

Aug. 18, 1931.

J. KRELL

1,819,561

PRINTING MACHINE FOR PRINTING STRIPS OF MATERIAL

Filed June 7, 1928

2 Sheets-Sheet 1

FIG. 1.

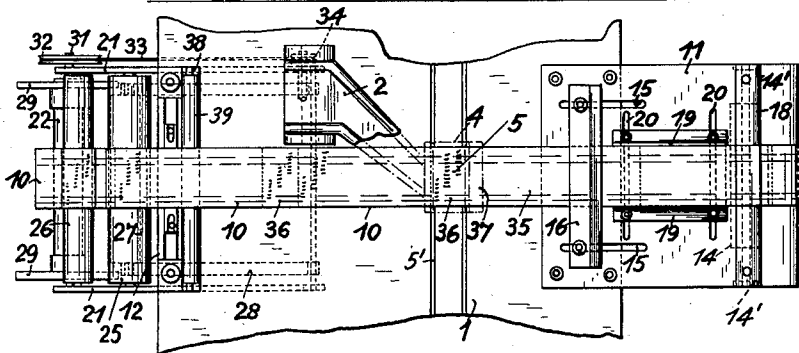
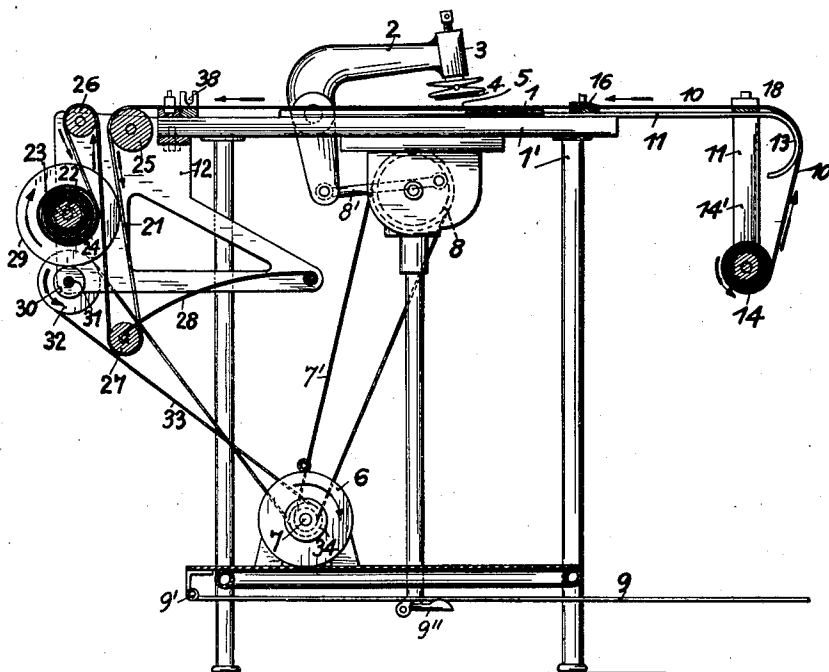


FIG. 2.

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FIG. 3.

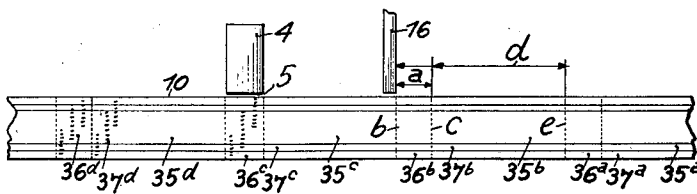
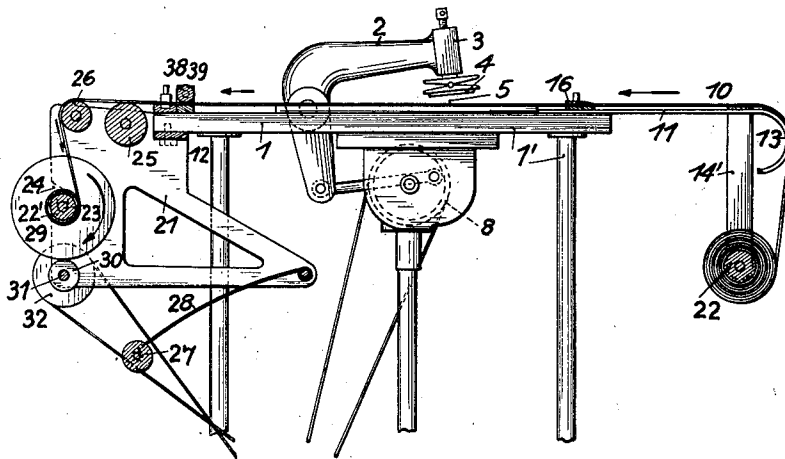


FIG. 4.

