No. 778,006. PATENTED DEC. 20, 1904.

R. T. BROOKS.

# MACHINE FOR PERFORATING PAPER, &c.

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NO MODEL.

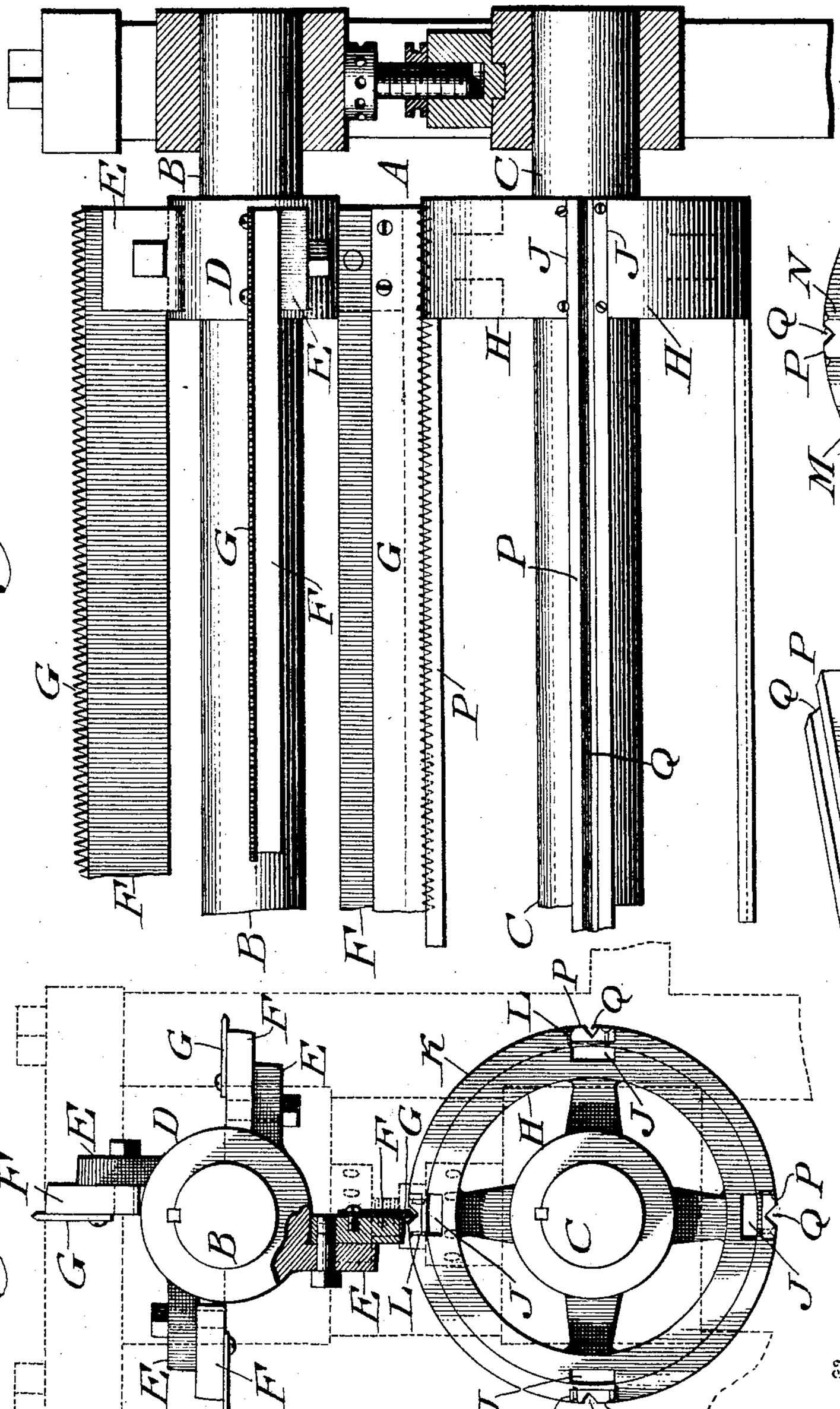


Fig. 1.


Fig. 4.

Fig. 3.




Fig. 2.

Witnesses

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No. 778,006. Patented December 20, 1904.

# UNITED STATES PATENT OFFICE.

RICHARDS T. BROOKS, OF SWARTHMORE, PENNSYLVANIA, ASSIGNOR TO KEYSTONE TYPE FOUNDRY, OF PHILADELPHIA, PENNSYLVANIA, A FIRM.

## MACHINE FOR PERFORATING PAPER, &c.

SPECIFICATION forming part of Letters Patent No. 778,006, dated December 20, 1904.

