April 27, 1926. **1,582,556**

E. STUCK

DRAWER GUIDE

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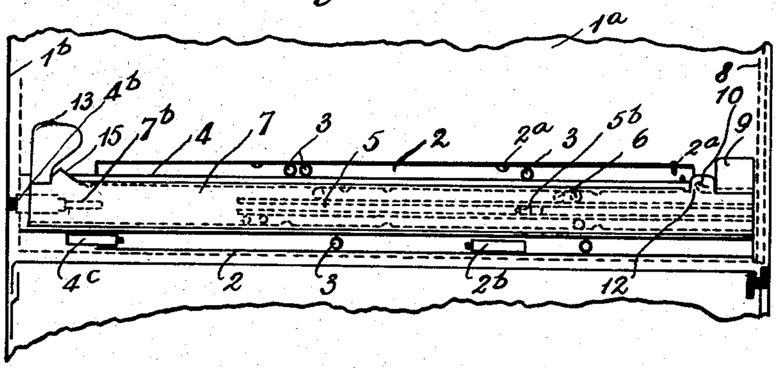
Fig. 1.



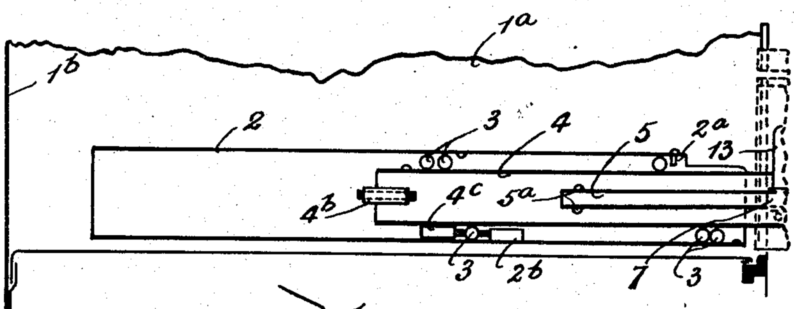
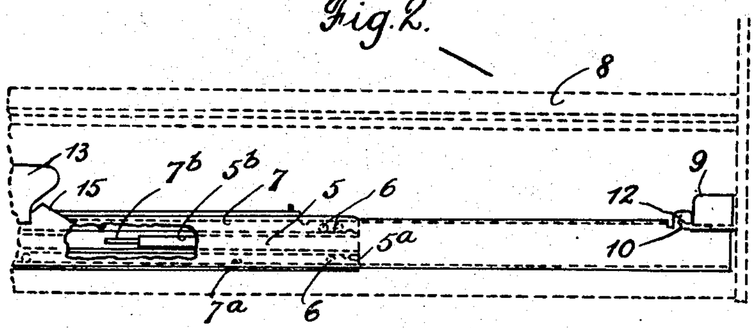


Fig. 2.



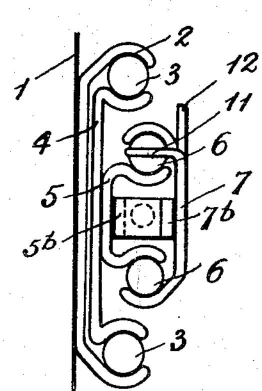


Fig. 3.

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Fig. 4.

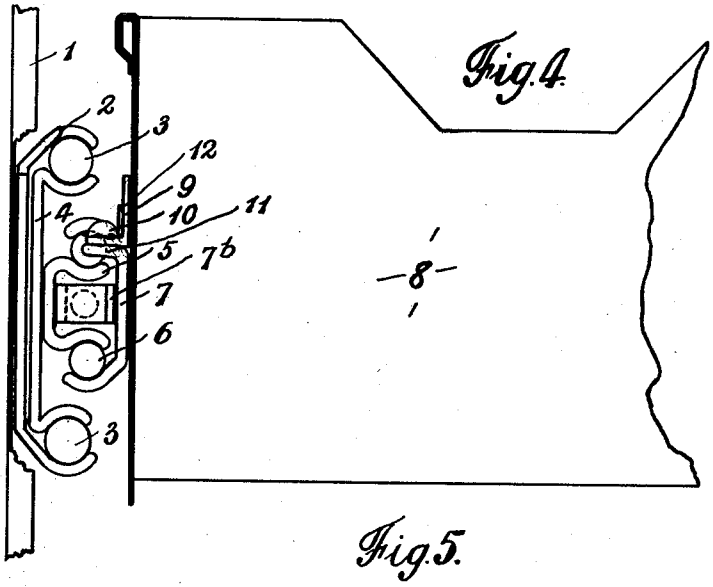


Fig. 5.

