March 4, 1930. H. L. DE LISLE 1,749,376

MEANS FOR FILING AND HANDLING LARGE SHEETS

Filed Oct. 1, 1928

Fig. 1.

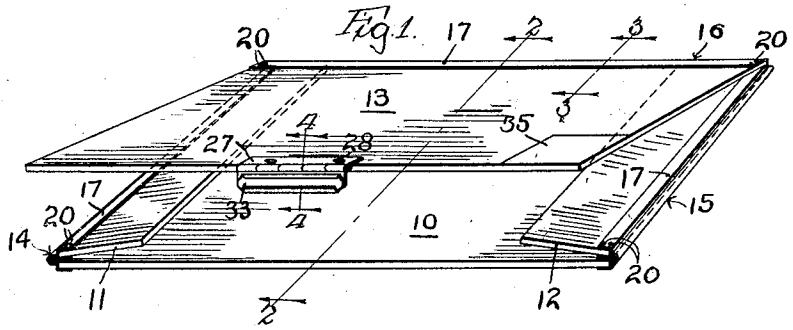


Fig. 2.

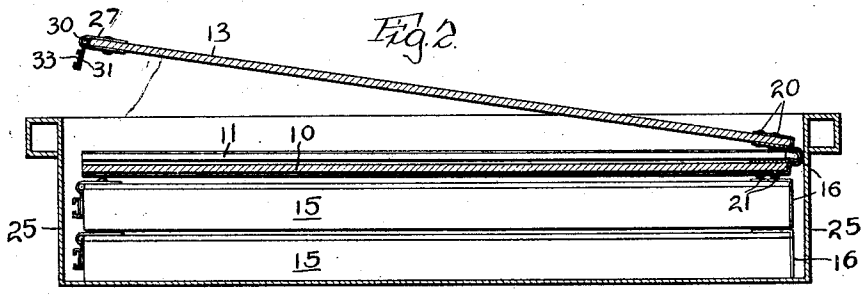


Fig. 3.

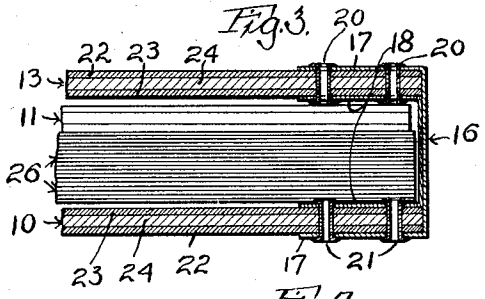
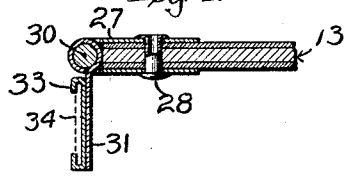


Fig. 4.



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UNITED STATES PATENT OFFICE

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MEANS FOR FILING AND HANDLING LARGE SHEETS

Application filed October 1, 1928. Serial No. 309,465.

These improvements relate to means for filing relatively large sheets such as tracings, original drawings, blue prints and the like in flat-lying condition.

The relatively large sheets in question vary in size largely according to the particular standard adopted in a particular engineering office or drafting room. At one place for example this standard may be a maximum of twenty-four by thirty-six inches while at some other drafting room it may be say sixty-eight by eighty inches.

The filing of such sheet material has been attended in the past by many serious difficulties and disadvantages, and many problems with respect thereto exist which are not present in the case of ordinary sheet material. For one reason these drawings are very valuable and are very expensive to produce, a single bunch of one hundred sheets representing an average production cost of four thousand dollars. Owing to their size they are only difficultly handled, and the handling has usually been accompanied by various destructive effects such as crinkling, tearing and abrading.

It has been customary to file such sheet material loosely in drawers two inches deep. The maximum number of sheets which may conveniently be handled in a single bunch, stack or unit is about one hundred. Since this maximum number occupies less than one third of the depth of the drawer it is evident that there is here a great wastage of storage space. It appears that the two-inch depth has been regarded as the shallowest possible in view of construction problems. In any event there are now many of these large-size filing cabinets in use containing drawers two inches deep.

The present invention is directed in part to the provision of means whereby the users of these two-inch filing drawers may file for proper handling a much larger number of sheets than heretofore in a given drawer, and, at the same time, according to means rendering the insertion and removal of sheets more rapid and easy and less subject to the destructive effects mentioned.

