

**S. SCHOLFIELD & C. E. BAKER.**

## Paper Feeding-Machines.

No. 135,597.

Patented Feb. 4, 1873.

FIG. 1.

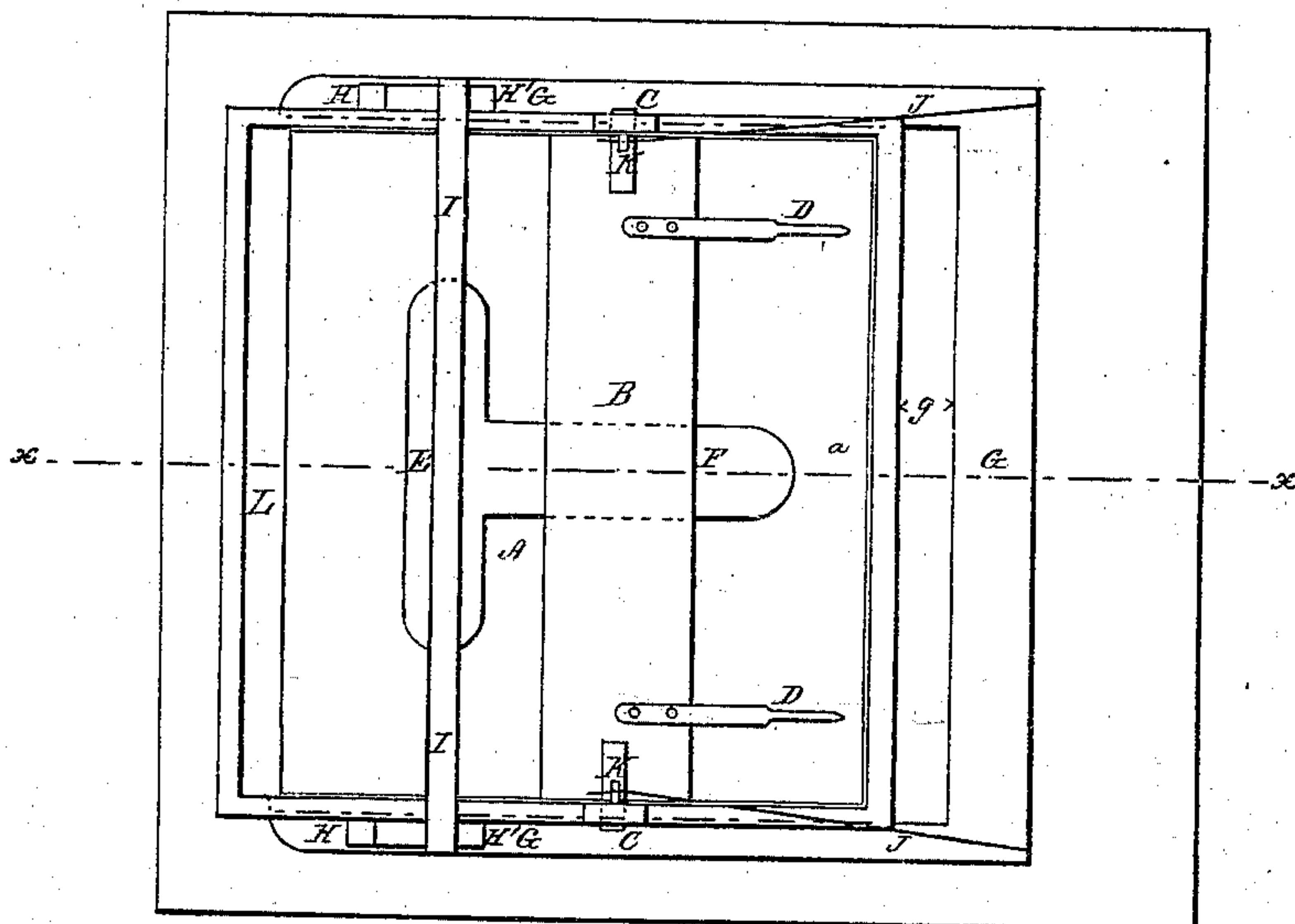


FIG.2.