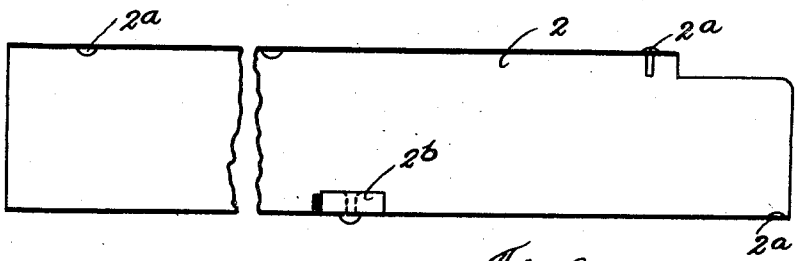


Fig. 6.

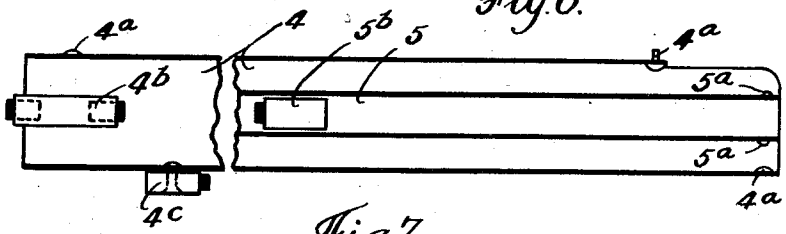
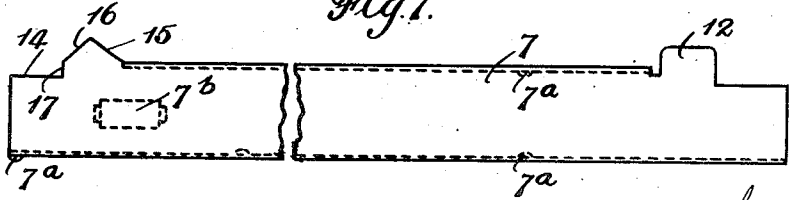


Fig. 7.



Inventor:
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Patented Apr. 27, 1926. 1,582,556

UNITED STATES PATENT OFFICE.

EVERETT STUCK, OF ROMFORD, ENGLAND, ASSIGNOR TO RONEO LIMITED, OF LONDON, ENGLAND, A COMPANY OF GREAT BRITAIN.

DRAWER GUIDE.

Application filed January 31, 1921. Serial No. 441,323.

To all whom it may concern:

Be it known that I, EVERETT STUCK, a citizen of the United States of America, residing at Roneo Works, Hornchurch Road, Romford, in the county of Essex, England, Great Britain, have invented certain new and useful Improvements in Drawer Guides, of which the following is a specification.

This invention relates to improvements in drawer guides.

The object of the invention is to improve upon the construction of drawer guides or carriers and the bearers used in conjunction therewith and to provide means of such construction that when a drawer or shelf is pulled out to its furthest point and being thus suspended completely beyond the casing or filing cabinet, it can then be lifted off the supporting bearers.

According to this invention, the casing or filing cabinet has secured thereto sets of bearers with ball races, and engaging with the said bearers are sliding bearers provided with opposed ball races the same having intermediate sliding bearers with ball races secured thereto also extension sliding bearers having opposed ball races, the drawers or shelves having attached thereto means for engagement with the inner extension slides.

With devices constructed to accord with my invention, the ball races have studs or projections for limiting the movements of the balls, also suitable stops or buffers for limiting the inward and outward travel of the sliding bearers, the extension slides and the drawer carried thereon.

