

No. 767,125.

PATENTED AUG. 9, 1904.

W. SCOTT.
INKING APPARATUS FOR PRINTING PRESSES.

APPLICATION FILED FEB. 11, 1901.

NO MODEL.

3 SHEETS—SHEET 1.

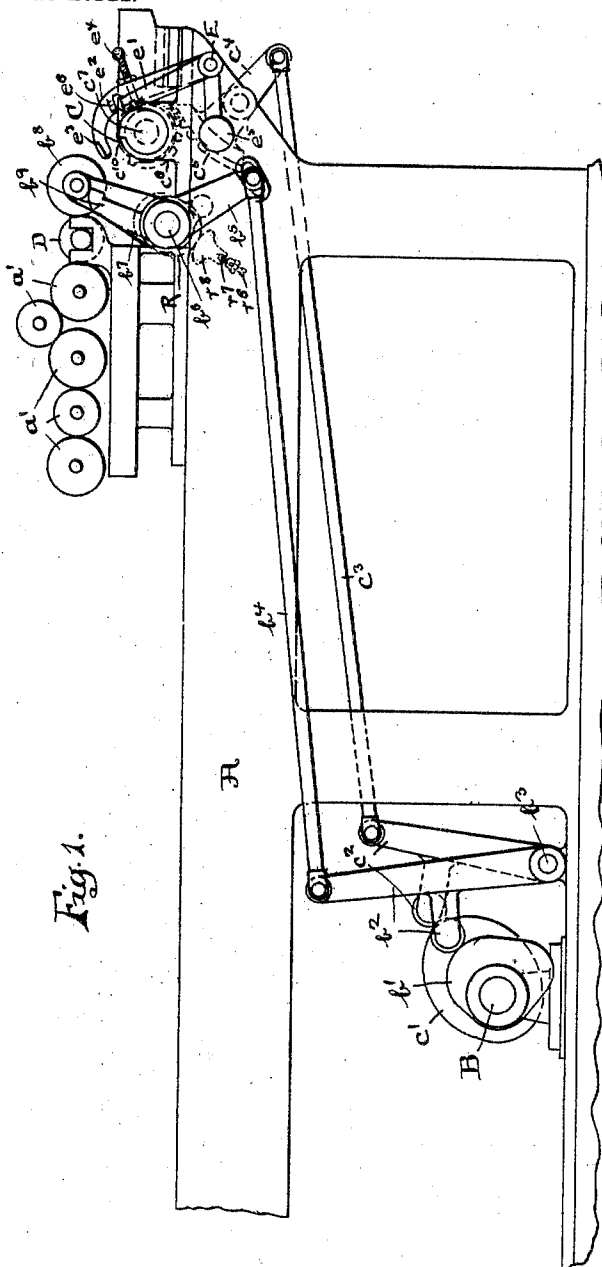


Fig. 1.

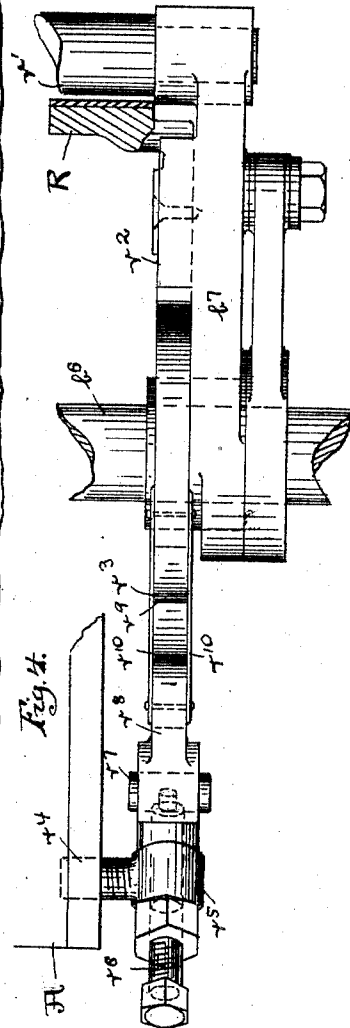


Fig. 4.