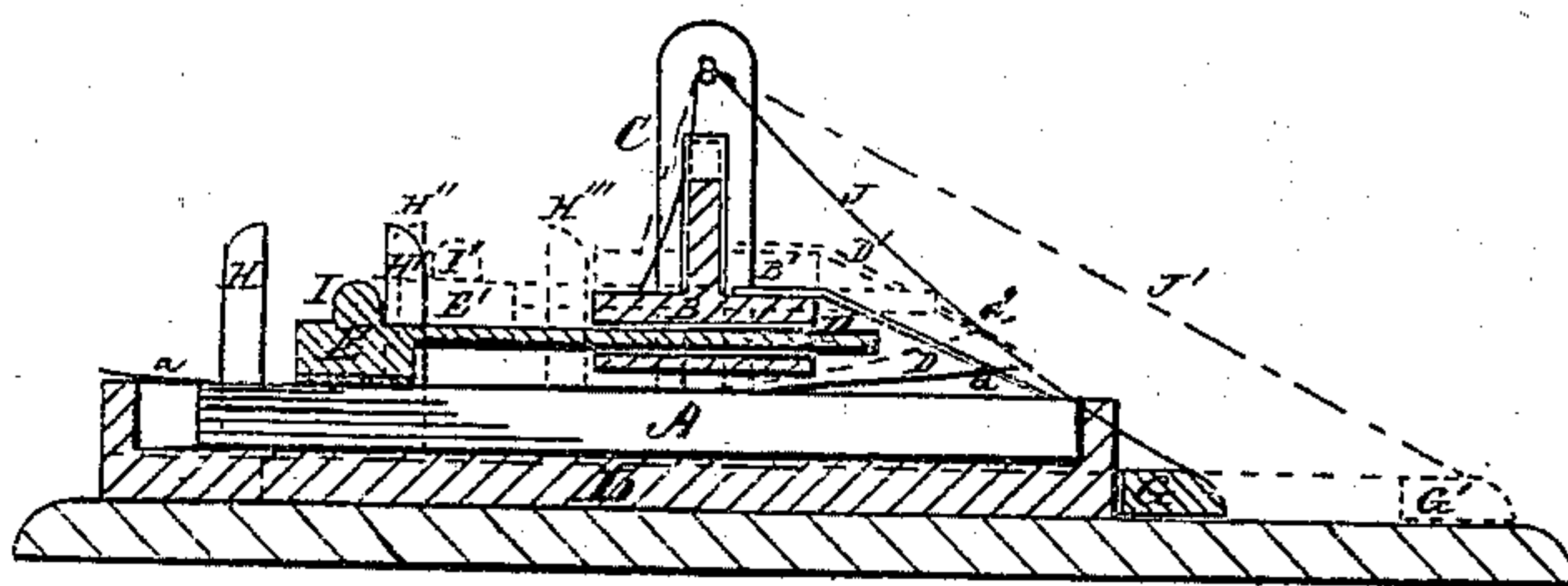


FIG. 3.

