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E. J. DOBBRATZ ET AL
METALLIC SLIDES FOR FACILITATING THE EXTENDING
OF TABLE TOPS AND THE LIKE

2,872,261

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2 Sheets-Sheet 1

Fig. 1.

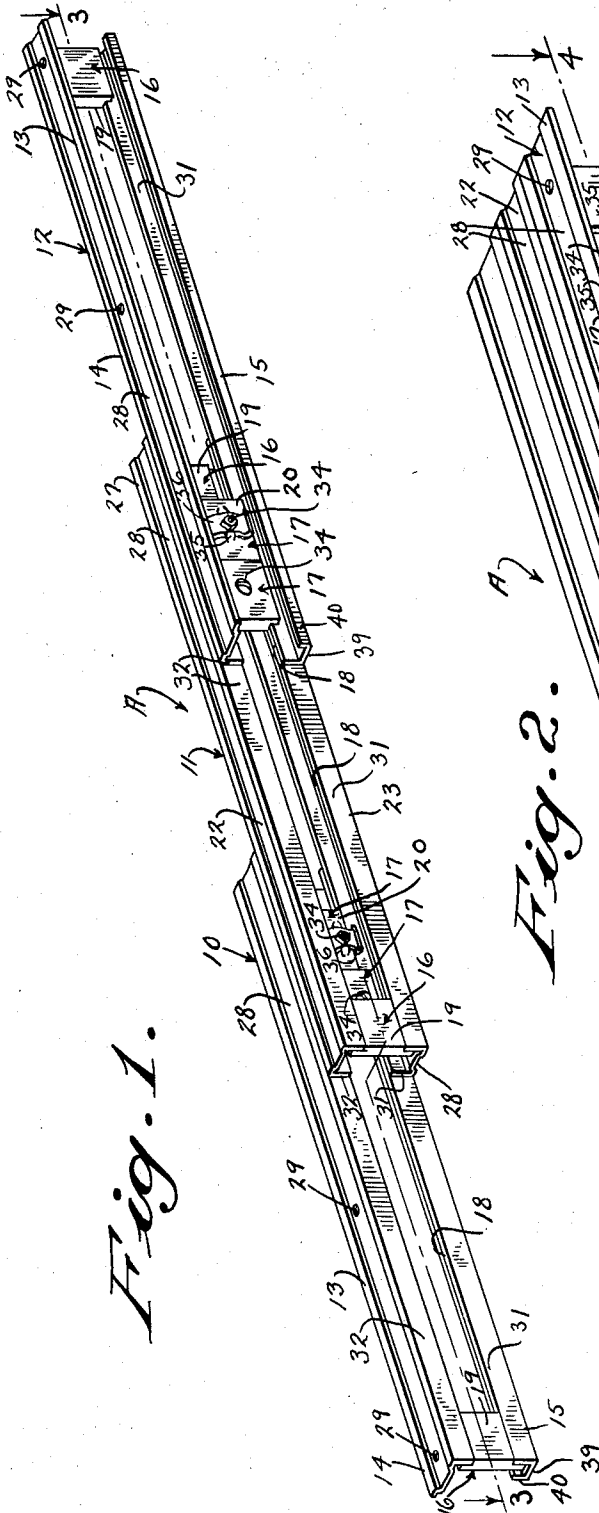


Fig. 2.

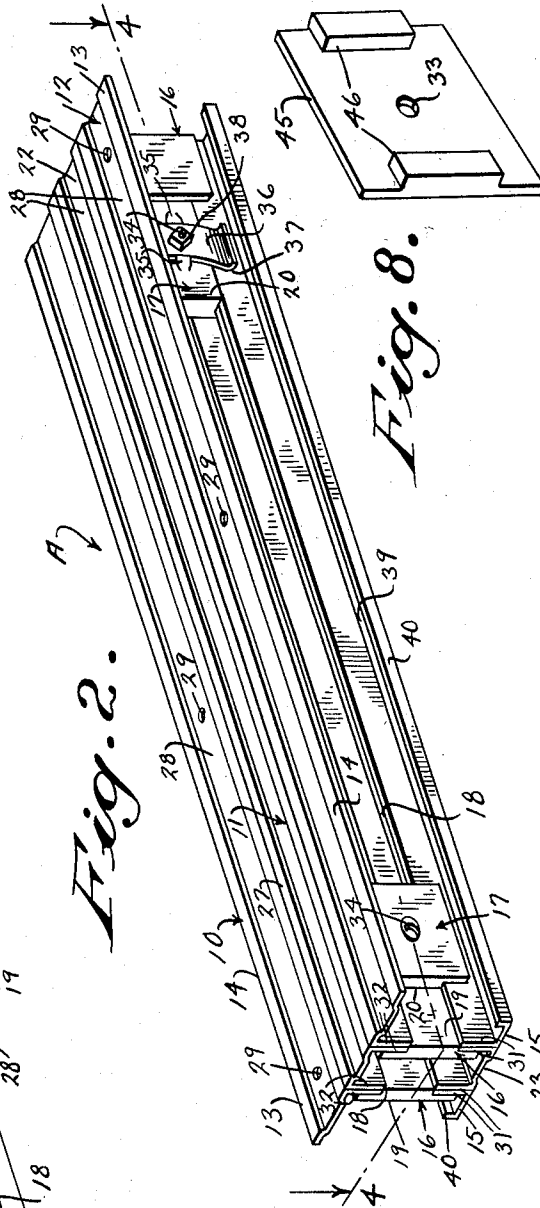
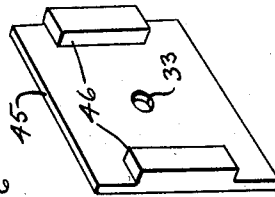


