B. WALL.

DRAWER MOUNTING.

APPLICATION FILED MAR. 13, 1917.

1,252,867.

Patented Jan. 8, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

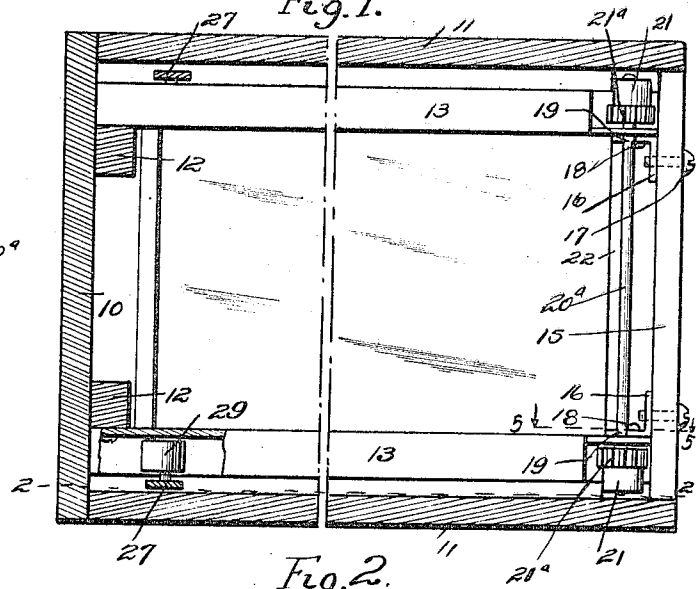


Fig. 4.

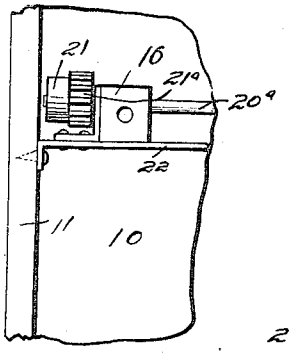


Fig. 3.

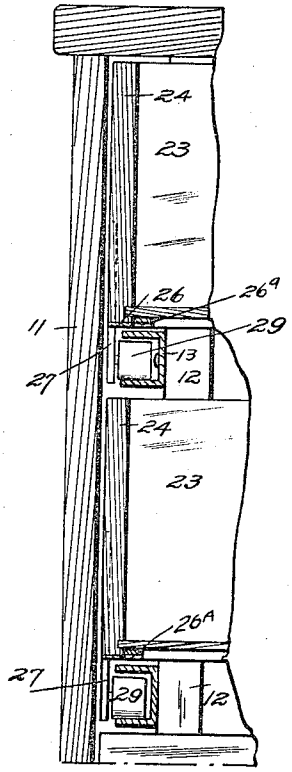


Fig. 2.

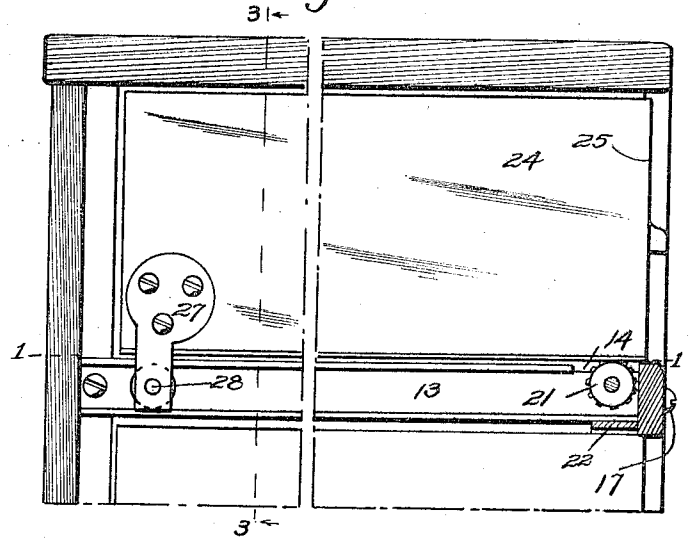
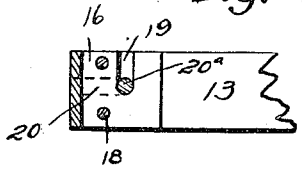


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 8.

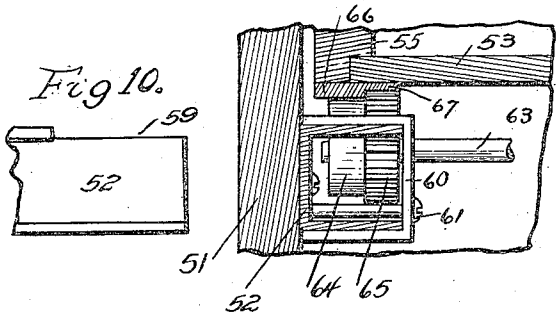


Fig. 10.

