No. 764,594. PATENTED JULY 12, 1904.

R. T. JOHNSTON.

INKING APPARATUS FOR PRINTING PRESSES.

APPLICATION FILED OCT. 5, 1899. RENEWED NOV. 14, 1903.

NO MODEL. 4 SHEETS—SHEET 1.

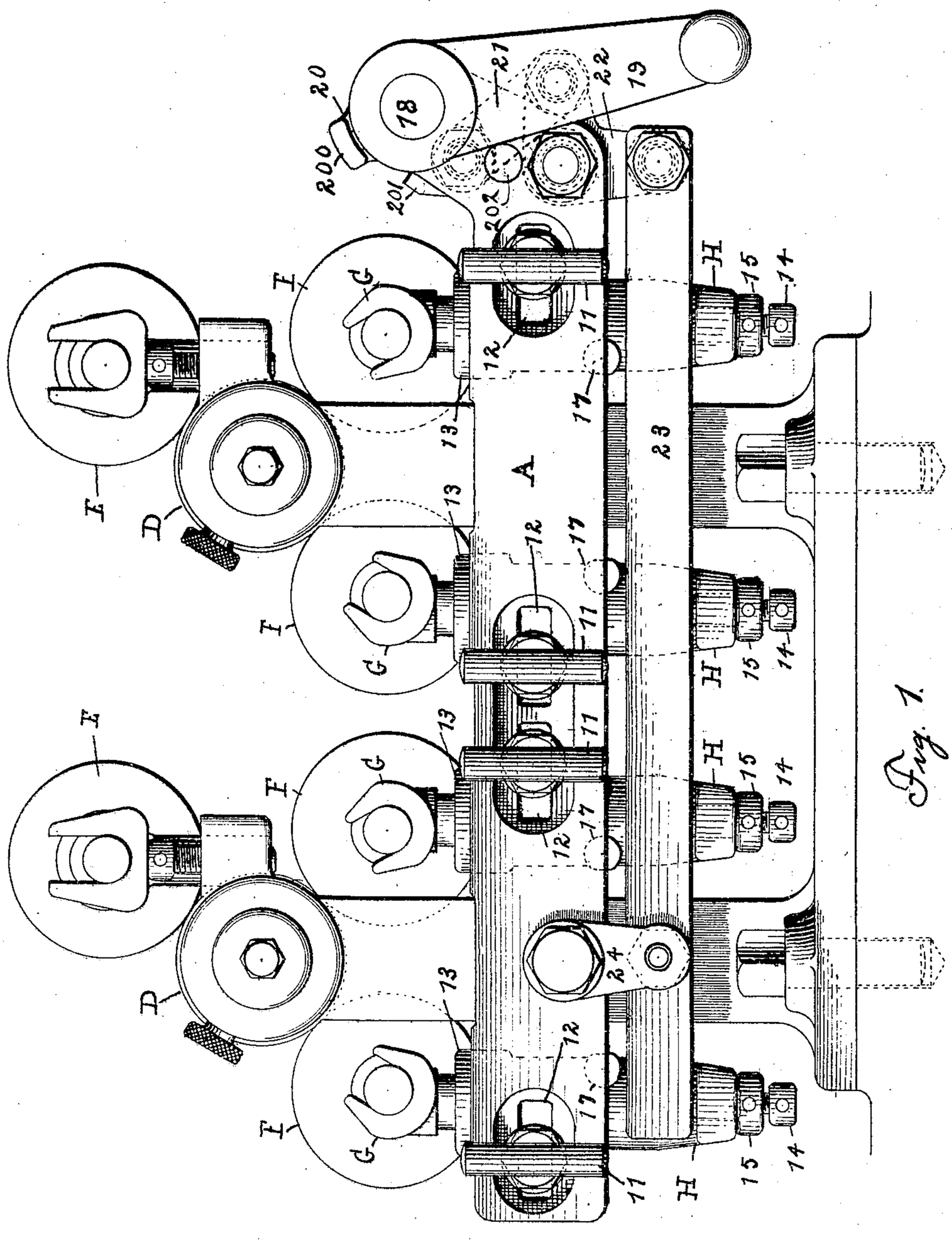

Fig. 1.

