United States Patent

Hage

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[54] DRAWER DIVIDER

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[73] Assignee: **The General Fireproofing Company**, Youngstown, Ohio

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[52] **U.S. Cl.** **220/22.3**

[51] **Int. Cl.** **B42f 17/12**

[58] **Field of Search** 220/22, 22.1, 22.2, 22.3, 22.4, 220/22.5; 217/7

[56] **References Cited**

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[57] **ABSTRACT**

A drawer divider arrangement includes a mounting element having an arcuate body and provided with a single tab freely insertable within an opening in a drawer wall. Channel means on the mounting element permits the insertion of a divider which deflects the arcuate body to provide a biasing action.

11 Claims, 10 Drawing Figures

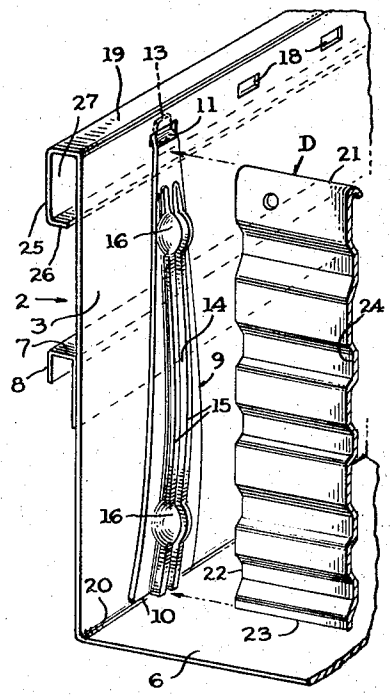
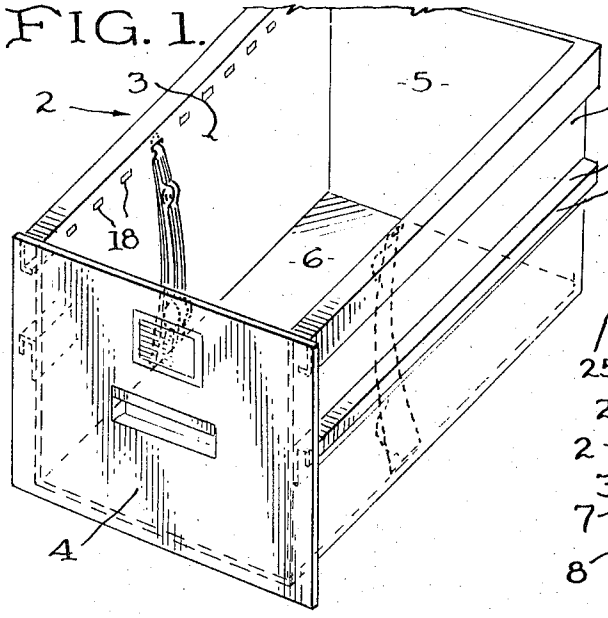


FIG. 1.



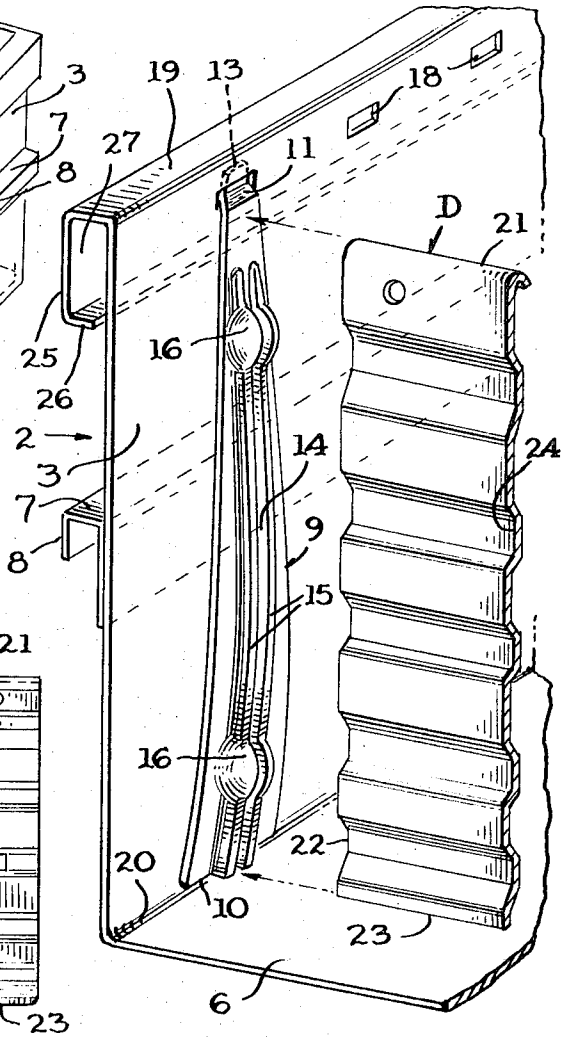


FIG. 2.

