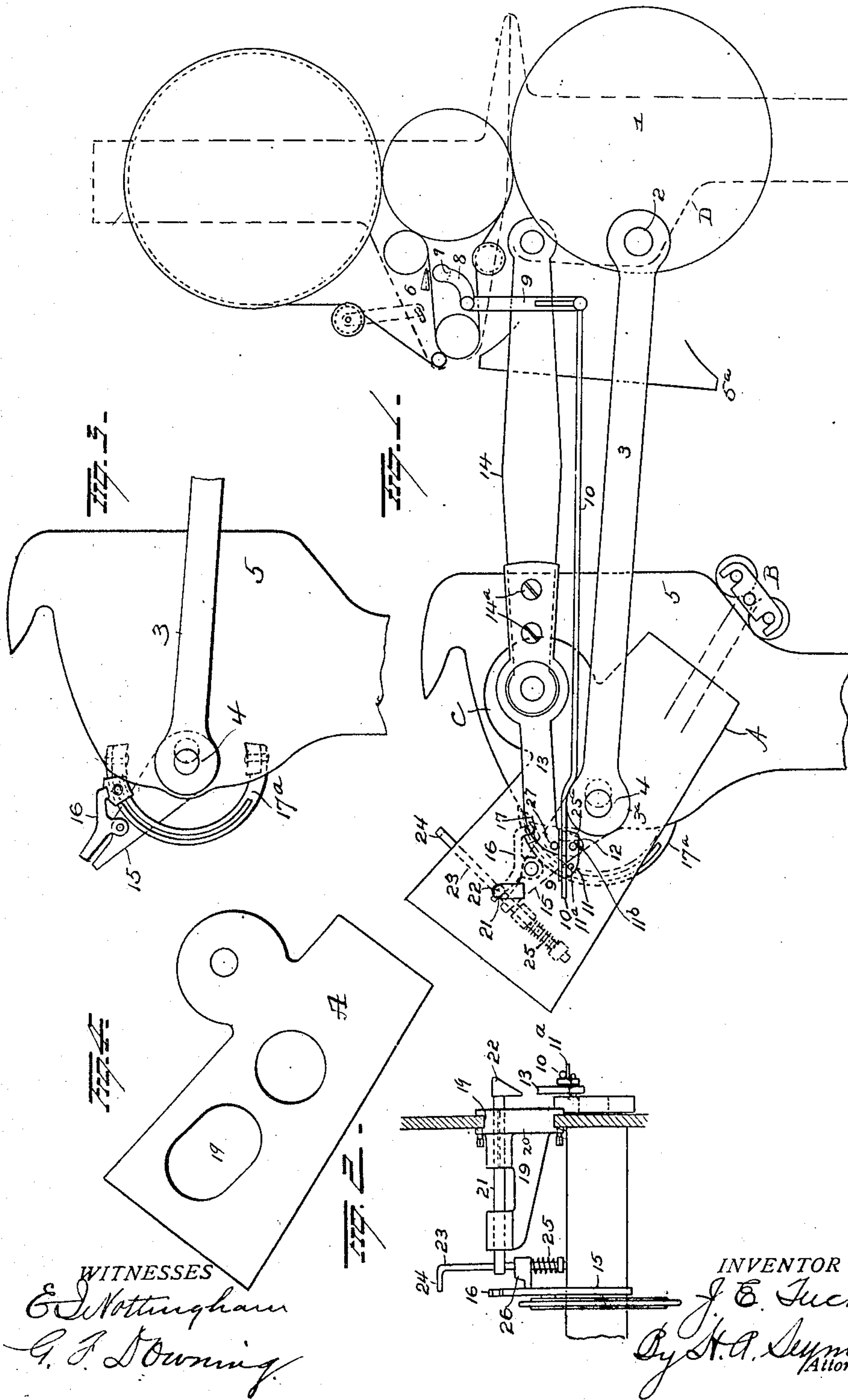


J. E. TUCKER.  
 AUTOMATIC THROW-OFF MECHANISM FOR PRINTING PRESSES.  
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913,177.

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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC THROW-OFF MECHANISM FOR PRINTING-PRESSES.

