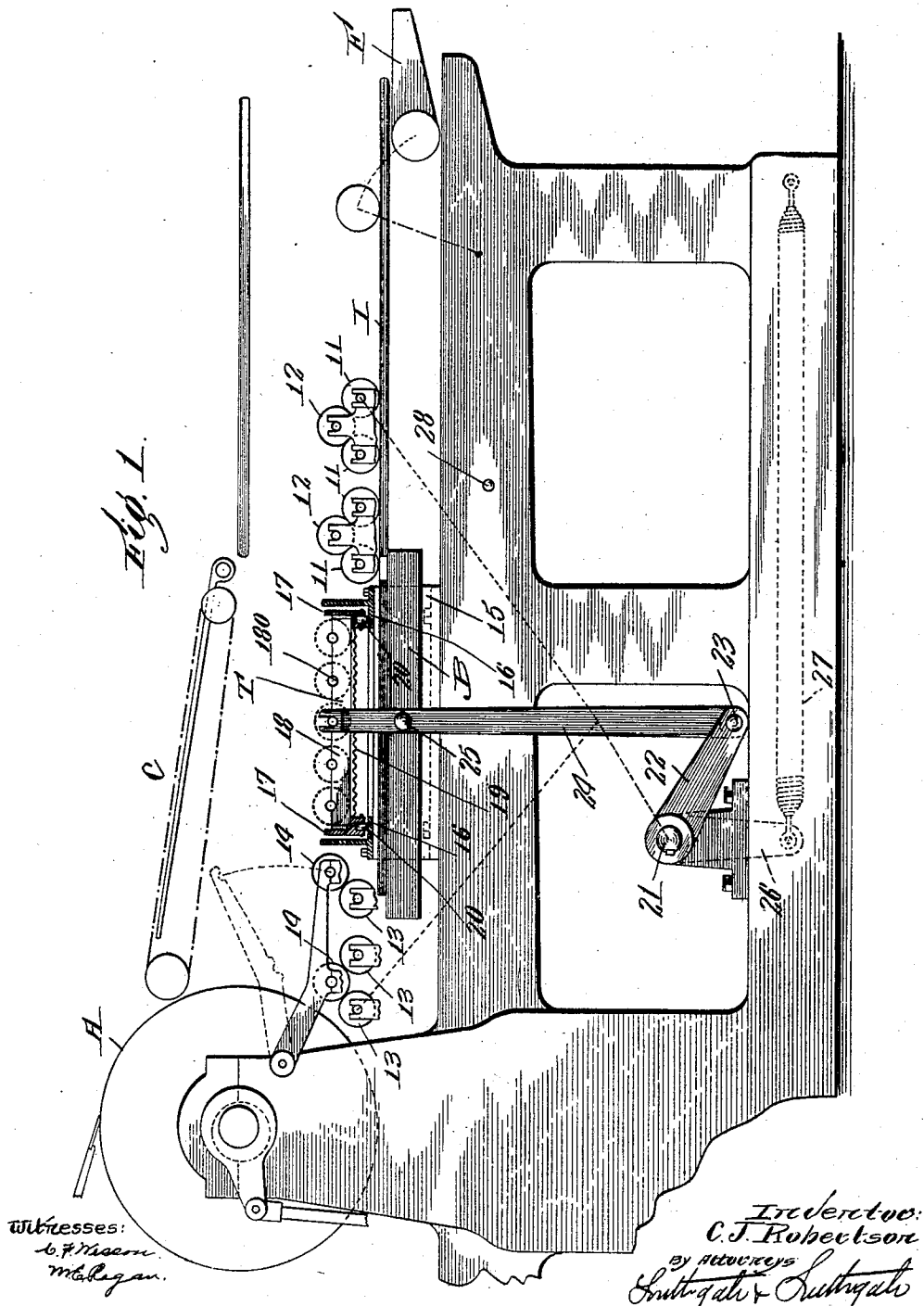


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2 SHEETS—SHEET 1.

