

Nov. 22, 1960

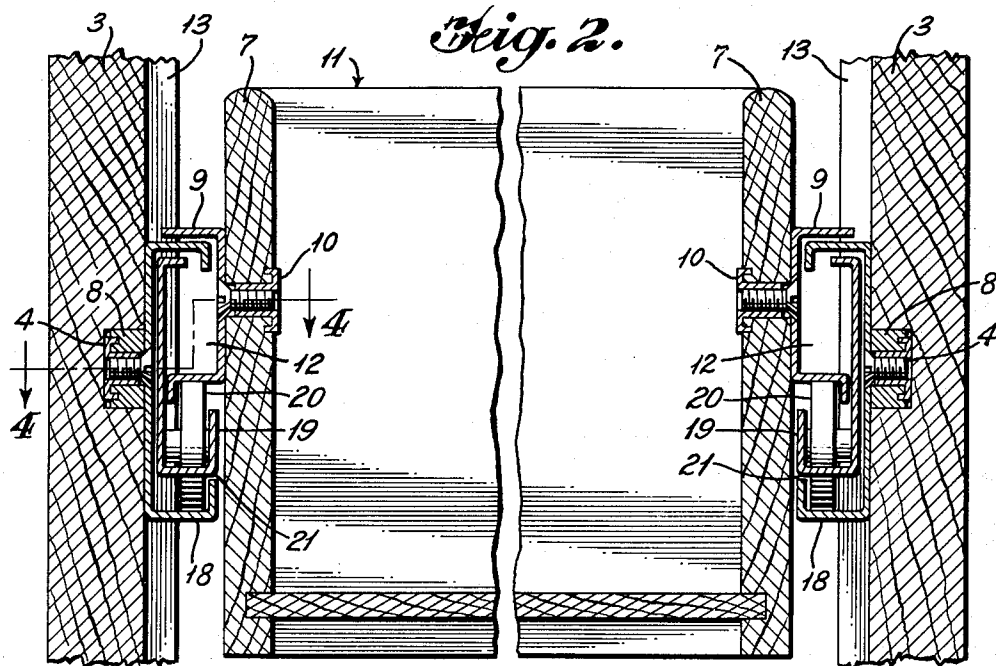
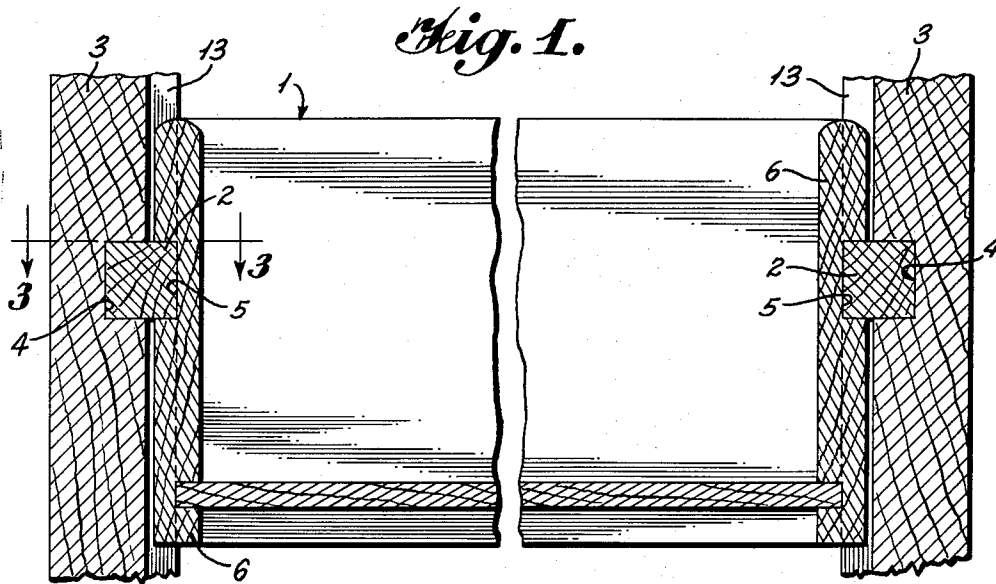
M. I. STURM

