Sept. 12, 1933. J. PIPE 1,926,453

DRAWER SLIDE

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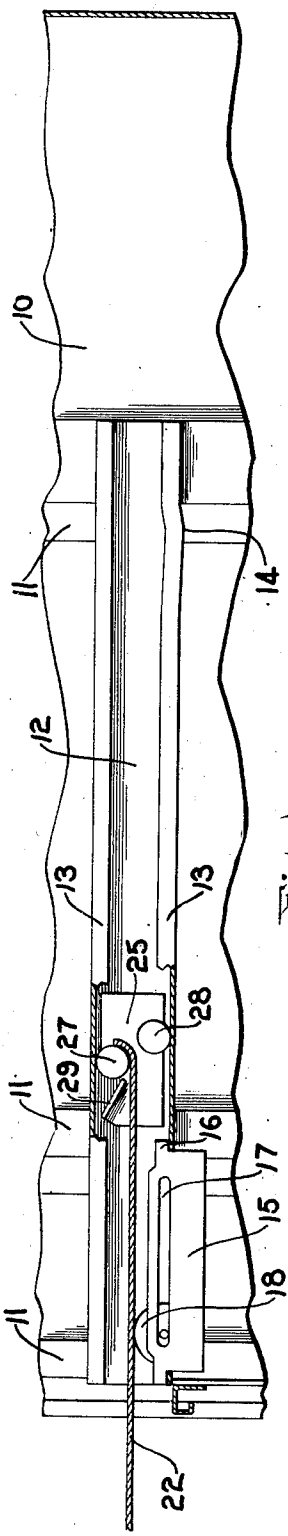


Fig. 1.

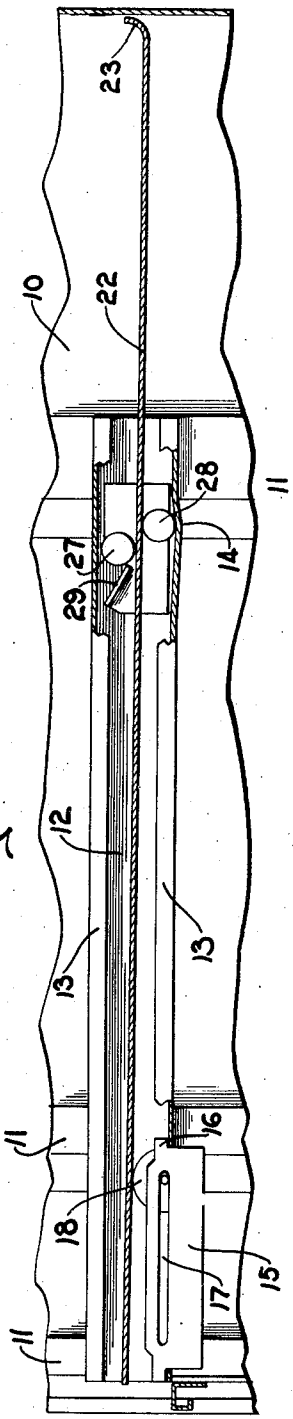


Fig. 2.

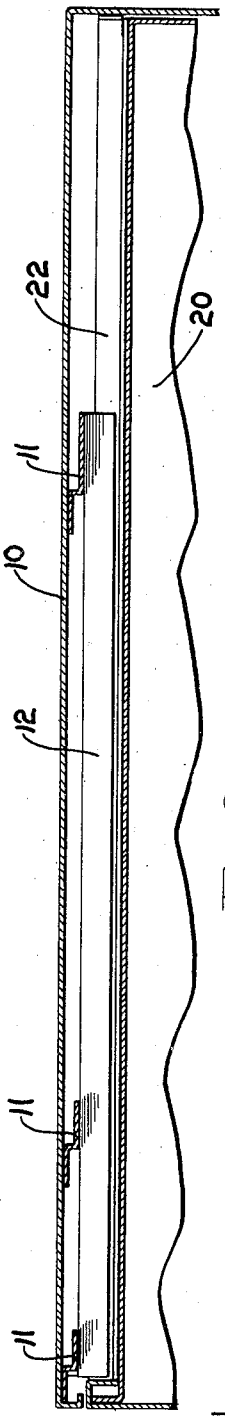


Fig. 3.

