July 6, 1954 G. D. WIEPERT 2,682,966

SHEET METAL FILE

Filed July 9, 1951 2 Sheets-Sheet 1

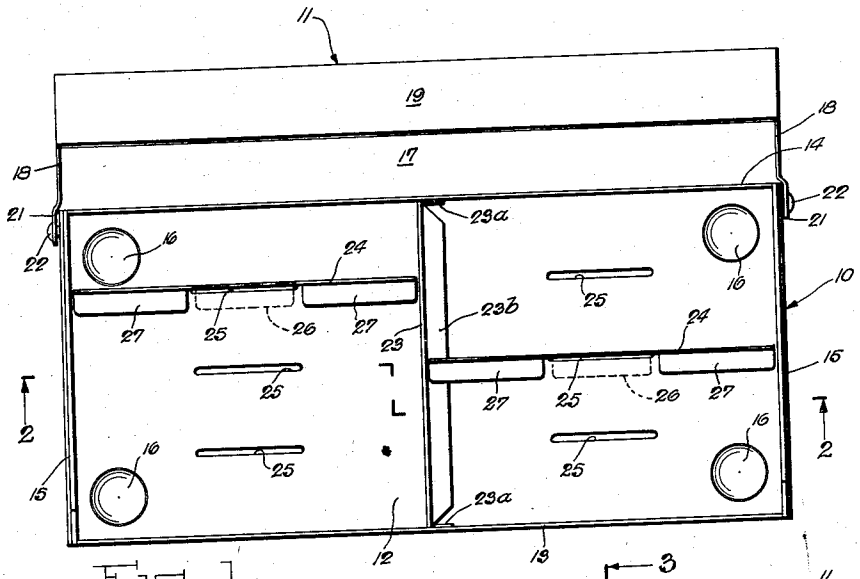


Fig. 1

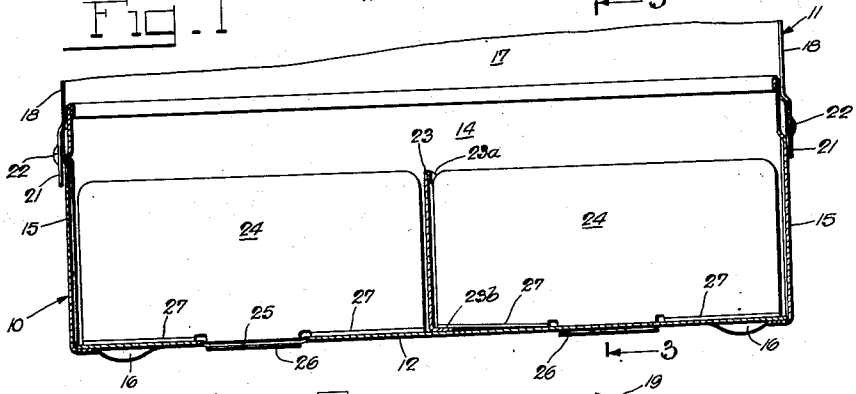


Fig. 2

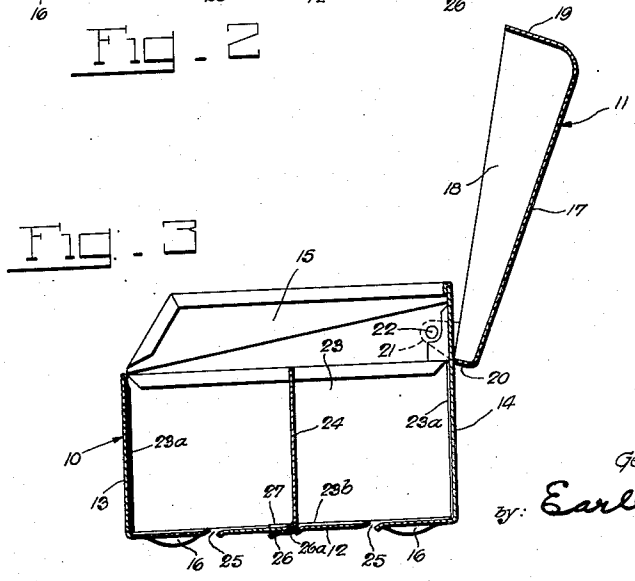


Fig. 3

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July 6, 1954 G. D. WIEPERT 2,682,966