Fig. 9.

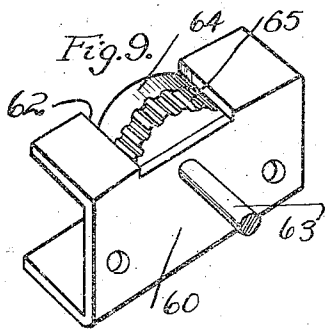


Fig. 6.

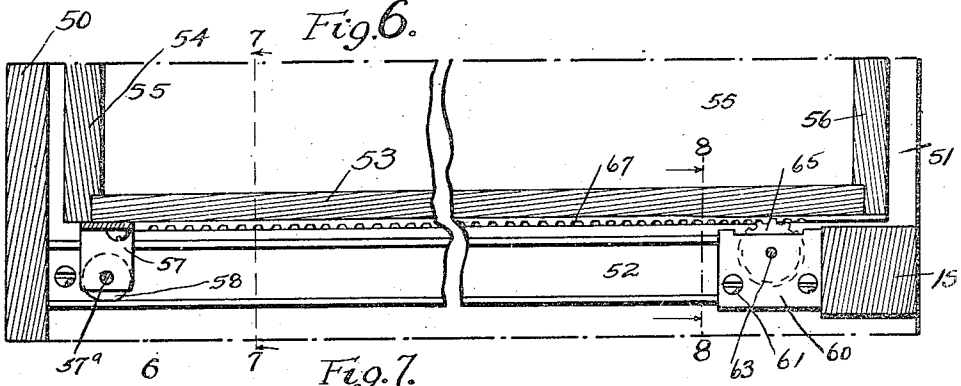
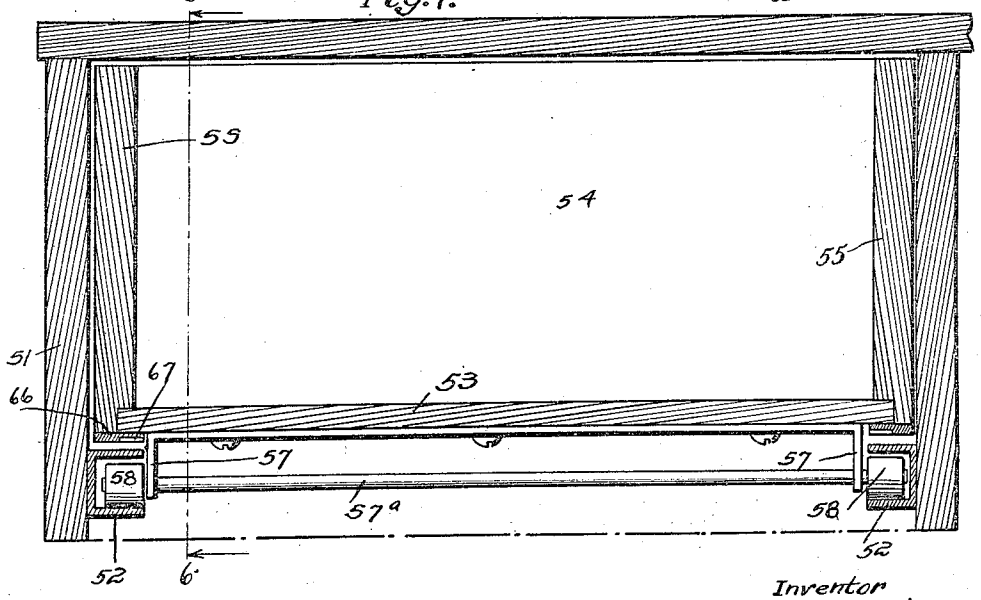


Fig. 7.



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UNITED STATES PATENT OFFICE.

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DRAWER-MOUNTING.

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Application filed March 13, 1917. Serial No. 154,609.

To all whom it may concern:

Be it known that I, BERT WALL, a citizen of the United States, and resident of Mason City, in the county of Cerro Gordo and State of Iowa, have invented a certain new and useful Drawer-Mounting, of which the following is a specification.

The object of my invention is to provide a drawer mounting of simple, durable and inexpensive construction.

A further object is to provide a drawer mounting so constructed and arranged that a drawer may be mounted upon rollers and may be properly supported on said rollers in all positions of its sliding movement, especially so that it may be supported by the rollers against tilting movement and against binding after the drawer has been partially drawn out.

