

(No Model.)

2 Sheets—Sheet 1.

S. H. FISH.
BILL AND LETTER FILE.

No. 435,412.

Patented Sept. 2, 1890.

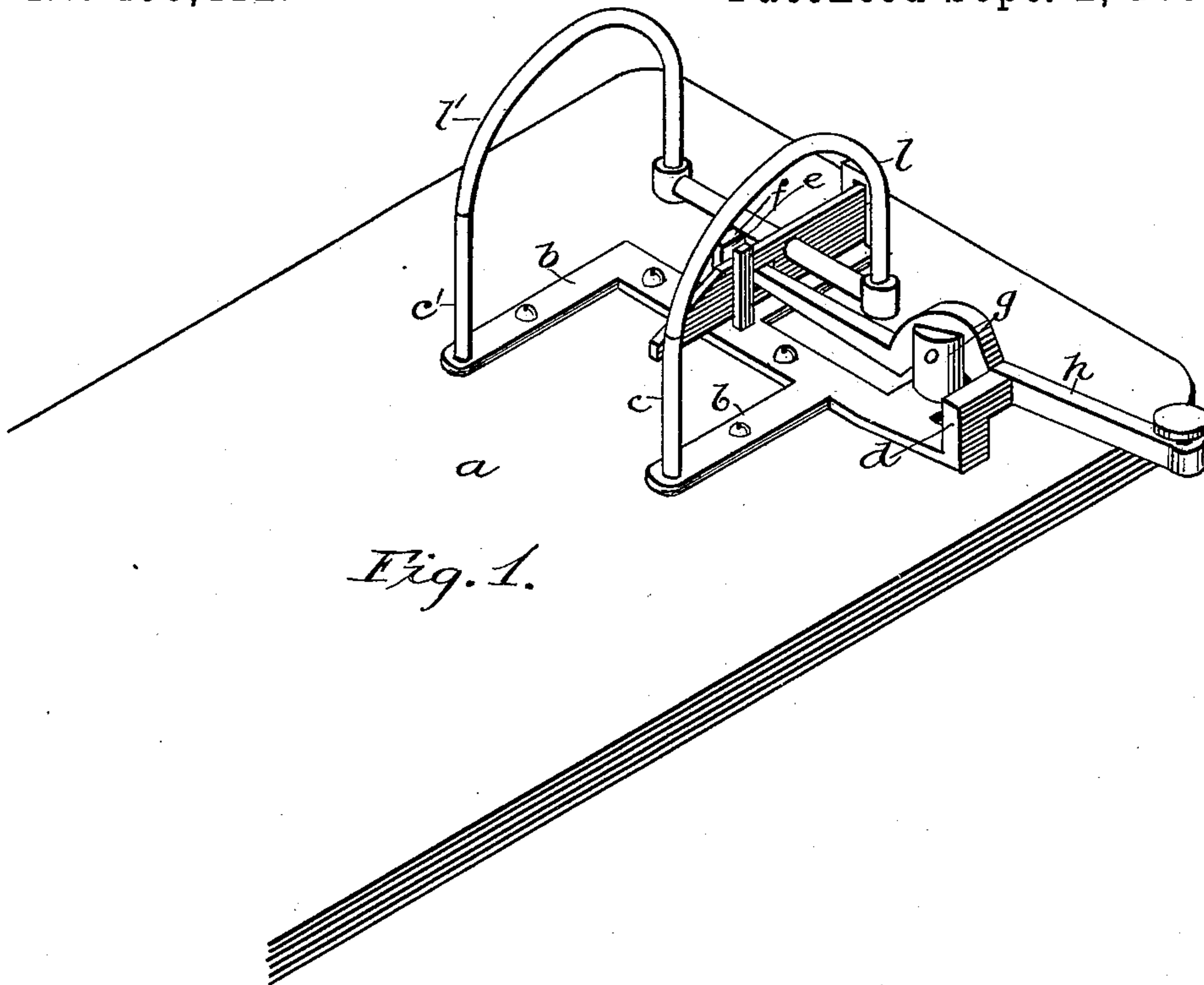


Fig. 1.

