A. T. WEISS.

FURNITURE DRAWER.

APPLICATION FILED MAY 27, 1909.

1,095,363.

Patented May 5, 1914.

2 SHEETS—SHEET 2.

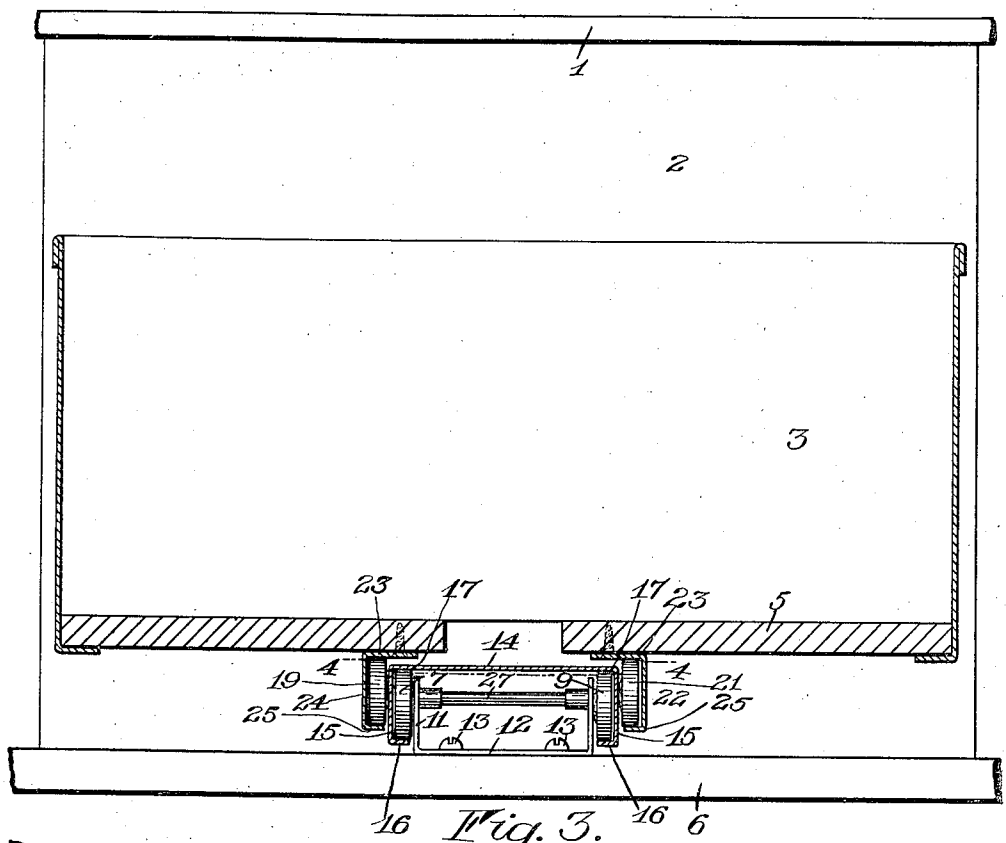


Fig. 3.