Witnesses:
Harry M. Rugg.
M. E. Regan.

Inventor:
R. T. Johnston,
By Attorneys:
Southgate & Southgate

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NO MODEL. 4 SHEETS—SHEET 2.

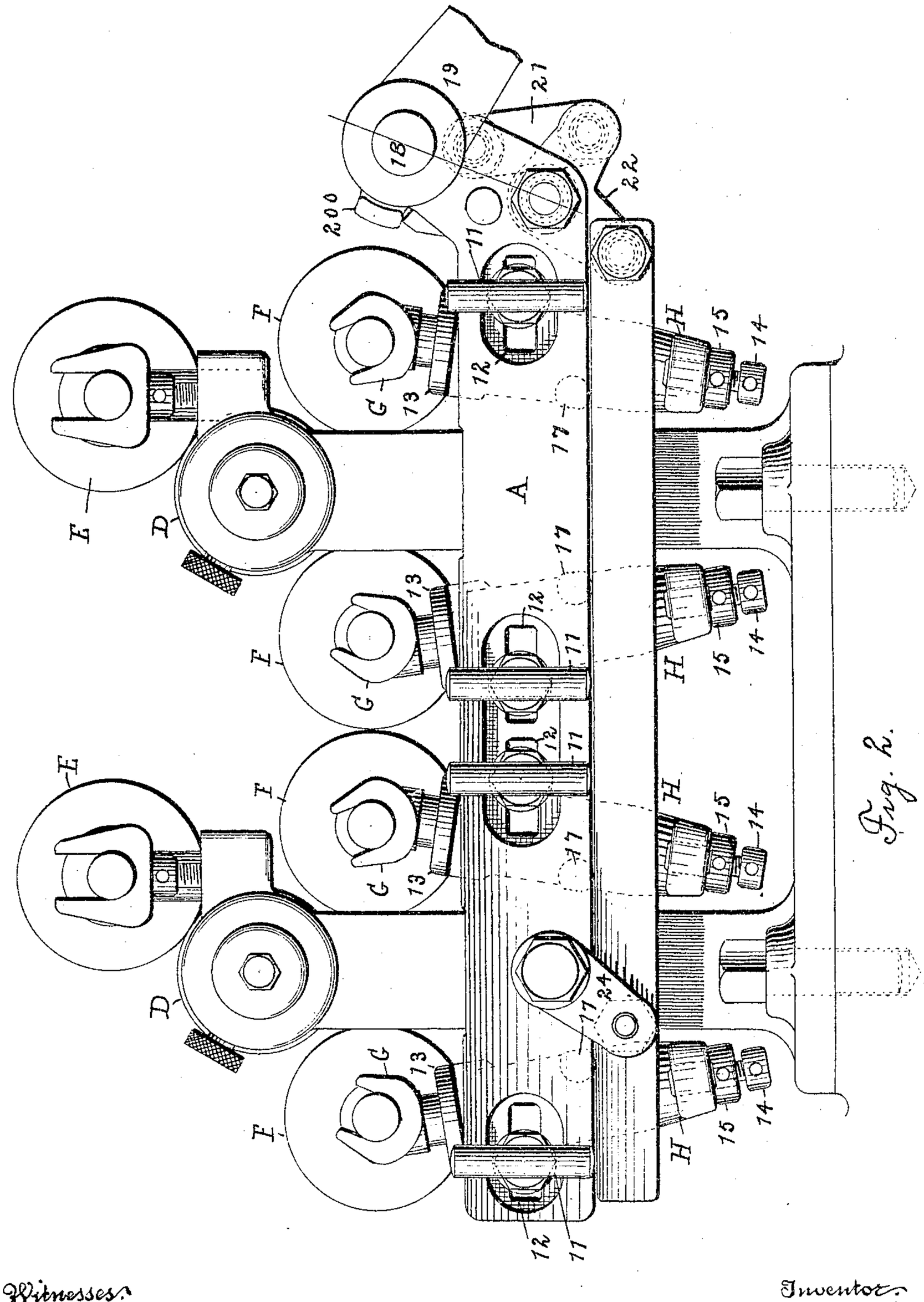

Fig. 2.

