F. L. G. STRAUBEL.

DESK TRAY RACK.

APPLICATION FILED OCT. 24, 1917.

1,319,431.

Patented Oct. 21, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

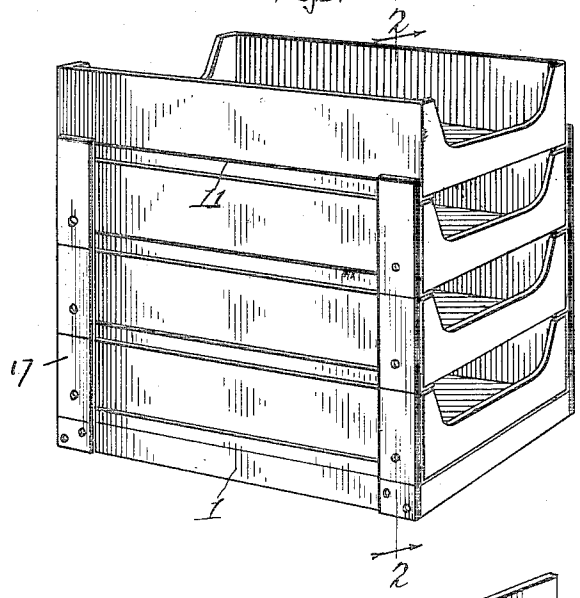


Fig. 2.

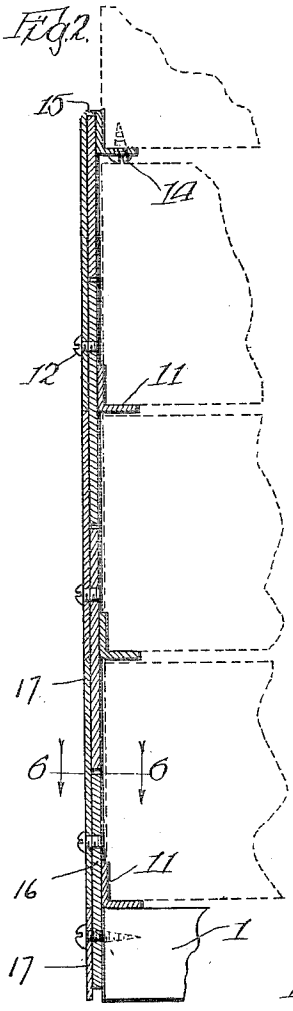


Fig. 3.

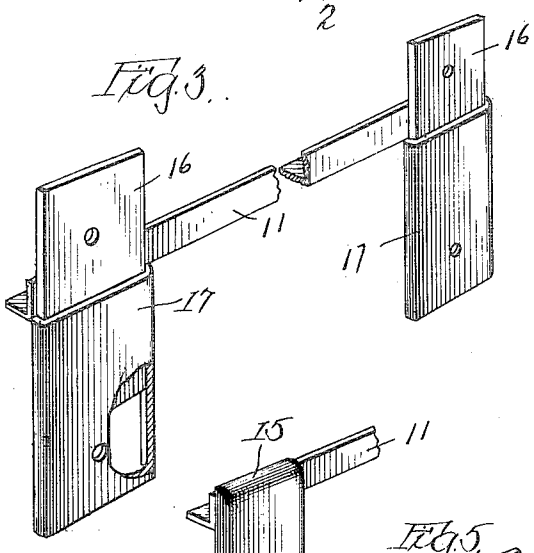


Fig. 4.

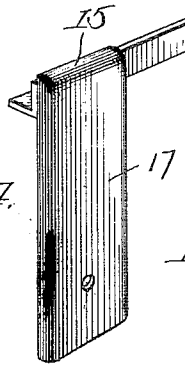


Fig. 5.

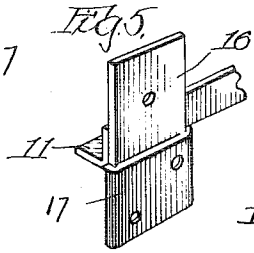
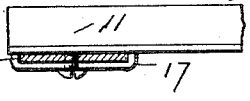


Fig. 6.



Witness:
Leo. DuMais.

Inventor:
Frederick L. G. Straubel
by Albert Scheible, Attorney

F. L. G. STRAUBEL.

DESK TRAY RACK.

APPLICATION FILED OCT. 24, 1917.

1,319,431.

Patented Oct. 21, 1919.

2 SHEETS—SHEET 2.

Fig. 7.