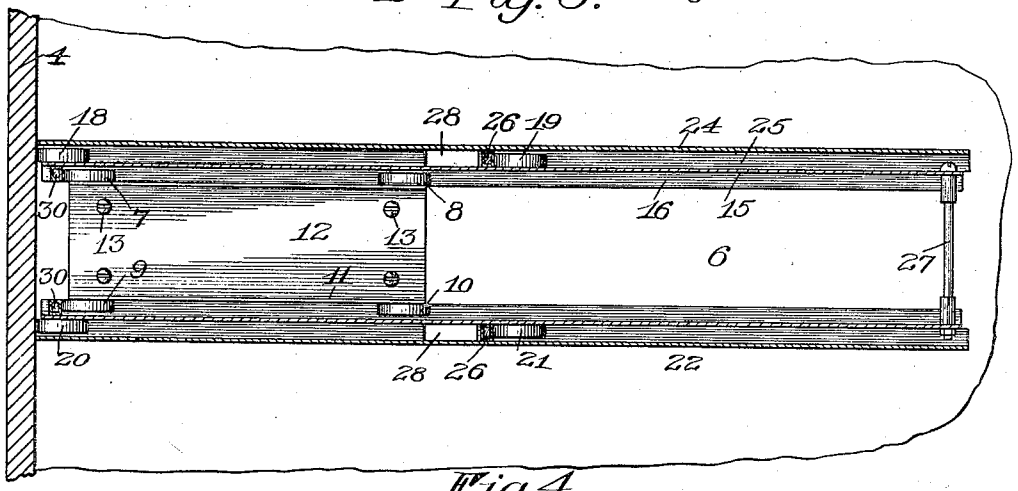


Fig. 4.

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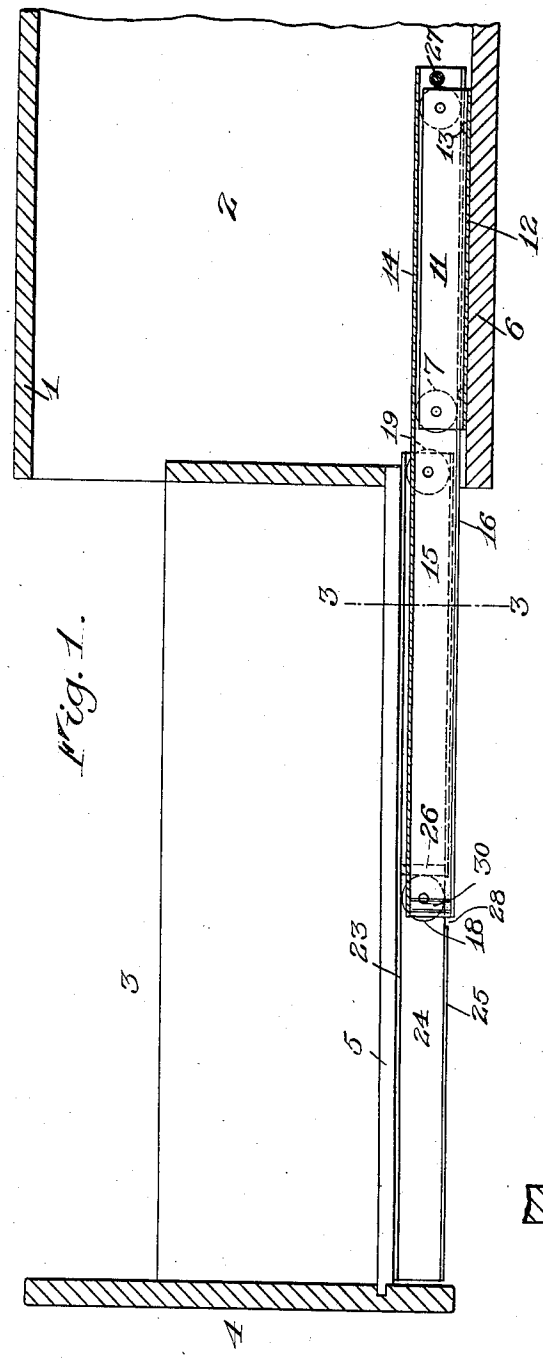


Fig. 1.

