N. A. ANDERSON.

GAGE AND STOP FOR PRINTING PRESSES.

APPLICATION FILED AUG. 16, 1915.

1,261,998.

Patented Apr. 9, 1918.

2 SHEETS—SHEET 1.

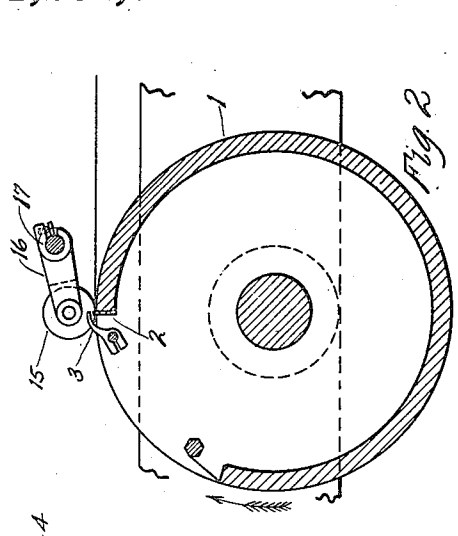


Fig. 2

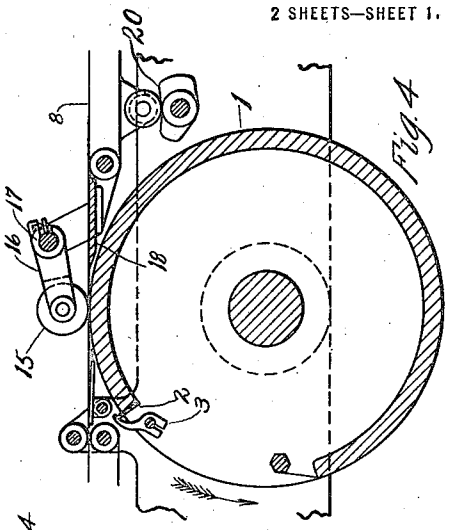


Fig. 4

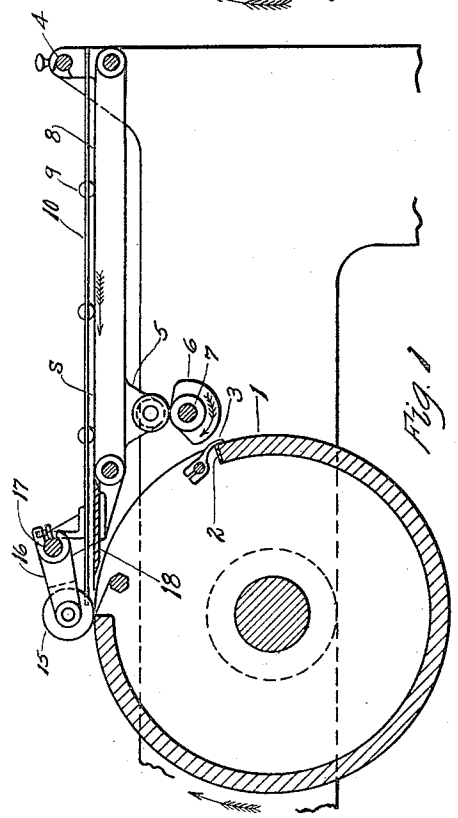


Fig. 1

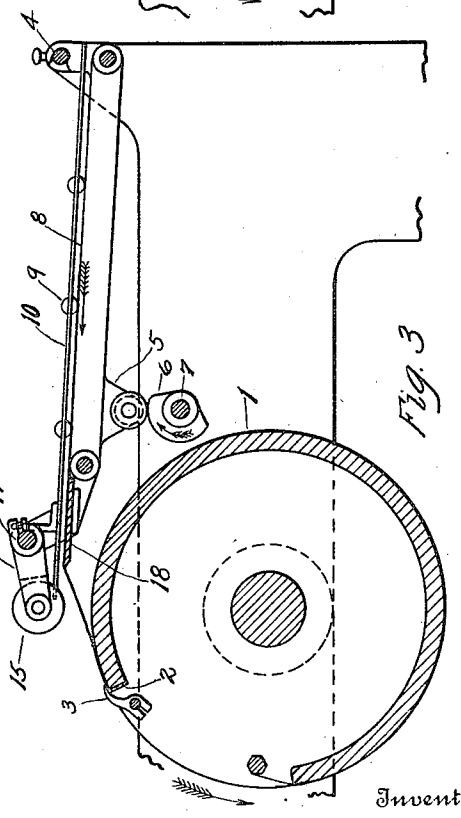


Fig. 3

Witnesses

E. J. Marshall.

Teresa J. Keenan.