2,961,284

INTERCHANGEABLE DRAWER RUNNERS

Filed Feb. 10, 1959

2 Sheets-Sheet 1



INVENTOR

Max I. Sturm

BY
Burns, Doane, Benedict & Evans
ATTORNEYS

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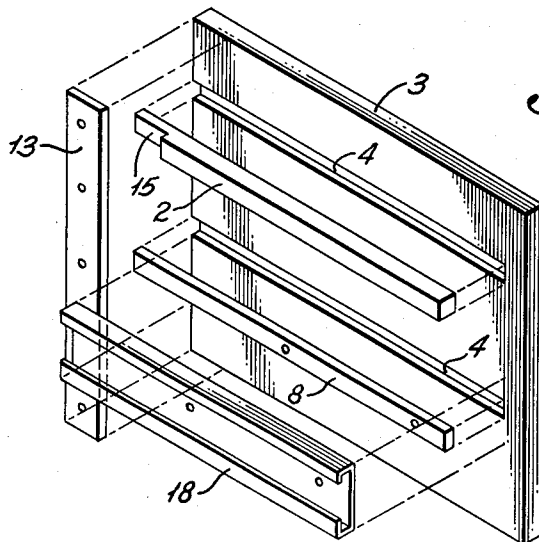
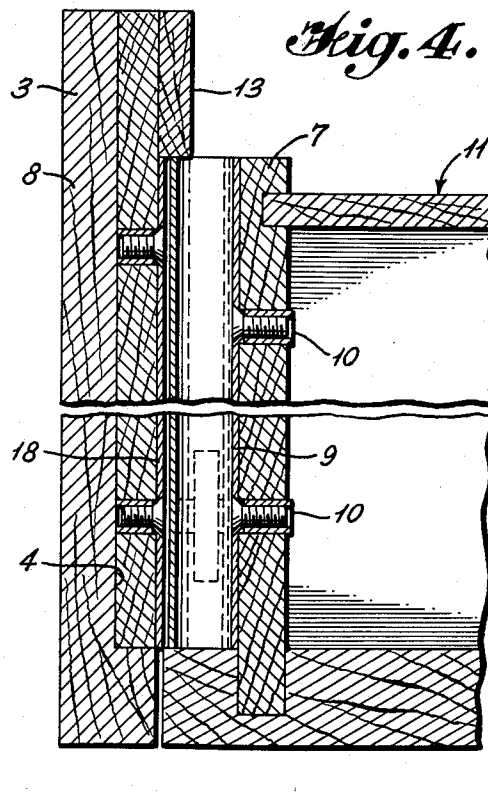
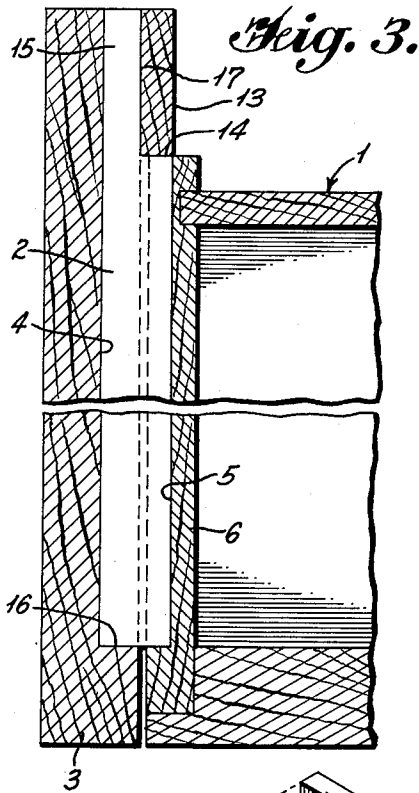
M. I. STURM

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INTERCHANGEABLE DRAWER RUNNERS

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2 Sheets-Sheet 2



INVENTOR

Max I. Sturm

BY

Burns, Doane, Benedict & Strom
ATTORNEYS

1

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INTERCHANGEABLE DRAWER RUNNERS

Max I. Sturm, Jasper, Ind., assignor to Jasper Office Furniture Company, Jasper, Ind., a corporation of Indiana

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2 Claims. (Cl. 312—350)

This invention relates to a drawer runner structure for articles of furniture adapted to facilitate the selective interchangeability of drawers housed by such articles.

