

Sept. 17, 1929.

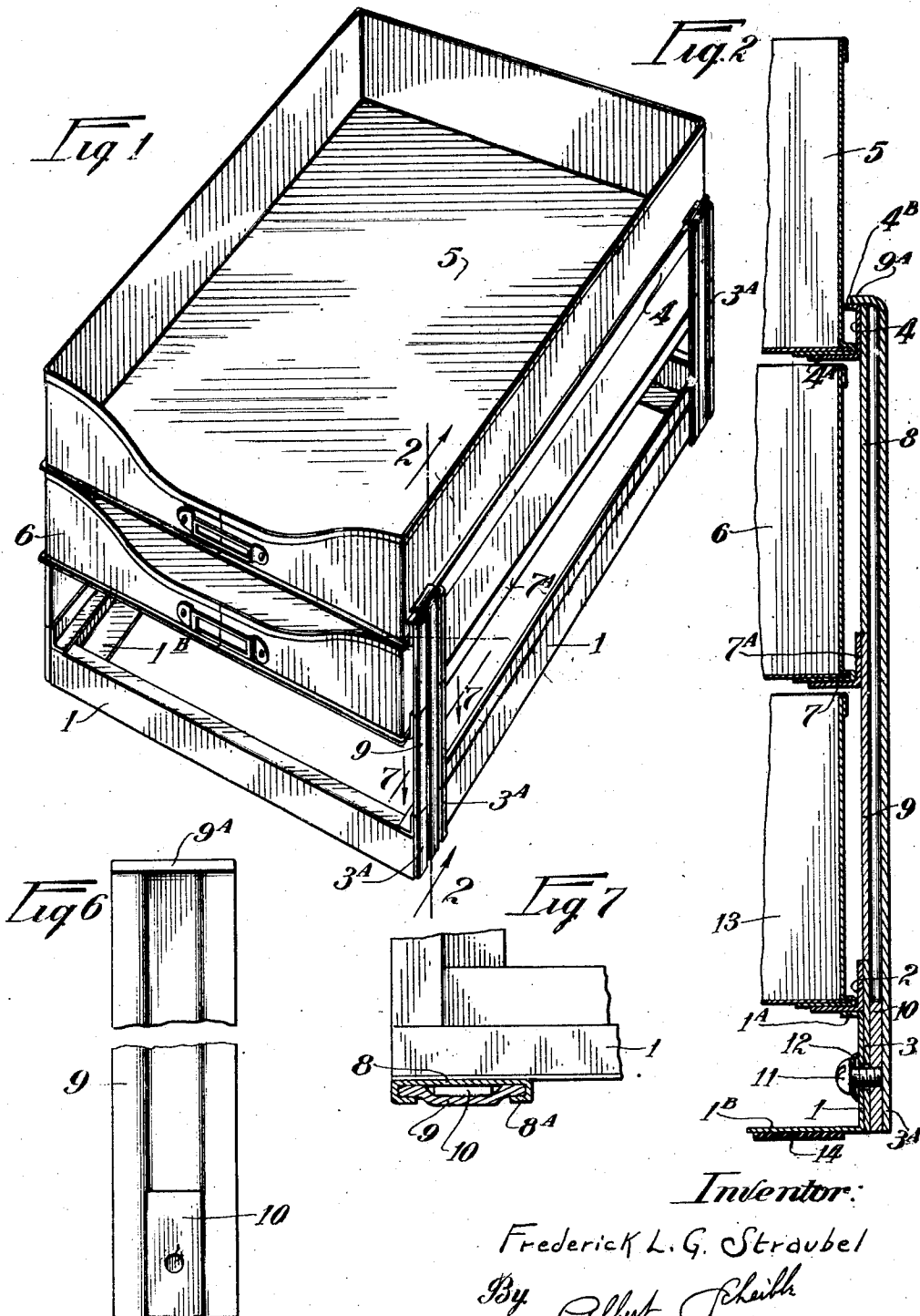
F. L. G. STRAUBEL

1,728,638

DESK TRAY SET

Filed Oct. 12, 1928

2 Sheets-Sheet 1



Inventor:

Frederick L. G. Straubel
By *Albert Scheith*
Attorney

Sept. 17, 1929.