SHEET METAL FILE

Filed July 9, 1951 2 Sheets-Sheet 2

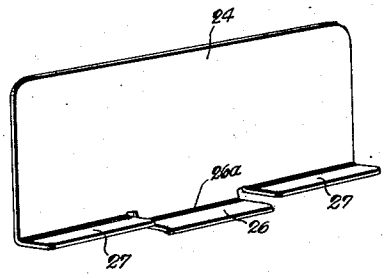


Fig. 4

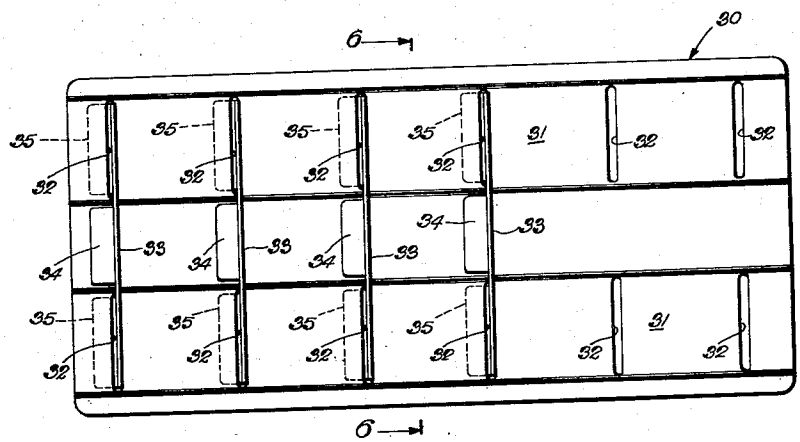


Fig. 5

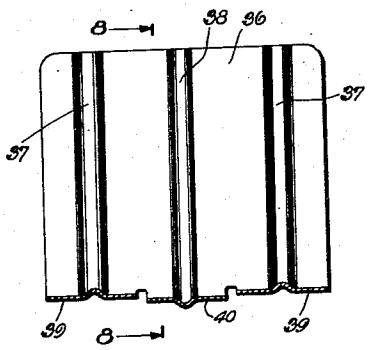


Fig. 7

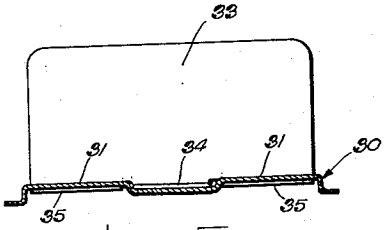


Fig. 6

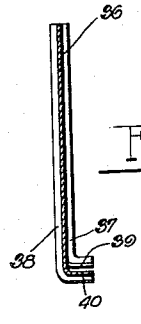


Fig. 8

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Patented July 6, 1954 2,682,966

UNITED STATES PATENT OFFICE

2,682,966

SHEET METAL FILE

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Application July 9, 1951, Serial No. 235,745

7 Claims. (Cl. 220—22)

1

This invention pertains to sheet metal files and more particularly to files having removable and adjustable partitions or followers for supporting cards, documents, folders and the like, or for dividing the file into separate compartments for the storage of small parts, for example.

The desirability of providing a file with partitions or followers is of course well known, and a great many schemes have heretofore been devised for accomplishing this purpose. The present invention constitutes an improvement over such devices and has as its principal object to provide a file incorporating separable, adjustably positionable partitions or followers, which file is of amply strong yet remarkably simple construction. As a result of this simplicity, considerable economy in manufacture is made possible and a substantial saving in material is effected, without in any way sacrificing good serviceability in the completed article.

As used herein, the word "partition" is intended to include not only a barrier for dividing an enclosure into compartments, but also a backrest or follower against which cards, folders, etc. are rested to keep them upright and in prearranged order.

The invention is adapted for incorporation into the ordinary tray or drawer type of file, as well as in the common box type of card-file, for example, either with or without a cover for enclosing the contents. Alternatively the invention may be embodied in an open top-and-side folder or record file of the type adapted for use on a desk or table and consisting simply of a series of partitions or barriers extending upwardly from a flat base to provide spaces into which the folders, etc. may be placed edgewise and held in upright position for convenient access. In general, the invention comprises a sheet metal file having a base or bottom member which latter is apertured to provide a series of spaced, aligned, locking slots for the reception of tongues or flanges on the sheet metal partitions. By means of interlocking engagement between the adjacent partition flanges and the apertured base member, the partitions are adapted and arranged to stand upright on the bottom member at selected locations to provide a backrest at any desired point or, simply, to divide the file into separate compartments or areas. The partitions employed herein for this purpose are of extreme simplicity in design, yet they afford all the strength and rigidity reguired for their intended purpose when assembled in position on the base. And at the same time, ready removal and repositioning of the partitions to suit particular requirements is easily accomplished.

