

Sept. 1, 1959

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2,902,166

STORING AND FILING DEVICES

Filed June 15, 1954

3 Sheets-Sheet 1

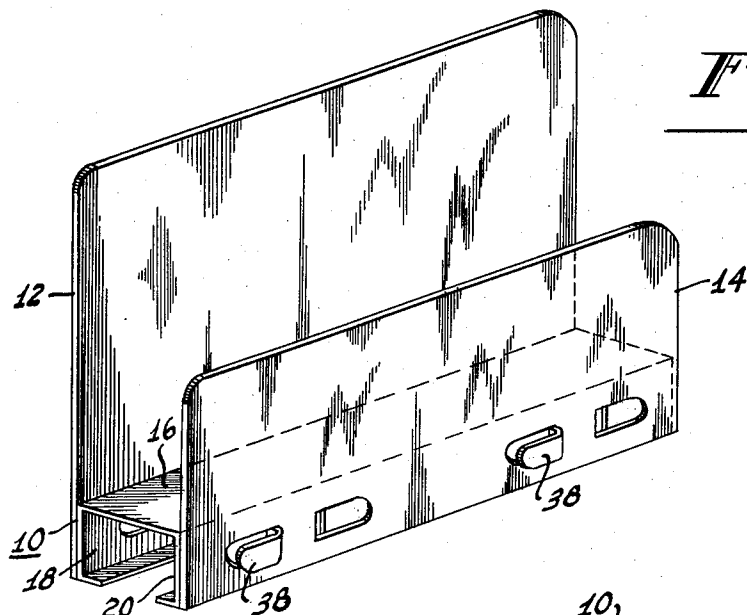


Fig. 1.

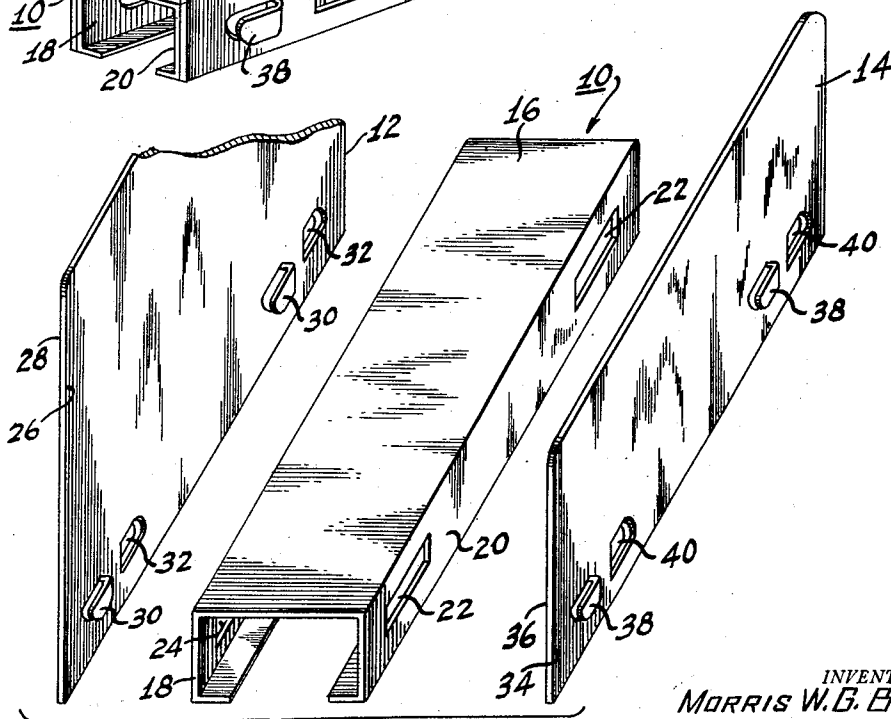


Fig. 2.

