

(No Model.)

3 Sheets—Sheet 1.

W. SCOTT.

INKING APPARATUS FOR PRINTING MACHINES.

No. 338,366.

Patented Mar. 23, 1886.

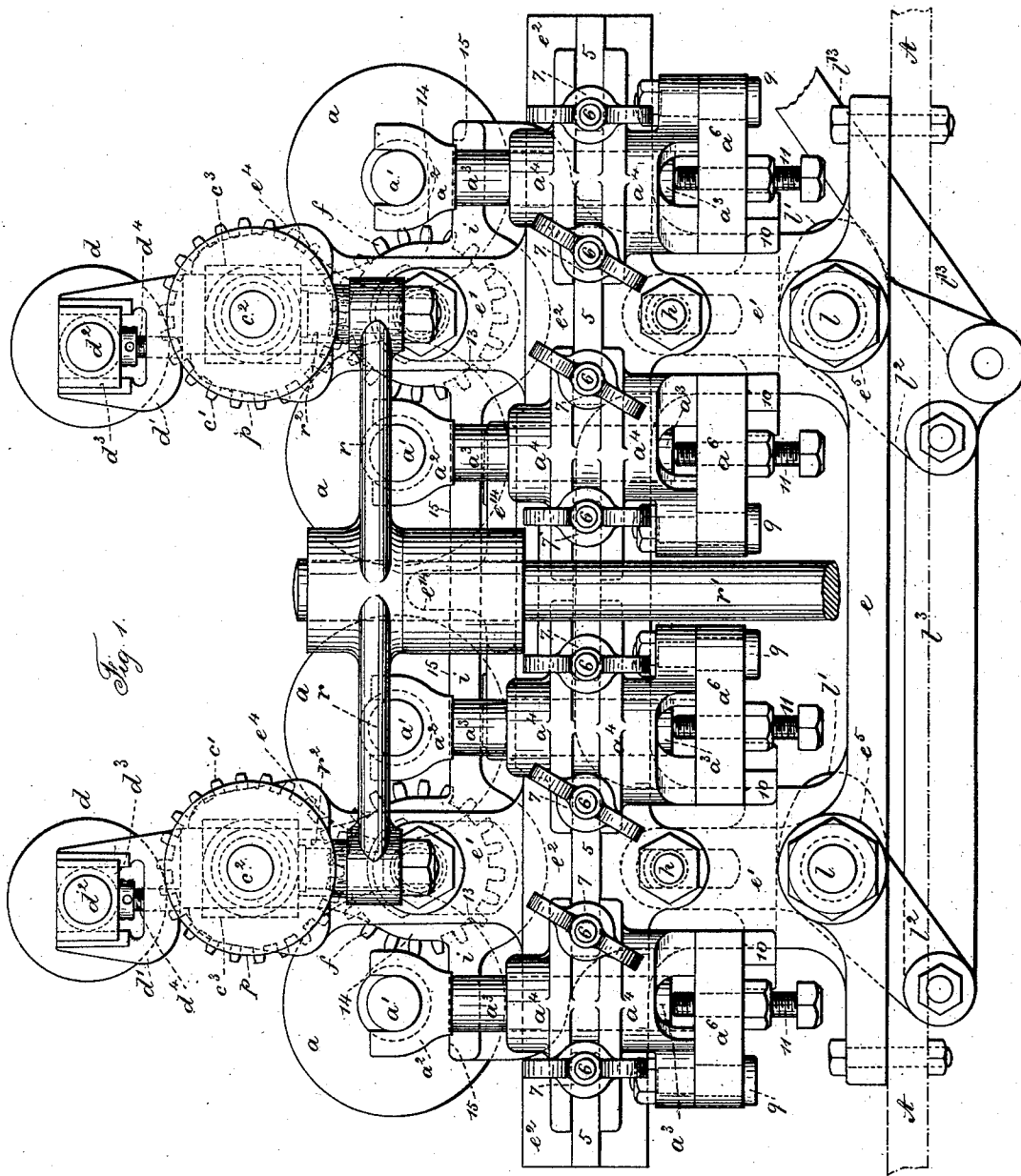


Fig. 1.

Witnesses:
J. Stait
Chas. H. Smith

Inventor:
Walter Scott
per Lemuel W. Perrell atty

(No Model.)

