(No Model.) 2 Sheets—Sheet 1.

E. W. WOODRUFF.

FILE BOX OR DOCUMENT HOLDER.

No. 547,163. Patented Oct. 1, 1895.

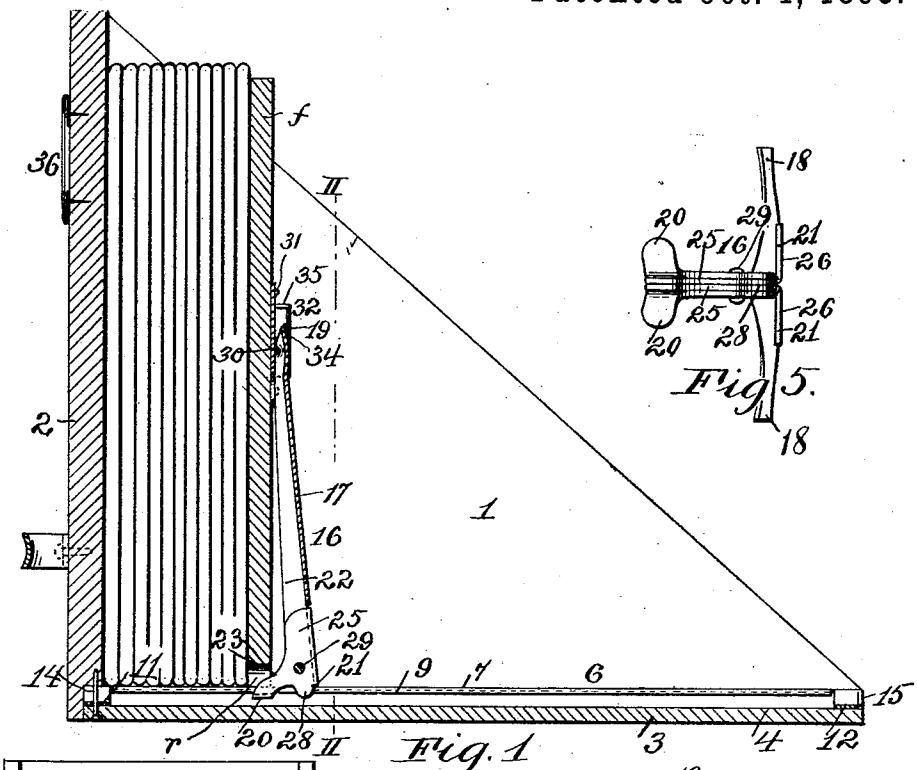


Fig. 1

Fig. 5.

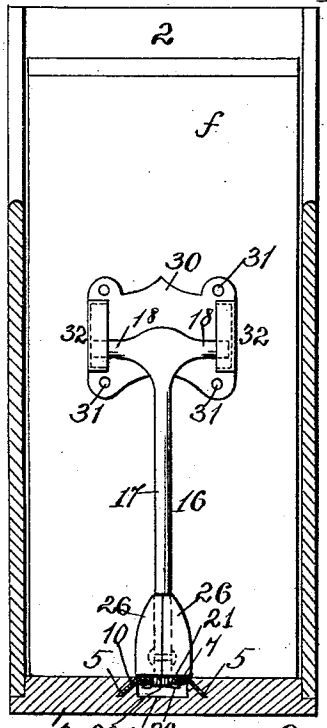


Fig. 2.

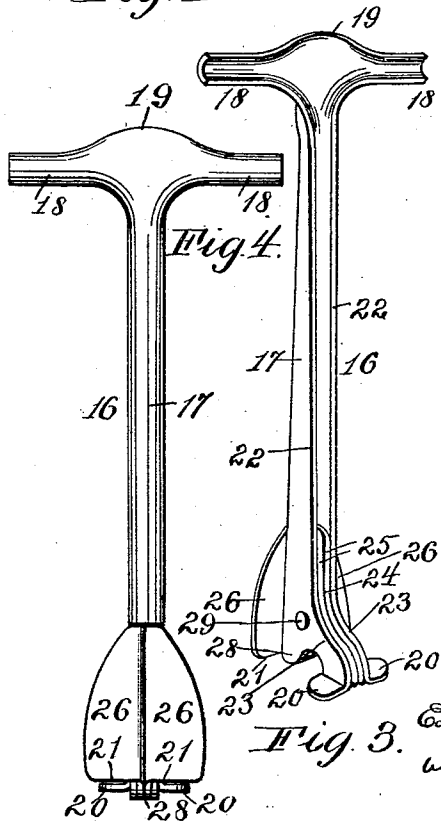


Fig. 4.

