

Sept. 28, 1965

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3,208,456

SUPPORTING MEANS FOR SUSPENSION FILES AND THE LIKE

Filed Oct. 6, 1961

4 Sheets-Sheet 1

FIG. 1.

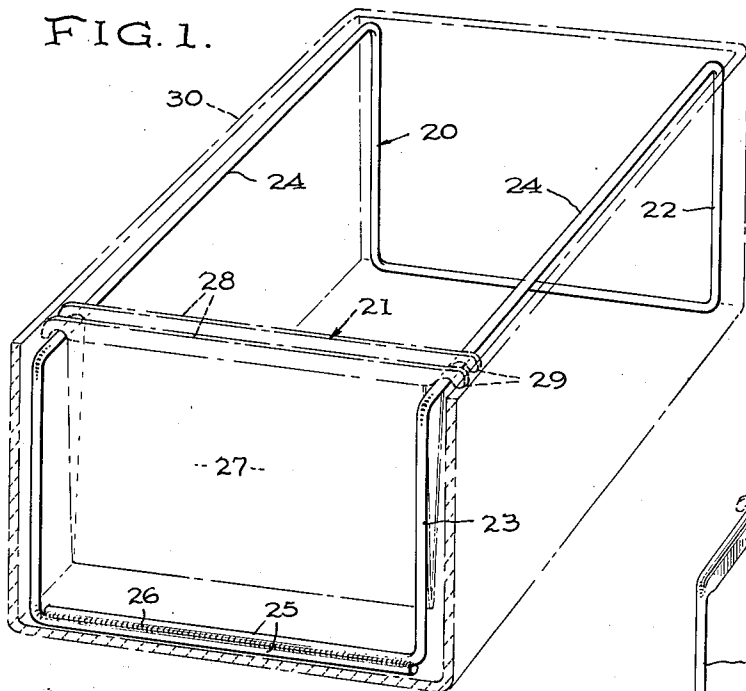


FIG. 2.

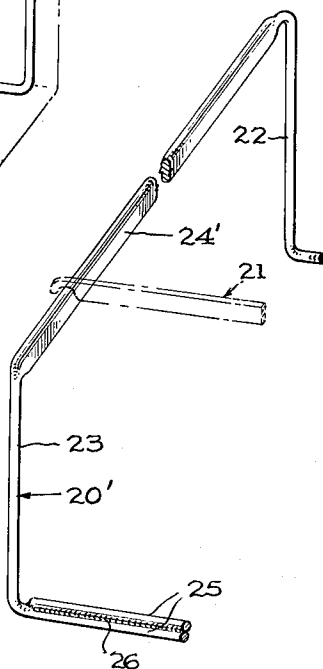


FIG. 3.

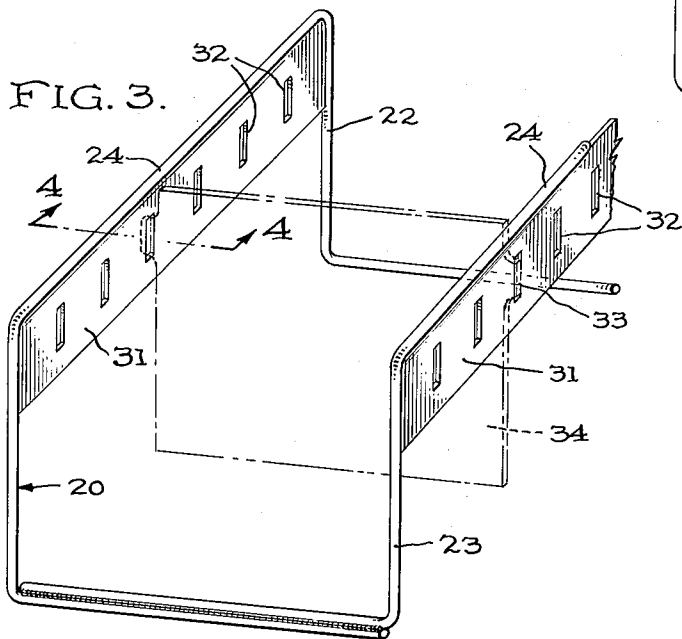
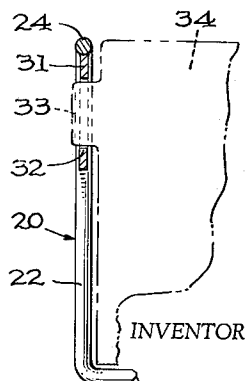


FIG. 4.



