(No Model.)

W. O. GOTTWALS.

LETTER AND BILL FILE.

No. 534,260. Patented Feb. 19, 1895.

Fig. 1.

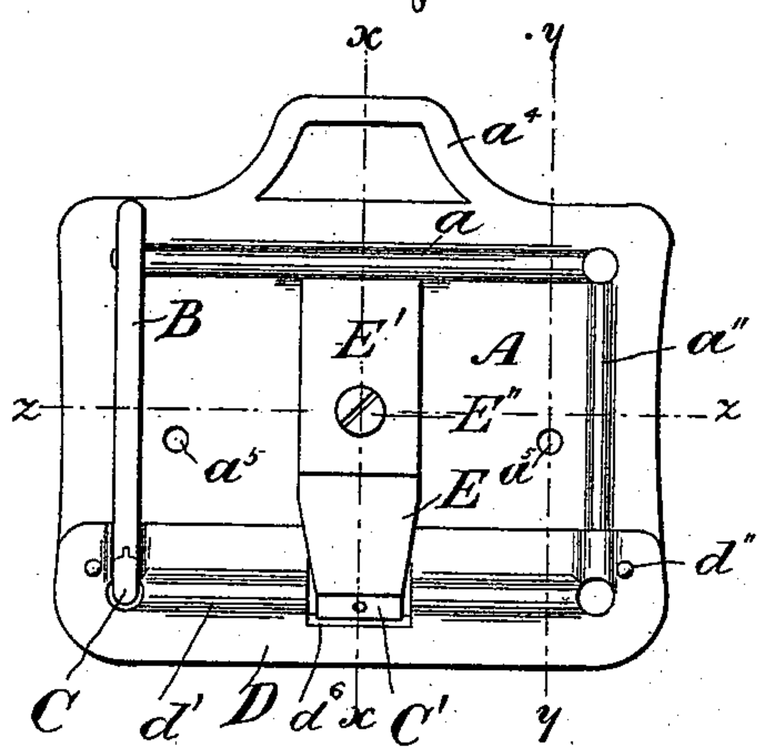


Fig. 2.

Fig. 7.

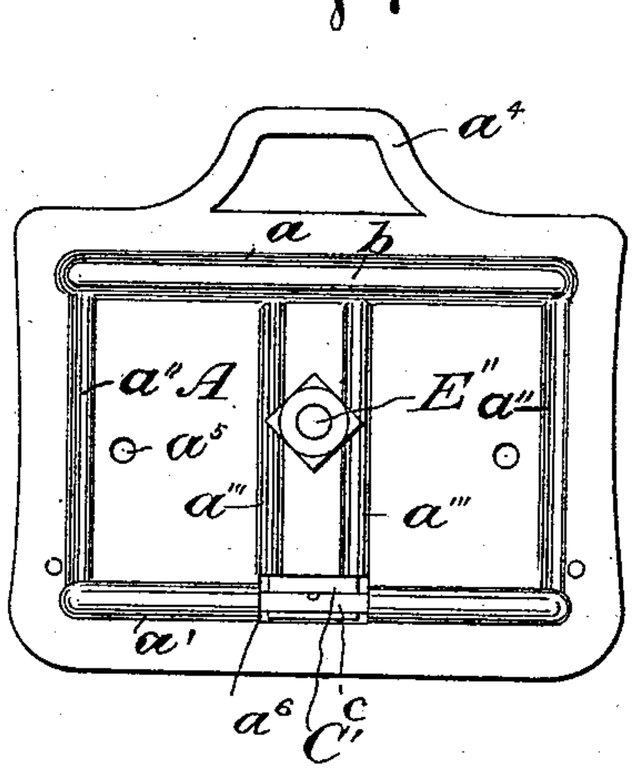


Fig. 3.

