

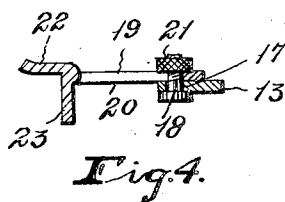
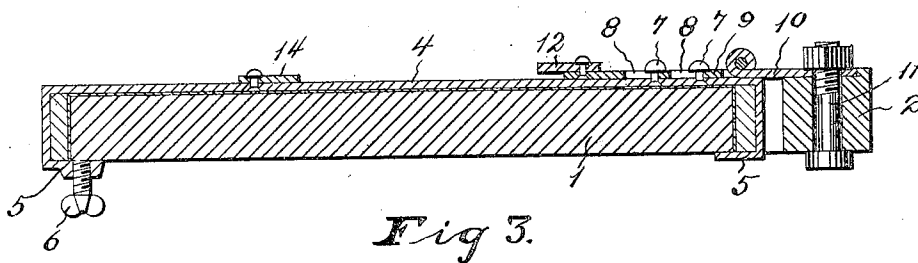
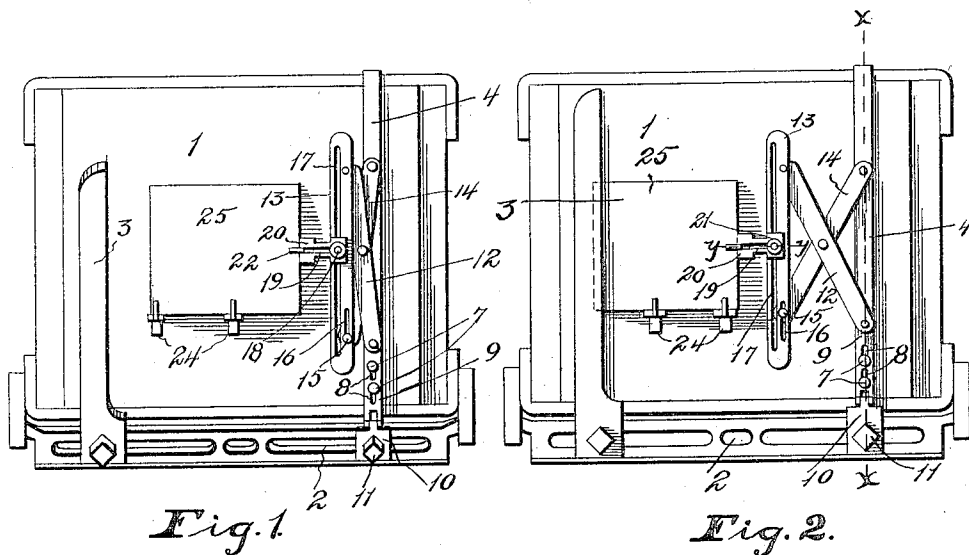
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F. H. TIBBETTS.

AUTOMATIC SHEET ADJUSTING DEVICE FOR PRINTING PRESSES.

APPLICATION FILED MAY 26, 1905.



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AUTOMATIC SHEET-ADJUSTING DEVICE FOR PRINTING-PRESSES.

No. 812,901.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed May 26, 1905. Serial No. 262,369.

To all whom it may concern:

Be it known that I, FRED H. TIBBETTS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Automatic Sheet-Adjusting Devices for Printing-Presses, of which the following is a specification.

My invention relates to a new and useful improvement in automatic sheet-adjusting devices for printing-presses.

The object of the invention is to provide an automatic device operated by the gripper-bar for laterally adjusting the sheet on the platen so as to bring the same to the proper point to receive the impression, thereby producing a perfect print and assuring a perfect registration, especially where two or more colors are employed.

Another feature resides in the adjustable construction of the device by which the parts may be so positioned as to move the sheet laterally on the platen to a predetermined point and the capability of varying this adjustment to the minutest degree.

Still another point of advantage resides in the provision whereby the pusher-piece may be adjusted with respect to the adjacent edge of the sheet so as to engage therewith at its central portion or above, thus preventing the sheet from being moved out of alinement, but tending to force the same downward on the gage-pins.

Finally, the object of the invention is to provide a device of the character described that will be strong, durable, efficient, and simple and inexpensive to produce and one in which the several parts will not be liable to get out of working order.