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

E. W. WOODRUFF.

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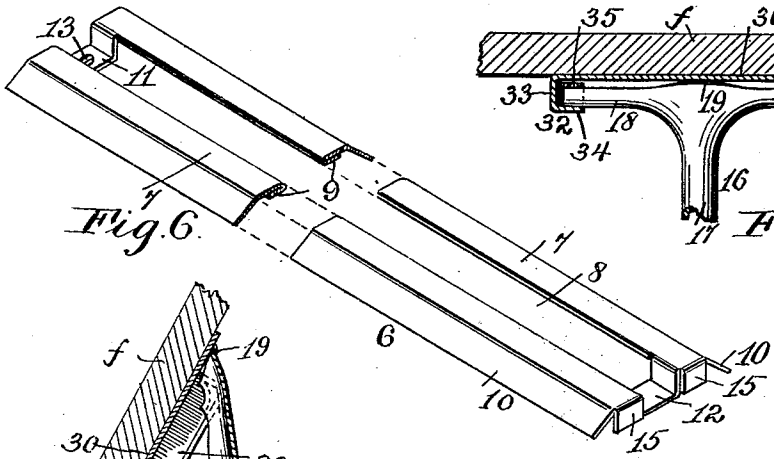


Fig. 6.

Fig. 7.

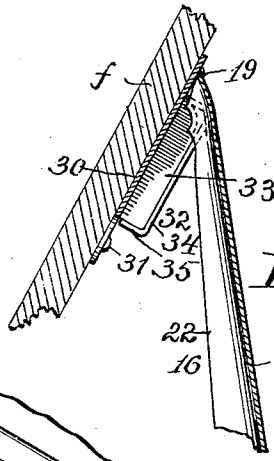


Fig. 8.

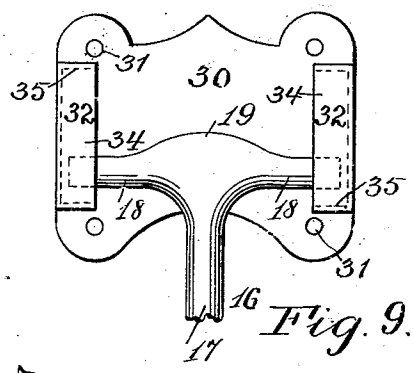


Fig. 9.

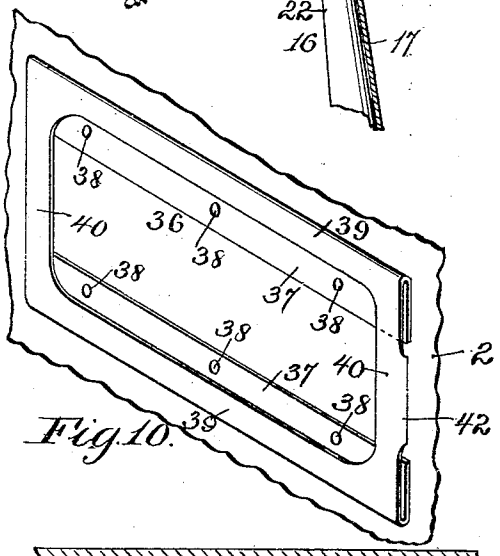


Fig. 10.

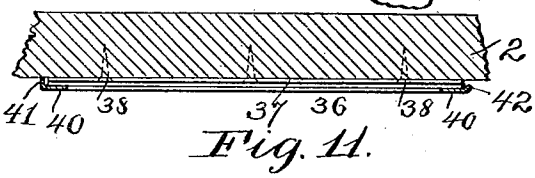


Fig. 11.

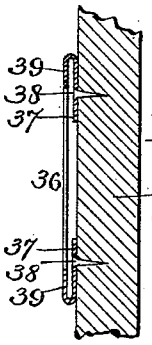


Fig. 12.

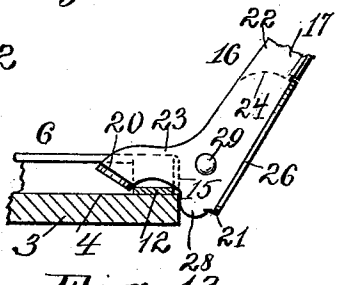


Fig. 13.

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UNITED STATES PATENT OFFICE.

EDMUND W. WOODRUFF, OF WASHINGTON, DISTRICT OF COLUMBIA.

FILE-BOX OR DOCUMENT-HOLDER.

SPECIFICATION forming part of Letters Patent No. 547,163, dated October 1, 1895.

Application filed December 24, 1894. Serial No. 532,873. (No model.)

