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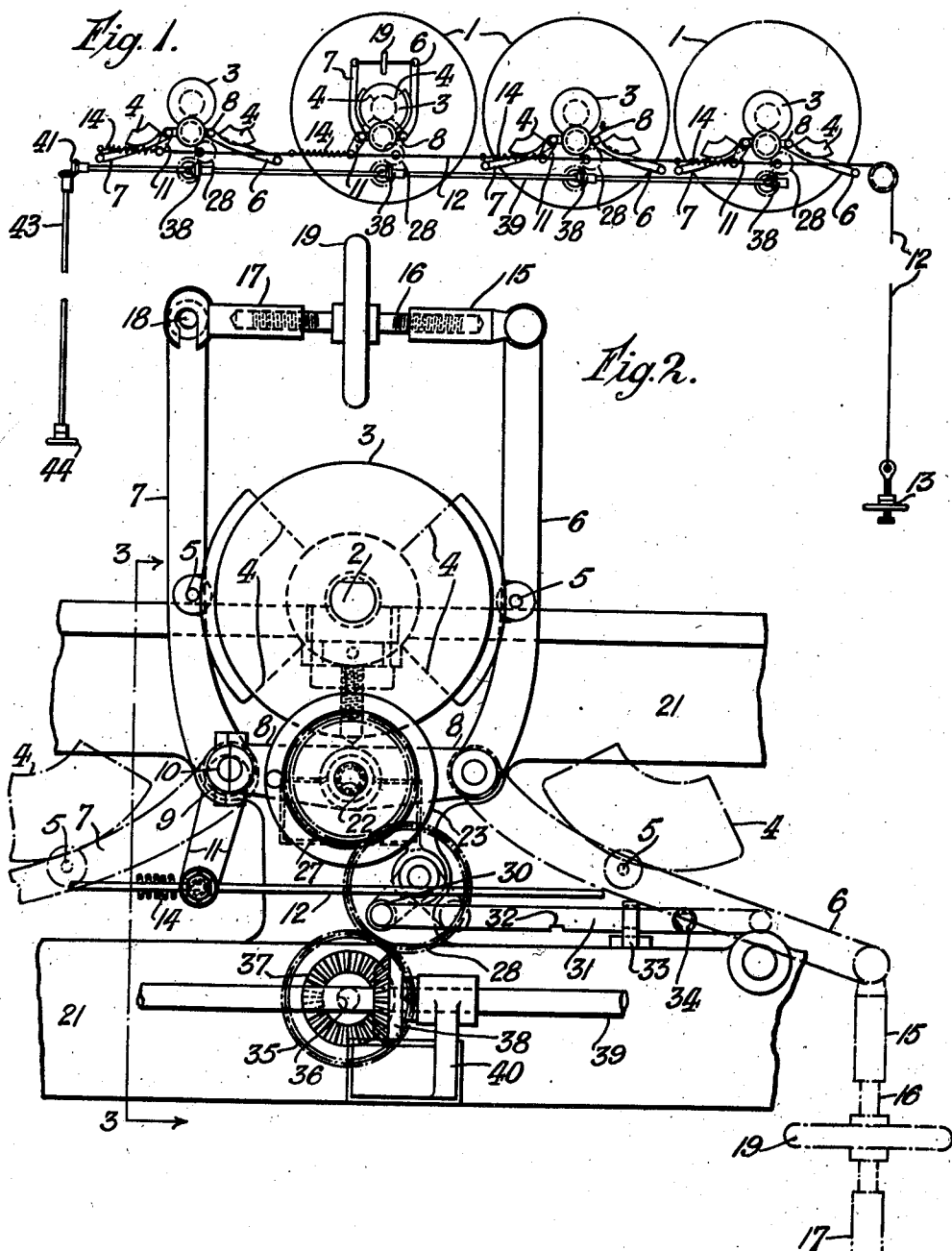
E. T. MORRIS ET AL