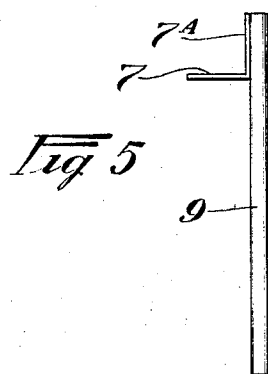
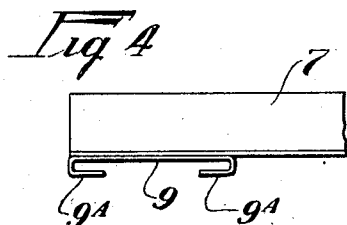
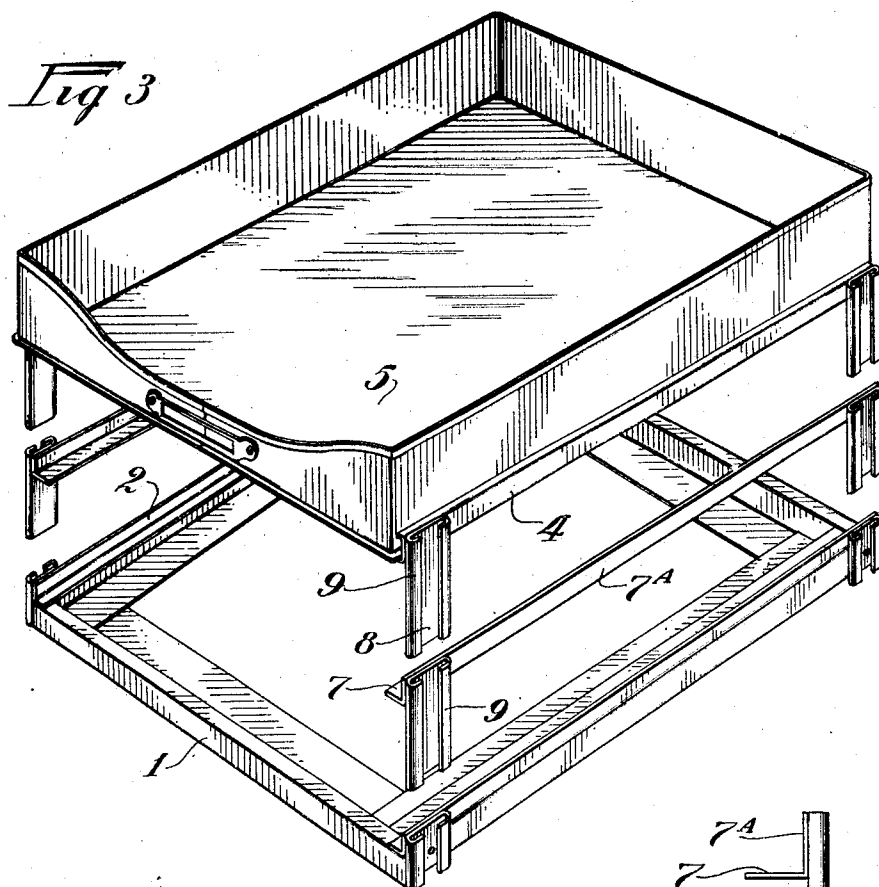
F. L. G. STRAUBEL

1,728,638

DESK TRAY SET

Filed Oct. 12, 1928

2 Sheets-Sheet 2



Inventor:
Frederick L. G. Straubel
By *Albert Scheith*
Attorney

UNITED STATES PATENT OFFICE

FREDERICK L. G. STRAUBEL, OF GREEN BAY, WISCONSIN, ASSIGNOR TO THE AUTOMATIC FILE & INDEX CO., OF GREEN BAY, WISCONSIN, A CORPORATION OF WISCONSIN

DESK TRAY SET

Application filed October 12, 1928. Serial No. 311,985.

My invention relates to so-called desk tray sets which consist of a plurality of superposed trays each adapted to receive letters or the like, and a rigid structure for supporting all of the trays. Such desk tray sets as now on the market are commonly constructed of wood, which is objectionable both on account of the fire risk and because of the frequent warping or splitting of the wood, unless undesirably thick and bulky constituent parts are employed. Moreover, the number of trays desired in such a set for use at different desks will vary, so that both the manufacturer and his distributors must carry a stock of different sizes (as for example, two-tray, three-tray and four-tray sets) in order to meet the demands of customers promptly. And when a user has bought a set of a given height, he cannot readily increase the height of the stack by adding one or more trays.

