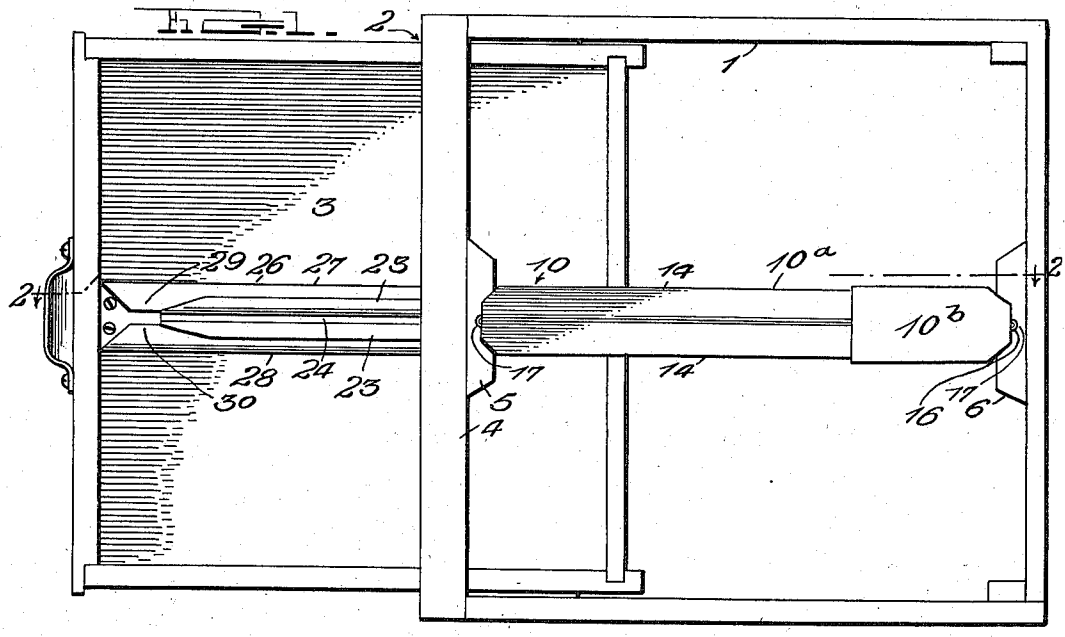
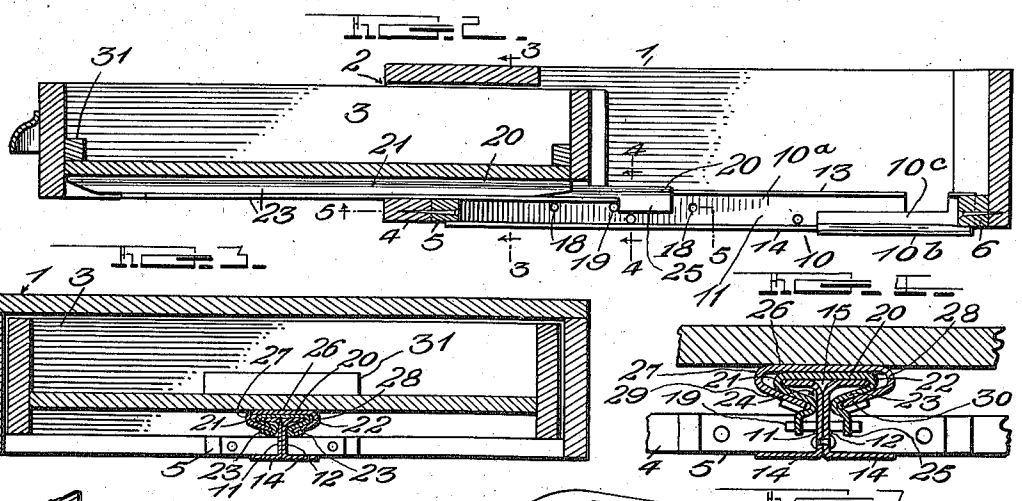
A. K. LOFTIN & C. S. MURPHY.

REINFORCED EXTENSION DRAWER SLIDE.

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1,135,704. Patented Apr. 13, 1915.





Witnesses

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UNITED STATES PATENT OFFICE.

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REINFORCED EXTENSION DRAWER-SLIDE.

1,135,704. Specification of Letters Patent. Patented Apr. 13, 1915.

Application filed March 26, 1914. Serial No. 827,412.

To all whom it may concern:

Be it known that we, ALONZO K. LOFTIN and CHARLES S. MURPHY, citizens of the United States, residing at Altavista, in the county of Campbell and State of Virginia, have invented certain new and useful Improvements in Reinforced Extension Drawer-Slides; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in drawer slides for cabinets and other furniture.

The object of the invention is to provide an extensible drawer slide which is designed to be positioned midway the width of the drawer opening and to reliably support in connection with the front cross bar of the article to which the drawer is applied, a drawer without necessitating the use of any other supports.