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FIG. 5.

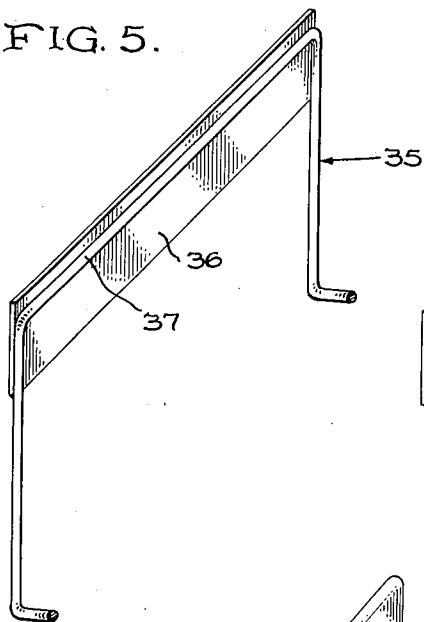


FIG. 6.

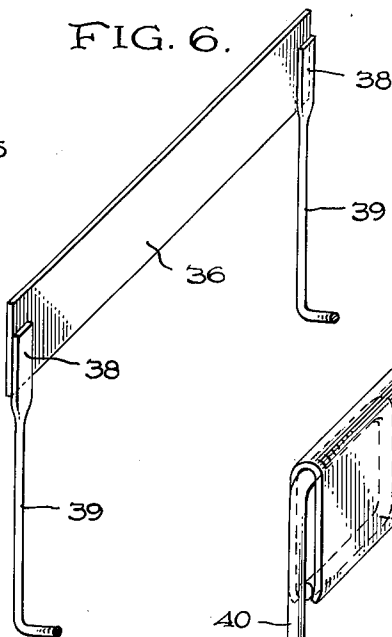


FIG. 7.

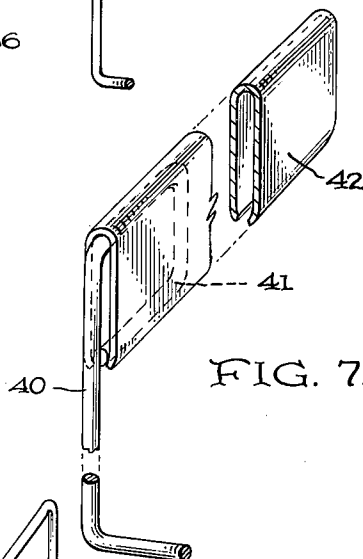


FIG. 9.

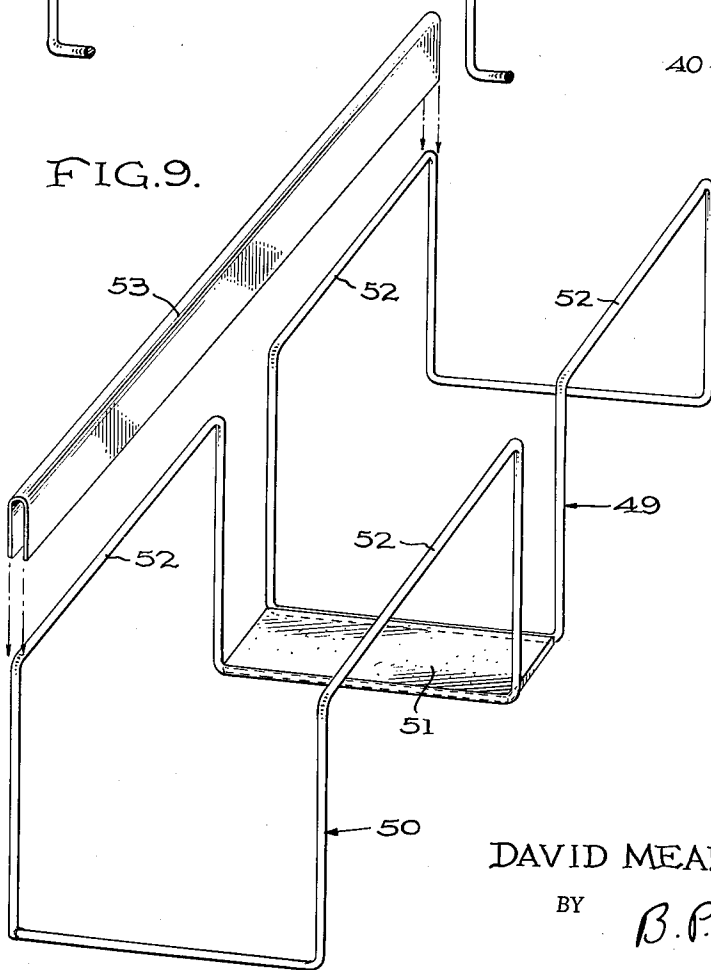
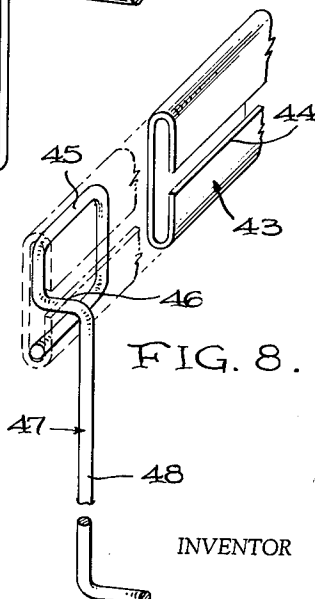


