

(No Model.)

2 Sheets—Sheet 1.

F. WESEL.
PRINTER'S PROOF PRESS.

No. 512,780.

Patented Jan. 16, 1894.

Fig:1.

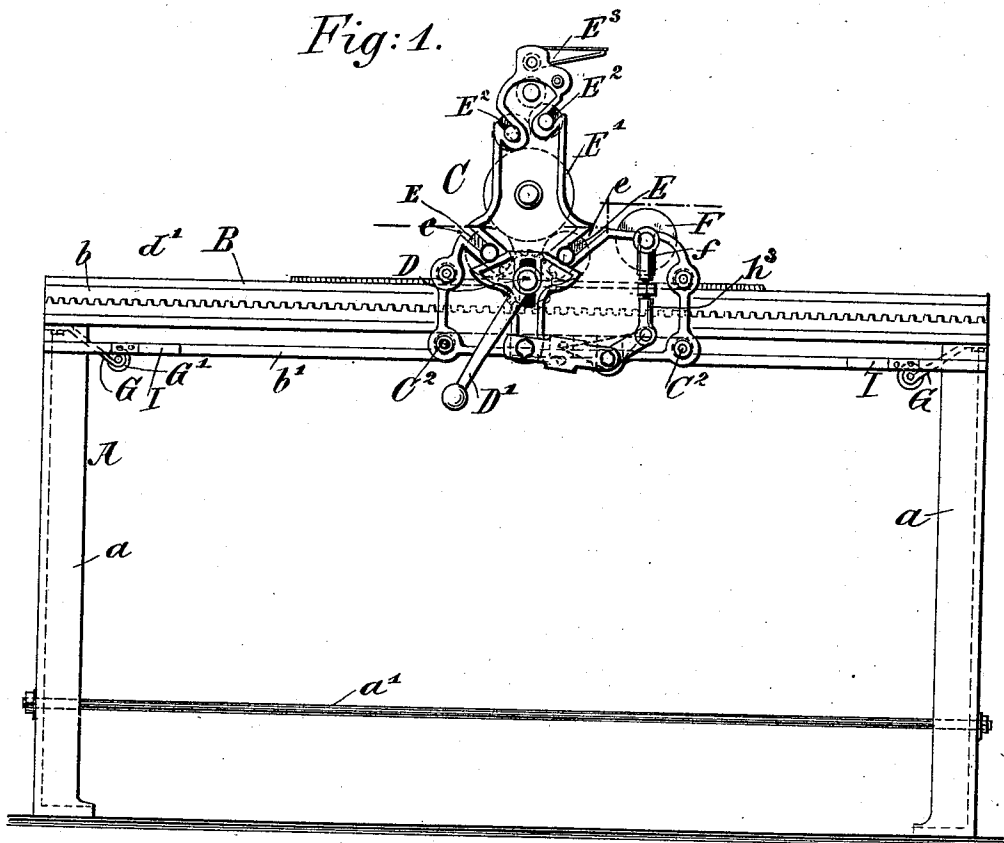
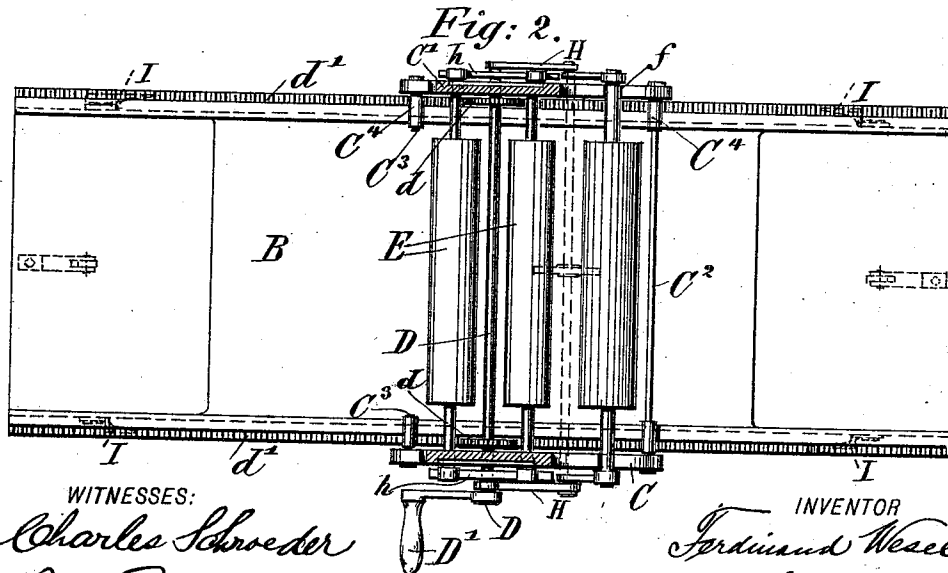


Fig: 2.



