

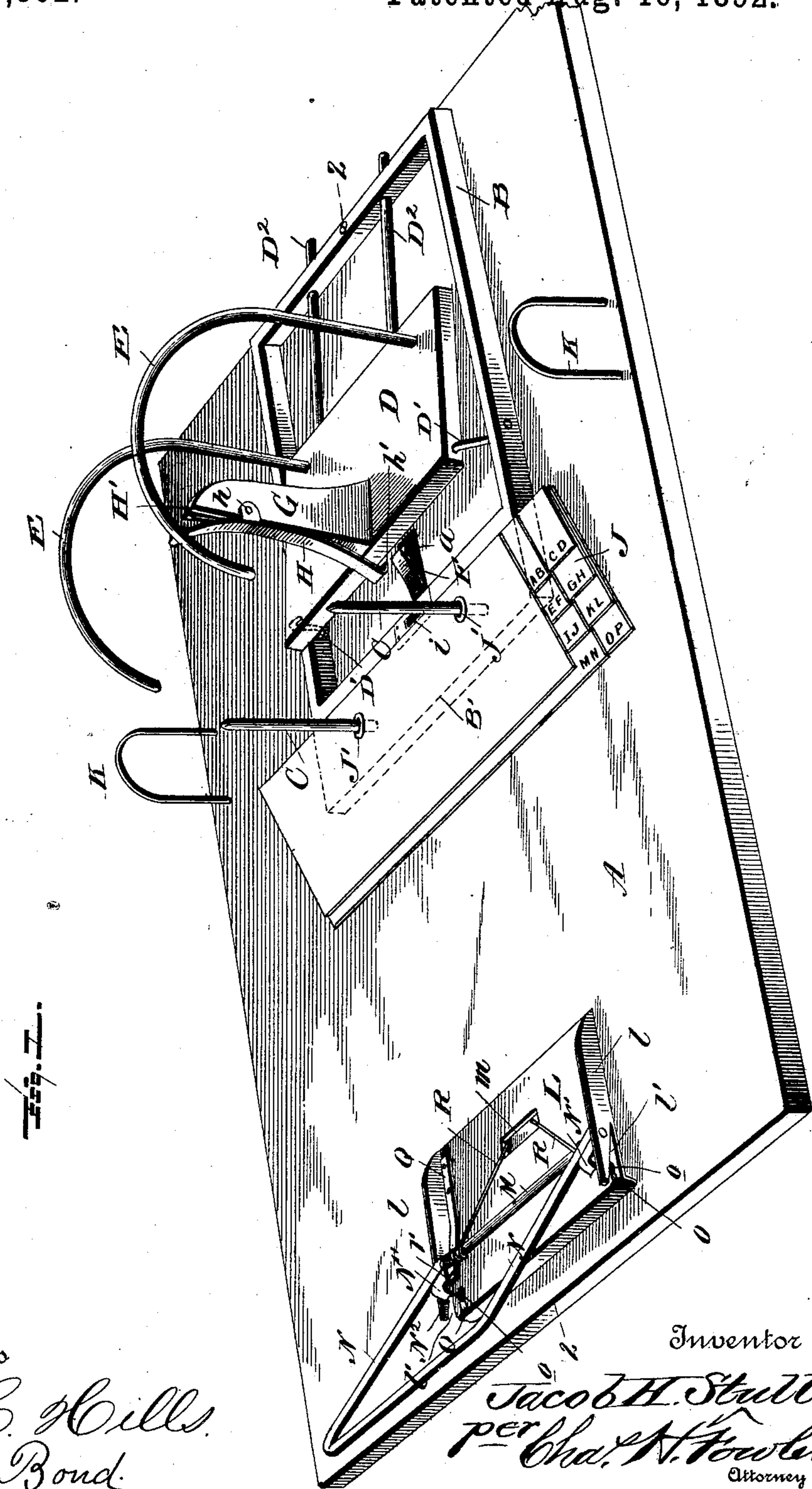
(No Model.)

2 Sheets—Sheet 1.

J. H. STULL.
BILL OR LETTER FILE.

No. 480,862.

Patented Aug. 16, 1892.