FIG. 3.

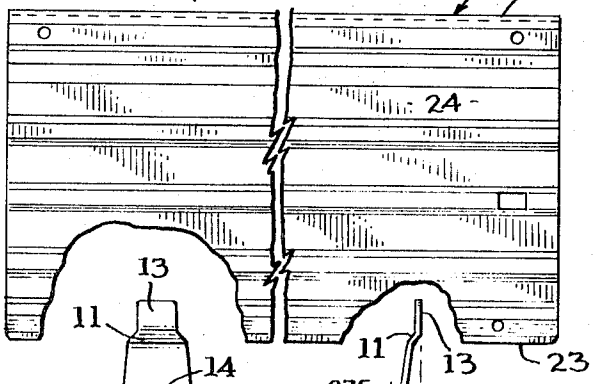


FIG. 4.

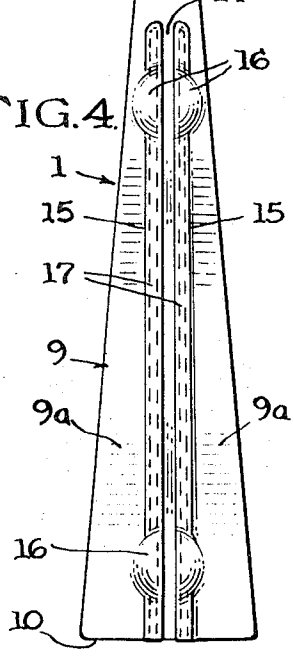
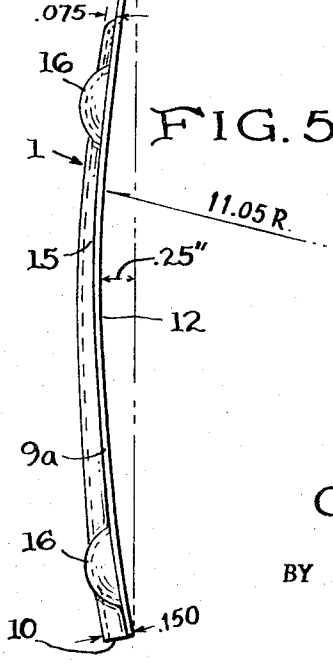


FIG. 5.



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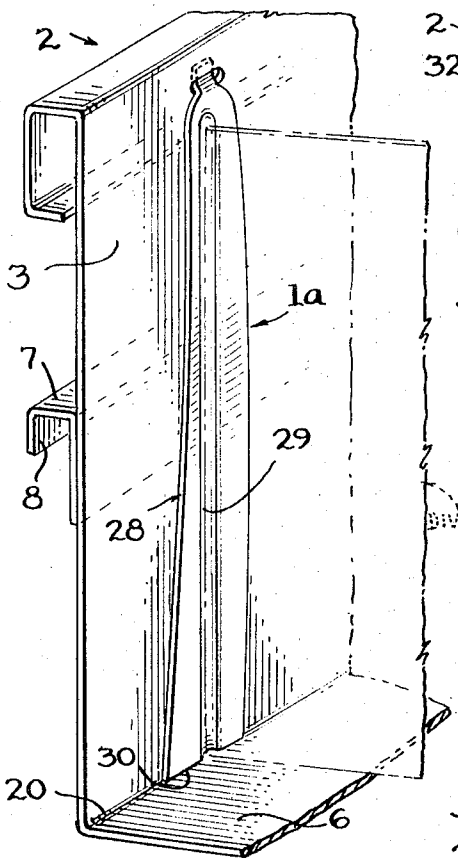


FIG. 6.