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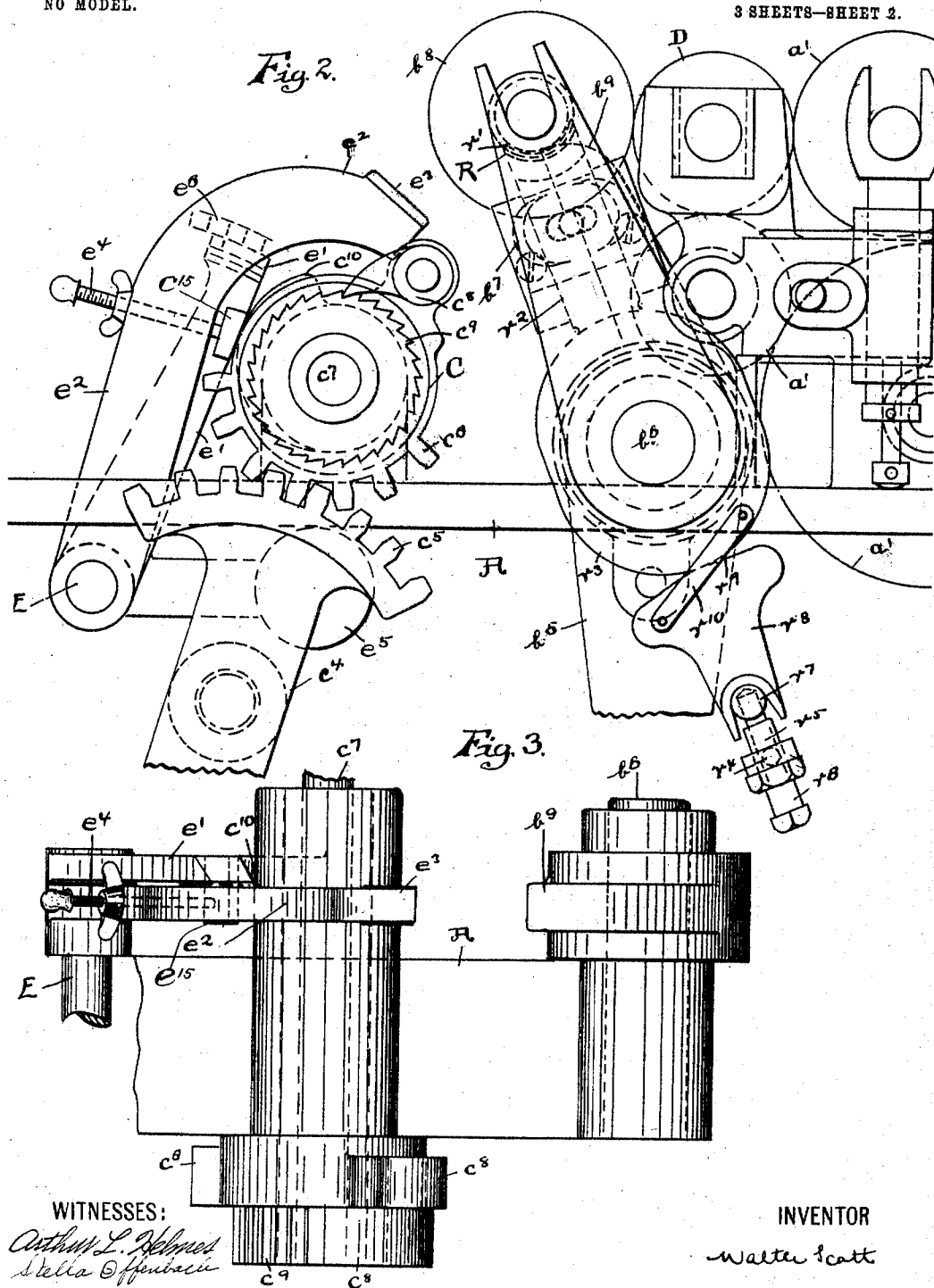
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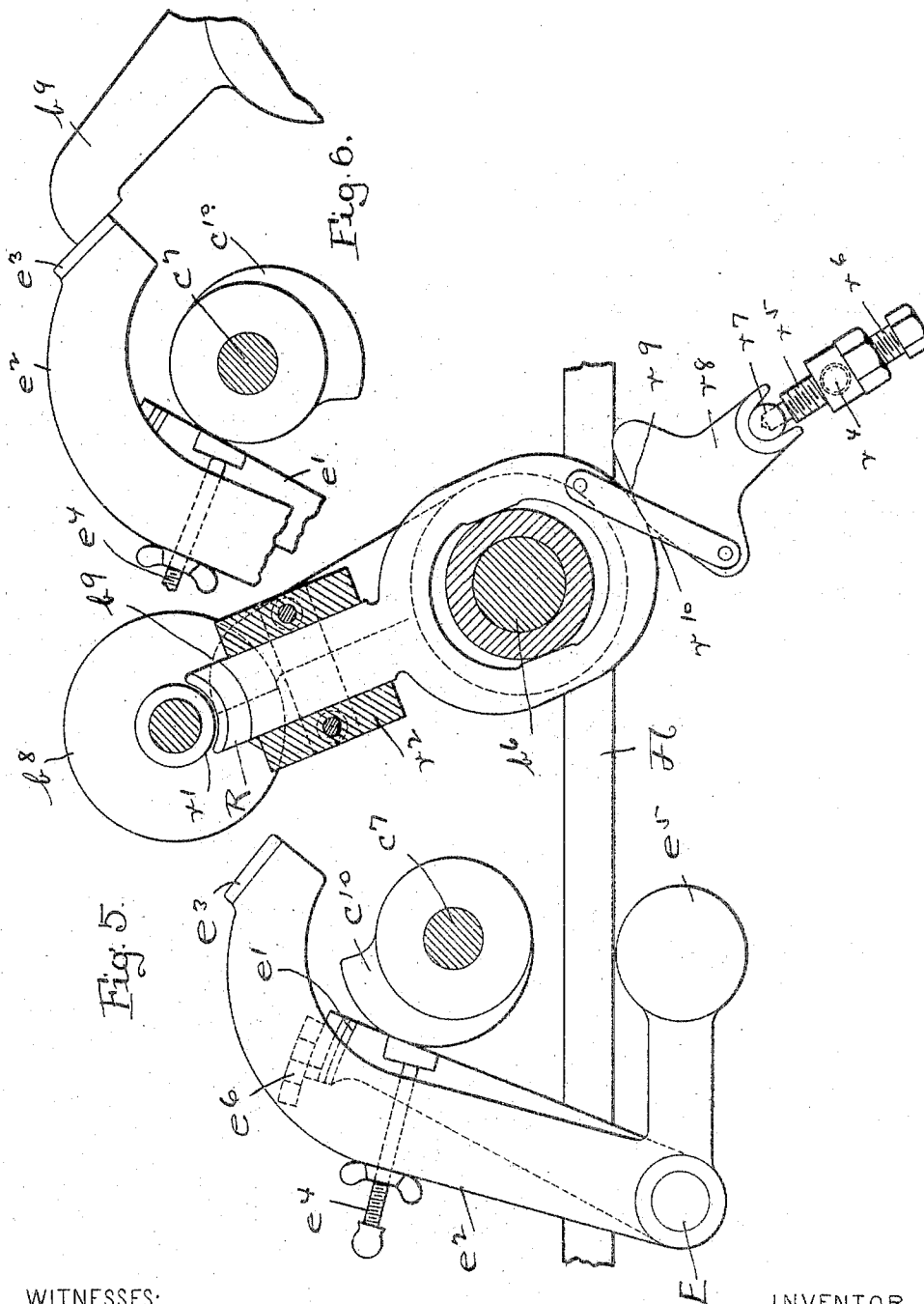
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3 SHEETS--SHEET 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