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PRINTING MACHINE FOR PRINTING STRIPS OF MATERIAL

Application filed June 7, 1928, Serial No. 283,709, and in Germany July 9, 1927.

My invention relates to printing machines for printing a strip of material, for instance, printing addresses on a strip of paper on which other matter, for instance, a form, has already been printed.

It is an object of my invention to provide a machine of this type in which the driving mechanism operates continuously notwithstanding the intermittent feeding movement of the strip.

To this end, I provide a slip clutch, for instance, a friction clutch, intermediate the driving mechanism of the machine and the means for winding the strip.

The addresses may be printed at any suitable point, or points, of the strip in any desired position with respect to the matter already printed thereon, and by any suitable means as a normal address printing machine.

In the preferred embodiment of the invention the machine may be said to consist briefly of strip supporting and strip feeding parts on the frame with means for driving said feeding parts including means for permitting slip intermediate said driving means and said feeding parts in connection with means exerting a braking action on the strip for retaining said strip on said frame against the action of said feeding parts. In order to feed the strip the operator pushes the stand by hand and the combined action of the drive and force exerted manually overcomes the resistance so that the strip is fed by the feeding parts.

It is another object of my invention to provide means for exactly predetermining the position in which the strip is arrested and to this end I provide a combined mark and hand rest extending transversely to the direction in which the strip is moving, and arranged in front of the printing station so that the addresses, or other matter, will be in the proper position on the strip.

It is another object of my invention to provide means by which the strip after having been printed and wound into a reel, is rewound in the original position it assumed on the supply reel which may be desirable for moving the strip, with the addresses

printed thereon, through an accounting or other machine.

In the accompanying drawings, a machine to which my invention has been applied, is illustrated by way of example.

In the drawings

Fig. 1 is a diagrammatic elevation of the machine, partly in section, equipped for printing,

Fig. 2 is a plan view,

Fig. 3 is an elevation of the machine, equipped for rewinding the strip,

Fig. 4 is a diagrammatic plan view of part of a strip.

Referring now to the drawings, 1 designates the table of the machine; 1' its frame; 2 a printing arm adapted to rock on said table; 3 a printing head on the arm; 4 a printing pad on the head 3; 5 the printing station, and 5' a guide for supplying printing plates, not shown, to the station where the strip is printed from a ribbon, not shown.

The driving mechanism of the machine comprises a motor 6, having a shaft 7 while a belt or cord 7' operates on a pulley on the motor shaft 7. 8 designates a pulley carried below the table 1 and actuated by the belt or cord 7'. 8' is a link connecting the pulley with the end of the rocking arm 2, a clutch, not shown, being provided for operatively connecting the pulley and the link, 9 designates a pedal fulcrumed on the frame 1' at 9', and 9'' designates a lever connecting the pedal with the clutch.

A strip of paper 10 is wound on a supply reel 14, while a roller 22 at the rear end of the machine receives the strip unwound from the supply reel 14. A plate 11 is secured to the table 1 at its front end, and is provided with a curved front edge while 14' designates standards in which the reel 14 is suspended from the plate 11. A combined mark and hand rest 16 is arranged transversely to, and above the strip 10, in slots 15 of the plate 11 in which it may be displaced in parallel to the strip 10 and secured by screws in the slots 15. 18 designates a brake block arranged near the front end of the plate 11 and provided with a lining of felt or the like on its lower face. Guide jibs 19, 19 are arranged

at either side of the strip 10 while transverse slots 20, 20 are provided in the plate 11 for varying the position of the jibs in accordance with the width of the strip 10.

5 Bearings 38 are arranged beyond the printing arm 2 for the reception of a roller 39, Fig. 3, when the machine is used for rewinding the strip as will be described, the roller being removed in Fig. 1. 12 designates a
10 bracket secured to the rear end of the table 1. A shaft 23 on which the roller 22 is secured, is journaled in slots 24 of the bracket 12 so as to move vertically, 25 and 26 designates
15 guiding rollers for the strip, and 27 a tension roller at the end of a spring 28 which is held on the bracket 12. The strip moves as indicated by the arrows in Fig. 1, descending from the roller 25 to the roller 27, ascending to the roller 26, and descending again to the
20 cylinder 22.