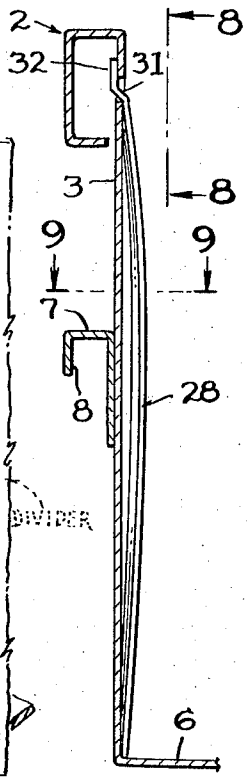
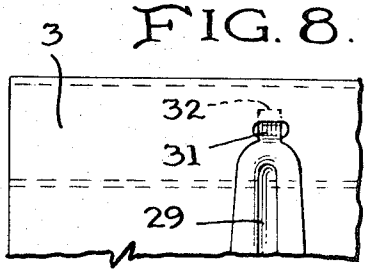


FIG. 7.

FIG. 8.



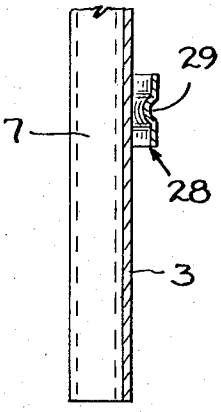


FIG. 9.

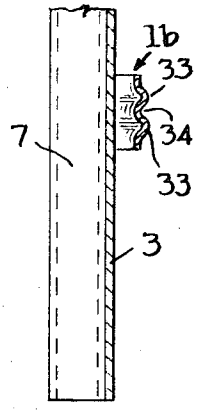


FIG. 10.

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DRAWER DIVIDER

This invention relates generally to receptacles provided with a movable partition, and more particularly to an open top receptacle such as a desk or cabinet drawer having a divider including adjustable mounting means to permit the selective positioning of the divider in a transverse manner between two opposite walls of the receptacle.

Many prior attempts have been made to provide means permitting the ready manipulation of divider elements within open top receptacles such as desk drawers. Several of these previous arrangements have involved the formation of either a specially constructed partition element and/or a specific mounting device required to secure the partition between two opposite walls of the drawer. By the present arrangement, a unique mounting element is provided which is formed from a single piece of strip material and which lends itself to inexpensive fabrication such as by a single cutting and stamping operation. The mounting element is constructed in a manner to utilize its inherent resilience for the purpose of maintaining its installation without the necessity of any supplemental fastening or retaining means. This same resilience, together with the manner of attachment of the mounting element to the receptacle, further ensures a biasing action to firmly retain the partition in place.

Accordingly, one of the primary objects of the present invention is to provide a drawer divider including an improved mounting element formed from a single piece of stamped or molded material.

Another object of the present invention is to provide an improved mounting element for retaining dividers in an open top receptacle including a single attaching tab at one end and which relies upon the inherent resilience of the element to retain the divider in its assembled position.

A further object of the present invention is to provide a mounting element for drawer dividers including an offset attaching tab at one end and having a pair of vertically disposed ribs between which a partition element is adapted to be inserted.

With these and other objects in view which will more readily appear as the nature of the invention is better understood, the invention consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

IN THE DRAWINGS

FIG. 1 is a partial perspective view of an open top receptacle including a pair of divider mounting elements according to the present invention.

FIG. 2 is an enlarged partial perspective view of one of the divider mounting elements shown in FIG. 1.

FIG. 3 is a fragmentary rear elevation of a divider or partition according to the present invention.

FIG. 4 is a front elevation of a mounting element according to the present invention.

FIG. 5 is a side elevation of the mounting element shown in FIG. 4.

FIG. 6 is a fragmentary perspective view of a modification of the mounting element of the present invention.

FIG. 7 is a side elevation, partly in section, of the construction shown in FIG. 6. FIG. 8 is a fragmentary front elevation of the top portion of FIGS. 6 and 7.

FIG. 9 is a horizontal sectional view taken along the line 9—9 of FIG. 7.

FIG. 10 is a view similar to FIG. 9 and illustrates a further embodiment of the mounting element.

Similar reference characters designate corresponding parts throughout the several figures of the drawing.

