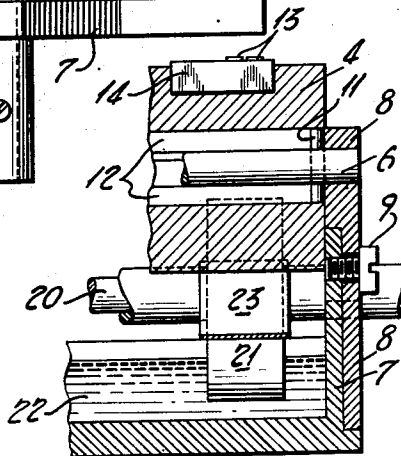
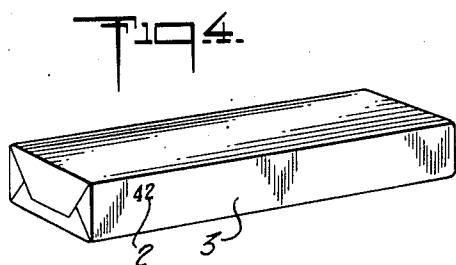
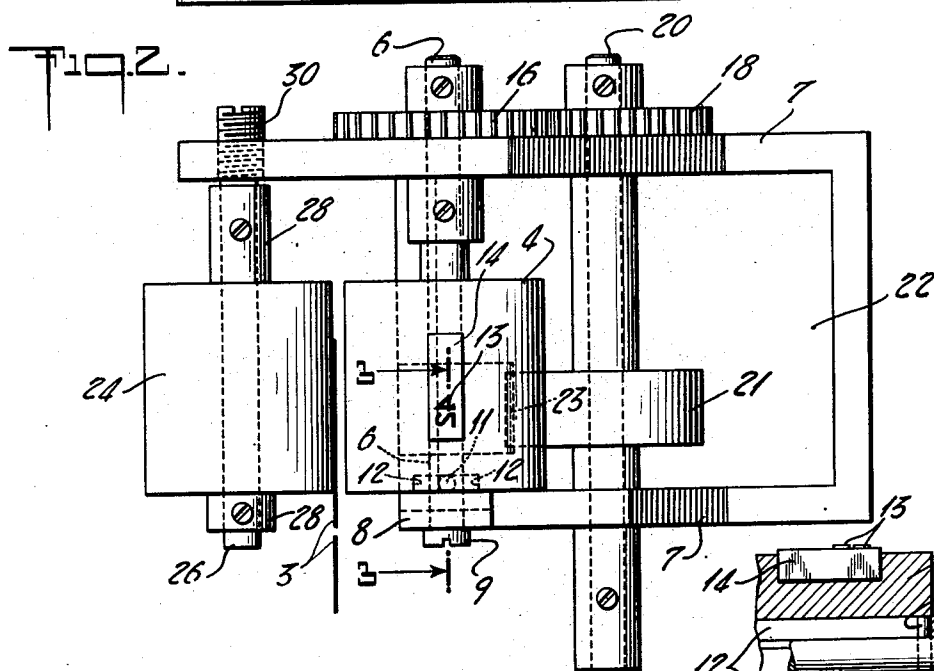
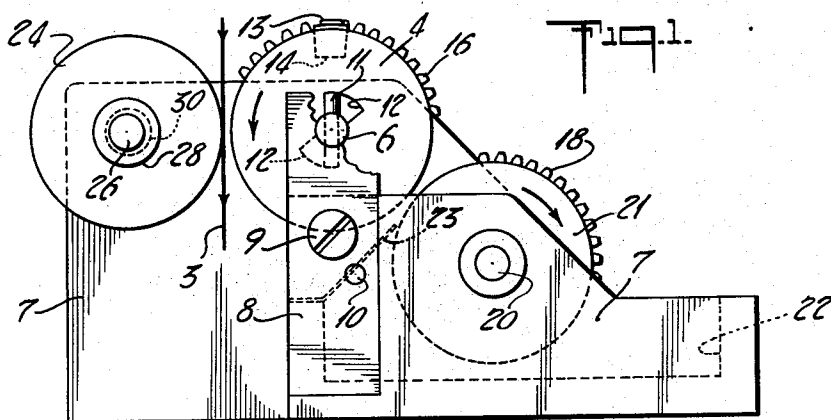


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LOST MOTION DRIVE FOR ROTARY PRINTING DEVICES

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LOST MOTION DRIVE FOR ROTARY
PRINTING DEVICES

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The present invention relates to printing devices, and has special reference to devices for repeatedly applying a code mark or other designation on a web of labeling or wrapping material previously to the web being cut into separate labels or wrappers, each wrapper bearing the designation in a specific location.

The principal object of the invention is to provide a device of this character which is simple in construction and convenient in use, and which insures proper location of the indicia irrespective of variations in speed of the feeding of the web.

Another object of the invention is to provide a device of this character in which the type may be easily removed and replaced, thus enabling various distributors' code or other indicia to be printed without the trouble and expense of maintaining on hand stocks of labels or wrappers and the necessary engraving.

The several features of the invention, whereby these and other objects may be attained, will be readily understood from the following description and accompanying drawings, in which:

Figure 1 is a side view, with certain parts broken away of a printing device shown operating on a web of cellophane or other wrapping material which is subsequently cut into labels or wrappers;

Fig. 2 is a plan view of the same;

Fig. 3 is a sectional view, taken on the line 3-3 of Fig. 2; and

Fig. 4 is a view in perspective of a package of chewing gum with a code marking printed on the label or wrapper thereof by the device.

The printing device illustrated in the drawing is particularly adapted for repeat printing a code mark or other designation 2 on a web of cellophane or other wrapping or labeling material 3 as the web is fed to cutting-off knives which sever the web into separate wrappers to be subsequently wrapped about the chewing gum or other articles. The code mark 2 is printed in a specific location on the label or wrapper of each chewing gum or other package (Fig. 4).