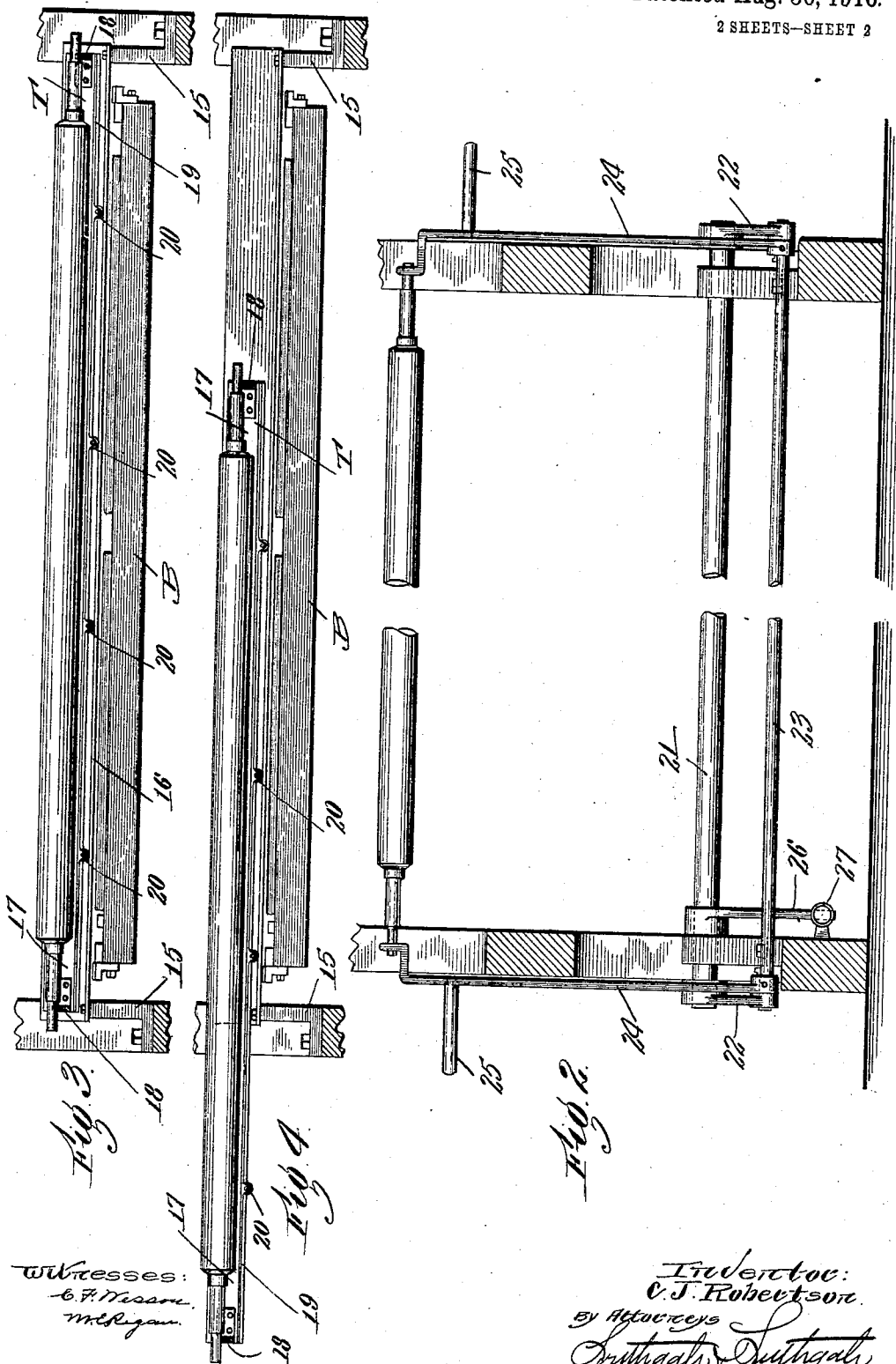


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2 SHEETS—SHEET 2



UNITED STATES PATENT OFFICE.

CHARLES J. ROBERTSON, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO THE CAMPBELL PRINTING PRESS & MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

INK-ROLL-CLEANING MECHANISM FOR PRINTING-PRESSES.

968,806.

Specification of Letters Patent.

Patented Aug. 30, 1910.

Application filed October 26, 1905, Serial No. 284,488. Renewed January 13, 1910. Serial No. 537,930.

To all whom it may concern:

Be it known that I, CHARLES J. ROBERTSON, a subject of the King of England, residing at Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Ink-Roll-Cleaning Mechanism for Printing-Presses, of which the following is a specification.