Referring now to the drawings, more particularly FIG. 1, the present invention will be seen to comprise a mounting element generally designated 1 adapted to be utilized in pairs in combination with an open top receptacle such as the drawer generally designated 2. Although it will be understood that the mounting elements of this invention may be utilized in combination with any type of receptacle within which it is desired to adjustably or removably position one or more partitions or dividers, the illustrations of the attached drawings show the invention as carried out with a file or desk drawer which, it is understood, is designed to be rectilinearly displaced with respect to its supporting cabinet (not shown). The drawer 2 includes a pair of spaced-apart side walls 3 bounded at one end by a front 4 and at the other by the rear wall 5. A conventional bottom wall 6 thus completes the basic construction of the drawer 2. In the case of a desk or file drawer, it is known to provide means thereon for supporting the same within its enclosure such as by the lateral support flange 7 having a depending skirt 8 and which may be attached by any suitable means to the exterior or edge of the drawer side walls 3.

The mounting element 1 of the present invention is shown most clearly in FIGS. 4 and 5, and its relationship to the drawer side wall 3 when in the installed condition is clearly shown in FIG. 2 of the drawings. Each mounting element 1 is preferably constructed from a single piece of material having limited inherent resilience such as sheet metal or any suitable plastic composition. The mounting element comprises a main body section 9 having a flat bottom edge 10 and which includes lateral plate portions 9*a* tapering inwardly and upwardly to an offset portion 11 adjacent the top of the main body section 9. As viewed in FIG. 5, it will be readily apparent that the main body section 9 is constructed to provide an arcuate section which is significantly bowed outwardly with respect to the rear face 12 of the mounting element for purposes which will be understood hereinafter. hereinafter. The offset portion 11 will be understood to be inclined rearwardly from the top of the main body section 9 and connects with an upwardly extending attaching tab 13 which preferably projects through a vertical plane extending downwardly to the rear of the bottom edge 10. The central vertical axis of the main body section 9 is provided with a recess or channel 14 formed by means of a pair of spaced-apart and outwardly projecting ribs 15—15 that extend from the bottom edge 10 of the mounting element to a point short of the offset portion 11. Each of the ribs 15 is in turn provided with an enlargement 16 adjacent both the top and bottom portions of the rib and which will be seen to project outwardly from the main body section a distance greater than the ridge 17 of each rib.

In order to accept the installation of any single mounting element 1, it is only necessary to provide one or more longitudinal openings or slots 18 through the drawer side wall 3 at a point just short of the outwardly extending top flange 19. Any number of the slots 18 may be provided through each side wall in order to permit selective positioning of the divider D, which is to be installed by means of the mounting elements and as will be understood hereinafter, the slots 18 must be at a height above the bottom wall 6 which is between the tip of the tab 13 and the upper portion of the main body section 9. A mounting element is located, as in the assembly of FIG. 2, by initially inserting the free end or tip of the attaching tap 13 through a selected longitudinal slot 18 such that the front face of the attaching tab will then be juxtaposed the outside surface of the side wall 3 whereby the inclined or offset portion 11 of the mounting element will then be disposed through the slot 18. In this manner, the bottom edge 10 of the mounting element will be positioned adjacent the line of intersection 20 formed by the bottom wall 6 and side wall 3 of the drawer. By limiting the horizontal extent of the slots 18 to a dimension between the width of the tab 13 and the uppermost portion of the main body section, it will follow that the operator will be precluded from inserting the tab too far into the slot during installation.

With a pair of oppositely disposed mounting elements 1 installed as above described, it is then but a simple matter to position a plate-type of divider D within the drawer by lowering the same into the channels 14 of the two mounting elements. An example of one type of divider D which may be used is shown in FIGS. 2 and 3. This divider comprises a plate of sheet metal having a rounded top 21, a side edge 22, a bottom edge 23, and a plurality of horizontally extending ribs or

corrugations 24. These corrugations not only provide additional stiffening for the divider itself, but also will be understood to enhance the coefficient of friction obtained between the side edges 22 of the partition and the adjacent engaging ribs 15 of the mounting element. More importantly, regardless of the design of the divider being utilized, it will be understood that a positive biasing engagement is produced between the divider and mounting elements by means of the arcuate or bowed disposition of the mounting element when in its at-rest condition, such as shown in FIG. 5. It will be seen that when the bottom edge 23 of the divider is initially positioned between the uppermost limits of the spaced-apart ribs 15 of a mounting element, a minimum degree of resistance will be met since the main body section 9 adjacent the offset portion 11 is quite close to the juxtaposed drawer side wall 3, but, as the divider D is lowered, the area of the divider adjacent the intersection of the side edge 22 and bottom edge 23 will begin to displace the main body section 9 outwardly against the inherent resilience of the mounting element. Inasmuch as the bottom edge 10 of the mounting element is at all times in abutment with the bottom wall 6 adjacent the intersecting line 20 in the bottom corner of the drawer, it will be understood that this flattening of the mounting element during installation of a divider must necessarily be accompanied by an increase in the vertical height of the mounting element. This increase in height is accommodated by means of the vertical extent of the longitudinal slots 18 and the inclined nature of the offset portion 11.

