May 11, 1937. C. F. MILLER 2,080,056

TAPE PRINTING ATTACHMENT FOR LAUNDRY MARKING MACHINES

Filed Jan. 16, 1935 2 Sheets-Sheet 1

Fig. 1

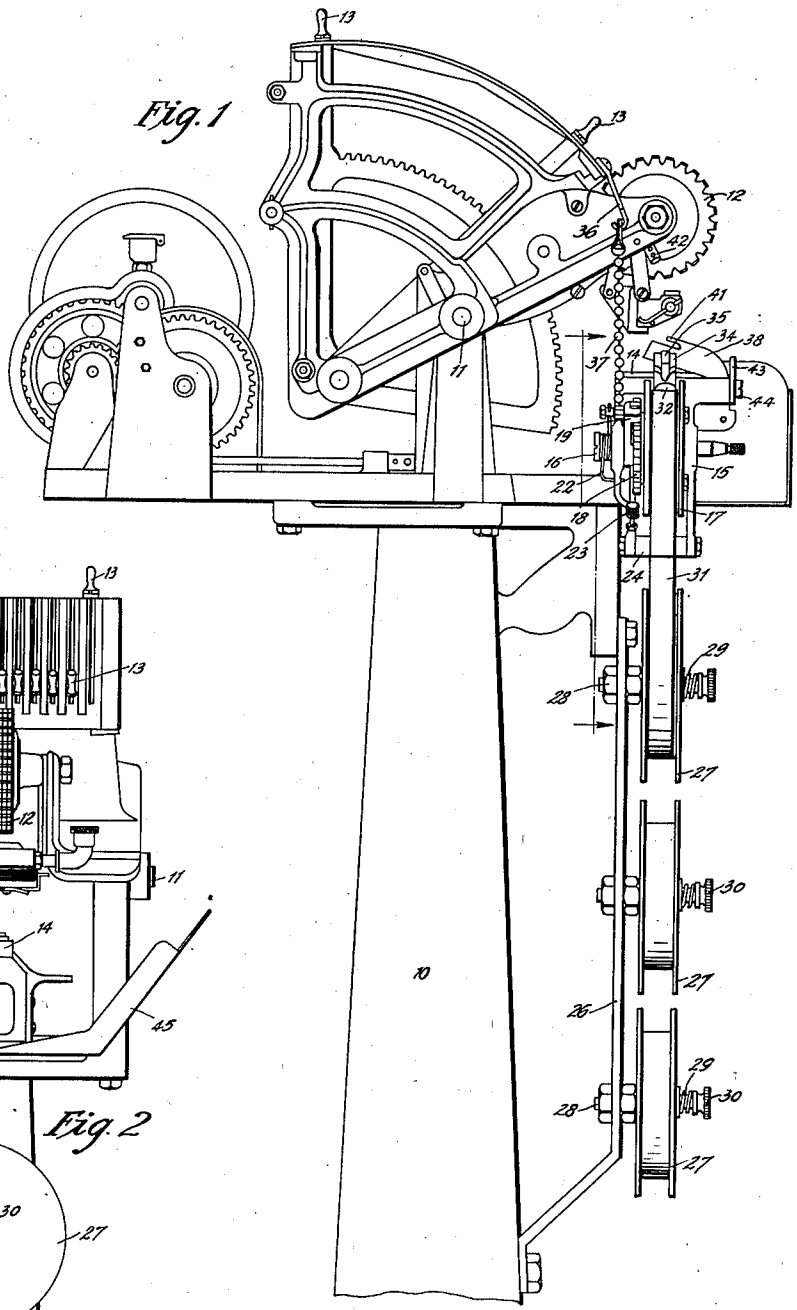
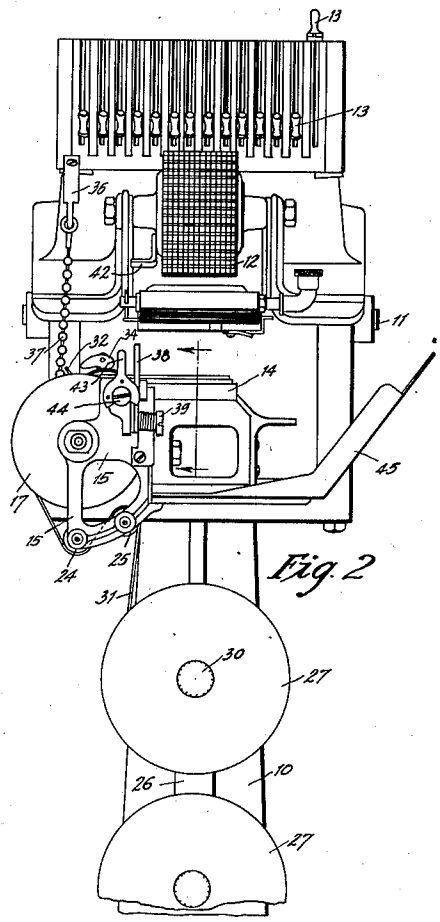


Fig. 2



Inventor

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by Owrig & Hague Attys.

