

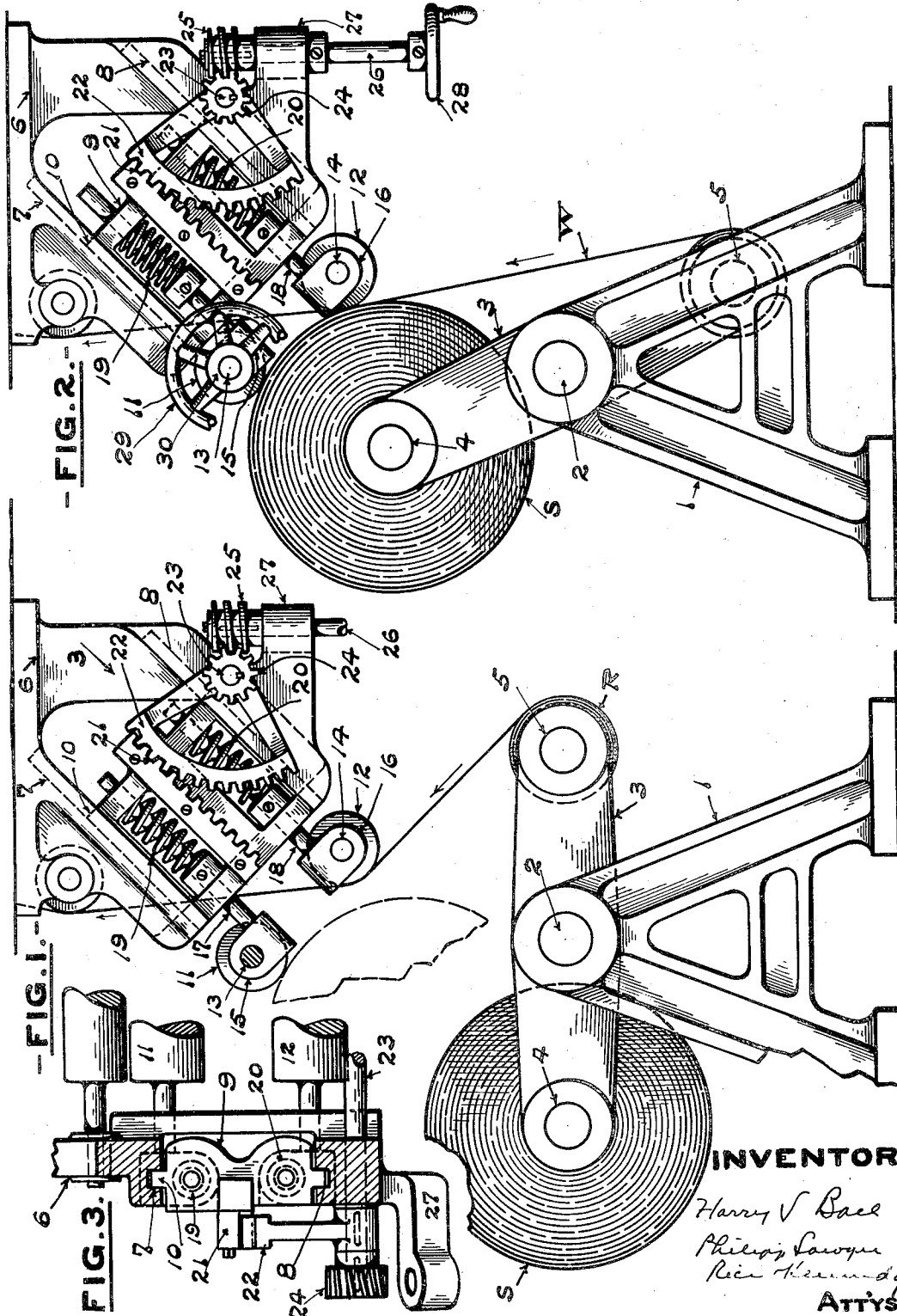
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WEB JOINING MECHANISM

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WEB-JOINING MECHANISM

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This invention relates to certain improvements in devices for joining or pasting a new web roll to a running web in which the paste is made without stopping the press.

5 In this class a web roll changing mechanism, it is desirable that the roll changing mechanism shall occupy as small a space as possible, as the available space where it is desirable to place such mechanism in the press
10 room is limited. It is further desirable in this class of mechanisms that the devices employed for effecting the paste shall be simple, easily manipulated, and arranged so that they will be out of the way and not interfere with
15 the operation of the press.

It is the especial object of the present invention to provide a web roll changing mechanism which will include a support capacitated to carry a running roll and a spare roll,
20 and which is rotatable from loading position to running and pasting positions, so that but one loading position is required for loading either side of the support, this support acting when suitably rotated to bring a new roll into
25 contact with a manually operable speed-up device, and then into contact with a pasting device, these devices being preferably in the form of rolls supported in a fixed frame which can be located out of the way.

30 A further object of the invention is to provide an improved structure of this character which shall consist of few parts and which may be easily and readily manipulated by a pressman to effect the paste.

35 A preferred form of construction is that shown in the accompanying drawings, in which

Figure 1 illustrates a side view of the improved roll changer mechanism, in which the
40 roll to the right is shown as nearly exhausted;

Figure 2 is a view similar to Figure 1 showing the rack rotated to bring a new roll into pasting position, and

45 Figure 3 is a detail sectional view of the construction shown in Figure 1, the view being taken in the direction of arrow 3 of that figure.

Referring now to these drawings, there is provided a support which is capacitated to
50 support a running roll R and a spare roll S.