Fig. 8.



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Fig. 3.



Fig. 1.



Fig. 5.

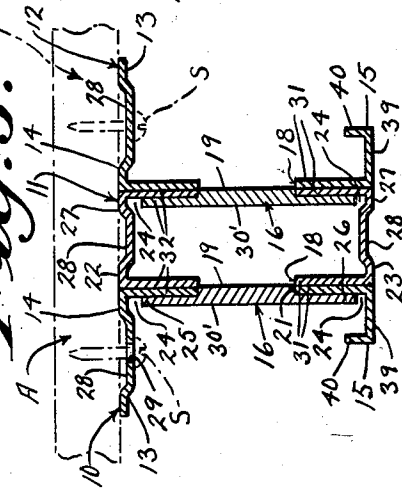


Fig. 6.

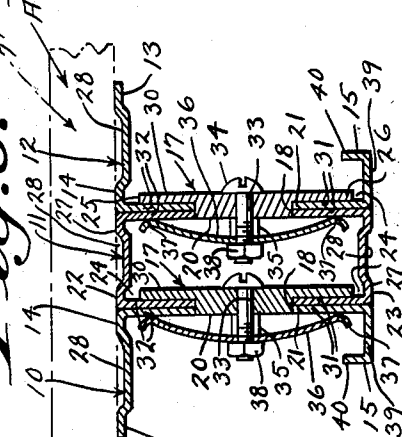
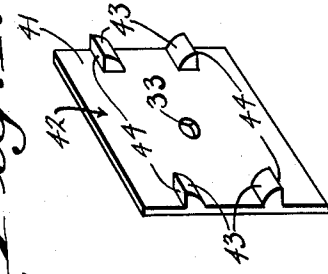


Fig. 7.



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METALLIC SLIDES FOR FACILITATING THE EXTENDING OF TABLE TOPS AND THE LIKE

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7 Claims. (Cl. 311—71)

This invention appertains to slides for extension tables and, more particularly, to metallic slides for facilitating the extending of divided table tops and the like.

In the past, the majority of extensible slides for tables have been made of wood but due to the fact that wood tends to split and warp and also is quite expensive in this particular field, efforts have been made to utilize metallic slides in lieu of the wood slides. However, it has been found that metallic slides tend to twist and bend and do not hold up well when extended. Further, they tend to bind and do not slide readily or easily. The majority of slides have been cast from rather heavy metal in order to give the desired strength and rigidity and, of course, various castings must be made in different sizes to suit different sizes of tables depending on the immediate need.

While efforts have been made to utilize a thinner gauge metal, it has been found necessary to reinforce the metal and the result has been an expensive and complicated slide assembly. There is then a great need in the art to provide a metallic slide of light gauge metal which will be, at the same time, strong and durable in use and will not twist, bend or bind and which may be easily fabricated to any given size desired.

Therefore, a primary object of our present invention is to provide a metallic table slide which may be fabricated from light gauge stock metal, easily cut to the desired length and fabricated to form a strong and durable slide possessing all of the desired characteristics of a wooden slide but being cheaper, stronger, lighter, easily fabricated and assembled and, of course, not subject to warping and deterioration such as would be prevalent in a natural element.

Another important object of our invention is to provide an inside slide and an outer slide identical in structure, formed from an upper length and a lower length, each cut from a single length of stock material to the desired size and joined by novel spacers and slide fasteners to give a strong slide rail structure having a longitudinal slide groove therein.