More specifically, this invention relates to a drawer runner structure for desks, and particularly wooden desks, wherein the arrangement of drawers within the desk drawer wells may be changed at the convenience of the user.

Articles of furniture such as are utilized in business and professional offices frequently must be adapted to a variety of uses. Such adaptation at times requires the rearrangement of drawers mounted on nonextensible drawer runners, hereinafter termed primary drawers, and drawers mounted on extensible drawer runners, hereinafter termed alternate drawers. This rearrangement often requires that nonextensible drawer runners be interchanged with extensible drawer runners.

Interchangeable drawer runners, per se, have been known for several years in the office furniture art. Such devices, however, have suffered from a variety of defects. Frequently, they have been difficult and cumbersome for a layman to install, necessitating the use of special fixtures or tools. In addition, many have been structurally complex so as to be difficult and expensive to manufacture as well as susceptible to mechanical failure. Further, many when installed proved incapable of providing adequate drawer support of the type afforded by permanently installed drawer runners.

It is an object of this invention to provide an interchangeable drawer runner structure to permit the selective interchangeability of drawers within the drawer wells of an article of furniture, without the use of tools or special fixtures.

An additional object of this invention is to provide mutually interchangeable nonextensible drawer runners and extensible drawer runners of maximum structural simplicity in order to reduce the number of accessory components necessary to be supplied with office furniture to permit such furniture to be adapted to a variety of uses.

It is a further object of this invention to provide interchangeable drawer runners whose ease of installation and interchangeability makes it possible for them to be removed or installed by nonskilled personnel.

A further object of this invention is to provide an interchangeable drawer runner structure which is supported throughout substantially its overall length to avoid warpage of the runner under adverse humidity conditions or flexing of the runner under heavy drawer load conditions.

Another object of this invention is to provide a drawer runner structure wherein the drawer runner supporting elements do not interfere with the free interchange of drawers.

It is still a further object of this invention to provide a structurally simple interchangeable drawer runner structure, particularly useful in connection with wooden articles of office furniture, which may be fabricated with

2

maximum ease and which is not susceptible to mechanical failure.

Generally speaking, this invention pertains to an interchangeable drawer runner structure included in an article of furniture adapted to interchangeably receive diverse type drawers. This article of furniture includes a pair of horizontally spaced runner supporting members, non-extensible drawer runners adapted to support primary drawer members, extensible drawer runners adapted to support alternate drawer members, drawer runner end retaining members, primary drawer members and alternate drawer members. A series of longitudinally extending, vertically spaced, similarly configured grooves are formed in the facing surfaces of the runner supporting members. A side portion of both the nonextensible and extensible drawer runners are configured in cross section to match the configurations of these runner supporting member grooves, whereby such grooves may snugly receive and support either said nonextensible or extensible drawer runners over substantially their entire length. The drawer runners, when assembled with the runner supporting member grooves, are restrained from lateral movement by the runner end retaining members engaging their rearward ends. Additional lateral restraint is provided by the drawers supported by the runners. Longitudinal runner movement is prevented by the ends of the runner supporting member grooves and the runner end retaining members engaging the ends of said runners.

A combination of elements as heretofore described, produces an article of furniture of structural simplicity and durability wherein nonextensible drawer runners are freely interchangeable with extensible drawer runners, permitting substitution of primary drawer runners for alternate drawer runners with maximum ease.

Having generally described the invention, its details will now be elaborated by reference to the accompanying drawings.