INKING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 767,125, dated August 9, 1904.

Application filed February 11, 1901. Serial No. 46,926. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Inking Apparatus for Printing-Presses, of which the following is a specification.

This invention relates to inking apparatus for printing-presses.

In the application for Letters Patent of the United States executed by me on the 30th day of January, 1901, I showed a ductor-roll adapted to be operated by a cam on the shaft of a continuously-revolving fountain-roll or by other means. I further showed a means, comprising two levers pivoted at one end, for regulating the length of dwell of the ductor-roll against the fountain-roll. In this application I show an inking apparatus similar to that disclosed in Patent No. 626,872, granted to me on the 13th day of June, 1899, in which the fountain-roll is given an intermittent but progressive rotary motion, the object of the invention set forth in this application being to regulate the quantity of ink supplied to a greater nicety.

In the drawings, Figure 1 is a side elevation of the inking apparatus of a two-revolution bed-and-cylinder printing-press, similar to that disclosed in Patent No. 626,872, above referred to, embodying my invention. Fig. 2 is a detail view of the fountain and ductor rolls and adjacent means shown in Fig. 1. Fig. 3 is a plan view of Fig. 2. Fig. 4 is an end view of the brake shown in Fig. 2. Fig. 5 is a view similar to Fig. 2, showing the side frames removed. Fig. 6 is a broken view showing the arm b^9 in contact with the surface e^3 of the lever e^2 .

Similar letters of reference indicate corresponding parts in the different views.

I shall describe an inking apparatus and means relating to same embodying my invention and afterward point out the novel features in the claims.