A further object is to provide a novel spacer joining the upper and lower lengths of each slide rail, which spacer not only serves to accurately position the slide groove, but also acts as a stop member for the slide.

Still another object of our present invention is to provide a novel slide fastener secured at the opposite ends of the slide rails (i. e. from the spacer) and which also acts to join the rail sections together, cooperates with the spacer to form a stop for the slide rails and to accurately position the slide groove.

A further important object resides in forming our novel slide fastener so that it will join the slide rails together in such a manner that the friction and tension of the slide members may be adjusted and varied as desired or necessary for a particular job.

A salient feature of our present invention resides in forming our slide assembly of light gauge metal channel

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members having horizontal web portions adapted to be secured under the table and providing these horizontal webs with chip grooves to compensate for warping and chipping.

Another object of our invention resides in the easy and efficient method by which our slide assembly is fabricated, in that, each length of light gauge material may be readily cut to size and then joined by the aforementioned spacers and slide fasteners to provide a slide assembly which will not bend when drawn apart and which is far superior to any known wood or metallic slide now on the market.

A still further object of our invention is to provide a simple, practical and reliable construction that is economical to manufacture, easy to assemble and positive in its operation.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of our invention is shown in the accompanying drawings, in which drawings:

Figure 1 is a longitudinal perspective view showing one of our novel slide assemblies in its extended position and illustrating the preferred positions of our novel spacers and slide fasteners;

Figure 2 is an enlarged longitudinal perspective view similar to Figure 1 of the drawings but showing our slide assembly in its closed position;

Figure 3 is a longitudinal horizontal sectional view on the same scale as Figure 2 of the drawings but taken on the line 3—3 of Figure 1 of the drawings looking in the direction of the arrows, showing the slide assembly in its extended position and illustrating the relative positions of our novel spacers and slide fasteners;

Figure 4 is a longitudinal horizontal section taken on the line 4—4 of Figure 2 of the drawings and showing the slide assembly in its closed position, again illustrating the cooperation of the spacers and slide fasteners;

Figure 5 is a transverse section on the line 5—5 of Figure 4 of the drawings looking in the direction of the arrows and illustrating further details in the construction of our slide rails and novel spacers, the view being on a larger scale than Figure 4;

Figure 6 is a transverse section taken on the line 6—6 of Figure 4 looking in the direction of the arrows, illustrating further details in the construction of our novel slide fasteners, the view being on the same scale as Figure 5 of the drawings;

Figure 7 is a perspective view of a modified form of our novel slide fasteners, and

Figure 8 is a similar perspective view of still a further modification of our novel slide fastener.

Referring now to the drawings in detail wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates one type of our improved slide assembly and the same includes broadly, an inner slide rail 10, a center section 11 and an outer slide rail 12 and it should be noted that the inner rail 10 and the outer rail 12 are identically constructed except that the upper horizontal fastening web 13 of each extends in opposite directions. Preferably, our novel slide assembly A is constructed of light gauge metal from length of channel material and it is to be understood that we provide two slide assemblies for each table.

Each slide rail 10 and 12 includes an upper channel length 14 of L-shape and a lower channel length 15 of substantially L-shape joined together by our novel spacer

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16 and slide fastener 17 to form a longitudinally extending groove 18 in each slide rail. Obviously, it is very important that the groove 18 be accurate throughout its entire length and, therefore, our novel spacer 16 and slide fastener 17 are provided with centrally positioned longitudinally extending bearing blocks 19 and 20, respectively. These bearing blocks are shown as being formed integral with the respective spacers 16 or slide fastener 17 but could be made as separate pieces welded or otherwise secured to the back fastening plates 30 and 30', respectively.

Incidentally, it should be noted that all of the spacers 16 are identical in construction and that all of the fasteners 17 are likewise identical to one another. Further, attention is drawn to the fact that the bearing block 19 of the spacer 16 is only as wide as the thickness of the gauge metal used, that is, as thick as the edge 21 of the channel lengths of metal 14 and 15, while the bearing block 20 of the slide fastener 17 is as wide as two thicknesses of the metal lengths utilized. This is perhaps illustrated more clearly in Figures 3, 4, 5 and 6 of the drawings.