Still a further object is to provide such a drawer mounting so constructed and arranged that parts may be readily and easily removed or assembled for mounting the drawer in a bureau or the like, or removing the drawer therefrom.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 shows a horizontal, sectional view of my improved mounting, taken on the line 1—1 of Fig. 2.

Fig. 2 shows a vertical, sectional view, taken on the line 2—2 of Fig. 1.

Fig. 3 shows a vertical, transverse, sectional view, taken on the line 3—3 of Fig. 2.

Fig. 4 shows a front elevation of a part of the mechanism illustrating the manner of mounting one of the rollers at the front of the drawer.

Fig. 5 shows a vertical, sectional view taken on the line 5—5 of Fig. 1.

Fig. 6 shows a vertical, central, sectional view through a drawer equipped with a mounting embodying another form of my invention, taken on the line 6—6 of Fig. 7.

Fig. 7 shows a transverse, vertical, sectional view taken on the line 7—7 of Fig. 6.

Fig. 8 shows a vertical, sectional view, taken on the line 8—8 of Fig. 6.

Fig. 9 shows a perspective view of one of the bearing brackets and toothed rollers therein, and

Fig. 10 shows a detail view of the forward end of one of the channels of the modified form of the device, showing the notch on the upper flange thereof.

In the accompanying drawings I have shown one form of my invention in Figs. 1 to 5 inclusive, in which I have used the reference numeral 10 to indicate generally the rear wall of a bureau or commode or the like, having the side walls 11. The bureau is provided with upright supports 12 spaced from each other and secured to the inner surface of said rear wall 10.

Secured to the supports 12 for each drawer there is a pair of channels arranged opposite each other, each being secured to one of the uprights 12 and opening laterally outwardly and extending horizontally forwardly in the bureau. The channels are indicated by the reference character 13. The upper flange of each channel 13 is cut away for a short distance at 14 at its forward end.

The forward end of each channel is supported in the following manner. Received between the sides 11 at the front of the bureau between each successive pair of drawers from top to bottom, is a cross piece 15. Secured to each cross piece 15 near the end thereof on the inner surface thereof is a small angle 16 held in position by a screw bolt 17 extended through the cross piece 15 and one flange of the angle 16. The other flange of each angle 16 is secured to the center wall of one of the channels 13, as shown in Fig. 1, by means of screws 18.

The inwardly extending flange of each angle iron 16 is provided with a slot 19. The forward end of the central portion of each channel 13 is provided with a slot 20, shown by dotted lines in Fig. 5. The parts are so arranged that when assembled the inner ends of the slots 19 and 20 register with each other, as shown in said Fig. 5.

Extended through said slots is a shaft 20^a having on each end a roller 21, formed on one end of which is a toothed gear or the like 21^a, the teeth of which extend upwardly through the slot 14, as illustrated in Fig. 2.

A supporting strip 22 has its ends secured to the side walls 11 at the front of the bureau

and serves to support the front ends of the channels 13, as clearly shown in Figs. 4 and 2.

Each drawer has a rear wall 23, side walls 24 and a front wall 25. The walls are of such width that at the sides they project over the channels 13, as illustrated in Fig. 3. The lower edge of each side wall 24 is protected by a strip of iron 26, or the like, which travels on one of the rollers 21.

Secured to the outer surface of each side wall 24 near the rear end thereof, is a rigid bracket 27 extending downwardly below the side of the drawer and supporting at its lower end an inwardly extending shaft 28 on which is mounted a roller 29 which travels within the channel 13.

Near the inner end of each strip 26 said strip is provided with teeth 26^a, as shown in Fig. 3. It may be mentioned in this connection that the smooth roller 21 is so located that its upper surface stands just above the upper flange of the channel 13 in which the roller is mounted. The parts are so arranged that the smooth portion of each strip 26 rests and travels upon the roller 21, while the teeth 26^a engage and coact with the teeth of the gear 21^a.

In Figs. 6 to 9 inclusive I have shown a slightly modified form of my invention. I have shown a main frame having the rear wall member 50 and the side wall members 51. Mounted on the side wall members 51 and opening inwardly is a pair of channels 52 for each drawer. I have shown a drawer having a bottom 53, the rear wall 54, side walls 55 and a front wall 56.

Mounted on the bottom of each drawer is a bracket 57 having portions extending downwardly adjacent to one of the channels 52 and supporting a shaft 57^a on which are rollers 58 received within said channels. The upper flange of each channel 52 at its forward end is formed with a notch similar to the notch or cut-away portion 14, as shown in Fig. 10, indicated by the reference character 59.

At the forward end of each channel 52 is a channel-shaped bracket opening outwardly with its upper and lower flange members receiving between them the channel 52, said bracket being indicated by the numeral 60. Each bracket is secured to its adjacent channel 52 by screw bolts 61. Each bracket 60 has a notch 62 cut in its upper flange. The central portion of each bracket 60 forms a bearing for a transverse shaft 63 extending across between the side walls of the main frame.