FIG. 8.



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FIG. 10.

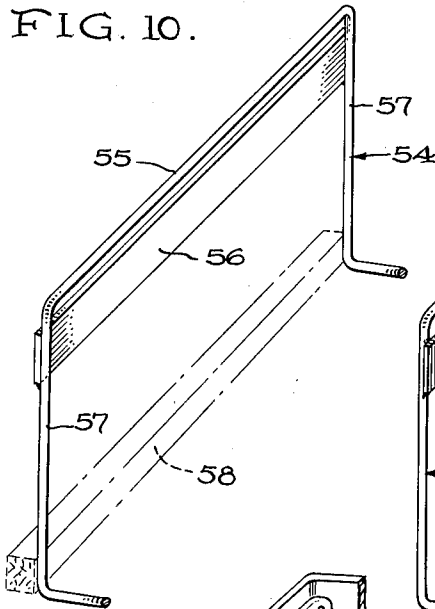


FIG. 11.

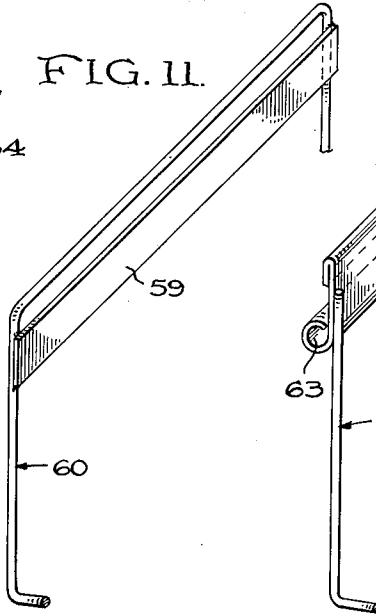
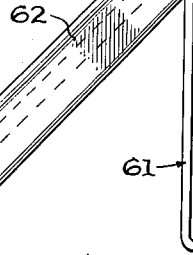


FIG. 12.

FIG. 13.

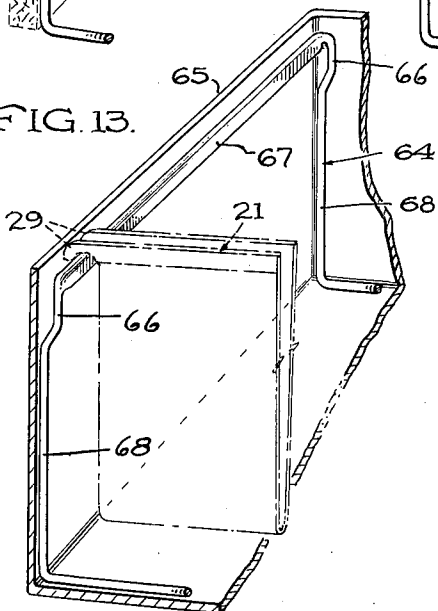


FIG. 14.