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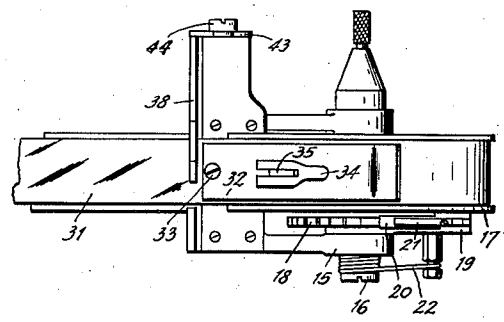
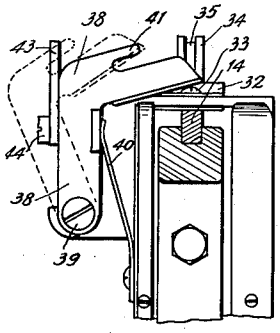


Fig. 5.

Fig. 6



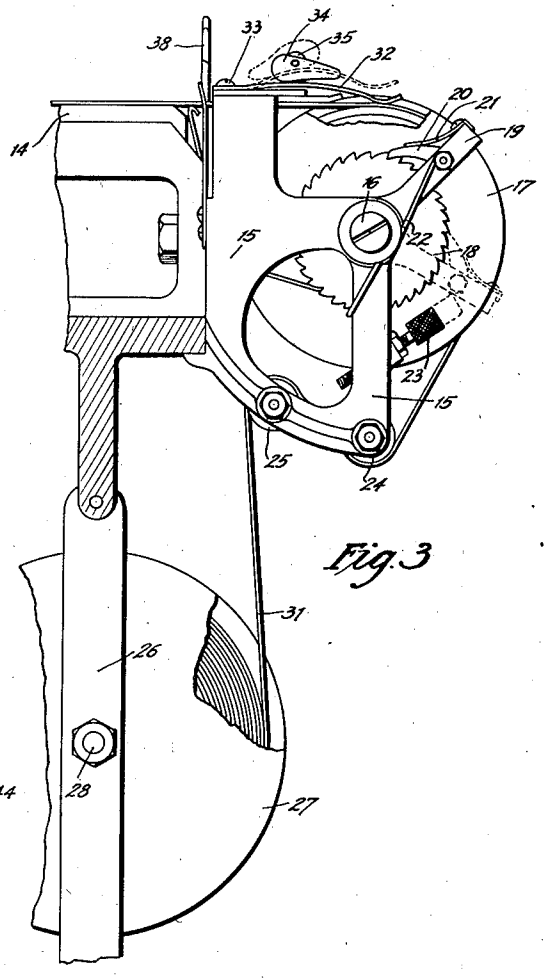


Fig. 3

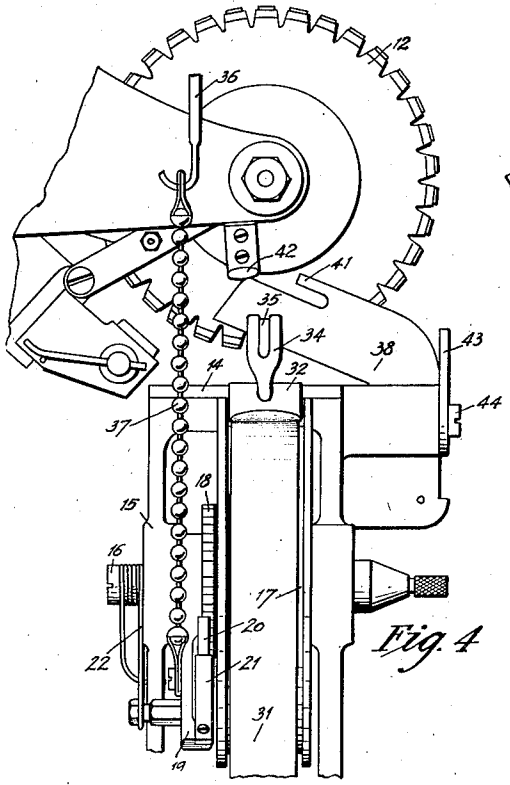


Fig. 4

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UNITED STATES PATENT OFFICE

2,080,056

TAPE PRINTING ATTACHMENT FOR LAUNDRY MARKING MACHINES

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Application January 16, 1935, Serial No. 2,013

1 Claim. (Cl. 101—288)

In the art of laundry marking it is the present custom to employ a laundry marking machine having type which may be selectively moved to printing position and there retained in such position. Then all of the laundry articles from a customer are placed by the operator one by one upon the platen and the type carrying member is then moved by power toward the platen to impress the type upon the article held upon the platen.