In the drawings:

Figure 1 is a transverse sectional view of a drawer housing illustrating a primary drawer supported on a nonextensible drawer runner;

Figure 2 is a transverse sectional view of a drawer housing illustrating an alternate drawer supported on extensible drawer runners;

Figure 3 is a horizontal sectional view of a drawer housing further illustrating a primary drawer supported on nonextensible drawer runners;

Figure 4 is a horizontal cross-sectional view of a drawer housing further illustrating an alternate drawer supported on extensible drawer runners; and

Figure 5 is a perspective exploded view of a drawer housing showing the relative arrangement of a runner supporting member, drawer runners, and a drawer runner retaining member.

Referring now to the drawings, the advantages to be derived from my invention will become more readily apparent.

Figure 1 discloses a cross-sectional view of a drawer housing wherein a primary drawer 1 is shown to be supported on two nonextensible drawer runners 2. The housing includes horizontally spaced runner supporting members, in this case represented as cabinet side panels 3, in which are formed horizontally extending grooves 4.

Positioned and snugly fitting within the grooves 4 are nonextensible drawer runners 2. Runners 2 comprise longitudinal members having as shown in Figure 1, a cross-section configuration matching that of the grooves 4 in which they are positioned. Grooves 4 in the drawing are shown to be generally rectangular in configuration. While this particular configuration affords maximum vertical support for drawer runners 2, it is to be appreciated that it is merely representative of a preferred

embodiment of my invention and that runners and grooves of other shapes or configurations may also be employed.

Referring now to Figure 5, the mode of assembly of runners 2 with their associated grooves 4 will be shown. Each runner 2 is provided with a tongue portion 15 on one end. Runner 2 is positioned in groove 4 such that tongue 15 is located at the rearward end of the drawer housing defined by spaced panels 3. Tongue 15 is dimensioned such that face 17, when runner 2 is positioned in groove 4, lies in or slightly below the plane of the inner face of panel 3.

A retaining cavity adapted to receive and secure tongue 15 is defined by a vertically extending runner and retainer member 13 affixed to the face of panel 3. This cavity, formed between retaining member 13 and groove 4 of panel 3, securely restrains the tongued end 15 of runner 2 from outward lateral movement. In addition, by referring to Figure 3, it will be appreciated that longitudinal movement of runner 2 relative to groove 4 is prevented by end face 16 of groove 4 and side face 14 of retaining member 13 engaging opposite end faces respectively of said runner member. It is apparent, of course, that sufficient tolerance must be left between faces 16 and 14 and the ends of runner 9 and between tongue 15 and runner retaining member 13, respectively, to permit runner 2 to be freely insertable and withdrawable from groove 4.

After the assembly of runners 2 with grooves 4 as heretofore described, a primary drawer 1 may be inserted within the drawer housing between side panels 3 and supported on runners 2 by means of grooves 5 formed in the side walls 6 of drawer 1. When so assembled, the drawer 1 provides means in addition to retaining member 13 to prevent lateral outward movement of runners 2.

The structure of my proposed extensible drawer runner structure will now be described by reference to Figures 2, 4 and 5.

Figure 2 discloses a cross-sectional view of a cabinet structure wherein an alternate drawer 11 is supported on extensible drawer runners 12. These extensible drawer runners 12 include channel members 9 affixed to the side walls 7 of drawer 11, intermediate channel members 19 each carrying a plurality of rollers 20, as well as channel members 18 with associated support members 8 supported by cabinet side panels 3. Each channel member 9, as shown in Figure 2 in cross-section, is permanently affixed to a side wall 7 of drawer 11 by devices such as threaded fastenings 10. Each channel member 18 is affixed to support members 8 by similar fasteners. Rollers 20 are mounted in each channel member 19 so as to have a peripheral portion extending through the lower wall 21 whereby when channel members 18, 19 and 9 are assembled as shown in Figure 2, channel member 19 is rollably supported on channel member 18, while channel member 9 is in turn rollably supported on channel member 19. It will be noted that support member 8 is configured to correspond to the shape of the channel groove 4 in which it is positioned. This configuration is here shown to be rectangular, but as mentioned earlier, my invention is not limited to this particular shape.

