there are many parts, such as tubes and insulated wires, that are preformed for assemblies. These parts must be labelled or tagged in some manner so that they may be easily identified for the assembly purposes, and such identifying means must not interfere with the handling, storage or assembly. Some parts can easily be stamped or labelled, but great difficulty has been encountered in marking or labelling preformed lengths of insulated wire or small diameter aluminum tubing. It is practically impossible to stamp these and items of a similar nature and size. Bands of colored paint or dye have been found to be inadequate due to the difficulty in applying them and the limited number of items capable of being identified by this method.

By this invention, a method is provided whereby a simple and permanent identification marking may be applied to small tubes and wires.

An object of the herein disclosed invention is to provide a simple machine for printing identification tape and dispensing the tape as it is needed for immediate application to the object to be marked.

A further object is to provide means whereby the single machine will print as much identification tape as may be needed for the number of separate items to be marked.

Another object is the provision of means whereby the same machine will print many different tapes.

Elimination of waste of printed tape is accomplished by this device, as the tape is printed only as needed.

With this machine it is not necessary to stock many different rolls of printed tape, but only stock the necessary printing dies.

Further objects of the present invention will become more apparent from the description of the accompanying drawings which form a part of the disclosure and wherein like reference numbers refer to like parts. It is to be understood that certain changes, substitutions, alterations and modifications may be made without departing from the spirit and scope of the appended claims.

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In the drawings:

Figure 1 is a side elevation of the tape printing and dispensing device,

Figure 2 is an end view of the same,

Figure 3 is a partial plan showing an enlarged view of the printing roll and transparent tape,

Figure 4 is an enlarged view of the dispensing means illustrating the application of the tape to a tube, and

Figure 5 shows a modification of the invention.

Referring to Figure 1, numeral 6 designates a base plate which supports a mounting plate 8 on which are mounted reels 10 and 12 which rotatably support rolls of adhesive tape 14 and 16 of the "Scotch Tape" variety. The reels 10 and 12 have spaced projections 18 extending longitudinally of the periphery of the reels over which the rolls of tape snugly fit. Spring tension member 20 restrains the reels as the tape is dispensed. Guide rollers 22 and 24 guide the tape from rolls 14 and 16 with the tacky side away from the roller to the combining roller 26. The combined tape passes over roller 26 to the dispensing means 28.

The printing means 30, consists primarily of a printing roller die 32 and inking rollers 34 and ink reservoir 36. Inking roller 38 is actuated by lever 40 to convey ink from the reservoir to rollers 34.

The printing roller die 32 is made up of a number of discs 33 having numbers on the peripheries of the discs. These discs are secured together on the shaft 35 by the securing means 37. Figure 3 shows a four digit number assembled on the shaft, but, obviously, any number of digits may be so formed by numbered discs and blanks.

The dispenser 28 comprises a bracket 29 having a tape guide 31, a sponge rubber pad 39, and shear or tearing edge 27.

The operation of the device is as follows:

A roll of plain colored or white tape 16 is placed on reel 12. A roll or transparent tape 14 is placed on reel 10. The tapes 14 and 16 pass over guide rollers 22 and 24, respectively, with the tacky side outwardly of said rollers. Transparent tape 14 in passing over printing roller 32 has a number or other identifying mark printed on the tacky side as shown in Figure 3. The ink on the printing die prevents the tape from sticking to the roller 32. The tapes 14 and 16 pass over and combine on roller 26. The transparent tape forms a cover for the under tape. The under tape forms a background for the numbers printed on the tacky side of the transparent tape. From roller 26, the combined tape faces upwardly. The tube 25 to be tagged or labelled is then placed across the tape 42 as shown in Figure 4 and rolled

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on the sponge rubber pad 39 to insure proper pressure to make the tape stick. After one revolution of the tube, the tape is torn off on shearing edge 27.

A tube can then be easily and permanently marked in the manner described as shown in Figure 4. Much of the tubing in aircraft assemblies is used in the hydraulic systems. If ordinary printed tape is used for such tubing and oil or grease gets on the printing due to handling while being installed or from leakage, the printing is usually smeared or obliterated. A tube marked in the manner described as a part of this invention is permanently marked. The printing is protected by the transparent tape and if covered with oil or grease can be easily wiped off without impairing the identifying marking.

It is also contemplated that in instances where the tube 25 to be marked has a light colored surface, the tape printing and dispensing machine may be used with only the transparent tape in place. The identifying mark placed on the under side will be clearly visible against the light background and be fully protected by the transparent tape.

Figure 5 shows a modified form of the machine for printing the identifying marking on the tape 16 and covering the marked tape with the transparent tape 14. If the tape 16 is of the cellulose "scotch tape" variety, it may be difficult to get ordinary printing ink to make a clear symbol, but it can be done with special ink. Roller die 43, must have the numbers on it in reverse to those of roller 32 of Figure 1 so that they may be read through the transparent tape. Roller die 43 may be constructed in the same manner as die 32, of number-carrying discs, making up the required number of digits. The tapes are combined on roller 26 and the combined tape 41 thus printed passes to the dispenser and is applied as above described.

An advantage of this invention is that in either of the above disclosed tape printing devices, it is merely necessary to stock a relatively small number of discs and blanks to make the printing rollers from which may be produced a large number of identifying tapes. Obviously, this saves stocking thousands of rolls of printed numbered tape, much of which might never be used.

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We claim as our invention:

1. The method of making identification tape comprising supplying two strips of tacky adhesive tape, one a background base tape and the other a transparent cover tape, said tapes each consisting of a water, oil and ink resistant, liquid-tight cellulose carrier having a layer of tacky adhesive secured to one surface thereof, printing identification indicia with wet ink by reversed type on said cover tape adhesive so that said indicia will be clearly readable through said cover tape, and securing said cover tape to said base tape carrier by means of said cover tape adhesive whereby said indicia is completely protected by said water oil and ink repellent carriers.

2. An identification label comprising a transparent cover tape consisting of a water, oil and ink repellent liquid-tight cellulose carrier having a layer of tacky adhesive secured thereto, identifying indicia of ink carried by said cover tape adhesive so as to be clearly readable through said cover tape carrier, and a background base tape consisting of a water, oil and ink repellent, liquid-tight cellulose carrier having a layer of tacky adhesive secured thereto, said base tape carrier being secured to said cover tape by means of said cover tape adhesive whereby said indicia is completely protected by said water, oil and ink repellent carriers.

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