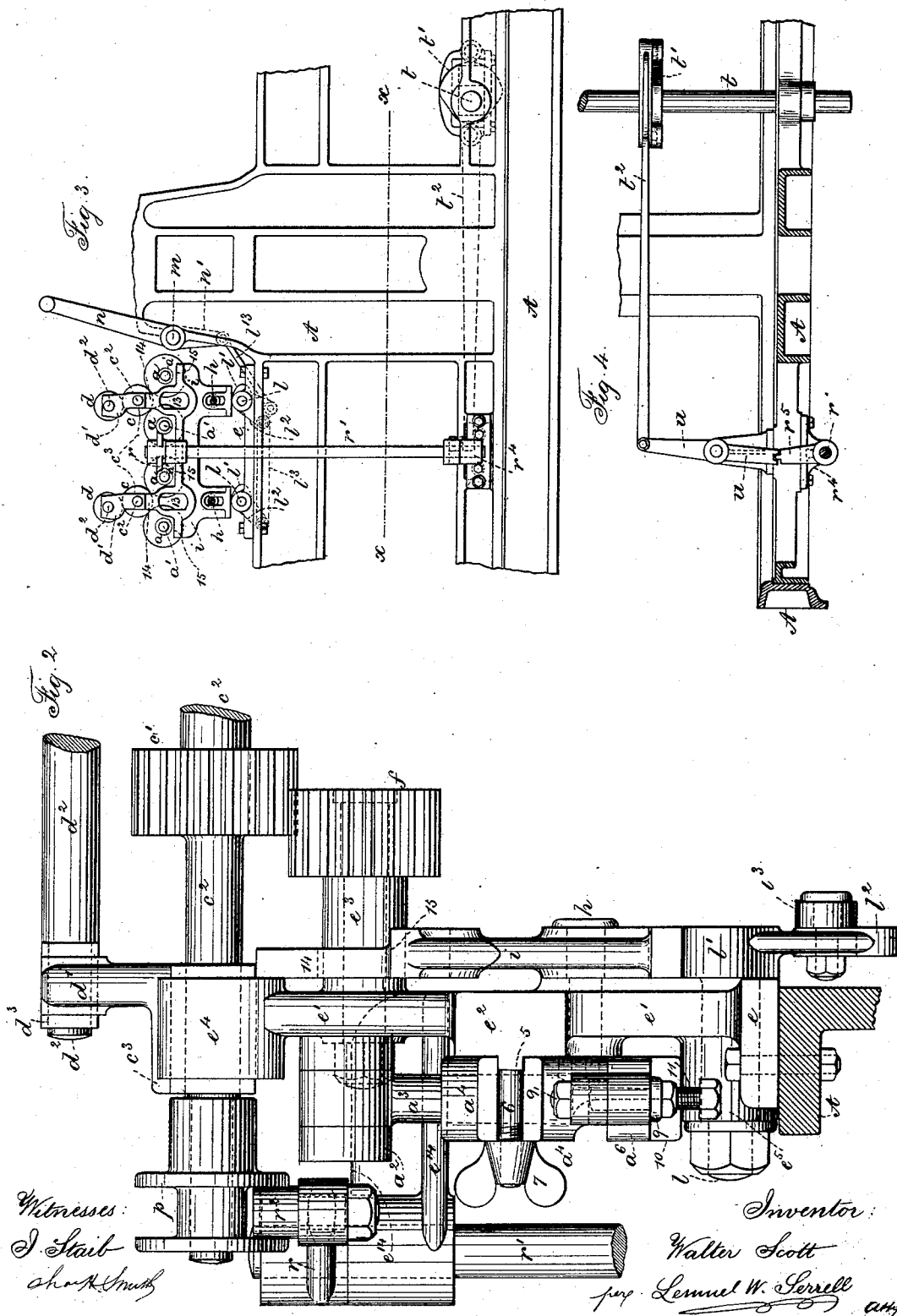
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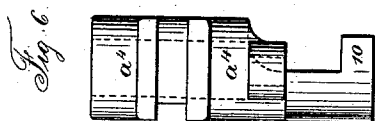
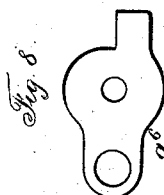
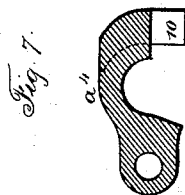
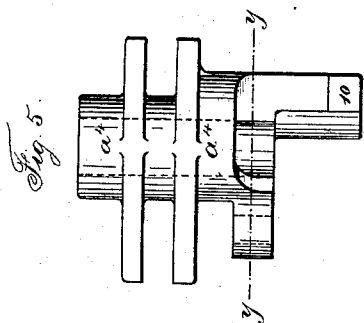
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UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

INKING APPARATUS FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 338,366, dated March 23, 1886.