A more detailed understanding will be obtained from the following description of certain typical constructions embodying the invention which are illustrated in the following drawings.

2

In the drawings:

Fig. 1 is a top plan view of a box-type card file having a hinged cover and provided with adjustable partitions, the cover being shown in open position;

Fig. 2 is a front elevational view in section along line 2—2 of Fig. 1;

Fig. 3 is a cross sectional view in end elevation of the box taken along line 3—3 of Fig. 2;

Fig. 4 is a detailed perspective view of one of the partitions shown in Figs. 1 to 3;

Fig. 5 is a plan view of a modifid form of file;

Fig. 6 is a cross sectional view in end elevation on line 6—6 of Fig. 5;

Fig. 7 is a front elevational view, partly in section, of a modified form of partition having reinforcing ribs; and

Fig. 8 is a fragmentary transverse section taken on line 8—8 of Fig. 7.

Referring to Figs. 1 through 4, the box-type of file illustrated is particularly adapted for use as a menu card file or as a housewife's recipe file, for example. The file is formed of relatively light gauge sheet metal and comprises a main body or box 10 and a hinged cover 11. Body 10 in this instance is formed from a sheet metal blank which is bent to provide a bottom 12 and upstanding front and rear walls 13, 14, respectively. The ends of the box are closed off by separate end panels 15 which are spot welded or otherwise secured to walls 13 and 14, and bottom 12. The box bottom is outwardly dimpled or depressed adjacent its four corners to provide feet 16 upon which the box rests and by which the bottom 12 is spaced slightly away from the supporting surface upon which the box is placed.

Cover 11 is likewise formed from a sheet metal blank, and has a central top panel 17 and integrally connected, depending, peripheral walls comprising end walls 18 and front and back walls 19, 20, respectively. A hinge tab 21 on each of the end walls 18 is provided adjacent the rear edge of cover 11, and a rivet 22 passes through each tab and end wall 15 of the box 10 to permit the cover to hinge rearwardly from its closed position to an open, upright position at the back of the box, as shown, for example, in Figs. 1 and 3.

The interior of the file box body is divided into two compartments by a central, fixed partition 23 having integrally formed right-angle flanges 23*a* at its opposite ends and another, 23*b*, along its lower edge which are also spot welded to the front and rear walls and base of the box body 10, respectively. The box is provided with one or more removable partitions 24 having flanges formed along their lower edges which extend in the same direction from the plane of the partition. These are adapted to interlock with the base 12 of body 10 and thus hold the partition rigidly upright within the box independently of any other means. The interlocking arrangement

by which this is accomplished comprises a series of spaced narrow slots **25** cut in base **12** of the box intermediate the margins or extremities of each of the two compartments into which the box **10** is divided by the fixed central partition **23**. In the example shown here, there are two rows of three slots each. Cooperating with these slots is a central flange **26** on partition **24**, which is adapted to be inserted into one of the slots **25** corresponding to the desired position in the box for the partition. The latter is also provided with a pair of outer flanges **27**, these being disposed on either side of central flange **26** and, as mentioned above, extending in the same direction as the latter from the plane of the partition. As seen more particularly in Figs. 3 and 4, central flange **26** is offset vertically in a downward direction from the plane of the outer flanges **27** when the partition is viewed in transverse section. The amount of this offset is made approximately equal to the thickness of the metal in the base **12**. Central flange **26** is flared downwardly at its outer, free end so that it curls away from the under surface of the outer flanges **27**. This serves to facilitate the entry of the flange into a slot **25** when the partition is assembled into the box. In addition, the front and rear margins or lips of each slot **25** are also flared slightly, each in opposite direction, as shown in Fig. 3, out of the plane of the base **12** to further facilitate the entry, and also removal, of the central or lower flange **26**. However, since the narrow width of slot **25** is substantially less than the extent of flange **26**, abutment of the heel **26***a* against the rear edge of slot **25** will occur long before the outer, free end of the flange clears the forward lip of the slot and thus will prevent any unintentional disengagement of the partition from the file bottom since, as explained more fully hereinafter, the heel must be manually lifted slightly to effect disengagement of the partition.