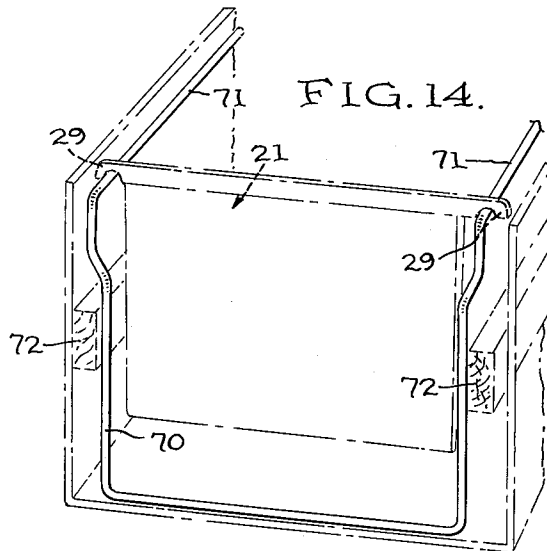


FIG. 15.

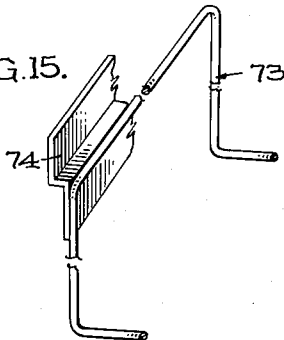
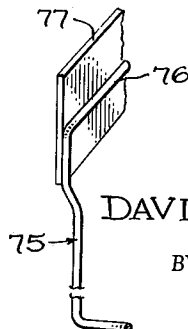


FIG. 16.



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FIG. 17.

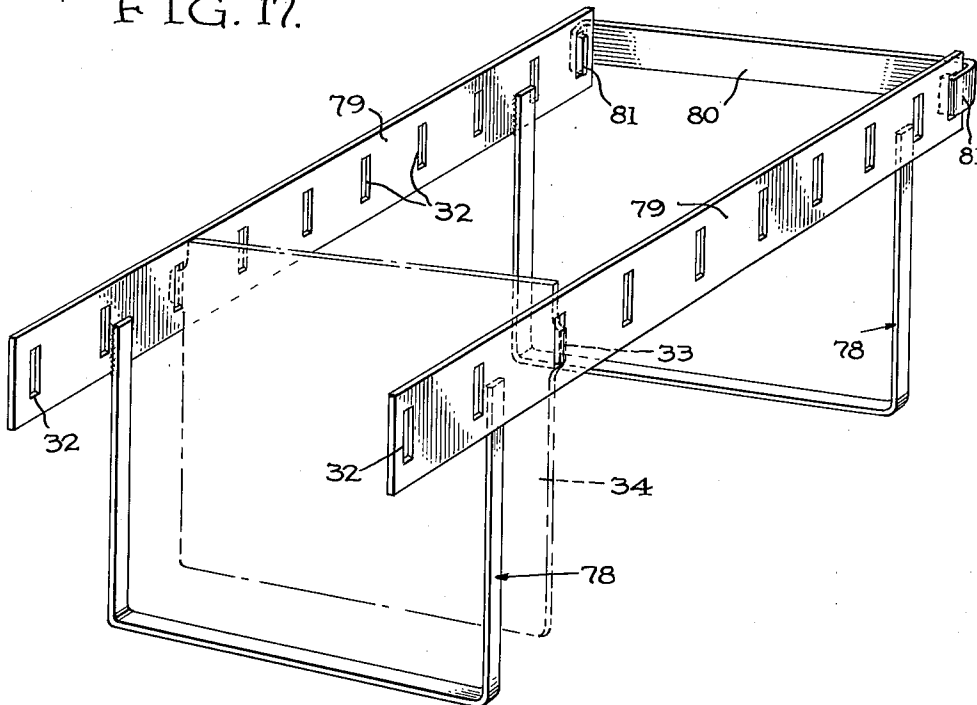


FIG. 18.

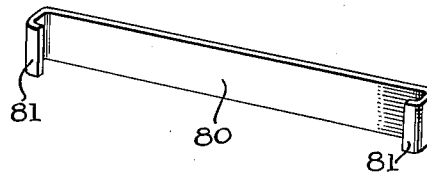
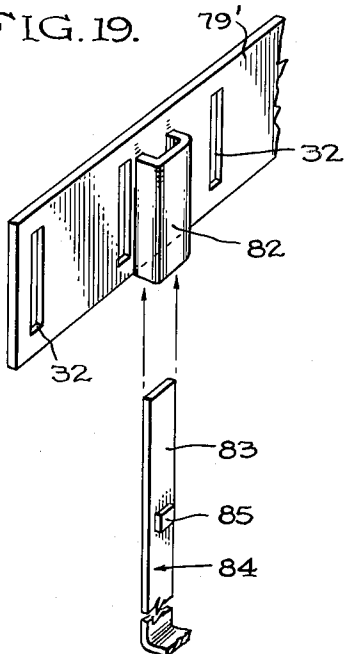


FIG. 19.