The thickness of support members 8 is such as not to exceed the depth of grooves 4, such dimensioning insuring that runner support member 8 may be positioned in groove 5 with associated channel member 18 engaging the inner face of panel 3. Such dimensioning correctly aligns channel member 18 relative to channel member 9 carried by drawer 11 and further insures that the end portion of support member 9 adjacent the rearward end of the drawer housing may be contained within the aforementioned cavity defined by runner end retaining member 13 and groove 4. It will be apparent, by reference to Figure 4, that in order for this end portion to be contained within this cavity, channel member 18 must be of such

longitudinal dimension as to terminate short of the end portion.

Alternate drawer 11 is assembled upon extensible drawer runners 12 in a manner similar to that in which primary drawer 1 is assembled upon nonextensible drawer runners 2. Drawer 11 is positioned within a drawer housing such that nonextensible runner components 9 and 18 are telescopingly assembled as shown in Figure 2. Although, by virtue of such positioning of drawer 11, associated runner components 18 and 8 are effectively restrained from lateral outward movement, it may be desirable in certain instances to further secure runner components 18 and 8 by devices such as removable threaded fastenings extending through runner components 18 and 8 and engaging side panels 3. Such auxiliary fastenings are purely optional, however, and not necessary elements of my invention.

Should it be desired to interchange a primary drawer 1 supported by nonextensible drawer runners 2 for an alternate drawer 11 supported by extensible drawer runners 12, it is merely necessary to remove the primary drawer 1 from the housing, remove the nonextensible drawer runners 2 from their supporting grooves 4, replace these runners by channel portion 18 and associated support portion 8 of extensible drawer runners 12, and insert the alternate drawer 11, as heretofore described. This interchange may, of course, also be effected in reverse.

By virtue of the extremely simple groove support arrangement for interchangeable drawer runners heretofore described, a number of beneficial results are obtained. The structural simplicity of the arrangement facilitates the manufacture of articles of furniture in which it is embodied in that a minimum number of fabrication steps are required in forming the groove and matching runner. This structural simplicity additionally lessens the likelihood of the occurrence of mechanical failure. Further, in assembling the runner with its supporting groove, it is neither necessary to employ tools nor holding fixtures. As a result, in addition to reducing the expense of the article of furniture, modifications in drawer arrangements may be effected by nonskilled personnel. Of additional significance is the fact that the lack of necessary supporting fixtures eliminates the possibility of such fixtures interfering with the movement of supporting drawers.

While the invention has been described with respect to a specific preferred embodiment, it will be understood that the invention is not limited to the details shown and described but is determined by the scope of the appended claims.

I claim:

1. An article of furniture adapted to receive interchangeable drawer members, said article comprising a plurality of drawer members, a pair of drawer runners adapted to engage the opposite sides of and thereby support each of said drawer members, a pair of horizontally spaced runner supporting panels, and drawer runner-end retaining members, said runner supporting panels each containing a series of horizontally extending, vertically spaced, substantially uninterrupted grooves of like configuration extending the length of said drawer runners, a side portion of said drawer runners being configured to match the configuration of said runner supporting panel grooves whereby said supporting panel grooves may snugly receive and vertically support said drawer runners over substantially their entire length and guide the insertion of said runners into secured relationship with said runner-end retaining members, first abutment means provided in the forward ends of said grooves for preventing forward longitudinal movement of said runners, said drawer runner-end retaining members defining with said grooves drawer runner-end receiving cavities and providing second abutment means for preventing rearward longitudinal movement of said runners, said runners when

5

so assembled with said grooves and supporting said drawers being removable therefrom but restrained from lateral outward movement by said drawer runner-end retaining members engaging the rearward ends and said drawers engaging the forward ends thereof.

2. An article of furniture as described in claim 1 wherein each of said drawer runner end retaining members comprises an elongate strip vertically secured to one of said runner supporting members and extending over the rearward ends of said runner supporting member grooves thereby defining cavities adapted to receive and restrain the rearward ends of said drawer runners.

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