The urgent requirement for speed in the ordinary cylinder printing machines is now being met in some way by making such presses double width or extremely wide. The advantage of this construction is that speed can be obtained, as for a short bed run several forms can be printed from simultaneously side by side. But in building this style of machine it has been found extremely difficult to handle the long and heavy ink rollers necessarily required, such rollers for example, being in one commercial size of machine, ten feet long and weighing upward of one hundred pounds. This difficulty is particularly encountered when it is desired to clean or wash the inking rollers which must be done every day and every time a different job of work is to be run. The ordinary way of cleaning these ink rolls is to take them out of the press and wash and clean them outside of the press. This is extremely difficult in the style of machine before referred to and takes several men. In order to overcome this difficulty in a simple and expeditious way, I have provided an apparatus by which the inking rollers may be washed or cleaned without completely withdrawing them from the machine. To do this, a carriage frame or tray is provided and is arranged on the printing machine so that it may be slid laterally thereon. This carriage frame or tray is provided with means for supporting and carrying the inking rollers. The inking rollers are moved longitudinally on the machine and placed in this carriage frame and preferably a lifting or handling mechanism is provided for this purpose so that each inking roller can be lifted accurately and expeditiously in and out of the carriage frame. The carriage frame is preferably arranged on rollers. With this construction, when it is desired to clean the inking rollers, the same are lifted into the carriage frame and the carriage frame is pulled part way out of the machine so that it projects, say one-third

of its distance at one side thereof. With the parts in this position the operator can easily wash or clean one-half of the long inking rollers. When this is done, the frame is pulled out the same distance on the other side of the machine and the other half of the rollers are cleaned. By this construction, therefore, the rollers can be washed or cleaned their entire length without removing the same from the press and without having to have the operator reach into the machine very far.

The invention will best be understood in detail by referring to the accompanying two sheets of drawings forming part of this application wherein my invention is illustrated as applied to an ordinary two-revolution cylinder printing machine.

Referring to said drawings, Figure 1 is a side elevation of enough of a printing press to illustrate the application thereto of my invention. Fig. 2 is a partial cross-sectional view illustrating the manipulating or handling apparatus for the inking rollers, and Figs. 3 and 4 are partial cross-sectional views illustrating the operation of the carriage frames.

Referring to the drawings and in detail, A designates the impression cylinder, B the reciprocating bed, and C the delivery mechanism of an ordinary two-revolution cylinder printing machine. The bed is provided with the usual ink table I upon which ink is deposited by the usual ductor roller from an ink fountain F.

11—11 represent the usual spreading rollers which are used to spread the ink upon the ink table I. The spreading rollers are arranged in pairs and a distributing roller 12 is arranged on the top of each pair of spreading rollers. The form inking rollers, arranged in the usual side frame bearings, are designated by the numerals 13—13—13 and cooperating with the form inking rollers are two distributing rollers 14—14. The parts thus specifically referred to may be arranged in any of the ordinary or approved ways.

The improved apparatus for handling the inking rollers is arranged as follows, and by the term "inking rollers" I mean any roller or rollers used in the process of inking.

Bolted to the side frames of the machine are brackets 15—15. Detachably secured on

top of the brackets 15 are guide rails made in the form of inverted T-beams.

T designates the tray or ink roller carriage frame which runs on the rails 16—16.

5 This tray T is made up of side pieces 17—17 and end pieces 18—18, the side pieces being connected by a bottom piece 19 preferably made out of corrugated metal. The end
10 pieces 18—18 are provided with suitable notches 180 to receive the journals of the inking rollers. These notches form additional bearings for the inking rollers at both sides of the machine in which both ends of each roll may be placed. The end pieces
15 of the tray are provided with rollers 20—20 which run on the guide rails 16—16 whereby the tray can be pulled laterally either way out of the press.

When it is desired to clean an ink roller
20 or inking rollers, the roller or rollers which are to be thus treated are placed in the tray, the tray is pulled laterally out of the machine, one-half of the rollers cleaned from that side of the printing press and then the
25 tray is slid part way out of the other side of the machine and the roller or rollers cleaned from that side, and then the roller or rollers are put back in position. This can be done very expeditiously with one or
30 two operators.

As the inking rollers are very heavy, it is desirable to provide the machine with a mechanism whereby the same may be accurately and squarely placed in or removed
35 from the tray and easily handled. Such mechanism may be arranged as follows: A shaft 21 is journaled in brackets in the frame-work. Arms 22—22 are secured on the ends of this shaft. Journaled in the
40 ends of these arms is a shaft 23 and secured on this shaft 23 are long yokes or notched arms 24—24. These arms 24—24 are arranged and the notches in the ends of the arms are so positioned that they may be
45 caused to engage the journals of any one of the inking rollers. The arms 24—24 being secured to the shaft 23, are constrained to move in unison. The arms 24—24 may be provided with operating
50 handles 25—25. By this arrangement, the said notched arms may be caused to engage any one of the inking rollers to put the same in or take the same out of the tray as indicated by dotted lines in Fig. 1.