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SUPPORTING MEANS FOR SUSPENSION FILES AND THE LIKE

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1 Claim. (Cl. 129-16)

This invention relates to file storage devices and more particularly to improvements in the supporting structure for the well-known suspension files currently in wide usage in many offices.

Suspension filing systems are well-known and embody a plurality of top opening envelope-like folders carried by suspension bars which slide upon longitudinal rails of a suitable supporting frame structure. The supporting frame structure may be built into or placed within a file cabinet drawer or a suitable storage box for files. The frame structures are expensive and unhandy to assemble and adjust and possess other disadvantages which are overcome by the provision of the structures according to the present invention.

An object of the present invention is to provide highly simplified and inexpensive suspension filing apparatus adapted to be used in a filing cabinet drawer or within a file storage box or the like.

A further object is to provide suspension file means which eliminates entirely the cumbersome assembly problem encountered with prior art devices along broadly similar lines.

Another object is to provide suspension file means which may be used in conjunction with stationary file dividers and stationary files within a cabinet drawer or box.

Still another object is to provide suspension file supporting means which may be constructed in plural units for use in a long drawer or storage space.

Other objects and advantages of the invention will be apparent during the course of the following detailed description.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

FIGURE 1 is a perspective view of suspension filing means according to one preferred embodiment of the invention,

FIGURE 2 is a fragmentary perspective view showing a slight modification of the structure in FIGURE 1,

FIGURE 3 is a perspective view showing a further modification of the suspension filing means according to the invention,

FIGURE 4 is a fragmentary transverse vertical section taken on line 4-4 of FIGURE 3,

FIGURE 5 is a fragmentary perspective view showing another modification of the filing means,

FIGURE 6 is a similar view showing a further slight modification,

FIGURE 7 is a fragmentary perspective view showing another modification of the invention,

FIGURE 8 is a similar view showing another modification,

FIGURE 9 is an exploded perspective view showing a further modification, with parts omitted,

FIGURES 10, 11 and 12 are fragmentary perspective views showing additional modifications of the invention,

FIGURES 13-16 inclusive are similar views showing additional modifications of the invention,

FIGURES 17-19 inclusive are similar perspective views showing still further modifications of the invention.

In the drawings, wherein for the purpose of illustration are shown preferred embodiments of the invention, attention is directed first to FIGURE 1 showing a sup-

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porting frame 20 for a suspension file 21 of a well-known type or a plurality of such files. The frame 20 is constructed entirely from stiff wire or the like so as to be unitary, economical, compact and extremely simple to install. It is preferably formed from a single section of wire and embodies end upright U-shaped frame sections 22 and 23 and top parallel horizontal rails 24, integral with the frame sections 22 and 23. The bottom portion of frame section 23 may consist of two transverse horizontal end extensions 25 of the wire which constitutes the frame 20, said end extensions preferably arranged in contacting relation, one above the other, and welded together as at 26 to provide a clean and sturdy construction. The wire employed in the frame 20 may be ordinary round wire of sufficient gage to render the frame adequately sturdy.

The suspension file 21 is of conventional character and well-known in the art and includes a top opening depending folder or envelope 27 which may have its opposite ends open or closed as preferred, and top transverse horizontal support bars 28, permanently attached to the folder 27 at the top thereof and shiftable toward and from each other with the opposite side walls of the folder. The support bars 28 have hook-like end runner extensions 29 integral therewith resting slidably upon the rails 24 of frame 20. The suspension file 21 or a plurality of the same is freely slidable along the rails 24 to any selected position. The closed bottom end of the folder 27 preferably terminates near and above the bottoms of the end frame sections 22 and 23 as shown in FIGURE 1, and the length of the folder is such that it fits between the rails 24 with minimum clearance so that it may be removed from the support frame or applied thereto without difficulty.

