June 27, 1933. E. V. MENDENHALL 1,915,686

TABLE SLIDE MEANS

Filed June 23, 1931 2 Sheets-Sheet 1

Fig. 1.

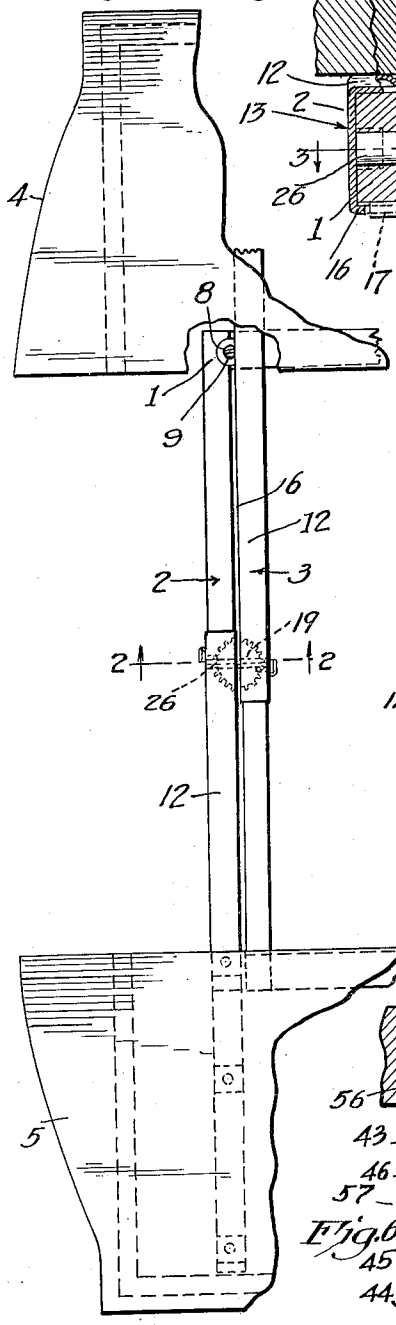


Fig. 2.

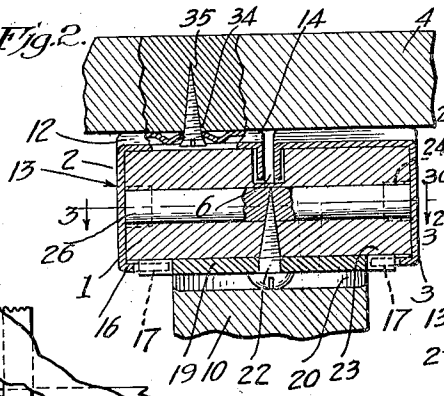


Fig. 3.

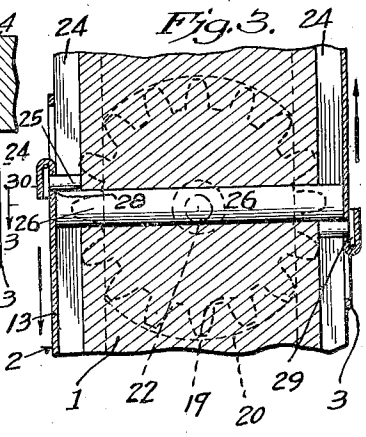


Fig. 4.

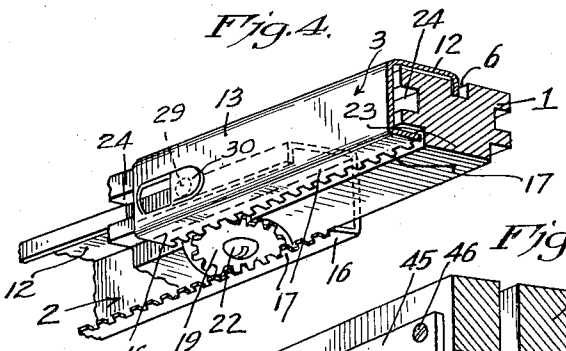


Fig. 5.