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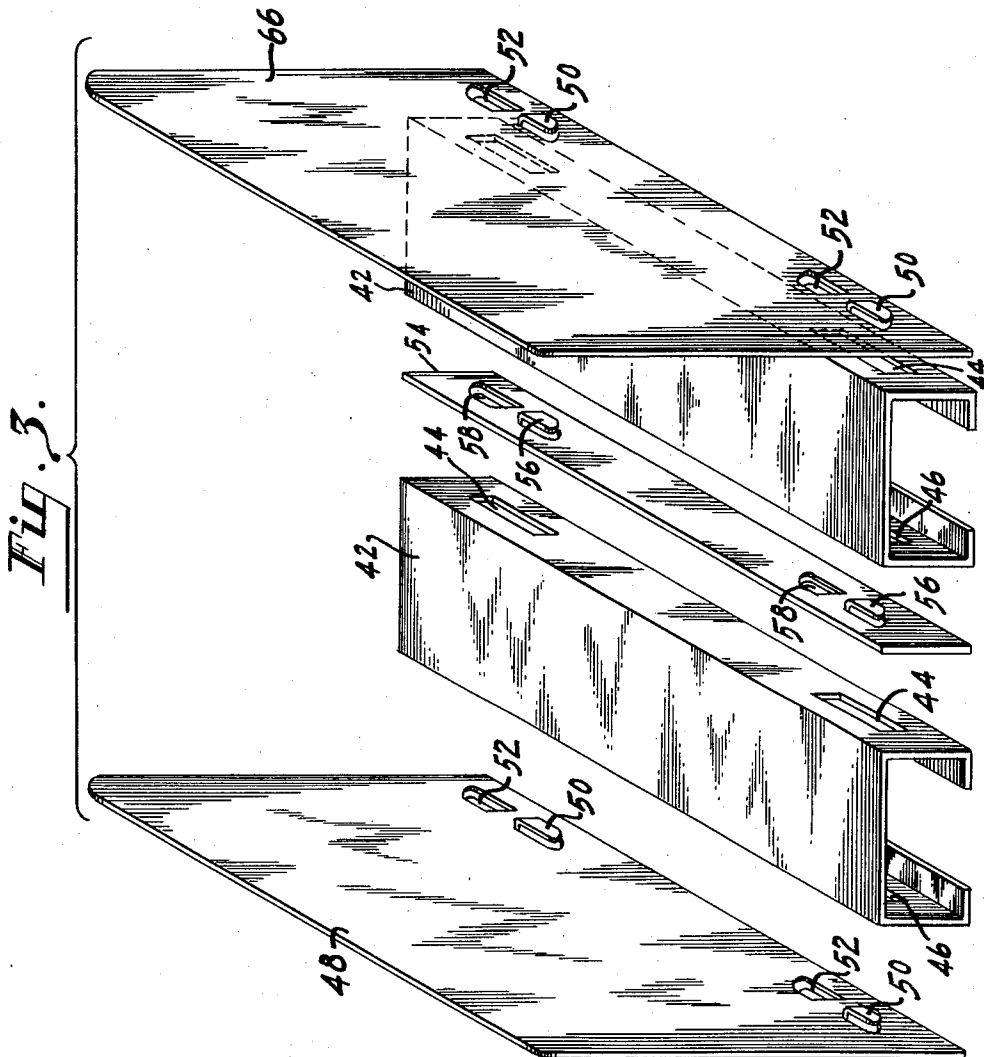
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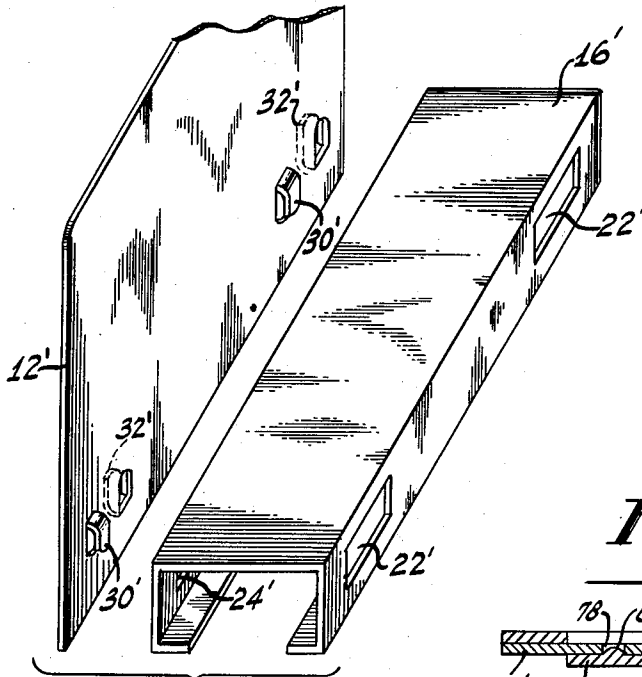


Fig. 4.

