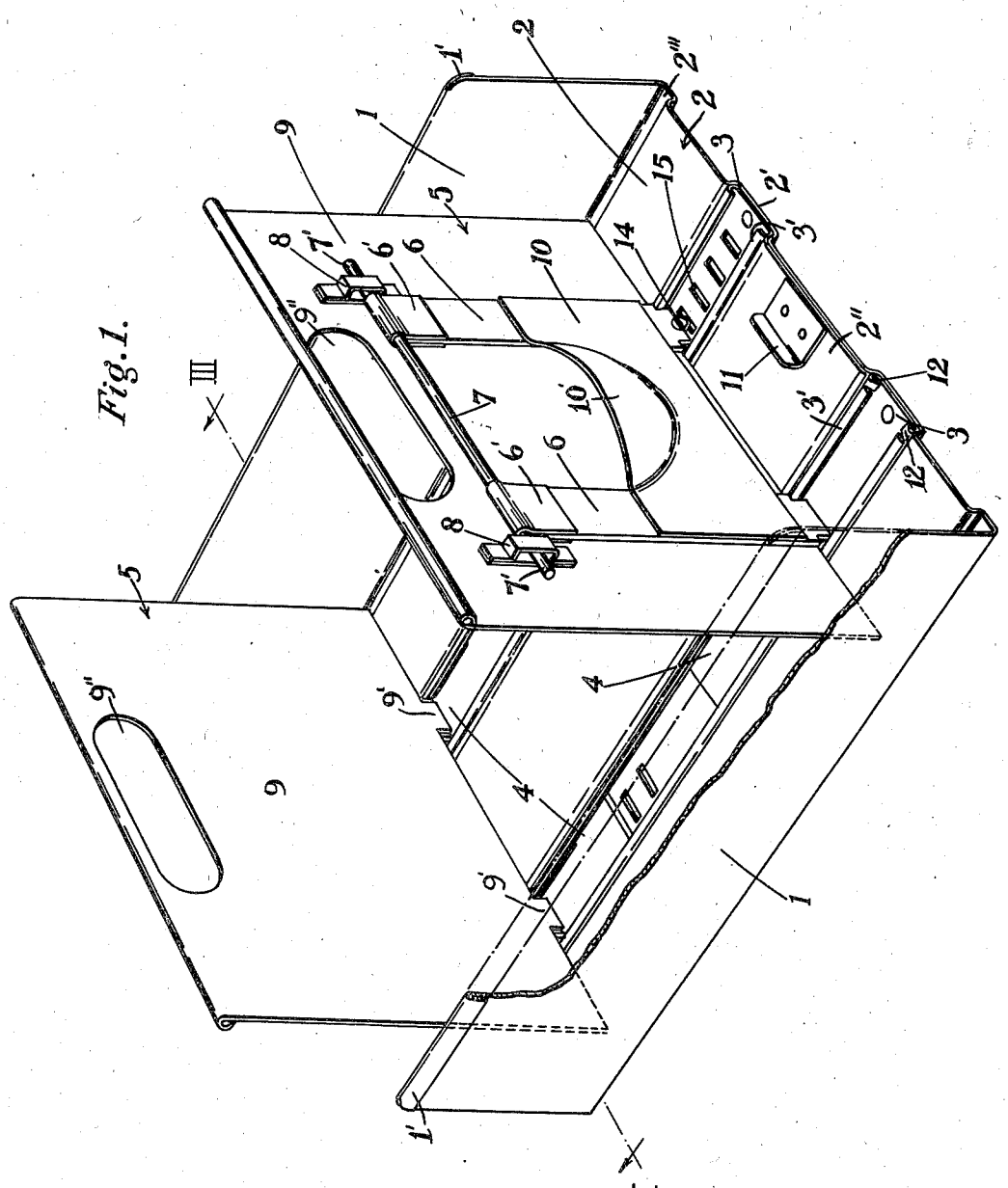
May 3, 1938. A. C. WILLIAMSON 2,116,373

FILING TRAY

Filed Sept. 11, 1935 3 Sheets-Sheet 1

Fig. 1.