1,686,530

SIDE REGISTERING MECHANISM FOR PRINTING MACHINE ROLLS

Filed March 9, 1925

2 Sheets-Sheet 1



Inventors:
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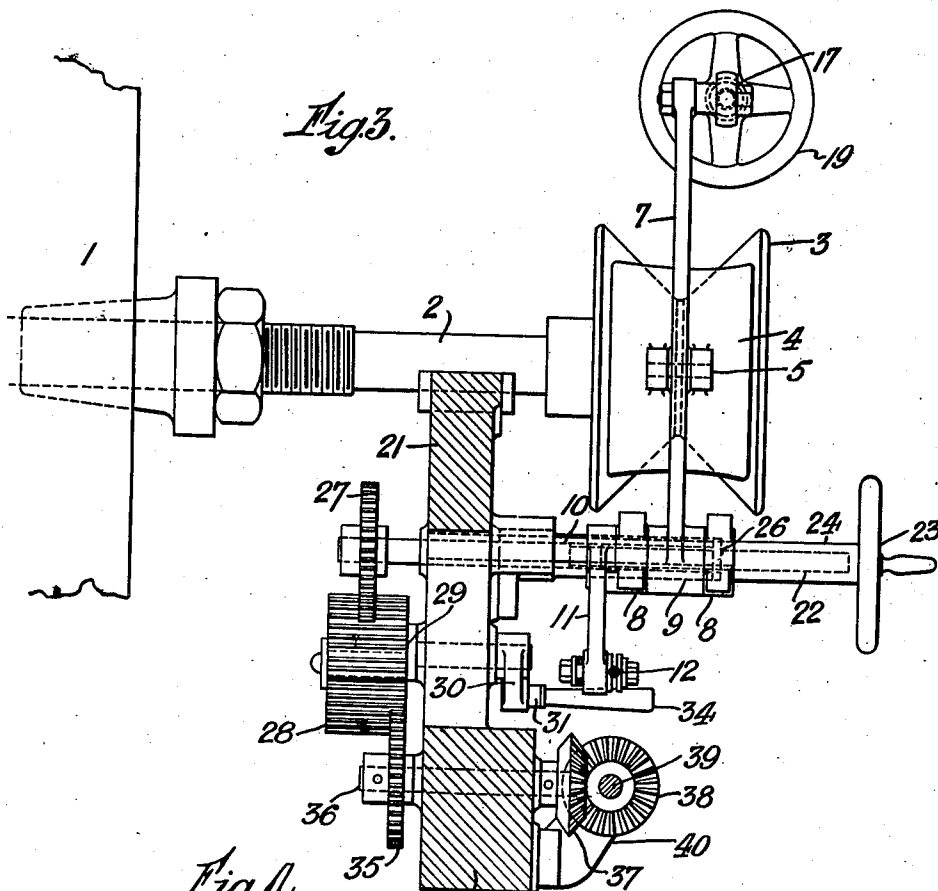
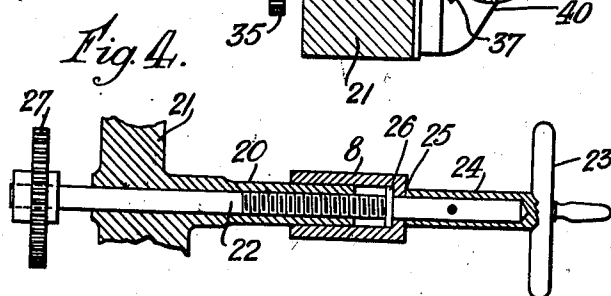
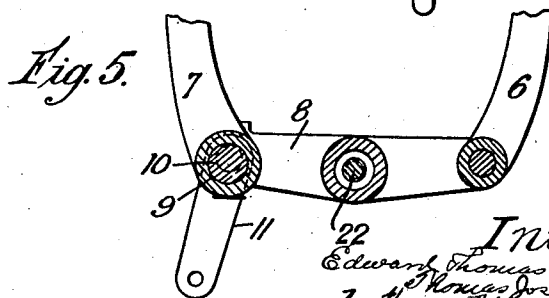
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SIDE REGISTERING MECHANISM FOR PRINTING MACHINE ROLLS

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

EDWARD THOMAS MORRIS AND THOMAS JOSEPH MILLS, OF LONDON, ENGLAND, ASSIGNORS TO R. HOE & CO. INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SIDE-REGISTERING MECHANISM FOR PRINTING-MACHINE ROLLS.

Application filed March 9, 1925, Serial No. 14,229, and in Great Britain September 11, 1924.

This invention relates to side registering mechanism for supply rolls of printing machines.

A roll of paper is sometimes wound unevenly so that its ends instead of being flat are concave and convex. Consequently, if the roll is correctly positioned when the web is first led off, the roll will be incorrectly positioned as the roll is unwound.

The object of our invention is to provide means operable from a distance for moving any one of a plurality of rolls of paper in an axial direction, so that the web of paper in use can be maintained in a correct position.

In carrying out our invention, we provide means such as worm or bevel gearing for moving the roll in use in an axial direction, means operable from a distance for effecting such operation, and means for connecting or disconnecting the said means to or from the means for moving the roll.

In one way of carrying out our invention, each of the means for moving a roll is provided with a gear wheel connected to one of a plurality of gear wheels on the actuating mechanism by an intermediate gear wheel mounted on a crank or eccentric; the said cranks or eccentrics being provided with means (operable from a distance) by which the desired intermediate gear wheel can be moved into or out of engagement, or we may provide a plurality of clutches (operable from a distance), in place of the intermediate gear wheels.

In the accompanying drawings which illustrate the invention, Figure 1 is a diagram showing the general arrangement; Figure 2 is a front elevation to a larger scale, showing in detail the means for positioning and braking one of the rolls shown in Figure 1; Figure 3 is a sectional elevation on the line 3—3, Figure 2; Figures 4 and 5 are detail sections.

The apparatus comprises rolls 1 of paper, each mounted on a spindle 2, one end of which projects beyond the roll and has mounted thereon a brake pulley 3. 4 are brake blocks which are adapted to engage the brake pulley and are pivoted at 5 to levers 6, 7.