This support may be of any suitable character, but in the particular construction illustrated, which shows one side of the machine, there are provided standards, one of which is shown marked 1, in which is mounted a
55 shaft 2 which carries roll supporting arms 3, it being understood that these arms 3 are duplicated on the other side of the machine. These arms 3 extend, on opposite sides of the shaft 2, and are provided with bearings 4, 5
60 for supporting the two rolls. This shaft may be rotated in either direction in any suitable manner, which is not illustrated, as being unnecessary for an understanding of the invention. Suitably located so as to be out of the
65 way is a fixed frame, indicated generally by the numeral 6. This framing is preferably formed, for reasons hereinafter referred to, with guideways 7, 8, in which is arranged to slide a casting, indicated generally by the
70 numeral 9, which is provided with projections 10 sliding in the guideways 7, 8, this construction being duplicated on the other side of the machine.

These castings act to support the speed-up
75 and pasting devices, which are shown in the form of rolls, the speed-up roll being indicated by the numeral 11 and the pasting roll by the numeral 12. These rolls are located, as shown, so that the new roll on the clockwise
80 rotation of the support is first brought into engagement with the speedup roll 11 and then into engagement with the pasting roll 12, this engagement continuing, if desired, until the paste is made, as shown in Figure 2.
85

In the best constructions, both the speed-up roll and the pasting roll will be arranged so that they are yieldingly supported, these means tending to normally force them toward
90 the new roll. While this may be effected in various ways, in the particular construction shown these rolls are provided with hubs 13, 14, which take bearing in blocks 15, 16 supported on rods 17, 18 which are spring mounted, the springs being indicated at 19, 20.
95

In the best constructions, means are provided for effecting a sliding movement of the castings 9 to adjust the position of the pasting and speed-up rolls, so as to compensate for any variation in the diameter of the web
100

roll which is to be pasted to the running web, and further so if necessary, the rolls may be raised to permit a spent web roll to pass the speed-up and pasting rolls when the support is rotated as hereinafter referred to. While these means may vary somewhat in construction, as shown, one of the castings is provided with a rack 21 with which engages a gear sector 22 carried on a shaft 23 suitably supported in the framing 8, before referred to, this shaft carrying a gear 24 which meshes with a worm 25 carried on the end of a vertical shaft 26 supported in a bracket 27 of the frame 6, this shaft being rotatable by means of a hand-wheel 28. With this construction, the position of the speed-up and pasting rolls may be adjusted as desired. The speed-up roll is rotatable by the operator manually by devices of any suitable character, such as a hand-wheel 29 secured to the hub 30 of the roll, by turning which the roll will act to speed up the web roll when brought into contact therewith.

The operation of the device may be briefly described as follows: Referring to Figure 1, the right hand roll R is nearly exhausted. When this roll has been run down as far as is desired, the press is slowed down and the support is rotated to bring the new roll S into the position shown in dotted lines in Figure 1, in which position it is brought into engagement with the speed-up roll 11. The hand-wheel 29 is then manipulated and the rotation of the speed-up roll will cause the new roll S to turn so as to have it in rotation before making the paste. After the new roll has thus been rotated by the speed-up roll 11, the rack is further turned to bring the new roll into contact with the running web marked W, in which position the new roll engages the running web against the pressure of the pasting roll 12 and effects the paste. After the paste is made, the old web is severed and the support is rotated counter-clockwise to the position of Figure 1, which is the running position, and a new roll may be loaded into the R position. When now the roll in the S position becomes exhausted, the support with the new roll in the R position is rotated clockwise. The expired roll will pass the speed-up and pasting rolls, and the parts will again be in the position shown in Figure 1, whereupon the paste is made as before described.

While the invention has been illustrated and described in its preferred form it will be understood that various changes may be made in the specific construction and arrangement of the parts and in the particular character of the speed-up and pasting devices without departing from the invention as defined in the appended claims.

What I claim is:

1. In a web roll changer mechanism, the combination of a support capacitated to sup-

port a running roll and a spare roll and rotatable from a loading position to pasting and running positions, fixed framing, a speed-up roll and a pasting roll with which a new web roll is brought into contact by the rotation of the support, mounted in the framing, means for adjusting the rolls relatively to the framing, and means for rotating the speed-up roll.

2. In a web roll changer mechanism, the combination of a support capacitated to support a running roll and a spare roll and rotatable from a loading to pasting and running positions, fixed framing, a speed-up roll and a pasting roll with which a web roll is brought into contact by the rotation of the support, yielding means supporting the rolls, means for adjusting the rolls relatively to the framing, and means for rotating the speed-up roll.

3. In a web roll changer mechanism, a rotary support for supporting a spare roll and a running roll, fixed framing, a speed up roll, a pasting roll, a casting in which the rolls are mounted in the framing, means for giving the casting a sliding movement to adjust the rolls relatively to the framing, and manually operable means for rotating the speed-up roll.

4. In a web roll changer mechanism, a rotary support for supporting a spare roll and a running roll, fixed framing, a casting sliding in the framing, means for sliding the casting, a speed-up roll and a pasting roll carried in the casting, springs acting on the rolls, and manually operable means for rotating the speed-up roll.

5. In a web roll change mechanism, a rotary support for supporting a spare roll and a running roll, fixed framing, a speed-up roll, a pasting roll, a casting in which the rolls are mounted, means for giving the casting a sliding movement to adjust the rolls relatively to the framing, and a hand wheel operatively connected with the speed-up roll for rotating it.

6. In a web roll change mechanism, a rotary support for supporting a spare roll and a running roll, fixed framing, a speed-up roll, a pasting roll, a sliding frame by which the rolls are supported, spring controlled bearings for the rolls, means for giving the sliding frame a sliding movement to adjust the position of the rolls relatively to the framing, and a hand wheel operatively connected with the speed-up roll for rotating it.

In testimony whereof, I have hereunto set my hand.

HARRY V. BALL.