(No Model.) 2 Sheets—Sheet 1.

V. HEILBRUNN.

FILE FOR LETTERS, PAPERS, BILLS, &c.

No. 360,348. Patented Mar. 29, 1887.

Fig. 1.

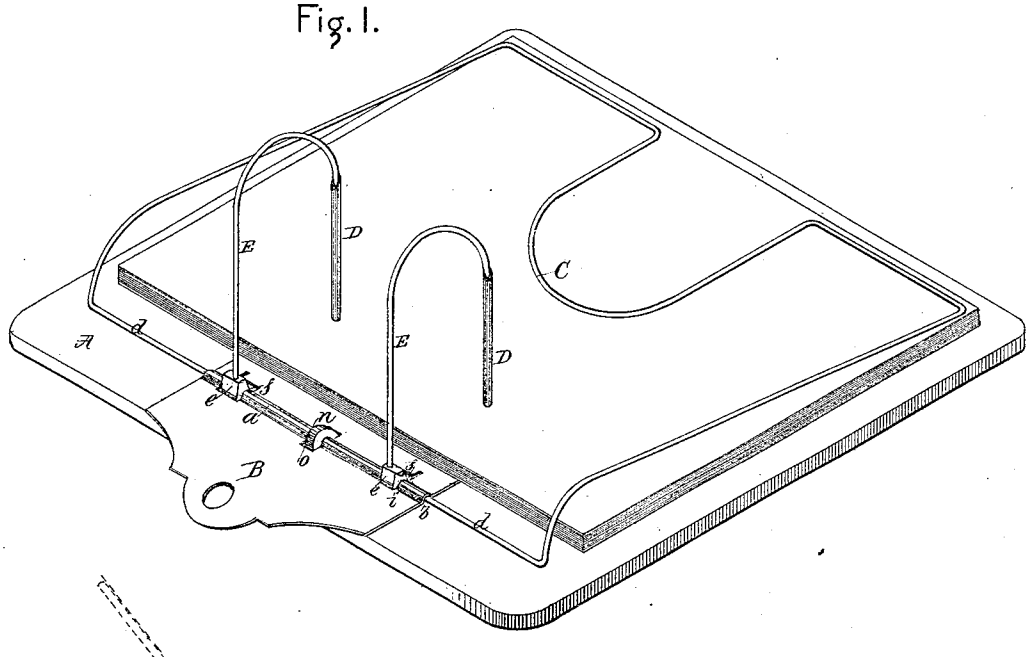


Fig. 2.

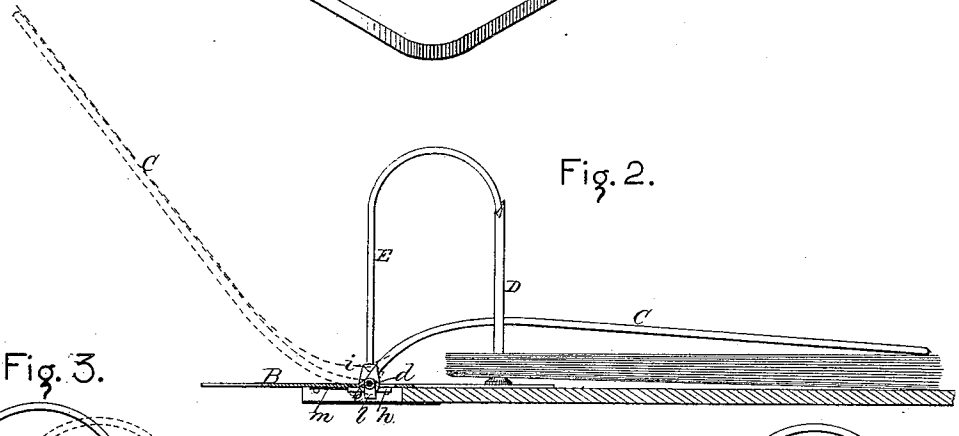
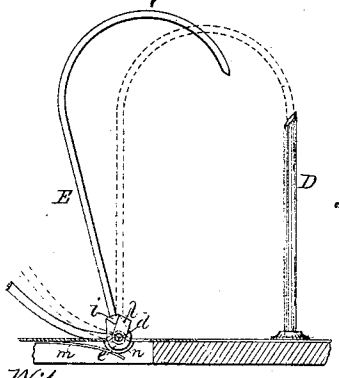


Fig. 3.