To all whom it may concern:

Be it known that I, EDMUND W. WOODRUFF, a citizen of the United States of America, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in File-Boxes or Document-Holders, of which the following is a specification.

My present improvements relate mainly to that class of file-holders or file-boxes ordinarily used for the storing of documents or folded papers, in which the contents of the holder are held in place by a follower-board which is adjustable toward and from an opposing front or bottom or wall of the box, and is adapted to be held, when thrust in place against the papers or documents, by a lever or clamp which engages said follower-board and a suitable portion of the interior wall of the holder.

My present invention has for its objects to improve the construction of the said lever or clamp, rendering it more accurate in shape and stronger and more efficient for the holding of the follower-board, to improve the construction of the slot-plate ordinarily placed in the bottom of the file-box and adapted to be engaged by the said lever or clamp and hold the latter in that position to which it has been adjusted, by which improvement the slot-plate is rendered more easy and economical of production, lighter in weight, and more efficient for the purpose of holding the lever, and to furnish a plate of improved construction and of very neat appearance for attachment to the front side of the file-box, where it is adapted to hold an index-card indicating the contents of the holder in such manner that said card may be readily changed for another, as the contents of the box vary.

The clamp or lever referred to relates to that simple type in which the upper end is adapted for attachment to the follower-board by means of laterally-extending arms, or any other suitable or equivalent means, and the lower end of which is provided with upper and lower engaging shoulders or ears, the former adapted to rest upon the top of the slot-plate of the box, and the latter adapted to engage beneath said slot-plate, whereby the lever may be held rigidly in a substantially-erect position, and yet may be readily slid inward or outward to clamp or release the contents of the holder. Heretofore levers or clamps of this character have ordinarily been formed of cast metal, which possesses the requisite degree of stiffness or rigidity; but in the casting of such clamps much difficulty has been experienced from their becoming warped out of shape to such extent that they would not work accurately in the slot-plate or securely engage the latter for the purpose of holding the follower-board in position. When they are of such improper shape, by warping or otherwise, any attempt to bend or straighten the levers results in their being broken, with consequent loss of material and labor.

According to my present invention the lever or clamp is formed of comparatively thin sheet metal, which is malleable in character and which I form in such manner that the upper portion of the lever is rendered stiff and suitable for engaging the follower-board and regulating the degree of its movement or tilting, the shank of the lever also rendered very strong and rigid in that direction in which the pressure of the follower-board is exerted upon it and the lower end of the device provided with the upper and lower shoulders or ears above referred to, accurately disposed with relation to each other for the purpose of properly engaging and obtaining a grip upon the slot-plate. Heretofore the slot-plate for this, or any equivalent type of lever or clamp, has been formed of several pieces of comparatively thick and stiff sheet metal united by maleable castings bolted or riveted thereto, or has been formed of heavy cast metal. Slot-plates of the latter character require too much iron and are not sufficiently strong in use, being, moreover, liable to be warped out of shape in manufacture, so that they are not suitable for being fitted to a file-box or for the accurate engagement of the lever or clamp, while slot-plates of the character first mentioned also require more metal than is necessary, provided such metal could be properly distributed in the plate, and also entail considerable labor in their manufacture and fitting to the file-box.

According to my present improvement I form the slot-plate of a single piece of comparatively thin malleable metal having that portion which is engaged by the shoulders of the lever doubled and reinforced, and having

the connecting-piece which joins the side portions of the slot-plate bent in such manner as to serve as a stop and support for the lever or clamp when the latter is in its outermost position to permit the tilting back of the follower-board and the release and inspection of the contents of the holder. I, moreover, provide a suitable finish at the outer end of the slot-plate, whereby the end of the slot or groove cut into the bottom of the file-box is closed.

In order to make clearly understood the above-mentioned features of my invention and my other detail improvements, I have shown in the accompanying drawings means for carrying it into practical effect, without limiting my improvements in their usual applications to the particular construction, which, for the sake of illustration, I have delineated.

In said drawings, Figure 1 is a longitudinal sectional view of a file-box embodying my improvements. Fig. 2 is a transverse sectional view of the same on line II II of Fig. 1. Fig. 3 is a perspective view of a lever or clamp embodying my improvements. Fig. 4 is a rear elevation of the same. Fig. 5 is a bottom plan view of the same. Fig. 6 is a perspective view of a portion of the slot-plate embodying my improvements. Fig. 7 is a horizontal sectional view of a portion of the follower-board with its lever-engaging plate, showing also the upper end of the lever in place. Fig. 8 is a vertical sectional view of the same. Fig. 9 is a rear view of the said plate, showing also the upper end of the lever or clamp. Fig. 10 is a perspective view of a portion of the front of the file-box, showing its index-holding plate. Figs. 11 and 12 are, respectively, horizontal and vertical transverse sectional views of the said plate. Fig. 13 is a vertical sectional view showing the outer end of the slot-plate and the lever or clamp supported therein in an inclined position.