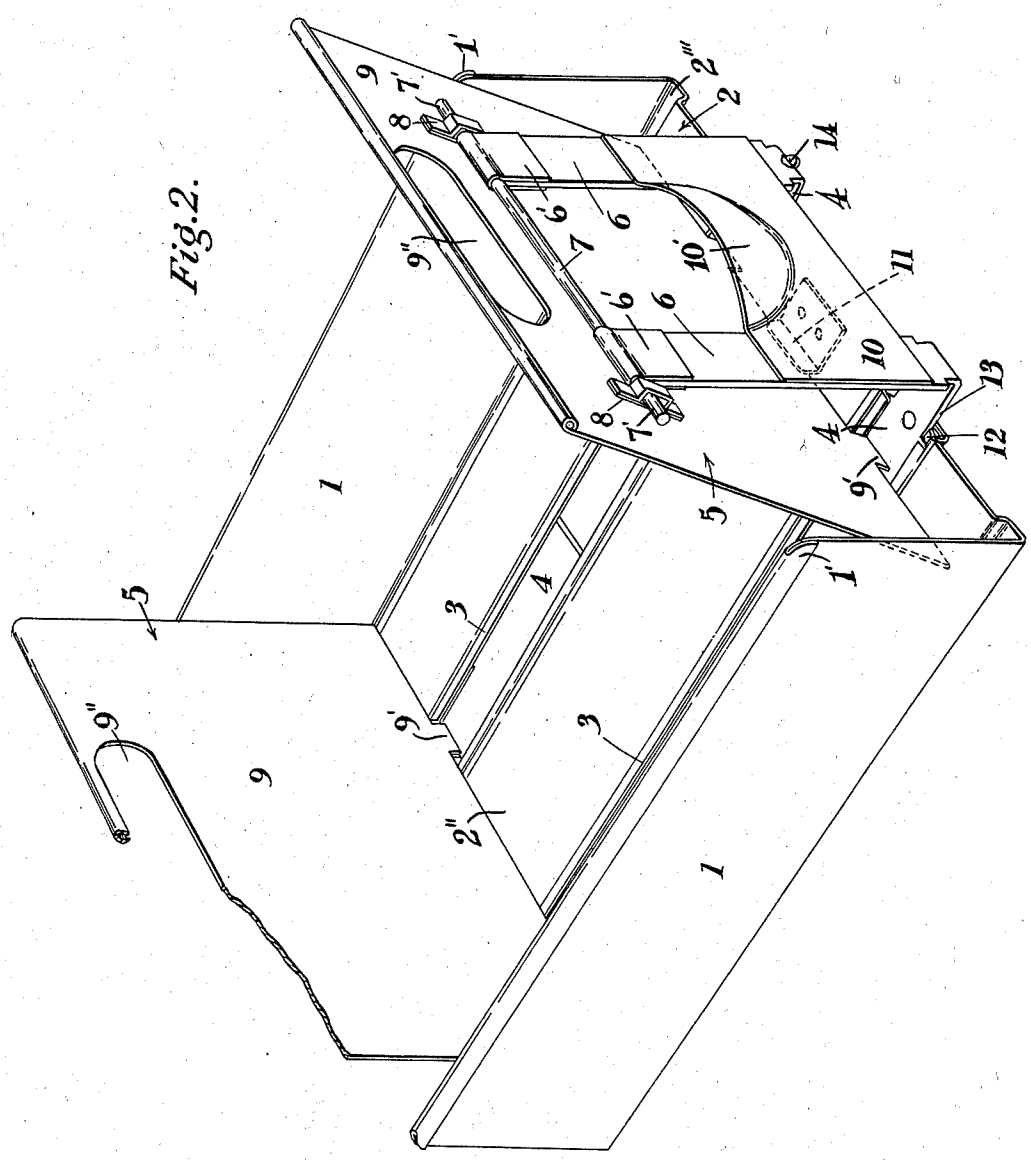
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Fig. 2.



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Fig. 3.