Positioning of a partition in the box is accomplished by holding the partition in one hand substantially perpendicular to the base **12** and with the central flange **26** in contact with the base, slightly to the rear of the slot into which it is to be inserted. The partition is then moved or slid bodily forward toward the front of the box while being held in its upright position, in order to force the central flange into the slot. As the heel **26***a* of flange **26** passes over the rear edge of the slot **25**, the partition snaps into position and is resiliently locked there by the engagement of the heel with the rear edge of the slot. By reason of the fact that the vertical offset of the central and outer flanges is substantially equal to the thickness of the bottom **12**, and also by reason of the slight wedging angle which the two sets of flanges make with respect to each other, the outer flanges press downwardly upon the upper surface of base **12**, while the central flange **26** presses upwardly on the under surface of the base, just forward of the slot. In order to remove the partition, it is again grasped in one hand and moved bodily backward and simultaneously given a slight twist upward and backward at its lower edge to force the heel **26***a* up over the rear lip of slot **25**. This forcing action is possible without damaging the file in any way owing to the resilience of the metal at the rear lip of the slot which allows the lip to be momentarily depressed slightly as the heel **26***a* passes over it.

A somewhat different embodiment of the invention is illustrated in Figs. 5 and 6 which show

a file of the type adapted to be placed on top of a desk or table for holding loose correspondence, letter files, books, records or the like. This file is of an open top-and-side construction permitting easy access to its contents from all directions. The file consists of a base **30** of sheet metal which is formed with wide but relatively shallow, spaced longitudinal channels **31** pressed upwardly out of the principal plane of the base. Channels **31** are each provided with a series of spaced, transversely extending, narrow slots **32** similar to slots **25** in the construction shown in Figs. 1 to 3. Partitions **33**, like partitions **24** in the foregoing example, are provided with an inner flange **34** and outer flanges **35**. In this case, however, there is no vertical offset between the central flange **34** and the outer flanges **35** of partition **33** inasmuch as the channeling of base **30** accomplishes the same purpose. It will be seen from Fig. 6, therefore, that in the assembled position, outer flanges **35** of partition **33** lie flush with the under surface of base **30** in their respective channels **31**, while the central flange **34** lies flush with the upper surface of the central portion of the base. By reason of the recesses in the base provided by the channels **31**, outer flanges **35** do not project below the main lower surface of base **30**, so that when the file is placed on a flat surface there is no protrusion causing the file to wobble or tilt. Partitions **33** are assembled to base **30** in a manner similar to that described in connection with the construction shown in Figs. 1 to 3 except that here the two outer flanges are inserted into slots while the central flange remains on top of the base. Again, however, the construction is such that central flange **34** exerts a pressure on base **30** in a direction opposite that to outer flanges **35**, and the partition is held in a firmly upright position. Opposite flaring of the opposed edges or lips of each slot **32** is provided here also, as well as downward flaring of the outer flanges **35**, to facilitate assembly of the partition to the base and for providing resilient locking of the partition thereto, all as explained above.

In some instances it may be desirable to provide a file having rather large partitions which, if made perfectly flat or plane, would require metal of excessive thickness to afford the necessary strength against bending and distortion to which such a partition might be subjected. To overcome the expense of such relatively heavy metal, a light gauge sheet metal can be used by providing it with a series of vertically extending, reinforcing ribs or corrugations which serve to greatly increase the strength of the partition in respect to transverse bending moments. A suitable construction of this type is shown in Figs. 7 and 8 in which a partition **36** is provided with ribs **37** and **38**. In order that these ribs not interfere with the locking action of the outer flanges **39** and inner flange **40** of partition **36** when assembled to a base, ribs **37** are so pressed that they protrude inwardly toward the inside of the bend of the flanges, while the central rib **38** is pressed outwardly toward the outside of the bend of the flanges. In this way the under surface of outer flanges **39**, which are the surfaces engaging the upper surface of the base member, and the upper surface of the central flange **40**, which is the surface engaging the under surface of the mounting base, are planar so that there is no interference with their engagement with the respective surfaces of the mounting base. When partitions of this type are used, it will ordinarily be necessary either to provide slots of somewhat

greater width in the base member than those of the previously described constructions, or alternatively to provide a relief in the form of notches in narrow slots at the point where the ribs occur on the partition.