The center slide rail section 11 is formed of upper and lower U-shaped channel lengths 22 and 23, respectively, and these channel lengths are joined together by two spacers 16 and two slide fasteners 17. The spacers 16 are positioned at diametrically opposite corners of the center section 11 as clearly shown in Figure 3 of the drawings and the slide fasteners 17 are spaced inwardly from the spacers and also diametrically opposite one another. Incidentally, the spacers and slide fasteners are secured to the various channel lengths 14, 15, 22 and 23 by spot welding the back fastening plates 30, 30' to the vertical webs 31, 32. The upper and lower edges 25 and 26 of the spacers 16 and slide fasteners 17 are spaced slightly from the horizontal webs 13, 27, 39 at some distance as indicated by the numeral 24. This is due to the fact that the accurate positioning of the grooves 18 is accomplished by means of the accuracy of the bearing blocks 19 and 20 and not by the upper and lower edges 25 and 26 of the spacers 16 and slide fasteners 17.

The upper channel lengths 14 of the inner rail 10 and outer rail 12 are identically formed and are generally L-shaped as shown and the upper horizontal fastening webs 13 as well as the horizontal webs 27 of the U-shaped channel lengths 22 and 23 are each provided with a longitudinal extending chip groove 28, as shown. These grooves are particularly important when the webs 13 are secured to a table T (note Figure 5) by means of the screws S in that any chipping of the wood or loosening of the veneer will be compensated for by the grooves 28 and no warping or distortion of the table top will take place. Suitable holes 29 are, of course, provided in the fastening webs 13 of the upper lengths 14 so that they may be secured to opposite sections of the table T. As previously mentioned, it should be understood that our novel slide assembly A is utilized in pairs, one on each side of the table.

For the particular construction of the spacers 16 and slide fasteners 17, attention is again directed to Figures 3, 4, 5 and 6. Figure 6, in particular, illustrates the novel construction of our slide fastener 17 and, as shown, each includes the back fastening plate 30 of generally rectangular shape to which is secured the centrally located longitudinally extending bearing block 20. The plate 30 is, as previously brought out, spot welded to the vertical webs 31 and 32 at one end to join the upper channel length 14 with the lower channel length 15 of the slide rails 10 and 12, respectively, and each fastener is also provided with a centrally positioned transverse aperture 33 through which extends a bolt 34. Further, each bearing block 20 is provided with a pair of ears 35 in horizontal alignment adjacent opposite points of the aperture 33. The purpose of these ears 35 will be readily apparent as the description proceeds. In order to slidably secure

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the inner slide rail section 10 with the center rail section 11 and the outer rail section 12 with the center rail section 11, we provide each slide fastener 17 with a length of spring steel 36 through which one end of the bolt 34 extends. This spring steel tensioning member 36 is provided with rounded bearing surfaces 37 at each end and it should be obvious that by tightening the nut 38, the tension on the spring steel piece 36 may be varied as desired and, therefore, the tension between the various slide rail sections can be varied as desired. The spring steel tensioning member 36 is generally bowed longitudinally, as shown, but is formed of a rectangular length and extends between the raised ears 35 so that upon sliding of the various sections, the spring steel member 36 will be held steady and will not turn.

In utilizing our novel slide assembly A, it should be readily apparent that the inner slide rail 10 is fastened to the one half section of the table top T and the outer slide rail 12 is fastened to the other half section of the table top and that an identical assembly A is secured in spaced relation on the other side of the table. The tension on the spring member 36 is then adjusted, as desired, so that the slides will freely move in relation to one another but so that when the table is extended, the slide assembly will be steady and firm. When the slide assembly is extended, it will be in the position shown in Figures 1 and 3 of the drawings and the bearing blocks 20 of our slide fasteners 17 will act as stops to limit the extreme operative extension of the assembly A (note Figure 3). When the table is closed or the slide assembly moved to its inoperative closed position, the slide assembly A will be in the position shown in Figures 2 and 4 of the drawings and the spacers 16 and slide fastener 17 will cooperate (i. e. the bearing blocks 19 and 20 will abut one another) and act as stops to limit the inner movement of the table.

Thus it can be seen that the upper lengths 14 of the slide rails 10 and 12 are formed from single lengths of stock material, easily cut as desired to fit the job at hand and that the lower lengths 15 of each slide are formed from suitable lengths of stock material and may be cut to the desired length. Attention should also be directed to the fact that the lower web 39 of the channel lengths 15 are turned up to form a longitudinal flange 40 as shown. This is for the purpose of enabling a screw driver to be inserted in the head of the screws S when fastening or removing the slide assembly from the table. Obviously, if desired, in lieu of the turned up flanges 40, suitable enlarged holes could be made in the webs 39 but we prefer to provide the flanges 40 in that not only do they facilitate the insertion of the screw driver but they lend strength and rigidity to the lower channel length 15. We might add that the chip grooves 28 perform this dual purpose in that they also lend strength to the channel lengths 14 and 23.