No. 913,177.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed August 24, 1906. Serial No. 331,921.

*To all whom it may concern:*

Be it known that I, JUNIUS E. TUCKER, a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Automatic Throw-Off Mechanism 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.

My invention relates to improvements in automatic throw-off mechanism for printing presses, the object of the invention being to provide improved mechanism which will prevent the type reaching the platen if a sheet of paper is not properly fed thereto, and the invention consists in certain novel features of construction and combinations and arrangement of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a broken view in side elevation illustrating my improvements, Fig. 2 is an end view thereof. Fig. 3 is a detail view of the frame A, and Fig. 4 is a detail view showing the slotted bar 17<sup>a</sup>, catch 16 and block 17.

1 represents a drive wheel having a crank pin 2 thereon to which a pitman 3 is attached, and connected at its other end to an eccentric shaft 4 in bed plate 5 to move the latter back and forth relatively to the platen 5<sup>a</sup> in printing.

6 represents a bar beneath which the paper sheets are fed and this bar is made with one or more notches in its lower face, to receive a wheel 7 on a pivoted lever 8 when paper beneath the bar does not prevent such movement. A depending link 9 is secured to the pivot of arm 8 and adjustably secured to a long approximately horizontal bar 10, the latter curved at its rear end and resting on eccentric shaft 4 or upon a part thereon, such as the enlarged end 3<sup>a</sup> of the pitman 3. A frame A is mounted to rock on the eccentric shaft 4 as its axis and carries the inking rollers B. The frame A is made with a lateral enlargement C in which a bracket 13 is pivotally supported between the ends of the latter. A bar 14 is secured at one end by means of screws 14<sup>a</sup> to the bracket 13 and at its other end, said bar is pivotally connected with a fixed part of the frame D of the press. From this construction, it is ap-

parent that when the wheel 1 is rotated, motion will be transmitted to the bed plate 5, through the medium of the pitman 3, and that as the bed plate approaches the platen, the frame A will be caused to rock, on account of its connection, through the bracket 13 and bar 14 with the fixed frame of the press. A trip lever 11 is pivoted at 12 near the end of one arm of the bracket 13 and provided with a pin 11<sup>a</sup> disposed under the bar 10. A pin 11<sup>b</sup> on the end of bracket 13 serves as a stop to limit the pivotal movement of the trip lever 11. An arm 15 is secured to eccentric shaft 4 and carries a pivoted catch 16, the latter normally engaging in a notch in a block 17 adjustable in a curved bar 17<sup>a</sup> of the bed plate 5.

The frame A is provided in its upper portion with an opening 19 in which a bracket 20 is secured. A longitudinally movable shaft 21 is mounted in the bracket 20 and provided at one end with a cam block 22. The other end of the shaft 21 carries a hook bar 23 provided near its lower end, with a spiral spring 25. Above the spring, and resting upon the same, is a sliding-block 26.

The operation of my improvements is as follows:—When the press is in motion and at the particular position shown, a paper sheet is at a position between bar 6 and wheel 7. But should a sheet of paper, from any cause fail to reach that point, wheel 7 will rise and enter the slot in bar 6, which will cause the bed plate 5 to be drawn away sufficiently to prevent the type reaching the platen. The action is as follows:—As driven wheel 1 revolves, eccentric shaft 4, through the medium of arm 3, is drawn against the curve in rod or bar 10, and as eccentric shaft 4 continues to press against rod or bar 10 they will move one with the other, which will cause lever 8 to move until wheel 7 enters the notch in bar 6. While this is taking place, bracket 13 is moving upward in the arc of a circle of which the shaft 4 is the center and carries with it trip lever 11, while pin 11<sup>a</sup> on the trip lever comes in contact with rod or bar 10, thus causing the end of trip lever 11 to tilt down until it engages the fixed stop 11<sup>b</sup>. The end of trip lever 11 is now in the path of cam block 22 which moves with frame A. When block 22 comes in contact with trip lever 11, shaft 21 will be moved longitudinally and thus move the hook bar 23 to a point where its hook 24 as it moves



downward, will come in contact with catch 16 and pull the same out of the notch in block 17. As the movement continues, arm 15 is pulled downward which action causes the eccentric shaft 4 to turn, thus drawing the bed plate 5 from the platen 5<sup>a</sup> far enough to prevent the type from touching the platen. When the bed plate moves backward, the shaft 21 and hook bar 23 move in an upward direction and the sliding block 26 will come in contact with arm 15 with spring 25 acting as a cushion, and push arm 15 up until catch 16 drops into the notch in block 17 which is the normal position or the position it will be in for the press to print and in which position it will stay while paper sheets are being regularly fed to the platen.