Application filed June 2, 1884. Serial No. 133,502. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT, of Plainfield, in the county of Union and State of New Jersey, have invented an Improvement in Inking Apparatus for Printing-Machines, of which the following is a specification.

The object of this invention is to provide for the removal and replacing of the composition inking-rollers with facility. The journals of these inking-rollers are in jaws upon the ends of vertical rods. Said rods pass through stocks that are grooved, and have flanges projecting laterally from them, and said stocks slide upon ribs upon the frame of the machine, and there are screws upon the ribs and nuts upon the screws by which said stocks are clamped in place. There are swinging plates upon the lower part of the stocks and adjusting-screws passing through said plates. The vertical rods rest upon and are adjusted by said screws, and when desired the plates can be swung aside and the rods lowered for the removal of the rollers without affecting the adjustment by the screws.

In the drawings, Figure 1 is an elevation endwise of the rollers. Fig. 2 is a side view of the connections and frames at one end of the rollers. Fig. 3 is an elevation of part of the printing-press frame, showing also the inking-rollers and the lifter-plate, the bearings and frames for the form-rollers being removed and part of the levers *r* being also removed. Fig. 4 is a sectional plan of the rocker mechanism below the line *xx* of Fig. 3. Fig. 5 is an elevation, and Fig. 6 a side view, of the stock. Fig. 7 is a section at *yy* of Fig. 5, and Fig. 8 is a plan of the swinging plate.

The printing-press is of any ordinary construction. My improvements, however, are especially available with a press having a reciprocating bed and an impression-cylinder.

The frame *A* of the press is adapted to receive the other parts of the press. It is to be understood that there is a frame at each side of the press, and that the devices for receiving the journals of the inking-rollers, adjusting, and lifting the same correspond at the two ends of the rollers. The inking-rollers are in groups, as usual. I have shown two such groups, and it is preferable to provide either

two or four groups, but some features of my invention might be employed with but one group. Each group of inking-rollers is composed of the two composition rollers *a a*, the metallic distribution-roller *c*, and the composition working-roller *d*.

Upon the frames *A* of the press the frames for the inking-rollers are bolted. Each of these frames consists of a base, *e*, two standards, *e'*, and a horizontal bar, *e''*, ribbed on its face, and these parts are all cast together. Upon the standards *e'* there project inwardly hubs *e'''*, carrying the gudgeons or axles upon which the pinions *f* revolve. These pinions *f* receive motion from the rack upon the side of the type-bed, so as to turn such pinions by the movement of the bed and rotate the pinion *e'* of the distributor *c* and give motion to the composition rollers *a a* corresponding to the movement from contact with types. Thereby the composition rollers will be in motion when they come into contact with the types and be moving in the proper direction and at the same surface speed. The shaft *e''* of the distributor-rollers *c* pass into boxes *e'''* in the jaws *e''* at the upper ends of the standards *e'*. These boxes are guided by said jaws, and they can slide up or down therein, and the boxes *e'''* and shafts *e''* and rollers *c* can be lifted out of the jaws when necessary for cleaning or otherwise. The boxes *e'''* are prolonged upwardly in the form of jaws *d'*, that receive the boxes *d''*, through which the shafts *d''* of the composition rollers *d* pass. The screws *d'* prevent the roller *d* resting too heavily upon the distributor *c*, and the composition roller *d* and its boxes can be lifted out whenever required. The shafts *a'* of the composition inking-rollers *a* are received into the jaw-bearings *a''* at the upper ends of the rods *a'''*, and these rods pass vertically through the stock *a''*. These stocks *a''* are shown separately in the elevation Fig. 5 and side view Fig. 6, and Fig. 7 is a section at *yy*, Fig. 5. The back of each stock *a''* is grooved to set over and be supported by the longitudinal rib *b* upon the face of the horizontal portion *e''* of the ink-roller frames, and from this rib project the bolts *b*, with the clamping-nuts *7*, and at each side of the stock *a''* there are slots for these bolts *b*, said slots being between flanges that project laterally at each side of

the stock a^4 . By this construction the stocks are easily attached to or removed from the ink-roller frames, and these stocks can be adjusted horizontally to move the composition inking-rollers a into the proper intimate contact with the sides of the distributor-rollers c . The jaw-rods a^3 pass vertically through holes in the stocks a^4 , and beneath each of such rods is a swinging plate, a^6 , pivoted upon the bolt 9, that passes up into the stock, and resting, when swung into place, upon the projecting lug 10, and there is a set-screw, 11, passing vertically through the plate a^6 , directly below the jaw-rod a^3 . It is now to be understood that this screw 11 is used to raise or lower the rod a^3 and its jaw a^2 and adjust the composition roller so that it will rest properly upon the types in inking the same, and that when this plate a^6 is swung aside the rod will drop down in the stock and the jaw rest upon the top of such stock, and the jaw will be sufficiently below the shaft of the composition roller to allow the roller to be lifted off or to be replaced by the reverse movements, thus giving great facility for adjusting and changing the inking-rollers. The jaws, stocks, and frames are the same at both sides of the press, so that the two ends of the respective rollers can be adjusted and acted upon in the manner before described.

