July 8, 1930. C. ZIMMERLI 1,770,119

FILING SHELF

Filed Sept. 11, 1928

FIG. 1

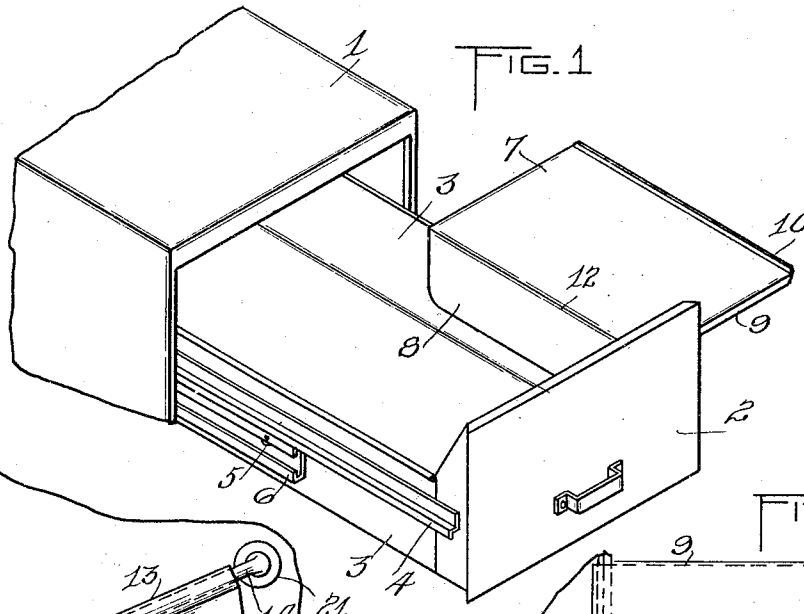


FIG. 2

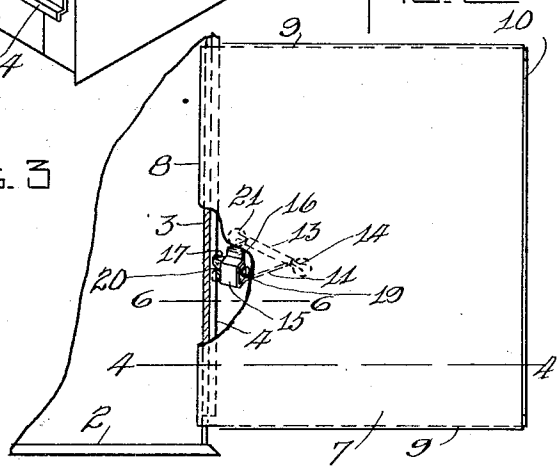
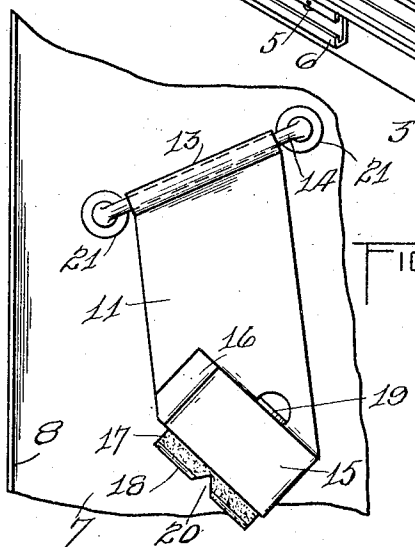


FIG. 3



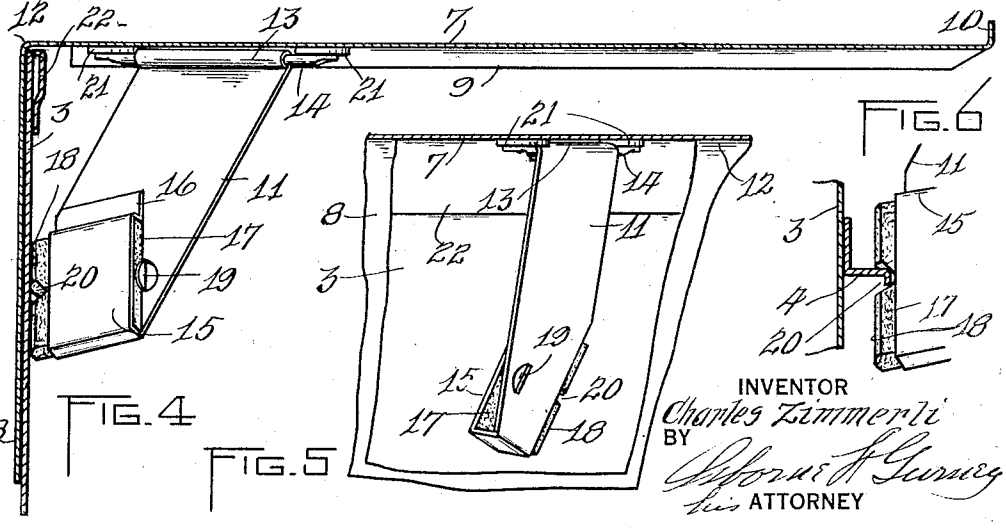


FIG. 4

FIG. 5

FIG. 6

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UNITED STATES PATENT OFFICE

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FILING SHELF

Application filed September 11, 1928. Serial No. 305,165.