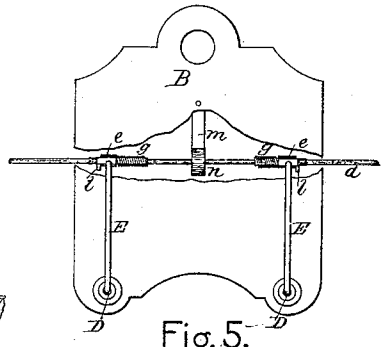
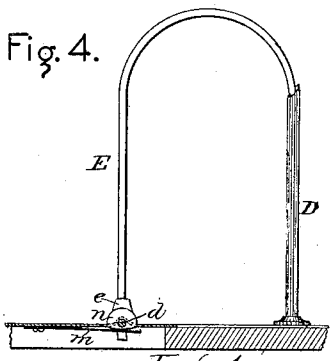


Fig. 5.

Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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FILE FOR LETTERS, PAPERS, BILLS, &c.

No. 360,348. Patented Mar. 29, 1887.

Fig. 6

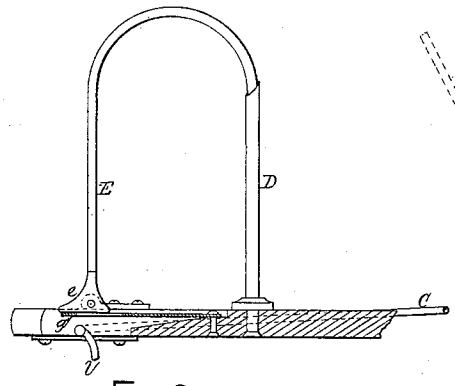


Fig. 7.

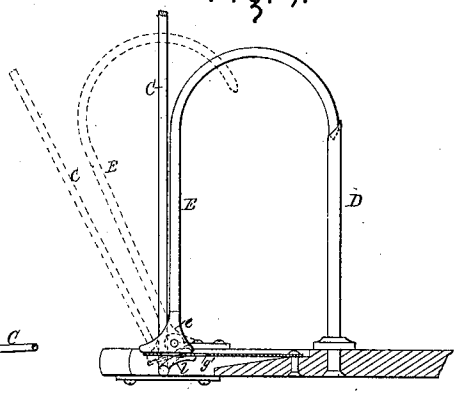


Fig. 8.

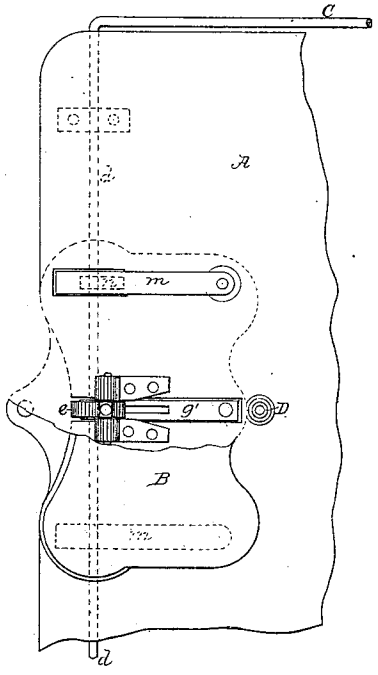


Fig. 9.

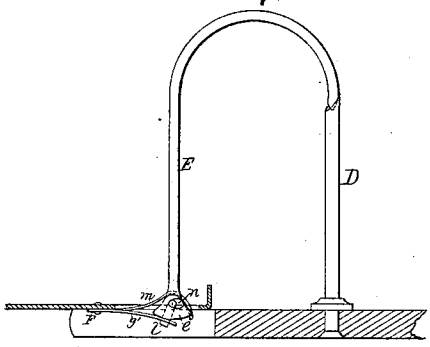
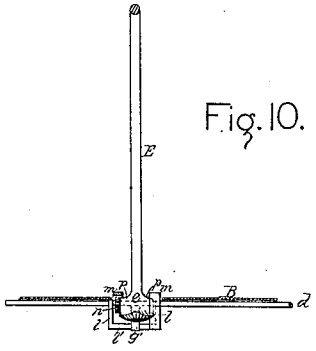


Fig. 10.



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UNITED STATES PATENT OFFICE.

VICTOR HEILBRUNN, OF BROOKLYN, NEW YORK.