The invention is also directed to improved means for holding such sheets for permanent filing, and for ready accessibility and handling in the current and permanent files and outside such files whenever occasion therefor arises.

A specific object is to provide a holder according to which a substantially large number of the sheets may be conveniently handled, filed in the current drawers or in permanent drawers or on shelves, with the sheets safely housed and protected and maintained flat.

Other objects and advantages will appear hereinafter.

In the accompanying drawings Figure 1 shows my novel holder or envelope in perspective, the lid or cover being partly raised; Fig. 2 shows the cover of Fig. 1 in section as on the line 2—2 of Fig. 1, two other such folders being shown in side edge elevation, and all being contained in a drawer sectionally shown; Fig. 3 shows, on an enlarged scale and sectionally, the rear end portion of one of the folders and sheets therein; and Fig. 4 is a sectional detail, as on the line 4—4 of Fig. 1, at the front end portion of the lid or cover.

The folder illustrated comprises a base 10, a pair of side flaps 11 and 12 and a lid or cover 13, the side flaps being hingedly connected at 14 and 15 respectively to opposite side edge portions of the base, and the cover being hingedly connected at 16 to the rear edge portion of the base.

These hinge connections are such that a substantially large space may exist between the base and the side flaps and between the base and the cover at the hinge connections respectively, whereby a subtantially large number of sheets of drawings, blue prints or the like may be accommodated in the device with the side flaps lying flat upon the body of sheet material and with the lid or cover lying flat upon the side flaps.

To this end I provide flexible hinge connections as illustrated in Fig. 3. They respectively comprises an outer strip of strong and flexible sheet material 17, such as fabric, and an inner strip 18 of the same kind of flexible sheet material, these strips extending

longitudinally along the edge portions hinged together and in the transverse direction extending from one body member to the other. Thus the outer strip 17 extends around the edges of the lid 13 and base 10 and then along the bottom surface of the base 10, while the inner hinge strip 18 lies upon inner surfaces of the lid and base and lies alongside the outer strip or binding element 17.

These hinge strips 17 and 18 are secured by glue to the body members respectively, but to insure permanency of the connection I provide at the ends of the strips a pair of rivets 20 at the top and 21 at the bottom in the form of eyelets.

Since the hinge elements at the sides are formed the same as illustrated in Fig. 3 they are given the same reference characters and will need no further description.

The body members are strong and flat rectangular pieces, the base and cover each being of a size a little larger than that of the sheets normally to be held in the folder. The width of the side flaps 12 may vary, but a width of five or six inches is sufficient.

In my practice the base, side flaps and cover are of three-ply board material, the outer layers 22 and 23 of which are known as fiberoid while the middle lamination or core 24 is what is called box board. The fiberoid material is very firm, dense, strong and smooth and is therefore well adapted to withstand considerable rough usage.

This laminated sheet structure is quite stiff in itself, and the device as a whole has such materially great stiffness that it and its full capacity of sheet material as 26, Fig. 3, may be handled and carried about, by grasping it at its side edge portions, without substantial bending or sagging. This notable stiffness results not only from that quality in the body members respectively, but when the side flaps and cover are folded down upon the sheet material the device as a whole becomes substantially a laminated structure with the cover and side flaps substantially widely spaced from the base.

This property of the device as a whole to maintain its substantially flat condition is highly important not only with respect to the matter of convenience in handling, positioning the devices in drawers, shelves, etc., but from the standpoint of preserving the drawings from the abrasion which would result if the sheets in the mass were caused to slip and grind one upon the other, as in repeatedly bending the mass.

Fig. 2 illustrates also a drawer 25 which we will consider to be two inches deep. It is shown as containing three of the folders of Fig. 1. In my practice these folders are given a capacity of fifty sheets. The drawer 25 has thus been given a capacity of one hundred and fifty sheets as against one hundred sheets according to the older practice.

The one hundred sheets positioned loosely in the drawer are difficultly handled. For example, when it is desired to insert or remove a sheet or sheets at a place within the body of the mass the upper portion of the mass must be raised with one hand while with the other the insertion or removal is attempted. The sheets being large the operation is both tedious and difficult, and it is also very unsatisfactory due to the crinkling, tearing and abrading which almost necessarily ensues to some extent and usually to a considerable extent.

These difficulties attending the older practice are so great that about one hundred sheets is the maximum deemed possible to handle in a single pile or stack, and the difficulty is rendered greater by the fact that these sheets are well down in what is a substantially deep drawer, considering the small thickness of the sheet material at the bottom.