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BY

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Fig: 3.

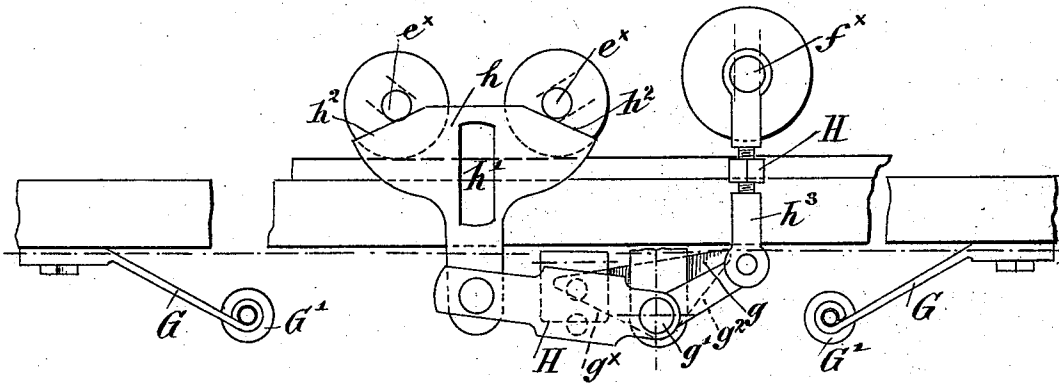


Fig: 4.

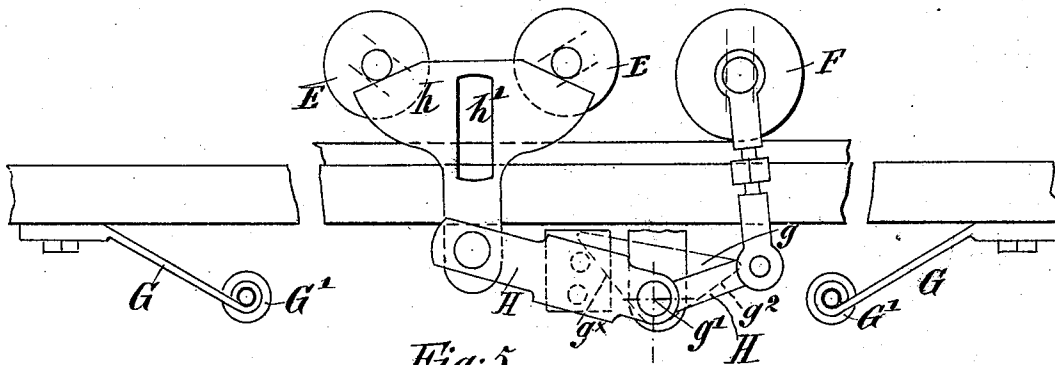
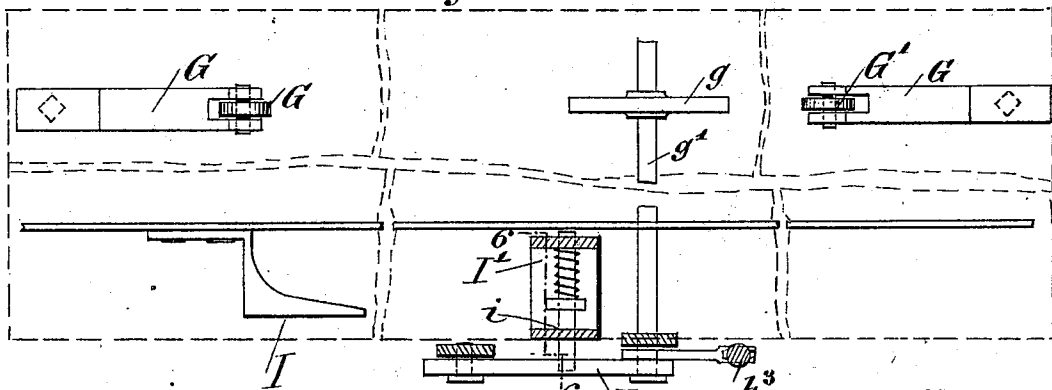
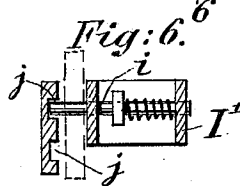


Fig: 5.