Another object is to provide improvements for centering and positioning said slide which may be quickly and readily applied by unskilled workmen.

Another object is to provide improved means for assembling and connecting the parts of the slide.

With the above and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings:—Figure 1 represents a bottom plan view showing a casing with this improvement applied and a drawer in partially withdrawn position. Fig. 2 is a longitudinal section taken on the line 2—2 of Fig. 1; Fig. 3 is a transverse vertical section taken on the line 3—3 of Fig. 2; Fig. 4 is an enlarged detail sectional view taken on the line 4—4 of Fig. 2; Fig. 5 is a detail horizontal section taken on the line 5—5 of Fig. 2; Fig. 6 is a detail perspective of the slide; Fig. 7 is a detail perspective showing one of the cleats and the end of the supporting base member which is adapted to be mounted in and supported by said cleat.

In the embodiment illustrated a casing 1 is shown having a drawer opening 2 therein in which a drawer 3 is adapted to slide. This casing 1, unlike ordinary structures of this class, has no side cleats or guides for the drawer to travel on and is equipped only with the usual front cross bar 4 and with two short cleats 5 and 6 extending laterally inward from the inner edge of the cross bar 4 and from the inner face of the rear wall of the casing respectively. As shown the cleat 5 is of the same thickness as the cross bar 4 and the upper faces of these members are arranged flush.

The slide which constitutes this invention comprises an extensible base member 10 secured as its opposite ends to the cleats 5 and 6 and composed of two telescopically engaged members one of which 10^a is here shown composed of two angle irons 11 and 12 secured together by riveting or otherwise and having upper and lower flanges 13 and 14 extending laterally outward, the flanges at the bottoms of the bars or irons extending in opposite directions and arranged in alinement with each other and are here shown wider than the top flanges 13 which also extend laterally outward to form guides for the drawer attaching member to be described. Between the top flanges 13 of the bars 11 and 12 is formed a runway 15 adapted to receive balls should it be desirable to have a ball bearing between this base member and the drawer attaching member which is adapted to slide on these flanges and thereby facilitate the sliding movement of the drawer. The ends of these angle irons 11 and 12 are preferably secured together by extending the web of one of the angle irons at its opposite ends to form tongues 16 which are adapted to be folded around the web of the adjacent iron as shown clearly in Figs. 5 and 7, and thereby holds said irons against longitudinal movement relatively to each other and against lateral separation. The other member 10^b within which the member 10^a slides is here shown composed of a plate or strip of sheet metal folded inwardly and then upwardly to form guide flanges as 10^c spaced apart a sufficient distance to receive the web of member 10^a and permit said member to slide therebetween. By making this base member extensible the slide may be applied to casings of different sizes.

The cleats 5 and 6 are provided midway their ends with transversely extending recesses 17 in their inner edges which are

adapted to receive the connected webs of the angle irons 11 and 12 which connection permits the upper and lower flanges of said angle irons to overlap the upper and lower faces of said cleats. The cleat 5 on cross bar 4 is preferably of less width than the distance between the upper and lower flanges of the angle irons to provide for the free sliding on said upper flanges of the drawer attaching member to be described and it is adapted to extend over the upper edges of said cleats as is shown clearly in Fig. 2. The connected webs of the angle irons 11 and 12 are provided at a predetermined point with a plurality of longitudinally spaced apertures 18 designed to receive a removable stop 19 here shown in the form of a pin which extends transversely through one of these apertures into the path of coöperating stops carried by the intermediate or extensible members 20 as will be hereinafter more fully described and which coöperate to limit the outward movement of the drawer to permit its opening to a predetermined point only before the extension member to be described, is brought into operation.

Mounted to slide freely on the upper flanges of the base member 10 is the intermediate extension member 20 here shown composed of a plate of sheet metal folded inwardly on lines 21 and 22 to form guide flanges 21′ and 22′ with their edges 23 folded backwardly or outwardly forming a longitudinally extending slot 24 between them which is designed to receive the connected webs of the angle irons 11 and 12, the outwardly folded edges forming reinforced guides for slidable engagement with the upper flanges 13 of these angle irons. As shown this intermediate extension member 20 is of the same length as the base member 10 and the flanges formed by the bent edges thereof are bent downwardly at their rear ends to form stops 25 for coöperation with the adjustable stop 19 mounted in the webs of the connected angle irons 11 and 12 as above described so that when said extension is drawn outwardly to a predetermined point these stops 25 will come in contact with the pin 19 and prevent further outward movement of said member. It will be obvious that if a ball bearing is formed between the body portion of the member 20 and the outer face of the base member 10 as above described, this member 20 will slide very readily on the base member 10. This intermediate extension member 20 is designed also to connect the base member 10 with the drawer 3 being slidably engaged with a drawer attaching member now to be described.

