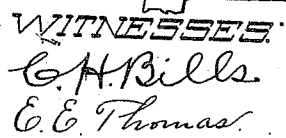


998,863.

2 SHEETS—SHEET 1.



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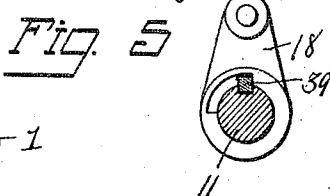
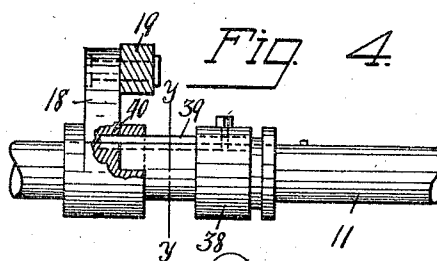
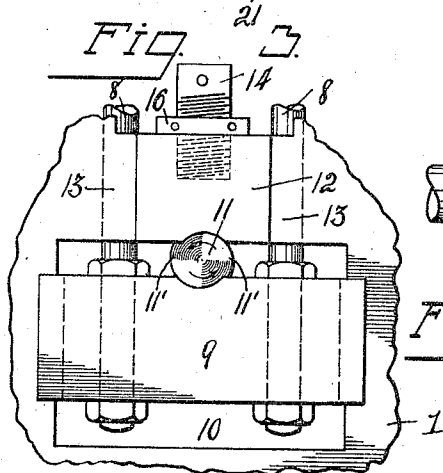
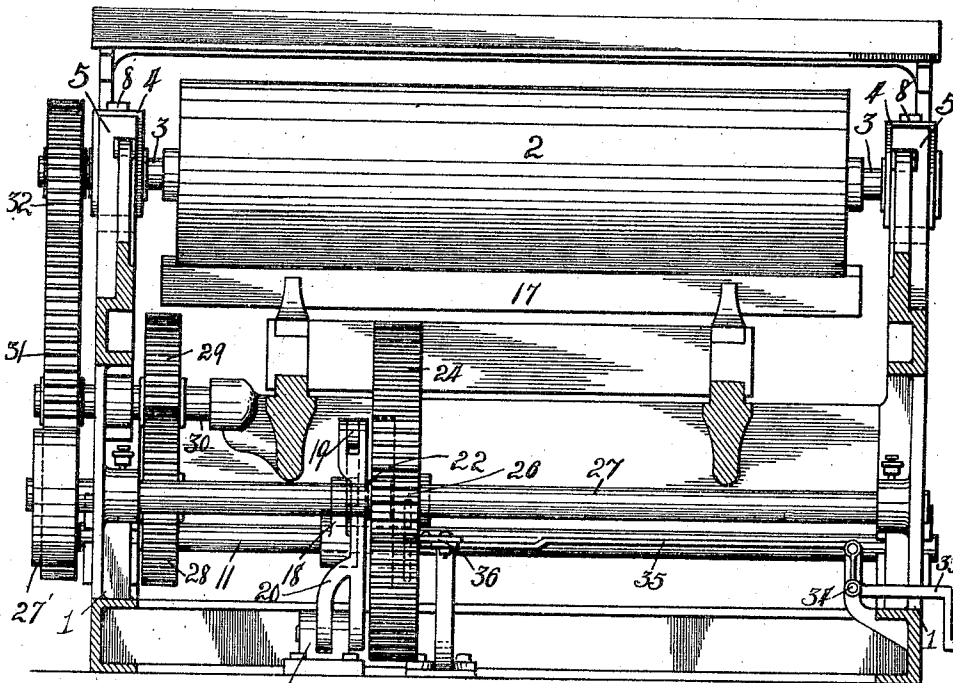
C. B. SWINK.
 IMPRESSION ADJUSTMENT FOR PRINTING PRESSES.
 APPLICATION FILED MAY 13, 1910.

998,863.

Patented July 25, 1911.

2 SHEETS-SHEET 2.

Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES B. SWINK, OF DELPHOS, OHIO, ASSIGNOR TO THE SWINK PRINTING PRESS COMPANY, OF DELPHOS, OHIO, A CORPORATION OF OHIO.

IMPRESSION ADJUSTMENT FOR PRINTING-PRESSES.

998,863.

Specification of Letters Patent. Patented July 25, 1911.

Application filed May 13, 1910. Serial No. 561,163.

To all whom it may concern:

Be it known that I, CHARLES B. SWINK, a citizen of the United States, and a resident of Delphos, in the county of Allen and State of Ohio, have invented a certain new and useful Impression Adjustment for Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to printing presses of the type in which an impression cylinder works over a reciprocatory bed plate, and has particular reference to means for controlling the vertical reciprocatory movements of the cylinder for moving it out of form engaging position on each stroke of the bed plate in one direction.

The object of my invention is the provision of improved means of the class described, which is simple in its construction, positive in its operation, more easily adjusted than the means of this class heretofore used, and in short overcomes the difficulties incident to the use of such earlier means.

The invention is fully described in the following specification, and a preferred embodiment thereof, illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of the press frame with the operative parts of my invention associated therewith. Fig. 2 is a cross-section of the same on the line $x-x$ in Fig. 1. Fig. 3 is an enlarged view of a portion of the impression adjusting parts. Fig. 4 is an enlarged detail of the cam-shaft and associated rocking parts, with portions broken away. Fig. 5 is a cross-section on the line $y-y$ in Fig. 4, and Fig. 6 is a plan view of a portion of such shaft, its rock-arm and a portion of the associated controlling parts.