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UNITED STATES PATENT OFFICE.

FERDINAND WESEL, OF BROOKLYN, NEW YORK.

PRINTER'S PROOF-PRESS.

SPECIFICATION forming part of Letters Patent No. 512,780, dated January 16, 1894.

Application filed October 16, 1893. Serial No. 488,297. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND WESEL, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Printers' Proof-Presses, of which the following is a specification.

This invention relates to an improved proof press for newspaper, book and other printing-offices, by which not only satisfactory proofs can be taken of wood-cuts or half-tone plates, but also of any other matter for newspapers or books, the ink being supplied, as the operating carriage moves in one direction, by an automatic inking-roller, which spreads the ink over the form, said inking-roller being automatically lifted from the latter for the insertion of the proof-sheet, as the carriage moves in an opposite direction, to cause the impression-roller to move over the paper for taking the proof.

My invention consists of a proof-press for printing-offices, which comprises a stationary bed on which the matter from which the proof is to be taken is placed, a reciprocating carriage guided on said bed and moved over the same by suitable means, an inking-roller supported in bearings of the frame of the carriage, an impression-roller also supported on said frame, and means by which the inking-roller and the impression-roller are lifted alternately above the type or other matter on the bed and placed in contact with the same, so as to ink the type or other matter on moving the frame in one direction and take the impression when moving the frame in the opposite direction. The change of position in the inking and impression-rollers is produced by stops located below the stationary bed, which engage alternately an oscillating shifting-head by which the mechanism for changing the position of the inking and impression-rollers is operated. The oscillating shifting-head is retained in either of its shifted positions by means of a suitable locking-device, so that the inking-roller and the impression roller are held in position during the forward or backward motion of the same over the stationary bed until by the stops the change of position of the inking-roller and the impression-roller is accomplished.

In the accompanying drawings, Figure 1 represents a side elevation of my improved proof-press for printing-offices. Fig. 2 is a plan of the same partly in horizontal section on line 2—2, Fig. 1. Figs. 3 and 4 are broken enlarged side elevations of the inking-rollers and impression-roller of my improved proof-press, and the mechanism by which the relative position of the same toward the stationary-bed is changed when the reciprocating carriage arrives at the opposite ends of said bed. Fig. 5 is a broken plan of Fig. 3, partly in horizontal section on line 5—5, Fig. 3. Fig. 6 is a detail vertical transverse section on line 6—6, Fig. 5.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the supporting frame of my improved proof-press for printing-offices. The supporting-frame A is composed of standards *a* that are connected by the tie-rods *a'*, the standards supporting at their upper ends the bed-plate B. On each side of the bed-plate B, and respectively above and below the same, are arranged guide-rails *b*, *b'* on which the reciprocating carriage C is guided. Motion is imparted to the reciprocating carriage C by means of a transverse shaft D, which is provided with pinions *d* that mesh with fixed racks *d'* supported on both sides of and outside of the ways *b* of the bed-plate, as shown clearly in Figs. 1 and 2. The shaft D is provided with a crank-handle D' by the turning of which reciprocating motion is imparted to the carriage C in one or the opposite direction over the bed-plate, according to the direction in which the handle D' is turned. The upright standards or end-plates C' of the carriage are connected by transverse rods C² and they together with the short shaft C³ are provided with loose sleeves or rollers C⁴ at the points where the same pass over the guide-rails *b*, *b'*, on both sides of the bed-plate, so that a perfectly steady reciprocating motion can be imparted to the carriage.

In inclined journal bearings *e* of the carriage C are supported the inking-rollers E E, which are permitted to rotate at the proper time in contact with a large ink-transferring roller E' that turns in bearings of the upright

standards C' of the carriage, said transferring-roller receiving the ink by intermediate rollers E² above the same from an ink-fountain E³ that is arranged above the latter.

5 Any suitable inking-device by which the ink is transferred to the inking-rollers E E may be used, as I do not desire to confine myself to the special construction shown. Back of the inking-rollers E E is suitably supported

10 a vertically movable roller F, which is guided in vertical recesses *f* of the standards or end-pieces of the carriage, and which serves to impart the necessary impression to the proof-sheet when taking the proof from the matter

15 placed on the bed-plate B. At both ends of the supporting-frame A are arranged below the bed-plate B stationary stops G, which are preferably provided with anti-friction rollers G', which stops engage an oscillating shifting

20 head or cam-plate *g* that is triangular in shape and keyed to a transverse rock shaft *g'* which is supported in hangers of the standards or end-plates C' of the carriage C. The oppositely inclined sides *g*^x, *g*², of the oscillating