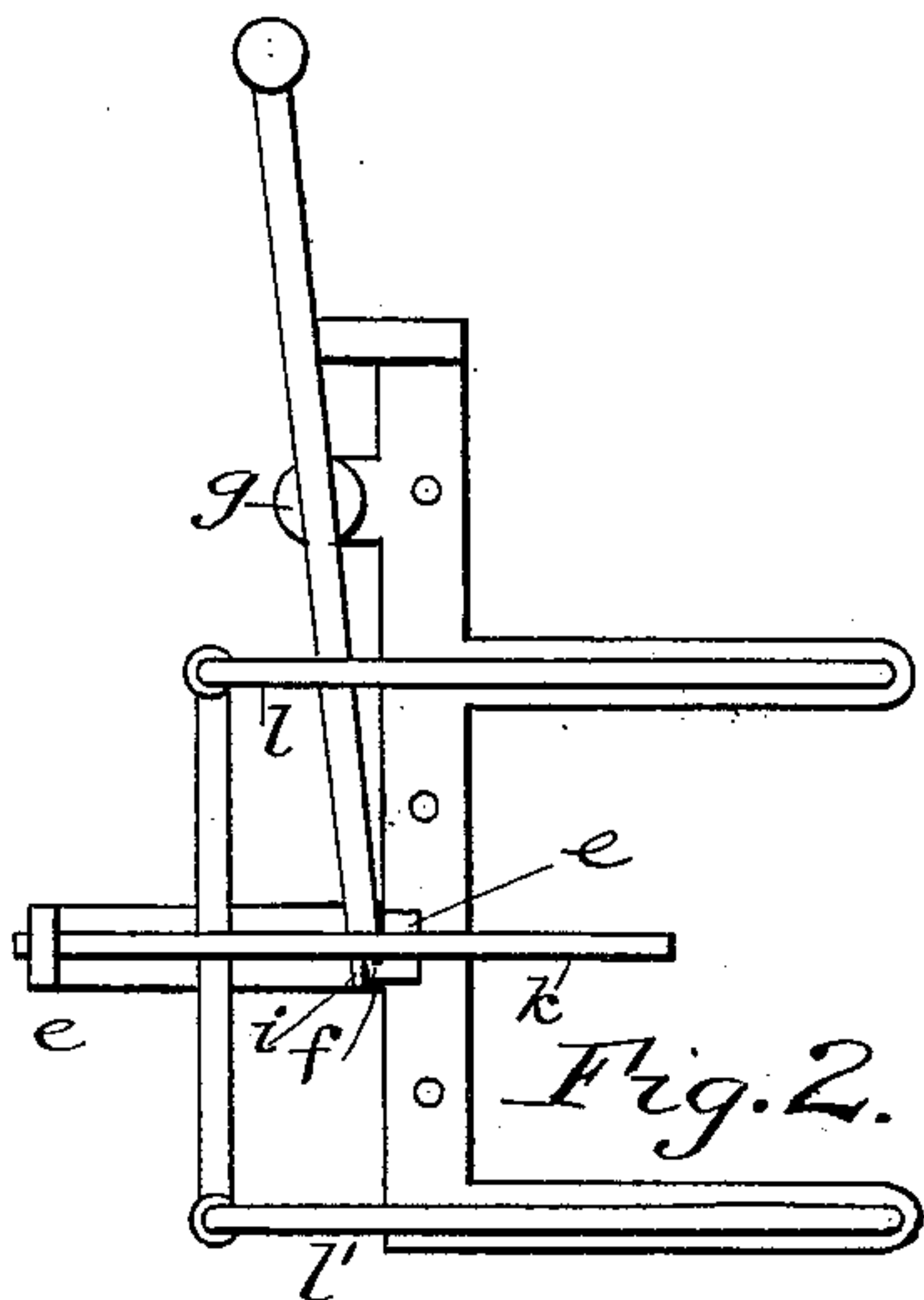


Fig. 2.