The present invention relates to detachable shelves and more particularly to one intended for use on the drawer of a filing cabinet, desk or the like, an object thereof being to provide a device of this character which will facilitate the work of a filing clerk.

Another object of the invention is to provide a shelf so constructed as to be detachably supported upon the side wall of a drawer in such manner that papers to be filed, or as they are removed from the files, may be conveniently placed on the shelf without such member interfering with the freedom of movement of the person doing the work.

A further object of the invention is the provision of a simple and novel hinged bracket arm for securing and rigidly holding the shelf upon the vertical wall of a drawer and which will adapt itself to walls of different thickness.

In some instances the drawers of filing cabinets are provided with side rails which support the drawer on roller bearings, and it is a further object of the invention to so construct the swinging bracket arm as to engage such side rails in a manner to securely hold the shelf in place instead of directly engaging the side wall, and with the arm adapting itself to rails spaced different distances from the top of the wall.

And, a still further object of the invention is the provision of a device of the character and for the purpose set forth which is of simple and strong construction, inexpensive to manufacture, easy to handle, and so formed that a quantity of them may be nested so as to occupy but small space in shipment or storage.

To these ends the invention consists of a shelf construction as will be fully set forth in the following description and particularly defined in the appended claims.

The accompanying drawings illustrating the invention are as follows:

Figure 1 shows in perspective the shelf supported upon the drawer of a vertical filing cabinet.

Fig. 2 is a plan view of the shelf and a fragmentary part of the drawer, a portion of the shelf being broken away.

Fig. 3 is a fragmentary plan view of the shelf from the under side with the bracket arm in its inoperative position.

Fig. 4 is an enlarged sectional view as on the line 4—4, Fig. 2 but showing a drawer without side rails.

Fig. 5 is a view from the right with respect to Fig. 4.

And, Fig. 6 is a sectional detail on line 6—6, Fig. 2.

In the drawings similar reference numerals refer to similar parts throughout the several views.

The numeral 1 represents a vertical filling cabinet an open drawer of which is shown at 2 and as including side walls 3 on which are rails 4 which support the drawer on roller bearings 5 mounted in extensible track members 6.

The present invention contemplates a shelf adapted to be detachably supported upon either of the side walls 3 and having means, as a hinged bracket arm, on its under side for frictionally engaging with a wedging action the wall of the drawer to securely and rigidly hold the shelf in place and more firmly as the weight thereon is increased.

The shelf is formed, preferably, from sheet metal in one piece and includes a horizontal portion 7 and a vertical portion 8, the end edges of the horizontal portion being turned downwardly to form reinforcing flanges 9 and the outer side edge upwardly to provide a retaining flange 10 for papers placed on the shelf.

On the under side of the horizontal portion or shelf proper is a hinged member which, when swung into operative position, comprises a bracket arm 11 the free end of which has a contacting surface for frictionally engaging the outer face of the wall upon which the shelf rests, this arm functioning to support the shelf and to hold the vertical portion 8 thereof in engagement with the inner face of the supporting wall. The shelf rests upon the side wall of the drawer along the bend 12 which is the junction of the horizontal and vertical portions 7 and 8, respectively, the inner ends of the flanges 9 being cut back sufficiently to clear the drawer.

In this instance the bracket arm is a strip

of sheet metal having hinge connection 13 with a rod or pintle 14 secured to the under face of the horizontal portion 7 and at an angle obliquely to the line of bend 12, the ends of the rod being flattened and welded to washers 21 which in turn are similarly secured to the shelf, these washers preventing axial movement of the arm and spacing the rod from the shelf so that the arm is free to swing. The strip forming the arm has an angular extension 15 which is turned back in spaced relation to the arm proper and with its end 16 offset to form an abutting surface which is spot welded to the arm. Thus the outer or free end of the arm 11 with its extension 15 forms a holder for a pad 17 of compressible material, preferably rubber, which projects beyond the inner side edge of the holder to provide a contacting surface 18 for yieldingly and frictionally engaging the outer surface of the wall supporting the shelf, the pad being held against displacement by an abutting ear 19 bent from the arm 11.

When the shelf is not in use the arm occupies an inoperative position flat against the under side thereof, and it will be observed that a number of shelves may be inserted so as to occupy but small space, the shelf being stood on end, or placed bottom side up.