Inventor

Nels A. Anderson

By

Attorney

N. A. ANDERSON.

GAGE AND STOP FOR PRINTING PRESSES.

APPLICATION FILED AUG. 16, 1915.

1,261,998.

Patented Apr. 9, 1918.

2 SHEETS—SHEET 2.

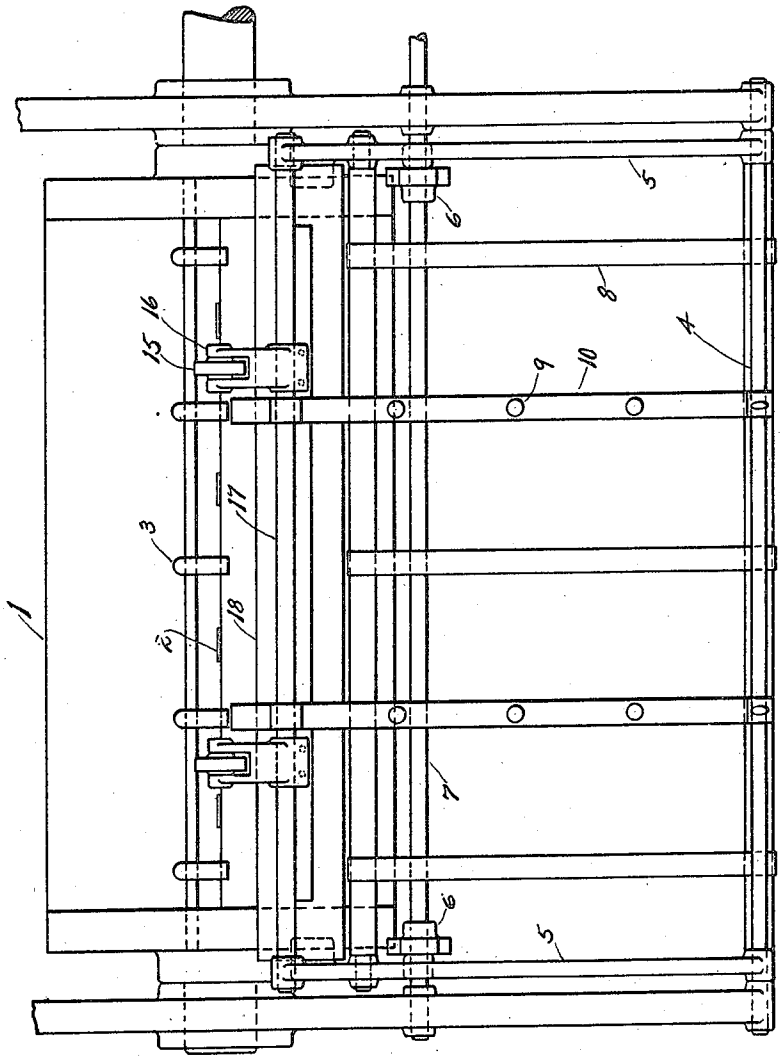


Fig. 5

WITNESSES:

E. J. Marshall.

Teresa J. Keenan.

INVENTOR.

Nils A. Anderson

BY

ATTORNEY.

UNITED STATES PATENT OFFICE.

NELS A. ANDERSON, OF WARREN, OHIO, ASSIGNOR TO THE HARRIS AUTOMATIC PRESS COMPANY, OF NILES, OHIO, A CORPORATION OF OHIO.

GAGE AND STOP FOR PRINTING-PRESSES.

1,261,998. Specification of Letters Patent. Patented Apr. 9, 1918.

Application filed August 16, 1915. Serial No. 45,758.

To all whom it may concern:

Be it known that I, NELS A. ANDERSON, of Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Gages or Stops 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.

The primary object of this invention is to provide in a printing press, front stops or guides which, in conjunction with the press cylinder, will automatically insure the proper positioning of the stock.

And a further object is to utilize such stops in discharging the stock from the press.

In the accompanying drawing, Figures 1, 2, and 3 are end views showing three positions of an impression cylinder, the feed table and front stops embodying my invention. Fig. 4 is a similar view including a portion of the strippers and delivery rolls. Fig. 5 is a plan view.