25 shifting-head or cam-plate *g* are placed alternately in contact with the anti-friction rollers of the stationary stops G, so as to impart thereby an oscillating motion to the shaft *g'*. To the outer ends of the shaft *g'* are keyed

30 angle or bell-crank levers H pivoted at one end to lifting-plates *h*, which are vertically guided by center slots *h'* which receive the crank-shaft D, said lifting-plates being provided at the top with inclined faces *h*² that engage the

35 projecting ends or trunnions *e*^x of the inking-rollers E E so as to raise or lower the same in the inclined journal bearings *e* of the upright standards or end-plates of the carriage C, when the lifting-plates *h* are raised or lowered. The opposite ends of the levers H are

40 connected by sectional adjustable pivot-rods *h*³ with the projecting ends of the shafts or trunnions *f*^x of the impression-roller F, which are received in the recesses *f*, the proper distance of the impression-roller from the angle-levers and consequently from the bed-plate

45 being regulated by suitable right and left hand screws, turn-buckles, or other suitable devices such as H². The bed-plate B is provided at each side of its opposite ends with

50 stationary releasing-hooks or wedges I, which serve to engage the spring-actuated bolts or pins *i* that are guided in openings in the keepers I' which are applied to the upright

55 standards of the carriage, each of the spring-actuated bolts or pins engaging either one or the other of recesses or sockets *j* in the inner sides of the angle levers *h* after the change in the positions of the inking and impression-rollers, as the same arrive at the opposite ends

60 of the bed-plate, is accomplished.

The operation of my improved proof-press is as follows: By turning the crank D' and moving the carriage C in the direction from

65 right to left, the inking-rollers E E are moved over the face of the type or other matter on

the bed-plate B, so as to transfer the required quantity of ink to the same. When the carriage C arrives at the left-hand end of the bed-plate, the spring-actuated locking-bolts

70 or pins *i*, *i*, at the left-hand end of the machine are moved in contact with the inclined inner faces of the stationary hooks I at that end, so as to be withdrawn from the upper ones of the recesses or sockets *j* in the angle-

75 levers H, and accomplish the oscillating of said angle-levers. As soon as the bolts are retracted, the inclined side *g*^x of the shifting head or cam-plate *g*, comes in contact with the stationary stops G and moves the same

80 from the position shown in Fig. 3 into the position shown in Fig. 4 and when the bolts are released from the hooks on the return of the carriage they will spring into the

85 lower recesses *j*. By the oscillating motion of the angle-levers H, the lifting-plates *h* and rods *h*³ by which the angle-levers are connected with the inking-rollers E, E, and the impression-roller F are operated, and there-

90 by the inking-rollers raised bodily in their inclined recesses in the carriage C, so as to be sufficiently above the face of the type or other matter as not to contact therewith. The carriage C with its inking-rollers E, E, and im-

95 pression-roller F is now at the left-hand end of the bed-plate. The proof-sheet is now placed on the type or other matter on the bed-plate and the carriage C moved in the

100 opposite direction by turning the crank-handle D and the parts are again locked in position as above stated. As the impression-roller F moves in contact with the face of the

105 type or other matter from which the proof is to be taken, pressure is exerted on the proof-sheet, so that a clear and sharp impression is obtained. When the carriage C arrives at

110 the right-hand end of the bed-plate, the inclined side *g*² of the shifting-head or cam-plate *g*, is placed in contact with the stationary stops G at that end, so that the head or

115 cam-plate is oscillated, and by the intermediate mechanism, the position of the inking-rollers E, E, and impression-roller F is again changed, so that the former are brought down on the face of the type or other matter, while

120 the impression-roller is lifted above the same, as shown in Fig. 1. Immediately preceding the contact with the stops, however, the locking-bolts *i*, *i*, are withdrawn from the lower

125 recesses *j* of the angle-levers by the stationary-hooks I, I, at that end of the bed-plate, so that the shifting motion of the inking-rollers and the impression-roller can take place. As soon as the carriage C is moved from the

130 right to the left again, by a reversal of the motion of the crank-shaft D, the locking-bolts or pins *i*, *i*, engage the upper recesses or sockets *j* in the angle levers and hold thereby the inking-rollers and the impression-roller in the position to which they are set by the oscillating shifting-head or cam-plate *g*. In this manner, by the alternating reciprocal motion

of the carriage C from one end of the bed-plate to the other, and back again, a perfect proof is taken from the matter placed on the bed-plate, the shifting or changing of position of the inking-rollers E, E and the impression-roller F taking place in an automatic manner by the action of the stationary stops G on the shifting head or cam-plate and intermediate mechanism. Any number of proofs may be taken by simply repeating the forward and backward motion of the carriage over the matter on the bed-plate. The supply of ink is regulated from time to time in the same manner as with the well-known inking-attachments in general use for printing-offices.