There are, however, numerous articles sent to commercial laundries upon which it is not desired to print the owner's name, such, for instance, as handkerchiefs, ladies' underwear, and the like. Furthermore, there are numerous articles of black color upon which a laundry mark printed in black ink would not show.

To provide for these articles which cannot be printed upon, laundries now frequently employ what is known as the net system, in which the various groups of laundry articles belonging to the customer are placed in nets for washing, and the customer's name or laundry mark is printed or otherwise affixed to the net so that they may be properly redistributed.

In addition to this, there is now employed a so-called tab identification which consists in placing the laundry mark upon a suitable tab or tape, and then affixing the tab or tape to the article to be marked. These marking systems other than printing are objectionable in that they cannot be easily and conveniently applied with the customer's identification mark in the same manner as this mark is applied to laundry articles on which printing may be employed.

The object of my invention is to provide a machine in the nature of an attachment which may be readily, quickly and easily applied to the laundry marking machine of ordinary construction, and, when so applied, the type for the customer's identification mark may be first set to printing position on the marking machine and then all of the articles in a customer's bundle may be provided with the same mark by first printing the mark in the usual manner upon such articles to which it may be properly applied, and then using the same marking machine for printing the same mark upon tape and automatically cutting the tape to suitable length for the required number of the remaining articles not marked by printing, and then thereafter these properly marked tapes may be affixed to the remaining articles, and laundered, and then removed.

More specifically, it is my object to provide an improved and simplified means for advancing a tape through the printing mechanism and then automatically cutting it off to any desired predetermined length.

A further object is to provide means of simple and inexpensive construction whereby the operator may readily and quickly throw the tape printing machine into or out of operative position relative to the printing machine.

A further object is to provide improved means for throwing the tape cutting mechanism into or out of its operative position.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 shows a side elevation of a laundry marking machine having my improved tape printing attachment applied thereto.

Figure 2 is a front elevation of same.

Figure 3 is a vertical transverse sectional view taken on the line 3—3 of Figure 1.

Figure 4 shows an enlarged detail side elevation illustrating a portion of the type carrying member and a portion of the tape advancing and cutting mechanism, and particularly illustrating the means for actuating the tape advancing mechanism and for operating the tape cutting knife.

Figure 5 shows a detail plan view illustrating the mechanism for advancing the tape, and the tape cutting knife; and

Figure 6 shows a sectional view taken on the line 6—6 of Figure 2 and illustrating the tape cutting knife in position for cutting tape, and also by dotted lines in position where it will not be operated by the movement of the printing mechanism.

The marking machine of itself forms no part of my invention, and the one illustrated in the accompanying drawings is of a type well known to the commercial laundries and those skilled in the art. Hence, it is not herein fully illustrated or described.

The marking machine comprises a base or stand 10, having pivoted to its upper end at 11 a rocking type carrying member, type being arranged on discs 12 which are set to printing position by means of the levers 13. During this operation the type carrying member swings downwardly until the type engage the stationary platen 14.

My improvement comprises a bracket 15 fixed

in position on the stand 10 adjacent one end of the platen 14. Mounted in this bracket is a pivot pin 16 on which is rotatably mounted a tape advancing roller 17, the surface of which is preferably made of a soft or yielding material such as rubber.

Fixed to one side of the tape feeding roller 17 is a ratchet wheel 18. An arm 19 is pivoted to the pin 16 and carries a pivoted pawl 20, and a spring 21 is provided for holding the pawl against the ratchet wheel. This arm 19 is yieldingly returned to its lower limit of movement, as shown in Figure 3, by a spring 22.

I have provided means for adjustably limiting the downward movement of the arm 19 by means of a screw 23 mounted in the bracket 15, with its head arranged in the path of the arm 19. In Figure 3 I have shown by dotted lines the position of this head when adjusted to position for shortening the stroke of the ratchet bearing arm 19.

At the bottom of the bracket 15 I have provided two rollers 24 and 25. Fixed to the machine frame is a bracket 26, and mounted upon this bracket are three tape spools 27 rotatably supported on bolts 28. Springs 29 are placed on these bolts and their tension adjusted by nuts 30 for applying friction to the spools so that the tape may be drawn more or less freely from the spools. The tape 31 from one of the spools is passed upwardly over the roller 25 and downwardly under the roller 24, and then over the tape advancing roller 17 and over the platen 14, as illustrated in Figure 3.