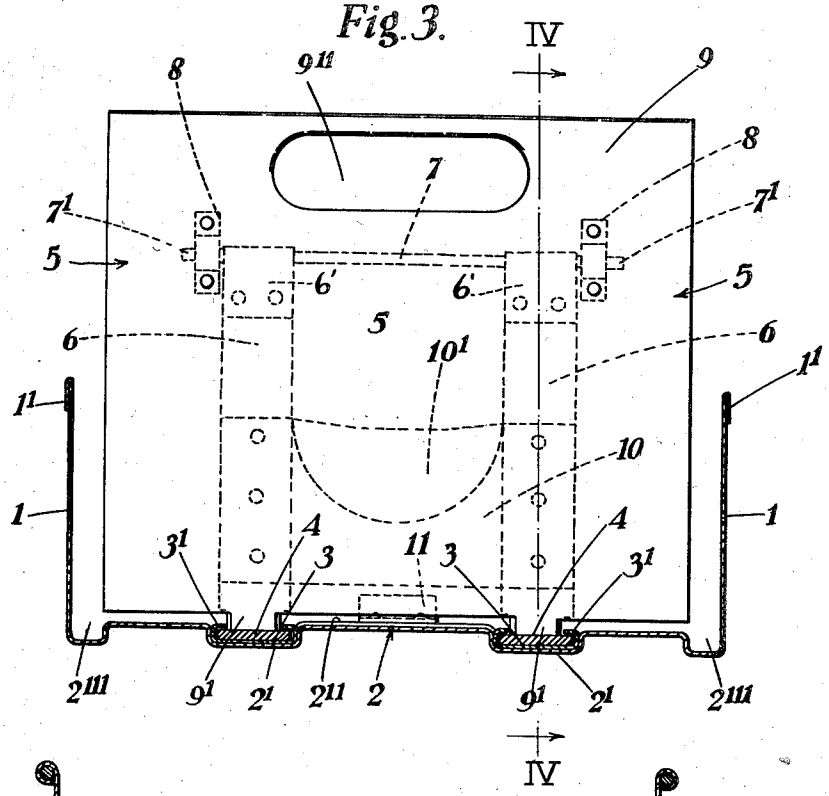
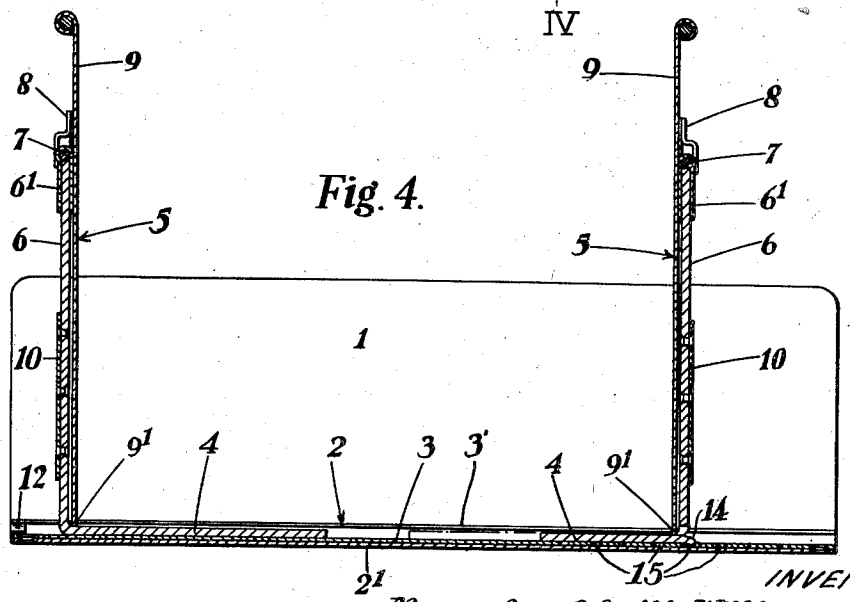


Fig. 4.



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UNITED STATES PATENT OFFICE

2,116,373

FILING TRAY

Alexander Colvill Williamson, London, England, assignor to Remington Rand Inc., Buffalo, N. Y., a corporation of Delaware

Application September 11, 1935, Serial No. 40,110
In Great Britain September 12, 1934

6 Claims. (Cl. 129—16)

This invention relates to filing trays of the kind intended for use in vertical, or vertical visible, filing systems; that is to say, in filing systems in which record matter is inscribed on cards which stand in a substantially vertical position on their lower edges on the bottom of the tray, or are arranged in overlapping relationship on frames which stand on the bottom of the tray in a substantially vertical position. In both these systems it is desirable for it to be possible to separate the batch of cards or frames at any desired point so that a V-shaped opening is provided, the cards or frames in front of the opening leaning forward and those behind it leaning backward so that the place at which the batch is opened to remove any particular card is not lost.

The object of the present invention is to provide such a tray which, while able to hold a large number of cards or frames, so that space in the drawer in which the trays are usually accommodated is not wasted, will nevertheless enable the opening to be obtained. This object is attained by making the tray open-ended and providing it with a sliding follower so arranged that it may be slid into a position in which it projects beyond the open end of the tray when the tray is removed from the drawer, so that an opening in the batch of cards or frames filling the tray can be produced. Two such followers may, however, be provided one at each end of the tray, both ends then, of course, being open. Thus the follower, or each follower, as the case may be, may be moved out until the follower is flush with the end of the tray and the space between one end wall and the one movable follower, or between the two movable followers, entirely filled with cards or frames, and it will still be possible, by moving the follower or followers into the projecting position to form the opening. It is, of course, not desirable in the interests of economy in space to have parts projecting from the tray end when it is to be placed in a drawer, possibly with other trays.