The invention will now be fully described with reference to the accompanying drawings whereon:—

Fig. 1 is a side elevation of a drawer carrier showing a casing having drawer supporting means and sliding bearers, the drawer being shown as entirely within the casing;

Fig. 2 is a side elevation similar to Fig. 1, this view being in two sections and showing the drawer extended or positioned beyond the casing;

Fig. 3 is an end view of one of the side walls of the casing showing a fixed bearer attached thereto, an extension slide and a bearer which is engaged by supports attached to a side of the drawer;

Fig. 4 is an end elevation showing a portion of a drawer and casing and supports which are attached to the drawer for engagement with a slide or bearer attached to one of the sides of the casing;

Fig. 5 is a side elevation of one of the fixed bearers that is attached to the casing;

Fig. 6 is a side elevation of a sliding member that engages with a fixed member attached to the casing; and

Fig. 7 is a side view of an extension slide or member with which supports on the drawer or shelf engage.

In Figs. 1 and 2 part of the right hand side wall of a cabinet is shown with its right hand fixed bearer 2, sliding bearers 4 and 5, and a drawer 8, represented by dotted lines, mounted upon bearers 7 formed to be engaged by supports 9 and 13 which are fixedly attached to the drawer or shelf.

The side walls 1, 1^a of a cabinet or like structure have secured to them as by way of spot welding, screws, rivets or the like bearers 2 the said bearers being shaped to provide ball races for balls 3. The balls 3 of the fixed bearers 2 are engaged by sliding bearers 4 that have ball races which aline with the ball races of the fixed bearer 2, and secured to the sliding bearer 4 as by spot welding or otherwise, is an intermediate bearer 5, shaped to provide top and bottom ball races for the balls 6, and slidably mounted on the bearer 5 is an extension bearer 7 having ball races that aline with the ball races formed on said sliding bearer 5.

The fixed bearers 2 and the sliding bearers 4 are each provided with spurs, projections or pins 2^a and 4^a which limit the travel of the balls 3. The bearers 5 which are attached to the bearers 4 are engaged by balls 6 which are also engaged by the bearers 7 which have projections as 5^a and 7^a, to restrict movement of the balls 6 in their races. The sliding bearers 4 each has attached thereto and positioned to extend beyond their ends stops or buffers 4^b which may consist of a short piece of metal tube each end having inserted therein pieces of rubber, or a single piece of rubber or like substance may be used, the ends thereof projecting beyond both open ends of the tube. The rear end of the cushioning surface of the buffers 4^b contacts with the back 1^b of the cabinet or casing as shown in Fig.

1, and the other end of the buffer is adapted to engage with a similar buffer or stop 7^b secured to the slide 7 when the same is connected to the drawer operating to prevent movement of the drawer, when slid fully within the casing the other cushioning surface of the buffer 7^b contacts with a buffer 5^b secured to the bearer 5, when the bearer or extension slide 7 carrying the drawer is pulled out to its furthest position as shown by Fig. 2.

Each sliding bearer 4 in addition to the buffers 4^b has secured thereto a buffer or stop 4^c which engages and cushions the ball or balls 3 and a buffer or stop 2^b secured to the fixed bearer 2 in line with the ball race operating when the sliding bearer 4 reaches its limit of travel.

The extension slides 7 that are attached to the sides of the drawer 8 serve as supports for the same and prevent lateral movements thereof, the sides of the drawer having projections thereon which register with the alined projections on the extension slides and in practice four such members or supports may be employed on the drawer, one on each side of the front thereof, and one on each side of the back or rear of the drawer. The front supporting members consist of projections or lugs 9 attached to the sides of the drawer by spot welding, screws, or like means, and these lugs having a part 10 that projects outwardly and upwardly from the drawer. The under surfaces of the lugs or projecting members 9 rest upon seat 11 (Figs. 3 and 4) that are integral with or formed by flattening out a portion of the upper flange that forms a part of the ball race of the extension slide 7. A portion of the curved flange or ball race is also bent upwardly at about right angles thereto, and the upwardly turned projections 12 are normally held against the sides of the drawer 8 by means of the parts 10 which serve to prevent sidewise movement of the forward ends of the extension slides 7 and of the drawer.

The upwardly extending parts of the members 10 also serve to guide the drawer to its normal position on the extension slides when placing the drawer in the casing, as will be further described.