The framework A is of any desired character and carries a reciprocating bed (not shown) and a number of inking and distributing rolls d' . These means are not fully de-

scribed, as they are well known in the art and form no part of this invention.

In the framework A is mounted the shaft B, geared to make one revolution to each complete revolution of the printing-machine. On this shaft is placed a cam b' , which contacts with the lever b^2 , pivoted at b^3 and having the connecting-rod b^4 , connecting with the lever-arm b^5 , attached to the rock-shaft b^6 . On this rock-shaft is mounted, by means of two arms b^7 , the ductor-roll b^8 , which is caused alternately to contact the fountain-roll C and the ink-distributing roll D by the means just described, the parts being so timed that the ductor-roll is raised above the reciprocating bed when the latter passes under the same. On the rock-shaft b^6 is further placed the contacting arm b^9 , which by contacting with the means hereinafter described regulates the length of dwell of the ductor-roll against the fountain-roll. Upon the shaft B is placed a second cam c' , which contacts with the pivoted lever c^2 , having the connecting-rod c^3 , attached at its other end to the rock-arm c^4 , pivoted in the framework. This rock-arm c^4 carries a toothed segment c^5 , adapted to cooperate with the segment c^6 , mounted loosely on the shaft c^7 of the fountain-roll C. The segment c^6 carries a pawl c^8 , which operates the ratchet c^9 . The ratchet c^9 is fast on the fountain-roll shaft and is driven by the pawl c^8 in one direction, while the ductor-roll b^8 is in contact with the fountain-roll and remains stationary while the segment c^6 is returning. By this means the fountain-roll is given an intermittent progressive rotary motion, the said means just described being more fully disclosed in Patent No. 626,872 and need not be further explained here.

Mounted in the framework is the stud E, which carries two levers e' and e^2 , pivoted with their ends on same. The lever e' is adapted to rest with its free end on the eccentric cam e^{10} , carried by the segment c^6 , mounted loosely on the fountain-roll shaft. The lever e^2 is provided with a contacting portion e^3 , adapted to come in contact with the contacting arm b^9 on the rock-shaft carrying the ductor-roll. The lever e^2 is further adapted to rest on a portion e^{15} of the lever e' , a set-screw e^4 pass-

ing through e^2 to regulate the distance between the two levers, and thereby regulate the position of the portion e^3 with relation to the arm b^9 , by means of which the supply of ink transferred can be regulated to a nicety by increasing or decreasing the length of dwell of the ductor-roll against the fountain-roll. If the levers e^1 and e^2 and contacting arm b^9 were not provided, the ductor-roll would oscillate between the fountain-roll and the ink-distributing roll and always remain in contact with the said fountain-roll a certain length of time. With this device, however, the levers e^1 and e^2 are moved up periodically by the cam c^{10} , and the lever e^2 engaging with the arm b^9 will prevent the ductor-roll from remaining in contact with the fountain-roll the full length of time. Moreover, by adjusting the two levers e^1 and e^2 with relation to each other the period of contact of the surface e^3 with the arm b^9 can be regulated, thus getting an additional adjustment. In the sister application hereinbefore referred to the position of the levers just described is nearly horizontal. In the construction here shown their position is nearly vertical, thereby necessitating the balance e^5 to keep the lever e^1 up against the eccentric cam c^{10} . This might of course be done by means of a spring or by any other suitable means. To aid the operator in adjusting the two levers with relation to each other, a graduated scale e^6 may be used, as shown in the drawings, or any other means which would accomplish the same object might be used.

In order to stop the motion of the ductor-roll after it leaves the ink-distributing roll D and before it comes in contact with the fountain-roll, or vice versa, I provide the brake R, adapted to contact the portion r^1 of the shaft of the ductor-roll. The brake R slides in the guides r^2 and is provided with the rounded portion r^3 . Mounted upon the framework by means of the transverse screw r^4 or by other means is the bushing r^5 , provided with the adjusting-screw r^6 , carrying the pivot r^7 , which is stationary and adapted to carry the lever r^8 , provided with the slightly-raised portion r^9 . As the ductor-roll moves the two rounded portions r^3 and r^9 contact, thereby raising and applying the brake to the shank of the ductor-roll. In order to facilitate the disengagement of the two rounded portions r^3 and r^9 , there are provided the two levers r^{10} , fastened to the lever r^8 and the portion r^3 of the brake R, which tends to push them apart and also to prevent displacement. The advantage of this form of brake is that owing to the contour of the rounded portions the wear is very slight, and whatever wear there is may be compensated for by the adjusting-screw r^6 .