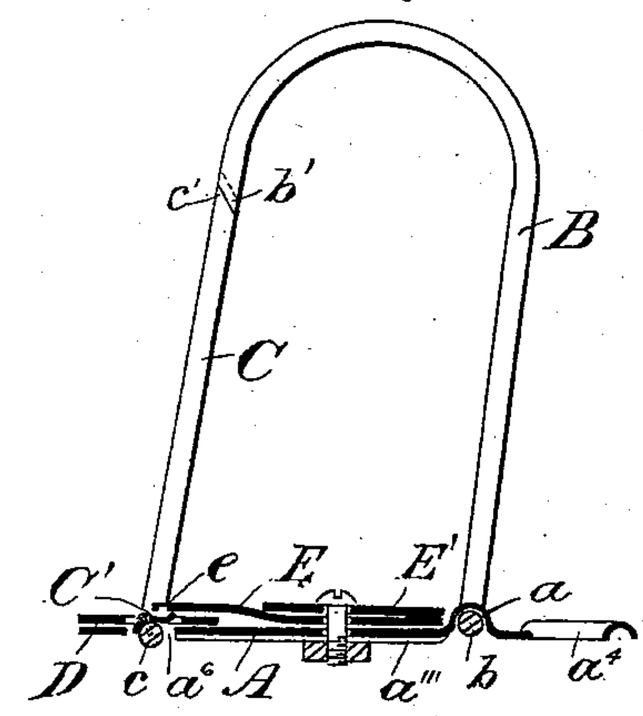


Fig. 4.

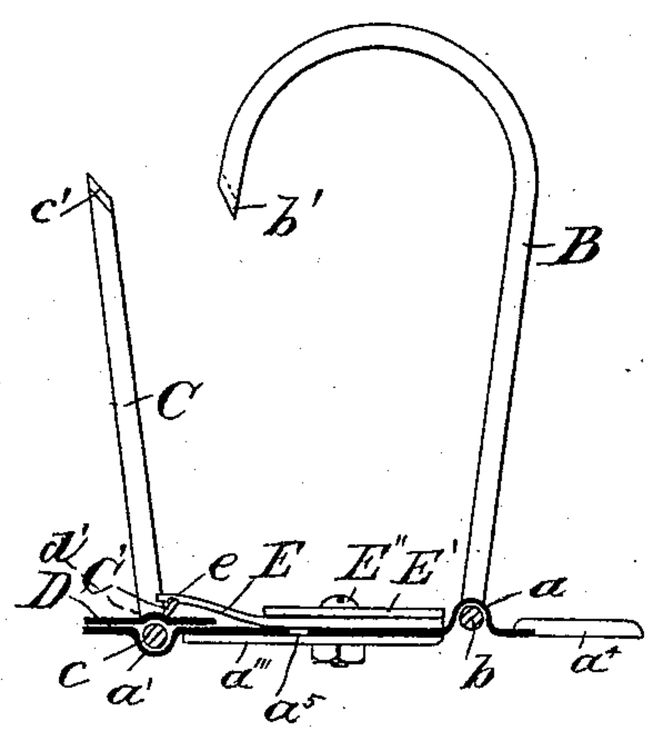
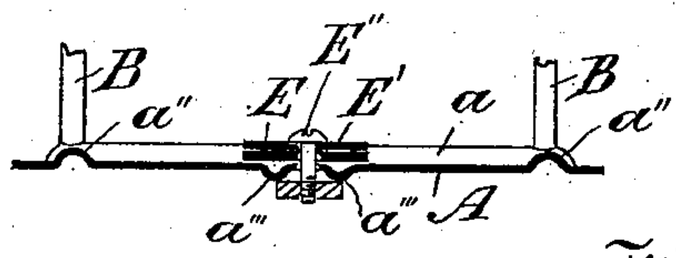


Fig. 5.