Referring to the drawings, 1 indicates the file box or holder, of which 2 and 3 are, respectively, the front and bottom boards or plates. The latter is formed with a longitudinal groove 4, in which are also formed inclined slots or kerfs 5 for the inclined sides or wings of the slot-plate. The latter is indicated at 6, and is formed of two parallel portions 7, which are similar to each other and are held apart at such distance to leave between them the slot 8 for the movement of the follower-board clamp, hereinafter described. Along the slot 8 the edges of the plate are bent over and under, forming stiff and thick edges for the engagement of the shoulders of the clamp. The said bent-under portions are indicated at 9, and in connection with the top thickness of the plate give to the latter sufficient rigidity to withstand the upward and downward pressure of the lower and upper shoulders of the clamp, which, when in the act of tightly clamping the contents of the file-box, constantly tends to distort the slot-plate. Along the outer edges of the slot-plate it is formed with inclined wings or flanges 10, adapted to fit the kerfs 5 and keep the slot-plate securely in place in the bottom piece of the holder. The portions of the slot-plate are held at the proper distance from each other by transverse connecting-bars 11 and 12, which are formed integral with the side portions 7. The said connecting portions are bent downward to substantially the level of the bottom surface of the groove 4, thus enabling the inner part 11, which is suitably perforated, as indicated at 13, to be fixed to the bottom of file-box by a pin or nail 14, which may be driven upward through the bottom, through the perforation 13 and into the lower end of the front plate 2 of the box. The transverse connecting portion 12 at the outer end of the slot-plate forms in its depressed position a stop and support for the lower portion of the clamp-plate, thus preventing the upward strain of the latter upon the under side of the slot-plate from forcing the slot-plate away from the bottom piece 3 and out of its groove 4. By constructing the piece 12, as indicated, any such strain upon the slot-plate is counteracted by the downward pressure of the said clamp upon the connecting part 12. At the outer end of the slot-plate, at each side of the slot 8, I form downwardly-extending flanges 15, which cover the ends of the two side portions of the groove 4 and form a suitable finish for the outer end of the slot-plate.

The lever or clamp referred to is indicated at 16, comprising a substantially-vertical shank 17, arms 18 at the upper end of the shank adapted for engagement with a suitable plate on the follower-board, a stop 19 above said arms for controlling the tilting of the follower-board, lower shoulders or flanges 20, formed at the lower end of the clamp and adapted to engage beneath the side pieces of the slot-plate and upper shoulders or flanges 21. The shank 17 is bent or is made concave—for instance, by being provided with vertical flanges 22, situated in planes substantially transverse to the plane of the follower-board—whereby great rigidity is given to the shank of the clamp in the direction in which the pressure of the follower-board tends to bend it, while the head of the clamp, including the arms 18, is also made rigid by forming it concave on the inner face. At its lower end the clamp is formed of two pieces of metal, one consisting of a continuation of the shank, which is extended forward, downward, and outward, as indicated at 23, terminating in the outwardly-extending lower shoulders 20, and the other of which pieces is indicated at 24 and lies between and is secured to the lower continuations of the flanges 22. The part 24, which I may term the "shoulder-plate," is preferably formed in two separate pieces, of symmetrical shape, each comprising flanges 25, which lie parallel with each other and fit closely between the flanges 22, and laterally-extending wings 26, the lower ends

of which form the upper shoulders 21, already referred to. At the place where the shoulder-plate emerges from the interior of the lever, to form the wings already referred to, the front portion of the shank 16 is removed, as indicated, thus leaving the necessary opening. The lower end of the lever is also vertically extended downward, as indicated at 28, to form a guide adapted to engage the slot 8 and assist in keeping the lever in position as it is moved backward and forward on the slot-plate. The flanges 17 of the lever and the shoulder plate or plates are preferably united by a single transverse rivet 29, which passes through all of the said parts and which suffices to hold them all rigidly in proper relation to each other.

