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W. F. INMAN

TAPE PRINTING AND MOISTENING DEVICE

Filed Feb. 6, 1922

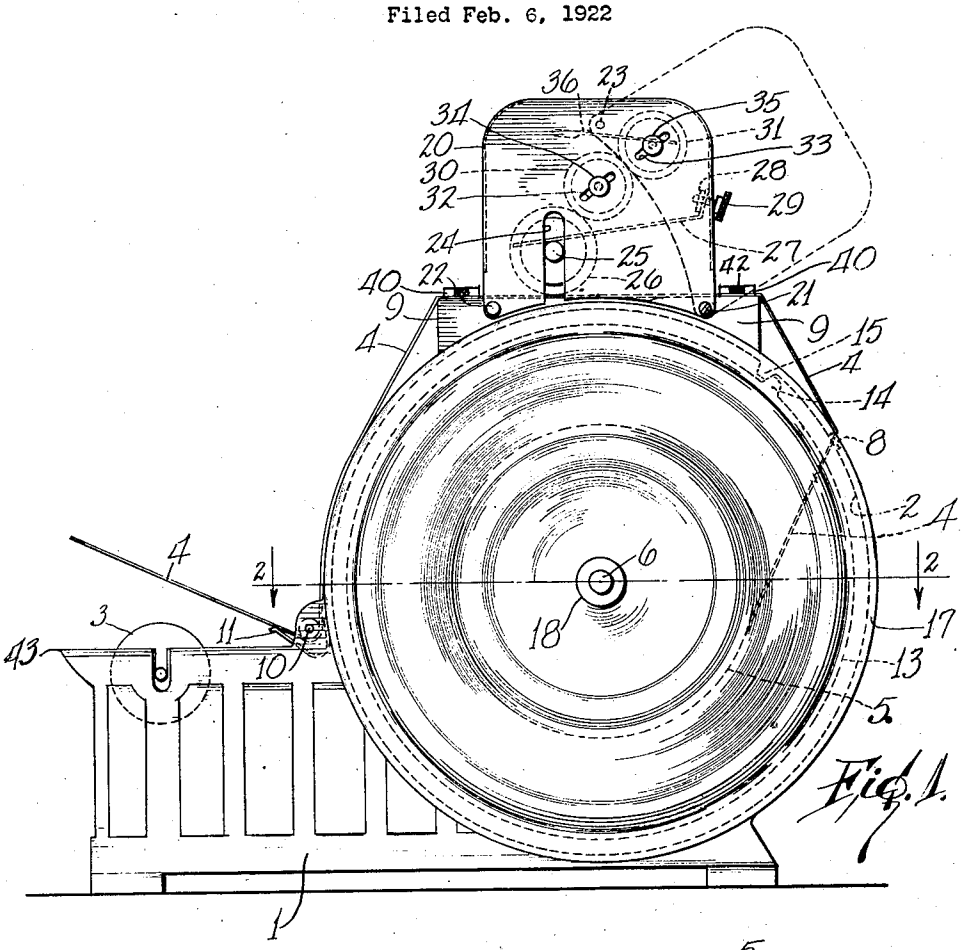


Fig. 1.

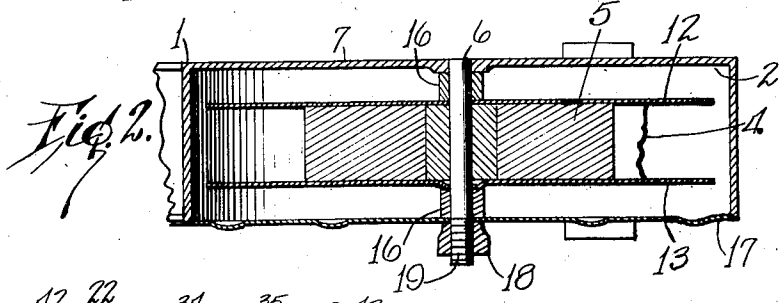


Fig. 2.