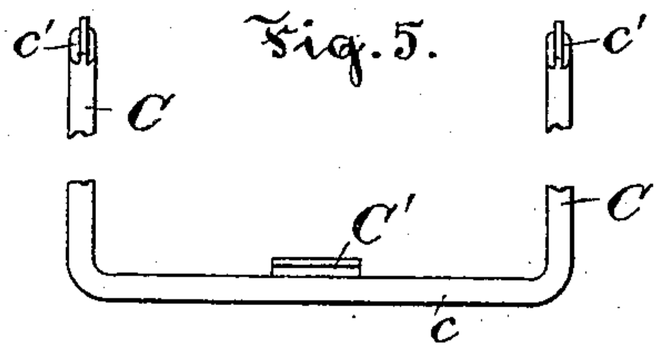
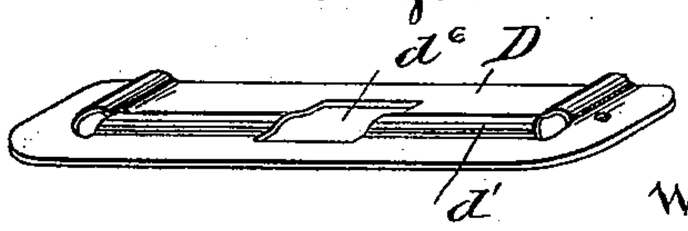


Fig. 6.



Witnesses:
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W. H. Neffke.

William O. Gottwals.
Inventor.
by A. Harvey
his Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM OTTERBEIN GOTTWALS, OF OTTAWA, CANADA, ASSIGNOR TO THE ECLIPSE OFFICE FURNITURE COMPANY, LIMITED, OF SAME PLACE.

LETTER AND BILL FILE.

SPECIFICATION forming part of Letters Patent No. 534,260, dated February 19, 1895.

Application filed May 31, 1894. Serial No. 512,998. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM OTTERBEIN GOTTWALS, of the city of Ottawa, in the county of Carleton and Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Letter and Bill Files; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part hereof.

My invention, which will be hereinafter fully set forth and claimed, relates to letter and bill files.

The object of my invention is to increase the efficiency and durability of the part commonly designated as "arch" by the manufacturer, but which includes the base holding the arch and other wires, together with the mechanism for operating the latter; also to simplify and reduce the cost of manufacturing.

Figure 1 is a top view of the "arch," including the base holding the wires and the mechanism operating the latter, one arch and receiving wire being broken off. Fig. 2 is a longitudinal section of the same on line *x x* Fig. 1, showing the receiving wires closed. Fig. 3 is a longitudinal section of the same on line *y y* Fig. 1 showing the receiving wires open. Fig. 4 is a transverse section on line *z z* Fig. 1, being at a right angle to Figs. 2 and 3. Fig. 5 is an elevation of the receiving wire. Fig. 6 is a separate view of the cover plate forming the cap for the receiving wire journal; and Fig. 7 is a bottom view of the base plate.

The base, A, adapted to hold the transfer or arch wires rigidly and the front or receiving wires movably, is stamped out of a piece of sheet metal; ridges or ribs to accommodate the cross shanks of the wires and to stiffen the plate, being formed thereon, as shown in Figs. 1, 3, 4, and 7. An upwardly projecting rib, *a*, near the upper edge of the plate, forms a groove in the lower surface of the same, adapted to hold the cross shank of the arch wire, a perforation being made at each end thereof through which the upright shanks are passed. A groove, *a'*, in the upper surface near the lower or front edge of the plate, parallel to *a*, forms the lower half of the bearing for the front or receiving wire. An upwardly projecting ridge, *a''*, is formed near each side edge of the plate, extending from the perforation at each end of the ridge *a* to the corresponding end of the groove *a'*, forming a parallelogram marking the base of the wires, three sides of which are raised and one, the front, depressed. Midway between the two ridges *a''*, parallel to them and a little distance apart, are formed two or more such, but downwardly projecting, ridges, *a''' a'''*; the four ridges *a''* and *a'''* serving to stiffen the plate longitudinally, the central ones to take the strain of the spring. A perforated extension or lug at the upper edge of the plate forms an eye, a^4, adapted to project above the board or backing to which the base is usually secured, and by which it may be hung up on a hook or pin on the wall or other object. A couple of perforations, a^5, are also formed on the body of the plate through which screws or other fastenings may be passed for securing it to the board or other backing.

