2 Sheets—Sheet 1.

J. BURRELL.
Printing-Press.

No. 207,499. Patented Aug. 27, 1878.

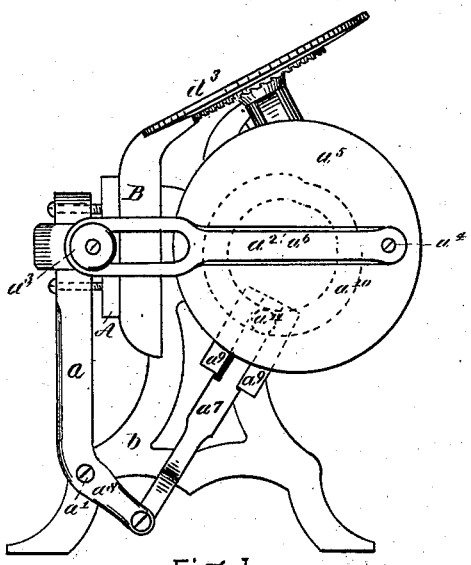

Fig. 1.

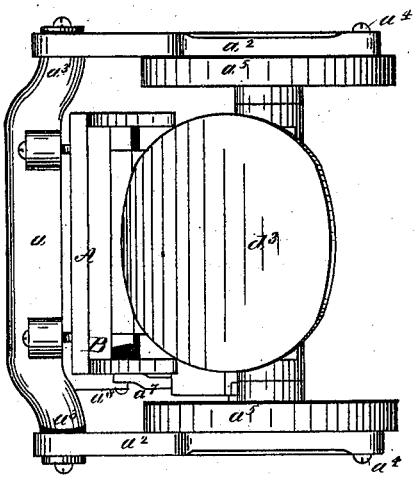

Fig. 2.

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Printing-Press.

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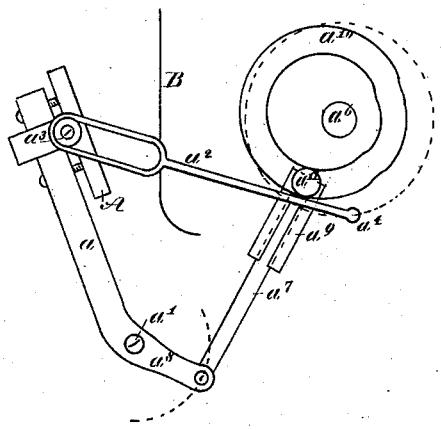

Fig. 3.

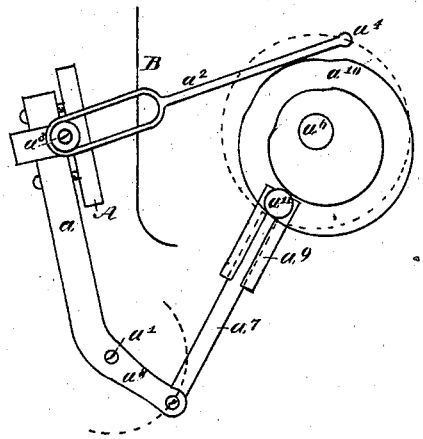

Fig. 4.

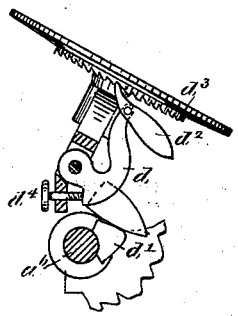

Fig 5

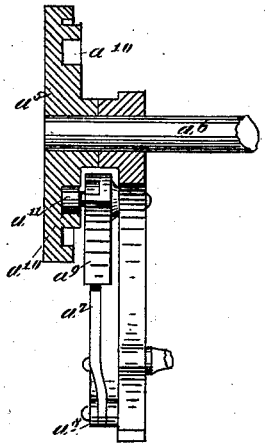

Fig. 6.

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UNITED STATES PATENT OFFICE.

JARVIS BURRELL, OF EAST BRIDGEWATER, ASSIGNOR TO EDWARD A. CURTIS, OF SOMERVILLE, AND EDWARD L. MITCHELL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. **207,499**, dated August 27, 1878; application filed May 27, 1878.

To all whom it may concern:

Be it known that I, JARVIS BURRELL, of East Bridgewater, in the county of Plymouth and State of Massachusetts, have invented certain Improvements in Printing-Presses, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, making a part hereof.

