(No Model.) 2 Sheets—Sheet 1.

A. OVEREND.

POINTING AND PERFORATING APPARATUS FOR CYLINDER PRINTING PRESSES.

No. 303,947. Patented Aug. 19, 1884.

Fig1.

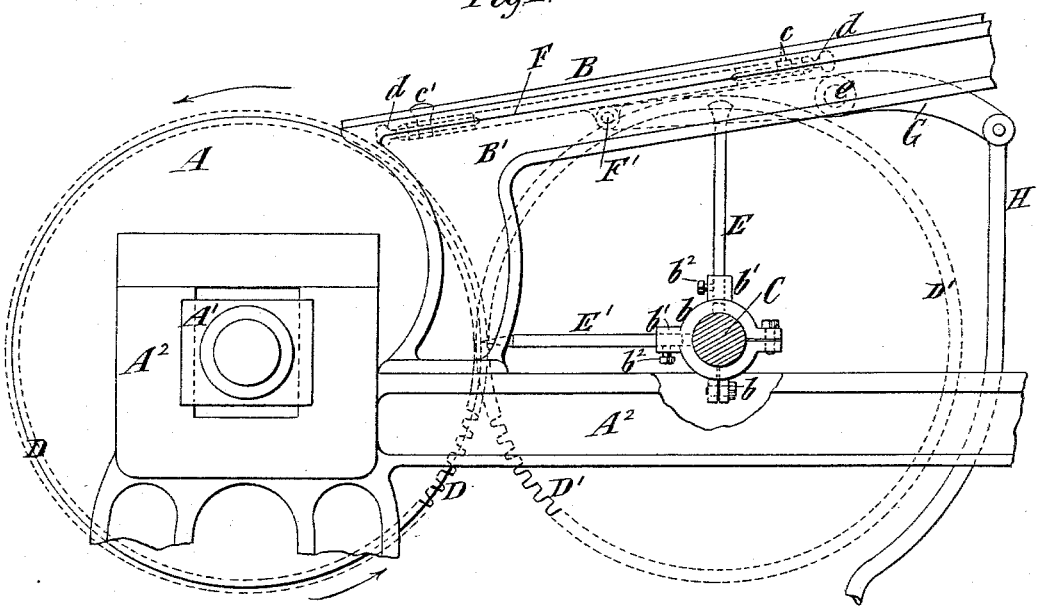
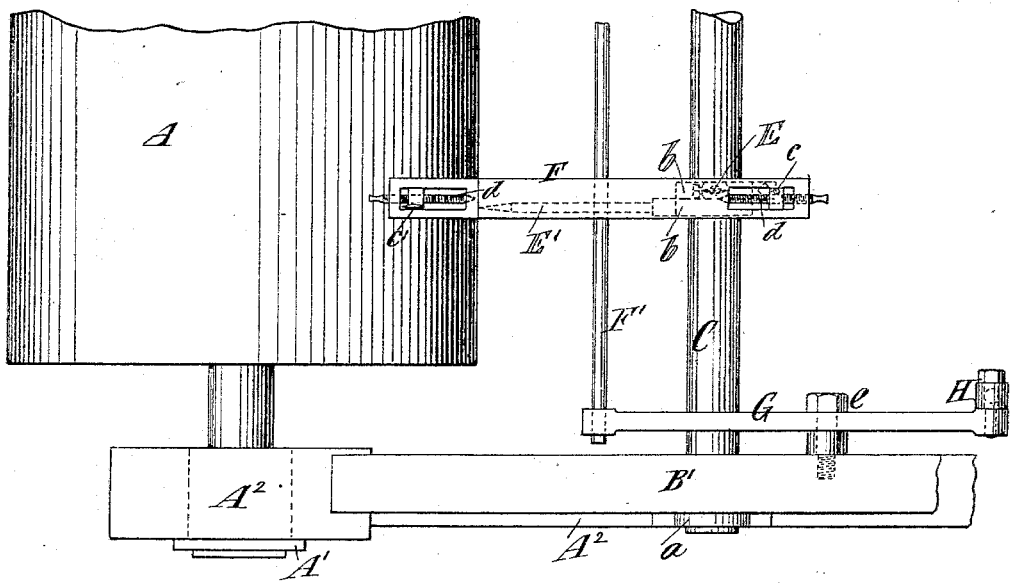


Fig2



Witnesses:
Fred Haynes
Chandler Hall

Inventor:
Andrew Overend
by his Attorneys
Brown & Hall

(No Model.) 2 Sheets—Sheet 2.