To attach the shelf to a drawer, it is placed on a side wall 3 thereof, as clearly shown in the drawings, with the vertical portion 8 abutting the inner face of the wall. The arm 11 is then swung downwardly past the vertical and upwardly until the contacting surface 18 wedges against the supporting wall, whereupon such swinging member becomes an angularly extending bracket arm, and, with the plane of the arm inclined from the vertical, a wedging action is exerted which causes the friction surface 18 to grip the wall 3 more firmly as weight upon the shelf is increased. The relative arrangement of the pad 17 with the arm 11 is such that after the arm is swung past the vertical the contacting surface 18 of the pad, which is in a plane radially of the hinge, lies substantially parallel with the wall, thus permitting the arm to accommodate itself to supporting walls of different thickness. The contacting edge face 18 of the pad 17 is bevelled to present a maximum gripping area to the wall 3 and, preferably, the pad is notched traversely at 20 to provide a two-point bearing which insures even greater relative, frictional engagement between the wall and the pad 17.

In the event the drawer is provided with a side rail 4, as in Figs. 1, 2 and 6, the notched pad 17 after swinging to or beyond the vertical, according to the width of the rail and its distance from the top of the drawer, will straddle the rail which acts as a bearing for the free end of the bracket arm.

The shelf, it will be observed, is readily attachable, and by overhanging the side of the drawer will be so conveniently located as to greatly facilitate the work of filing. To remove the shelf it is simply raised from the drawer after first swinging the arm 11 out of disengagement with the wall 3.

The top edge of a sheet metal drawer is usually reinforced by having a portion turned back against its outer face, as at 22, Fig. 4, and it will further be observed that the angular arrangement of the hinge permits the swinging arm to accommodate itself to a wall thus constructed, that is, the free or gripping end of the arm will swing clear of the reinforced edge 22 and contact with the thin body portion of the wall, which would not be the case were the arm hinged at right angles to the wall of the drawer.

What I claim as my invention and desire to secure by Letters Patent is:

1. A detachable shelf comprising a horizontal portion, a vertical portion, an arm hinged to the under side of the horizontal portion to swing about a horizontal axis extending obliquely of the vertical portion, and a friction member carried by the free end of said arm for the purpose set forth.

2. A shelf in accordance with claim 1 characterized by said friction member having a contacting surface substantially parallel with said vertical portion when said arm has been swung beyond the vertical into operative position.

3. A detachable shelf comprising a horizontal portion, a vertical portion, an arm hinged to and adapted when in inoperative position to lie against the under side of said horizontal portion and to swing to an operative position beyond the vertical about an axis oblique to the line of juncture of said horizontal and vertical portions, and a friction member carried by the free end of said arm, said member having a contacting surface substantially parallel to said vertical portion, when the arm is in operative position.

4. A detachable shelf comprising a horizontal portion and a vertical portion, a supporting arm hinged to the under side of the horizontal portion to swing about a horizontal axis extending obliquely of the vertical portion, and a friction member carried by the free end of said arm having a contacting surface for the purpose set forth, said arm when in operative position comprising an angularly extending bracket arm lying in a plane inclined from the vertical.

5. A shelf in accordance with claim 4 characterized by said arm being formed in one piece of sheet metal and said friction member being a pad of resilient material secured thereto.

6. A shelf in accordance with claim 4 characterized by said arm being formed in one piece of sheet metal and with a pocket for

receiving said friction member, the latter being a pad of resilient material.

7. The combination with a shelf, of a pintle obliquely arranged on the under side thereof, and in spaced relation thereto, a bracket arm formed of sheet metal and mounted to swing on said pintle, means for holding said arm against axial movement, and a pad of resilient material secured to a face of said arm at its free end, said pad having a contacting surface for the purpose set forth.

8. The combination with a shelf, of a bracket arm in accordance with claim 9 characterized by the contacting surface of said pad member being beveled and transversely notched, as and for the purpose set forth.

9. The combination, with a vertical wall of a drawer, of an attachable shelf therefor comprising a horizontal portion and a vertical portion, the latter engaging the inner face of the drawer and the horizontal portion resting upon the edge of the drawer, a bracket arm hinged to the under side of said horizontal portion on an axis extending obliquely of the vertical portion, and a contacting surface on the free end of said arm for frictionally engaging said wall.

10. The combination with a shelf and a vertical supporting member therefor, of means on the shelf for engaging the face of the supporting member opposite to that overhung by the shelf, and a bracket arm hinged to the under side of the shelf to swing about a horizontal axis extending obliquely of said supporting member, said arm having at its free end a contacting surface for frictionally engaging said supporting member.

11. The combination with a shelf and a vertical supporting member, as the wall of a drawer which is of greater thickness along its supporting edge than the body of the wall, of means on the shelf for engaging the face of said wall opposite to that overhung by the shelf, and a bracket arm hinged to the under side of the shelf to swing about a horizontal axis extending obliquely of said supporting member, said arm having at its free end a contacting surface for frictionally engaging the body of said wall, the angular arrangement of said hinge permitting the free end of said arm to swing clear of the thicker and outwardly projecting wall portion.

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