Witnesses:
Harry M. Rugg.
M. E. Regan.

Inventor:
R. T. Johnston,
By Attorneys:
Southgate & Southgate

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NO MODEL. 4 SHEETS—SHEET 3.

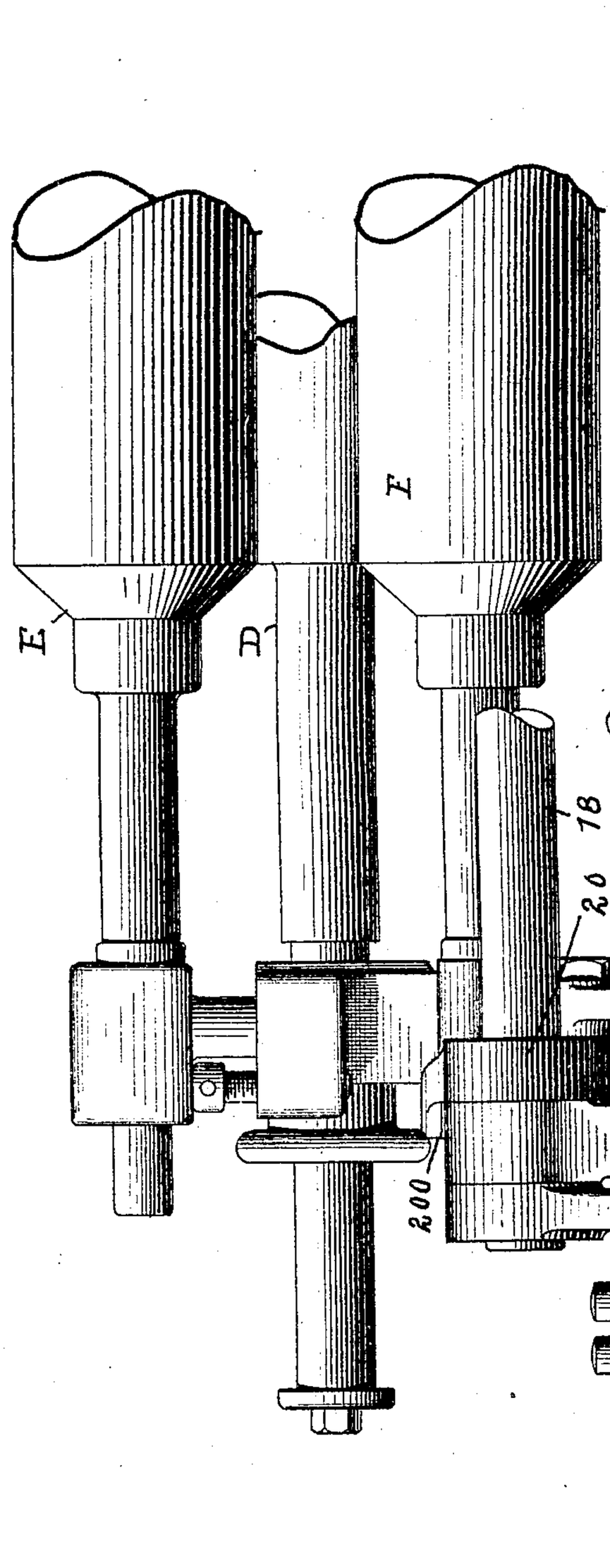

Fig. 3

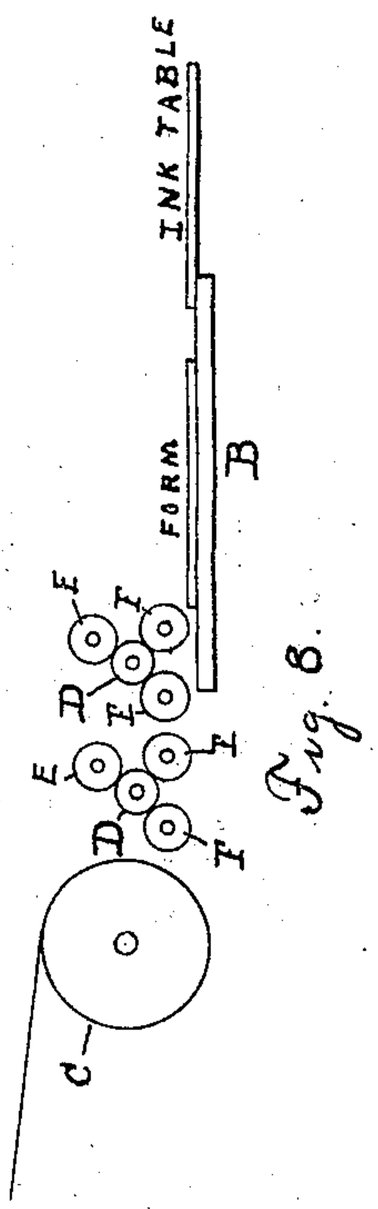

Fig. 8.

Witnesses:
Harry M. Rugg.
M. E. Regan.

Inventor:
R. T. Johnston

By Attorneys:
Southgate & Southgate

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NO MODEL. 4 SHEETS—SHEET 4.

