July 10, 1928. 1,676,910

A. H. LEVENE

MOVABLE SHELF DIVIDER

Filed Oct. 23, 1926

Fig. 1.

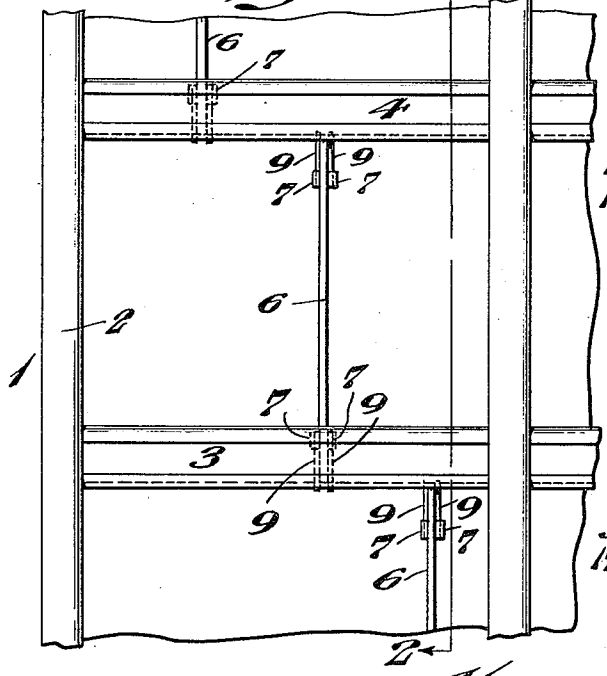


Fig. 2.

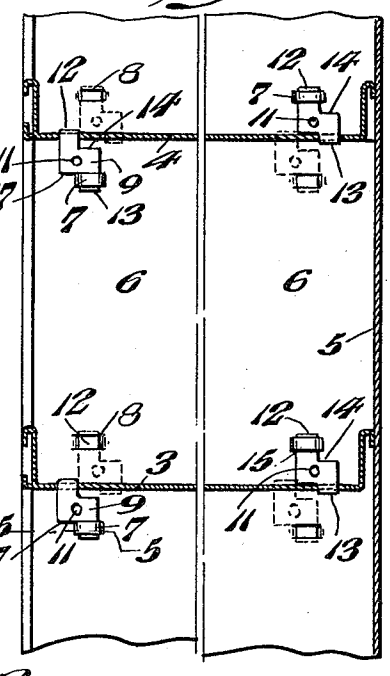


Fig. 4.

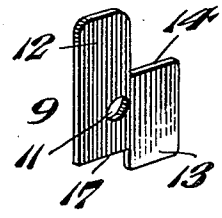


Fig. 3

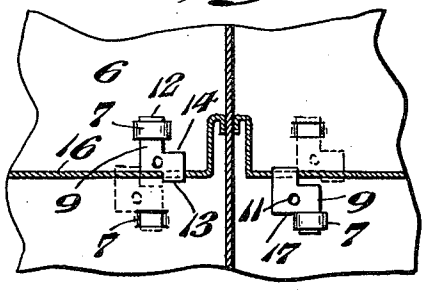


Fig. 5.

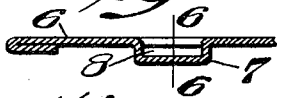


Fig. 6.

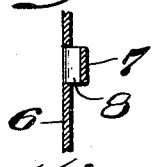


Fig. 7.

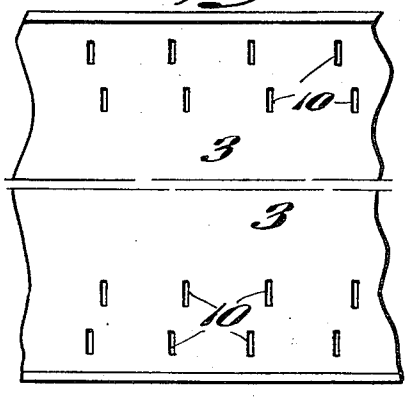


Fig. 8.

