

(No Model.)

C. W. HOLMES.
PAPER PERFORATING MACHINE.

No. 534,884.

Patented Feb. 26, 1895.

Fig. 1.

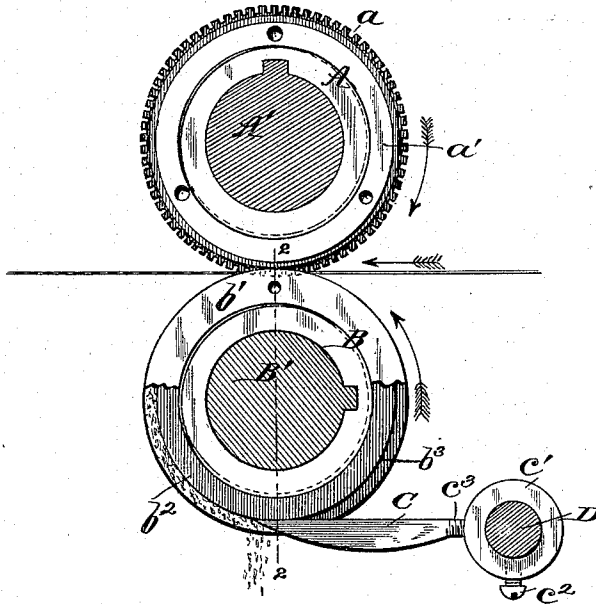
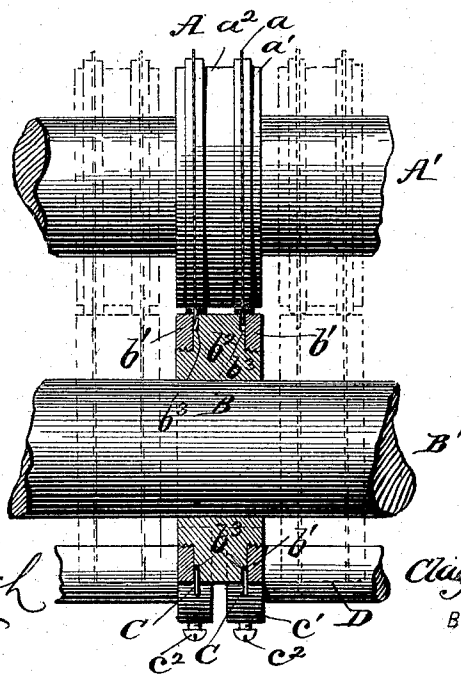


Fig. 2.



WITNESSES:

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PAPER-PERFORATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 534,884, dated February 26, 1895.

Application filed September 27, 1894. Serial No. 524,257. (No model.)

To all whom it may concern:

Be it known that I, CLAY W. HOLMES, residing at Elmira, in the county of Chemung and State of New York, have invented a new and Improved Paper-Perforating Machine, of which the following is a specification.

My invention relates to certain improvements in that class of perforating machines known as slot perforators, in which a circular female die has a peripheral slot into which there penetrates the periphery of a circular series of short blades or cutters carried by another circular die which rolls in peripheral contact with the female die, and punches elongated slots in straight line series from a sheet of paper fed between the dies. With this class of cutters the difficulty has been to get rid of the little bits of paper which are cut out, which soon become so packed into the slot as to obstruct and finally stop the operation of the machine, at the expense of much loss of time and breakage of parts. My invention is designed to overcome this difficulty, and to that end it consists in a series of clearing blades arranged to run in the slots of the female die in tangential position, being sustained by means of collars on a counter shaft, and provided with set screws to render them independently adjustable, as will be hereinafter fully described.

Figure 1 is a side view partly broken away of the two dies of a slot perforating machine, with my invention applied thereto, and Fig. 2 is an edge view of the upper or male die, with the lower or female die in section taken on the line 2—2— of Fig. 1.

In the drawings A, represents the male or cutter die, and B the female or slot die of a continuous slot perforator. These dies may be either single or double. As shown they are double; that is to say there are two cutter blades on each male die, and two peripheral slots in each female die. There are in a full size machine a series of pairs of these dies, as shown in dotted lines in Fig. 2, arranged upon suitable parallel shafts A' B' to which they are rigidly keyed, the dies being arranged side by side and extending across the width of the

machine, or the width of the sheets of paper to be perforated.

The male die consists of a circular ring shaped blade *a* whose outer edge is notched or broken up into a series of short blades, the ring shaped blades being securely clamped between two screw rings *a'* *a*² which constitute the body of the die.

The female die consists of two screw rings *b'* *b*². The ring *b*² is recessed at its outer periphery a depth and with just sufficient to receive the cutter blades of the male die, a shoulder *b*³ being formed at the bottom of the recess to act as an abutment against which the other ring *b'* is tightly screwed to form the other side of the slot. C is one of the clearing blades. This is made thin enough at its outer end to enter the slot of the female die, and is arranged in tangential relation thereto, so that its end plows down into the bottom of said slot, and dislodges and throws out the little particles of paper that are cut out of the sheet of paper as fast as they are cut. These clearing blades correspond in number and position to the slots of the female die, and they are connected to and supported by collars *c'* which embrace a counter shaft D, and are made adjustable thereon by a set screw *c*². These blades have screw threaded ends *c*³ which enter corresponding threaded sockets in the collars, so that when they become worn they may be quickly, cheaply, and conveniently, replaced with others. With this construction of perforating dies and clearers, the dies never become obstructed, and there is no intermission of the work, and no breakage or serious wear and tear on the mechanism.

The clearing blades, it will be understood, are designed to be applied to any set of dies working on the continuous slot principle, and may be applied to any portion of the female die.

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

In a paper perforating machine, the combination with the circular female die having

a peripheral slot, and a circular male die
with peripheral cutters, of a clearing blade
mounted upon a collar and having its free end
penetrating the said slot, a counter shaft pass-
5 ing through and retaining said collar, and
a set screw for adjustably connecting the
clearer blade and collar to said counter shaft,

substantially as and for the purposes de-
scribed.

CLAY W. HOLMES.

Witnesses:

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