A. OVEREND.

POINTING AND PERFORATING APPARATUS FOR CYLINDER PRINTING PRESSES.

No. 303,947. Patented Aug. 19, 1884.

Fig. 3.

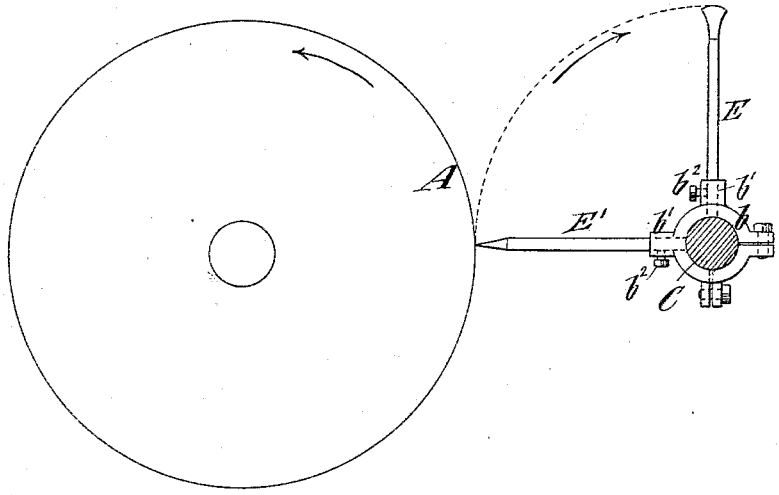
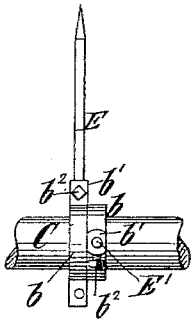


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANDREW OVEREND, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO CALVERT B. COTTRELL, OF STONINGTON, CONNECTICUT.

POINTING AND PERFORATING APPARATUS FOR CYLINDER PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 303,947, dated August 19, 1884.

Application filed January 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, ANDREW OVEREND, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Pointing and Perforating Apparatus for Cylinder Printing-Presses, of which the following is a specification.

Ordinarily the points whereby the paper is perforated for pointing are locked up in the body of type in the form. This arrangement of the points is objectionable both because of the difficulty in exactly placing the points in the form and because said points cut the inking-rollers in the passage of the form under them. An important object of my invention is to obviate these objections.

To this end my invention consists in the combination, with a rotating impression-cylinder, of a shaft geared to move in unison with the cylinder, and perforating devices extending radially from said shaft and serving to perforate the paper as they are brought against it by the synchronous rotation of the said cylinder and shaft.

In a common back or reel delivery, the perforating devices above described may project radially from the reel-shaft; but any shaft suitably arranged and geared with the cylinder may be employed for carrying said perforating devices.

In the pointing apparatus ordinarily employed, two needle-points are arranged in the feed-board, and the press-feeder first places the rear end of the sheet on the point most distant from the cylinder and moves or swings the front edge of the sheet back and forth until the needle-point which is nearest the cylinder is found. A further object of my invention is to facilitate the finding of the point last mentioned.

The invention therefore also consists in the combination, with a rotating cylinder and feed-board, of a pointing apparatus consisting of a needle-point at a distance from the cylinder, and a broad-edged point having its greatest dimension extending transverse to the cylinder.