The rear supports of the drawer consist of plates of metal 13 secured to the outer sides of the drawers by spot welding or like means, and the under surfaces of these members or plates 13 normally rest upon surfaces formed by cutting away the curve or bend from the rear end of the ball races of the extension slides 7. The rear end of each extension slide immediately forward of the portion 14 of slides 7 are also shaped by straightening and turning upwardly in a vertical position a portion of the extension slide 7, and said upwardly projection part has three faces or surfaces, see Fig. 7, comprising a sloping surface 15 extending upwardly and rearwardly, a further surface 16 extending downwardly and rearwardly, and a straight vertical surface 17 that extends downwardly at right angles to the upper edge of the extension slide and below the plane of the ball race.

In associating the drawer with the casing the rear end of the drawer 8 is placed in the space or opening of the casing or cabinet, and is allowed to drop in between the extension slides 7, said slides being in any position of their restricted longitudinal movement, and the under surfaces of the rear supports or lugs, secured to the sides of the drawer rest upon the upper curved portions of the extension slides 7. The drawer 8 is then slid along the extension slides 7, the plates 13 when reaching the rear projecting portion ride up and down the slopes 15 and 16 and drops to engage the vertical surface 17 and the edge 14. At the same time the forward projections or lugs 9 having upturned portions or noses 10 ride on and up the horizontally bent and flat surfaces 11 of the slides 7.

It will be noted that inward movement of the drawer causes the rear plates 13 to drop down the vertical notches 17, the under surfaces of the plates resting upon the surfaces 14 and when so positioned the members 10 of the extension slides 7 contact with the projections on lugs 9 that are fast on the drawer and prevent any sidewise or independent movement of the drawer when the same is moved within the casing and in a similar manner the front edges of the plates 13 contact against the vertical edges 17 of the slides 7 and so prevent any sidewise or independent movement of the drawer when it is drawn outwards.

With sliding structures outlined herein the drawers or shelves can be easily lifted off and replaced upon their supports, all of the bearers being connected to and retained within the cabinet.

It will be particularly noted that the bearer or member 7 that is engaged by the lugs or plates 13 and 9 which are attached to the outer faces of the sides of the drawer is of such length as to admit of the inner bearer 7 being moved beyond the front of the casing, and when so positioned the lug 13 can be placed upon the curved portion of said member and moved rearward so that the lug 13 will ride upon the inclined edge 15 of the projection and then downward on the oppositely inclined surface 16, the lug engaging the vertical wall 17 and the flat surface. When so positioned, the lug 9 will rest upon the flat surface 11 beyond the projection 12, and the drawer will be connected to the bearer 7. The construction of the fixed bearer 2, the connected bearers 4 and 5

may be varied, as well as the stops for the balls and buffers.

Having thus described my invention what I desire to secure by Letters Patent of the United States is as follows:—

1. A drawer carrier comprising bearers which are fixedly attached to the sides of a drawer casing, slidable bearers maintained by the said fixed bearers, intermediate bearers attached to and movable with the slidable bearers, inner bearers carried by the intermediate bearers, said inner bearers having adjacent to their ends upstanding portions in combination with a drawer having attached to its sides angle members for engagement with the upstanding portions of the inner slidable bearers carried by the casing to provide means for connecting the drawer detachably with said slidable bearers.

2. In a cabinet, the combination with a drawer casing having attached to opposite sides thereof supports for slidable members, inner slidable members associated with the supports, said inner slidable members having adjacent to their inner ends upstanding portions with inclined edges and a vertical shoulder, said slidable members also having at their forward ends upstanding portions with vertical edges, spaced slide engaging members adapted to be attached to sides of a drawer for engagement with the upstanding portions of the aforesaid slidable members.

3. In a suspension slide for casings of drawers, the casing having rigidly attached thereto supports constituting fixed members, slidable members, including inner slidable members associated with the supports, the inner slidable members having at their forward ends upwardly extending portions and adjacent thereto laterally extending portions, and angular means attached to the sides of a drawer, the means being spaced for engagement with the said upwardly and laterally extending portions of the inner slidable members.

4. In a slidable support for drawers, a plurality of slides constructed to provide ball races, the slides being maintained by a casing comprising inner slides having laterally extending portions and upwardly extending portions positioned adjacent to their forward ends and rear upwardly projecting portions having oppositely inclined upper surfaces, in combination with a drawer having attached thereto angular supports for engagement with the lateral and vertical portions of the inner slides.

In testimony whereof I have signed my name to this specification.

EVERETT STUCK.