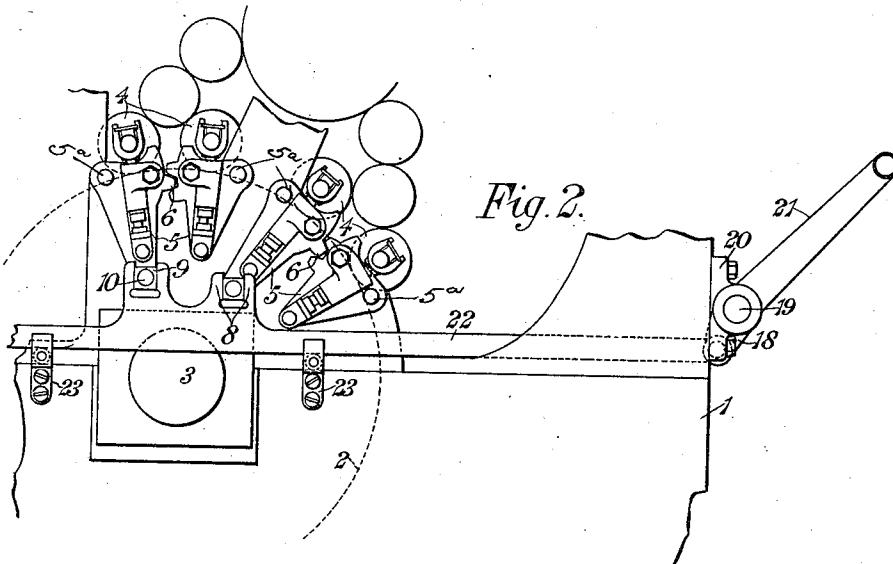
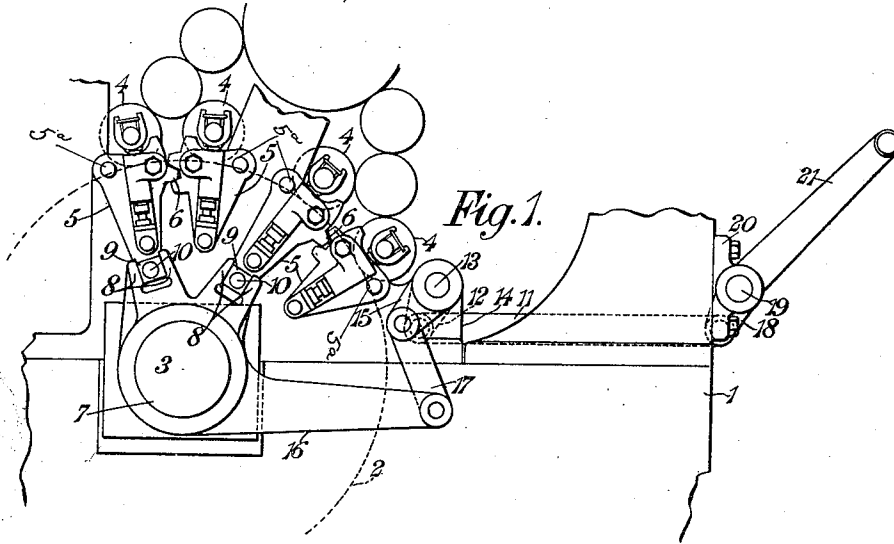


H. PEARCE, T. R. G. PARKER & F. W. WRIGHT.
 MEANS FOR TRIPPING THE INKING ROLLERS OF PRINTING PRESSES.
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UNITED STATES PATENT OFFICE.

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MEANS FOR TRIPPING THE INKING-ROLLERS OF PRINTING-PRESSES.

1,060,624.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed July 22, 1912. Serial No. 710,881.

To all whom it may concern:

Be it known that we, HERBERT PEARCE, THOMAS ROBERT GILLETT PARKER, and FRED WESLEY WRIGHT, subjects of the King of the United Kingdom of Great Britain and Ireland, residing at Linotype and Machinery Works, Broadheath, in the county of Chester, England, have invented new and useful Improved Means for Tripping the Inking-Rollers of a Printing-Press, of which the following is a specification.

A complete means for tripping the inking rollers of a printing press, consists of firstly, the roller supports positioned between the axis of the form or plate cylinder and either an arc intersecting the axes of the said rollers or one at even a longer radius than that are from the cylinder axis; secondly, the device by which such supports are moved from and to the said cylinder axis to, respectively, trip and untrip the inking rollers; and thirdly, the means by which the said device is worked.