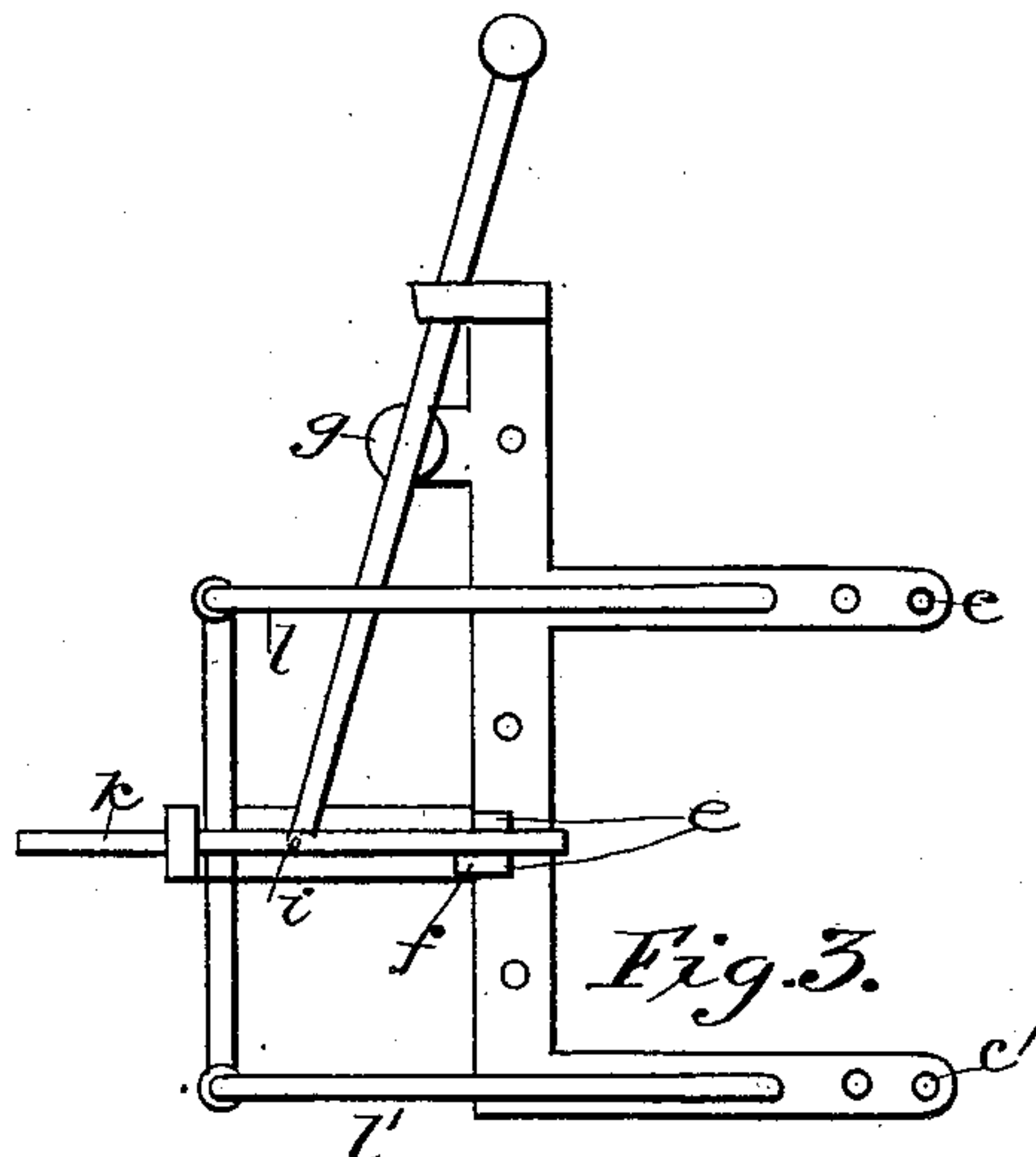


Fig. 3.

Witnesses.