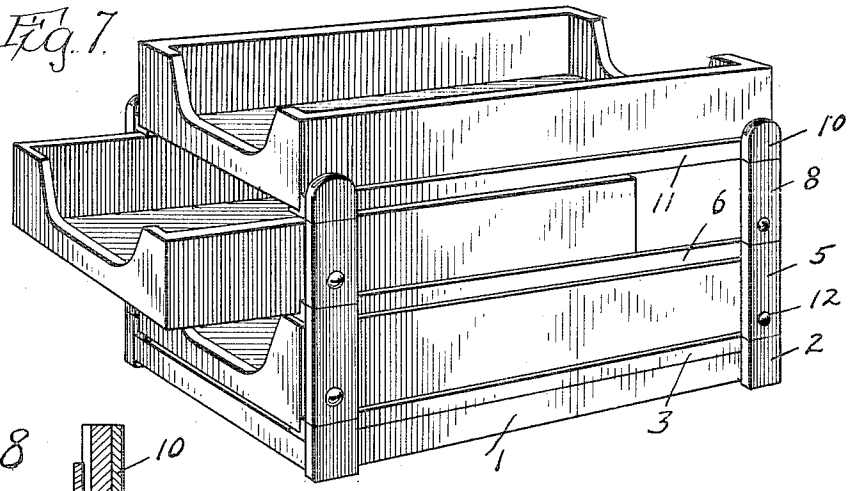


Fig. 8.

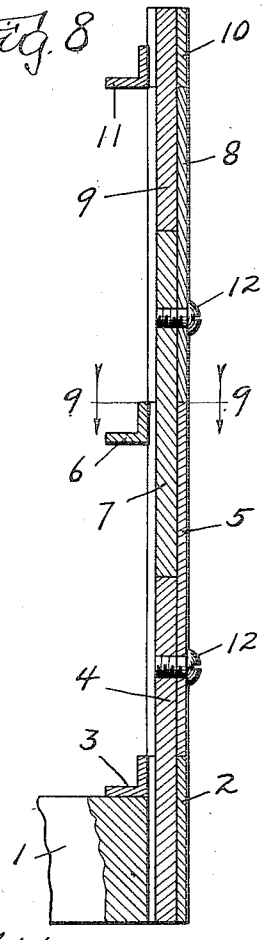


Fig. 9.

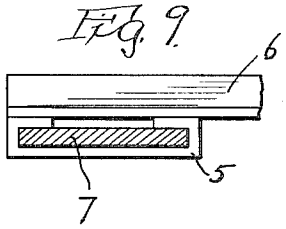


Fig. 10.

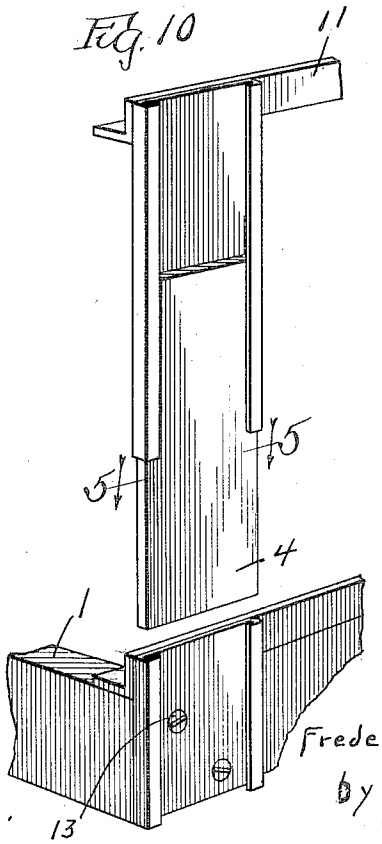


Fig. 11.



Witness:
Leo. Dumais.

Inventor:
Frederick L. G. Straubel
by Albert Scheible
Attorney

UNITED STATES PATENT OFFICE.

FREDERICK L. G. STRAUBEL, OF GREEN BAY, WISCONSIN.

DESK-TRAY RACK.

1,319,431. Specification of Letters Patent. Patented Oct. 21, 1919.

Application filed October 24, 1917. Serial No. 198,200.