With the above and other objects in view the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of the platen of an ordinary printing-press and my improved device applied thereto in its retracted position, the gripper-bar being swung downward. Fig. 2 is a similar view of the platen, showing my device in its extended position and the gripper-bar raised. Fig. 3 is a transverse vertical sectional view taken on the line *xx* of Fig. 2, and Fig. 4 is a cross-sectional view on the line *yy* of Fig. 2.

In the drawings the numeral 1 designates

the platen of an ordinary "job-printing press," and 2 the usual gripper-bar, which carries the gripper 3 at one end. It is common to employ two of these grippers 3; but where my invention is applied one of the gripper-bars is removed and my device attached to the gripper-bar in its place. My device comprises a metallic bracket 4, provided at each end with clamp members 5, adapted to engage over the front and rear ends of the platen, as clearly shown in Fig. 3. The forward clamp 5 is provided with a thumb-screw 6, which is adapted to be driven upward to impinge the under side of the platen and securely hold the bracket 4 against displacement. Near its rear end the bracket 4 is provided on its upper surface with a pair of headed studs 7, which project through slots 8 of a sliding bar 9, which latter is thus reciprocatingly confined on the said bracket. At its rear end the bar 9 is hinged to a plate 10, projecting over and securely fastened to the gripper-bar 2 by a nut and bolt 11. The gripper-bar is operated in the usual manner, so that when the platen is swung away from the "form" the bar will be swung downward, as shown in Fig. 1, and when the platen is swung upward to make the impression the gripper-bar will be swung upward to the position shown in Figs. 2 and 3. From this it will be obvious that the reciprocating bar 9 being hinged to the plate 10 and the latter fixedly connected to the gripper-bar when the latter bar is swung downward the bar 9 will be drawn rearwardly on the bracket 4 and when the gripper-bar is swung upward the said bar 9 will be moved forwardly, or, in other words, the bar 9 is caused to reciprocate by its connection with the gripper-bar when the latter is operated in its usual manner.

To the forward end of the reciprocating bar 9 I pivotally connect a link 12, which is pivotally connected at its opposite or upper end to an adjusting-bar 13, as clearly shown in the drawings. The link 12 is connected to the under side of said bar 13 and crosses at its central point a second link 14, which is pivotally connected to the first link at the crossing-point. The link 14 has its upper end pivotally connected to the bracket 4 upon its upper side, while at its lower end the said link carries a stud 15, which projects upwardly through a slot 16 in the bar 13. The construction thus produced is somewhat similar to a lazy-tongs, and through the pivotal connection of its link 12 with the reciprocating

bar 9 it will be apparent that when the said bar is moved forwardly in the manner described the links 12 and 14 will be extended and the adjusting-bar 13 moved laterally on the platen to the position indicated in Fig. 2 and that upon the rearward or downward movement of the reciprocating bar 9 the links 12 and 14 will be retracted and the adjusting-bar 13 moved laterally back across the platen to its normal position, as shown in Fig. 1. In this manner the bar 13 is automatically moved laterally back and forth on the platen.

In the adjusting-bar 13 I provide an elongated longitudinal slot 17, through which is passed a bolt 18, also extending through a slot 19 of a pusher-piece 20. On its upper projecting end the bolt carries a milled nut 21, which when turned down draws the pusher-piece and the slot-bar together, thus binding the said pusher-piece against movement. The slot 19 of the pusher-piece 20 extends at right angles to the slot 17 in the bar 13, and by such an arrangement the pusher-piece may either be adjusted longitudinally on the bar or transversely, it being merely necessary to loosen the nut 20 and tighten the same when the adjustment has been made. The pusher-piece is provided with a forwardly-projecting tongue 22, upset from the metal and formed when the slot 19 is made, the said tongue being merely bent over, as shown in Fig. 4. The pusher-piece is also formed with a downwardly-extending foot 23, which rides on the surface of the platen, said foot extending at right angles to the pusher-piece. The pusher-piece is designed to engage with the edge of the sheet and move the same laterally on the platen to the desired point to cause the sheet to properly receive the impression. In employing the term "sheet" it is to be understood that in the language of the printer the term "sheet" is employed, broadly, to cover not only sheets of paper, but cards, envelops, and any other articles upon which printing is placed.