The present invention consists of improved means for so moving the said supports. It has already been proposed to (a) hang the inking rollers in pairs from points in an arc having the longer radius above mentioned, one roller on each side of the respective point, to loosely connect each roller support to the respective roller-suspending member, and to move each support both for tripping and untripping, by a slotted arm turning about a relatively fixed axis—that of the cylinder or another—each arm embracing a stud fast on the respective support, all the arms being fast together so as to act simultaneously: (b) pivot each roller in crutch bearings, fix all the bearings of a group—say half the total number—of rollers to a support sliding in radial guides fast on each side frame of the press, and to move the supports of each group of rollers for the purpose of tripping them, by a rotary cam; and (c) pivot each roller in crutch bearings sliding radially in their supports, pivot the latter on the respective side frame of the press along an arc practically coincident with the periphery of the said cylinder, gear the supports together in pairs so that the rocking of one on its pivot,

rocks the other, and to rock one of each pair of supports by a cam surface on a horizontal slide, all the cams being fast together so as to act simultaneously.

The proposals (b) and (c) relied upon the weights of the tripped parts to untrip them—the proposal (a) included mechanical means for untripping, such means being in fact the slotted arms when they were making their return movement, but it had a loose connection (already referred to) interposed between each arm and the respective point of suspension, so that so long as that connection was loose (which would be until all lost motion had been taken up), the respective roller was practically beyond control. In the proposals (b) and (c) the rollers and supports were practically beyond control from the moment they were tripped. The consequence was that in all three proposals, the supports would jump more or less and the rollers would jump too and on the cylinder to be inked, thereby producing uneven inking.

The object of this invention is to prevent this jumping and is accomplished by the means hereinafter described.

Both the accompanying figures are side elevations of preferred constructional forms of the invention, Figure 1 showing the series of slotted arms turning about the cylinder axis and Fig. 2 showing them reciprocating horizontally.

1 is a part of the frame on the feeder side of the press; 2, the form or plate cylinder; 3, its axis; 4—4, four inking rollers sliding radially in their respective supports 5—5 geared together in pairs; 5^a—5^a, their pivots arranged on an arc practically coincident with the periphery of the cylinder 2 but, under any circumstances positioned respectively, at less radial distances from the axis 3 than the axes of the rollers 4; 6, 6, the gears which gear the supports 5 together in pairs. As to the rollers 4 and supports 5, it must be understood that a roller 4 is in two supports 5, one on each side of the press, that these two supports constitute a pair, and that each support of such pair is geared to the adjacent support of the pair next to it. A gear 6 on each support 5 is

desirable but it may be dispensed with and then the supports of each pair will be independent of each other.

7—Fig. 1—is a ring on each side of the press turning freely about the axis 3 and symmetrically with all the rollers 4.

8, 8—Figs. 1 and 2—are slotted arms fast to each ring 7 and projecting radially therefrom. 9, 9 are blocks mounted on pivots 10 on the supports 5, each block being embraced by an arm 8. When the supports 5 of each pair are independent of each other, each has a block 9 pivoted on it and there is a slotted arm 8 to embrace the same. But when the said supports are in geared pairs, as they are shown to be in the figures, there is a block 9 and pivot 10 on only one support of each pair, and only as many slotted arms 8 as there are blocks 9, each arm embracing the block of the respective pair.

The rings 7 are only to carry the slotted arms 8 and there may be substituted for them and their necessarily arcual motion, horizontal sliding bars 22—Fig. 2—having a longitudinal motion. When rings are used to carry the arms 8, the latter project radially from it, and when bars such as 22 are used, the said arms are perpendicular or approximately so to them and parallel with each other. The rings 7 are turned together by a link 11 on each side of the press having one end pivotally connected to an arm 12 fast to the respective end of a rock shaft 13 turning in a bearing 14; a second arm 15 likewise fast to the said end of the shaft 13; an arm 16 projecting from a ring 7 in the direction of a link 11; a link 17 connecting the outer end of the respective arm 16 to the outer end of the respective arm 17; an arm 18 fast to each end of a second transverse shaft 19 turning in bearings 20 and a winch handle fast on the said shaft. When bars 22—Fig. 2—replace rings 7, they are prolongations of the respective links 11 and slide in guides 23 fixed on the respective side frame, the parts 12 to 17 described in connection with the said rings being dispensed with. The lever 21 as a means for turning the shaft 19 manually may be replaced by any of the well known automatic means, *e. g.*, those illustrated in Letters Patent of the United States No. 773969, November 1st 1904, or the invention may be provided with both manual and automatic means.