FILE FOR LETTERS, PAPERS, BILLS, &c.

SPECIFICATION forming part of Letters Patent No. 360,348, dated March 29, 1887.

Application filed June 12, 1886. Serial No. 205,013. (No model.)

To all whom it may concern:

Be it known that I, VICTOR HEILBRUNN, a subject of the Emperor of Germany, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful File for Letters, Papers, Bills, &c., of which the following is a specification.

My invention relates to that class of files wherein there is one or more needles or standards on which the papers are impaled, and a corresponding number of transfer-wires which join the needles or standards at one end, and which is separable therefrom when papers are to be placed on or taken from the file. In files of this description, to file a paper the movable end of the transfer-wire is disjoined from the needle or standard, the paper impaled, and the transfer-wire again turned in connection with the needle or standard, and when a paper is to be examined or taken from the file the superincumbent papers, if any, are first slipped over on the transfer-wire and laid back, leaving the desired paper exposed, and if the paper is to be taken off the transfer-wire is moved out of connection with the needle, which is thus left unguarded. Thereupon the paper can be removed. If it is to be again filed, its place may be retained by allowing the transferred papers to remain on the transfer-wire until it is replaced; but if it is removed permanently the transfer-wire is rejoined to the needle and the papers retransferred thereto.

Heretofore in files which have no mechanical means of operating the transfer-wires they have been attached to the plate or tablet in such a manner that to swing or move them out of connection with the needles it is usual to utilize the transfer-wire as a lever to turn or move it back or aside; but this not infrequently results in straining and bending the transfer-wire and thereby throwing it out of adjustment with the needle.

In duplex files where the transfer-wires have been joined together permanent injury to one destroys the usefulness of the file. In such files, moreover, the transfer-wires have no independent movement, and if a paper is filed which is too narrow to be impaled upon both needles both transfer-wires must be swung or moved back to permit the paper to be filed, and when such a paper is to be examined or removed the other papers above it have to be transferred before the examination can be made. In files having mechanical means of operating the transfer-wires no devices are employed for holding the said wires back independently of the operating mechanism; hence, when released from the pressure of the finger, the transfer-wires are thrown by the spring back into connection with the standard or needle.

The object of my invention is to remedy the imperfections and supply the deficiencies heretofore found to exist in this class of paper-files; and to this end it consists, first, in a file having its transfer-wire pivoted loosely on a rod or wire connected with a suitable lever and arranged so that it can be opened by means of the hand or the lever, as preferred or as may be necessary; second, in a transfer-wire pivoted to a clip for holding the papers smooth and compact, the transfer-wire being movable by means of or without the clip; third, in two or more pivoted transfer-wires which may be moved or swung back out of connection with the impaling-needles together or separately; fourth, in a pivot for the transfer-wires, having means for controlling the motion of the transfer wire or wires; fifth, in a clip which serves as an easel for the papers when transferred; lastly, my invention consists in details of construction and combination of the parts, hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved file; Fig. 2, a longitudinal section of the same; Figs. 3 and 4, sectional detail views of the transfer-wires and their connections and attachments; Fig. 5, a plan of the plate, partly broken away, and of the transfer-wires. Figs. 6, 7, and 8 are detailed views of a modification of the mechanism by which the transfer-wires are operated; and Figs. 9 and 10 represent another modification thereof.

Referring to the drawings, A represents a tablet, made of wood or other suitable material and of any required length or breadth. At the top or upper end where the papers are attached it is preferably notched or hollowed out to afford space for the parts of the mechanism which are placed under the plate B,

which carries the filing mechanism, as shown in Figs. 1 to 5; but the said plate may be dispensed with, if preferred, and the mechanism attached directly to the tablet, as shown in Figs. 6 to 8. The plate has a transverse rib, *a*, died into it, forming a socket, *b*, for the attached end *d* of the clip C, which forms the pintle or pivot of the clip and also of the transfer-wires in the construction shown in Figs. 1 to 5 and 9.

D represents the needles or standards, on which the papers are impaled. They are formed of tubing and fixed to the plate B in an upright position, and where two or more are used they are placed in line parallel to the ends of the tablet, the said needles or standards having their upper ends beveled off to form sharp points.