Although the forward portion of the bottom edge 10 abuts the drawer bottom wall 6 at all times whether or not a divider is installed within a mounting member, it is only after the insertion of a divider that a dynamic biasing force urges the rearward portion of the bottom edge 10 against the side wall 3. The aforementioned enlargements 16 serve to provide reinforcement to the strip material forming the mounting element as well as provide additional surface area for gripping the opposite sides of the divider D.

Referring again to FIG. 2, it is preferred to shield the longitudinal slots 18 and the protruding tabs 13 from view on the outside of the drawer side and this may readily be accomplished by means of a side flange 25 extending downwardly from the outer edge of the top flange 19. By providing an inturned lip 26 at the bottom of the side flange 25, a shielded pocket 27 will be formed and thus fully encloses the outside of the drawer side wall 3 in the area of the slots 18.

FIGS. 6–9 illustrate a modification of the subject mounting element which again may be formed from a single piece of strip material such as metal or plastic and which is generally designated 1*a*. In this form, the mounting element comprises a main body section 28 provided with a single vertically extending and centrally disposed groove 29 which extends upwardly from the bottom edge 30 to a point short of an offset portion 31. A vertically disposed tab 32 joins with the top of the offset portion 31. As in the previously described embodiment, the main body section 28 of the mounting element 19 is bowed outwardly such that, when a divider D is lowered between a pair of these elements, the lower and side edges of the divider will be pushed downwardly into the groove 29 to urge the main body section 28 outwardly toward the adjacent drawer side wall 3.

Still another embodiment is illustrated in FIG. 10 which discloses a mounting element 1*b* having a main body section provided with corrugations such that a pair of crests 33 are formed having a single valley 34 therebetween.

I claim:

1. An open top receptacle including, a mounting element for removably supporting a divider, said receptacle provided with a bottom wall and oppositely disposed side walls, said mounting element having a main body section provided with a bottom edge at its lower portion and an attaching tab projecting upwardly from its upper distal portion, said main body section including a vertically extending channel on the front face thereof, said receptacle side walls provided with opposed openings adjacent the top thereof whereby with said attaching tab loosely disposed through one said opening said bottom edge engages said bottom wall at a point adjacent its intersection with one said side wall and the free end of said upwardly projecting attaching tab overlies the outside surface of said side wall, said element formed of strip material having an inherent resilience and normally disposed with a vertically extending arcuate curvature whereby said element is bowed outwardly from its subjacent side wall from said attaching tab at said upper distal portion to said bottom edge, whereby a divider may be inserted into a pair of oppositely disposed said channels and as urged downwardly will progressively flatten the arcuate curvature of said elements while vertically displacing said upper distal portions.

2. An open top receptacle according to claim 1, wherein said channel is defined by a pair of laterally spaced-apart ribs on said main body section.

3. An open top receptacle according to claim 1, wherein said channel comprises a groove formed in said main body section.

4. An open top receptacle according to claim 1, wherein said main body section is vertically corrugated to provide a plurality of crests on its front face and said channel comprises a valley disposed between a pair of said crests.

5. An open top receptacle according to claim 1, including an offset portion joining said attaching tab to the upper portion of said main body section.

6. An open top receptacle according to claim 5, wherein the lateral extent of said attaching tab is less than that of said main body section.

7. An open top receptacle according to claim 5, wherein the lateral extent of said side wall openings is intermediate that of said tab and main body section.

8. An open top receptacle according to claim 1, including a plurality of said openings in each said side wall whereby a pair of said mounting elements may be attached by means of any pair of opposed said openings to permit selective positioning of said divider.

9. An open top receptacle according to claim 1, wherein each said side wall includes means shielding the exterior of the side wall adjacent said opening.

10. An open top receptacle according to claim 2, including a plurality of enlargements projecting outwardly from said ribs.

11. An open top receptacle according to claim 1, wherein the lateral extent of said main body section progressively increases from adjacent said attaching tab to said bottom edge whereby said biasing force progressively increase as a divider is lowered within said channel and rearwardly displaces said main body section.

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