Application filed April 12, 1904. Serial No. 202,750.

*To all whom it may concern:*

Be it known that I, RICHARDS T. BROOKS, a citizen of the United States, residing at Swarthmore, in the county of Delaware, State of Pennsylvania, have invented new and useful Improvements in Machines for Perforating Paper, &c., of which the following is a specification.

My invention consists of a machine for perforating paper and other material, the same embodying means of adjustment whereby the perforations may be made nearer to or farther apart.

Figure 1 represents a front elevation of a perforating-machine embodying my invention. Fig. 2 represents a partial side elevation and partial vertical section thereof. Fig. 3 represents a perspective view of one of the perforating-beds of the machine. Fig. 4 represents a side elevation of a portion of the machine, showing an additional adjustment.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates portion of the housing of the machine, and B and C designate shafts rotatably mounted thereon. On the shaft B is the spider D, to the arms E of which are bolted the cross bars or heads F, to which are secured the perforating plates or blades G, four of which are shown in the present instance.

On the shaft C is the roller H, in the periphery of which are longitudinally-extending recesses J, and fitted on said roller is the annulus or ring K, which thus increases the circumference of said roller H. In the outer periphery of said annulus are recesses L, which extend parallel with the recesses J.

Referring to Fig. 4, M designates an annulus or ring which is of greater diameter and circumference than the annulus or ring K and correspondingly increases the diameter and circumference of the roller H.

In the outer periphery of the ring M are the recesses N, which extend parallel with the recesses L and J and are preferably of the same number.

P designates removable beds, which are interchangeably adapted for the recesses of said roller and rings, each of the same having a longitudinally-extending groove or recess Q therein to receive the perforating-points of the respective blade.

It will be seen that the blades G and recesses Q extend in the transverse direction of the machine, so that the resultant perforations are in the transverse direction of the paper, &c.

While we have shown but a single spider D and a single roller H, it is evident that a number of the same will be mounted on the shafts B C, respectively, so as to properly sustain the blades G and beds P from side to side of the machine.

In Fig. 2 the beds P are seated in the recesses Q of the ring K, it being evident that when power is communicated to the shafts B and C rotary motions are imparted to the blades G and beds P, and as paper or other material is passed between said parts when the points of a blade reach the recess of the companion bed said points pierce the paper and are prevented from injury by their entrance into said recess, the paper or material being sustained on the outer face or periphery of the bed, while the perforations are well formed and the lines thereof disposed at predetermined distances apart.

Should it be desired to form the lines of perforations closer to each other, the ring K is removed and the beds P seated in the recess J of the roller H, said beds being now nearer to each other, owing to the less circumference of said roller, the position of parts being shown in Fig. 1.

Should it be desired to form the lines of perforations farther apart, the beds are placed in the recesses N of the ring M and the latter fitted on the rollers H, said beds being now farther apart, owing to the increased diameter of the said ring M. (See Fig. 4.)

In some cases it may be necessary to adjust the spiders and rollers H relatively to each other, this being readily accomplished by means of the screws of the housing, the same engaging with the boxes of said rollers. Again, the blades G may require to be of greater or less length. For this purpose they

are removably screwed on the heads F and the latter are removably bolted on the arms of the spider, so that they may be substituted by others of the desired length, the effect of which is evident.

Various changes may be made in the details of construction shown without departing from the general spirit of my invention, and I do not, therefore, desire to be limited in each case to the same.

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

1. In a perforating-machine, an adjustable perforating-blade, a roller, and a ring removably mounted on the periphery of said roller, the peripheries of said roller and ring each having a recess therein and a recessed bed for the points of said blade adapted to be fitted in either recess.

2. In a perforating-machine, a roller and interchangeable rings of varying diameters adapted to be fitted on said roller, said rings having detachable beds thereon.

3. In a perforating-machine, a roller and a removable ring adapted to be fitted thereon, said ring being adapted to coact with a revolving perforating-blade, the peripheries of said roller and ring each having a recess therein and a bed adapted to receive a perforating-point and interchangeably adapted to either recess.

4. In a perforating-machine, a rotatable perforating-blade, means for adjusting said blade in the direction of the length thereof on the carrier therefor, a bed for said blade, a rotary carrier therefor and means for adjusting the diameter of said carrier.

5. A roller having a recess in its periphery, interchangeable rings adapted to be fitted on said roller and having recesses in their peripheries, beds adapted to be fitted in either of said recesses and a rotary perforating-blade adapted to coact with said beds.

RICHARDS T. BROOKS.

Witnesses:

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