

G. L. DRUMMOND.

PROOF PRESS.

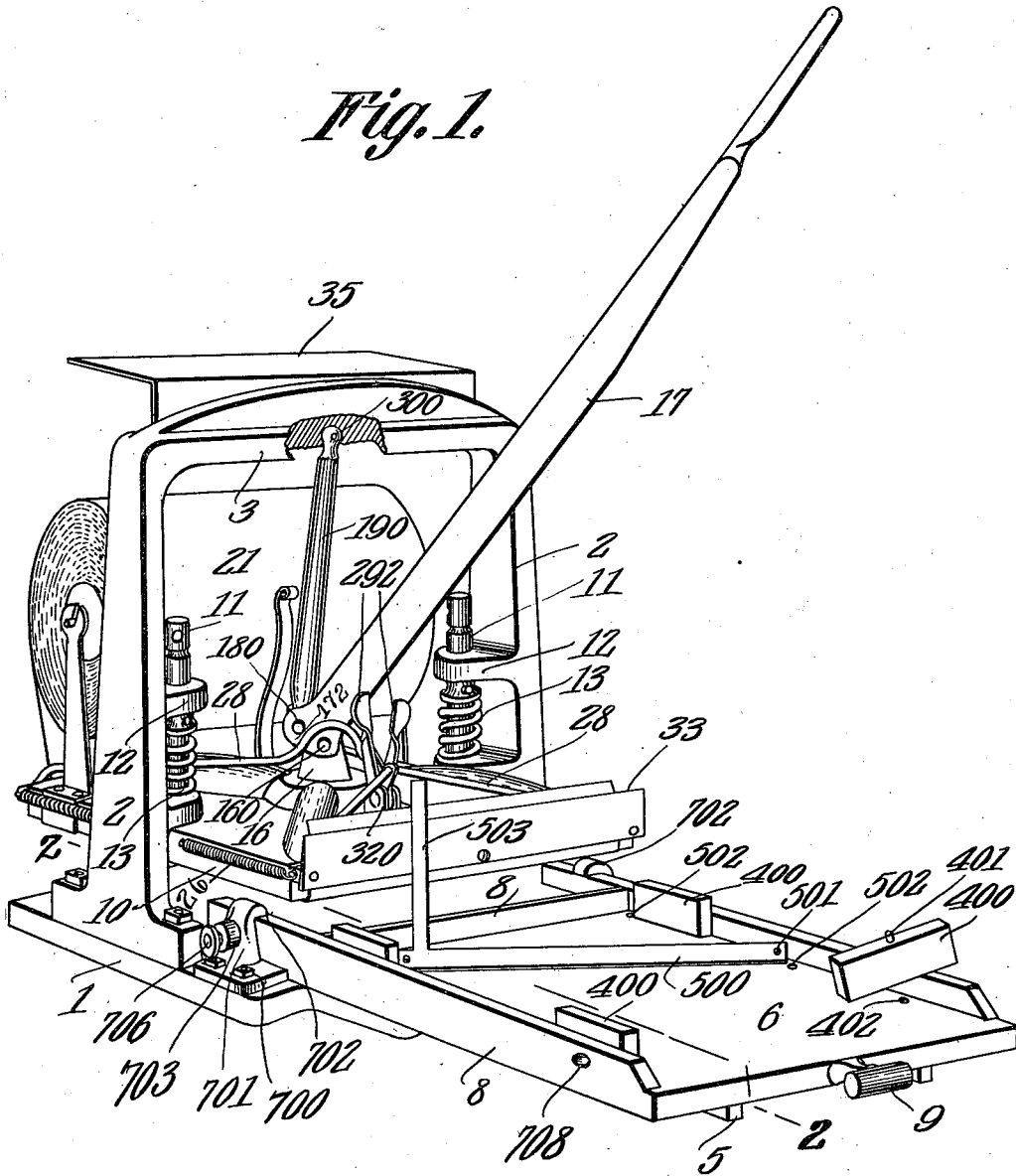
APPLICATION FILED MAR. 1, 1911.

1,008,798.