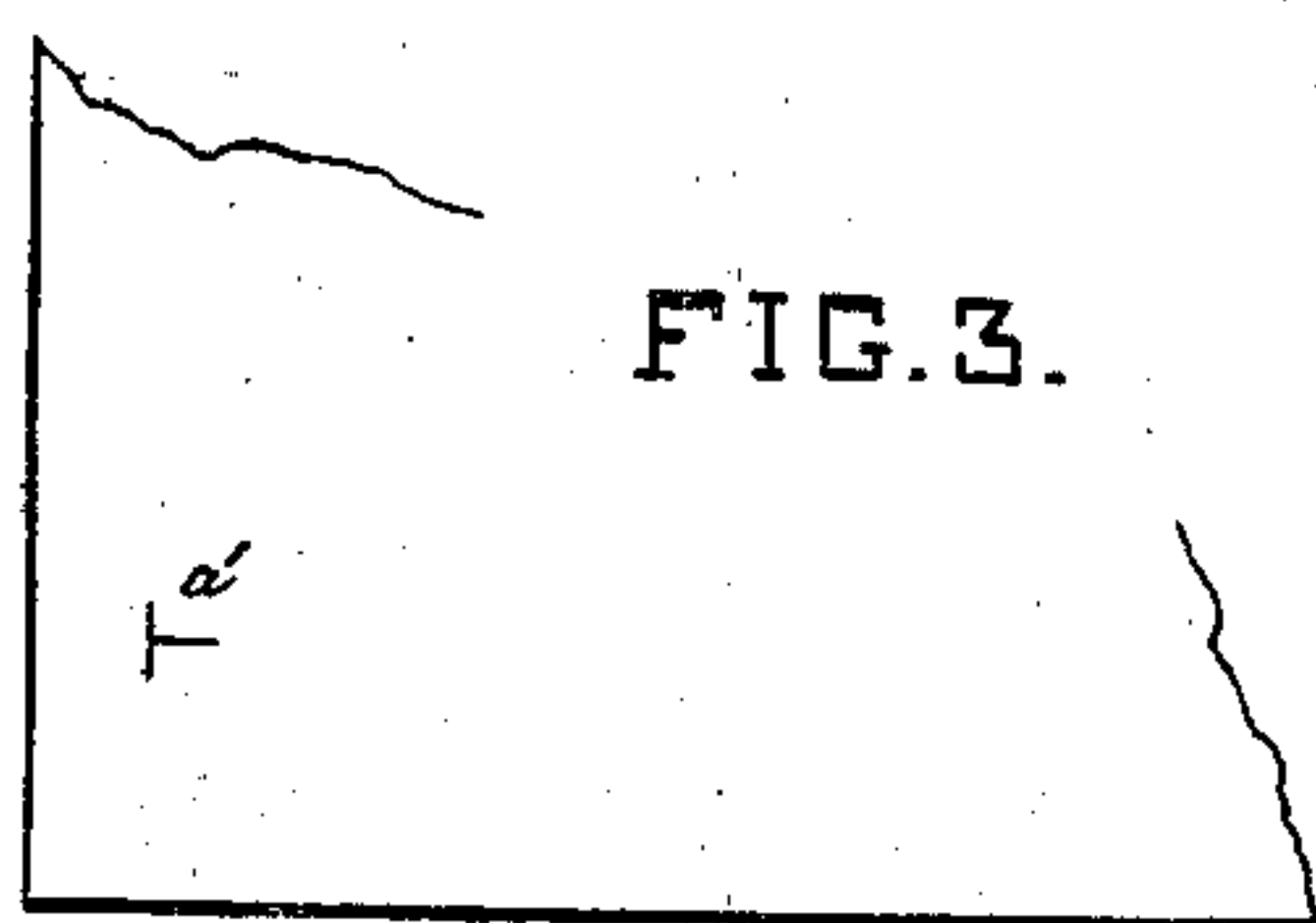


FIG.4.