The lever-engaging plate of the follower-board *f* is indicated at 30, and may be secured to the board by nails or screws 31. It is desirable that the follower-board shall not merely tilt upon the upper end of the lever, but shall be able to have a downward and inward sliding motion thereon in order that the lower end of the follower-board may keep in contact with the lower ends of the documents to prevent their entire displacement while they are being examined. Thin papers are thus prevented from collapsing and sinking down between contiguous and stiffer documents and the examination of the contents of the holder is facilitated. To this end the plate 30 is provided at each side with a vertical inclosed guide 32, in which the ends of the arms 18 may work. The said guides are formed by bent-up portions of the plate 30, forming side plates 33, rear plates 34, and top and bottom plates 35. It will thus be observed that I form upon the plate 30 guides which retain the ends of the lever-arms and which enable the follower-board to have a limited vertical sliding movement on the lever, yet from which the lever may be disengaged by twisting it into a diagonal position.

Referring to Figs. 1, 10, 11, and 12, 36 indicates the holder for the card-carrying letters or marks which shall denote the contents of the file-box. Said holder is made of a suitable plate of thin sheet metal, the upper and lower edges of which are bent to form securing-flanges 37, which lie entirely behind the front of the plate, and which are united with the front board 2 of the holder by nails 38. The middle portion of the plate 36 is entirely removed, leaving a space for the exhibition of the card, and also leaving upper and lower retaining-flanges 39 and similar end flanges 40. It will be observed that when the card is thrust in place in the said holder all of the flanges and securing means by which the plate is held to the file-box are concealed and a very neat finish imparted to the article. At one end of the holding-plate it is provided with a retaining-flange 41, which acts as a stop to arrest the card when it has been thrust into place, and at the other end it is provided with a lip 42, which serves to retain the card from accidental displacement. While the flange 41 renders its end flange 40 stiff and rigid, the other end flange at what may be termed the "outer end" of the said holder and which carries only the lip 42 is left elastic, so that when it is desired to release the card it is simply necessary to spring the said flange slightly outward sufficient to carry the lip 42 away from its position over the end of the card. The latter may then be readily moved.

In order to give the clamp a better hold on the slot-plate, by making the point of grip more nearly beneath the follower-board, and also to make the combined thickness of the clamp and board as small as possible, thereby increasing the capacity of the box, the lower end of the lever 16 is extended forward at 23, as already described. To accommodate said extension the follower-board has formed on its lower end a recess or notch *r*. A very free action is thus permitted to the follower-board, and the parts operate so accurately and freely that by merely turning the file-box front downward the follower-board and lever-clamp will, if in their released position, fall into place and automatically clamp themselves upon the contents of the box.

I claim—

1. A file box having a slot plate and a follower, combined with a clamp consisting of a malleable sheet-metal shank bent to form flanges, having at its upper end means for attachment to said follower, and a plate secured between said flanges at the lower end of the shank, said shank and plate being formed with shoulders for oppositely engaging and gripping the slot plate, substantially as set forth.

2. A clamp or lever for the follower board of file-boxes, consisting of a malleable sheet metal shank bent to form flanges, and a plate secured between said flanges at the lower end of the shank, said shank and plate being formed with shoulders for oppositely engaging and gripping the slot plate, substantially as set forth.

3. A clamp or lever for the follower-board of file boxes, consisting of a malleable sheet-metal shank bent to form flanges, formed at its lower end with shoulders to engage beneath the slot-plate, and having between said flanges a shoulder plate with outwardly extending wings or shoulders, substantially as set forth.

4. A slot-plate for file boxes, of malleable sheet-metal formed with side portions having between them a slot, having the opposing edges of said side portions bent under to form stiff slot edges, and front and rear connections integral with and uniting said side portions and bent down, whereby said rear connection forms a support for the clamp, substantially as set forth.

5. A slot-plate for file boxes, of malleable sheet-metal formed with side portions having

between them a slot, having the opposing edges of said side portions bent under to form stiff slot edges, and having the outer edges of said portion inclined to engage kerfs in the file-box base, and front and rear connections integral with and uniting said side portions and bent down, whereby said rear connection forms a support for the clamp, substantially as set forth.

6. A slot-plate for file-boxes, of malleable sheet-metal, formed with side portions having between them a slot, transverse and downwardly bent connections between said portions at their front and rear ends, and covering flanges 15 at each side of the rear connection, substantially as set forth.

7. A file box having a front plate the edges of which are bent back and parallel with the front to rest on the face of the box and form securing flanges, having the middle of the front portion removed to expose a contained card, and exposing also portions of said flanges, and securing pins inserted through said exposed portions of the flanges, substantially as set forth.

8. A file box having a front plate the top and bottom edges of which are bent back to form flanges and channels for the card and to rest on the face of the box, bent down at one end to form a stiffening and retaining flange having the front cut out at the middle exposing said flanges and leaving at one end an elastic front strip, and having formed on the latter a lip to act as a catch for the card, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two witnesses.

EDMUND W. WOODRUFF.

Witnesses:
H. N. LOW,
J. S. BARKER.