The drawer attaching member 26 is constructed of a strip of sheet metal folded inwardly at spaced points 27 and 28 to form guides for engaging the opposite side edges of the intermediate member 20 as is shown clearly in Fig. 4. The edges of the inturned flanges 29 and 30 formed by the folding of the strip constituting the drawer attaching member are spaced apart a sufficient distance to permit them to span the outwardly folded edges of the intermediate member, said flanges 29 and 30 being adapted to extend between said outwardly folded edges of the member 20 and the lower face of said member.

The flanges 29 and 30 are preferably cut away or beveled at their opposite ends to facilitate their engagement with the extension member 20 and these flanges are so spaced relative to the body portion of the attaching member 26 as to bindingly engage the member 20 so that when the drawer is moved outwardly the member 20 will be carried with the member 26 until the stops 25 of said intermediate member engage the stop 19 of the base member and then a further pull on said drawer will cause it to move outwardly on the extension member 20 to permit the drawer to be further withdrawn and entirely removed if desired.

The drawer attaching member 26 is preferably made of metal sufficiently resilient to cause the flanges 29 and 30 thereof to yieldingly grip the intermediate member 20 and hold them yieldingly together to cause the intermediate member to travel with the drawer until the stops 19 and 25 are brought into action.

In applying this slide it is necessary that the base member 10 be accurately positioned midway between the side walls of the drawer opening so that the drawer may slide freely therein without any binding action occurring. To accomplish this positioning of the base member the cleats 5 and 6 are first secured to the opposite ends of said member and they are then adjusted at the proper points on the cross bar 4 and the rear wall of the drawer opening and after being so positioned, they are secured by the fastening elements carried thereby with said cross bar and rear wall.

The cleat 6 at the rear of the casing is made sufficiently wide to fill the space between the upper flanges 13 and the lower flanges 14 of the base member to hold said base member securely at this point against sagging.

After the member 10 has been properly positioned the intermediate member 20 is slid onto the flanges 13 thereof. The drawer attaching member 26 is then secured to the lower face of the bottom of the drawer 3 at a point midway the width of said drawer and after being so secured this member 26 is slipped onto the member 20 the flanges 29 and 30 thereof gripping the flanges of said member and yieldably holding the members 20 and 26 together permitting the

member 20 when the drawer is moved outwardly to slide freely on the base member 10 as above described. When the drawer is closed the rear end of member 20 engages the front face of cleat 6 and thus holds said member 20 and permits the member 26 to slide thereon sufficiently to close the drawer.

A strip 31 is preferably glued or otherwise secured to the front wall of the drawer and rests on the bottom thereof being designed for receiving the fastening screws which secure the front end of the member 26 to the drawer. While this device is shown applied to a casing or cabinet having no side guides for the drawer it is obvious that it may be applied to articles of furniture already made having the side guides.

One of the important features of our invention resides in the extension member 20 which travels outwardly with the drawer until the pin 19 stops it. When the member 20 is in this position which is shown in Fig. 2, it will be noted that it will effectively support the projected front portion of the drawer and prevent it from sagging and also prevent it from shifting sidewise. As a result the drawer when extended will be effectively supported out of contact with the side walls of the opening which receives the drawer and also out of contact with the upper bar as will be clearly seen on referring to Fig. 2. Because of the peculiar construction of the extension member or bar 20 it will frictionally bind the drawer attaching member 26 and consequently will always travel outwardly with the same since it can slide freely on the base member 10. When however, it is necessary or desirable to remove the drawer entirely from the casing, an outward pull upon the drawer of sufficient force will cause the member 23 to slide out of the drawer attaching member 26 and consequently there will be no screws or other parts to be loosened to permit the drawer to be entirely removed.

We claim as our invention:—

1. A drawer slide comprising a base member composed of angle irons having their webs connected together and their flanges extending in opposite directions and in the same plane, an extension member slidable on said base member and composed of a metal strip folded longitudinally on laterally spaced lines to form inturned guides for sliding engagement with the flanges of said base member, the edges of said guides being bent outwardly to form auxiliary guides, and a drawer attaching member slidable on said extension member and having flanges for engagement with said auxiliary guides.

2. A drawer slide comprising a base member composed of angle irons having their webs connected together and their flanges extending in opposite directions and in the same plane, an extension member slidable on said base member and composed of a metal strip folded longitudinally on laterally spaced lines to form inturned guides for sliding engagement with the flanges of said base member, the edges of said guides being bent outwardly to form auxiliary guides, and a drawer attaching member slidable on said extension member and having flanges for engagement with said auxiliary guides, said auxiliary guides being bent downwardly at their rear ends to form stops, and a stop on said base member for cooperation with the stops on said extension member for limiting the outward movement of said member.

3. A drawer slide comprising an extensible base member composed of telescopically engaged sections, one of which has a web with flanges extending laterally on opposite sides at its top and bottom and the other having hollow laterally extending bottom flanges to receive the bottom flanges of the other section and laterally spaced upwardly extending flanges to receive the web of said first mentioned section, and a drawer attaching member slidably carried by said base member.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ALONZO K. LOFTIN.
CHARLES S. MURPHY.

Witnesses:
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