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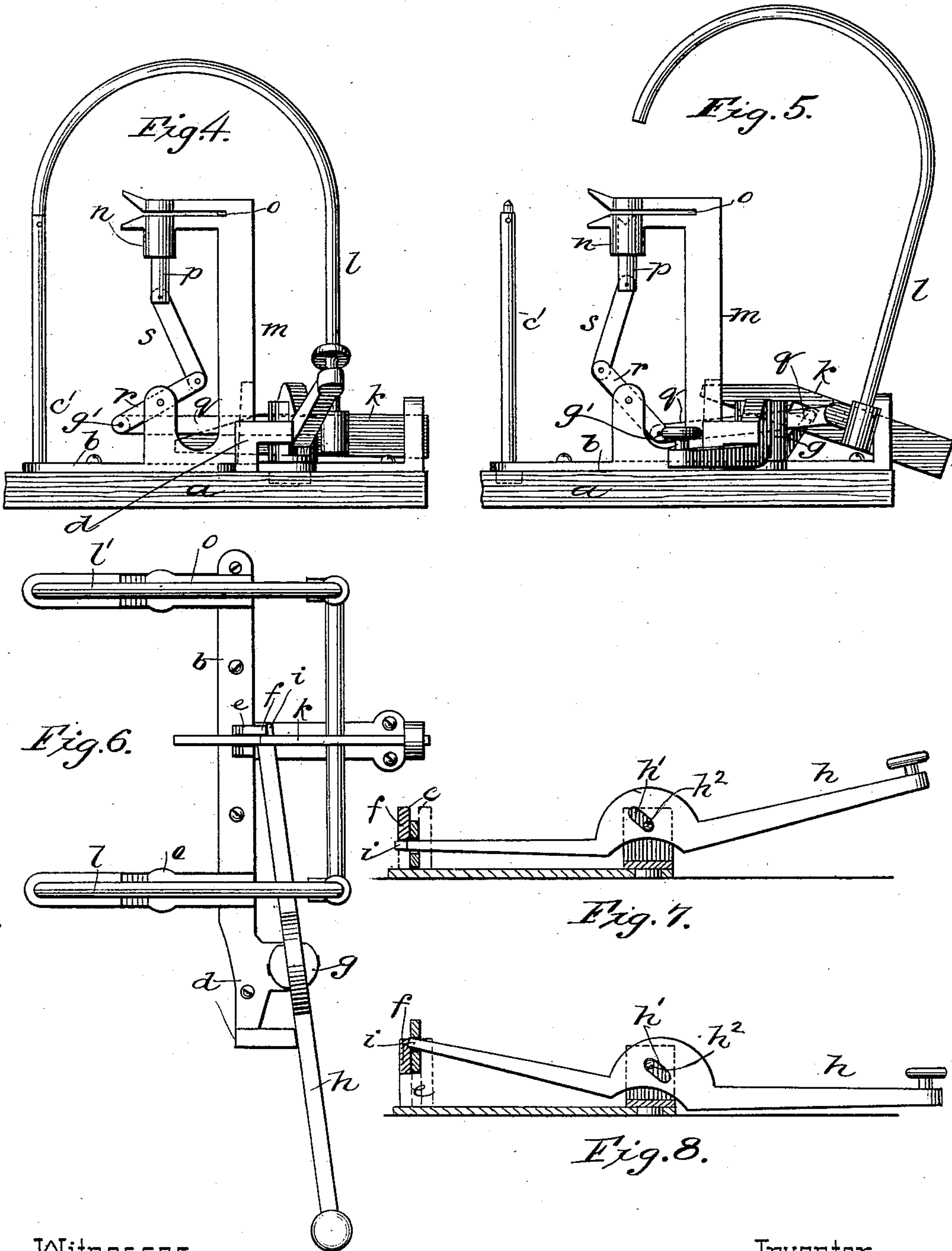
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

SAMUEL H. FISH, OF HINSDALE, ILLINOIS.

BILL AND LETTER FILE.

SPECIFICATION forming part of Letters Patent No. 435,412, dated September 2, 1890.

Application filed September 10, 1888. Serial No. 235,093. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. FISH, a citizen of the United States, residing at Hinsdale, in the county of Du Page and State of Illinois, have invented a certain new and useful Improvement in Bill and Letter Files, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to provide a bill and letter file for temporarily holding miscellaneous papers, and so arranged that any one of the sheets on the file may be removed without removing the others, while at the same time all the papers on the file are readily accessible for inspection without removal. This feature of my invention, as disassociated from the perforator hereinafter referred to, I have claimed in a division of this application, said divisional application being Serial No. 331,068, filed November 21, 1889.

A further object of my invention is to provide, in connection with a file of the above character, a punch or perforator, by means of holes which may be readily made in the papers, so that they may be readily placed upon the receiving wire or wires of the file, the movement of the file when it is opened being effected by the same mechanism which operates the perforator. The bill-files now most generally in use include, as a part of their operative mechanism, springs. These springs frequently lose their proper tension or become broken after a short time, thus rendering the file inoperative. The transfer-wires in some cases have been hinged so as to swing together, this feature, in connection with the springs necessarily employed, rendering the files still more liable to injury, resulting quite frequently in the tortion of the transfer-wires to such an extent as to prevent their meeting the receiving-wires, so as to form proper joints between them, as is desirable, in order that the papers when once placed upon the receiving-wires may be readily slipped over the joints onto the transfer-wires. Punches and perforators have been placed in some cases upon the same base with the file proper; but heretofore no satisfactory perforator has been devised adapted to be used in combination with the mechanism for opening and closing

the file. By the use of my invention all springs may be dispensed with, the hinging of the transfer-wires to rotate together is avoided, the transfer-wires are made readily separable from the receiving-wires, while a locking device is provided for holding the transfer-wires in position to form smooth joints between them and the receiving-wire, thus permitting the free passage of the papers over the joints between the receiving-wires and transfer-wires. The receiving-wires may be sharpened so as to readily pierce the papers as they are placed thereon after the manner of spindles now frequently used for holding memorandum-slips. I preferably use, however, as a part of my file, a perforator coacting therewith in such manner that the sheets of paper may be readily perforated just before they are placed on the receiving-wires, and, as it were, by the act of placing them thereon.