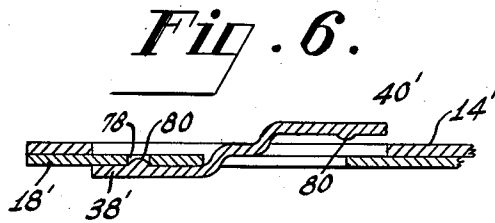


Fig. 6.

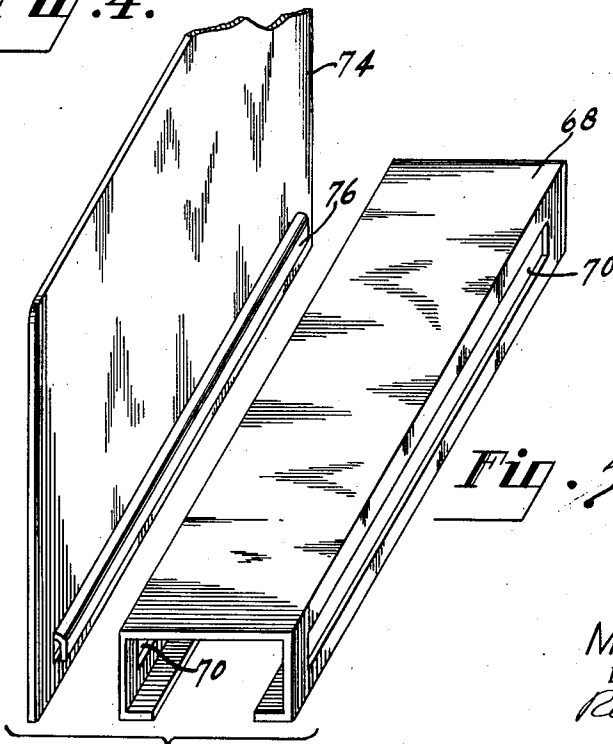


Fig. 5.

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STORING AND FILING DEVICES

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Application June 15, 1954, Serial No. 436,935

5 Claims. (Cl. 211-41)

This invention pertains to filing and storing devices and particularly to such devices which are adjustable and collapsible and adaptable to accommodate articles of various shapes and sizes.

Many types of filing devices are known at the present time. One such device comprises a plurality of article-supporting panels spaced apart by separating members. Each of the panels and separating members has a pair of holes which, when the various parts are assembled, are arranged in alignment. The panels and separating members are held together by means of long bolts which extend through the holes in the component parts of the device and which have a nut fastened thereto to maintain the assembled relationship. Ordinarily, the long bolts are of some standard length and the overall length of the device is limited by the length of the bolts. In this construction then, it is comparatively difficult to increase the length of the unit, since to do so would require the substitution of longer bolts for those originally provided. This would necessitate the removal of the first bolts and rethreading of each of the components on the new, longer bolts. In addition, it is not convenient to shorten the file since this would necessitate having the bolts threaded over substantially their entire lengths and even if this were done, if some of the component parts were removed, then portions of the bolts would remain projecting from the file, a feature which is both unsightly and dangerous.

Another known desk-top file is an accordion-type device and may be expanded and contracted in the manner of an accordion. One undesirable feature of this device is that the spaces adapted to receive materials to be filed are uniformly of the same size. This represents an uneconomical arrangement of filing space. Furthermore, the width of these spaces may not be readily varied to accommodate materials of different sizes and shapes. In addition, these files are ordinarily all of a specific length and may not be adjusted either by increasing or decreasing the length. In addition, these filing devices lack rigidity and, as a result, they cannot be carried readily from place to place unless caution is exercised in the carriage.

Accordingly, an important object of this invention is to provide a filing and storing device of new and improved form. Another object of the invention is to provide a filing and storing device adapted to accommodate articles of various sizes and shapes.

Still another object of this invention is to provide a filing and storing device which is collapsible and portable and readily adjustable in length.

A further object of this invention is to provide a desk-top file which is rugged and portable and adjustable.

