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PAPER EJECTOR FOR PRINTING PRESSES

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Fig.1

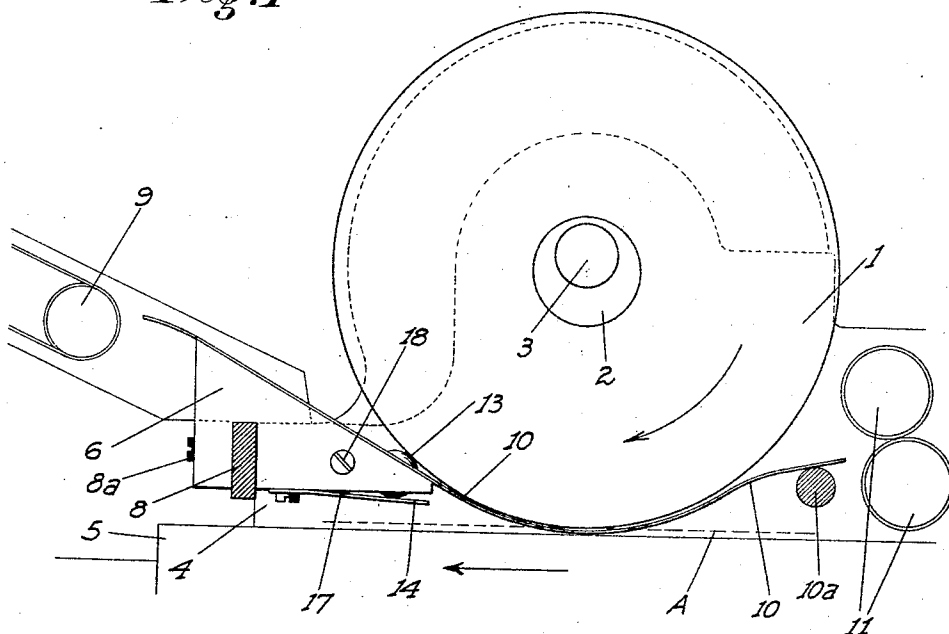


Fig. 2

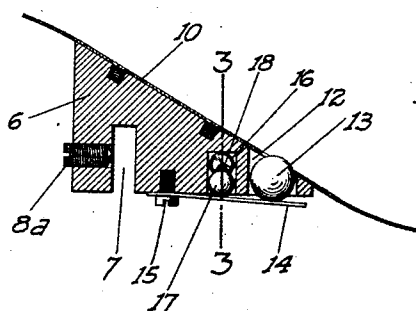
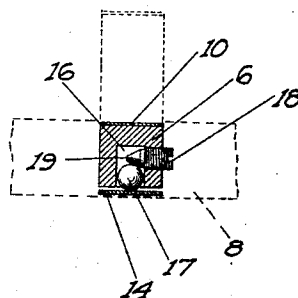


Fig. 3



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PAPER EJECTOR FOR PRINTING PRESSES.

Application filed August 26, 1924. Serial No. 734,214.

To all whom it may concern:

Be it known that I, CHARLES L. LOW, a citizen of the United States, residing at Fresno, county of Fresno, State of California, have invented certain new and useful Improvements in Paper Ejectors for Printing Presses; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in paper ejecting mechanisms for use on presses of the type having an oscillating impression or printing cylinder, and a reciprocating type-form cooperating with the cylinder.

The principal object of my invention is to provide a paper ejector having a ball with which the cylinder contacts when in a printing position, the ball being yieldably mounted in the ejector so that while allowing of a positive ejecting action of a sheet being printed, the ball may give to prevent a binding of the sheet against the conveyor such as would interfere with its proper ejection.

Another object is to provide a simple and positive means for adjusting the ball to alter its extent of projection from the guide finger or paper supporting surface of the ejector, thereby altering the setting of the ball relative to the printing cylinder. This enables sheets of different thicknesses being ejected while maintaining the same frictional pressure or contact with all of them.

At the same time, the yieldability of the ball is not interfered with, and the pressure necessary to cause the same to yield is the same with any setting of the ball.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side elevation of one of the improved ejectors, showing the same in connection with the printing cylinder and adjacent parts of the press, the printing cylinder being in its printing position.

Fig. 2 is a longitudinal section of the ejector, detached.

Fig. 3 is a cross section of the same on the line 3—3 of Fig. 2.

Referring now more particularly to the characters of reference marked on the drawings, the numeral 1 denotes the printing cylinder mounted on a shaft 2 having eccentric ends 3 journaled in end bearing members, one of which is shown at 4.

A horizontal type form 5 is disposed in a plane below the cylinder, and is arranged for reciprocatory movement thereunder. The cylinder and form are moved in unison, and the former caused at a certain period of each reciprocation, to be lowered into printing engagement with the type A on the form, by suitable means as is shown for instance in my copending application filed June 27th, 1914, Serial No. 722732. This mechanism however forms no part of this invention.