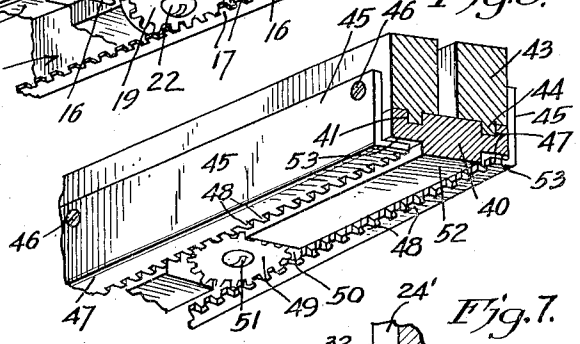


Fig. 6.

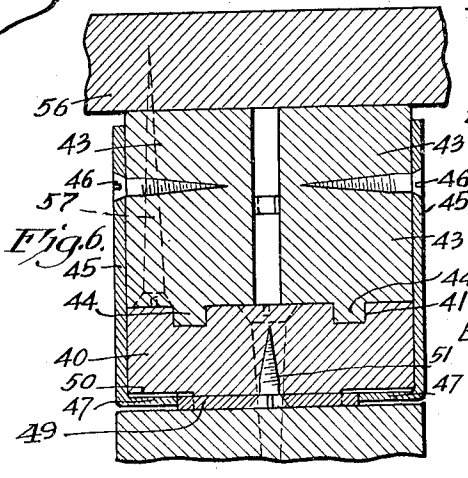


Fig. 7.

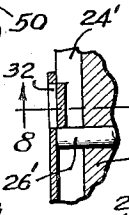
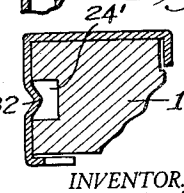


Fig. 8.



INVENTOR.
Elbert V. Mendenhall,
By Arthur P. Knight &
Alfred W. Knight
ATTORNEYS.

June 27, 1933. E. V. MENDENHALL 1,915,686

TABLE SLIDE MEANS

Filed June 23, 1931 2 Sheets-Sheet 2

Fig. 9.

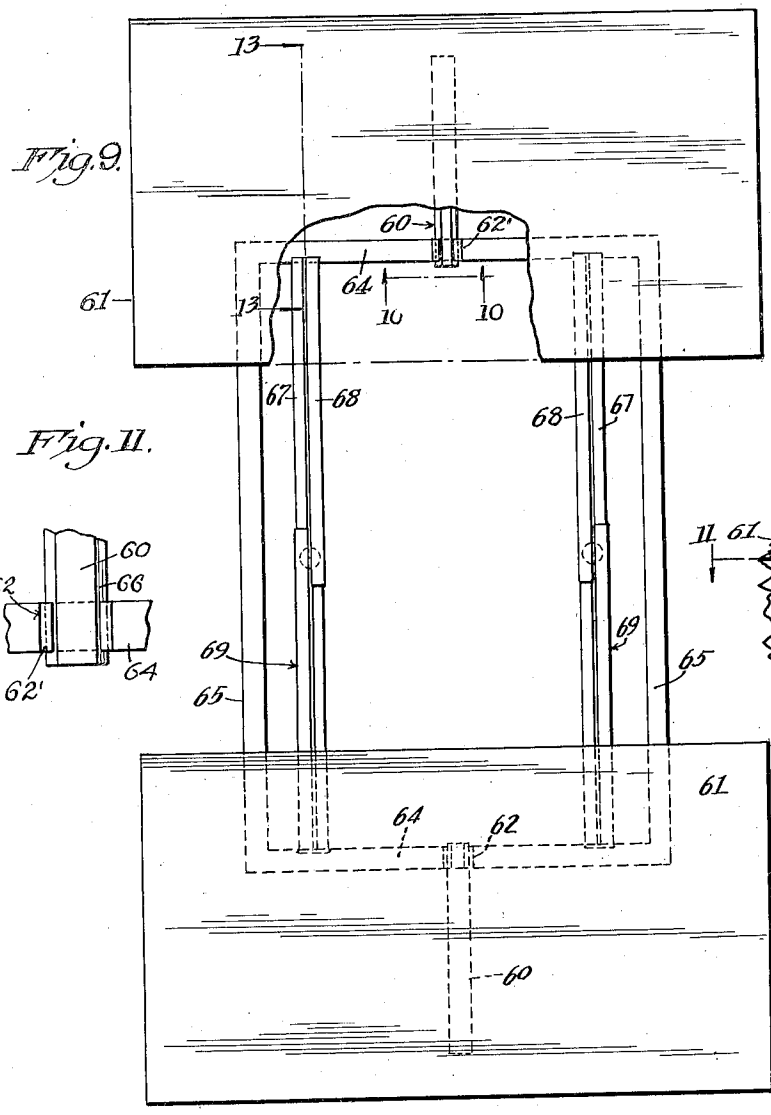


Fig. 11.