55 As each inking roller is of considerable weight, it is desirable to provide a compensating or counter-weighting mechanism. This can be advantageously done by arranging an arm 26 on the shaft 21 and connecting
60 the same by a powerful spring 27 to a fixed point. As the inking roller has to be lifted out of and into the tray and as when it is done the arms 22 will be raised, the spring 27 will tend to help the action of
35 lifting the inking roller in and out of the

tray. A pin 28 is fitted into the side frames so that when the tray is not to be used, the notched arms 24—24 can be held down out of the way. By this arrangement, the inking rollers can be easily, accurately, and
70 squarely lifted from operative position and placed in the tray or taken from the tray and placed back in operative position.

By making the carriage frame by which the inking rolls are pulled laterally out of
75 the machine in the form of a tray or open box, the liquid or other material used in cleaning the rolls will drop down into and be caught in said tray and can be removed or drawn off after the cleaning has been
80 effected whereby the cleaning can be effected without daubing or spattering.

The apparatus may be left as a fixture in the machine by leaving the rails 16—16
85 bolted to the brackets or the apparatus can be removed when not in use by pulling the tray out of the machine and if desired, additionally unbolting and removing the guiding rails from the said brackets 15.

The details and arrangements herein
90 shown and described may be greatly varied by a skilled mechanic without departing from the scope of my invention as expressed in the claims.

Having thus fully described my invention, what I claim and desire to secure by
95 Letters-Patent of the United States is:—

1. The combination of a printing machine, of inking rollers mounted therein, and a tray or frame fitted to slide laterally of the machine in which the inking rollers may be placed longitudinally, and by means of which the inking rollers may be drawn laterally out of the machine for cleaning.

2. The combination of a printing machine, of inking rollers mounted therein, and a tray or frame fitted to slide laterally thereon and provided with notches in which the inking rollers may be temporarily placed so that the inking rollers may be drawn laterally out of the machine for cleaning.

3. The combination of a printing machine, of inking rollers mounted therein, and a box-like tray fitted to slide laterally on the machine in which the inking rollers may be temporarily placed and by means of which they may be drawn laterally out of the machine for cleaning, the tray or box-like structure being adapted to catch and hold the liquid or other material used in cleaning the rollers.

4. The combination of a printing machine, bearings for holding the inking rollers in operative position, inking rollers mounted therein, and a frame fitted to slide laterally on the machine in which the inking rollers may be temporarily placed in inoperative position.

5. The combination of a printing machine, bearings for holding the inking rollers in

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operative position, inking rollers mounted therein, stationary guide rails, and a tray or frame fitted to slide on said rails in which the inking rollers may be temporarily placed in inoperative position.

6. The combination of a printing press, a carriage frame arranged to slide laterally thereon and to receive and hold the inking rollers, and means for assisting in the placement of the inking rollers in said carriage frame.

7. The combination of a printing press, an ink roller carrying frame arranged to slide laterally thereon, and pivoted arms arranged to assist in handling the ink rollers.

8. The combination of a printing press, an ink roller carrying frame arranged to slide laterally thereon, arms or yokes for assisting in the handling of the inking rollers, and counter-weighting means for said arms.

9. The combination in a printing machine of the usual side frame bearings, inking rollers arranged therein, additional bearings at both sides of the machine in which the ends of each inking roller may be placed, and means whereby said additional bearings may be moved transversely of the machine.

10. The combination in a printing machine

of the usual side frame bearings, inking rollers arranged therein, additional bearings at both sides of the machine in which the ends of each roller may be placed, and means for moving said additional bearings transversely of the machine so that each roll may be caused to project or rendered accessible substantially half its length alternately at each side of the machine.

11. The combination in a printing machine of the usual side frame bearings, inking rollers arranged therein, additional bearings at both sides of the machine in which the ends of each roller may be placed, means for moving each roll from its usual side frame bearings to the additional bearings, and means whereby said additional bearings may be moved transversely of the machine to make the rolls accessible substantially half of their length alternately from each side of the machine.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

C. J. ROBERTSON.

Witnesses:

EDW. C. COLLINS,
M. J. MORRISON.