One form of tray employing two followers according to the invention is illustrated, by way of example, in the accompanying drawings, Figures 1 and 2 of which are perspective views, Figure 1 showing the two followers moved into inward positions while Figure 2 shows one follower moved into a position in which it projects from the tray, portions being shown broken away and the cards or their frames being omitted in these figures for the sake of clearness. Figure 3 is a transverse section taken on the line III—III of Figure 1, and Figure 4 is a longitudinal section on the line IV—IV of Figure 3.

The body of the tray illustrated in the drawings consists of a single rectangular piece of sheet metal, the outer opposite ends of which are bent up about a line parallel to the edges to form two opposite parallel walls 1 at right-angles to the intermediate portion 2 which forms the bottom. The top edges of these walls 1 are bent over at 1' to strengthen them. This intermediate portion has two parallel longitudinal depressions 2' each receiving a rail 3 which may be secured in position by rivets. The portion of the bottom 2 between the depressions 2' is strengthened by means of a superposed plate 2'' riveted to it, and a channel 2''' is provided adjacent the bottom of each wall 1 for the same purpose. The rail 3 is made of a strip of sheet metal with its edges turned over at 3' so as to retain metal shoes 4 which slide in it, there being one shoe in each rail for each follower. The shoes 4 have integral upright extensions 6 at one end and the sliding followers 5 are carried on the portions 6 of the L-shaped members thus produced. These shoes 4 are conveniently made of substantial length but it is found preferable to make the two shoes of the same follower of unequal lengths, as shown more clearly in Figure 4, the longer shoe of one follower being in the same rail as the shorter shoe of the other, so that the two followers 5 may be brought closer together than is otherwise necessary should it be convenient to be able to bring them close to one another for any reason. One of the L-shaped members of each follower structure is conveniently provided with a projection 14 at the end of the shoe portion 4 and this projection 14 co-operates with a series of depressions 15 in its rail 3 so as to enable the follower to be secured in any one of a number of definite positions. The shoe 4 is a slack fit in its rail so that it can be raised to disengage the projection 14 from a depression 15 when it is desired to move the follower. The upper ends of each pair of uprights 6 carry a cross-bar 7 in the bend of a flat U-shaped member 6', the inner faces of the limbs of which lie on the faces of the upright 6 to which the member 6' is secured. The ends of the cross-bars 7 project beyond the uprights 6. These projecting ends 7' enter elongated stirrups 8 of sheet metal secured to the back of a sheet metal plate 9 forming the surface of the follower that actually engages the end card or frame in the tray. A piece of sheet metal 10 with its upper portion bent out to form a handle 10' extends between the lower parts of each pair of uprights

6 and is riveted to each. The arrangement of cross-bar 7 and stirrups 8 is such that the plate 9 can be moved to occupy a vertical position in which it lies flat against the front of the uprights 6 or into an inclined position (Figure 2) in which its lower edge rests on the bottom 2 of the tray some distance inwardly of the uprights 6. It is brought automatically into the latter position by an appropriately placed stop 11, riveted to the bottom 2 and the plate 2'', against which the bottom of the plate 9 comes just before the follower reaches the fully drawn-out position. The lower edge of each plate 9 is provided with a projection 9' above each rail, these projections 9' resting on the shoes 4 in the rails so as to keep the actual lower edge of the plate clear of the bottom of the tray. Stops 12 are provided at the ends of the rails to prevent the shoes 4 from coming out too far, these stops 12 conveniently consisting, as shown, each of a bent-down portion of the turned-over part 3' of the rail 3, and engaging with the end of a corresponding slot 13 cut in the side of the shoe. It will be understood that the two follower members are identical but are arranged face-to-face. Each plate is provided with a hand-hole 9'' near the top although the top could alternatively be bent over to form a handle. In use and when the tray is to be inserted in the drawer, the plates 9 are arranged in their vertical positions and the followers 5 are moved to the end of the tray without any part projecting whereupon the space between them is filled with cards or frames and the tray inserted in the drawer. When the tray is removed from the drawer and it is desired to open the batch of cards or frames, one or both followers 5 is moved further out and its or their plates 9 tilted so as to allow the V-opening to be formed. The two depressions 2' for the rails 3 are spaced apart at the middle of the bottom of the tray.