My invention relates, first, to the mechanism for taking the impression, and, secondly, to the adjustment of the throw of the ink-distributing table or ink-disk; and the first part of my invention consists in the use of two independent mechanical devices, each connected to the platen and operated by the driving-shaft, and each adapted to actuate the platen, or the bed where the platen is stationary and the bed movable, as in some presses.

The second part of my invention consists in a new combination of devices whereby the throw of the ink-disk is readily and quickly adjusted.

The drawings show only those parts of the press necessary to fully describe my invention, Figure 1 being a side elevation, and Fig. 2 a plan, both views showing the platen against the bed. Figs. 3 and 4 are diagrams explanatory of the first part of my invention. Fig. 5 is a detail showing the combination for adjusting the throw of the distributing-table; and Fig. 6 is a detail explanatory of the secondary mechanism for actuating the platen.

A is the platen, and B the bed. The platen A is adjustably secured upon the platen-frame *a*, which is fulcrumed at a^1 to the main frame *b*. The platen-frame is moved toward and from the bed by the slotted connecting-rods a^2 a^2. The ends a^3 of the platen-frame each enter one of the slots in the rods a^2, and these rods are each secured by wrist-pin a^4 to one of the crank-wheels a^5, which are fast upon and revolve with the shaft a^6. This shaft a^6 is driven as is usual in this class of presses.

In addition to this mechanism for moving the platen-frame *a* toward and from the bed B, a connecting-rod, a^7, is jointed to the projecting end a^8 of the platen-frame. This rod slides in ways a^9, properly secured to the main frame *b*, and is actuated by the cam a^{10}, which for compactness is formed on the inner face of the crank-wheel a^5. (See Fig. 6.) A wrist-pin, a^{11}, projecting from the upper end of the rod a^7, enters the cam-groove a^{10}, and consequently the rod a^7 is moved endwise by the cam a^{10} when shaft a^6 revolves; and this motion of the rod a^7 rocks the platen-frame *a* upon its fulcrum a^1, and thus moves its upper end, which bears the platen, toward and from the bed.

This is well shown by the diagram, Figs. 3 and 4, taken in connection with Fig. 1. In Fig. 1, which shows the press at the point where the maximum power is required to press the platen upon the form on the bed, the whole work is thrown upon the connecting-rods a^2, the cam-groove a^{10} being formed accordingly. In Fig. 3, which shows the parts in the position they occupy while the platen is moving away from the bed, the whole work, which is light, is thrown upon the connecting-rod a^7, and the platen-frame is controlled by this rod until the slot in the connecting-rod a^2 has traveled over the end a^3 of the platen-frame. In Fig. 4, which shows the parts in the position they occupy while the platen is moving toward the bed, the work is done by both or either of the two mechanisms until the platen approaches the end of its motion, when the whole work is thrown upon the connecting-rods a^2, as above stated.

A pair of rods, a^7, may be used, one on each side of the press; but in practice a single rod is found sufficient, as the work done by the rod a^7 is always light, its chief function being to give certainty and steadiness to the motion of the platen, which could scarcely be accomplished, when the rods a^2 are slotted, without this second rod a^7.

It will be clear that either of these two mechanisms would alone rock the platen-frame *a* on its fulcrum a^1; but neither of them alone would do it in the perfect manner in which it is done by both acting together.

The other feature of my invention consists in the combination, with the pawl-lever *d*, its actuating-cam d^1, pawl d^2, and the ink-disk d^3, of an adjusting-screw, d^4, which acts to adjust

the pawl-lever d with relation to its cam d^1, and thereby increases or diminishes the movement of the ink-disk, as will be clear from Fig. 5 without further description.

I am aware that connecting-rods or draw-bars have been used in connection with a mechanism for extending the platen-frame, as shown in patent to Jones, No. 80,865, August 11, 1868; but in this press the rods or arms or bars are not connected with the platen until the platen has nearly reached the bed, and are disconnected from the platen as soon as the platen leaves the bed. I disclaim, therefore, the devices described in the patent.

What I claim as my invention is—

1. In a printing-press, the two independent mechanisms for actuating the platen above described, one consisting of the connecting-rods a^2 a^2, arranged substantially as described with reference to the platen-frame a and driving-shaft a^6, and the other consisting of the cam-rod a^7, arranged substantially as described with reference to the lever platen-frame a and the cam a^{10}, the whole combined and operating substantially as described.

2. In combination with the ink-disk d^3, pawl d^2, pawl-lever d, and cam d^1, the adjusting-screw d^4, arranged and operating to vary the distance between the cam d^1 and pawl-lever d, and thereby vary the motion of the ink-disk d^3, as described.

JARVIS BURRELL.

Witnesses:
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