My present invention aims to overcome all of these objections by providing an easily manufactured and assembled metal desk tray set construction which will permit both the manufacturer and his distributors to assemble the needed sets from a relatively small stock of parts, and which will secure rigidity in each assembled rack while employing few fastening elements. Furthermore, my invention provides an assemblage for these purposes which will readily lend itself to the providing of an assortment of color schemes in the desk sets from a small number of stock parts, and which will permit the user to expand the size of his tray sets by purchasing relatively few additional parts.

Still further and also more detailed objects will appear from the following specification and from the accompanying drawings, in which

Fig. 1 is a perspective view of a three-tray desk set embodying my invention, with the lowest drawer omitted.

Fig. 2 is an enlarged and fragmentary vertical and transverse section, taken along the line 2—2 of Fig. 1.

Fig. 3 is a perspective spread-apart view showing the base frame with its two run-

ways and its vertical guideways, the top tray with the vertical guide ways carried by it, and the intermediate two runways with the vertical guide ways carried by each.

Fig. 4 is a fragmentary and enlarged plan view of one of the intermediate members shown in Fig. 3.

Fig. 5 is a similarly enlarged front elevation of the same intermediate member.

Fig. 6 is an enlarged elevation of one of the four connecting members used in assembling the parts shown in Fig. 3, taken from the inner face of this member and with the medial portion broken away.

Fig. 7 is an enlarged horizontal section, taken along the line 7—7 of Fig. 1.

In accomplishing the purposes of my invention after the manner of the accompanying drawings, I employ a base member (shown in Fig. 1 and at the bottom of Fig. 3) including a rectangular frame 1 supporting two opposed, horizontal and angle-sectioned runways 2, which runways are spaced so as to support and laterally guide the lowest removable drawer. Fastened to the opposite sides of the frame 1 adjacent to each end thereof, and desirably also fastened to the adjacent vertical webs of the runways 2, are vertical and effectively tubular guideways. Each of these guideways can be formed economically by recurving two edges of a sheet metal strip toward each other to form ledges 3A spaced horizontally from the back 3 of the strip, this strip back being then welded both to the adjacent side face of the frame 1 and to the riser web of the adjacent guideway 2.

The upper portion of my desk tray set includes two horizontal runways having outer vertical backs 4 spaced similarly (transversely of the set) to the riser webs of the lowest runways 2, and likewise having their bottom webs directed toward each other. These bottom webs may serve merely as guides for slidably supporting the uppermost tray 5, but since the top tray is ordinarily open to the user, I preferably weld the bottom of this tray 5 to the said bottom webs 4A. I also desirably turn the upper edges of the vertical backs 4 of these upper

runways inwardly to form upper webs 4B which reach to the sides of the uppermost tray to exclude dirt from the interior of these upper runways. Fastened to each of these upper runways and depending from them are two upper guideways 8 corresponding in spacing and horizontal section to those at the corresponding side of the base section and projecting downwardly beyond the runway for a distance somewhat greater than the height of the drawer which is to be below the uppermost drawer.

For each needed intermediate drawer 6 I provide two counterpart intermediate members. Each of these consists of an angle-sectioned runway (comprising a horizontal web 7 and a riser web 7A), and two vertical guideways 9 each fastened to the outer face of this riser web 7A and extending downwardly beyond the horizontal web 7 adjacent to one end of the runway. Each of these intermediate vertical guideways corresponds in horizontal section to the guideways fastened to the base frame and also to those fastened to the uppermost runways, and for drawers of uniform height the intermediate guideways may be identical in height with the uppermost guideways 8 as shown in the drawings, where each intermediate guideway has a back 8 and two ledges 8A recurved outwardly toward each other.

With the vertical guideways on the base section, the intermediate runways and the uppermost runways similarly formed and similarly spaced longitudinally of the structure at each side of the latter, the superposed guideways will aline vertically when the three sections are set upon one another. Then I slide through each superposed group of guideways from the upper end of this group a connecting member which has at its main portion a strip 9 slidably fitting the bore of these guideways, and which may have its horizontally medial portion bowed outwardly (as shown in Fig. 7) to bring the outer face of this portion substantially flush with the outer faces of the recurved ledges on the guideways.