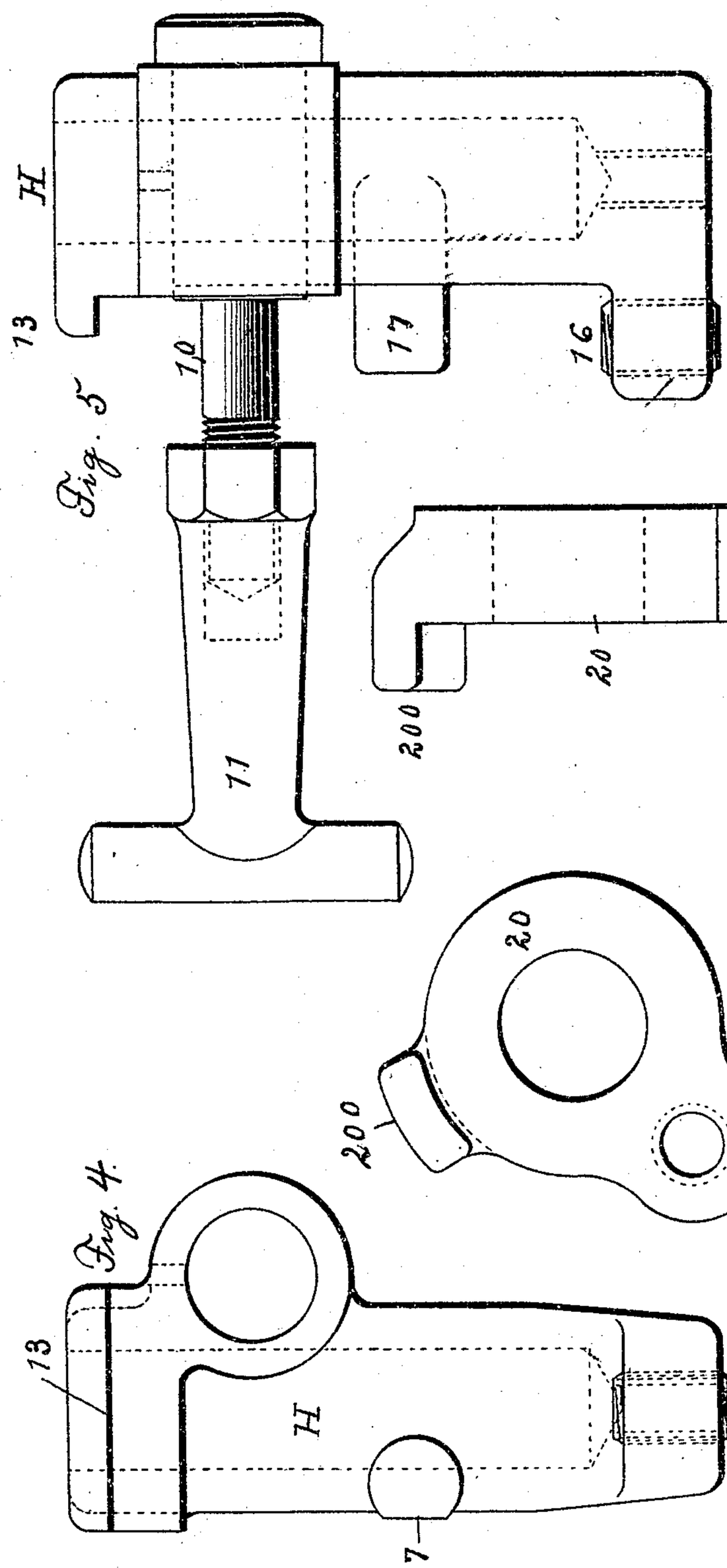

Fig. 5

Fig. 7

Fig. 6

Fig. 4.

Witnesses:
Harry M. Rugg.
M. E. Regan.

Inventor:
R. T. Johnston
By Attorneys:
Southgate & Southgate

No. 764,594. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

ROBERT T. JOHNSTON, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO THE CAMPBELL PRINTING PRESS & MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

INKING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 764,594, dated July 12, 1904.

Application filed October 5, 1899. Renewed November 14, 1903. Serial No. 181,246. (No model.)

To all whom it may concern:

Be it known that I, ROBERT T. JOHNSTON, a citizen of the United States, residing at Plainfield, in the county of Union and State of New Jersey, have invented a new and useful Inking Apparatus for Printing-Presses, of which the following is a specification.

This invention relates to the devices for carrying and adjusting the form-inking rollers which are arranged adjacent to the impression-cylinder of the ordinary reciprocating-bed printing-press to take the ink from the ink-table and deposit the same upon the printing-forms or type carried by the bed.

The aim of the invention is to provide devices for adjusting and holding the form-inking rollers so that the form-inking rollers can quickly be thrown out of or into contact with the printing-forms and distributer-rollers and remain locked in either position.