E represents the transfer-wires. The lower ends thereof are socketed in or formed with foot-pieces *e*. In the construction shown in Figs. 1 to 5 and 9 the end or pivot wire, *d*, of the clip passes through the said foot-pieces and forms the point therefor and for their attachments; but in Figs. 6 to 8 the foot-pieces have independent pivots, as shown.

The transfer wire or wires are curved over at the top, so that their ends meet the needles, and they are held in conjunction therewith by suitable springs. They can be swung back by the hand or by the clip, and in the duplex form, Fig. 1, each can be swung back independently of the other, or both simultaneously, as circumstances may require. Several modes of operating them and several forms of springs are shown, which will now be described.

In Figs. 1 to 5 the foot-pieces *e* work in slots *f* in plate B, and loosely on pivot-wire *d*. They are connected with one end of spiral springs *g*, wound around *d*, and having the opposite ends fastened under plates *h*, or in any other suitable manner. The springs *g* retain the ends of the transfer-wires in conjunction with the standards or needles, but allow them to swing back when the filing-needles are opened for filing papers thereon.

On the sides of each foot is a projection or lug, *i*, by which the transfer-wires are mechanically thrown or swung back through the action of the clip when raised. For this purpose the pivot-wire *d* carries fixed fingers *l l*, immediately adjoining the foot-pieces. These fingers turn with wire *d* when the clip is raised, and, passing through the slots at the proper point, strike or come in contact with the projections *i*, and thereby turn the transfer-wires and their points out of conjunction with the needles.

The clip is controlled by a flat spring, *m*, attached to the under side of plate B, and bearing against cam *n*, fixed to the pivot-wire *d*, and working through a slot, *o*, in plate B. The clip lies upon the tablet, the cam being shaped so that the spring bearing against it holds the clip down on the papers in the file with sufficient force to keep them smooth, compact, and even. In addition to this function, the clip also serves as an easel or rest for the papers when thrown back, and also as means for opening the transfer-wires and easing their return and junction with the needles when closing.

The closed positions of the transfer-wires and clip are shown in Fig. 1. The clip presses upon the package of papers on the file and the transfer-wires close in with the needles and guard the same, so that in whatever position the file may be placed the papers cannot get off nor become disarranged.

The operation of transferring, filing, &c., of the papers is as follows: When a paper is required which is covered by others, the clip is raised and turned back to the position indicated by dotted lines in Figs. 2 and 3, where it is held mainly by the pressure of the spring on cam *n*; but the finger *l* bears also against the lug *i*, as indicated. In this position it serves as an easel. The papers are now raised, slipped up the needles, and thence over the curved portion of the transfer-wires to the straight part thereof, the free end being turned back so that the paper will lie on the clip, as indicated by dotted lines in Fig. 2. The papers are all transferred until the required paper is exposed. If the latter is to be removed from the file, the clip and the transferred papers are then pressed back farther, and the fingers *l*, bearing against the lugs *i*, turn the transfer-wires on their pivots and thereby separate the points from the needles until the clip, papers, and transfer-wires occupy the positions indicated by the solid lines in Fig. 3, where they are retained by the pressure of the spring *m* on cam *n*, as shown. The needles being now unguarded, the desired paper can be slipped off the filing needles or standards, and if it is to be replaced the clip and transfer-wires, with the papers thereon, may be left open to retain the place of the paper removed until the latter is returned; but if it is removed permanently, the clip is raised slightly or enough to allow the transfer-wires to be turned or swung by their springs into conjunction with the needles. The papers are next transferred back to the needles or standards, and then the clip is turned over onto the papers. The fingers *l* control the movement of the transfer-wires through their contact with the projections or lugs *i*, and thereby prevent the springs from throwing the transfer-wires suddenly and violently in contact with the needles. The fingers thus become substitutes for the stops heretofore employed to prevent the transfer-wires from striking the needles.

If a narrow paper is to be filed on one only of the needles, the clip is raised to the position it occupies in Fig. 2, and the transfer-wire is swung back by the hand. This is an advantage, as, if the file is very full, the transfer-wire that is not turned back prevents the papers from slipping off the needle with which it connects, while the others can be guarded by the hand. So, too, when a narrow paper is to be removed or examined, the superincumbent

papers are slipped up to the transfer-wire on its side only, the transfer-wire swung back by hand, and the paper removed.