Witnesses

L. C. Hills.
E. H. Bond.

Inventor

Jacob H. Stull.
per Cha. N. Fowler
Attorney

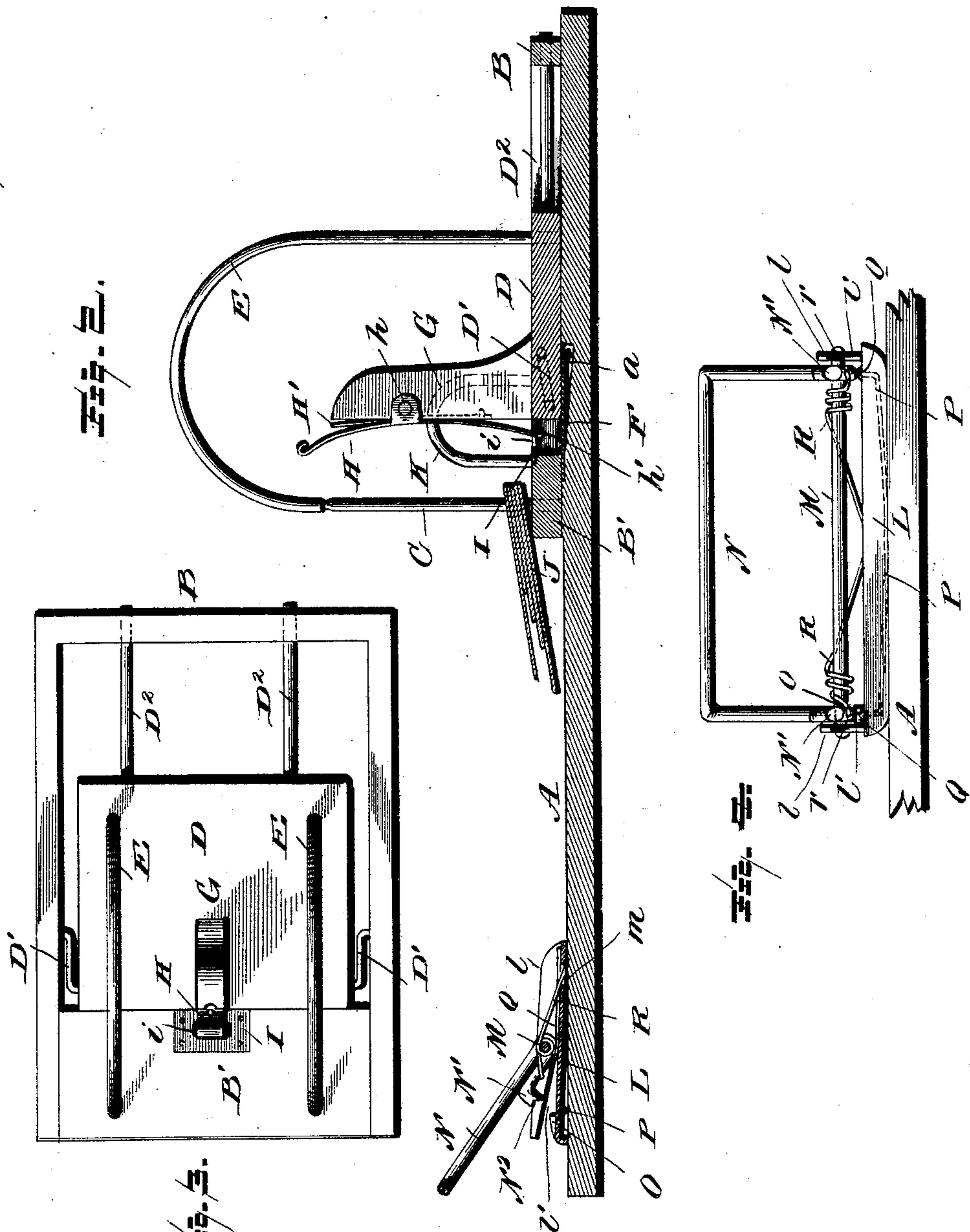
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UNITED STATES PATENT OFFICE.

JACOB H. STULL, OF FREMONT, OHIO.

BILL OR LETTER FILE.

SPECIFICATION forming part of Letters Patent No. 480,862, dated August 16, 1892.

Application filed May 13, 1892. Serial No. 432,897. (No model.)

To all whom it may concern:

Be it known that I, JACOB H. STULL, a citizen of the United States, residing at Fremont, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Bill and Letter Files; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in bill or letter files; and it has for its object, among others, to provide an improved device of this character by the use of which papers can be more easily placed upon the wires and removed therefrom. A suitable base is provided, upon which is affixed a frame, within which is arranged a block carrying the arched wires, being held to the frame by crank-arms, which permit of the block moving first in a vertical direction to draw the arched wires away from the fixed wires in a vertical plane and then the block moves away from the fixed wires and downward upon the base. By this movement the arched wires start in a perpendicular direction and disconnect from the receiving-wires without raking one another, which is objectionable for reasons well known to any one familiar with this class of devices. The above-mentioned block is provided with a standard carrying a spring-catch, which engages the frame to hold the arched wires locked against the fixed wires. A suitable spring is arranged to give the block its initial movement when the catch is released. Metal-bound index-cards are provided loosely sleeved upon the fixed wires and the upper card provided with eyelets. A perforating device of novel character is provided upon the base. Standards or guides or gages are provided on the base to prevent the papers from shifting to the right or left at its lower end.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the let-

ters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of the improved file. Fig. 2 is a vertical longitudinal section through the line 2 2 of Fig. 1. Fig. 3 is a top plan of the frame and its block with the standard and arched wires and catch, the arched wires being shown as closed over the fixed wires. Fig. 4 is an end view of the perforator with the operating-lever shown up.

Like letters of reference indicate like parts throughout the several views in which they appear.

Referring now to the details of the drawings by letter, A designates a suitable base of any desired size and shape, near one end of which is located the rectangular frame B, preferably of metal, and provided at the end nearest the center of the base with an extension or plate B', to which are affixed the fixed wires C, the upper ends of which are preferably rounded or sharpened, as seen in Figs. 1 and 2.

D is a block fitted to move loosely within the frame B, and it is connected therewith by the crank-arms D', the outer ends of which are suitably journaled in the opposite sides of the said frame, and their connection with the block may be by having their ends held therein, or it may be a single rod passed through the said block and its ends formed into the crank-arms. By either construction the operation will be the same. The rear end of the block is provided with the extensions or rods D², which are designed to slide freely through openings in the rear end of the block, as seen in Figs. 1, 2, and 3.

E are the arched wires, of any suitable material, and they are carried by the block D, being suitably held thereto at the rear side near the corners. They may be rotatably held thereto or not, as may be deemed most expedient. The free ends of the arched wires have a cavity or cup that fits exactly over the points of the fixed wires and thus make a good connection and continuous wire, so that the papers can be easily placed thereover.

F is a spring having one end held to the base, or it may be between the base and the extension of the frame, as seen in Fig. 2, and its other end arranged to lie within a cavity

a in the base, as seen in Fig. 2, and is for the purpose of giving to the block an initial movement or impulse when the catch, now to be described, is released.

5 *G* is a standard rising from the front end of the block *D*, and *H* is a spring hinged between its ends, as at *h*, to the said standard, its upper end being turned or bent slightly away from the front face of the standard, as
10 seen in Figs. 1 and 2, and between this upper portion and the standard is arranged a spring *H'*, which serves to keep the lower end in engagement with its keeper. This lower end is formed into a hook *h'*, which is sharp or beveled, so as to slide into a slot or opening *i* in
15 a plate or keeper *I*, attached at the extension of the frame, as seen in Figs. 1, 2, and 3.

On the receiving or fixed wires are loosely sleeved the index-cards *J*, which are metal-bound, and the upper one of which is provided
20 with eyelets *J'* to prevent tearing of the same.

K are standards or gages placed on the right and left of the base opposite the wires, as seen in Fig. 1, and these act as gages, against which
25 the upper edge of the paper is designed to engage to keep the lower edge straight and so that the lower edge will not shift to the right or left when the holes in the papers become enlarged, as they do from long use.

30 For use in connection with the improved file there is provided a hinged perforator, which is preferably arranged at the edge of the base, as seen in Fig. 1. This perforator consists of a bed-plate *L*, bent down at its
35 forward end, as seen best in Fig. 2, so as to make room for the cores to drop through. The sides of the plate are turned upward, as seen at *l*. These turned-up sides are cut away from the bed-plate, as seen at *l'*, a suitable
40 distance to allow one or more sheets to pass in between the perforations of the bed-plate and the punches. By thus turning up the sides and cutting them away from the bed-plate a certain distance forms a proper
45 gage against which to hold the paper, and this punctures it a desired distance from the edge. The turned-up part of the sides of the bed-plate that is cut from the bed-plate forms suitable extensions or arms that strip the pa-
50 per from the punches when the same are raised. *M* is a rod having its ends held in these arms, and this rod forms the journal of the lever now to be described. The lever and punches and journal-boxes are all formed of
55 a single piece of wire *N*, the lever consisting of two right angles whose corners may be slightly rounded, the wire being bent around the rod *M* to form the journal-boxes, and then bent back in line with the lever, and then the
60 extreme ends of the wire are turned downward to form the punches *N'*. The cutting part *N²* of the punches is at right angles to the punches or downward-bent wire to about the center of the wire, as seen in Fig. 2. From the center to the opposite side of the cutting part of the punch the wire is beveled and

comes to a sharp point, which produces a puncturing-point or cutting-edge. The bed-plate has a perforation or perforations *o*, through which the punches pass in cutting
70 the paper. To one side of these perforations the bed-plate is provided with little raised ridges or ribs *O*, which form a shearing-like cutting-edge and make the cutting of the paper much easier, and thus permitting several
75 sheets to be perforated at once. The sharp part of the punch cuts about one-half of the perforation and the said raised ridge or rib cuts the opposite half.