When the press is not to be used for some time or when the press is being made ready, it is desirable to have the form-inking rollers clear of the forms and clear of the distributer-rollers, for the reason that if they are left in contact with either of these parts they are apt to "flat," or the ink is apt to dry or set and glue the surfaces thereof to the distributer-rollers or the forms, so that the correct cylindrical shape thereof will be destroyed.

I have invented a very simple and efficient mechanism by which the form-inking rollers can be readily adjusted both to the distributer-rollers and to the forms and can be thrown into and out of operative position and locked in either position by simply turning a handle.

I am aware that it is not new, broadly, to provide devices to move the form-inking rollers out of operation; but I believe that the mechanism that I have invented for doing this in a very simple and efficient maner is broadly new.

I will now describe the preferred form of my invention, and to follow the same reference should be had to the accompanying four sheets of drawings, in which—

Figure 1 is a side elevation of my improved inking apparatus with the form-inking rollers in their operative position. Fig. 2 is a similar view with the form-inking rollers moved to their inoperative position. Fig. 3 is an end elevation of the operating connections. Figs. 4 and 5 are elevations of a part hereinafter termed the "socket-holder." Figs. 6 and 7 are elevations of a part hereinafter termed the "operating-lever," and Fig. 8 is a small diagram illustrating the position that the form-inking rollers occupy relatively to the cylinder and bed.