When the printed form or sheet has a round perforation at the rear or one edge and a slit or cut at the other or front edge, the perforation may first be placed on the needle-point, and by moving the front edge of the paper very slightly the broad-edged point will be easily found, and the paper will be thus more readily pointed than heretofore.

In the accompanying drawings, Figure 1 is a partly-sectional side view of such parts of a press as are necessary to illustrate my invention. Fig. 2 is a plan of such parts, the feed-board being removed. Fig. 3 is a diagram illustrating the cylinder, the perforating devices, and the shaft on which they are secured; and Fig. 4 is a side view of a portion of said shaft and its perforating devices.

Similar letters of reference designate corresponding parts in all the figures.

A designates the cylinder, to which a rotary motion in the direction of the arrows may be imparted by any suitable mechanism. I do not here show the cylinder-driving gear or mechanism, as it forms no part of my invention.

A′ designates the cylinder-boxes, which are fitted to the cylinder-frames A^2.

B designates the feed-board supported on side frames, B′, in the ordinary manner.

C designates a shaft arranged parallel with the cylinder A, and adapted to turn in bearings *a*, supported by the frames A^2. In presses having a back or reel delivery the shaft C may be the ordinary reel-shaft. The cylinder A and shaft C are geared together to rotate synchronously by means of spur-wheels D D′, the pitch-line of which is coincident with the surface of the cylinder A.

E E′ designate the perforating devices carried by the shaft C. They consist of arms or rods projecting radially from said shaft, and they are each fixed in a split collar, *b*, which is capable of being adjusted around and along the shaft C, and of being secured thereto in any position desired. As here shown, each collar *b* is formed with a socket, *b′*, in which the perforating device E or E′ is secured by a set-screw, b^2, as shown most clearly in Fig. 4. I thus provide for adjusting the perforating devices, so that their outer extremities will occupy the desired position relatively to the pitch-line, and will project just sufficiently to

perforate the paper on the cylinder. As shown, the device E has a broad or chisel-like point, while the device E′ has a needle-point. As the points of the two perforating devices are brought in succession against the paper on the cylinder by the rotation of the cylinder and the shaft C, the said devices are caused to perforate the paper.

The pointing apparatus in the feed-board B consists of a needle-point, *c*, and a broad-edged point, *c′*, which are adjustable toward and from each other in a bar or holder, F, by means of adjusting-screws *d*. The bar or holder F is carried by a bar or rod, F′, which is supported at the ends by levers G, fulcrumed at *e*. To the rear ends of the levers G are connected rods H, which are operated in the usual way by cams to effect the raising and lowering of points *c c′* at the proper time.

As shown in dotted lines in Figs. 2 and 4, the collars *b b*, which respectively have secured in them the perforating devices E E′, are set side by side, and in order that the positions of the points *c c′* in the feed-board B shall correspond to the holes formed by said perforating devices, I set the two points *c c′* out of line in the bar or holder F, one point being nearer one side of bar and the other point nearer the other side thereof, as is shown in Fig. 2. The making of the point *c′* with a broad edge is advantageous, because the placing of the paper on it is much easier than is the case where two needle-points are used.

I employ the term "points" as applied to the parts *c c′*, because this term is well understood. To distinguish them one from another I use the terms "needle-point" *c* and "broad-edged point" *c′*.

I may employ my perforating apparatus to point for folding in book-binding.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a rotating impression-cylinder, of a shaft geared to move in unision with the cylinder, and perforating devices extending radially from said shaft and serving to perforate the paper for pointing, substantially as herein described.

2. The combination, with an impression-cylinder, and a reel-shaft geared to rotate synchronously, of perforating devices extending radially from said shaft and serving to perforate the paper for pointing, substantially as and for the purpose herein described.

3. The combination, with a rotating impression-cylinder and feed-board, of a pointing apparatus consisting of a needle-point, *c*, at a distance from the cylinder, and a broad-edged point, *c′*, having its greatest dimension transverse to the cylinder, substantially as and for the purpose herein described.

ANDREW OVEREND.

Witnesses:
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THOS. J. HARRISON.