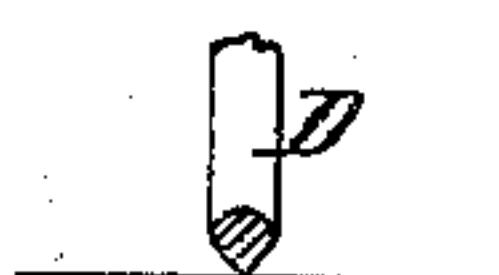
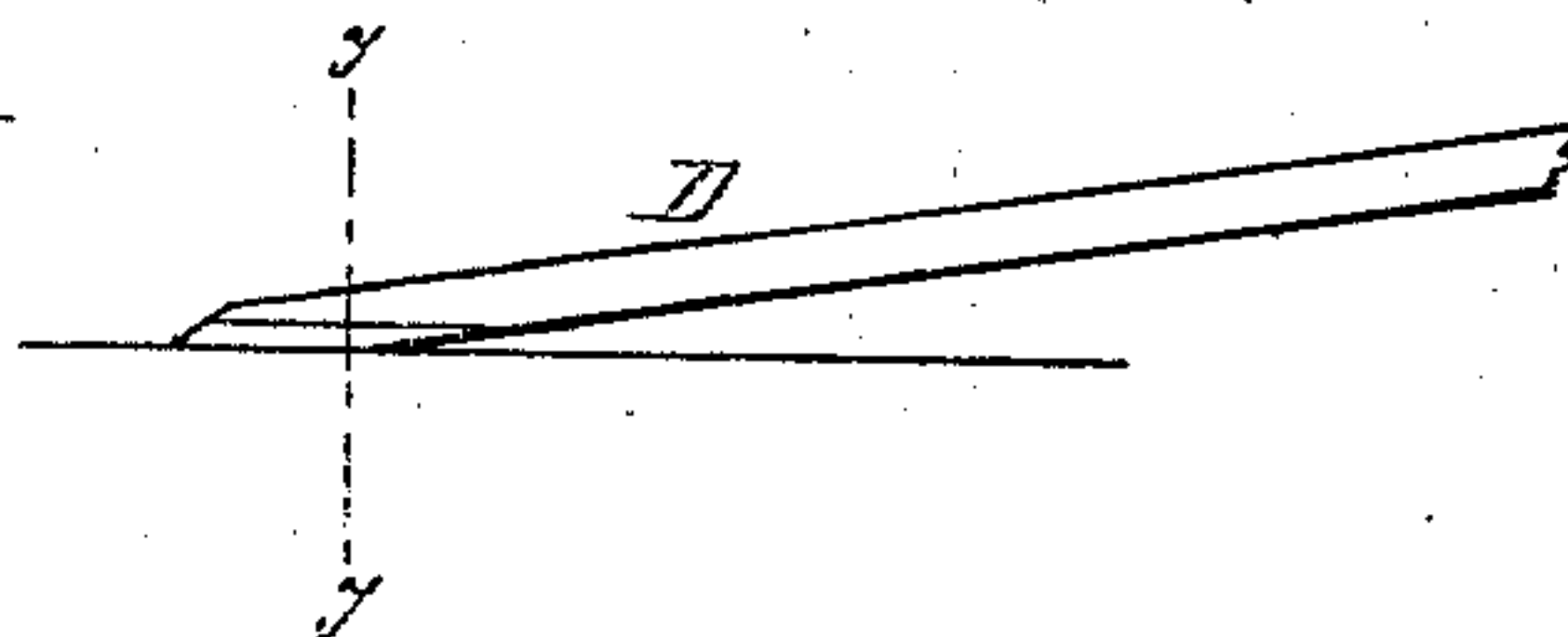


FIG. 5.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

SOCRATES SCHOLFIELD, OF PROVIDENCE, RHODE ISLAND, AND CHARLES E. BAKER, OF MONT CLAIR, NEW JERSEY.

## IMPROVEMENT IN PAPER-FEEDING MACHINES.

Specification forming part of Letters Patent No. 135,597, dated February 4, 1873.

*To all whom it may concern:*

Be it known that we, SOCRATES SCHOLFIELD, of Providence, in the county of Providence and State of Rhode Island, and CHARLES E. BAKER, of Mont Clair, in the county of Essex and State of New Jersey, have invented an Improvement in Paper-Feeding Machines, of which the following is a specification:

The nature of our invention consists in pressing firmly upon the top of a pile of paper with an inclined holding pin or point, and at the same time producing a movement of the top sheet by means of friction-pads, suction-tubes, or by nippers or other suitable devices, as heretofore used for moving sheets of paper singly from one place to another, causing the inclined pressing pin or point to tear through and raise the moving top sheet, so as to rest with its full holding power upon the sheet below, the friction between the two sheets being thereafter insufficient to cause the removal of the lower sheet from under the inclined pressing-point; it also consists in a suitable combination of devices for operating the inclined pins and friction-pads in timely relation to each other, and to raise the sheet of paper from the pile in order to properly present it to the carrying-grippers of a printing-press or other machine.