The frame 20 with any given number of suspension files 21 supported thereon may be placed in a cabinet drawer 30, storage box or the like of adequate dimensions to accommodate the frame 20. Unlike the structures known to the prior art for supporting suspension files, the unitary wire frame 20 requires no adjustment and no assembly of parts prior to use. The device is extremely simple and can be made in various sizes to meet various needs for the filing of letter size and legal size papers and the like. No alteration or modification of cabinet drawer structure is required to accommodate the filing device of the present invention. The advantages of the simplified and economical construction should be readily apparent to those skilled in the art.

FIGURE 2 shows a slight modification of the structure shown in FIGURE 1, wherein the top rails 24' are rendered flat in vertical cross section by any suitable means to be employed during manufacture of the frame 20'. All other parts of the apparatus shown in FIGURE 2 are identical to the corresponding parts shown in FIGURE 1. The flattened rails 24 are more compact in the lateral direction and will bear a greater load without bending due to their increased width in the vertical direction.

FIGURES 3 and 4 illustrate a further modification of the invention, wherein the identical wire frame 20 previously described in connection with FIGURE 1 is provided upon its opposite sides and directly below the support rails 24 with relatively narrow vertical strips or plates 31 welded or otherwise rigidly secured to the bottoms of the rails 24 and to the upright portions of end frame sections 22 and 23. These plates 31 are slotted vertically at longitudinally spaced intervals, as indicated at 32, for the reception of side tongues 33 formed upon vertical resilient divider plates 34, any desired number of which may be employed along with the suspension files 21 or separately therefrom. That is to say, the use of one or more of the snap-in type resilient divider plates 34 does not interfere with the concurrent use of one or

more of the suspension files 21 on the suspension file frame shown in FIGURE 3, and the same may be placed in a cabinet drawer or storage box in the same manner illustrated and described in connection with FIGURE 1. Thus, within the same file cabinet drawer, a number of suspension files and a number of conventional files may be placed for convenient use and classification. For example, in connection with the structure shown in FIGURE 3, several suspension files 21 may be arranged upon the frame 20 near the front or rear of a cabinet drawer, and several of the adjustable snap-in divider plates 34 may be located near the opposite end region of the drawer to accommodate conventional files or folders without suspension means.

In FIGURE 5 a slight modification of the main suspension frame is illustrated in fragment at 35, which frame may be constructed substantially as shown in FIGURE 1 in connection with the frame 20. However, in FIGURE 5, the support rails for suspension files 21, not shown, are constituted by vertically disposed horizontal rectangular plates or strips 36, welded or otherwise fixedly secured to the top of each side of the wire frame 35 and projecting above the top longitudinal bar 37 for engagement with the runner extensions 29, as shown in FIGURE 1.

A somewhat similar modification is illustrated in FIGURE 6, wherein the vertical plate-like rail 36 shown in FIGURE 5 is secured by spot welding or the like to the outer faces of top flattened extensions 38, formed upon the upper ends of vertical legs 39 of separately formed U-shaped end frames. The rail 36 in FIGURE 6 and also in FIGURE 5 may be applied in the described manner to either the inner or outer faces of the upright frame portions as found desirable. In FIGURE 6, the basic support frame for the suspension files and the like is formed in two separate end sections, as shown, rather than in one piece as shown in FIGURES 1-4 inclusive. The plate-like rails 36, FIGURES 5 and 6, may if desired have the spaced slots 32, FIGURE 3, for snap-in dividers 34 used in conjunction with suspension files 21 or independently thereof.

FIGURE 7 shows another modification of the main frame structure, wherein end frame sections 40 of U-shaped formation are provided and carry at their tops longitudinally extending loop heads 41 for engagement snugly within downwardly opening longitudinal channel members 42 which constitute the side suspension rails of the filing device and which accommodate the runner extensions 29 of suspension files 21, not shown in FIGURE 7. The loop heads 41 may be permanently secured within the channel members 42 as by welding or they may be detachably secured therein with a snug fit if preferred, with the added advantage in the latter instance that the support frame is rendered knock-down in construction.

In FIGURE 8, showing another slight modification, the rail forming channel members 43 are side opening as at 44 and receive in their opposite ends loop heads 45 having transverse short arms 46 which engage through the slots 44 for stability. The arms 46 are integrally carried by the tops of separately formed end U-shaped frame sections 47. The channel members 43 receive the runner extensions 29 of the suspension files 21 in the same manner previously described.