The lever 6 is pivoted on its lower end to one end of a bracket 8, while the other lever 7 is pivoted on an eccentric 9 on a shaft 10 which is rotatably mounted at the other end of the bracket 8.

Fast on the shaft 10 is a lever 11, to the end of which a cable 12 is attached; the said cable is connected to the levers 11 of the brake control for each roll, and to an actuating wheel 13 which can be located in any suitable position at a distance from the said rolls. Each lever 11 is provided with a draw off spring 14.

The upper end of the lever 6 has pivoted to it a threaded arm 15 engaged by one end of a rod 16 which is similarly threaded. The other end of the rod is threaded in the opposite direction to engage a threaded arm 17, the outer end of which is provided with a slot adapted to engage a stud 18 on the other end of the lever 7. 19 is a hand wheel fast on the rod 16.

Each bracket 8 is slidably mounted upon a boss 20 projecting from a part of the fixed frame 21 of the machine. The boss 20 is screw threaded to engage a similarly threaded shaft 22 to which is secured a hand wheel 23 having a sleeve 24 which butts against one face of an inturned flange 25 on the bracket 8, the other face of the said flange being engaged by a boss 26 on the shaft 22. The other end of the shaft 22 is provided with a gear wheel 27.

It will be seen that if the shaft 22 be rotated by the hand wheel 23, the bracket 8 can be traversed so as to bring the roll 1 into correct position.

Meshing with each gear wheel 27 is a gear wheel 28, rotatably mounted on a crank 29 which latter is provided with a second crank arm 30, which latter has pivoted thereto a link 31 having a pair of notches 32 on its lower edge, either one of which can be moved into engagement with a fixed stop 33 by a handle 34.

Each gear wheel 28 (when in the position shown in Figure 2) is in mesh with a gear wheel 35, fast on one end of a shaft 36 rotatably mounted in bearings in the frame 21. The other end of the shaft 36 has mounted thereon a bevel pinion 37 in mesh with a bevel pinion 38. 39 is a shaft upon which the bevel pinion 38 of each roll is mounted. The shaft is rotatably mounted in bearings 40 carried by the frame 21. The shaft 39 is provided on one end with a bevel pinion 41 in mesh with a bevel pinion 42 on a shaft 43 which latter can be rotated by a hand wheel 44. This latter is

situated in any convenient position, which may be at a distance from the rolls, additional links or gearing (not shown) being provided to allow of this.

5 In operation, after the rolls 1 have been placed in position as shown in Figure 1, the levers 6, 7 of that roll it is desired to use are swung up into the position shown in Figure 2, and the lever 7 engaged by the slotted end
10 of the arm 17, the brake blocks 4 being adjusted if necessary by the hand wheel 19.

The gear wheel 28 is then moved into the position shown in Figure 2, in which position it is in mesh with the gear wheels 27 and 35
15 by the handle 34 on the link 31.

The position of the roll can then be adjusted by the hand wheel 23 and thereafter by the hand wheel 44.

When the roll is finished, the gear wheel 28
20 is moved out of engagement with the gear wheels 27 and 35 by pulling the link 31 so that the other notch 32 is engaged by the stop 33. Another roll can then be similarly positioned and controlled.

25 What we claim is:—

1. In a mechanism for side registering the supply rolls for printing machines, the combination of means for supporting a plurality
30 of rolls one of which is the roll in use, means located at each roll for independently moving the rolls in an axial direction, means common to all the rolls operable from a distance for effecting such movement, and means located at each roll for connecting and disconnecting the
35 last mentioned means to and from the means for moving the rolls so that the roll in use may be moved by the distant operating means without effecting any movement of the rest of the rolls.

2. In side registering mechanism for supply rolls of printing machines, the combination of a train of gearing for moving each roll of a plurality of rolls in an axial direction, means operable from a distance for actuating said gearing and means for moving one wheel of
45 each of said trains into and out of mesh, whereby any one of said rolls may be moved independently of the other rolls.

3. In side registering mechanism for supply rolls of printing machines, the combination of a plurality of spindles, a roll mounted on each spindle, a pulley fast on said spindle, a brake shoe engaging said pulley, a train of gearing for moving said pulley in an axial
50 direction, means operable from a distance for actuating said gearing, and means for moving one wheel of each of said trains into and out of mesh, whereby any one of said rolls may be moved independently of the other rolls.

4. In side registering mechanism for supply rolls of printing machines, the combination of a plurality of spindles, a roll mounted on each spindle, a pulley fast on said spindle, a screw threaded shaft, a brake shoe mounted on said shaft, and engaging said pulley, a
65 train of gearing for rotating said shaft, whereby the said shoe and pulley are moved in an axial direction, means operable from a distance for actuating said gearing, and means for moving one wheel of each of said
70 trains into and out of mesh, whereby any one of said rolls may be moved independently of the other rolls.

In testimony that we claim the foregoing as our invention we have signed our names
75 this 27th day of January, 1925.

EDWARD THOMAS MORRIS.
THOMAS JOSEPH MILLS.