Our novel spacers 16 and slide fasteners 17 may be formed as solid blocks, as shown, or they may be readily stamped from various types of metal and also may be provided in different sizes and shapes. If the slide fasteners were stamped from thin gauge metal, the bearing surfaces could be formed by merely stamping out portions of metal for this purpose.

In Figures 7 and 8, however, we have shown two modifications of the solid block type of slide fasteners. In Figure 7, the slide fastener 41 is formed with a back fastening plate 42 and four spaced lugs 43, the longitudinal flat surface 44 of which forms the bearing surface and groove positioner and this form of the invention has an advantage in that if the grooves 18 are slightly inaccurate or have high and low spots therein, it will be easier for the short surface 44 to ride over the obstructions than it would be for the entire length of the bearing surface of the blocks 19 and 20, shown and described in Figures 1 to 6 inclusive.

Figure 8 likewise illustrates this feature, but in this

modification, the back fastening plate 45 is provided with vertical narrow spaced bearing blocks 46 and these blocks accomplish the same purpose as the lugs 43 would accomplish in Figure 7.

While, we have stressed a table slide including inner and outer sections 10 and 12 and one or more intermediate or center slide sections 11, it is to be understood that where a table is desired having a relatively small separation for receiving one table leaf, it will be only necessary to utilize an inner and an outer slide section and the intermediate or center slide section can be eliminated.

From the foregoing, it is believed that the features and advantages of our invention will be readily apparent to those skilled in the art and it will, of course, be understood that changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or the scope of the appended claims.

I claim:

1. A slide assembly for extension tables comprising inner and outer rails and at least one intermediate rail, all of said rails being fabricated from metal structural units and each including upper and lower spaced longitudinally extending sections having a horizontal web and a vertical web, each respective metal structural unit being uniform in shape throughout its entire length, whereby any portion of said unit may be cut and utilized depending on the desired length of slide required, plates rigidly uniting the upper and lower sections of the rails together with their vertical webs accurately spaced to define slide slots, and slide blocks carried by certain plates extending into the slots of adjacent rails and engaging the facing edges of the slots to slidably connect said rails together.

2. A slide assembly for extension tables as defined in claim 1, and said plates defining stop members to limit the extension of said rails.

3. A slide assembly for extension tables as defined in claim 1, and slide members carried by said certain plates engaging faces of the vertical webs of said adjacent rails.

4. A slide assembly for extension tables as defined in claim 1, and tension slide members carried by the said certain plates engaging faces of the vertical webs of said adjacent rails, and means for adjusting the tension of said slide members.

5. A slide assembly for extension tables comprising an inner slide rail, a center rail, and an outer slide rail, each rail including an upper and a lower length of light gauge metal, each length having a horizontal web and a vertical web, each respective length of gauge metal being uniform in shape throughout its entire length, whereby any portion

of said gauge metal may be cut and utilized depending on the desired length of slide required, a series of spacers each having a fastening plate secured to said vertical webs of a respective upper and lower length at one end thereof, a series of slide fasteners each having a fastening plate secured to said vertical webs of the upper and lower lengths at the opposite end thereof and spaced inwardly therefrom to provide a longitudinally extending slide groove in each rail, and means on said slide fasteners including bearing surfaces extending into a groove of an adjacent rail for slidably engaging the facing edges of the groove thereof for joining said rails together and cooperating with said spacer to provide a stop limiting the length of slide of each rail.

6. A slide assembly for extension tables as defined in claim 5, and tension means carried by the slide fasteners engaging faces of vertical webs of adjacent rails.

7. A slide assembly for extension tables comprising inner and outer slide rails and at least one intermediate rail, each inner and outer rail including an upper and a lower length of metal of an angle shape in cross section with vertically positioned webs, said intermediate rail including upper and lower lengths of a U-shape in cross section and including inwardly extending vertical webs, each respective length of gauge metal being uniform in shape throughout its entire length, whereby any portion of said gauge metal may be cut and utilized depending on the desired length of slide required, a series of spacers each having a fastening plate secured to the vertical webs of the upper and lower lengths of said rails, a series of slide fasteners each having a fastening plate secured to said vertical webs at the opposite ends thereof from the first mentioned spacers and spaced inwardly therefrom to provide a longitudinally extending slide groove in each rail, and means on said slide fasteners including spaced bearing surfaces extending into a groove of an adjacent rail for slidably engaging the facing edges of a groove thereof and cooperating with said first mentioned spacers to provide stops limiting the length of slide of each rail.

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