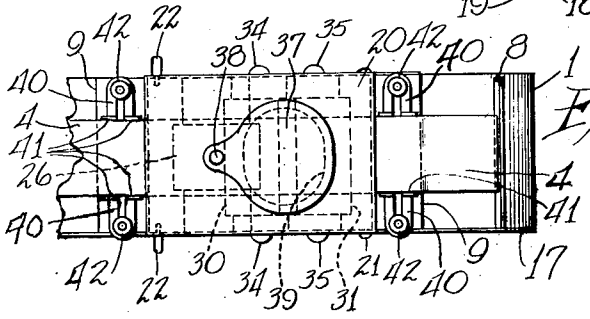


Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM F. INMAN, OF CHICAGO, ILLINOIS.

TAPE PRINTING AND MOISTENING DEVICE.

Application filed February 6, 1922. Serial No. 534,555.

To all whom it may concern:

Be it known that I, WILLIAM F. INMAN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tape Printing and Moistening Devices, of which the following is a full, clear, and exact description.

My invention relates to improvements in tape printing and moistening devices, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a tape printing and moistening device which is adapted to use any width of tape.

A further object of my invention is to provide a device of the character described in which the printing roller for the tape may be changed at will, whereby the reading matter on the tape may be varied.

A further object of my invention is to provide a novel inking means for the printing roller.

A further object of my invention is to provide a novel spring means for varying the pressure exerted by the printing roller on the tape.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which

Figure 1 is a side elevation of the device,

Figure 2 is a section along the line 2—2 of Figure 1, and

Figure 3 is a top plane view of a portion of the device.

In carrying out my invention, I provide a casing 1 which has a tape roll receiving compartment 2 therein, and which has a water receiving compartment in the front end thereof. The casing 1 carries a moistening roller 3 over which the tape 4 is adapted to be passed. It will be observed from Figures 1 and 2 that the roll of tape 5 is carried by a shaft 6, which in turn is secured to the side wall 7 of the compartment 2. The tape 4 is passed through a slot 8 in the cylindrical wall of the casing 2, is passed over a flat block-shaped portion 9 that is carried by the casing 2, and then is passed down around the roller 10, which is carried by the casing 1. A spring clip 11 normally keeps the tape 4 out of contact with the moistening roller 3.

The means by which the tension on the roll 5 is varied at will, comprises a flexible disc 12 and a flexible disc 13 which are disposed on each side of the roll 5 and are loosely mounted upon the shaft 6. As clearly shown in Figure 1, the discs are each provided with a lug 14 which is adapted to engage with a lug 15 carried by the casing 1, thereby preventing the rotation of the discs with the roll. In Figure 2, I have shown a tape 4 as being narrower in width than is the width of the casing 2. It is essential that the roll 5 be centered with respect to the casing 2, and to this end, I provide sleeves 16 which are disposed on the shaft 6 and which abut against the outer surfaces of the discs 12 and 13. The sleeves 16 are of such length, as to center the roll 5 with respect to the casing 2. In case a roll of wider or less width is used, the sleeves 16 may be entirely done away with or may be varied in length so as to automatically center the roll of tape. A cover plate 17 is mounted on the shaft 6, and is securely held against the peripheral wall of the casing 2 and the outer end of the sleeve 16 by means of a nut 18 which is screwed onto the threaded portion 19 of the shaft 6. It will be seen from this construction that by merely rotating the nut 18, the discs 12 and 13 may be moved so as to vary the gripping force on the roll 5. It is obvious that the greater the gripping force exerted by the discs 12 and 13 on the roll 5, the greater the force required to remove the tape 4 from the device.

The roll of tape 5 has a gummed surface, and has a plain surface on which the printing roller is adapted to engage. A housing 20 is carried by the block 9 and is pivotally secured thereto at 21. As clearly shown in Figure 1, the housing may be swung from the full line position to the dotted line position, and may be rigidly secured to the block 9 by means of the pins 22 which are inserted through openings 23 in the housing and into openings in the block 9. The housing 20 is provided with alined slots 24 therein which are adapted to slidably receive the trunnions 25 of a printing roller 26. The printing roller 26 is yieldingly held in engagement with the tape 4 by means of a spring 27. The spring 27 is rigidly secured to a nut 28, and the nut in turn is

adapted to receive a bolt 29 which projects through the wall of the casing 20. The spring 27 is bent at such an angle that when the bolt 29 is rotated, it will exert a greater or less pressure against the trunnions 25.

