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L. A. VANDERHOOF

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METAL FURNITURE

Filed Dec. 3, 1930

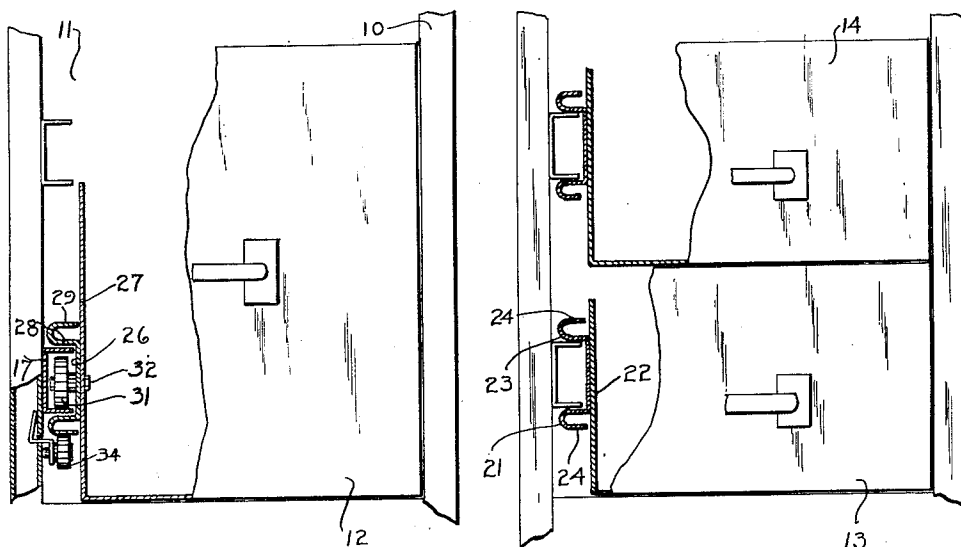


FIG 1

FIG 2

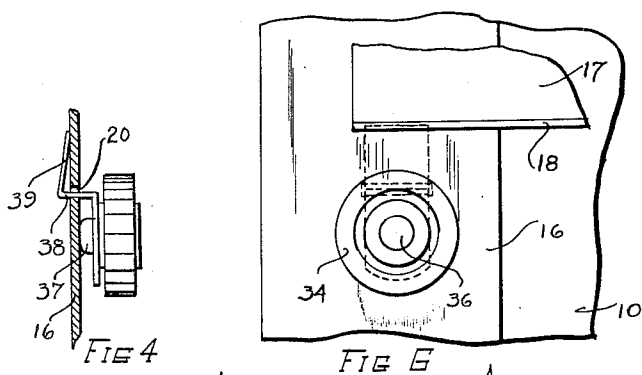


FIG 4

FIG 3

FIG 5

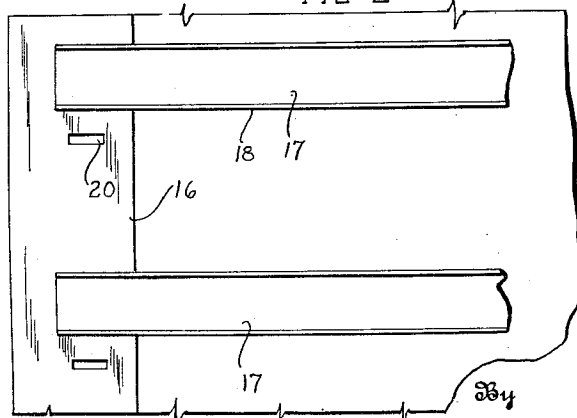


FIG 6

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METAL FURNITURE

Application filed December 3, 1930. Serial No. 499,675.

This invention relates to an improvement in metal furniture and more particularly to suspension means for drawers mounted therein.

Although attention has for sometime been centered on metal drawer suspensions for articles of furniture to the extent that marked structural improvement is noted, little or no attention has been directed to provision of suspensions with which either friction or anti-friction supported drawers may be engaged as desired. Heretofore, when it was desired to substitute friction for anti-friction supported drawers or vice versa, or to insert several small drawers in place of one or more large drawers, it has been either necessary to provide a new article of furniture of the style required, or to partly reconstruct the interior of the article to accommodate drawers not contemplated when said furniture was assembled.

The present invention is directed to the provision of an article of metal furniture, the drawer mounting of which is adapted for either friction or anti-friction means by which drawer interchangeability is made possible at the convenience of the user.

The principal object of the invention is to provide interchangeable drawer suspensions in an article of metal furniture.

Another object of the invention is to provide in metal furniture engaging means adapted to receive friction or anti-friction supported drawers.

A further object of the invention is to provide means by which a friction drawer slide may be changed to an anti-friction slide or vice versa at the convenience of the user.

A still further object of the invention is to provide a metal furniture means by which to support interchangeable drawers of varying size having either friction or anti-friction supporting means.

Other and further objects of the invention may be more clearly understood from a consideration of the following specification which is taken in conjunction with the accompanying drawings; and in which

Fig. 1 is a fragmentary front elevation of

a piece of metal furniture showing a large file drawer mounted therein;

Fig. 2 is a fragmentary front elevation of a piece of furniture showing two small drawers mounted in place of the large drawer shown in Figure 1;

Fig. 3 is a fragmentary interior view showing the arrangement of drawer guide channels;

Fig. 4 is a view showing one method of mounting a removable drawer supporting roller;

Fig. 5 shows the removable roller partly disengaged from the supporting wall; and

Fig. 6 is a fragmentary elevation showing the relation between the removable roller and fixed drawer slide.