The upright sides or legs 48 of end frame sections 47 are offset inwardly laterally of the rail forming channels 43, and this is an advantage in connection with certain file cabinet drawers which are less wide near their bottoms than at their tops. The width or spacing between the rail forming members is standard to accommodate standard width suspension files 21, but the widths of the end frames may be varied as suggested by FIGURE 8 for the specified purpose.

In FIGURE 9 there is shown another modification of the suspension file supporting structure, wherein the same comprises plural units formed by separately constructed

unitary wire frame sections 49 and 50, shaped as formed. The frame sections 49 and 50 are spaced apart a desired distance longitudinally by a bottom flat spaced plate 51, preferably welded thereto. The spaced plate 51 may be free from attachment to the frame sections 49 and 50 if preferred. Each frame section 49 or 50 may be constructed as shown from a unitary section of wire or the like. The top longitudinal bars 52 of frame sections 49 and 50 are disposed at the same elevation and aligned longitudinally. Downwardly opening channel members 53 adapted to serve as horizontal rails for the suspension files 21, not shown in FIGURE 9, are secured over the bars 52 upon opposite sides of the device and each channel member 53 may span both bars 52 of the separate frame sections 49 and 50 as indicated. Only one rail forming channel member 53 is shown in FIGURE 9 for the sake of simplicity and clarity, but it is to be understood that one of these members is to be applied to both sides of the frame structure. The channel member 53 may be permanently secured to frame sections 49 and 50 as by welding or it may be detachably secured thereto with a tight frictional fit. As should now be apparent in connection with FIGURE 9, any desired number of the frame sections 49 and 50 may be provided in conjunction with the channel members 53 of any desired length to produce a suspension file support frame of the proper length for any requirement. The device according to FIGURE 9 is thus rendered extremely flexible or versatile from the standpoint of application to cabinet drawers or the like of varying dimension, and the construction according to FIGURE 9 may be entirely of a knock-down type, if desired.

In FIGURES 10, 11 and 12, there are shown further minor modifications of the basic support frame structure generally according to FIGURES 1, 3 and 5-7. In FIGURE 10, the support frame 54 for suspension files, one side only of which is shown, includes top horizontal rails 55 corresponding to the first-described rail 24. Below the rails 55 are disposed reinforcing plates or strips 56, welded or otherwise secured to the outer sides of the upright end members 57. If preferred, the reinforcing strips 56 may have the slots 32 described in connection with FIGURES 3 and 4 to facilitate the concurrent use of the snap-in dividers 34 and the suspension files. A spacer bar 58 of wood or the like is shown at the bottom and adjacent the outer side of the frame 54 in FIGURE 10, as where the suspension file support frame is placed in a storage box and it is desired to center the same therein so that the runner extensions 29 will clear the sides of the storage box. It should be understood that a second spacer bar 58 is employed at the opposite side of the device, not shown in FIGURE 10.

FIGURE 11 shows substantially the identical construction as FIGURE 10, except that the reinforcing strip or plate 59 is applied to the inner face of the main frame side designated at 60.

FIGURE 12 illustrates a frame having separately formed U-shaped end frame sections 61, connected upon opposite sides by a rail forming member 62 of sheet metal or the like having an integral reinforcing bead 63 upon its outer side which may also serve to space or center the framework from the adjacent side walls of a storage box or file cabinet drawer so that the runner extensions 29 may be properly accommodated within the box or cabinet drawer. The member 62 is secured to frame sections 61 by welding or the like.

In connection with each of FIGURES 2, 5, 6, 7, 8, 10, 11, 12, 13, 15 and 16, it should be understood that one side only of the supporting frame for suspension files and the like has been illustrated but that the opposite side is identically formed in the reverse hand manner. Also, the use or mode of operation of all of these modified support frame structures with the suspension files 21 is substantially identical with the use or opera-

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tion previously described in connection with FIGURES 1-4 of the drawings.

FIGURE 13 shows a further modification of the unitary wire supporting frame at 64 for suspension files 21 in a cabinet drawer or storage box 65. The frame 64 has top supporting rails 67 flattened in the same manner described in connection with FIGURE 2 and short vertical inwardly offset leg portions 66 positioning the rails 67 to provide clearance for the runner extensions 29 between the rails and the side walls of the box. The main leg portions of the frame may lie close to the box side walls and are designated 68.