Each such connecting member desirably corresponds in length approximately to the joint height of the superposed guideways, so that it will extend for the full height of the latter. Each connecting member also has an inwardly bent upper end 9A adapted to overhang and seat on both the upper end of the back 8 of the uppermost guideway and the upper ledge 4B of the uppermost runway, thereby preventing the connecting member from sliding down beyond the lowermost guideway and possibly scratching a desk in case the assembled tray set is slid about on the desk.

With each connecting member snugly fitting the guideways, friction alone would hold it in its socketed position after it has

been inserted. However, I preferably lock it positively in place to make the structure more rigid. For this purpose, I weld a nut 10 to the inner face of each connector member 9 near the lower end of the latter, space being provided for such a nut by the above described outward bowing of this member. Screws 11 extend outwardly through the adjacent portions of the base 1 and are screwed respectively into these nuts, each desirably with a lock washer 12 under the head of the screw, to anchor each connecting member to the base frame.

When the parts are thus assembled, the four connecting members not only hold the superposed vertical guideways in rigid alignment and hence space the intermediate guideways properly, but also anchor the superposed sections of my rack-like structure firmly to one another. Hence the assembled structure forms a rigid unit which will not be distorted in shape even when roughly handled and hence will always permit a ready sliding of the movable intermediate drawer or drawers 6 and of the bottom drawer 13. In practice, I desirably augment this rigidity by making the base frame of a channel-shaped cross-section with upper and inwardly directed ledges 1A to which the bottom web of the lowest runways 2 are welded, and with relatively wide bottom ledges 1B forming the bottom of the base frame. I also desirably cement disks 14 of felt or the like to the lower faces of these bottom ledges near the corners of the base frame, so as to raise the frame slightly above the desk on which it is set.

Since any desired number of pairs of the intermediate members can be interposed above one another between the base section and the top section, I can readily erect desk tray sets for any desired number of drawers by employing connecting members of varying lengths corresponding to the desired number of drawers. The erecting merely comprises the superposing of parts as pictured in Fig. 3, the slidable inserting of the connecting members, and the latching of these connecting members by the screws which are easily inserted when the otherwise assembled structure is inverted. This can all be done easily and quickly even by an inexperienced person or one who is not a mechanic, so that my invention enables a dealer to assemble sets of different heights according to the demands, and also permits the manufacturer to supply calls for sets of different heights according to the demands, and also permits the manufacturer to supply calls for sets of different heights from a relatively small stock of parts.

What is more, the base sections, drawers, connecting members and intermediate sections may each be finished in different colors

and can then be assembled either to provide a uniform color or finish for the entire sets, or to afford sets in which certain parts of a set differ in color or finish from other parts. This further increases the variety of sets which can be assembled from a comparatively small stock of parts.

What is more, a purchaser of one of my desk tray sets who wishes to increase it in height can readily do so by merely buying a corresponding number of additional drawers, pairs of intermediate frame members, and correspondingly longer connecting members; so that my invention permits the users to expand their equipment economically.

Since all parts of my illustrated embodiment (except the four screws) can easily and cheaply be manufactured of sheet steel, my desk sets also are low in cost, while the use of metal meets the growing demand for fireproof office equipment.

However, while I have illustrated and described my invention in an embodiment including desirable details of construction and arrangement, I do not wish to be limited to these, since many changes might be made without departing either from the spirit of my invention or from the appended claims.

I claim as my invention:

1. A desk tray set comprising a base section, a tray slidably supported by it, one or more intermediate sections superposed on the base section and a tray slidably supported by each thereof, and a top section including a stationary tray; vertical groups of guideways disposed adjacent to each end of the desk set and each comprising aligned guideways respectively forming rigid parts of the said sections; and four connecting members slidably inserted respectively in the said aligned guideways.

2. A desk tray set as per claim 1, in which each connecting member is interlocked at its upper end with the top section and secured to the base section.

3. A desk tray set as per claim 1, in which each section above the base section includes two laterally spaced runways for conjointly supporting a tray, and two longitudinally spaced guideways depending from and extending upwardly along the outer face of each runway.

4. A desk tray set as per claim 1, in which the top section comprises a tray, two horizontal frame members extending respectively at opposite sides of the tray and secured to the latter and two guideways secured to and depending from each frame member and spaced longitudinally of the latter.