Patented Nov. 14, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

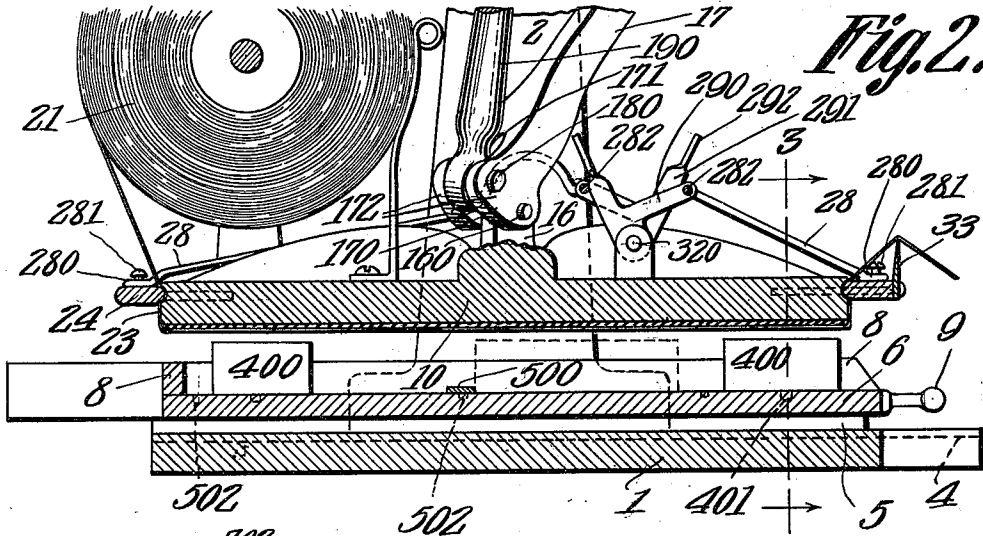


Fig. 3.

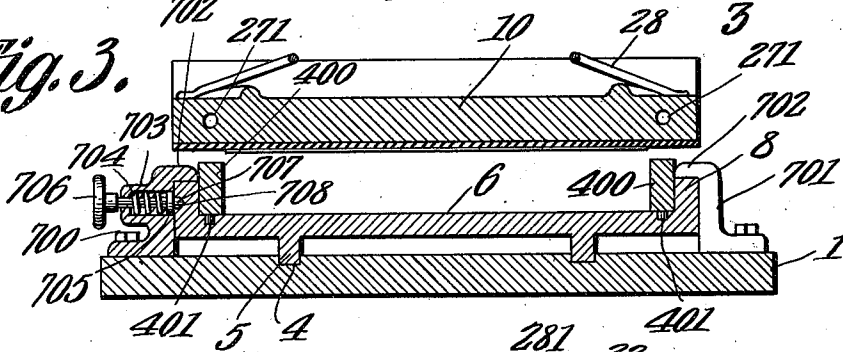


Fig. 4.

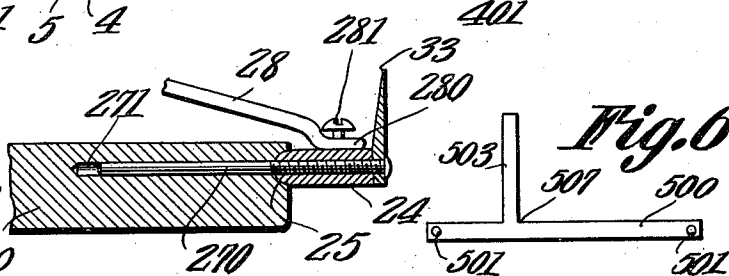


Fig. 6.

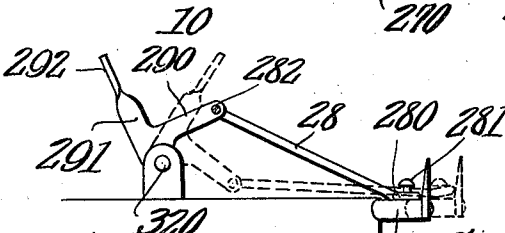


Fig. 5.

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PROOF-PRESS.

1,008,798.

Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed March 1, 1911. Serial No. 611,601.

To all whom it may concern:

Be it known that I, GEORGE L. DRUMMOND, a citizen of the United States, residing at Walla Walla, in the county of Walla Walla and State of Washington, have invented a new and useful Proof-Press, of which the following is a specification.

This invention relates to printing, and more especially to presses for taking proofs; and the object of the same is to effect certain improvements in my prior Patent No. 968,747 issued August 30, 1910.

To this end the invention consists in the details of construction hereinafter more fully described by reference to numerals on the drawings which are above one hundred, said drawings showing my improved press in the following views.

Figure 1 is a perspective view of the press with the bed drawn outward, one of the bearing blocks removed from position and inverted, and the form gage resting on the bed but elevated so that its under side is exposed. Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Fig. 4 is an enlarged detail in section through one edge of the bed and one of the grippers. Fig. 5 is a diagrammatic view showing the action of one of the thumb levers in moving a gripper away from the edge of the bed and holding it there. Fig. 6 is a bottom plan view of a slightly different structure of the form gage, and Fig. 7 is a perspective detail of a modified structure of one of its extremities.

By preference I have used herein many of the same reference numbers as employed in my former patent hereinbefore referred to, omitting a specific description of details which are not necessary to a full understanding of the present case; and, for the purpose of more clearly distinguishing what are the novel points or features of construction in this patent, I have employed reference numerals above one hundred.

The numeral 1 designates a base from which rise standards 2 connected by a cross head 3 which may well support the inking table 35, and said base has grooves 4 receiving ribs 5 on the underside of a slidable bed 6 adapted to be moved over the base by means of a handle 9, said bed preferably

having upstanding flanges 8 around its two sides and across its rear while its front is open as shown. Removably secured to said base 1 as by bolts or screws 700 are two short hoods 701, one at each side of the bed, having hooked upper ends 702 overhanging the flange 8 so as to permit the latter to slide beneath it; and formed on one hood is a boss 703 within which is mounted a coiled spring 704 (see Fig. 3) contacting at its outer extremity with the end of the boss and at its inner extremity with a collar 705 secured upon a pin 706 extending throughout the spring and out of the boss, and its tip 707 adapted to engage one of two holes 708 formed in the outer face of the flange 8 near the front and rear ends thereof. By the use of this improvement, when the bed is drawn forward as seen in Fig. 1, the tip 707 of the pin 706 springs into the rearmost hole 708 and prevents a withdrawal of the bed, while the hooks 702 prevent it from tipping downward under the weight of the form which lies thereon; and when it is desired to again push the bed inward onto the base, the pin 706 is drawn outward so that its tip disengages the rearmost hole, the bed is then pushed inward, and finally the tip of the pin falls into the forward hole 708 just at a time when the bed comes under the platen hereinafter described. It is obvious that when it is desired to remove the bed entirely, it can be done; and also it will be obvious that the spring pins might be used at both sides of the device or only at one side.

The platen 10 extends between the standards 2 and may be supported by springs 13 surrounding posts 11 rising from the platen through lugs 12 in the standards 2, although such form of support or in fact all supports may be omitted with the present construction of my improved proof press by reason of the peculiar form of operating mechanism which I will now describe, and which is in effect a toggle-lever connection between said platen and the cross head 3. Beneath the center of the latter is an eye 300 or other device into which is pivoted the upper end of a bar 190 which forms the long arm of the toggle-lever, and the short arm thereof is formed by the lower end 170 of the han-

dle lever 17 by which this improved proof press is operated. As seen in Fig. 2, the lower end of said handle may be forked as shown at 171, each arm of the fork being rather wide as at 172, 180 denotes the pivotal point between such arms and the lower end of the bar 190, and 160 denotes the pivotal point between the other edge of the fork arm and a standard 16 rising from the platen 10. The short arm of the toggle-lever is that part of the fork arm 170 between the two pivots 180 and 160, while its longer arm is the bar 190 which extends from the pivot 180 upward to the pivotal point 300 under the cross head 3. It will be obvious that when the handle lever 17 is depressed this toggle-lever is lengthened so that the platen 10 is depressed onto the type form which may at that time rest upon the bed. On the other hand, when the handle lever 17 is raised, the platen is forcibly raised, and hence the springs 13 may not be required although I prefer to employ them.