Fig. 10.

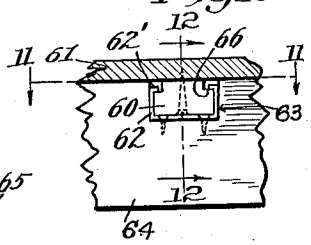


Fig. 12.

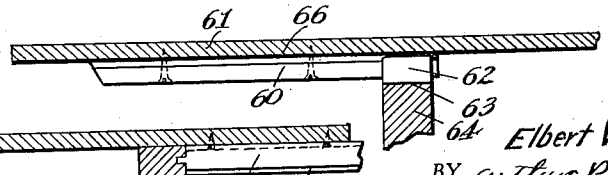
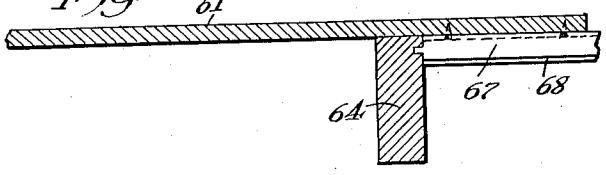


Fig. 13.



INVENTOR.
Elbert V. Mendenhall,
BY Arthur P. Knight &
Alfred W. Knight
ATTORNEYS.

Patented June 27, 1933 1,915,686

UNITED STATES PATENT OFFICE

ELBERT V. MENDENHALL, OF ALHAMBRA, CALIFORNIA

TABLE-SLIDE MEANS

Application filed June 23, 1931. Serial No. 546,264.

This invention relates to improvements in slide means for extension tables and the present application is a continuation in part of my application Serial No. 342,528, filed February 25, 1929, for "Extension table".

The main object of the present invention is to provide a table slide means which is of minimum cost and of strong construction and which presents minimum friction in the sliding movement thereof.

The accompanying drawings illustrate embodiments of the invention and referring thereto:

Fig. 1 is a plan view of a table top with my table slide means applied thereto, the top being shown in opened position.

Fig. 2 is a section on line 2—2 in Fig. 1.

Fig. 3 is a section on line 3—3 in Fig. 2.

Fig. 4 is a perspective view of the central portion of the table slide means.

Fig. 5 is a similar perspective view showing a modified form of the invention.

Fig. 6 is a central transverse section of the table slide means shown in Fig. 5.

Fig. 7 is a horizontal section showing a modified form of stop means for the table slide.

Fig. 8 is a vertical section of a modification.

Fig. 9 is a plan view partly broken away, showing the application of my invention to an extension table having wide top sections.

Fig. 10 is a section on line 10—10 in Fig. 9.

Fig. 11 is a section on line 11—11 in Fig. 10.

Fig. 12 is a section on line 12—12 in Fig. 11.

Fig. 13 is a section on line 13—13 in Fig. 9.

My improved table slide comprises a longitudinal rail or strip 1 adapted to be mounted on the table frame and two slide members 2 and 3 mounted to slide on the member 1 and adapted to be attached respectively to the two main top members or leaves 4 and 5 of the table.

The strip 1 is shown in Figs. 2 and 4 as provided with a central groove 6 extending longitudinally from end to end thereof and screw holes 8 extend vertically through the strip to receive screws 9 for fastening the strip 1 to the table frame rails, one of which is indicated at 10 in Fig. 2, it being understood that a similar transverse rail is provided at each end of the table frame and that the table slide constructed herein shown is duplicated at the respective ends of the table.