To all whom it may concern:

Be it known that I, FREDERICK L. G. STRAUBEL, a citizen of the United States, residing at Green Bay, in the county of Brown and State of Wisconsin, have invented certain new and useful Improvements in Desk-Tray Racks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to racks for holding trays or drawers in a position in which they will normally be disposed one above the other, and in which any desired number of the drawers or trays may be either partially or entirely withdrawn fom the rack without disturbing the others. Racks of this general nature are growing to be more and more desirable for the sorting and temporary storing of correspondence in offices or other parts of business establishments, and for the convenient storing of small parts in factories. Where such racks have been built independent of tables or shelving, it has been customary heretofore to construct the supporting frame of wood, as shown for example in my copending application filed December 15, 1915, as Serial No. 66952. The construction there disclosed has the usual limitations in strength due to a possible splitting or cracking of the wood unless this is so heavy that it appears bulky and clumsy, and also due to the impracticability of enlarging the capacity of the rack according to the increasing demands of the purposes for which it is intended.

In its general aspects, my present invention aims to provide a rack having sectional vertical members which may be increased or decreased in number as desired, and which will even permit the ready substitution of rack portions and of trays or drawers differing in height from those previously used. More particularly, my invention aims to provide a rack of this general class in which the guides for supporting the respective trays are all made of equivalent pieces, in which either identical or generally similar parts are used for the sections of the posts or uprights, and in which these sections may be firmly interlocked, if so desired, by simple means. Furthermore, my invention aims to provide a rack of this class in which each tray-supporting guide-strip is permanently fastened to a pair of post sections, thereby affording structural units which can conveniently be assembled as desired and thus reducing the number of fastenings otherwise required. So also, my invention aims to provide a rack of the class described in which both the guide strips and the component parts of the uprights or posts may be formed of sheet metal, and in which the post portions when assembled will occupy relatively little room and can readily be finished in imitation of wood to match the furniture of the office in which the rack is to be used. Still further objects will appear from the following specification and from the accompanying drawings, in which drawings—

Figure 1 is a perspective view of a four-tray desk set embodying my invention.

Fig. 2 is an enlarged transverse section taken vertically through one of the risers and a portion of the base adjacent thereto.

Fig. 3 is a fragmentary perspective view of one of the intermediate riser-and-strip units.

Fig. 4 is a perspective view of one end of the uppermost riser-and-strip unit.

Fig. 5 is a perspective view of one end of the lowest riser-and-strip unit.

Fig. 6 is a horizontal section through the riser of Fig. 2, taken along the line 6—6.

Fig. 7 is a perspective view of a desk tray set embodying my invention and showing one of the trays or drawers partly drawn out of the rack.

Fig. 8 is an enlarged central section taken vertically through one of the posts or uprights at the nearer side of the tray of Fig. 1.

Fig. 9 is a transverse section through one of the uprights and an adjacent portion of a guide strip, taken along the line 9—9 of Fig. 8.

Fig. 10 is a perspective view showing corner portions of an alternative construction of the rack of my invention.

Fig. 11 is a horizontal section through portions of Fig. 10, taken along line 5—5 of the latter.

In accomplishing the purposes of my invention, I employ, a base 1, desirably of wood and in the shape of a rectangular frame, and of a width somewhat greater

than that of the trays or drawers. Then I employ metal guide strips 2 of angular section, each of which guide strips is desirably fastened permanently to one of the elements forming a portion of the upright or post. These uprights are desirably four in number and located at the corners of the rectangular base, and each of the uprights preferably consists of a number of consecutive channel-shaped or tubular sections having similar and alined bores, together with a number of core pieces each fitting into the channels or bores of two consecutive housing sections and thereby connecting the latter. The risers thus formed jointly by the core elements and the elements housing the latter are fastened to the base and to the guide strips which support the drawers or the trays, the fastening being either to the core pieces or to the housing elements, as illustrated respectively in Figs. 1 and 7.

Thus, in Figs. 1 to 6 inclusive, the base 1 and the guide strips 2 are secured to the core pieces, and the fastenings of these core pieces to the guide strips are desirably permanent, as by spot welding each guide strip to the adjacent core sections forming parts of two of the risers respectively. If the base is of wood, the lowest core section may desirably be fastened to this base jointly with the lowest section of the incasing elements, as by screws extending through both of the latter and into the wood base. (See Fig. 5). Likewise, the uppermost incasing element and core piece may desirably be welded to each other and to the upper guide strip, as shown in Fig. 4. For the intermediate rack unit portions, I desirably weld two of the intermediate core sections to a guide strip near the respective ends of the latter, and weld a casing element to each core section in a position in which it extends considerably beyond the core section at one end, but exposes the core section at its other end. With the parts thus constructed, the two lower units (one end of which is shown in Fig. 5) are fastened respectively to the opposite sides of the base 1, with the tips of the core pieces 16 projecting above the base. Then one each of the intermediate rack units of Fig. 3 is affixed so that the lower or hollow end of each casing element 17 fits over one of the said projecting parts of the core 16, after which the elements 17 and 16 are suitably fastened to each other, as by screws 12. Each of these intermediate rack frame units then presents two upwardly directed and exposed core portions (as in Fig. 3) which may in turn be housed by the lower ends of the casing elements on another such unit, thus permitting these intermediate elements to be added to one another in any desired number. Then the upper rack frame units are similarly affixed to the uppermost one of the intermediary units. These upper units require no upward extension of the core pieces, and hence desirably have the upper ends of their cores hooded by caps 15 formed from the core-incasing elements, as shown in Figs. 2 and 4.