Figure 1 is a plan view of our invention. Fig. 2 is a sectional elevation taken in the line *x x*. Fig. 5 is a view of one of the inclined holding-pins as preferably constructed. Fig. 4 is a cross-section of the same as taken in the line *y y*. Fig. 3 is a partial view of a sheet, showing the resulting form of the puncture made by the pin when constructed as shown in Fig. 5.

In the drawing, A is the pile of paper, over which is placed the cross-bar B, which is made capable of an up-and-down movement in the slides C C. The inclined pins D D are attached to the cross-bar B, and may be made adjustable thereon so as to accommodate different sizes of paper, and any suitable number of such pins may be employed. The friction-pad E is arranged upon a slide, F, so as to rise and fall with the cross-bar B and pins D D. To the slide G, which extends upon both sides of the pile of paper, are attached the upright standards H H H' H', which engage with the ends of the cross-bar I attached to the pad E. The cross-bar B is connected to the slide G by means

of the two cords J J, passing through the fixed rings K K. The slide G having been drawn back to the position shown at G' by the dotted lines, and a pile of paper, A, having been placed upon the bed L under the cross-bar B, the subsequent backward movement of the slide G to the position shown in Fig. 1 will allow the cross-bar B, with the attached pad E and inclined pins D D, to drop to the top of the pile of paper, so as to rest thereon with a pressure which may be properly adjusted by means of suitable weights. After the pad E and the pins D D reach the position upon the top of the pile of paper, as described, the subsequent movement of the slide G, through the remaining portion of its stroke *g*, will, by means of the standards H' H', which now strike the ends of the cross-bar I, cause the pad E to move with the slide G, thus drawing back the sheet of paper *a* onto the pins D D, and elevating the edge, as shown in Fig. 2. Now, upon drawing the slide G back to its previous position the cross-bar B will be raised by means of the cords J J, thus lifting the front edge of the sheet on the pins D D, as shown by the dotted lines. From this position the sheet is to be taken by suitable carrying-grippers arranged to remove the sheet to the proper point, from which it is to be taken by the grippers of the revolving cylinder. The backward movement of the slide G, as above, will also draw back the pad E in preparation for a repetition of its stroke upon the paper during the subsequent reversed movement of the slide, as before, by means of the standards H H, which strike the ends of the cross-bar I, as shown by the dotted lines.

A preferable construction of the holding-point of the pin D is shown in Figs. 4 and 5, Fig. 4 being a cross-section taken in the line *y y* of Fig. 5; but various other forms of construction may be advantageously used.

Fig. 3 represents a portion of a sheet of paper, which has been removed by means of the pin D of Fig. 5, showing the resulting form of the puncture *a'*.

In the practical application of our invention, we propose to remove the sheet of paper from the pin D, either by drawing the paper entirely over the pin, as set forth by us in a prior application now on file in the Patent Office, or



by retracting the pin from the orifice made in the sheet, or by drawing the paper from the pin by means of grippers, as proposed in the present application—this latter method appearing to us as most suitable for application to the ordinary rotary printing-presses, where exactness of register is not imperatively demanded, and but little room can be spared for such apparatus—the former methods being applicable to other machines where sufficient room can be easily obtained and a correct system of registering is required.

The holding-pin D, owing to its non-penetration of the sheet of paper when resting under the necessary preliminary pressure, and at the same time serving to tear out a slight chip, as soon as the paper receives its proper motion through the action of the friction-pad E, or other equivalent moving device, is included in the claim of another application now

on file in the Patent Office; therefore we make no claim in this specification to a holding instrument with a non-penetrating point or edge, which serves to tear a slight chip from a moving sheet of paper; but

What we claim as our invention, is—

1. An inclined holding-pin, D, arranged to press upon the top of a pile of paper, and upon the inclined point of which the top sheet is drawn by means of friction-pads or otherwise.

2. The combination of the inclined pins D D, cross-bar B, pad E, and slide G, operating to first draw the sheet upon the pins, and then to raise the edge of the sheet, substantially as described.

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Witnesses:

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