The paper for proving purposes may be in the form of a roll 21 supported from the platen, whence the web passes as at 23 over the rear edge of the platen and across a groove 25 therein if the same be used, under the rearmost gripper 24, thence along beneath the rubber facing with which the lower face of the platen is preferably covered, thence upward across the front edge of the latter and inside the forward gripper, and finally across the knife blade 33 or other cutting device with which the last-mentioned gripper is preferably provided. When said grippers are pressed inwardly and into the grooves 25, it will be clear that the paper is drawn tightly across the lower face of the platen so that it is in position for taking a neat proof, and in order to guide each gripper in its movements I preferably provide it near each end with a long pin 270 which slides into a socket or hole 271 in the edge of the platen, all as best seen in Fig. 4. The grippers 24 are moved inward and outward by means of bails 28 whose extremities are formed into eyes 280 loosely engaged under the heads of screws 281 seated in the upper face of the gripper near its ends and far enough apart to permit the passage between said screws of the web 23 of paper. The bent centers of these bails (instead of overlapping each other as in my prior patent) are each pivotally connected as at 282 with the stem 290 of a T-shaped lever 291, whose body has its lower end pivoted as 320 to an eye rising from the bed and whose upper end has a thumb piece 292; the construction preferably being such that the two levers stand with relation to each other about as seen in Fig. 1.

Referring now to Fig. 5, when each grip-

per is drawn inward its lever 291 stands as seen in full lines and the bail is raised so that its eye 280 stands as seen in Fig. 4; but when the lever is moved to the dotted position in Fig. 5 so as to press the gripper away from the edge of the bed, the pivotal point 282 passes below a horizontal line between the eye 320 and the eye 280 and the gripper is held away from the edge of the bed against the tension of contractile springs 26 which I preferably employ to draw the gripper toward said edge. This gives the operator an opportunity to manipulate the paper as desired, whereas if he is only to move it along a little way he can use one hand to pinch the two thumb pieces 292 together slightly and the other hand to move the paper, and the two levers 291 need not be thrown to their extreme lowermost position as shown in dotted lines in Fig. 5.

One other point of improvement in my present proof press consists in the use of what may be called "bearing blocks" or "bearers", three of which are shown in place in Fig. 1 and the fourth removed and inverted to illustrate details of construction. Each of these blocks has a rectangular body 400 of any suitable material but preferably type high, and depending from its lower edge is a pin 401 adapted to engage a hole 402 formed in the upper face of the bed. By preference there are four of these holes and four blocks 400, the former so disposed that when the latter are in place their pins 401 will enter the holes and the blocks will stand against and rise above the flanges 8 as shown. With this construction, when a small form (or even a single letter) is to be proved, a descent of the platen will cause its rubber surface to strike the blocks at its corners and they will be embedded into it slightly, whereas its center or any portion of its lower surface which is over the type of type form will descend upon it with sufficient force to take a neat proof—thereby obviating the canting or tipping of the platen which so often takes place in the act of taking proof and frequently to the detriment of the type if they be not locked up in a chase.

Another important feature of the present invention and one which may well be employed in connection with the bearing blocks just described, consists of a gage illustrated in Figs. 1, 2, 6 and 7. I am not aware that heretofore that it has been possible to take proofs in colors from a plurality of forms on a single piece of paper, without the use of extraneous means for accurately gaging said forms when they are held in chases of corresponding sizes. By the use of the device about to be described I am enabled to accomplish this object in a proof press of this character and without the ne-

cessity for locking up the forms, as I can prove them while they are simply tied up with the cord commonly used. The form gage which I employ for this purpose is accurately made of sheet metal about one sixth of an inch thick, and comprises a cross arm 500 having pins 501 depending from its extremities and adapted to engage holes 502 made in the face of the bed along its edges, or perhaps these pins could engage the holes 402 just described above, or both set of holes could be merged into one series, it being only necessary that the holes along one edge of the bed shall be directly opposite those along the other. Standing at right angles to said cross arms 500 is the other arm of the gage which I call the angle arm 503, and this arm may project from a point near one end of the cross arm 500 as seen in Fig. 1 or it may stand nearer the center of the latter as seen in Fig. 6 as when it is desired to use this gage on a small form which will naturally be proved at a point near the center of the bed.