Referring to the drawings 1, 1 designate the frame sides of a press, 2 the impression cylinder, which has the ends 3 of its shaft journaled in bearing blocks 4. These bearing blocks are guided for vertical movements within guide portions 5 of the frame, as is customary in presses of this type, and such blocks are yieldingly supported by rods 6,

the lower ends of which rest upon coiled compression springs 7 suitably mounted in the frame sides.

Each bearing block 4 is connected by rods 8 to a subjacent bearing block 9, which is guided for vertical movements within an opening 10 in the lower portion of the associated frame side and forms the lower bearing or pillow block for an end of a rock-shaft 11, which is mounted transversely of the frame beneath the cylinder 2. The upper thrust of each end of the shaft 11 is opposed by an impression adjustment block 12, which is mounted for vertical adjusting movements in ways 13 of the frame side. A single adjusting screw 14 is threaded into the upper side of the block and has its upper end thrust against a registering superimposed frame surface 15. The screw 14 has a collar or nut 16 threaded thereon for acting with the block surface to lock the screw in adjusted position. It is thus apparent that with this construction the impression of the cylinder can be adjusted to a nicety by simply loosening the lock-nut or collar 16 and then turning the screw 14 to raise or lower the block 12, which acts through the shaft 11, block 9 and rods 8 to either lower the cylinder bearing-blocks 4 against the tension of the spring 7 or to permit a raising of the blocks 4 under the influence of such spring, thus obviating the slow and unsatisfactory method heretofore commonly employed of adjusting the block 9 upon the carrying rods 8.

The rock-shaft 11 has the portions of its ends which are in bearing contact with the blocks 9 and 12 provided with the semi-circular cam-surfaces 11', which upon a rocking of the shaft, act to cause said blocks to move toward or away from each other, as is apparent.

The mechanism shown for intermittently rocking the shaft 11 to lower the cylinder to take an impression during a movement of the bed-plate 17 in one direction and to permit a raising of the cylinder to prevent the taking of an impression upon the return stroke of the bed-plate will now be described.

Keyed to the shaft 11 is an arm 18, and this is connected by a rod or link 19 to a lever 20, which is pivoted at its lower end to a bracket 21 and carries a roll 22 for working in the cam-groove 23 in the side of a spur-gear 24. The gear 24 is mounted

on a shaft 25 and driven by a small gear 26, carried by a drive-shaft 27, which latter shaft is journaled in the frame and carries a belt-pulley 27' at one end without the frame.

The cam-groove 23 has the opposed neutral portions *a* and *b* and the connecting cam portions *c*, *c*. Upon the compression stroke of the bed the roll 22 moves to and traverses the neutral portion *a* of the groove, thus moving the lever 20, rod 19 and arm 18 to rock the shaft 11 to effect a lowering of the block 9 and attached parts to lower the cylinder 2 to impression position, and upon the return stroke of the bed the roll 22 returns to and works in the portion *b* of the groove, thus causing the actuating parts to return to the position shown and permitting the cylinder to raise out of impression position.

The shaft 25 carrying the gear 24 also carries a gear 28 in mesh with a gear 29 on a shaft 30, suitably journaled in the frame, and such shaft 30 carries a gear 31 without the frame, which meshes with and drives a gear 32 on an end of the cylinder shaft 3. The gears which communicate rotation from the shaft 25 to the cylinder 2 are so proportioned that the cylinder makes two revolutions to one of the gear 26, thus causing the cylinder to make a complete revolution at each forward and backward stroke of the bed-plate.

Should the operator fail to feed a sheet to the cylinder at each impression stroke, the taking of an impression may be prevented by tripping the foot lever 33. This lever is fulcrumed to a bracket as at 34 and has its treadle end projecting without the frame and its inner end angled upwardly and connected by a rod 35 to a shift-lever 36. The shift-lever pivots at one end to a standard 37 and has its other end in loose forked engagement with a shift-sleeve 38 on the shaft 11. The sleeve 38 is fixed to the key 39,

which is mounted in a key-way in the shaft and movable into and out of engagement with a socket 40 in the arm 18. It is thus apparent that when the key is shifted out of clutch engagement with the arm 18, such arm can oscillate freely on the shaft 11 without rocking it to lower the cylinder for an impression.

I wish it understood that my invention is not limited to any specific construction and arrangement of the parts except in so far as such limitations are specified in the claims.

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

1. In a printing press, the combination with an impression adjusting rock shaft of an arm mounted on such shaft, means for imparting intermittent rocking movements to such arm, a key feathered to the shaft and movable to lock and release said arm relative to the shaft, and trip means connected to such key, and movable to effect an engagement or release of the key with the shaft.

2. In a printing press, the combination with an impression rock-shaft of an arm mounted thereon, a wheel having a cam groove in a side thereof, a lever, a roll carried by such lever and working in the cam groove, connection between the lever and rock-shaft to communicate movement from one to the other, and manually controlled means for relatively engaging or releasing the rock arm and shaft, substantially as described.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

CHARLES B. SWINK.

Witnesses:

GEO. S. WEGER,
A. F. LINDEMANN.