This and other objects of the invention are accomplished by the provision of a filing and storing device which, in one embodiment, comprises a central base or separating member and a pair of side panel members adapted to be attached one to either side of said separating member. The separating member is in the form of a

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substantially C-shape channel comprising a base portion and two leg portions. Each leg of the channel is provided with one or more openings by means of which connection is made to the side panels. Each of the side panel members comprises a flat plate having a pair of substantially parallel plane surfaces. Each of the panel members is also provided with locking tabs which project from each of the surfaces of the side panels. The locking tabs extend parallel to the surfaces of the side panels either horizontally toward the end of the panels or vertically toward the top and bottom of the panels. The panels are adapted to be locked into engagement with the central supporting member with the locking tabs inserted into the openings in the legs of the C-shape channel member. The spatial relationship of the openings and the locking wings adapted to be inserted therein is such that when locked in position, the ends and bottom of the panels are flush with the ends and bottom of the base member. If desired, the length of the device may be increased by locking auxiliary base members to the outside free surfaces of the side panels and by connecting other side panels thereto.

According to another aspect of the invention, one of the panels may be replaced by an adapter having the same width as the legs of the channel base member and having projecting tabs like those of the side panels adapted to be inserted into the openings in the legs of the channel member. Another channel separating member is then connected to the adapter and, thus, a double size separating member is provided. Side panels are then attached to each of the channel separating members.

The invention is described in greater detail by reference to the accompanying drawing wherein:

Figure 1 is a perspective view of one embodiment of the invention;

Figure 2 is an exploded perspective view of the embodiment of the invention shown in Figure 1;

Figure 3 is an exploded sectional view of a second embodiment of the invention;

Figure 4 is an exploded perspective view of a portion of a third embodiment of the invention;

Figure 5 is an exploded perspective view of a fourth embodiment of the invention; and

Figure 6 is a sectional view of a portion of a fifth embodiment of the invention.

Referring to Figures 1 and 2, a first embodiment of the invention comprises a central base separating member 10 and a pair of side panels 12 and 14 secured thereto. The base separating member comprises a generally C-shape metal channel member having a base portion 16 and two leg portions 18 and 20 of the same thickness. Each leg portion 18 and 20 is provided with a pair of generally rectangular openings 22 and 24, respectively, disposed approximately at each end of each leg. The pairs of openings 22 and 24 are symmetrically disposed about the center line of each leg of the separating member 10.

The side panels 12 and 14 may be of metal, plastic or the like and are preferably in the form of flat plates of any desired surface area which is determined by the use to which the device is to be put. The panel 12 has substantially plane parallel surfaces 26 and 28 and is provided with a pair of locking tabs 30 spaced apart on the surface 26 and projecting therefrom and extending parallel to surface 26 in the same direction toward one end of the panel 12. The panel 12 has another pair of locking tabs 32 spaced apart on the surface 28 and extending parallel to the surface 28 in the direction opposite to the tabs 30 toward the other end of the panel 12.

The panel 14 having surfaces 34 and 36 is similarly provided with a first pair of locking tabs 38 spaced apart

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and projecting from the surface 36 and extending parallel thereto in one direction and a second pair of locking tabs 40 spaced apart and projecting from the surface 36 and extending parallel thereto in the opposite direction.

Each of the foregoing locking tabs is spaced from the surface of its side panel by an amount substantially equal to the thickness of the legs of the separating member.

Referring to Figures 1 and 2, in assembling the side panels 12 and 14 with the base separating member 10 into an operative unit, the panel 12, for example, is locked into engagement with either the leg 18 or the leg 20 of the member 10 by either pair of locking tabs 30 or 32 depending on the orientation of the panel. One pair of tabs, for example, 30 is positioned within one pair of openings, for example, openings 24 in the leg 18 of the separating member 10 and the panel 12 and the separating member 10 are moved in opposite directions with respect to each other until the leg 18 is locked between the tabs 30 and the surface 26 of the panel. In this position, the ends of the panel 12 are flush with the ends of the base separating member 10.

In similar fashion, the panel 14 is locked in engagement with the leg 20 of the member 10 by means of either pair of tabs 38 or 40, depending on the orientation, inserted and locked in the openings 22. Since the spaces between the tabs 30, 32, 38 and 40 and the surfaces of the side panels 12 and 14 are equal substantially to the thickness of the legs 18 and 20 of the member 10, the side panels are held in tight engagement with the member 10. The locking tabs are spaced apart so that when the filing unit is assembled, the tabs abut corresponding ends of the openings in the legs of the C-shape member.