A further modification illustrated in Fig. 7 consists in projecting the pins beyond both faces of the arm 500 as seen at 508, whereby the gage can be used either side up. If the four holes 402 are to be employed for the pins 401 of the blocks 400, there will preferably be six holes 502, one pair near the rear of the bed, another pair near its front, and a third pair at about its center, and the gage in Fig. 3 is shown as mounted in this last pair of holes. In the use of this gage on a proof press of this character, the tied up type is placed upon the bed at about the center of the same (the bearing blocks 400 being employed in the form if small or being omitted if it is large), the gage is then brought into place and its cross arm 500 laid across the bed with its pins 501 in a pair of oppositely disposed holes whether they be those numbered 502 or those numbered 402; and the angle arm 503 of the gage caused to project forward toward the operator or rearward as preferred. The form is then pushed into the inner angle 507 between the two arms of the gage, and a proof taken in one color. Thereafter the next form which is to print the matter of another color is substituted and pushed closely into the angle 507, and when the proof is taken in the second color it will be observed that it complements the proof in the first color very accurately, the extreme thinness of the gage permitting it to fit up neatly against the type form beneath the tying-up string. If the two forms are locked up in chases, the same course is followed except that it is a similar corner of each chase which must be pushed in the angle 507 instead of the corner of the form itself.

It will hardly be necessary for those

skilled in the art that I go into a more detailed description of the manner of operating this improved proof press. The operation of each feature of improvement has been described in connection with a detailed description of its construction as given above. The sizes, shapes, finish, and specific features of structure, other than hereinafter claimed, form no part of the present invention.

What is claimed as new is:

1. The combination with a bed, a platen, and means for moving the latter toward the former; of grippers across opposite ends of the platen, an eye rising from its upper side, bails whose extremities are connected with the grippers near their ends, and a pair of T-shaped thumb levers each having its body pivoted in said eye and the extremity of its stem engaging the center of one of the bails.

2. The combination with a bed, a platen, means for moving the latter toward the former, grippers extending across opposite ends of the platen, and springs drawing them normally toward the platen; of an eye rising from the latter, and a pair of T-shaped levers having their stems projecting toward each other, their bodies being pivoted to said eye and their upper ends having thumb pieces, and a pair of bails having their centers pivoted to the stems of said levers and their extremities loosely connected with said grippers near the ends of the latter.

3. In a proof press, the combination with a base, a bed sliding thereover, flanges rising from the sides of said bed and each having holes in its outer face near its front and rear ends, and a platen; of hoods rising from the base against the outer faces of said flanges and having hooks passing over their upper edges, and a spring-actuated pin mounted in one of said hoods with its tip adapted to engage either hole in the adjacent flange.

4. In a proof press, the combination with a platen, means for moving it, a bed having holes in its upper face near its corners, and flanges rising from its edges outside said holes; of rectangular bearing blocks made type high, and a pin depending from the lower edge of each block and adapted to enter one of said holes when the block rests against the flange.

5. In a proof press, the combination with a platen, means for moving it, and a bed having a series of holes along its edges disposed in pairs which are directly opposite each other; of type-high bearing blocks having pins adapted to enter any of said holes, and a form gage comprising a cross arm having pins at its extremities adapted to enter a pair of said holes and an angle arm projecting at right angles from said cross arm.

6. In a printing press, the combination with a bed having a series of holes along

each edge arranged in pairs directly opposite each other, of a form gage made of thin sheet metal and comprising a cross arm having pins through its extremities adapted to
5 engage a pair of said holes and an angle arm projecting at right angles from said cross arm, for use substantially as described.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE L. DRUMMOND.

Witnesses:

CHAS. U. PIERSON,

W. L. STIRLING.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."