Referring to the drawings the reference numeral 10 is employed to designate an article of metal furniture which may take the form of a case, desk, cabinet or other structure fitted with sliding drawers. A vertical opening 11 is provided in which is mounted a large drawer 12 or small drawers 13 and 14. Secured, adjacent their forward ends to the inturned flange 16, and at one or more other points within the case 10 are channels 17. These channels are horizontally paired, each pair being vertically spaced apart a distance substantially one-half the height of the large drawer 12 and for a purpose which will later be set forth. The channels 17 open inwardly being formed with substantially uniform upper and lower flanges 18. Cut into the flange 16 of the case directly beneath the forward end of each of the channels 17 is a horizontal slot 20.

Small drawers 13 and 14 are provided with longitudinally extending guide channels 21 which are joined to the side walls 22. These channels open outwardly away from the wall of the drawer and are defined by flanges 23 which terminate in return flanges 24. The space between flanges 23 is sufficient to freely receive the flanges 18 of the channel 17 mounted in the case 10. Drawers 13 and 14 are mounted by telescopingly engaging the adjacent channels 21 with channels 17. These drawers, being shallow, do not normally receive papers of any considerable weight and,

consequently, the friction slide in the form of channels 17 and 21 is ordinarily adequate to insure easy manipulation thereof. When it is desired that a drawer of this size be

freely movable under the burden of additional weight, anti-friction means is provided as will be more clearly described.

Large drawer 12, adapted to accommodate heavy files, is supported upon outwardly opening longitudinal channels 26, secured to the vertical side walls 27 of the drawer. The channels 26 are identical with channels 21 of the smaller drawers 13 and 14, being formed with flanges 28 which terminate in return flanges 29. Lying within and adjacent the rear end of each channel is an anti-friction roller 31. The roller is supported on a pin 32 with the circumferential edge uniformly spaced from the flanges 29 of said channel. This roller constitutes the anti-friction support for the rear of the drawer 12. Further anti-friction rollers 34 are adapted to support the forward end of drawer 12. These rollers are mounted on brackets 35 by means of pins 36, the ends 37 of which project beyond the bracket wall. Bracket 35 is formed with a horizontal flange 38 which terminates in a flange 39 disposed at an angle of less than 90 degrees relative to the flange 38. The roller 34 is mounted on the flange 16 by inserting flanges 38 and 39 in slot 20. The method of mounting the roller is shown in Figure 5. When the roller is in position of use (see Figures 1 and 4), a three-point contact is had with the flange 16, namely the upper end of flange 39, flange 38 and pin end 37. With a weight resting upon the roller, dislodgement thereof is impossible.

The drawer 12, when rollers 34 are in place, is mounted in the opening 11, drawer channels 26 telescopically receiving channels 17. Rollers 31, by reason of the drawer weight, rest upon lower flanges 18 of channels 17 and lower flanges 29 of the drawer channels are supported on rollers 34. The drawer 12 is carried upon four rollers, two of which are located adjacent the rear of and on said drawer, the other two being in the forward end of the case. During partial withdrawal of drawer 12, the weight is supported as above described. However, when the drawer is slightly more than half withdrawn, it will tip forward, causing the rearmost rollers 31 to engage upper flanges 18 of channels 17. It will, therefore, be understood that the drawer is roller supported at all times and may be easily manipulated.

It often occurs that the purchaser of an article of furniture desires to rearrange the drawer facilities, namely by substituting two small drawers for one large drawer or, in the case of a metal desk, exchanging two small drawers in one pedestal for a large file drawer located in the other pedestal. A further rearrangement might be found to ad-

vantage, namely, that of changing the vertical disposition of the large drawer. Any of these exchanges or substitutions may be made in the following manner. Referring to Figure 1, a large file drawer is shown mounted in the case 10. To replace this drawer with the two small drawers 13 and 14 involves simply removing drawer 12, disengaging rollers 34 from flanges 16 and inserting said small drawers. It will be noted that when the large drawer 12 was in place the upper channels 17 were not in use but that when the small drawers were substituted said upper channels supported the upper drawer 14. In the event that the small drawers are required to carry unusually heavy files, etc., partial friction relief may be obtained by the use of rollers 34, a pair of which may be mounted directly beneath each of the channels 17 and upon which the lower drawer flanges 24 will ride during manipulation of said drawers. It will therefore be understood that the matter of drawer rearrangement simply requires relocating the rollers 34 which may be done by the user of the article of furniture without the aid of any tools whatsoever.

Although applicant has shown and described only one modification of his invention, it is obvious that other modifications in both structure and adaptation may be made without departing from the spirit and scope of the invention as set forth in the hereunto annexed claims.

Having thus set forth my invention what I claim as new and for which I desire protection by Letters Patents is:

1. In an article of metal furniture having side flanges defining an opening for sliding drawers, a removable drawer supporting bearing comprising a roller, a bracket, a pin engaging said roller with one end of said bracket, one end of said pin being projected beyond the face of said bracket, angularly disposed flanges terminating the free end of said bracket, said flanges and said pin end being adapted to retain said roller in parallel spaced relation to one of said side flanges.

2. In an article of metal furniture having flanges defining an opening for sliding drawers, walls defining a plurality of slots in said flanges, a drawer supporting bearing comprising a roller, a bracket supporting said roller, flanges on said bracket engageable with one of said slots whereby to removably mount said bearing in said article.

3. In an article of metal furniture having flanges defining an opening for sliding drawers, a removable drawer supporting bearing comprising a roller, a bracket supporting said roller on one of said flanges, and means on said bracket, retaining said roller in parallel spaced relation to said flange.

4. In an article of metal furniture having flanges defining an opening for sliding draw-

ers, a removable drawer supporting bearing comprising a roller, means removably mounting said roller on one of said flanges, said means retaining said roller in parallel spaced relation to said flange.

5 In testimony whereof I have affixed my signature.

LAWRENCE A. VANDERHOOF.

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