Inventor
John Pipe
By Livernance & Van Antwerp
Attorneys

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DRAWER SLIDE

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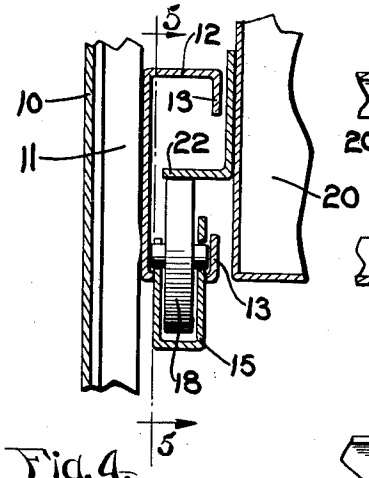


Fig. 4.

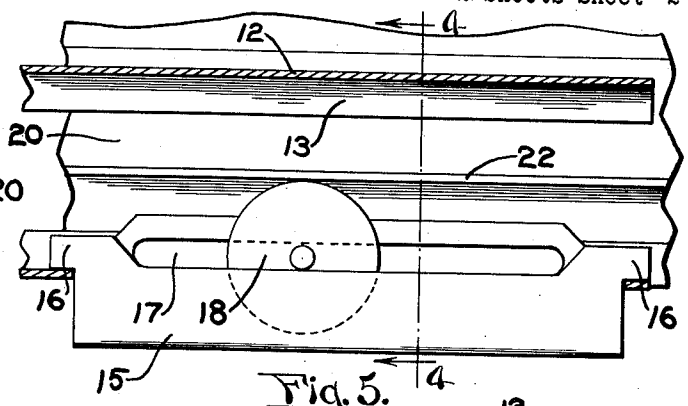


Fig. 5.

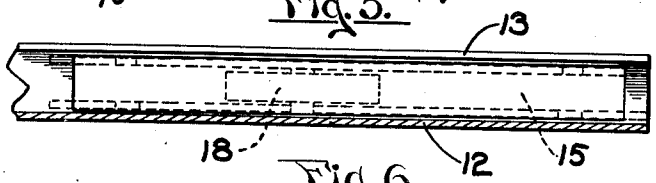


Fig. 6.

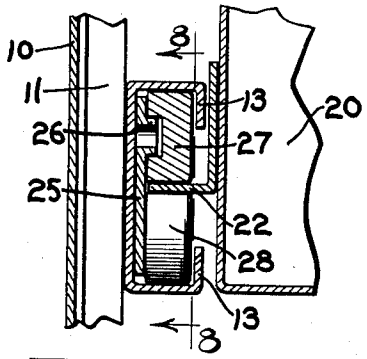


Fig. 7.

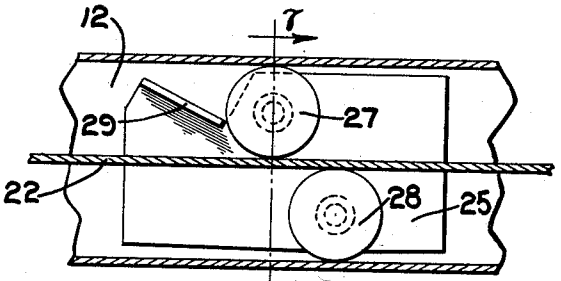


Fig. 8.

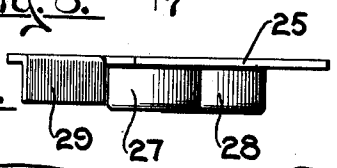


Fig. 9.

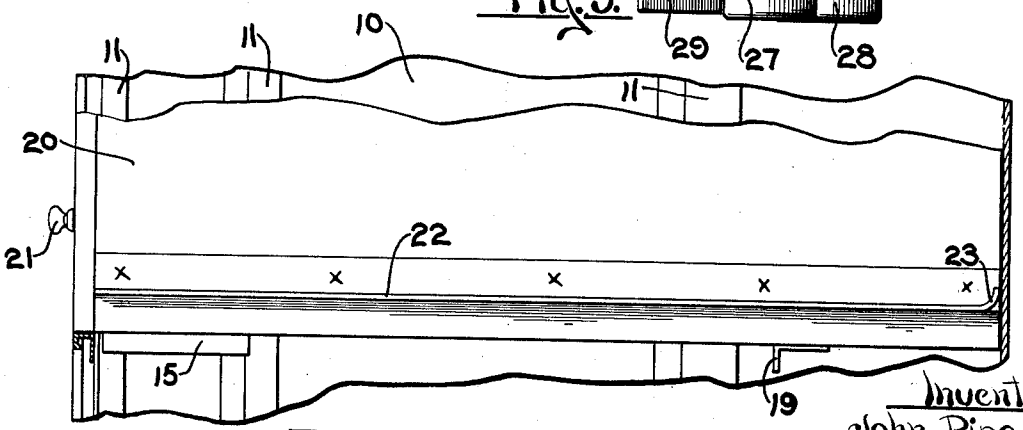


Fig. 10.

