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M. J. BARNETT.

MECHANISM FOR RAISING AND LOWERING PLATENS OF PRINTING PRESSES.

APPLICATION FILED MAY 26, 1904. RENEWED JULY 29, 1905.

Fig. 1.

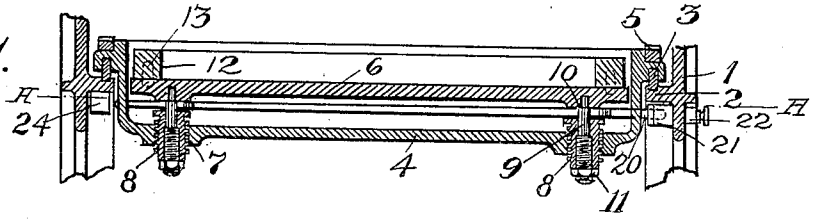


Fig. 2.

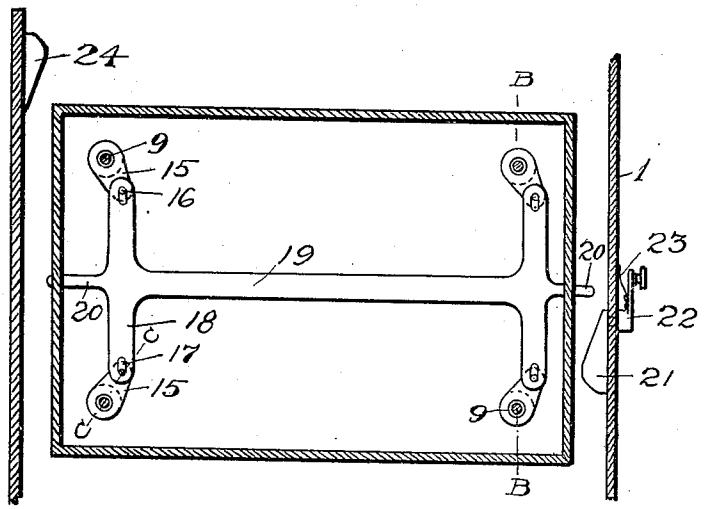


Fig. 3.

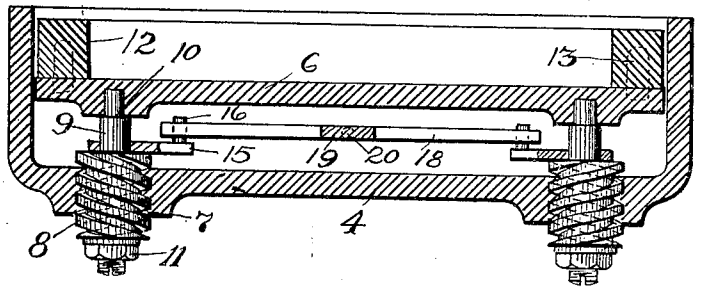
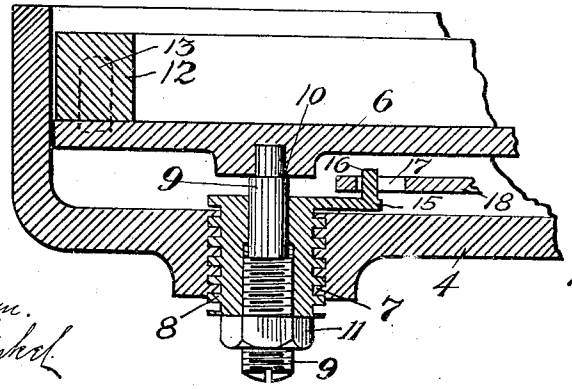


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

MORRISSON J. BARNETT, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WHITSON AUTOPRESS COMPANY, A CORPORATION OF NEW YORK.

MECHANISM FOR RAISING AND LOWERING PLATENS OF PRINTING-PRESSES.

No. 883,853. Specification of Letters Patent. Patented April 7, 1908.

Application filed May 26, 1904, Serial No. 209,865. Renewed July 29, 1905. Serial No. 271,870.

To all whom it may concern:

Be it known that I, MORRISSON J. BARNETT, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Mechanism for Raising and Lowering Platens of Printing-Presses, of which the following is a specification.

My invention relates to mechanism for automatically raising and lowering printing press platens in the reciprocation of their beds.

The object of my invention is to provide mechanism of this character which shall be simple in construction and effective, accurate, and noiseless in operation.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends, hereinafter fully specified and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a transverse section of a portion of the frame of a printing press and of the bed therein; Fig. 2 is a horizontal section on the line A—A of Fig. 1; Fig. 3 is a vertical section on an enlarged scale on the line B—B of Fig. 2; and Fig. 4 is a broken enlarged vertical section on the line C—C of Fig. 2.