Another disadvantage of the loose sheets in the drawer is that since these sheets are frequently desired for consultation or use at the drafting desk the mass as a whole must either be taken there, which is hard upon the sheets and inconvenient for the user, or the particular ones desired must be individually removed and at some later time put back in their proper place.

As distinguished from all of this labor and other disadvantage, the present improvements provide means whereby only half that maximum number of sheets is handled at a given time, thus rendering the handling much easier merely from the quantity standpoint. The handling is further rendered exceedingly simple and easy by the fact that the folder containing the mass may simply be lifted bodily out of the drawer, placed upon a table top or the like or rested upon the outdrawn drawer, and the lid and flaps thrown open, and thereupon the insertions and removals may be made with the material in the most open and free condition.

Another important advantage of present folder is in the fact that when the time comes to file the sheets away permanently the folder and its contents are simply carried away bodily and placed in storage. In my practice the folders are permanently filed in cabinets containing shelves severally adapted to hold three of these folders. Chiefly in connection with that final filing I provide an identifying device at the front end of the lid or cover 13 which at the same time constitutes a hand pull for drawing a particular folder out of the shelf cabinet.

This tag-holder and hand-pull comprises a substantially U-shaped clip 27 secured on the upper and lower surfaces of the cover 13 as by rivets 28, and hinged to this clip by a hinge pin 30 there is a swinging body 31 having spot-welded thereto a card-holder 33 having

inturned top and bottom edges whereby the card 34, shown by dotted lines in Fig. 4, is securely held.

The body 31 may be narrow in the up-and-down directions since it is designed to contain a card showing chiefly a group classification. The sticker 35, Fig. 1, is designed to contain more detailed information as to the contents of the device. When the holders are filed away permanently on the shelves the various group classifications are exposed by the cards 34 and when it is desired to withdraw the particular folder the member 31 may be pulled upon until enough of the folder is exposed to be grasped by the hand for further withdrawal.

By these improvements I accomplish a very notable enlargement of the effective capacity of the standard size filing drawers now extensively in use, provide for a more safe, rapid and convenient handling of the sheet material in various respects, and provide also a container peculiarly appropriate to permanent filing in shelf or drawer cabinets where they may readily be identified and consulted.

The side flaps may be omitted without departing from the essence of the invention. In such case the hold of the operator on the base and cover would prevent shifting of the sheets. I contemplate also other forms of containers. If the illustrated or other appropriate containers had a capacity of one hundred sheets the effective capacity of the drawer would be increased still further while preserving many of the advantages pointed out.

As indicating a notable advantage of the present folder I may refer to my copending application, Serial No. 298,237, filed August 8, 1928 on drafting room desks wherein I show how such a folder and its contents may be handled so as to effect great economies and convenience where the sheets are needed for consultation and use in connection with current work.

I contemplate as being included in these improvements all such variations, changes and departures from what is thus specifically illustrated and described as fall within the scope of the appended claims.

I claim:

1. A folder of the character described for relatively large sheets, comprising a substantially rectangular base, oppositely-disposed side flaps and a cover, each thereof being of strong and stiff sheet material, the side flaps and cover respectively being connected hingedly to the base by hinge-like connections providing a substantial amount of space between the base and the side flaps and between the base and the cover at the hinge connections respectively whereby the side flaps will rest substantially flat upon the body of a substantially large number of sheets lying flat upon the base and whereby the cover will then lie substantially flat upon said flaps.

2. The folder of claim 1 hereof in which there is a hand pull hingedly secured at the normally front end of the folder.

3. The folder of claim 1 hereof in which there is a narrow elongated tag holder hingedly mounted at the normally front edge of the cover.

4. A holder for relatively large sheets of the character described comprising a flat base and a flat cover both of strong and stiff sheet material, the cover and base being hinged together at their rear edge portions respectively and by a flexible hinge connection providing a material amount of space between the cover and the base at the hinge connection whereby a substantially large number of sheets may be held between the cover and the base with the cover lying flat upon the sheet material.

5. The method of filing relatively large tracings, blue prints and the like in a drawer, which consists in providing a plurality of strong and stiff substantially flat containers each comprising a flat base and a flat cover in hinged relation to the base and being large enough to accommodate a substantially large number of the sheets flat-lying one upon another in a stack therein, the containers being of a size whereby they are readily insertable into and removable from such drawer, filing the sheet material in said containers, and inserting said containers in such drawer.

HAROLD L. DE LISLE.