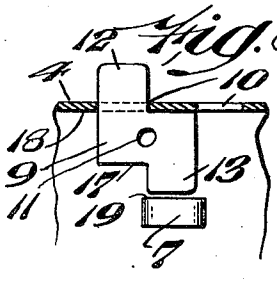
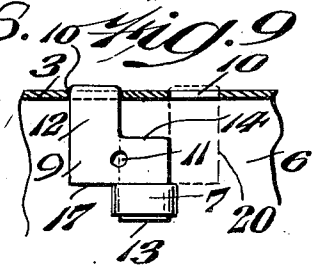


Fig. 9



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UNITED STATES PATENT OFFICE.

ALBERT H. LEVENE, OF NEWARK, NEW JERSEY, ASSIGNOR TO DE LUXE METAL FURNITURE COMPANY, A CORPORATION OF PENNSYLVANIA.

MOVABLE SHELF DIVIDER.

Application filed October 23, 1926. Serial No. 143,545.

My invention relates to a new and useful construction of movable shelf dividers and it relates more particularly to a novel manner and means of detachably securing a movable shelf divider to the shelf members, thus adjustably to divide a given shelf construction into any number of compartments of varying dimensions.

The object of my invention is to provide a movable divider of the character stated, which can be installed and removed, at a minimum cost of time and labor, and one which will provide a strong and neat looking construction.

It has been the practice heretofore, in adjustable shelving of this general character, known and used heretofore, to provide a series of apertures in the horizontal members of the shelf construction and a corresponding series of apertures in the divider or partition and to secure the latter to the former by means of rivets, bolts and nuts, or screws and washers and the like. In practice, these constructions have been found to be disadvantageous, since the removing and reinstalling of the dividers, whenever it is desired to vary the size of the compartments in any given shelf, involved a great deal of time and labor in manipulating or unscrewing such bolts and nuts, or screws and washers, and similar fastening devices, and often called for partially or completely removing the contents of such compartment before the divider could be removed. Particularly was the task of removing such dividers or partitions difficult and time consuming when such nuts or washers were rusty, or when the same became coated over with paint as frequently occurs. This prior construction was also uneconomical and cumbersome, since it called for a greater number of parts and more material than is involved in the novel construction forming the subject matter of my present invention, as will hereinafter appear.

The object of my invention is to provide a novel means whereby floating dividers or partitions may be easily and quickly secured in place at a minimum of time, labor and material, and whereby a neater looking shelf and compartment construction is produced which will at the same time afford sufficient strength and stability.

With the above ends in view, my invention consists in providing a plurality of apertures in the upper and lower horizontal shelf members, a plurality of apertured lugs or slotted projections provided at suitable points along the upper and lower periphery of said dividers and sliding keys adapted to engage the apertures in said shelf members and said dividers, thus detachably securing the latter in position with respect to the former.

For the purpose of illustrating my invention I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

Figure 1 represents a fragmentary view in front elevation of a shelving construction, embodying my invention.

Figure 2 represents a vertical section on line 2—2 of Figure 1.

Figure 3 represents a fragmentary vertical sectional view of a double section shelf construction embodying my invention.

Figure 4 represents on an enlarged scale, a perspective view of the sliding key of my novel construction.

Figure 5 represents a sectional view on line 5—5 of Fig. 2 showing one of the apertured lugs or shoulders provided on each partition into which the key is adapted to slide, the key being omitted.

Figure 6 represents a section on line 6—6 of Fig. 5.

Figure 7 represents a fragmentary plan view of a horizontal shelf member showing the series of staggered apertures provided therein.

Figure 8 represents on an enlarged scale a key of my novel construction with one end thereof engaging an aperture in the shelf member, and the other end thereof clearing the apertured lug on the divider.

Figure 9 represents a view similar to that shown in Figure 8, showing the key with both of its ends engaged by the aperture in the upper horizontal shelf member and the

aperture in the divider respectively, and showing in dotted lines an alternate position in which the reversible key of my novel construction may be used.

Similar reference numerals indicate corresponding parts.

Referring to the drawings:—

1 designates a steel shelf construction embodying my invention, comprising the uprights 2, the lower and upper horizontal shelf members 3 and 4 respectively and the back wall 5, all stamped out of any suitable sheet metal and secured together in any conventional manner.

