No. 746,274. PATENTED DEC. 8, 1903.

A. M. BOVIER.

PERFORATING MACHINE.

APPLICATION FILED MAR. 2, 1903.

NO MODEL.

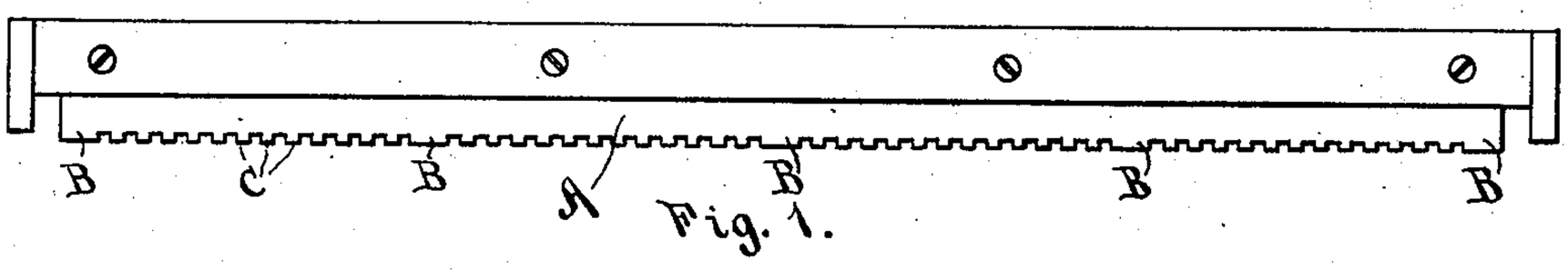

Fig. 1.

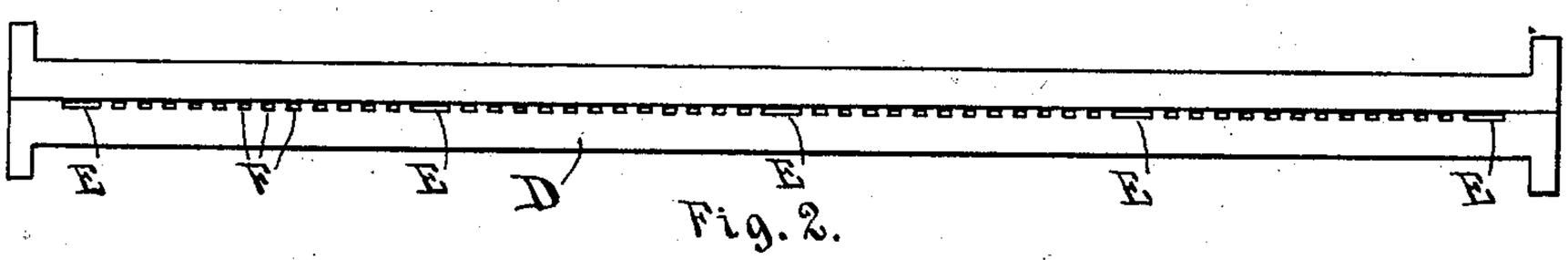

Fig. 2.