For the purpose of holding the tape to the tape feeding wheel 17 with sufficient force to cause the tape to be advanced when the tape advancing roller is rotated, I have provided a presser plate consisting of a spring 32 fixed at 33 to the bracket 15 and curved downwardly toward the top surface of the roller 17, and then upwardly. This spring normally assumes the position shown by dotted lines in Figure 3, spaced upwardly above the roller 17, and for the purpose of at times holding the spring presser plate to its operative position relative to the roller 17 I have provided a cam 34 pivoted to an arm 35 which extends upwardly through the plate 32. When this cam is moved to position shown by the solid lines in Figure 3 the presser plate is held downwardly, and when the cam is moved to position shown by dotted line, then the presser plate will move upwardly to the dotted line position.

For operating the pawl bearing arm 19 at the proper time with relation to the movement of the printing machine, I have provided a hook 36 fixed to the type bearing member, and a flexible chain 37 connected to the hook and also connected to the pawl bearing arm 19, so that when the type move downwardly toward the platen, the pawl 20 will be moved by the spring 22 to its lower limit of movement, and during this operation the type advancing roller is stationary. Then, when the type carrying member moves upwardly, the pawl 20 engages the ratchet 18 and moves the type advancing roller over the platen a distance predetermined by the length of the stroke of the pawl bearing arm 19, and since the length of this stroke may be adjusted by the screw 23, the tape may be advanced any desired pre-determined distance upon each operation of the type bearing member.

For the purpose of cutting the tape I have provided a knife 38 pivoted to the bracket 15 by the pivot pin 39. The knife body normally extends upwardly, as shown in Figure 6, and then laterally over the tape and between the roller 17 and the platen 14. A spring 40 is provided for normally holding the knife in its open position, as shown by dotted lines in Figure 6. At the top of the knife 38 there is an arm 41. Fixed to the type bearing member is an arm 42, and this arm is so shaped and positioned that during the downward movement of the type bearing member the arm 42 will engage the top of the knife 38 and move it downwardly to cutting position, and during this movement the arm 42 will slide under the arm 41, and then during the upward movement of the arm 42 the knife will be raised, and when raised to a limited extent, the arm 42 will slide out from under the arm 41.

When it is desired to hold the knife in its inoperative position so that it will not be engaged by the arm 42, I have provided a pivoted plate 43, on the pivot pin 44, and this plate is so shaped that when moved to one position it will limit the movement of the knife 38 outwardly, and thereby hold the knife in position to be engaged by the arm 42, and when the said plate 43 is moved to another position it will permit the knife 38 to be swung outwardly by the spring 40 to position where the arm 42 will not engage the knife.

Mounted below the platen is a tray 45 to receive the severed portions of tape as they fall from the platen.

In practical operation the operator places a customer's bundle of articles to be laundered in position conveniently accessible to the operator, then the operator adjusts the type bearing discs to proper position for printing the owner's name or other laundry mark, and then the operator selects from the bundle those articles which should properly be marked with permanent ink, and these articles are thus marked in the ordinary manner. Then, assuming that there are ten articles in the customer's bundle which should not be marked with permanent ink, the operator adjusts the tape clamping plate 22 to its proper position by manipulation of the cam 34, and he also moves the knife 38 toward the platen and moves the knife limiting plate 43 to position for holding the knife in its operative position. He then operates the printing machine ten times in the usual manner, and in each operation a tape is advanced to printing position, printed upon and cut off and dropped into the tray 45, so that there is exactly the same number of printed tapes as there are unmarked articles to be laundered. Then these tapes are affixed by sewing, clips or otherwise, to the articles, and may then be put through the laundering processes. Upon redistribution of the laundered articles all of the articles will have identical marks, thus assisting in the accuracy of the redistribution. After marking one customer's bundle the cam 34 and the knife limiting plate 43 are moved to their normal positions, and the tape feeding and cutting mechanism is thereby made inoperative.

With my improved machine none of the tape is wasted, and the tape need not be rolled back upon its spool when the tape advancing mechanism and cutting knife are in inoperative positions.

I claim as my invention:

A tape printing attachment for laundry marking machines of the class in which a type bearing head moves toward a platen, comprising a tape feeding roller fixed to the marking machine frame with its top surface approximately in the plane of the top surface of the platen, means for

advancing the tape feeding roller a pre-determined distance upon each movement of the type bearing head, and a means for pressing a tape against the roller whereby the movement of the roller will advance the tape, said means comprising a spring fixed at one end to the frame and projected approximately in the plane of the top of the platen to a point spaced above the roller and out of engagement with a tape on the roller, and manually operable means applied to the central portion of the spring for forcing the free end of the spring toward the roller whereby the resiliency of the spring will yieldingly hold a tape into such contact with the roller that a rotation of the roller will advance the tape.

CHARLES F. MILLER.