In order to separate the distributing-rollers c from the composition inking-rollers a , and to lift the latter from the types whenever the press is stopped, so as to prevent the composition being injured by prolonged contact with the types or with the distributors, I make use of the following devices: A lifter-plate, i , is applied to the inner side of each of the frames $e e'$, and it is held in place by headed screw-studs h , passing through vertical slots in the lifter-frame into the standards e' . These slots allow the plate i to be raised up bodily. There are also slots 13 where the plate passes the hubs e^3 . The upper projections, 14, of the lifter-plate i are below the boxes e^3 , and there are bearing-edges at 15 at about three-eighths of an inch below the under sides of the shafts a' of the composition rollers a . In the base e there are hubs e^5 for the gudgeons l , that project from the cams l' and pass through the hubs, and are retained by nuts. The cams l' come below the lower parts of the lifter-plate i , and each cam has an arm, l^2 , below it. The arms are connected by the link l^3 . There is a shaft, m , Fig. 3, supported upon the frames $A A$, and extending across the press. The lever n upon said shaft allows the pressman or attendant to give the shaft m a partial rotation when the rollers are to be separated, and by the arms n' upon such shaft m and the links l^3 to the arms l^2 the cams l' at the two sides of the press are simultaneously partially turned and the plates i lifted bodily. In doing this the projections 14 first come in contact with the journal-boxes e^3 and lift them and the distributor-roller c from off the composition rollers, and then the upper edges, 15, of the lifter-plate i , coming up under the shafts

a' , lift the composition-rollers off the types, and the parts are held in this position, with the composition rollers entirely free from contact until a reverse movement of the lever n restores the parts to their normal position for use.

To give end motion to the distributor-rollers c , I make use of a flanged spool, p , on the axis of each roller at one end, and I provide a rocker-lever, r , at the upper end of the shaft r' . This rocker-lever has rollers r^2 —one at each end—passing into the flanged spool, and the shaft r' is sustained by an arm, e^4 , extending out from the frame $e e'$ and either formed with or bolted to the same. The lower end of the rocker-shaft r' is in a step, r^4 , on the frame A , and there is an arm, r^5 , extending inwardly from the same.

t represents one of the shafts in the printing-press, and upon it is a cam, t' . The rod t^2 is provided with rollers—one at each side of the cam t' —and u is a lever upon which this rod t^2 acts; and the other end of the lever has a notch receiving the tooth at the end of the arm r^5 , so as to give to said arm r^5 , rock-shaft r' , and rocker-lever r an oscillating movement and slide the inking-rollers c and shafts c^2 endwise in their bearings and distribute the ink upon the composition inking-rollers a .

If desired, the screws 11, that adjust the jaw-rods a^3 vertically, may be placed in screw-holes running vertically into the bottom ends of such jaw-rods, the heads of the screws resting upon the plates a^6 .

All the novel and patentable devices and combinations herein described and shown are my invention.

The following is a summary of the devices and combinations of devices which I now understand and am advised should be expressed in claims, for the protection of the aforesaid invention.

I claim as my invention—

1. The combination, with the distributing and inking rollers and their shafts, of the jaws a^2 and jaw-rods a^3 , the stocks a^4 , grooved and having flanges that project laterally from said stock, the swinging plates a^6 , and adjusting-screws 11, the frames $e e' e^2$, the ribs 5 upon the surfaces of said frames for the grooved stocks a^4 to slide upon, the clamping-screws 6, projecting from said ribs 5, and nuts 7 upon said screws, substantially as specified.

2. The combination, with the composition inking-rollers, and the ink-distributing roller above them, of vertical rods with jaws for the journals of the inking-rollers, stocks through which the rods pass, and adjusting-screws and swinging plates for supporting and adjusting the vertical rods and for lowering the jaws for the removal of the rollers, substantially as set forth.

Signed by me this 29th day of May, A. D. 1884.

WALTER SCOTT.

Witnesses:

GEO. D. PINCKNEY,
WILLIAM G. MOTT.