Each slide member 2 is formed preferably as an angle member of sheet or strip metal bent at right angles so as to form an upper portion 12 resting on top of the strip 1 and a vertical side portion 13 sliding against one side of the strip 1. The top portion 12 of each slide member 2 or 3 is provided with a down-turned flange at its inner edge extending down into the longitudinal groove 6 of strip 1 and slidably fitting against one side of said groove so as to guide the slide member in its longitudinal movement on the supporting strip 1 and hold the slide member from outward or lateral displacement on said supporting member. The vertical side portion 13 of each slide member 2 or 3 is provided at its lower edge with in-turned flange 16 extending under the bottom of the strip 1 and formed with rack teeth indicated at 17 adapted to engage an equalizing pinion 19 mounted on strip 1. Said equalizing pinion is seated in a recess 20 in the bottom of strip 1 which is of sufficient depth to receive the said gears and said pinion and its retaining screw 22 and prevent projection of any part thereof below the bottom of the strip 1. I prefer to form the strip 1 with a rib 23 extending longitudinally along the bottom thereof and of a depth equal to that required for the recess 20, said recess 20 being formed by cutting out the central portion of said rib. A rabbet or shoulder 18 is provided at each side of the rib 23 and the flange 16 extends beneath and in engagement with said shoulder, thereby holding the slide members 2 or 3 down on the supporting rail or strip 1. Strip 1 is formed at each side thereof with a longitudinal groove 24 to receive stop means on the respective slides 2 and 3, said stop means consisting for example of a pin 25 on each slide projecting into a groove 24 and adapted to engage a stop 26 at the mid-length of the groove to limit the outward movement of the slide. Said stop 26 may consist of a

wooden or metal dowel as shown in Figs. 2 and 3 against which the stop projection 25 impinges when the slide has been fully drawn out. Said dowel being of wood, the retaining screw 24 for the equalizing pinion 19 may extend upwardly through the strip 1 and through the dowel 26. The stop projection 25 may be of any suitable form, for example, such as a pin extending through a hole 28 in the side member 13 of the slide 2 or 3, and having a head 29 resting against the outside of the slide portion 13 and held thereon by a lug 30 cut from the said slide portion 13 and bent over on top of the head portion 29 as shown in Fig. 3. Or, as shown in Figs. 7 and 8, the stop projection on each slide may be formed by cutting and bending in a portion of the side member of the slide as indicated at 32, the resulting projection riding in the longitudinal grooves indicated at 24′ in the supporting rail or strip 1′ and being adapted to engage with a dowel 26′.

The respective slide members 2 and 3 are provided with holes 34 in their top portions 12 for receiving screws 35 which secure the respective table top leaves 4 and 5 to the respective slide members 2 and 3. The portion of each slide member which is adjacent these openings 34 is preferably bent upwardly to form a boss on which the table top leaf rests, thereby insuring that the portion of the slide member 2 or 3 which extends under the other leaf is clear of engagement therewith. This upward embossing of the portion of the top member 12 of the slide adjacent the passage screw is also of advantage in enabling the head of said screw to clear the top of strip 1 so as to not to interfere with free movement of the slide on said strip or rail.

In the operation of the device, movement of either of the table top members 4 or 5 inward or outward will cause a corresponding movement of the other table top member through the operation of the pinion 19 and racks 17 engaging therewith at opposite sides thereof so as to cause the slide members 2 and 3 to move simultaneously in the opposite direction. In this operation the engagement of the pinion with the racks tends to produce an outward pressure on the slides 2 and 3, this outward pressure being resisted by the flange 14 engaging with a wall of the groove 6 in the strip or rail 1, it being understood that the slide member is held down on the rail 1 by the lower flange 16, and the rack gear is therefore held in effective engagement with the pinion at all times.

While I prefer for the sake of lightness and economy to make the slide members of metal as above described, I may in some cases adopt the construction shown in Figs. 5 and 6, wherein the supporting rail 40 is provided with two longitudinal grooves 41 in its top, and each slide member comprises a wooden strip 43 having a tongue 44 engaging in one of said grooves, each slide member further comprising a metal strip 45 secured to the side of the wooden strip 43 by screws 46 and having at its lower edge an internal flange 47 provided with gear teeth 48 engaging the equalizing pinion 49 which is seated in the recess 50 in the supporting rail or strip 40 and is secured to said strip or rail by a screw 51. The strip or rail 40 is also provided in this case with a depending flange portion 52 in which recess 50 is formed and with shoulders 53 at each side of said flange portion, the flanges 47 on metal strips 45 engaging beneath these shoulders. The respective wooden strips 43 are secured to the respective table top members such as indicated at 56 in Fig. 6 by screws one of which is indicated at 57. The construction and operation of this form of the invention may be otherwise the same as above described, the slide members constituted by the strips 43 and 45 being in this case held in position so as to retain the racks in engagement with the equalizing pinion engagement of the tongue 42 in the groove 41 on the supporting rail or strip 40.