Inventor
John Pipe
By Fairbanks and Van Antwerp
Attorneys

Patented Sept. 12, 1933 1,926,453

UNITED STATES PATENT OFFICE

1,926,453

DRAWER SLIDE

John Pipe, Grand Rapids, Mich., assignor to Metal Office Furniture Company, Grand Rapids, Mich., a corporation of Michigan

Application February 13, 1933. Serial No. 656,485

9 Claims. (Cl. 45—77)

This invention relates generally to a support for a cantilever extension and more particularly to a drawer slide.

Drawer slides of the type herein disclosed have been rather expensive to construct previous to my invention and the type of drawer slides which have been relatively cheap to construct were subject to several disadvantages, that is, they lacked several functions which made for efficient operation and their cheapness was only attained by the elimination of certain desirable structure.

Hence, it is the purpose of the instant invention to provide a drawer slide which is not only simple in construction, such simplicity going hand in hand with economy, but the structure is such that it will be long lived and give efficient performance during its entire period of use and such performance embodies durability, easy operation, full and complete closing, ready removing and replacing, and other advantages of somewhat minor importance.

Other advantages will be apparent as the description proceeds.

In the drawings:—

Fig. 1 is an inside view of a cabinet showing the horizontal track member for the flange of the drawer, such flange being shown in cross section and located in an extended position.

Fig. 2 is a view similar to Fig. 1 but showing the drawer flange in its inner position.

Fig. 3 is a plan view of Fig. 2.

Fig. 4 is a cross sectional view taken along the line 4—4 of Fig. 5.

Fig. 5 is a view taken along the line 5—5 of Fig. 4.

Fig. 6 is a plan view of one of the two supporting tracks, the saddle member being shown in dotted lines.

Fig. 7 is a cross sectional view taken along the line 7—7 of Fig. 8.

Fig. 8 is a sectional view taken along the line 8—8 of Fig. 7.

Fig. 9 is a top view of the floating plate member.

Fig. 10 is a side view of the drawer member in its fully retracted position.

Similar numerals refer to similar parts throughout the several views.

Referring to the drawings, numeral 10 indicates the cabinet which includes vertical reinforcing strips 11, these reinforcing strips supporting the horizontal track members 12. One track member and its associated structure is located on each side of the sliding drawer.

The track member 12 is of channel shape, see Fig. 4 particularly, and it also has lips 13 extending inwardly toward one another. As shown in Fig. 2, the lower flange of the track 12 has a depressed portion 14 for a purpose to be later described.

The lower flange of the track 12 near the front end thereof has a rectangular opening formed therein as is clearly shown in Fig. 6, this opening receiving the saddle member 15 therein, this saddle member being bent to U-shaped configuration, see Fig. 4, and having end projections 16, see Fig. 2, whereby it detachably rests in the opening in the track member. Also, the saddle member has an alined slot 17 to receive the floating roller means 18, such being clearly disclosed in Figs. 1, 2, 4 and 5.

Referring now to Fig. 10, 20 designates the drawer, such drawer having a handle 21 and having angle members welded to either side thereof, the flanges 22 of these members extending into the track member between the upper and lower flanges thereof as is clearly shown in Fig. 4 of the drawings. The extreme inner end of the flange member 22 is curved upwardly to form an abutment as shown at 23, see Figs. 1 and 2.

Also, a stop member 19 is welded to the bottom of the drawer and limits its outward movement.

A floating plate member 25 is of such size as to be readily received between the flanges of the horizontal track member 12, and it has bosses or projections 26 struck therefrom, these bosses serving to revolubly mount the roller means 27 and 28, such roller means being offset vertically as is clearly shown in Figs. 1 and 2. Also, the plate 25 has a laterally bent portion 29 which serves as guiding means for the entry of the abutment 23 into its operative position between the rollers 27 and 28.

The operation

Fig. 1 shows the flange 22 of the drawer in its outer position and the abutment 23 of the flange bears against the upper roller 27. The stop 19 prevents excessive outward movement of the drawer during normal operation. During the outward movement of the drawer to its fully extended position the abutment 23 always causes the floating plate 25 to assume its proper position and hence the drawer is properly supported at all times. Also, the front edge of the floating plate 25 may abut against the inner portion 16 of the saddle member 15 to positively prevent the floating plate from being pulled outwardly too far.

As shown in Fig. 2 the flange 22 and, of course, the drawer proper, is located in its inner position

and when the drawer is moved outwardly therefrom, the flange 22 is supported at the front end upon the floating member 13 and near its rear portion upon the lower roller 28. As the drawer moves outwardly, the weight thereof may cause it to tilt downwardly a slight distance and consequently the upper roller 27 will bear against the upper flange of the track member. When the drawer is in its inner position the lower roller 28 rests in the depression 14 and consequently the drawer is maintained in a fully closed position.