The construction of the file may be modified by having the transfer-wires operated by a single spring, and instead of a clip, as shown and described, a lever may be employed to connect with and operate the transfer-wires. Furthermore, the clip for holding the papers down against the tablet or its substitute may be applied to other files of this class in suitable connection with the transfer-wires or separate therefrom.

The modification shown in Figs. 6 to 8 has two flat springs, *m*, bearing against corresponding cams, *n*, on wire *d*. The transfer-wire is controlled by a flat spring, *g'*, which bears against the under side or bottom of foot *e*. The spring *g'* has a slot in it, and the bearing-surface of the foot is lengthened and made flat, so that the spring shall bear against it with an even and uniform pressure, and thereby retain the transfer-wire in an upright position, and thus serve as a means of preventing the transfer-wire from pressing against the needle. The transfer-wire is swung back by the finger *l*, fixed to pivot-wire *d*, passing up, when turned, through the slot in spring *g'*, and pressing against the foot *e*, as shown in Fig. 7. The operation of the mechanism in this construction is otherwise the same as that just described.

Fig. 9 illustrates another modification, in which the springs *m m* and *g'* are formed on a single plate of metal, F. Springs *m m*, which are on either side of *g'*, are turned up and curved over the pivot-wire *d*, and spring *g'* is bent down under the foot *e*, which is pivoted on rod *d* between springs *m m*, and rests upon spring *g'*. Fixed to rod *d*, on each side of the foot, are cams *n*, which operate against springs *m m*, and fingers *l l* in this case are connected together by a bar, *l'*, which, when the clip is raised, acts against the foot and turns the transfer-wire back. The foot has side projections, *p p*, against which the springs *m m* bear, and by the power thus exerted upon the curved projections prevent the transfer-wire from bearing against the needle with sufficient force to bend it.

I claim—

1. In a file for letters, papers, bills, &c., the combination of an impaling needle or standard, a pivoted transfer-wire controlled by a suitable spring, and a lever provided with a suitable cam which when the lever is operated engages the transfer-wire and throws it back out of connection with the needle or standards, substantially as specified.

2. The combination of impaling-needles, corresponding pivoted transfer-wires operating independently of each other, fingers or cams, and a suitable lever connected with the cams or fingers, whereby the transfer wires or needles can be operated together and simultaneously, substantially as specified.

3. The combination of the spring-controlled clip having a pivot wire or rod, *d*, connected with the file-plate, the transfer-wire pivoted loosely on rod *d*, and a cam or finger fixed to the rod *d*, which when the clip is rotated acts against the pivoted end of the transfer-wire and operates the latter, substantially as specified.

4. The combination of an impaling-needle, a pivoted spring-controlled transfer-wire having its lower end or foot provided with a suitable stop, and a spring-clip provided with a finger or cam, whereby the transfer-wire is thrown back when the clip is rotated and prevented from closing violently, substantially as specified.

5. The combination of the needle or standard, the pivoted spring-controlled transfer-wire, and the spring-clip provided with a cam or finger, whereby when the clip is turned back or reversed the cam or finger, coming in contact with the foot of the transfer-wire, holds the clip in position to serve as an easel without disconnecting the transfer-wire from the standard or impaling-needle, substantially as specified.

6. In combination with needles and corresponding transfer-wires, a spring-controlled clip connected with the transfer-wires and which forms an easel for the transferred papers when reversed from the position it occupies as a clip, substantially as specified.

7. The combination of an impaling-needle, a transfer-wire, a pivot on which the transfer-wire is loosely pivoted, a spring to close the transfer-wire, projection *i* on the transfer-wire, and finger or cam *l*, fixed to the pivot *d*, which engages the projection *i* and prevents the transfer-wire from closing suddenly and with force against the needle or standard, substantially as specified.

8. The combination of an impaling-needle, a transfer-wire, a pivot on which the transfer-wire is loosely pivoted, projection *i* on the foot of the transfer-wire, and finger or cam *l*, fixed to the pivot which engages the projection *i* when the pivot is rotated to open the transfer-wire, substantially as specified.

9. In combination with the impaling-needles and transfer-wires and the clip connected with and operating the transfer-wires, a spring, and a cam fixed to the pivoted end of the clip for the purpose of holding the clip in place when opened, substantially as specified.

10. The combination of a tablet, a spring-clip, impaling-needle, transfer-wire, springs to close the transfer-wire and a finger fixed to the pivot-rod of the clip and engaging with the transfer-wire to open the same, substantially as specified.

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