Friction discs 29, 29 are arranged on the shaft 23 of the cylinder 22, while mating friction discs 30 are secured on a shaft 31 which is supported in the bracket 12 below the shaft
25 23. A belt or cord pulley 32 is mounted on the shaft 31, while a corresponding pulley is mounted on the motor shaft 7, and a belt or cord 33 operates on the two pulleys.

Referring now to Fig. 4, the strip 10 is divided into any number of areas 35a, etc. the areas being defined by lines or rows of perforations, as shown at b and c for the area
30 35b the length of which is d. Part of each area is occupied by printed matter, and other matter as an address or the like, is printed by the machine at 36a, etc. and at 37a, etc. The areas 36a, etc., are bordered by lines or rows of perforations c, the pitch of the rows b and c being a. The printing pad 4 and the
40 hand rest 16 have been shown at the side of the strip for the sake of clearness.

In operation, the hand rest 16 is secured on the plate 11 so that its front edge registers with the first row of perforations b at the
45 area 36b when the following area, 36c, is below the printing pad 4 at the printing station 5. The reel 14 with the strip 10 is inserted in the standards 14' and connected with the cylinder 22 on the shaft 23 by a
50 blank strip which is pasted to the end of the strip 10. When the motor 6 is started the discs 30 rotate but are unable to entrain the discs 29 as the brake block 18 is so weighted as to retain the strip against the pull of the
55 cylinder 22.

The pedal 9 is now depressed, and the area 36c is printed at the station 5, whereupon the attendant moves on the strip by hand against the brake block 18 until the row of perforations c at the end of the next field, 37b, registers with the edge of the hand rest 16. The
60 strip is now released and arrested again by the block 18 but while it was being moved on by the hand of the attendant, the discs 29 were rotating so that a corresponding length

of strip (or blank) has been wound on the cylinder 22. The strip has now been fed through the length a of the area 36b, the pedal 9 is depressed again, and the area adjacent the field 36c is printed at 37c. Now, the
70 strip is again moved forward by hand, but this time for the length d, and the area 36b moves to the printing station 5 formerly occupied by the area 36c. At the next operation, the area 37b is printed, and so on. 75

Under certain conditions it is preferable, and the speed of the machine is increased, to remove the brake block 18 and to replace its action by the other hand of the attendant. In this case the strip 10 is fed by the cylinder
80 22 as soon as the attendant releases it.

When it is desired to wind the finished strip in the same position as it was on the reel 14, the brake block 18 is removed as shown in Fig. 3, and the roller 39 which may be of rubber or the like, is inserted in its bearings
85 38. The cylinder 22, with the strip on it, is inserted in the standards 14 and a cylinder 22' is placed on the shaft 23 in its stead. The strip may be taken directly to the cylinder 22', without passing the tension roller 27. 90

The motor 6 is now started but the clutch is not operated and the cylinder 22' will rapidly wind the strip from the cylinder 22, the hand rest 16 performing no function in this case, and the strip on the cylinder 22' will be in the same position as it was on the
95 reel 14. The roller 39 prevents too rapid winding of the strip.

I claim:

1. A strip-feeding mechanism for printing machines comprising a frame, strip-supporting and strip-feeding parts on said frame, a drive for said feeding parts, means exerting a braking action on the strip for retaining
100 said strip on said frame against the action of said feeding parts, and means permitting slip intermediate said drive and said feeding parts. 105

2. A strip-feeding mechanism for printing machines comprising a frame, strip-supporting and strip-feeding parts on said frame, a drive for said feeding parts, a brake block on said frame adapted to retain said strip on
110 said frame against the action of said feeding parts, and means permitting slip intermediate said drive and said feeding parts.. 115

3. A strip-feeding mechanism for printing machines comprising a frame, strip-supporting and strip-feeding parts on said frame, a drive for said feeding parts, a brake block on said frame adapted to retain said strip on said frame against the action of said feeding
120 parts, means permitting slip intermediate said drive and said feeding parts, and a weighted roller on said frame arranged intermediate said block and said drive and adapted to bear on said strip. 125

4. A strip-feeding mechanism for printing machines comprising a frame, strip-support- 130

ing and strip-feeding parts on said frame, a drive for said feeding parts, means for retaining said strip on said frame against the action of said feeding parts, means permitting slip intermediate said drive and said feeding parts, and an adjustable mark on said frame above said strip.

In testimony whereof I affix my signature.

JOSEPH KRELL.

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