If it is desired to increase the length of the file unit shown in Figure 1 and comprising the separating member 10 and side panels 12 and 14, another base separating member may be secured to either or both pairs of tabs 32 and 38. The further side panels are secured to these added separating members. Thus the device may be lengthened indefinitely as desired.

It is to be understood that the base separating members and the side panels may be of different materials and may be of substantially any desired shape and size consonant with the principles of the invention.

In another embodiment of the invention shown in Figure 3, a filing unit comprises a base separating member 42 consisting of a C-shape channel member having a pair of generally rectangular openings 44 and 46 in each leg thereof. A side panel 48 having two pairs of tabs 50 and 52 on opposite sides thereof is locked in place on one leg of the base member 42 by means of one pair of tabs, for example, 50 positioned within the openings 46.

An adapter 54, provided with two pairs of locking tabs 56 and 58 on opposite sides thereof, is locked in engagement with the base member 42 by means of one pair of tabs, for example, tabs 58 inserted in the openings 44. The adapter 54 is of the same width as the legs of the separating member 42 so that when the adapter is fastened to the member 42, it lies flush with the leg thereof on all edges. The locking tabs 56 and 58 of the adapter are positioned symmetrically about the longitudinal center line of the adapter so that the desired connection may be made by means of either pair of tabs.

After the adapter 54 has been locked in position, another base separating member 42 of any desired width and having pairs of openings 44 and 46 in the legs thereof, is locked in engagement with the free pair of tabs 56 of the adapter 54 and finally another side panel 66 is secured to the separating member 60 by means of the appropriate locking wings. Thus, the device shown in Figure 3 provides an exceptionally wide inter-panel space for accommodating large-size articles such as loose-leaf notebooks or the like.

In the device shown in Figure 3, the locking tabs are spaced from the surfaces of the side panels and adapter

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an amount substantially equal to the thickness of the legs of the separating members whereby a tight fit is achieved.

If desired, the locking tabs shown in Figures 1, 2, and 3 may be oriented in other than a horizontal direction and extending in the direction of the ends of the side panels. For example, referring to Figure 4, a side panel 12' may be provided with two pairs of locking tabs 30' and 32' extending vertically toward the top or bottom of the side panel. The side panel 12' is adapted to be employed with the C-shape separating member 16' having pairs of openings 22' and 24' in its legs. The tabs 30' are positioned so that they abut corresponding ends of each of the openings 24'. If desired, the panel 12' may be secured to the member 16' by means of the tabs 32' inserted in the openings 22' and abutting corresponding ends thereof. Thus the panel 12' may be locked to either leg of the separating member 16' by either pair of tabs.

If desired, the base separating members and side panels of the invention may be provided with a single locking means. For example, referring to Figure 5, there is shown a portion of a separating member 68 comprising a channel member of the above-described type having one extended opening 70 in each leg. The openings 70 are symmetrically disposed about the horizontal and vertical axes of the legs. For use with such a separating member, a side panel 74 has a single extended locking tab 76 on each surface (only one tab being shown) spaced from the surface of the panel by an amount substantially equal to the thickness of the legs of the member 68. The tab 76 is adapted to be inserted into one of the openings 70 in the separating member 68 and locked in engagement therewith. The tabs 76 may be connected to the panel 74 at either their top or bottom edges.

In the foregoing embodiments of the invention, the locking tabs and separating members may be provided with auxiliary locking means. For example, referring to Figure 6, a side panel 14' is provided with locking tabs 38' and 40' having nodular projections 78 and 80 respectively on the inner surfaces thereof. When the side panel is connected to a leg 18' of a separating member, the nodular projection 78 is seated within an opening 80 in the leg 18' and the side panel 14' is thus more securely locked in position. Each locking tab of each side panel of a filing unit may thus be constructed and locked in position whatever form of locking tab is employed.

It is to be understood that, within the scope of the invention, the various parts of the filing devices described above may be varied in size and shape as desired. For example, as a representative variation, the pairs of locking tabs on a side panel may be oriented directly opposite each other rather than staggered as shown, for example, in Figure 1. In addition, it is clear that the number of locking tabs employed in any of the foregoing devices may be varied as desired.