My invention as a whole is designed more especially for use in files containing twin vertical receiving-wires and corresponding arched movable transfer-wires. It will be observed, however, that certain features or parts of my invention as herein claimed may be usefully and advantageously employed in files having only one spindle and one corresponding arched wire. I therefore do not limit my invention to the particular form of file and the precise mechanism herein described.

The principal features of my invention consist, briefly stated, first, in a fixed wire or twin wires and a corresponding arched wire or corresponding arched wires, in combination with lever mechanism for moving the arched wire or wires away from the fixed wire or wires, and locking devices for holding them in position to register therewith and form a smooth joint or joints between the same; second, in a hand-lever mounted upon a vertical pivotal post, the connection between the post and lever being a pin resting in an inclined slot in the lever, a sliding bar with which the lever is connected, the guides for the sliding bar, and a catch or stop under which the lever may be inserted; third, in a lever pivoted to rotate horizontally provided with an inclined slot, a pin passing through said slot, and locking or retaining devices so con-

constructed and arranged that the lever, in addition to its horizontal rotary movement, may be rocked upon the supporting-pin and moved longitudinally, and at the same time slightly raised thereon to thrust the end of the lever under the locking device at its extreme end; fourth, in a perforating device operated by the said lever mechanism, and, fifth, in certain combinations and details of construction, hereinafter more particularly described and claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a bill and letter file embodying the principal features of my invention. Fig. 2 is a plan view showing the file closed, the same as illustrated in Fig. 1. Fig. 3 is a plan view showing the file open. Fig. 4 is a side elevation of my file provided with a perforator adapted to be operated by the lever, which serves also to open and close the file, the further receiving-wire and its corresponding arched transfer-wire being removed. Fig. 5 is a similar side elevation showing the file open, the lever being thrown forward and the puncturing and perforating device in position to admit the sheet of paper which is to be perforated. Fig. 6 is a plan of the file closed provided with the perforating attachments. Fig. 7 is a detailed sectional view of the lever in position shown in Fig. 6, the supporting-pin being in the lower outside portion of the slot, as is the case when the end of the lever is thrust under the stop or catch, as shown. Fig. 8 is a detailed longitudinal sectional view showing the lever in its other position, as illustrated in Figs. 3 and 5.

Like parts are indicated by similar letters of reference throughout the different figures.

I will first describe my invention as illustrated in Figs. 1, 2, 3, 7, and 8 without reference to the perforator, and will then proceed to describe the perforator as illustrated in connection therewith in Figs. 4, 5, and 6.

My file is mounted after the manner of paper-clips upon a base *a*. A fixed casting *b* serves as a support for the receiving-wires *c'*, and is provided with the projecting lug *d*, against the end of which the side of the lever may rest, as shown in Figs. 1 and 2, or under which the lever may be retained, as shown more clearly in Fig. 3. The guide *e* may, if desired, be cast in the same piece with the supporting-piece *b*. To this guide *e* is secured, as shown at *f*, a catch under which the end of the lever may be thrust, as shown most clearly in Fig. 7.

The pivotal post *g* is mounted upon the casting *b*, as shown. In the upper end of this post is provided a seat or bearing for the lever *h*. In the lever *h* is provided the angular slot *h'*. The pin *h²* passes through the sides of the post, as shown. The slot *h'* being at an angle and of greater length than the diameter of the pin, the lever may be raised and thrust forward so as to bring the

pin into the lower outer portion of the slot, as clearly illustrated in Fig. 7. Thus, as shown in Figs. 1 and 2, the lever may be locked in position.