The arches, B B, serving as transfer or back wires, are, for convenience in manufacture, but not necessarily so, made out of one piece of wire bent to form a central cross shank, *b*, and two uprights which have their ends curved forward and downward, their points, *b'* being beveled downwardly and inwardly and grooved on the face. The upright shanks are passed through the perforations at the ends of the ridges *a* from below, so that the cross shank lies in the groove at the lower surface of the plate, in which it is secured by solder or in some other suitable way, a rearward or upward inclination according as the base plate is horizontal or vertical being given to the upright shanks.

The front or receiving wires, C C, Fig. 5, are also and necessarily made of one piece of wire, integrally or pieced, being bent to form a cross shank, *c*, and two straight uprights, the ends or points, *c'*, of which, when the wire is placed in position, meet the points *b'* of the arches to form a smooth joint therewith, being beveled off downwardly and inwardly and provided with a tongue, so that the points *b' c'* form a tongue-and-groove joint on bev-

eled faces fitting each other. The cross shank *c* is placed in the groove *a'* and held therein by a cover plate or cap, D, Fig. 6, provided at its lower surface with a groove, *d'*, which forms an upwardly projecting ridge having a roomy perforation at each end through which the upright shanks pass and which plate is secured to the base by rivets, *d''*, or in some other suitable manner. The upward groove *d'* in the plate D and the downward groove *a'* in the plate A thus form a journal bearing for the cross shank of the receiving wire which is placed in such a relative position on the plate that when the receiving wires are closed or locked they lean about as much upwardly or rearwardly as they lean forwardly or downwardly when open, as shown in Figs. 2 and 3.

The receiving wires are held open or closed by means of a spring E and a cam C', Figs. 2, 3 and 5. The latter, consisting of a projecting ridge, nib, or bit, is secured to the cross shank *c* of the receiving wire, perforations, a^6 and d^6, to accommodate it, being provided in the base A and cover plate D respectively. The spring E, strengthened by a backing piece E', is secured by a bolt, E'', passing through a perforation in the base, over the two central ridges *a''*, the point bearing on the cam C' being provided with a notch *e* which engages the edge of the cam when the receiving wires are fully open, as in Fig. 3, and when the latter are locked the part of the spring at the rear of the notch bears upon the edge of the cam as a lever and tends to press the points *c'* against the points *b'* of the arches. The notch *e* in the spring E engages the edge of the cam C', holds the latter when the receiving wire is fully open and prevents the weight of paper suspended on the latter from opening it farther.

I claim as my invention—

1. In a letter and bill file, the combination of a stamped base A having raised ridges *a* *a''* *a'''* and groove *a'*, a cap plate D secured to the upper face of said base having a groove in the lower surface corresponding with the groove *a'* and being perforated at the ends and in the center, two arches B having their cross shanks secured in the upper groove formed by the ridge *a* so that the upright shanks lean rearwardly or upwardly according as the base plate is horizontal or vertical and having their points beveled at the front and grooved, receiving wires C formed in one piece with a cross shank *c* journaled in the bearing formed by the grooves *a'* and *d'* between the base A and cap D and having its points beveled and tongued to fit the points of the arches, a cam C' on said cross shank adapted to bear on a spring and engage a notch therein and a double spring E E' bolted to said base and adapted to bear with its point on the said cam and to engage and lock the same by a notch *e*, substantially as set forth.

2. The combination of a rectangular piece of stamped sheet metal A, a groove *a* in the lower surface forming a raised ridge at the upper surface and having a perforation at each end said groove forming a bed for the cross shank of the arches, a groove *a'* parallel to the groove *a* and forming part of a journal bearing for the cross shank of the receiving wires, raised ridges *a''* extending from the perforated ends of the ridge *a* to the ends of the groove *a'*, central downward ridges *a'''* extending from the ridge *a* to the groove *a'* and a cap D secured to the front edge of the base and having a groove *d'* in its lower surface corresponding to the groove *a'* and forming therewith a journal bearing for the cross shank of the receiving wire and said groove being perforated in the center, substantially as set forth.

In testimony whereof I have signed in the presence of the undersigned witnesses.

WILLIAM OTTERBEIN GOTTWALS.

Witnesses:
A. HARVEY,
A. TROWSE.