5. A desk tray set comprising a plurality of superposed frame sections each adapted to support a tray, upright connecting members each slidably insertible from the top in the superposed frame sections and hook-

ingly engaging the uppermost frame section, and locking members releasably connecting members respectively with the lowermost frame section.

6. A desk tray set comprising a base having vertical guideways at each corner; an upper tray having at its corners vertical guideways alining with the guideways of the base and depending from the tray; an intermediate frame section comprising two frame members each comprising a horizontal runway and two vertical guideways depending respectively from the ends of the runway and alining vertically with the guideways at one side of the base and of the upper tray; and four connecting members each extending through the alined guideways of the base, upper tray and one intermediate section; and counterpart trays slidably supported by the runways of the intermediate section and the base section.

7. A desk tray set as per claim 6, in which the alined guideways at each corner abut vertically against one another.

8. A desk tray set as per claim 6, in which each of the guideways of the intermediate section correspond in height to the height required for one of the said slidably supported sections.

9. A desk tray set as per claim 6, in which each connecting member is slidably insertible from the top in the alined guideways at one corner of the desk tray; in combination with means associated with each connecting member for limiting downward movement of the said member with respect to the upper tray and for limiting upward movement of the said member with respect to the base.

10. A desk tray set consisting of a base section, a top section, and at least one intermediate frame section; the base section comprising a rectangular frame equipped with laterally opposed horizontal guideways and having at each side two vertical channels; the top section comprising a tray and two pairs of depending vertical channels; the intermediate frame section comprising two horizontal guideways each having a pair of vertical channels depending from it; the two channels on each side of each section being of counterpart cross-sections and spacing; and connecting members each extending through one channel in each of the three sections and interlocked with the base and top sections for clamping the intermediate section therebetween.

11. A desk tray set as per claim 10, in which each connecting member hookingly overhangs the top of the channel on the top section through which the said member extends, in combination with screws each extending through the base member into one of the connecting members for releasably securing the connecting members to the base member.

12. In a desk tray set, the combination with an upper section and a base section each carrying two lateral pairs of vertical channels disposed so that the channels on the upper section aline vertically with those on the base section, an intermediate section comprising two runways each carrying two vertical channels spaced to aline with the pair of channels at one side of the base, four connecting members each slidably inserted from the top in one group of the alined channels on the aforesaid three sections and each overhanging a portion of the upper section to limit the downward movement of the connecting member, and securing means for latching each connecting member to the base section.

13. A desk tray set as per claim 12, in which the base section consists of a generally horizontal frame, and in which the securing means comprise screws extending from the interior of the frame through a portion of the frame and each threaded with one of the connecting members.

14. A desk tray set as per claim 12, in which the channels open laterally outward and in which each runway consists of an angle-sectioned strip comprising a horizontal web extending laterally inward of the desk tray set and a vertical web having its outer face secured flatwise to the backs of two of the channels.

15. In a desk tray set, a base section comprising a rectangular frame of inwardly open channel-shaped cross-section, two angle-sectioned runways respectively secured to the tops of two opposite sides of the frame, and four vertical guideways each adjacent to one corner of the frame and each secured both to one of the said frame sides and to the runway carried by that frame side.

16. A base section for an expansible desk tray set; comprising a rectangular frame consisting of two side members and two end members; two angle-sectioned runways respectively surmounting the two side members of the frame, each runway comprising a horizontal bottom web secured to the top of the adjacent side member and a vertical web having its outer face substantially flush with the outer face of the adjacent side member; and two pairs of vertical channels, the channels forming each pair being secured to the outer face of one of the said side members and also to the outer face of the vertical web of the runway which has its bottom secured to that side member.

17. A desk tray set comprising superposed trays; a corresponding number of superposed pairs of runways, each pair of runways being laterally spaced for slidably supporting the lower lateral edge portions of a tray; four vertical channels respectively adjacent to the ends of the runways and each

depending from the outer face of one of the runways, the channels on each runway being spaced for alining vertically with those on the next higher runway; four connecting members respectively extending through the vertically alined channels on the superposed runways for holding the superposed channels in alinement, and means for interlocking each connecting member with the uppermost and the lowest channel through which it extends.

Signed at Green Bay, Wisconsin, October 9th, 1928.

FREDERICK L. G. STRAUBEL.