The substantially rectangular divider 6, also stamped out of sheet metal, is provided at suitable points along the periphery thereof, with the apertured lugs 7 formed integrally therewith by a single stamping and punching operation. The lugs 7 are provided with the through holes 8 and are preferably disposed at diagonally opposed points on the opposed faces of the partition or divider 6. In the particular embodiment of my invention illustrated in the drawings, I employ four such apertured lugs 7, disposed near the respective corners of the divider 6, two on each face of said divider. Into the aperture 8 in the lug 7, is adapted to seat one end of the key 9, while the other end of said key is adapted to seat in the aperture 10 provided in the upper and lower horizontal shelf members respectively.

The key 9, preferably of the shape shown in Figure 4 and stamped out of sheet metal of suitable thickness, is provided with the through hole or other indentation 11, which affords a hold on said key so that in case the same becomes obstructed with rust or paint or the like, or is located at a point where it can not be conveniently reached by hand, the same may be easily dislodged with the aid of some tool, such as a screw driver or the like. The key 9 may also be made of wire bent around into the desired shape.

Referring to Figure 4, the key 9 comprise the end portions 12 and 13 respectively, both of which are of a size easily to fit into the apertures 8 and 10 respectively, as will be described more in detail hereinbelow.

In carrying out my invention, I preferably employ a divider 6, provided with four apertured lugs 7, stamped out therefrom near the respective corners thereof, two such lugs 7 being employed on each face of said divider and being diagonally opposed to each other. It is to be noted however, that the number of such keys and lugs employed is not of the essence of this invention.

Since the lugs 7 and the keys 9 are all of the same construction, function in the same manner and serve the same purpose, a description of one such lug and one such key will suffice and only the manner of fastening the lower edge of the partition 6 to the lower horizontal shelf member 3 and the manner of fastening the upper edge of the divider 6 to the underside of the upper horizontal shelf member 4 will be described.

Starting out with a shelf construction of the general character shown in Figure 1, and first describing the manner of securing the lower edge of a divider 6 to the upper side of the lower horizontal shelf member 3, by the novel means of my invention, I position a divider 6 provided with two diagonally opposed apertured lugs 7 near the upper and lower corners on each face thereof, in vertical alignment with the staggered series of apertures 10 in the upper and lower horizontal shelf members 3 and 4 respectively, the space or interval between each and the next succeeding partition depending upon the size of the compartment desired. I then take a key 9 and slide the longer end 12 thereof into the through aperture 8 in the lug 7 (see Fig. 2) until the offset edge 14 thereof comes in contact with the lower edge 15 of the lug 7, that is, until the key 9 is in its uppermost position. In this position the shorter end 13 of the key 9 clears the upper surface 16 of the lower horizontal shelf member 3. Then the shorter end 13 of the key 9 is brought into alignment with the corresponding aperture 10 in the lower horizontal shelf member 3 and the key 9 is moved downwardly until said end 13 seats in, and engages said aperture 10, and until the offset edge 17 thereof rests upon the upper surface 16 of the lower shelf member 3, as is clearly shown in Figures 2 and 3. In this position, it will be seen that the two ends 12 and 13 of the key 9 engage the aperture 8 in the lug 7 and the aperture 10 in the lower horizontal shelf member 3 simultaneously, thus rigidly and detachably securing the lower edge of the divider 6 to the lower horizontal shelf member.

In securing the upper edge of the partition 6 to the underside of the upper horizontal shelf member 4. I first insert the longer end 12 of the key 9 into the aperture 10 in the upper horizontal shelf member 4, until the offset edge 14 of the key 9 comes in contact with the underside 18 of said shelf, that is, until the key 9 is in its uppermost position (see Fig. 8). In this position the lower or shorter end 13 of the key 9 clears the lug 7 in the upper edge of the divider 6. I then bring said shorter end 13 of the key 9 into alignment with the aperture 8 in the lug 7 and allow the key 9 to drop thereinto until said end 13 of the key 9 seats in, and engages said aperture 8 and until the offset edge 17 thereof rests on the upper edge 19 of the lug 7 (see Fig. 9). In this position it will also be seen that the two ends 12 and 13 of the key 9 engage the apertures 8 and 10 in the lug 7 and the upper horizontal shelf

member 4 respectively, thus rigidly and detachably securing the upper edge of the divider 6 to said upper shelf 4. With the upper and lower edges thus rigidly and detachably secured, the divider 6 is adjustably held in position at all times.