On the outer end of each shaft 63 is a roller 64 similar to the roller 21, having formed at one end a gear 65 similar to the gear 21^a.

On the bottom of each drawer near each side thereof, is a metal strip 66 adapted to rest and travel on one of the rollers 64, and having a portion 67 formed with teeth to engage and coact with the teeth of one of the gears 65, as shown in Fig. 6.

In the practical construction and use of my improved drawer mounting it will be obvious that as many drawers may be arranged in a tier as may be desired.

In assembling the drawers of the form shown in Figs. 1 to 5, in a bureau, the screws 17, the strips 15, the angles 16 and the rollers 21 are removed. The drawer with the brackets 27 thereon is assembled in position, after which the rollers 21, and angles 16 are assembled and thereafter the pieces 15 are placed in position. It will be obvious that the strips 15 and rollers 21 may be readily and easily removed for removing the drawer from the bureau for repairing it or replacing parts.

In the use of the drawer it will be seen that when the drawer is at the rearward part of its movement it is supported upon the rollers 29 and 21. As the drawer is pulled out of the bureau or the like, there will come a place where its center of gravity is forward of the roller 21, whereupon the roller 29 instead of pressing downwardly on the lower flange of the channel 13 will be pulled upwardly against the upper flange thereof. The upper flanges of the channels 13, however, will properly support the drawer in position and there will therefore be no binding of the drawer at any part of its sliding movement.

The form of the device shown in Figs. 6 to 10 inclusive may be used with cross members 15 similar to those shown in Fig. 1, which may be secured to the side members 51, but when the form used in Figs. 6 to 10 is employed, the angle irons 16 may be dispensed with.

If it is desired to remove one of the drawers shown in Fig. 6, for instance, the member 15 may be removed, after which the screw bolts 61 are removed and the brackets 60 and the shaft 63 are removed from the front of the main frame. Thereafter the drawer may be slid out of the main frame without difficulty.

Some changes may be made in the construction and arrangement of my improved drawer mounting without departing from the essential features and purposes of my invention, and it is my intention to cover by my present application any such modified forms of structure as may be reasonably included within the scope of my claims.

I claim as my invention:

1. In a device of the class described, a frame, parallel, laterally opening channels thereon, a drawer, means on said drawer for supporting rollers at the rear end of the drawer, said rollers being received within said channels, a transverse shaft at the for-

ward end of the frame, fixed with relation to the frame, rollers on said shaft, adapted to support said drawer, gears on said shaft, and toothed strips on said drawer for coacting with said gears.

2. In a device of the class described, a frame, parallel, laterally opening channels thereon, a drawer, means on said drawer for supporting rollers at the rear end of the drawer, said rollers being received within said channels, a transverse shaft at the forward end of the frame, fixed with relation to the frame, rollers on said shaft, adapted to support said drawer, gears on said shaft, toothed strips on said drawer for coacting with said gears, and means for detachably supporting said shaft for permitting said rollers and gears to project upwardly above said channels.

3. In a device of the class described, a frame, opposite channels secured to said frame, each of said channels having its upper flange cut away at its forward end, a drawer having secured to its side walls near its rear end supporting members having portions projecting vertically beyond the drawer, a roller mounted on each of said projecting portions received in one of said channels, a roller received in the forward portion of each channel projecting upwardly beyond the cut-away portion of the upper flange thereof, and means for detachably supporting said last described roller.

4. In a device of the class described, a frame, opposite channels secured to said frame, each of said channels having its upper flange cut away at its forward end, a drawer having supports secured to it near its rear end, said supports having portions projecting vertically beyond the drawer, and a roller mounted on each of said projecting portions received in one of said channels, a shaft at the forward end of said frame, rollers on said shaft received in the forward portions of said channels projecting upwardly beyond the cut-away portion of the upper flange thereof.

5. In a device of the class described, a frame, opposite channels secured to said frame, each of said channels having its upper flange cut away at its forward end, a drawer having supports secured to it near its rear end, said supports having portions projecting vertically beyond the drawer, and a roller mounted on each of said projecting portions received in one of said channels, a shaft at the forward end of said frame, rollers on said shaft received in the forward portions of said channels projecting upwardly beyond the cut-away portion of the upper flange thereof, each of said last described rollers having a smooth portion and a toothed portion, and strips on the bottom of said drawer having smooth portions traveling on the smooth portions of said rollers and having toothed portions for engaging the toothed portions of said rollers.

Des Moines, Iowa, February 22, 1917.

BERT WALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."