What is claimed is:

1. A filing device comprising a base separating member in the form of an inverted channel having a central horizontal plate and a pair of substantially parallel legs extending therefrom, said legs each having a pair of spaced-apart openings therein, a side panel connected to each of said legs, each side panel having on one surface first and second locking tabs extending in the same direction and lying substantially parallel to said one surface of said panel, said first and second locking tabs being inserted in the openings in one of the legs of said base member and locked in engagement with said one leg, each side panel having on its opposite surface third and fourth locking tabs extending in the opposite direction from said first and second locking tabs and adapted to be inserted into a leg of another base member whereby said filing device may be extended in length.

2. A filing device comprising a base separating member in the form of an inverted channel having a central hori-

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zontal plate and a pair of substantially parallel legs depending therefrom, said legs each having a pair of openings therein spaced apart and aligned on a first common axis, a side panel connected to each of said legs, each side panel having two large-area plane parallel surfaces, each side panel having on one surface first and second locking tabs spaced apart and aligned on a second common axis, said first and second locking tabs extending in the same direction and lying substantially parallel to said one surface of said panel, said first and second locking tabs being inserted in the openings in one of the legs of said base member and locked in engagement with said one leg so that said first and second common axes are substantially coincident, each side panel having on its other surface third and fourth locking tabs spaced apart and aligned on said first common axis, said third and fourth locking tabs being offset from said first and second locking tabs and extending in the opposite direction therefrom substantially parallel to said other surface of said panels, said third and fourth tabs being adapted to be inserted into openings in a leg of another base member whereby said filing device may be extended in length.

3. A filing device comprising first and second base separating members in the form of inverted channels each having a central portion and two parallel legs depending therefrom, said legs each having a pair of openings therein spaced apart and aligned on a common axis, an adapter plate having the same area and shape as said legs and having two plane parallel surfaces, a first pair of locking tabs on one surface of said adapter plate and extending in one direction, a second pair of locking tabs on the other surface of said adapter plate and extending in the opposite direction, all of the locking tabs on said adapter plate being aligned on a common axis, said first pair of locking tabs being inserted in one pair of openings in one leg of said first base separating member, said second pair of locking tabs being inserted in a pair of openings in a leg of said second base separating member whereby an interlocked unitary assembly is provided including said first and second base members separated by said adapter plate, the central portions of said base members being aligned in a common plane, a side panel connected to each of the free legs of said first and second base members, each side panel having two plane parallel surfaces, a first pair of panel locking tabs on one surface of each panel and extending in one direction and spaced apart and aligned on a common axis, said first pair of panel locking tabs being inserted in the openings in the said free legs of said first base member and said second base member, a second pair of panel locking tabs on each of the other surfaces of said panels and extending in the opposite direction from said first pair of panel locking tabs, said second pair of panel locking tabs being adapted

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to be secured in openings in legs of other base members.

4. A filing device comprising an inverted generally C-shaped base separating member having a generally flat central portion positioned horizontally and a pair of flat plate-like legs parallel to each other and perpendicular to said central portion and depending therefrom, each leg having first and second openings spaced apart and positioned one near each end of a leg, said openings having a common first horizontal axis oriented between the edges of the leg, a side panel connected to each of said legs, each side panel having on one surface a first pair of first and second locking tabs aligned on a horizontal axis and extending in the same direction and lying substantially parallel to said one surface of said panel, said first and second locking tabs being inserted in the openings in one of the legs of said base member and locked in engagement with said one leg, each side panel having on its other surface a second pair of third and fourth locking tabs extending in the opposite direction from said first and second locking tabs and adapted to be inserted into a leg of another base member whereby said filing device may be extended in length, said third and fourth tabs being spaced apart substantially the same distance as said first and second tabs, said third and fourth tabs being offset in the same direction from said first and second tabs and aligned on a horizontal axis which is substantially coincident with the horizontal axis of said first and second tabs, each side panel thus being able to be secured to a leg by means of either pair of locking tabs.

5. The device defined in claim 4 wherein the first and third tabs are adjacent to each other, the second and fourth tabs are adjacent to each other, said second and third locking tabs being offset from said first and fourth tabs, all of said tabs and said openings in said legs being aligned, the spacing between the first and third tabs and between the second and fourth tabs being such that either set of tabs may be inserted in the openings in a leg and thereby locked in engagement with the leg so that the panels are completely interchangeable with each other and may be attached to a leg with either pair of tabs.

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