In detail, referring first to Fig. 8, B represents the ordinary reciprocating bed of a printing-machine, and C the impression-cylinder. F F and F F indicate two sets of form-inking rollers. A distributer-roller D is arranged above and to coöperate with each pair of form-inking rollers, and a composition roller E is generally arranged above to coöperate with each distributer-roller. These parts are arranged in the well-known manner to take ink from the ink-table and spread the same on the forms. I have shown two sets of form-inking rollers arranged in front of the impression-cylinder, which is one accepted form of press, although in other presses but a single set of form-inking rollers is used, and my invention is of course applicable to either construction. The inking apparatus is arranged in frames A, which project up from the side frames of the machine. The form-inking rollers are journaled in sockets G, which sockets are adjustably secured in socket-holders H. The distributer-rollers D are journaled in the frames A and have any of the usual devices—as, for example, the well-known rack-and-screw devices for vibrating the same laterally—a description of the details of which is not necessary in this application. The composition rollers E are journaled in adjustable socket-pieces which are fitted in the frames A. The socket-holders G are held in place by means of studs 10, which have heads, as shown in Fig. 5, and which have reduced screw-threaded portions projecting fron the portions which are fitted into the socket-holders. Hand-nuts 11 are threaded onto the ends of the studs 10. The

studs 10 project through slots 12, cut in the frames A, and as the cylindrical portions of the studs that are within the hubs on the socket-holders project slightly through the same, as shown in Fig. 5, the studs can be tightly clamped to the frames A by means of the hand-nuts and the socket-holders still left free to pivot or swing thereon. The studs thus form pivots for the socket-holders. The socket-holders have shoulders 13 formed thereon, as shown, which shoulders are adapted to strike on the top of the frames A when the form-inking rollers are in operative position. The sockets can be adjusted up and down in the socket-holders by means of screws 14 and check-nuts 15. The socket-holders have screws 16 fitted in ears projecting from the lower edge thereof, and also have lugs 17 projecting over said screws. It will be seen that the studs 10, which form pivots for the socket-holders, are arranged below and on the opposite side relatively to the distributer-rollers of the centers of the form-inking rollers, and this permits of the action hereinafter described.

18 designates a shaft which is journaled in the frames A. On the shaft are secured handles 19 on the outside of the frames. On said shaft 18 just inside the frames are secured operating-levers 20, which have projections 200 and which connect by links 21 to bell-crank levers 22, pivoted on the inside of the frames. The other ends of the bell-crank levers support parallel bars 23, which bars are also supported at their other ends by levers 24, pivoted on the outside of the frames.

The construction on each side of the press is the same, or rather right and left, it not being necessary to show the construction but upon one side of the machine.