As shown the device comprises a type-carrying roll 4 arranged adjacent one side of the web. This roll is mounted on a shaft 6 that has one end journaled in a bearing in one of the side frames 7 and its other end journaled in a bearing in a bracket member 8 detachably secured in a recess in the other side frame 7 by means of a cap screw 9 and a pin 10. The roll 4 is connected to the shaft 6 through a pin 11, the ends of which extend into slots 12 in the roll. The type 13 which is of rubber is cemented on a separate insert 14 which

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is set in a recess in the roll 4, the type projecting beyond the peripheral surface of the roll. Upon removing the bracket member 8 the type-carrying roll 4 may be easily removed and replaced.

The further end of the shaft 6 (viewing Figs. 1 and 2) carries a gear 16 which is operatively engaged by a gear 18 on a shaft 20 that carries an inking roll 21 which extends down into an ink pot or reservoir 22, a doctor blade 23 being associated with the roll 21. The shaft 20 through its other ends is driven in timed relation to the normal feeding of the web 3 and the web severing and wrapping devices of the machine. As the mechanism for driving the shaft 20 forms no part of the present invention, the same is not shown in the drawings.

The device is further provided with a platen roll 24 which is mounted to turn on a stud shaft 26 between collars 28 secured thereon. The shaft 26 is secured to or made integral with a screw 30 that is screw-threaded in an aperture in one of the side frames 7. The shaft 26 has its axis arranged slightly eccentrically of the axis of the screw 30 so that by turning the screw slight adjustments of the platen roll 24 may be made in a direction toward and from the web 3.

With this construction, during the normal operation of the device with the web 3 driven at the same speed as the surface speed of the type 13, the inked type engages the web 3 so as to print the desired indicia in a specific location on each wrapper design portion of the web during each revolution of the type roll, the resilient type by applying pressure to the platen roll 24 through the web, causing the platen roll to rotate therewith. As the type 13 projects a distance beyond the surface of the roll 4, as it passes out of engagement with the web the remaining surface of the roll is free of the web. The pressure exerted on the web by the type 13 and platen roll 24 may be varied by adjustment of the screw 30.

In wrapping machines such as gum wrapping machines in which there is repeat printing of a label design on the web fed to the machine, the speed of the web is commonly controlled by means of an electric eye so as to vary its speed to compensate for imperfect printing, thus insuring the individual labels or wrappers being cut off at the proper points by the cutting-off knives of the machine.

In the present device, in case the speed of the web 3 is thus increased by the electric eye, upon the type 13 engaging the web the pin and slot connection between the type carrying roll 4 and its shaft 6 enables the speed of said roll to be

correspondingly increased due to the pressure of the type and platen on the web, and thus the type is caused to travel at the same speed as the web until the type passes out of printing engagement with the web. After the type thus disengages from the web, said pin and slot connection permits the shaft to again pick up the roll and drive it at its normal speed, and thus cause the type to again engage the web at the completion of one revolution thereof. Thus irrespective of any increased speed of the web the type moves at the same speed as the web when printing and the printing is applied at a specific location on each label or wrapper design.

It will be apparent that the complete printing roll can be very readily removed, and the rubber type mounted on the separate insert, may be removed for quick change. By providing extra printing rolls and extra inserts on which the rubber type is cemented, a minimum change time is required for changing the customer's code mark, date, or other designation.

The machine is simple in construction and convenient in use, and is of small size so that it may be installed in a restricted area. For convenience of illustration, the views of the drawings are enlarged but in the actual device used in association with a machine for wrapping five cent packages of chewing gum with cellophane, the type-carrying roll is only approximately one inch in diameter, and the other parts of the machine are correspondingly of smaller size than shown in the drawing.

As will be evident to those skilled in the art, our invention permits various modifications without departing from the spirit thereof or the scope of the appended claims.

What we claim is:

1. In a device for printing on a web as the web is being fed to the wrapping devices of a wrapping machine of the class described, the web normally being fed at a constant speed but the speed thereof being adapted to be increased, a freely rotatable platen roller mounted for engagement with one side of the strip, a type-carrying roll having its type arranged in a predetermined position on the peripheral surface thereof and projecting outwardly therefrom, said type being adapted to intermittently engage the other side of said web tangentially of the platen roller during rotation of the type-carrying roll, a shaft on which the type-carrying roll is mounted driven in timed relation to the speed of said normal feed-

ing of the web, and a pin and slot lost motion connection between the type-carrying roll and its shaft whereby the type is driven at the same surface speed as the normal feeding of the web and in case the speed of the feeding of the web is increased the type through contact with the web causes the speed of the roll to be correspondingly increased relatively to its shaft until the type passes out of printing engagement with the web whereupon the roll is again driven by its shaft.

2. In a device for printing on a web as the web is being fed, the web being normally fed at a constant speed but the speed thereof being adapted to be increased, a freely rotatable platen roller mounted for engagement with one side of the web, a type-carrying roll having its type arranged in a predetermined position on the peripheral surface thereof and projecting outwardly therefrom, said type being adapted to intermittently engage the other side of said strip tangentially of the platen roller during rotation of the type-carrying roll, a shaft driven in timed relation to the speed of said normal feeding of the web, and a lost motion connection between the type-carrying roll and said shaft whereby the roll is driven by said shaft to cause the type to travel at the same surface speed as the normal feeding of the web and in case the speed of the feeding of the web is increased the type through contact with the web causes the speed of the roll to be correspondingly increased relatively to said shaft until the type passes out of printing engagement with the web whereupon the roll is again driven by said shaft.

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