Instead of using incasing elements of a channel section, and applied laterally to adjacent core pieces, these elements may be substantially tubular, so as to telescope over the adjacent core ends, as in Figs. 7 to 11 inclusive, in which case both the wood base and the tray-supporting strips are desirably attached to the tubular elements. Thus, Fig. 8 shows a lower and substantially tubular sheath 2 fastened to the wood base and to the lowest guide strip, while Fig. 10 shows a similar sheath arranged with its opening disposed outward of the base. In either case, this sheath is adapted to slidably receive one of the lowest core sections 4, which may either be loose or permanently secured (as by soldering or welding) to the next sheath section 5. The latter in turn houses part of a core 7 which extends upward into another sheath 8, and the latter coacts with the top sheath 10 in housing the uppermost core section 9. When the parts are thus assembled, the weight of the metal portions, aided by the weight of the trays, will tend to keep them in their normal positions. However, they might tend to slide more or less if a tray is carelessly withdrawn, or if a tray is left dangling in a partially withdrawn position. I therefore desirably provide auxiliary means, such as screws 12 for securing the slidably assembled parts to each other.

From the above descriptions and from the drawings it will be obvious that the rack of my invention can easily be constructed of parts cheaply formed from sheet metal, and by japanning these parts in imitation of wood, I can readily obtain an appliance matching the wood furniture of a given office, but of decidedly greater strength and less bulk than if I used wood for these risers. Moreover, it will be obvious that each tubular section presents an upwardly directed socket ready to receive another core, so that the height of the rack may be readily increased by affixing additional sections, or interposing the latter between some of the sections of the original rack. Moreover, by varying the lengths of the cores and of the tubular elements I can readily adapt the rack for use with trays or drawers of varying heights.

To connect the tubular elements to the guide strips, I desirably employ a spot weld, which weld might also be employed for permanently interlocking any of the cores with the tubular elements if so desired. However, I do not wish to be limited to this or other details of the construction and arrangement here disclosed, it being obvious

that the same might be modified in many ways without departing from the spirit of my invention.

I claim as my invention:

1. A rack for series of superposed trays, comprising at each side a plurality of tray-supporting strips, each of the said strips having a horizontal web adapted to underlie one of the trays, and a vertical web; flattened tubular elements disposed in vertical axial alinement and each fast upon the web of one of the strips, and connecting elements each slidably interfitting two successively superposed tubular elements.

2. A rack for series of superposed trays, comprising at each side a plurality of tray-supporting strips, each of the said strips having a horizontal web adapted to underlie one of the trays, and a vertical web; flattened tubular elements disposed in vertical axial alinement and each fast upon the web of one of the strips, and connecting elements each slidably interfitting two successively superposed tubular elements; in combination with a base, and means for securing the lowermost of the said elements to the base.

3. In a rack having at each side a pair of sectional risers and a plurality of vertically spaced tray-supporting angle-sectioned guideways carried by the risers, a structural unit comprising in rigid formation one of the guideways and a single section of each of two risers.

4. In a tray rack, risers each comprising a plurality of alined channel-sectioned elements, and core sections each having one end housed by and permanently secured to one of the channel elements and having its other end slidably housed by the next consecutive channel element, and means for detachably securing the last named end to the last named channel element.

5. In a rack having at each side a pair of sectional risers and a plurality of vertically spaced tray-supporting guideways carried by the risers, a structural unit comprising in rigid formation an angle-sectioned guideway, two flat riser cores secured intermediate of their ends respectively to a web of the guideway, and two substantially tubular riser members respectively secured to and housing the portions of the cores below the guideway and extending beyond the lower ends of the said cores to present tubular ends adapted to receive the upper ends of cores of another such structural unit.

Signed at Green Bay, Wisconsin, October 20th, 1917.

FREDERICK L. G. STRAUBEL.