Referring to the drawings, 1 designates an impression cylinder which is designed to be oscillated in known manner; 2 the guides thereon; and 3 the grippers.

Pivotally mounted on a shaft 4 of the press is a feeder frame 5, suitably supported at its free end by cam members 6 rotatably mounted on a shaft 7 having its bearings in the press frame. The feeder comprises traveling tapes 8 and coöperating balls 9 mounted in bars 10 of the feeder frame. At the free end of the frame are front stops 15 consisting of rotary members having curved surfaces and shown in the form of rollers journaled in arms 16 which latter are adjustably mounted on a shaft 17 and are capable of being moved longitudinally of the sheet to any desired position.

The direction of oscillation of the impression cylinder is indicated by arrows in the several figures, the movement in one direction bringing it in a position to receive the sheet from the feed table, and the reverse movement gripping the sheet and causing it to advance with the cylinder and be printed and delivered, the rotation in each direction being approximately one and one-third revolutions. As shown in Fig. 1, the stock S is being advanced by the tapes 8 and coöperating balls 9 and is indicated as slightly beyond the register plate 18, and the stops 15 are in contact with the rear edge of the impression cylinder surface. By the time the cylinder has moved slightly farther toward the right the sheet will have been advanced until it is in contact with the stops 15 which are being actuated by the cylinder in a direction opposite to that of the sheet. The forward impulse given the stock by the tapes 8 and balls 9 is less than the resistance from the stops 15 moving in the opposite direction. In consequence, the sheet will be held against these stop rollers during the completion of the reverse movement of the cylinder. At about the termination of this movement the grippers 3 are raised and the guides 2 of the cylinder engage the front end of the sheet forcing it rearwardly against the action of its advancing means sufficiently to insure perfect register and alinement with the guides (see Fig. 2). The grippers will then close on the sheet and hold it against the impression cylinder which latter then begins its forward rotation. During the first stage of this latter movement the cam members 6, which are actuated in any preferred manner, will raise the feed table and the stop rollers 15 clear of the cylinder. The parts in this position are shown in Fig. 3.

Where it is desired to convert the stop rollers into a delivery means for positively moving the sheet far enough to enter the bite of the withdrawal rolls I provide the cam members 6 with a cutaway portion 20, as shown in Fig. 4. This formation of the cams permits the feed table to drop just after the cylinder has completed its revolution so as to bring the rollers 15 into contact with the cylinder for a brief period. This contact is effected just after the front edge of the sheet has passed the rollers and is released by the grippers. Further rotation of the cams will then immediately raise the table and the rollers so that there will be no dragging action on the sheet due to engagement between the stop rollers and the now slowly moving impression cylinder which is completing its forward rotation.

The advantages of my invention will be appreciated by those skilled in the art. It will be seen that I have provided a very simple and efficient front stop which will insure perfect register and alinement of the sheet before being gripped by the impres-

sion cylinder and that this same means may later be effectively employed to positively eject the sheet toward the delivery rolls, rendering unnecessary additional mechanism for moving the sheet to the deliverer. Furthermore as the roller stops rest on the cylinder and the cylinder constitutes the subjacent support for the sheet, the front edge of the latter will lie evenly and flat upon the cylinder.

I claim as my invention:

1. In a printing press, in combination with a rotary cylinder, a stop designed to engage with such cylinder and to be revolved thereby.

2. In a printing press, in combination with a rotary cylinder, a roller stop designed to engage with such cylinder to be rotated thereby.

3. In a printing press, in combination with an oscillating cylinder, a stop designed to engage therewith and, when the cylinder is moved in one direction, to limit the positioning of the stock relatively thereto, and when such cylinder is rotating in the opposite direction to effect the discharge of the stock from the cylinder, and withdrawal rolls for receiving the stock when so discharged.

4. In a printing press, in combination with a rotating cylinder, a feed table therefor, front stops mounted on said feed table and free to revolve in different directions in conjunction with said cylinder, and means for raising and lowering said feed table.

5. In a printing press, in combination with an oscillating cylinder having stop engaging means, of a feed table for said cylinder, front stops mounted on said feed table and free to revolve in different directions in conjunction with said cylinder, and means for raising and lowering said feed table.

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

NELS A. ANDERSON.

Witnesses:
C. G. PRITCHARD,
FREDERICK W. DUNN.

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