FIGURE 14 shows somewhat the reverse arrangement from FIGURE 13, wherein the lower portion of the end frame sections 70 are somewhat narrower than the top of the frame as defined by the rails 71. In this connection, the supporting frame for the suspension files 21 may be employed in a file cabinet drawer which is narrower toward the bottom than near the top thereof, and this construction is common in many commercial file cabinets. The top of the drawer is wide enough to accommodate the runner extensions 29 of the suspension files and their rails 71, but the lower portion of the drawer will not accommodate a frame of this same width. This is the reason for the construction shown in FIGURE 14. If the device of FIGURE 14 is placed within a mere storage box or the like, such as a fiberboard storage box, the same may have its side walls equipped with centering horizontal longitudinal spacer bars 72 formed of wood or the like to maintain the wire frame properly centered therein with adequate clearance on both sides for the runner extensions 29.

In FIGURES 15 and 16, there are shown additional minor modifications somewhat similar to those shown in FIGURES 10-12. FIGURE 15 shows the basic wire frame 73 equipped upon opposite sides with rail forming longitudinal members 74 which are substantially Z-shaped in cross-section and welded thereto and projecting above the top of the wire frame. This arrangement provides for the wire frame 73 being somewhat narrower throughout its height for placement within a cabinet drawer which is relatively narrow at the bottom but wider at the top to accommodate the Z-shaped rails 74. FIGURE 16 shows the wire frame 75 narrower at the bottom and somewhat wider at the top 76 for the same purpose specified in connection with FIGURES 14 and 15. FIGURE 16 shows the horizontal longitudinal rail forming members 77 in the form of flat vertical plates or strips welded to the outer sides of the wire frame 75 and projecting above the top 76 thereof along the two sides of the same for supporting the runner extensions 29 of suspension files 21.

FIGURES 17 and 18 illustrate another modification of the invention, wherein the supporting frame proper comprises separately formed U-shaped end frame sections 78 formed of flat metal strip stock or the like, welded or otherwise rigidly secured at their tops to horizontal longitudinal flat rail members 79 of any preferred length. The rail members 79 are provided at spaced intervals with the previously-described slots 32 for the tongues 33 of resilient snap-in divider plates 34 which may be used in conjunction with any desired number of the suspension files 21, not shown in FIGURE 17 for the purpose of clarity.

The construction shown in FIGURE 17 enables the rails 79 to project longitudinally beyond the upright frame sections 78 for any desired practical length and thereby

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form a type of cantilever rail construction for the sliding suspension files. The rails 79 may be applied to the outer sides of the frame sections 78, as illustrated, or to the inner faces thereof, if preferred.

To stabilize one or both pairs of the overhanging cantilever end portions of the rails 79, a clip 80 is provided having end hook-like attaching parts 81 engageable within the endmost pair of slots 32, FIGURE 17.

FIGURE 19 shows a slight modification of the structure in FIGURE 19, wherein rail members 79' are provided near their ends and upon their inner faces with upright socket elements 82 receiving detachably the top end portions of vertical legs 83 of end U-shaped frame sections 84. The legs 83 are provided near and below their tops with fixed stop elements 85 to limit the insertion of the legs into the sockets 82. The construction is otherwise identical to that shown in FIGURE 17 and the device of FIGURE 19 differs only in that it is separable or knock-down in nature.

It is to be understood that the forms of the invention herewith shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

A sectional support for suspension files comprising at least a pair of separately formed unitary wire frame sections, each frame section consisting of a substantially continuous length of wire and including a pair of upper spaced parallel longitudinal bars of equal length and arranged horizontally at the same elevation, vertical legs carried by the ends of said bars and depending therefrom, and transverse horizontal parallel end bars extending between and interconnecting the lower ends of said legs, each frame section substantially U-shaped as viewed from the end and substantially inverted U-shaped as viewed from the side, the individual frame sections being spaced apart longitudinally, a flat horizontal spacer plate arranged between adjacent frame sections at the elevation of said end bars and engaging the end bars to maintain adjacent frame sections in properly aligned spaced relationship, and elongated downwardly open substantially inverted U-shaped channel strips of sheet material engaging over the tops of said longitudinal bars of all frame sections in said sectional support, said channel strips bridging the spaces between said frame sections and connecting the frame sections into a substantially rigid integrated unit while simultaneously forming continuous smooth slide rails for the support of suspension files.

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JEROME SCHNALL, *Primary Examiner.*