My improved ejectors, two of which are used with each cylinder to the sides of the plane of the type on the form, each comprises a rigid block 6 having on its under side and adjacent its rear end a deep vertical notch 7 to slidably fit on a horizontal bar 8 extending between and fixed on the rear ends of the cylinder supporting members 4. A set screw 8^a in the block and bearing against the bar enables the block to be fixed at any desired lateral point on the bar.

The block 6 is disposed between the forward end of the usual ejector conveyor 9 and the adjacent end of the cylinder, and its upper face has a slope substantially equal to that of the conveyor and disposed so that its lower and forward end is about tangent to the cylinder at a point a certain distance rearwardly of a vertical radial line.

Fixed on said upper face of the block 6 is a strip 10 constituting a guide finger and paper supporting element, which extends forwardly of and under the cylinder in

spaced relation thereto, to a point adjacent but to the rear of the usual paper feed-rolls 11 of the press. This end of the finger is disposed to receive the sheet being fed between the rolls, and rests on a transverse rod 10^a.

Adjacent its forward end the block 6, and the finger 10 are provided with a vertical orifice 12 extending therethrough, to receive a ball 13 of greater diameter than the combined height of the block and finger at that point. The ball rests on a spring strip 14 fixed under and on the block 6 by a screw 15 to the rear of the orifice 12. Between said screw and the orifice 12 the under face of the block is provided with a recess 16 to receive a ball 17 which rests on the strip 14. This ball is vertically adjusted, so as to cause the strip 14 to be depressed or elevated, by means of a horizontal set screw 18 projecting into the recess 16 from one side of the block and having a cone-shaped end 19 bearing against the ball 17.

It will therefore be seen that by advancing or retracting the screw 18, the free end of the strip 14, on which the ball 13 is supported, is respectively lowered or raised, causing said ball 13 to correspondingly project a lesser or greater distance from the upper surface of the guide finger 10.

Since the cylinder 1 in its lowering movement only approaches to within a predetermined distance from the finger 10, it will be evident that adjustment of the ball 13 relative to the finger alters the setting of the ball relative to the cylinder, and the pressure of contact therebetween may be altered to suit different thicknesses of paper being printed. At the same time, it will also be noted that regardless of the raising or lowering of the strip 14, the resiliency or tension of the latter, from the ball 17 to the free end of said strip, is not interfered with. In other words, the same pressure is necessary to depress the ball at all times and regardless of the setting of the ball relative to the finger.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A sheet ejector for printing presses having a rotary printing cylinder, including a guide finger to receive a sheet after passing under the cylinder, a ball mounted in

connection with the finger intermediate the ends thereof and projecting thereabove for engagement with the cylinder, and means for positively adjusting the extent to which said ball will project.

2. A sheet ejector for printing presses having a rotary printing cylinder, including a guide finger to receive a sheet after passing under the cylinder, a revoluble member mounted in connection with the finger and projecting thereabove, and means for positively adjusting the extent to which said member will project.

3. A sheet ejector for printing presses having a rotary printing cylinder, including a guide finger to receive a sheet after passing under the cylinder, a revoluble member mounted in connection with the finger and projecting thereabove, means for adjusting the extent to which said member will project, and means enabling said member to yieldably depress with the same pressure irrespective of its setting with respect to the finger.

4. A sheet ejector for printing presses comprising a block, a guide finger mounted on the upper face thereof, said block and finger having a vertical orifice therethrough, a ball in said orifice of greater diameter than the depth of the block and finger in the plane of the orifice, and a spring strip fixed at one end on and under the block beyond the orifice and extending across the plane of the latter to support the ball.

5. A sheet ejector for printing presses comprising a block, a guide finger mounted on the upper face thereof, said block and finger having a vertical orifice therethrough, a ball in said orifice of greater diameter than the depth of the block and finger in the plane of the orifice, a spring strip fixed at one end on and under the block beyond the orifice and extending across the plane of the latter to support the ball, and means applied to said strip for enabling its spacing from the block in the plane of the orifice to be altered at will.

6. A sheet ejector for printing presses comprising a block, a guide finger mounted on the upper face thereof, said block and finger having a vertical orifice therethrough, a ball in said orifice of greater diameter than the depth of the block and finger in the plane of the orifice, a spring strip fixed at one end on and under the block beyond the orifice and extending across the plane of the latter to support the ball, and means applied to said strip between the orifice and the fixed end of the strip for enabling the spacing of the latter from the block in the plane of the orifice to be altered at will.

7. A sheet ejector for printing presses comprising a block, a guide finger mounted on the upper face thereof, said block and

finger having a vertical orifice therethrough, a ball in said orifice of greater diameter than the depth of the block and finger in the plane of the orifice, and a spring strip fixed at one end on and under the block beyond the orifice and extending across the plane of the latter to support the ball, another ball seated in the block and bearing on the strip between the orifice and the fixed end of the strip, and an adjustable screw for depressing and elevating said last named ball relative to the block. 10

In testimony whereof I affix my signature.

CHARLES L. LOW.