When it is desired to remove the drawer, it is pulled outwardly to its fully extended position, and then the front end of the drawer is slightly lifted whereupon the curved portion 23 of the flange moves downwardly in front of the lower roller member 28 and also the stop 19 is lifted over the cross piece underneath the front of the drawer and hence the drawer can now be moved outwardly into disassembled relationship with the cabinet supporting the same. To reinsert the drawer the manipulation is reversed, the curved portion 23 being guided to a point below the roller 27 by means of the guiding lug 29 and then the curved portion 23 rises behind the roller 27 and upon pushing the drawer rearwardly the flange 22 is inserted between the rollers 27 and 28, these rollers contacting with the upper and lower sides of the track member as is clearly shown in Figs. 7 and 8, these rollers also revolving so that the floating plate 25 moves rearwardly at approximately one-half of the speed that the rear end of the drawer moves inwardly.

From the above description, it will be appreciated that I have invented an extremely simple device, as regards its structure, whereby it may be very economically manufactured and yet, it will be seen that the operation of such device is very efficient inasmuch as there are fewer parts to get out of order. Furthermore, the construction permits ready disassembly as well as assembly.

Having thus revealed this invention, I claim as new and desire to secure the following combinations and elements, or equivalents thereof, by Letters Patent of the United States.

I claim:

1. A drawer mounting of the class described, comprising, a track having an opening therein, a saddle member, having a roller revolubly and slidably mounted therein, removably mounted in said opening, a drawer having a flange extending therefrom, said flange movably resting upon the said roller, and means to support the said flange member upon the said track at an additional point.

2. A combination of elements as set forth in claim 1, in which said last mentioned means consists of a plate member having two rollers thereon, one roller being located above the said flange extending from the drawer and the other roller being located below the said flange, the axes of said rollers being offset laterally with respect to one another for the purpose described.

3. A combination of elements as set forth in claim 1, in which said last mentioned means has guiding means located both above and below the said flange of the said drawer, and also a guiding flange rigidly mounted on the said plate for the purpose described.

4. In combination, a channel shaped track having flanges extending inwardly therefrom toward each other, a drawer having a supporting member extending inwardly between the flanges of the said track, supporting means mounted between the lower flange of the track and the said supporting member and additional supporting means including a plate member having mounting means extending rigidly therefrom on both sides of the said supporting member and revoluble means mounted upon said mounting means, said flanges on the said track retaining said revoluble means in position.

5. In combination, a horizontal supporting track, a drawer having a flange adapted to extend into said track, roller means between the flange and the front end of the track, and additional roller means between the flange and the track, said additional roller means consisting of a floating plate member carrying a roller which is located between the track and the underside of the said flange which extends from the said drawer, and a second roller member located between the upper side of the said flange and spaced forwardly with respect to the first mentioned roller for the purpose described.

6. In a device of the character described, a track having an upper surface and a lower surface, a drawer having a flange member adapted to extend between said surfaces, a floating plate member, a roller mounted on said floating plate member between the lower surface of the track and the underside of the flange which extends from the said drawer, a second roller located out of vertical alinement with the first roller, said second roller also being mounted upon the said plate, and means on the said flange adapted to engage against the second mentioned roller when the drawer is in fully extended position.

7. A drawer slide of the class described, comprising a horizontally located track having a lower supporting surface and an upper supporting surface, a drawer having a flange member rigid therewith and extending between the said supporting surfaces on the said horizontal track, said extension having an upturned portion at a point adjacent the inner end of the said drawer, means located at the outer end of the said track whereby the flange may roll thereon and additional means for supporting the flange near the inner end of the said track member, said additional means comprising a floating plate member having rollers revolubly mounted thereon and being offset laterally with respect to one another whereby the curved portion at the inner end of the flange may be disengaged therefrom for the purpose described.

8. In combination, a track member, a floating member at the front end of said track member, a flange supported on said floating member and extending above said track member, a floating plate supporting the flange at a point spaced from the said floating means, and stop means on the said flange adapted to engage the floating plate when the drawer is in its extended position.

9. A drawer mounting of the class described, comprising, a track having an opening therein, a saddle member having a roller revolubly mounted therein removably mounted in said opening, a drawer having a flange extending therefrom, said flange movably resting upon the said roller, and means to support the said flange member upon the said track at an additional point, said last mentioned means comprising a floating plate adapted to move during its operation, the said plate abutting against the saddle member when the drawer is in extended position.

JOHN PIPE.