P is a spring-bar attached to the bottom of
80 the bed-plate, with its ends turned upward and passed through the perforations of the bed-plate and meet the punches, and holds the paper firmly against the punches and holds the cores firmly while cutting the paper.
85 By this means the core is held firmly to the punches while the punches pass through the bed-plate. This will prevent the cores from hanging to the paper if but partially cut from the paper. The lever may be aided in its
90 movement away from the paper by a spring of any suitable character. In the present drawings there are shown two forms of springs which may be employed. In fact, both may be present in the one device, if necessary. One
95 is a flat spring *Q*, fastened at one end to the bed-plate *L*, with its free end arranged beneath the journal-box, as seen in Fig. 1. The other form consists of a spring or springs *R*, having ends coiled around the rod *M*, as seen
100 best in Fig. 4, and turned outward horizontally, as seen at *r*, to be pressed down by the punches as the paper is perforated and serving to throw them upward after they have performed their office. The spring or springs
105 are secured in any suitable manner, as by being held beneath the bed-plate, being passed through a hole *m* therein for this purpose, as seen in Figs. 1 and 2.

The operation will be readily understood
110 from the foregoing description, when taken in connection with the annexed drawings, and a detailed description thereof is not deemed necessary. The block is normally held down and to the front with the arched wires over
115 the receiving-wires by the spring-catch. When this is released, which is done by simply pressing upon its upper end, the spring *F* acts to throw the block upward, so that the arched wires are given a vertical movement
120 away from the receiving-wires. Then the block is given a backward and then a downward movement in a circular-like motion, moving on its crank-arms, as will be readily seen from Fig. 1. When brought back to its normal po-
125 sition, the catch engages its keeper and holds the parts locked.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.
130

What is claimed as new is—

1. A bill or letter file provided with a part

mounted on crank-arms and carrying the arched wires and having extensions to guide said part, as set forth.

2. A bill or letter file provided with receiving-wires and a block mounted on crank-arms within a rectangular frame and carrying the arched wires, as set forth.

3. A bill or letter file provided with receiving-wires, a block carrying the arched wires and mounted on crank-arms, a rectangular frame within which the said block is movable, guides for the block, and a catch to hold it in its closed position, as set forth.

4. A bill or letter file provided with a block mounted on crank-arms and carrying a standard provided with a catch, and a rectangular frame in which the crank-arms are mounted and within which the block is movable, as set forth.

5. A bill or letter file provided with a block mounted on crank-arms and carrying the arched wires, a rectangular frame in which the crank-arms are mounted and within which the block is movable, and a standard provided with a spring-actuated catch, as set forth.

6. In a bill or letter file, the combination, with a base and a frame thereon, of a block arranged within the frame and carrying the arched wires, crank-arms mounted in the frame and carrying the block, and extensions on the block guided in the frame, as set forth.

7. In a bill or letter file, the combination, with a base and a frame thereon, of a block mounted on crank-arms held in the frame and arched wires carried by the block, a standard on the block, a spring-actuated catch on the standard, and a spring arranged beneath the block, as and for the purpose specified.

8. In a bill or letter file, a perforator consisting of a bed-plate with its front end turned down to provide room for the cores, as set forth.

9. In a bill or letter file, a perforator consisting of a bed-plate with its sides turned up and cut away, and a lever and punches, the latter working through holes in the bed-plate, as set forth.

10. A perforator consisting of a bed-plate with perforations, a spring having its ends passed upward into the perforations, and a lever and punches, as set forth.

11. A perforator consisting of a bed-plate with upturned sides cut away, a rod held in said sides, and a combined lever, journal-boxes, and punches journaled on said rod, as set forth.

12. A perforator having perforations for the punches and ridges in proximity to the perforations, as set forth.

13. A perforator consisting of a bed-plate with perforations and ridges in proximity to the ridges, and a combined lever and punches, the latter working through the perforations, as set forth.

14. A punch the cutting part of which is at right angles to the punches or downward-bent wire, of which the same is formed, and beveled, as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JACOB H. STULL.

Witnesses:

LESTER WILSON,
W. W. ESCH.