Various modifications other than those here specifically illustrated and described will be apparent from the foregoing discussion. For example, the base member may have but a single longitudinally extending channel, of the type shown in Figs. 5 and 6, but located centrally on the base. A partition of the type shown in Fig. 6, that is, without vertical offset of the flanges, would be used for this modified form of base also, and in fact if the dimensions are correct, such a partition can be used interchangeably with either of the channelled types of mounting bases. Also, partitions having a greater number of flanges can be employed. Accordingly, the invention is not limited by the exact constructions here shown, but is intended to include all equivalent constructions which reasonably fall within the scope of the appended claims.

What is claimed is:

1. In combination in a sheet metal file, a generally flat sheet metal base member, a removable sheet metal partition adapted to be secured in substantially upright position at selected positions along said base member, the latter having a series of longitudinally spaced, narrow slots intermediate its margins, said partition having at least three flanges disposed along its lower edge which extend in the same direction substantially perpendicular to the plane of said partition for a distance substantially greater than the narrow width of said slots, said partition being removably secured to and constrained in upright position on said base member solely by engagement of said flanges with said base member, at least one but less than all of said flanges being received in a respectively cooperating narrow slot to underlie a portion of said base member, said slot-engaging flange and a portion of said base member being offset vertically with respect to each other a distance approximating the thickness of said base member sheet material, said partition being attached to said base member by inserting the free end of said slot-engaging flange into said cooperating slot and temporarily springing said flange out of its normal plane sufficiently to allow sliding movement of said flange longitudinally of said base member until the heel of said flange passes over the back edge of and into said slot to removably lock said partition to said base member, said partition flanges being thus disposed on and pressing in opposite directions against the opposite surfaces of said base member.

2. A sheet metal file as defined in claim 1, wherein the margins on opposite sides of said slots in said base member are bent slightly in opposite directions out of the plane of said base member to facilitate reception of said slot-engaging flange in said slot during assembly of said partition with said base member.

3. A sheet metal file as defined in claim 1, wherein the said slot-engaging flange is curved downward slightly at its free edge to facilitate its entry into a slot in said base member during assembly of said partition therewith.

4. A sheet metal file as defined in claim 1, wherein said slot-engaging flange is disposed intermediate a pair of flanges.

5. A sheet metal file as defined in claim 1, wherein said flanges are formed by bending the bottom marginal portions of said partition and said partition is provided with reinforcing ribs or corrugations which extend transversely to and around the bend line of the flanges, said ribs projecting upon those surfaces of the respective flanges which do not contact the base member.

6. In a sheet metal box construction having a flat bottom section and upwardly extending side wall sections, a removable sheet metal partition adapted to be secured in upright position at selected positions along said bottom section, the latter having a series of longitudinally spaced, narrow slots intermediate said wall sections, said partition having at least three flanges at its lower edge which extend in the same direction substantially perpendicular to the plane of said partition for a distance substantially greater than the narrow width of said slots, said partition being removably secured to and constrained in upright position on said base member solely by engagement of said flanges with said bottom section, at least one but less than all of said flanges lying in a plane vertically offset from that of the remaining flanges by a distance approximating the thickness of the bottom section sheet material, said partition being attached to said bottom section by inserting the free end of a slot-engaging flange into a cooperating slot in said bottom section and temporarily springing said flange out of its normal plane sufficiently to allow sliding movement of said flange longitudinally of said bottom section until the heel of said flange passes over the back edge of and into said slot to removably lock said partition to said bottom section, said partition flanges being thus disposed on and pressing in opposite directions against the opposite surfaces of said bottom section.

7. In combination in a sheet metal file, a substantially flat sheet metal base member formed to have a wide but comparatively shallow flat channel extending longitudinally therein, the depth of said channel approximating the thickness of the sheet material of which said member is formed, a removable sheet metal partition adapted to be secured in substantially upright position at selected positions along said base member, the latter having a series of longitudinally spaced, transverse, narrow slots therein, said partition having at least three flanges at its lower edge which extend in the same direction substantially perpendicular to the plane of said partition for a distance substantially greater than the narrow width of said slots, said partition being removably secured to and constrained in upright position on said base member solely by engagement of said flanges with said base member, said partition being attached to said base member by inserting the free end of a slot-engaging flange into a respectively cooperating slot in said base member and temporarily springing said flange out of its normal plane sufficiently to allow sliding movement of said flange longitudinally of said base member until the heel of said flange passes over the back edge of and into said slot to removably lock said partition to said base member, said partition flanges being thus disposed on and pressing in opposite directions against the opposite surfaces of said base member.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
174,222	Foster	Feb. 29, 1876
2,104,913	Streeter	Jan. 11, 1938
2,459,561	Yawman	Jan. 18, 1949