In case of tables having extra wide top leaves or sections, I prefer to provide, in addition to the slide means above described, additional slide means for slidably connecting such sections with the table frame, to prevent the top section from being lifted away from the table frame, when the former is in extended or open position. For this purpose as shown in Figs. 9 to 12 a rail or slide member 60 may be fastened to the bottom of each top section 61, said member 60 slidably fitting in a metal guide member 62 which is fastened, for example by screws, in a recess 63 in the corresponding end bar 64 of the table frame 65, said guide member being formed, for example as a U-shaped metal piece having its ends bent over to form inward projections 62′ engaging over shoulders 66 at opposite sides of the rail or slide member 60, so as to hold the top section down onto the table frame, even when said section is in extended position. The auxiliary slide means 60 extends in the direction of sliding movement, beyond the ends of the main slide members 68 and 69 so as to provide a more effective fulcrum or point of support in resisting upward movement of the top section away from the table frame, such as would be liable to occur in operation of the table top. It will be understood that any desired number of these auxiliary slide members may be provided at each end of the tables.

In this form of the invention, the rail members 67 for the main slides 68 and 69, are shown as extending between the two end bars 64, and connected thereto by tenon and mortise as shown in Fig. 13, and the main slide members 68 and 69 are arrested in their outward movement by engagement thereof with

said end bars as shown in Fig. 1. With this construction the special stop means above described in the main slide members are unnecessary and are omitted. In other respects the construction and operation of these main slide means may be as above described.

I claim:

1. A table slide comprising a supporting rail having longitudinal groove means in its top and a shoulder at each side thereof, and slides mounted on said rail, each slide having a top portion resting on the rail and provided with means extending into said groove means to hold the slide from lateral displacement on the rail, and each slide being further provided with a side portion engaging a side of the rail and having an inturned flange extending beneath the shoulder at that side of the rail to hold the slide from vertical displacement on the rail, rack means on the inturned flanges of the side portion of the respective slides, and a toothed gear wheel pivotally mounted on the rail and engaging at opposite sides with the rack means on the respective slides, to cause the slides to move simultaneously in opposite directions.

2. A construction as set forth in claim 1, in which the supporting rail is provided with a groove at each side thereof and with a stop projection in said groove, and each slide is provided with a projection extending into said groove at the corresponding side of the rail to limit the longitudinal movement of the slide on the rail.

3. A table slide comprising a guide rail having a longitudinal groove in its top and a shoulder adjacent the lower edge of said rail at each side thereof, two metal slides mounted on said rail each provided with a top portion sliding on top of the rail and having a downturned flange extending into said groove in the top of the rail, and each slide having a side portion sliding on the side of the rail and having an inturned flange extending beneath the shoulder at the corresponding side of the rail, said inturned flange being provided with rack teeth, a gear wheel pivotally mounted on said rail and engaging, at opposite sides, with said rack teeth, so as to provide for simultaneous operation of the two slides in opposite directions, groove means at each side of the supporting rail, a stop in each of said groove means, and means in each slide extending into said groove means and adapted to engage said stop to limit the movement of the slide on the rail.

4. A slide construction for extension tables, comprising in combination with the table frame and movable top sections, rails mounted on the table frame, main slide means connected to the movable table top sections and slidable on said rails, and an auxiliary slide member mounted on the bottom of each table top section so as to extend beyond said main slide members and provided with shoulders at the sides thereof, and guide means mounted on the table frame and having projections engaging over said shoulders on said auxiliary slide member, to hold the top section down on the table frame.

In testimony whereof I have hereunto subscribed my name this 12th day of June 1931.

ELBERT V. MENDENHALL.