Having described our invention, we declare that what we claim and desire to secure by Letters Patent is:—

1. In means for tripping the inking rollers of a printing press, the combination with the said rollers and the form of plate cylinder, of roller-supporting plates pivoted on axes positioned, respectively, at less radial distances from the axis of said cylinder than the axes of their inking rollers; blocks pivoted upon the supporting plates; slotted arms

embracing said blocks; and means for moving all the slotted arms simultaneously and in the same direction to move the supporting plates likewise.

2. In means for tripping the inking rollers of a printing press, the combination with the said rollers and the form or plate cylinder, of roller-supporting plates pivoted on axes positioned, respectively, at less radial distances from the axis of said cylinder than the axes of their inking rollers; blocks pivoted upon the supporting plates; slotted arms embracing said blocks; and means for moving all the slotted arms simultaneously to move the supporting plates likewise.

3. In means for tripping the inking rollers of a printing press, the combination with the said rollers and the form or plate cylinder, of roller-supporting plates pivoted on axes positioned, respectively, at less radial distances from the axis of said cylinder than the axes of their inking rollers; blocks pivoted upon the supporting plates; slotted arms embracing said blocks with a sliding fit; and means for reciprocating all the slotted arms simultaneously and in the same direction to rock the supporting plates likewise.

4. In means for tripping the inking rollers of a printing press, the combination with the said rollers and the form or plate cylinder, of roller-supporting plates pivoted on axes positioned, respectively, at less radial distances from the axis of said cylinder than the axes of their inking rollers; blocks pivoted upon the supporting plates; slotted arms embracing said blocks with a sliding fit; and means for reciprocating all the slotted arms simultaneously to rock the supporting plates likewise.

5. In means for tripping the inking rollers of a printing press, the combination with each two adjacent inking rollers and the form or plate cylinder, of roller-supporting plates pivoted on axes severally positioned radially between the axes of the inking rollers and that of the said cylinder and arranged in geared pairs; a block pivoted upon one supporting plate of each geared pair; a slotted arm embracing each block; and means for reciprocating all the arms simultaneously to rock all the supporting plates.

6. In means for tripping the inking rollers of a printing press, the combination with each two adjacent inking rollers and the form or plate cylinder, of roller-supporting plates pivoted on axes severally positioned radially between the axes of the inking rollers and that of the said cylinder and arranged in geared pairs; a block pivoted upon one supporting plate of each of the said pairs; a slotted arm embracing each block with a sliding fit; means holding all the arms rigidly together; and means for recip-

rocating them simultaneously to rock all the supporting plates.

7. In means for tripping the inking rollers of a printing press, the combination with the
5 said rollers and the form or plate cylinder, of roller-supporting plates pivoted on axes positioned, respectively, at less radial distances from the axis of said cylinder than the axes of their inking rollers; blocks piv-
10 oted upon the supporting plates; a ring device turnable in both directions about the axis of the said cylinder; slotted arms projecting radially from the said ring and re-
15 spectively embracing the said blocks; and means for reciprocating the said ring about the said axis to move the supporting plates.

8. In means for tripping the inking rollers of a printing press, the combination with the said rollers and the form or plate cylin-
20 der, of roller-supporting plates pivoted on axes positioned, respectively, at less radial distances from the axis of said cylinder than the axes of their inking rollers; blocks piv-
25 oted upon the supporting plates; a ring device turnable in both directions about the axis of the said cylinder; slotted arms projecting radially from the said ring and re-

spectively embracing the said blocks; and means for reciprocating the said ring about its axis to rock the arms likewise.

9. In means for tripping the inking rollers of a printing press, the combination with each two adjacent inking rollers and the form or plate cylinder, of roller-supporting
35 plates pivoted on axes severally positioned radially between the axes of the inking rollers and that of the said cylinder and ar-
40 ranged in geared pairs; a block pivoted upon one supporting plate of each geared pair; a ring device turnable in both directions about the axis of the said cylinder; slotted arms
45 projecting radially from the said ring and embracing the blocks severally; and means for reciprocating the said ring about its axis to rock the arms likewise.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

HERBERT PEARCE.

THOMAS ROBERT GILLETT PARKER.

FRED WESLEY WRIGHT.

Witnesses:

WILLIAM EDWARD BENNISON,
JOSEPH LAMB.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."