Referring to the drawings, 1 represents the frame of a printing press having the side guides 2 upon which move the slides 3 of the bed 4.

5 is the rack carried by said bed for operating the cylinder, not here shown.

6 represents the printing platen, which is supported in the bed in the following manner. Said bed has four screw-threaded holes 7 in which are screwed right and left handed multiple-thread screws 8. These screws are hollow and threaded internally, and screwed therein are the posts 9 having shoulders 10. The reduced upper ends of the posts 9 enter sockets in the under side of the platen, which thus rests upon the shoulder 10. Nuts 11 lock the posts in the position to which they have been adjusted. 12 represents the chase supported upon the platen by dowel pins 13 or any other suitable manner.

It will be seen that by means of the four screw-threaded posts, the position of the platen relative to the bed can be very accurately adjusted, both as to distance therefrom and parallelism with or inclination thereto.

The automatic rise and fall of the platen as the bed reciprocates is accomplished as follows: From the upper ends of the screws 8 extend crank arms 15 which have wrist pins 16 engaging slots 17 in the ends of arms 18 of a frame 19, which frame has stems 20 passing through the sides of the bed. To raise the platen there is provided a cam 21, pivoted in the side of the frame and having a handle 22 by which the cam may be turned from a horizontal to a vertical position when desired. A spring 23 secured to the handle and pressing against the outer side of the stem maintains it in either position, when it has been placed therein.

In order to render it operative the cam is placed in the horizontal position; and in this position the end of the stem 20 striking the inclined surface of the cam causes the frame 19 to move laterally across the platen, thereby imparting rotational movement, to the right and left handed screws 8 through an angle of about 60°. These screws having a high pitch, this movement is sufficient to raise the platen by means of the post 9 to the desired elevation for making an impression upon the paper. The platen remains in this elevated position during its return movement until it is lowered by a second cam 24, which is stationarily secured upon the inner surface of the opposite side of the frame to that upon which the cam 21 was movably secured. This stationary cam now, in like manner as the cam 21, strikes the end of the stem 20 of the frame 19 and moves it in a reverse direction, causing the crank arms to turn through the same angle as before and lowering the platen.

When it is desired to reciprocate the bed without raising and lowering the platen the cam 21 is turned to a vertical position.

The advantages of this construction are that the platen is raised and lowered with certainty to precisely the same height at every reciprocation; the motion is noiseless; there is no possibility of the platen jumping or rising rapidly on account of its sudden vertical motion; and the height of the platen can be readily adjusted with the greatest accuracy.

I claim:—

1. In mechanism of the character de-

scribed, in combination, a printing press frame, a bed reciprocating therein, a platen in said bed, and means for vertically reciprocating the platen with reference to the bed, comprising a screw for raising and lowering the platen upon the bed, and means operated by the reciprocation of the bed for turning said screw first in one direction and then in the other, substantially as described.

2. In mechanism of the character described, the combination of a printing press frame, a bed longitudinally reciprocating therein, a platen in said bed, a screw for raising and lowering the platen on the bed, an arm for turning said screw, and means for turning said arm comprising two cams arranged to operate near the limits of motion of the bed in opposite directions on said arm, substantially as described.

3. In mechanism of the character described, in combination a printing press frame, a reciprocating bed thereon, a platen in said bed, a plurality of screws for raising and lowering said platen on said bed, a frame connected with all of said screws and arranged by its reciprocating motion to move said screws in unison, and means for reciprocating said frame near the limits of motion of the bed, substantially as described.

4. In mechanism of the character described, in combination a printing press frame, a reciprocating bed thereon, a platen in said bed, a plurality of screws for raising and lowering said platen on said bed, a frame connected with all of said screws and arranged by its reciprocating motion to move said screws in unison, means for reciprocating said frame near the limits of motion of the bed, said means comprising cams secured upon the inner surfaces of the sides of the printing press frame, and the reciprocating frame having a stem engaging each cam, substantially as described.

5. In mechanism of the character described, in combination, a printing press frame, a bed reciprocating thereon, a platen in the bed, a plurality of screws in the bed, posts screwed into said screws and supporting the platen, and means operated in the motion of the bed for actuating the screws in unison, substantially as described.

6. In mechanism of the character described, in combination, a printing press frame, a bed reciprocating thereon, a platen in the bed, right and left handed screws in the bed, posts screwed into said screws and supporting the platen, and means operated in the motion of the bed for actuating the screws in unison, substantially as described.

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

MORRISSON J. BARNETT.

Witnesses:

OSCAR THUNE-LARSEN,

BESSIE. GORFINKEL.