A finger *i*, provided upon the end of the lever *h*, rests in a slot provided in the sliding bar *k*. This slot is of sufficient length to receive the lever when thrust longitudinally through the same under the catch *f*. When the lever *h* is moved horizontally about its pivot *g*, the sliding bar *k* is reciprocated back and forth in the guide *e*. It is to this sliding bar *k* that the arched wires *l l'* are attached, and thus when the lever *h* is moved forward under the lug *d*, as shown in Fig. 3, the finger *i*, engaging with the slide *k*, carries said slide back and with it the transfer-wires *l l'* connected therewith, thus opening the file. When thus open, the papers may be placed upon the receiving-wires *c c'*. When it is desired to close the file, the lever *h* is thrown back by hand and lifted so as to be locked in the position shown in Fig. 1, 2, and 7. In this position, as before stated, the ends of the arched wires *l l'* are brought opposite the ends of the wires *c c'*, respectively, and the sheets of paper previously placed upon the receiving-wires may be slipped over the arched wires or divided between the receiving-wires and the arched wires.

I will now describe my invention as illustrated in Figs. 4, 5, and 6 in connection with the perforating device. The frame or support *b*, the receiving-wires *c c'*, the lug *d*, the guide *e*, the catch *f*, the pivotal post *g*, the lever *h*, the finger *i*, the reciprocating or sliding bar *k*, the arched wires *l l'*, the slot in the lever, and the pin passing through the same are constructed and arranged the same as hereinbefore described with respect to Figs. 1, 2, 3, 7, and 8. I will therefore describe the perforating mechanism, referring incidentally only to the other parts of the file. Mounted upon the supporting-piece *b*, I provide upright pieces *m*, one under each arched wire. Upon the upper end of each of these standards *m*, I provide a die *n* and a guide *o*. A cutter *p* is placed in each die. By a toggle-joint arrangement of levers connected with the movable wires *l l'* the cutter is reciprocated at each stroke of the lever *h*, whether to the front or to the rear. Thus it will be seen that the link *q* is pivoted at the rear to the lower portion of arched wire *l* and extends forward, preferably, through a slot provided in the standard *m*, and is pivoted in front at *g'* to the centrally-pivoted lever or link-arm. The link *s* is connected at its lower end with the lever *r* and at its upper end with the reciprocating cutter *p*. Thus by moving the lever *h* in either direction—that is, to the front or to the rear—the cutters will be forced up into their dies, respectively, and withdrawn.

I will now describe the manner of using my combined perforator and letter-file. Suppose the lever *h* in the position shown in Fig.

6. The user first takes hold of the handle of lever *h* and presses it down and under the lug *d*. The file is then in the position shown in Fig. 5. Thereupon the sheet
5 of paper is inserted between the jaws of the guide *o*. Thereupon lever *h* is forced back by the right thumb of the user. The cutters are thus reciprocated and perforate the paper. The holes thus formed in the paper
10 are then slipped over the receiving-wires *c c'*. The lever is then lifted again and brought to the original position shown in Fig. 6, and also shown in Fig. 7.

A large number of sheets may be perforated and filed one after the other. If several
15 sheets are to be filed at the same time, two or three may be conveniently inserted in the guide together, perforated, and slipped over the receiving-wires, the operation being repeated until all the sheets are filed before the
20 lever *h* is lifted so as to be inserted under the stop *f* to lock the wires together. When the perforator is dispensed with, the papers are simply forced against the points of the wires
25 *c c'*, so as to be pierced thereby, the file being opened and closed, as hereinbefore described.

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

1. The combination, with the movable wire of a bill-file, of a standard under the same, provided with a die and guide, a cutter in
35 said guide, and toggle-joint mechanism between the cutter and the transfer-wire, whereby on moving the transfer-wire to the

front or rear the cutter is reciprocated in the die, substantially as and for the purposes specified.

2. The combination, with the rigidly-connected movable arched wires, of a perforator
40 under each of said wires, the cutters of said perforators being connected with the said transfer-wires by linked levers, whereby the cutters are reciprocated on the movement of
45 the arched wires, substantially as and for the purposes specified.

3. The combination, with the support carrying the receiving-wires and provided with a projecting lug, of a lever pivoted near said
50 lug and adapted to be forced under said lug or to rest with its side against the end of the same, movable transfer-wires connected rigidly with a sliding bar, said bar being provided with a slot for the insertion of the end
55 of said lever, and perforating devices, substantially as and for the purposes specified.

4. The combination, with the receiving-wires *c c'*, of the rigidly-connected arched transfer-wires, the guides *o* under the transfer-wires, and a perforating device with toggle-joint mechanism for operating the same to
60 pierce the paper when inserted in the guides, substantially as and for the purposes specified.
65

In witness whereof I hereunto subscribe my name this 29th day of August, A. D. 1888.

SAMUEL H. FISH.

Witnesses:

GEORGE P. BARTON,
ALBERT H. PARKER.