The roller 26 is supplied with ink by means of ink rollers 30 and 31 which have their trunnions 34 and 35, respectively, slidably disposed in slots 32 and 33. The roller 31 is adapted to contact with the roller 30, which in turn is adapted to contact with the roller 26. A spring 36 is carried by the housing 20 and is adapted to yieldingly hold the roller 31 against the roller 30. In this manner, the rollers 31, 30, and 26 are always contacting each other. A cover 37 is pivotally secured to the top of the housing 20 at 38, and is adapted to normally close an opening 39 in the housing 20. When it is desired to add more ink to the printing roller 26, the cover 27 is moved about its pivot 38 so as to permit the liquid ink to be poured onto the rollers 31 and 30. It is a well known fact, that by providing the roller 30 between the roller 31 and the roller 26, the ink is uniformly spread throughout the entire length of the printing roller 26. In this manner, the ink carried by the printed surface of the roller 26 is uniformly disposed on the tape 4.

The tape 4 is automatically centered with respect to the roller 26 by means of tape guides 40 which are disposed on each side of the tape and are carried by the block 9 (see Figures 1 and 3). Each of the guides comprises a strip of metal which is U-shaped and which has its ends bent upwardly so as to provide tape guiding surfaces 41. It will be observed from the drawing that two guides are mounted on each side of the housing 20 and are disposed on opposite sides of the tape 4. The guides 40 are secured to the block 9 by means of set screws 42 which are carried by the block. This construction permits the guides 40 to be moved toward or away from each other so as to accommodate various widths of tape.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. Water is placed in the water compartment (not shown) and the desired amount of tape 4 is passed over the wetting roller 3 so as to be moistened and is then severed from the roll of tape by means of the cutting edge 43. As the tape 4 is removed from the device, it passes beneath the roller 26 and receives the inked impressions of the characters carried by the roller. In this way, the tape is printed as it is used, and the printing matter may be readily changed at will by merely changing the printing roller 26. As heretofore stated, the pressure of the roller 26 on the tape 4 may be varied at will by merely rotating the bolt 29. The force required to remove the tape from the device may also be varied at will by merely rotating the nut 18 as has hereinbefore been described.

From the foregoing, it will be observed that I have provided a simple and efficient device in which a roll of tape is printed as it is withdrawn from the device, and in which the spring tension on the roll of tape may be varied at will. It is also to be noted that I have provided a device in which a tape of any width may be readily used. The device is very simple in operation and is not likely to easily get out of order.

I claim:

1. In a device of the type described comprising a block adapted to support a strip of tape, a housing having an open side adapted to receive a portion of said block, said housing being pivotally secured to said block and having a pair of alined slots therein, a printing roller slidably disposed in said slots, adjustable spring means for yieldingly holding said roller in engagement with said block, and pins adapted to rigidly secure said housing to said block.

2. In a device of the type described, the combination with a block adapted to carry a strip of tape, a tape printing means carried by said block, and a housing for said tape printing means, of a tape centering means carried by said block, said means comprising paper guides disposed on each side of said housing, and adapted to be disposed on each side of a tape strip, each guide consisting of a piece of U-shaped metal having its ends bent at right angles thereto, and set screws adapted to adjustably secure said guides to said block.

3. In a device of the type described comprising a block adapted to support a strip of tape, a housing having an open side adapted to receive a portion of said block, said housing being pivotally secured to said block and having a pair of aligned slots therein, a printing roller slidably disposed in said slots, adjustable spring means for yieldingly holding said roller in engagement with said block, and means adapted to rigidly secure said housing to said block.

4. In a device of the type described, the combination with a block adapted to carry a strip of tape, a tape printing means carried by said block, and a housing for said tape printing means, of a tape centering means carried by said block, said means comprising paper guides disposed on each side of said housing, and adapted to be disposed on each side of a tape strip, each guide consisting of a piece of U-shaped metal having its ends bent at right angles thereto, and means adapted to adjustably secure said guides to said block.

WILLIAM F. INMAN.