By the provision of two diagonally opposed apertured lugs on each face of the divider 6, and by staggering the apertures 10 (see Fig. 7) in the shelf members I render the divider 6 reversible, which would not be possible if all of the apertured lugs 7 employed, were provided on one face of said divider. Similarly, by making the offset edge 14 of the key 9 of substantially the same length as the distance between any two adjacent apertures 10 (see Fig. 9), I also render the key 9 of my novel construction reversible, thus eliminating all the effort and time which would otherwise be necessary to ascertain that the proper key was being applied to the proper point, and in the proper position. Thus from Figure 9 it will be apparent that the key 9 can be used in the position shown or in the position indicated by dotted lines 20 and therefore the key 9 can be interchangeably used on either face of said divider and on the upper and lower edges thereof respectively.

Referring to Figure 4 it will be seen that the end 12 of the key 9 is considerably longer than the ends 13 thereof, thus rendering it possible to insert the key into and withdrawing the same from engagement with the apertures 8 and 10 respectively, which would not at all be possible if the ends 12 and 13 of said key were of the same length.

If desired I may merge each pair of staggered apertures into one larger aperture which will be adapted to receive the keys 9 on either side of the partition 6 thus reducing the total number of such apertures.

Although I have illustrated my invention as applied to vertical movable dividers or partitions, it is to be understood that my novel construction can be equally well applied to horizontal dividers also thus dividing any given shelf horizontally and vertically, into any desired number of horizontal and vertical compartments of any desired size.

It will now be seen that by my novel invention, the labor and time consumed in securing such movable dividers in place by the means and devices known and used heretofore is considerably reduced and the danger of such fastening means becoming obstructed is entirely eliminated. By my invention, furthermore, the cost of manufacturing, assembling and handling such fastening means is reduced to a minimum since it requires considerably less time and material to manufacture the key of my invention than it does to manufacture the more complicated and cumbersome fastening means such as screws and washers or bolts and nuts and the like.

It will now be apparent that I have devised a novel and useful construction of movable shelf divider, which embodies all the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof, which is at present preferred by me since in practice it will give satisfactory and reliable results, it is to be understood that such embodiment is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a shelf construction of the character stated, horizontal shelf members having apertures therein, vertical movable dividers adapted to coact with said shelf members to divide a given shelf into any desired number of compartments, said dividers being provided with projecting apertured lugs, sliding keys adapted to engage the apertures in said shelf members and in said lugs, detachably to secure said dividers in position with respect to said shelf members, each of said sliding keys comprising an extension 12, an offset edge 14, an extension 13 and an offset edge 17, one of said extensions 12 being longer than the other of said extension 13.

2. In a shelf construction of the character stated, horizontal shelf members having suitably spaced apertures therein, vertical movable dividers adapted to coact with said shelf members to divide a given shelf into any desired number of compartments, said dividers being provided with projecting apertured lugs, sliding keys adapted to engage the apertures in said shelf members and in said lugs, detachably to secure said dividers in position with respect to said shelf members, each of said sliding keys comprising an elongated extension 12, an offset edge 14, an extension 13 and an offset edge 17, aligning with said extension 12, said offset edge 14 also aligning with said extension 13, the length of said offset edge 14 being equal to the distance between any two apertures in said horizontal shelf members, thereby rendering said sliding key reversible.

3. In a shelf construction of the character stated, horizontal shelf members having apertures therein, vertical movable dividers adapted to coact with said shelf members to divide a given shelf into any desired number of compartments, said dividers being provided with projecting apertured lugs, sliding keys adapted to engage the apertures in said shelf members and in said lugs de-

tachably to secure said dividers in position with respect to said shelf members, each of said sliding keys comprising an upper extension 12, an offset edge 14, a lower extension 13 and offset edge 17, said offset edges 14 and 17 being adapted to engage the edges of said shelf members and the edges of said projecting lugs, thereby to maintain said sliding keys in the locking position at all times.

4. In a shelf construction of the character stated, horizontal shelf members having apertures therein, vertical movable dividers adapted to coact with said shelf members to divide a given shelf into any desired number of compartments, said dividers being provided with projecting apertured lugs, and sliding keys adapted to engage the apertures in said shelf members and in said lugs, detachably to secure said dividers in position with respect to said shelf members, each of said sliding keys comprising a pair of opposed, staggered tongue portions and two opposed staggered offset edge portions.

ALBERT H. LEVENE.