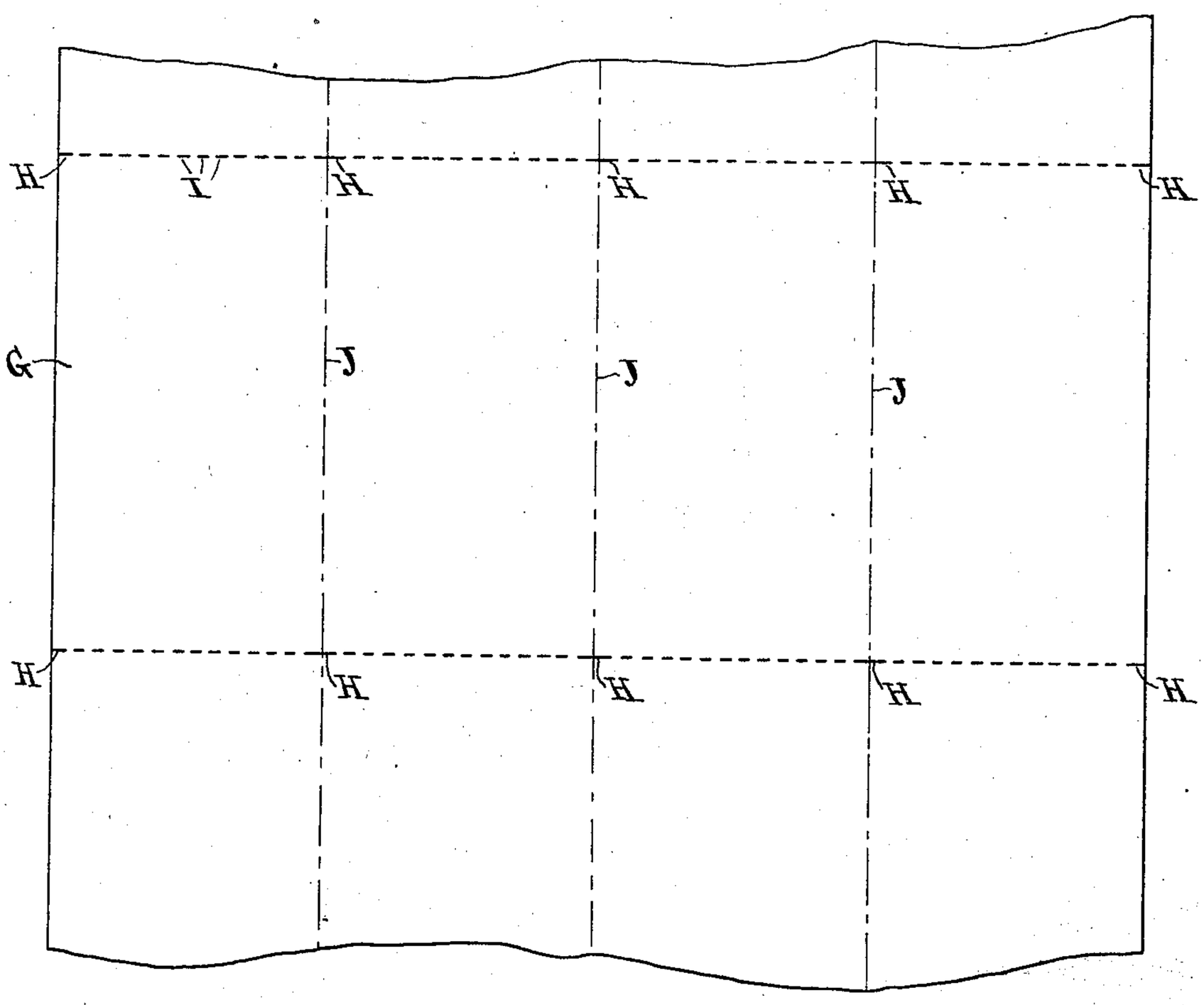

Fig. 3.

WITNESSES:

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No. 746,274. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

ARCHIE M. BOVIER, OF ELMIRA, NEW YORK.

PERFORATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 746,274, dated December 8, 1903.

Application filed March 2, 1903. Serial No. 145,650. (No model.)

To all whom it may concern:

Be it known that I, ARCHIE M. BOVIER, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented a new and useful Improvement in Perforating-Machines, of which the following is a specification.

My invention relates to improvements in the form of the perforating blades or attachments used in machines for preparing writing pads, tablets, and the like, and has to do more particularly with such attachments as are applied to web-printing presses upon which are printed the leaves which go to make up the manifolding-salespads now in general use by merchants throughout the country. Heretofore it has been customary to separate the leaves of such pads or tablets from their stubs or from other adjoining leaves by perforate lines regardless of how the perforating-cuts will run with respect to the edges of the finished leaves, and much trouble is experienced when separating the leaves from the stubs or from one another because the paper is left whole at the end of the perforate line and the pull exerted upon a leaf to separate it will, as like as not, tear the leaf itself or the adjacent leaf, and much care and some little loss of time must be expended in breaking the leaf away along the perforate line.

It is my object to so arrange the perforating blade or blades that each perforate line in the finished pad or tablet will be terminated at each end by a cut extending through the edge of the paper. By this initial cut into the paper at each end of the line, no matter in which direction the paper may be pulled when separating a leaf, the breaking away will take place without fail upon the perforated line.

I accomplish my object by means of a perforating-blade formed as illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a part of a perforating attachment containing a blade embodying my improvements; Fig. 2, a plan view of the counterpart or die which receives the cutting edge of the blade, and Fig. 3 a section of a web of paper which has been passed through such a perforator.

A represents the perforating-blade, which is shown as attached to a cross-bar, by which it is secured to one of the rolls or revolving frames of the perforating attachment of a web-printing press or like machine in a usual manner. The edge of this blade is divided up into a series of teeth C, interspersed between short knives B, the position and distance apart of the knives B depending upon the width of the web of paper to be operated upon and upon the width of the sections into which said web is subsequently to be divided. D represents the counterpart or female member of the attachment, which is secured to the other roll or revolving frame of such attachment. This counterpart member is provided with the long openings E, to receive the knives B, and the shorter openings F, corresponding with the shape of the perforating-teeth C. G represents a section of a web of paper which has been passed through such a perforating attachment, and it will be seen that the perforated lines consist of a series of perforations I, corresponding with the form of the teeth C, separated by the cuts H, which are so positioned that when the web is subsequently cut into sections on the lines J each of the perforated lines on the separated strips or leaves will be terminated at each end by a cut extending through the edge of the paper.

It will be understood that the perforating rolls or frames will be provided with as many of these blades as may be required to form the perforate lines at the proper spacings as the web passes through the perforator and that the perforating-teeth may be formed in any desired shape, and it will be further understood that such a blade or blades may be applied in different ways to different forms of perforating attachments or machines without departing from the spirit of my invention. There may be a knife at each end of the perforating row of teeth, or there may be a number of interspaced knives, dependent upon the number of sections or strips into which a web of paper or a sheet of paper is subsequently to be divided after passing through the perforating process.

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

1. A perforator comprising a series of per-

forating-teeth and cutting-knives, said knives being placed at each end of the series and set in alinement therewith.

2. A perforator comprising a series of perforating-teeth placed between and broken into at intervals by cutting-knives, said knives being set to cut in the same line with the perforating-teeth.

3. A perforating-blade, the edge of which is in the form of a series of perforating-teeth and cutting-knives, said knives being placed at each end of a series of the perforating-teeth, and set in alinement therewith.

4. A blade for perforating attachments for web-machines, for producing writing pads, tablets and the like, having its edge in the form of a series of perforating-teeth interspersed with cutting-knives, whereby the leaves or strips of leaves into which the web of paper is subsequently divided will have each perforated line terminated at each end by a cut extending through the edge of the paper.

5. A line-perforator for preparing the leaves of pads, tablets and the like consisting of a series of perforating-teeth set between cutting-knives, and a counterpart or die to receive said teeth and knives.

In testimony whereof I have affixed my signature in presence of two witnesses.

ARCHIE M. BOVIER.

Witnesses:

CHARLES O. EACKER,

M. E. VERBECK.