I am aware that proof-presses have been used heretofore, in which a stationary inking-attachment was arranged at one end of the press, and in which the bed-plate with the type or other matter placed thereon was made horizontally movable, so as to pass below the inking-rollers. After the type or other matter was supplied with ink, the impression was taken by placing a proof-sheet on the same and passing an impression-roller by hand or otherwise over the same. In my improved press the inking-attachment is made a part of the carriage C, which is moved in the one or the opposite direction over the stationary bed-plate, and the position of the inking-rollers and of the impression-roller, relatively to the type or other matter from which the proof is to be taken, is changed automatically when the carriage arrives at the ends of the bed-plate, so that a very clear and sharp proof is taken, even by inexperienced hands, by the simple movement of the carriage from one end of the bed-plate to the other, and back to its original position.

Any matter such as wood-cuts, half-tone plates, and galley containing newspaper or book-matter, can be placed on the bed-plate and by a few turns of the crank-handle clear impressions can be taken from the same, in which defects in the cuts or in the type can be readily detected at once.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a proof-press, the combination of a stationary bed-plate, a reciprocating carriage guided thereon, means for reciprocating the carriage, an inking-roller supported on said carriage, an inking-attachment by which the ink is supplied to said inking-roller, a vertically movable impression-roller supported on the carriage, a lever-mechanism substantially connecting the inking-roller and the impression-roller, and means acting on said lever-mechanism whereby the relative location of the inking-roller and impression-roller toward the matter on the bed-plate is changed, substantially as set forth.

2. In a proof-press, the combination of a stationary bed-plate, a reciprocating carriage

guided thereon, means for reciprocating the carriage, inking-rollers supported on the carriage, an impression-roller also supported on said carriage, a lever-mechanism substantially connecting the inking-roller and impression-roller, automatic means for actuating said lever-mechanism and shifting the position of the inking-rollers and impression-rollers with reference to the bed-plate, and locking-devices for the lever-mechanism, substantially as set forth.

3. In a proof-press, the combination of a stationary bed-plate, a carriage guided on rails of said bed-plate, means for imparting reciprocating motion to the carriage over the bed-plate, an inking-roller supported in said carriage, an automatic inking-attachment for transferring the ink to said inking-roller, an impression-roller guided in recesses of the carriage, a lever-mechanism between the inking-rollers and the impression-roller, means for changing the relative position of the inking-roller and impression-roller toward the bed-plate when the carriage arrives at either end thereof, and means for locking the inking-roller and the impression-roller in the position in which they are set by the lever-mechanism, so as to retain them in their position as the same pass in one or the opposite direction over the bed-plate, substantially as set forth.

4. In a proof-press, the combination of a stationary bed-plate, a carriage guided on rails of said bed-plate, means for reciprocating the carriage over the bed-plate, inking-rollers supported on the carriage, an impression-roller also supported on the carriage, angle-levers applied to a rock-shaft, lifting-plates attached to one end of each of said angle-levers for raising the inking-rollers, pivot-rods, connecting the opposite ends of the angle-levers with the impression-roller, a shifting-head or cam-plate on the shaft of the angle-levers, and stops at the opposite ends of the bed-plate, said stops producing the oscillating of the shifting-head or cam-plate and through the angle-levers, lifting-plates and rods, the shifting of the inking-rollers and the impression-roller alternately above or in contact with the type or other matter on the bed-plate, substantially as set forth.

5. In a proof-press, the combination of a stationary bed-plate, a carriage guided on rails of the bed-plate, means for imparting reciprocating motion to said carriage, an inking-roller supported on the carriage, an impression-roller also supported on the carriage, a rock-shaft supported in the carriage, angle-levers attached to said shaft, lifting-plates connected with one end of each of the angle-levers, and adapted to raise or lower the inking-roller, pivot-rods connecting the opposite ends of the angle-levers with the impression roller, a spring-actuated locking-bolt or pin guided in a keeper of the carriage and adapted

to engage recesses or sockets of an angle-lever, and means by which the locking-pin is withdrawn from the angle-lever, so as to permit the shifting or change of position of
5 the inking-roller and the impression-roller relatively to the bed-plate, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FERDINAND WESEL.

Witnesses:

PAUL GOEPEL,
CHARLES SCHROEDER.