In utilizing my invention the lower or bottom gage-pins 24 are positioned in the usual manner, as shown in Figs. 1 and 2, and the platen swung back or the press opened so as to be in position to receive the sheet. The gripper-bar 2 will thus be swung down and the adjusting-bar 13 and the pusher-piece 20 retracted. The sheet, which I have indicated in the drawings by the numeral 25, is inserted so that its lower edge rests against the gage-pins 24. The pressman now adjusts the pusher-piece 20 so that the latter will engage with the sheet 25 at its central portion or slightly above the same. After taking an impression to ascertain the exact point to which the sheet 25 is to be moved by the pusher-piece he adjusts the said pusher-piece transversely of the bar 13, so that when the said parts are extended the sheet will be

moved laterally to the desired point, which in this manner is predetermined. Using the term commonly employed in the art, the press has now been "made ready" and the pressman may begin to feed the sheets to be printed. The sheet is placed on the platen or "fed in" so that its lower edge strikes and rests on the gage-pins 24 and its edge adjacent to the pusher-piece placed in juxtaposition thereto, but not necessarily in contact therewith, as when the pusher-piece is extended it will engage the sheet and move it laterally to the proper position. The sheet having been placed on the platen as described, the latter is now swung upward, which causes the gripper-bar to be thrown upward, the reciprocating bar 9 moved forward, and the links 12 and 14 extended, the latter moving the bar 13 and the pusher-piece 20 laterally and the latter engaging the edge of the sheet and moving the same laterally on the platen and along the gage-pins 24 to the proper point to receive the impression, the gage-pins and the tongue 22 holding the said sheet in place. When the impression has been made and the platen swung back, the laterally-moving parts are retracted without affecting the sheet, which is left in the position to which it has been moved and may be readily removed from the platen and a fresh sheet inserted and the operation continued in the manner described. When the links 12 and 14 are moved laterally, they are swung slightly downward, imparting the same movement to the adjusting-bar and the pusher-piece. This downward movement is caused by the link 14 swinging on its pivot-point, which is attached to the bracket 4 and the link 12, which has a pivotal point fixed to the adjusting-bar 13 and its opposite end connected to a fixed pivot carried on the sliding bar 9. From this it will be apparent that the pusher-piece and the adjusting-bar will be swung downward or toward the gripper-bar by the upward movement of the slide-bar 9, which causes the links while extending to swing on the fixed pivot-point of the link 14. This movement is, however, very slight, but sufficient to cause the sheet to be properly positioned on the gage-pins.

It will be obvious from the above that by employing my device a press may be fed with great rapidity without much care on the part of the pressman and also that each sheet will be moved to exactly the same point, and thus where the sheet is to be printed in two or more colors the same may be registered perfectly.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an automatic sheet-adjuster, the combination with the platen and gripper-bar, of a printing-press of a bracket secured to the platen, a slide-bar mounted to slide longitudinally

5 dinally on the bracket, means having connection with the slide-bar and the gripper-bar for imparting motion to said slide-bar, an adjusting-bar movable at right angles to the slide - bar, crossed links having connection with the adjusting-bar, the slide-bar and the bracket for moving the adjusting-bar laterally, and a pusher-piece mounted on the adjusting-bar.

10 2. In an automatic sheet-adjuster, the combination with the platen and gripper-bar, of a printing-press of a bracket secured to the platen, a slide-bar mounted to slide longitudinally on the bracket, means having connection with the slide-bar and the gripper-bar
15 for imparting motion to said slide-bar, an adjusting - bar movable at right angles to the slide - bar, crossed links having connection with the adjusting-bar, the slide-bar and the
20 bracket for moving the adjusting-bar later-

ally, and a pusher-piece adjustable on the adjusting-bar in directions at substantially right angles to each other.

3. In an automatic sheet-adjuster, the combination with the platen and the gripper-bar 25 of a printing-press, a support arranged on the platen, sheet-adjusting parts, crossed links interposed between the sheet-adjusting parts and the support for laterally and downwardly moving said parts, and means operating on 30 the support having connection with the gripper-bar and the crossed links for imparting motion to the latter.

In testimony whereof I affix my signature in presence of two witnesses.

FRED H. TIBBETTS.

Witnesses:

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M. B. SCHLEY.