It will of course be understood that details of construction may be changed or supplementary devices added, as means for turning

the fountain-roll by hand, &c., all as fully described and shown in Patent No. 626,872. Furthermore, it is obvious that the cam e^{10} might be located on a shaft or stud separate from the fountain-roll shaft, in which case the fountain-roll might have a motion of any kind and the stud or shaft carrying the cam an intermittent progressive rotary motion.

Having thus described my invention, what I claim is—

1. In a printing-press, the combination with a fountain-roll, and a ductor-roll adapted to contact with the fountain-roll at intervals, of a cam having an oscillating motion, means moving with the ductor-roll, and adjustable means coöperating therewith located on the framework but operated by the cam, whereby the length of dwell of the ductor-roll against the fountain-roll is regulated.

2. In a printing-press, the combination with a fountain-roll having an intermittent progressive rotary motion, and a ductor-roll adapted to contact with the fountain-roll at intervals, of a cam having an oscillating motion, means moving with the ductor-roll, and adjustable means coöperating therewith located on the framework but operated by the cam, whereby the length of dwell of the ductor-roll against the fountain-roll is regulated.

3. In a printing-press, the combination with a fountain-roll, a ductor-roll, and a rock-shaft adapted to vibrate the ductor-roll to and from the fountain-roll, of means for imparting an intermittent progressive rotary motion to the shaft of the fountain-roll, a cam carried by the said means, a lever pivoted at one end adapted to rest with its free end on the cam, a second lever adapted to rest on the first lever, means for adjusting the two levers with relation to each other, and means moving with the ductor-roll for engaging with the second lever thereby regulating the time of dwell of the ductor-roll against the fountain-roll.

4. In a printing-press, the combination with a fountain-roll, of a ductor-roll and a rock-shaft adapted to vibrate the ductor-roll to and from the fountain-roll, a ratchet-wheel fast on the shaft of the fountain-roll, a gear-segment adapted to receive a back-and-forth motion loosely mounted on the shaft of the fountain-roll, a pawl carried by said gear-segment adapted to operate with the ratchet to impart an intermittent progressive rotary motion to the fountain-roll and to return without imparting motion to the fountain-roll, a cam moving with the said gear-segment, a lever pivoted at one end adapted to rest with its free end on the cam, a second lever adapted to rest with its free end on the first lever, means for adjusting the two levers with relation to each other, and means moving with the ductor-roll for engaging with the second lever thereby regulating the time of dwell of the ductor-roll against the fountain-roll.

5. In a printing-press, the combination of

a fountain-roll, means for imparting an intermittent, progressive, rotary motion to the fountain-roll, a rock-shaft carrying a ductor-roll, a contacting arm carried by the rock-shaft, a cam moving with the means for imparting motion to the fountain-roll, a pivoted lever adapted to rest with its free end on the cam, a second pivoted lever adapted to rest on a portion of the first lever and terminating in a portion adapted to contact the contacting arm carried by the rock-shaft thereby regulating the period or length of time of contact or dwell of the ductor-roll against the fountain-roll, and coöperative means formed between the two levers whereby the relative position of the second lever with regard to the arm on the rock-shaft with which it contacts may be varied.

6. The combination with a brake for arresting the rotation of the ductor-roll of two portions, one moving with and as the ductor-roll is vibrated, and the other movably supported on a pivot and adapted to contact the first portion, and means whereby the vibration of the ductor-roll causes the synchronous motion of the two portions to operate the brake.

7. The combination with a ductor-roll, means for rotating and vibrating the same and a brake for arresting the rotation of said ductor-roll, of two portions comprising a knuckle-joint, and means loosely connecting

the said portions for actuating the knuckle-joint by the vibration of the ductor-roll to operate the brake.

8. The combination with a ductor-roll, means for rotating and vibrating the same and a brake for arresting the rotation of said ductor-roll, of two portions moving with and as the ductor-roll is vibrated and the other movably pivoted, and means whereby the vibration of the ductor-roll causes a rocking contacting motion of the two portions to operate the brake.

9. The combination with a ductor-roll, means for rotating and vibrating the same and a brake for arresting the rotation of said ductor-roll, of two parts comprising a joint, one part of which is carried by a portion moving with the ductor-roll, the other part of which is adapted to move on a stationary but adjustable support, and coöperative means formed between the two parts whereby the vibration of the ductor-roll actuates the joint to operate the brake.

Signed at New York, in the county of New York and State of New York, this 1st day of February, A. D. 1901.

WALTER SCOTT.

Witnesses:

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AXEL V. BEEKEN.