The normal operation is as follows:—  
When a paper sheet is between bar 6 and wheel 7 the wheel cannot enter the notch in bar 6. This prevents rod or bar 10 from moving with shaft 4 and the shaft therefore elevates said rod or bar and the rod or bar is lifted above pin 11<sup>a</sup> on the trip lever 11 and the pin does not come in contact with the bar 10 until the cam block 22 has passed, and the shaft 21 is not moved longitudinally and hence the hook or finger 24 on the bar 23 does not engage catch 16 and the bed plate moves its full stroke to reach the sheet on the platen. The trip lever is maintained in its normal position by being weighted at 26<sup>a</sup> and held against pin or stop 27.

A great many changes might be made in the general form and arrangement of the parts described without departing from my invention and hence I do not restrict myself to the precise details set forth but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In an apparatus of the character described, the combination with a movable bed plate, an eccentric shaft therein, and a reciprocating pitman connected with the shaft, of an arm fixed to the shaft, a catch on the arm locking the same to the bed plate, a frame movable on the shaft and supporting the inking rolls, and devices carried by said frame to engage the catch and arm and turn the eccentric shaft to so adjust the bed plate that it will not reach the platen when a sheet of paper is not properly fed to the latter.

2. The combination with a movable bed plate, an eccentric shaft therein, and a reciprocating pitman connected with the eccentric shaft to move the bed plate, of an inking frame movable on the shaft, an arm fixed to the shaft, a catch on the arm locking it to the bed plate, a trip bar carried by the inking

frame and normally out of the path of the catch arm, and devices permitted to operate when a sheet of paper is not properly fed to the platen, moving the trip bar to a position to engage the catch and arm, release the catch from the bed plate and turn the eccentric shaft so that the type cannot reach the platen on the stroke of the bed plate.

3. The combination with a stationary platen, a movable bed plate, an eccentric shaft in the bed plate, and a reciprocating pitman connected with the eccentric shaft, of an inking frame movable on the shaft, a bracket pivoted to the inking frame and connected with the fixed frame of the press to compel the inking frame to move when the bed plate moves, a trip lever on the bracket, an arm fixed to the eccentric shaft, a catch on the arm, a block having a notch to receive the catch and adjustably secured to the bed plate, a trip bar carried by the inking frame and normally out of the path of the catch and arm, and devices put in operation when a sheet fails to feed to the platen, to move the trip lever so that the trip bar will be positioned to engage the catch and arm and turn the eccentric shaft, so that the type on the bed plate will not reach the platen on the stroke of the bed plate.

4. The combination with a stationary platen, a movable bed plate, an eccentric shaft in the bed plate, and a reciprocating pitman connected with the eccentric shaft, of an inking frame pivotally mounted on the shaft, a bar pivoted to the fixed frame of the press, a bracket pivotally connecting said bar with the pivoted inking frame, a trip lever on the bracket, an arm fixed to the eccentric shaft, a catch on said arm engaging the bed plate to lock the shaft against turning, a notched bar, a pivoted lever, a wheel on said lever held out of the notch on the bar by a sheet of paper being fed to the platen, a rod or bar connected with said lever and having a curved end supported on the eccentric shaft and moved longitudinally by the shaft when the wheel enters the notch in the notched bar, a sliding shaft on the inking frame, a trip carried by the sliding shaft and a cam block on the shaft to engage the trip lever and move the shaft longitudinally and position the trip bar so that it will engage the catch and arm and turn the eccentric shaft so that the type will not reach the platen in the stroke of the bed plate.

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

JUNIUS E. TUCKER.

Witnesses:

J. P. QUINLAN,  
TOLBERT STRICKLAND.