The operation with this mechanism is as follows: The form-inking rollers may be adjusted relatively to the forms by manipulating the screws 14 and the check-nuts 15. The form-inking rollers may be further adjusted relatively to the distributer-rollers by operating the hand-nuts 11 and adjusting the socket-holders back and forth in the slots 12. It will be noted that these adjustments do not in any way interfere with the swinging action imparted to the form-inking rollers, as hereinafter described. The form-inking rollers are shown in adjusted and operative position in Fig. 1. When it is desired to throw the form-inking rollers clear of the forms and distributer-rollers, one of the handles 19 is raised. This by means of the links and bell-crank levers imparts a left-hand movement to the parallel bars 23. The bars will have a parallel movement because the lower ends of the bell-crank levers 22 and the levers 24 are of the same length. As the parallel bars rise the same will contact with the lugs 17 on the socket-holders and will swing the socket-holders about the studs 10 as centers. The position of these centers will cause the form-inking rollers to move on arcs of circles that will raise the same clear of the forms and free of the distributer-rollers or to the position shown in Fig. 2. When the parts have reached this position, they are locked therein, because the points or centers at which the links 21 connect to the operating-levers 20 have passed to the right of lines between the centers of the shaft 18 and the pivots of the bell-crank levers, and thus the weight of the socket-holders tends to raise the handles 19 still farther and causes the projections 200 on the operating-levers 20 to contact with the stops 201 on the frames. When it is desired to put the form-inking rollers back in contact with the forms and distributers and lock them there, one of the handles is moved to the left. This throws the parallel bars down into contact with the screws 16 and draws the socket-holders down until the shoulders 13 thereof contact with the top of the frames A or until the parts are restored to the position shown in Fig. 1. When the parts are in this position, the lower arms of the bell-crank levers 22 and the levers 24 will have passed slightly over the dead-centers to the right, so that the upward thrust on the parallel bars tends to move the handles 19 still farther to the left, and as stops 202 are provided to limit this motion, as shown, the form-inking rollers will remain positively locked in their adjusted operative positions. The form-inking rollers by these connections will be moved with a snap or spring into and locked in their operative or inoperative positions. Thus all that is necessary to throw the form-inking rollers into and out of adjusted operative position and lock them in either position is to move one of the handles 19 either up or down.

The screws 16 are placed in the socket-holders, so that accurate fitting is not necessary. When it is desired to adjust the sockets or socket-holders, one of the handles 19 is moved slightly, so as to allow the parallel bars 23 to leave the screws 16 and still not come in contact with the lugs 17, a little clearance being left for this purpose, and when the parallel bars are in this position the adjustment of the form-inking rollers to the forms or to the distributer-rollers can be readily made.

It is understood, of course, that the shaft 18 extends across the press and that the operating-handles are arranged on the ends thereof.

By this arrangement a most simple, positive, and neat apparatus is provided for the purposes specified.

The specific constructions herein shown may be departed from 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 Letters Patent of the United States, is—

1. The combination in an inking apparatus of the frames, a plurality of socket-holders pivoted thereto, sockets adjustably carried by said socket-holders, means operating up through the bottom of the socket-holders for adjusting the sockets in the socket-holders, form-inking rollers mounted in said sockets, and means for swinging the socket-holders on their pivots.

2. The combination in an inking apparatus, of the frames, a plurality of form-inking rollers mounted in sockets pivoted to the frames, projections on the socket-holders, parallel bars arranged between the projections, and means for simultaneously raising and lowering the parallel bars to throw the form-inking rollers into operative or inoperative position.

3. The combination in an inking apparatus, of the frames, a plurality of form-inking rollers mounted in socket-pieces pivoted to the frames, said socket-pieces having collars adapted to strike on the top of the frames, and means for moving the socket-pieces about the pivots.

4. The combination in an inking apparatus, of the frames, a plurality of form-inking rollers arranged in socket-pieces, said socket-pieces having studs projecting through slots cut in the frames, hand-nuts for locking the studs in adjusted position, and means for swinging the socket-pieces about the studs.

5. The combination in an inking apparatus, of the frames, a plurality of form-inking rollers mounted in socket-pieces pivoted to the frames, said socket-pieces having extended projections, parallel bars engaging the projections, and means for operating the parallel bars including mechanism for locking the parallel bars in either their highest or lowest positions.

6. The combination in an inking apparatus, of the frames, a plurality of form-inking rollers F F, socket-holders H, pivots for said socket-holders, parallel bars 23 engaging said socket-holders, and means for operating the parallel bars, including shaft 18, handles 19, levers 20, links 21 and bell-cranks 22.

7. The combination in an inking apparatus, of the frames, a plurality of form-inking rollers, pivoted socket-pieces carrying the form-inking rollers, means for swinging the socket-pieces, including parallel bars, an operating mechanism therefor including levers and links so arranged that the parallel bars will be locked in either their highest or lowest positions.

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

ROBERT T. JOHNSTON.

Witnesses:

JOHN R. TRUELL,

IRVING L. BRADY.