From the above description it will be understood that shoes 4, uprights 6, cross bar 7 and the piece of sheet metal 10 provide a rigid structure forming a carriage for sheet metal plate 9 in which the follower carriage slides in a horizontal plane on the bottom of the tray.

I claim:—

1. A filing tray comprising a body having a piece of sheet metal formed to provide a bottom having a channel, and side walls extending upwardly from said bottom, a non-tiltable carriage slidable horizontally in said channel and movable to a position with one end projecting beyond the end of said bottom, said carriage having an upright on said last-mentioned end, a follower plate supported by said carriage having the upper end portion movably connected to the upper end of said upright, and the lower end spaced from the bottom of said tray, and an upwardly projecting stop on said tray bottom for engaging the lower end of said follower plate when the end of said carriage is projected beyond said bottom for moving said follower plate into an inclined position on said carriage.

2. A filing tray comprising a body having a bottom formed with a channel, a non-tiltable follower support having an elongated member slidable in said channel and in one position having one end of said member projecting outwardly beyond the end of said bottom, said support having an upright on said end, a follower plate having the upper end portion slidably and pivotally connected to the upper end of said upright, a stop on said tray bottom engaging the bottom of said follower plate and co-operating to support said follower plate in an inclined position when said support is projected beyond the end of the bottom, and means for limiting the movement of said follower support in said channel.

3. A filing tray comprising a body having a bottom, side walls and open ends, a carriage at each end of said bottom, means on said bottom slidably supporting said carriages for non-tilting horizontal movement so that each carriage may be projected beyond the corresponding end of said bottom, said means having projections to limit the outward movement of said carriages a predetermined distance beyond the ends of said bottom, said carriages having upwardly projecting arms, follower plates movably attached to said carriages at the upper ends of said arms, one on each carriage, said follower plates being movable between vertical and inclined positions and having the lower edges spaced from the bottom of said tray in vertical position, stops at the ends of said bottom for engaging the lower ends of said follower plates to move said plates to oppositely-inclined positions when the carriages are moved to project beyond the ends of said bottom, and co-operating means on said carriages and said first-mentioned means for retaining said carriages in intermediate positions of adjustment in said tray.

4. A filing tray comprising a body having a bottom, side walls and open ends, said bottom being formed with a pair of channels extending from end to end in spaced parallel relation, pairs of non-tiltable follower supports having shoes slidably mounted in said channels at opposite ends of said bottom and formed with uprights at the outer ends, said pairs of follower supports having the shoes slidable to positions with the outer ends projecting outwardly from said channels beyond the ends of said bottom, a cross-bar connecting the upper ends of said uprights of each pair of said follower supports, follower plates, one mounted on each pair of follower supports, means movably and pivotally connecting the upper portion of each follower plate to said cross-bars, said follower plates normally assuming a vertical position when said follower supports are positioned between the ends of the tray with the lower margin above the tray bottom, and means for engaging the bottom margins of said follower plates when said shoes are moved to project beyond the ends of said tray so as to move said follower plates to inclined positions, and means for retaining said follower supports in adjusted positions in said tray.

5. A filing tray comprising a body having a bottom, side walls and open ends, a pair of channels mounted in spaced parallel relation on the bottom of said tray and extending from end to end thereof, a follower carriage slidable in said tray having shoes formed of elongated bars slidable lengthwise in said channels, said bars having integral lateral extensions at the outer ends forming uprights, and a bar joining a pair of said uprights, a sheet metal plate hinged on said bar and normally hanging in a vertical position with its lower end spaced above said tray bottom, said shoes having stops intermediate the ends for engagement with stops at the ends of said channels whereby said carriage may be partially projected beyond the end of said tray to support said plate in projecting position beyond said tray, and a stop on said tray bottom engaging the lower end of said plate above said bottom for moving said plate into inclined position on said carriage.

6. A filing tray comprising a piece of sheet metal formed to provide a tray bottom and upwardly extending side walls, the ends of said tray being open, a channel mounted on said tray bottom extending between and opening at the ends thereof, a follower carriage having an elongated bar slidable in said channel and an upright bar extending upwardly from one end of said elongated bar, a follower pivotally supported on the upper end of said upright bar, and an upwardly projecting stop on said bottom for engaging the lower end of said follower and moving it to an inclined position when said carriage is moved to project said elongated bar for supporting said upright bar beyond the end of said tray.

ALEXANDER COLVILL WILLIAMSON.