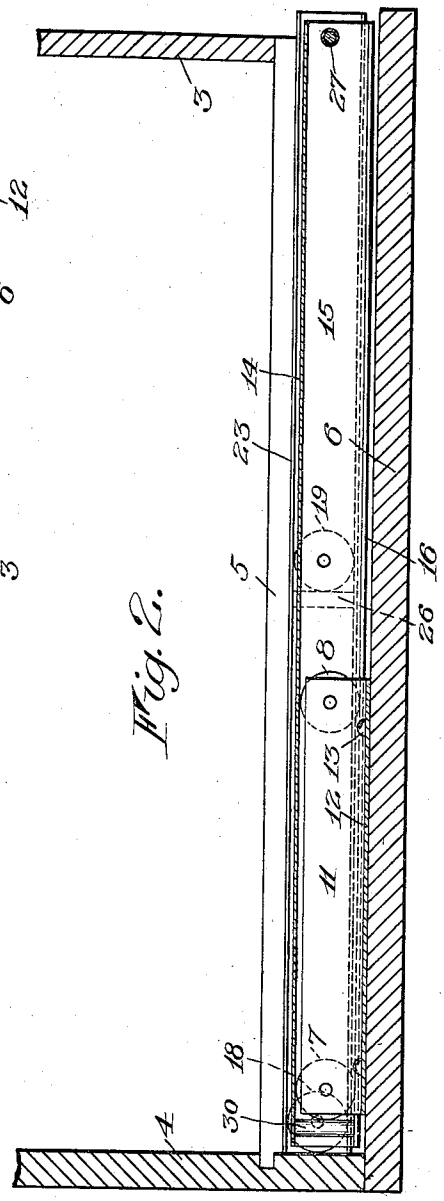


Fig. 2.

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UNITED STATES PATENT OFFICE.

ALBERT T. WEISS, OF ROCHESTER, NEW YORK, ASSIGNOR TO YAWMAN & ERBE MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

FURNITURE-DRAWER.

1,095,363. Specification of Letters Patent. Patented May 5, 1914.

Application filed May 27, 1909. Serial No. 498,655.

To all whom it may concern:

Be it known that I, ALBERT T. WEISS, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Furniture-Drawers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to furniture and more particularly to sliding drawers or receptacles, and it has for its object to provide a drawer so supported with reference to its cabinet or container as to permit its extended withdrawal from the drawer-chamber in order that all parts of its interior may be rendered accessible while still disposed in position for return movement with reference thereto, the improvements being directed in part to the supporting devices with a view to making them strong and simple in construction and noiseless and efficient in operation so that the labor entailed in manipulating the drawer will be as light as possible. My improvements are further directed toward providing advantageous means whereby the drawer may be detached altogether, when desired, and to these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is a central longitudinal vertical section through a drawer, its cabinet or casing and its supporting devices all constructed in accordance with and illustrating one embodiment of my invention, the drawer being shown in extended position; Fig. 2 is a similar view showing the drawer in closed position; Fig. 3 is a transverse vertical section taken substantially on the line 3—3 of Fig. 1, and Fig. 4 is a top plan view of the working parts of the supporting devices taken substantially on the line 4—4 of Fig. 3 in horizontal section.

My improvements are particularly well adapted for use in connection with drawers in which the vertical or side walls, with the exception possibly of the front wall, are shorter than the height of the chamber in which the drawer operates, such drawers being convenient for use in cabinets designed for the vertical system of filing letters or papers and for this reason I have shown the invention in connection with a construction of this type.

Referring now more particularly to the drawings, 1 indicates a cabinet, casing or containing support having a chamber 2 therein within which the drawer 3 operates, the front 4 of the latter completely closing the open side of the chamber 2 when the drawer is in closed position. In my preferred construction the bottom 5 of the drawer is raised somewhat above the lower edge of the front wall 4 which provides a space between the said part and the bottom 6 of the drawer chamber, this space being advantageously used for housing the supporting devices hereinafter described.

On the bottom 6 of the chamber and preferably at a forward part of the latter are mounted to turn in vertical planes, two pairs of rollers 7—8 and 9—10, each pair comprising a forward roller 7 or 9 and a rear roller 8 or 10 preferably in alinement therewith and spaced from each other in the direction of movement of the drawer. These rollers are preferably supported upon brackets 11 formed by turning up the opposite edges of a plate 12 secured to the part 6 as by screws 13. Arranged above these rollers to travel thereon is an extension slide support 14 preferably formed by a single plate having its opposite edges turned donwardly to constitute channel bars 15, inturned edges 16 forming flanges on the bars that constitute lower tracks while the upper tracks 17 are formed by the body of the plate 14 in the present construction.

On the opposite sides of the extension slide 14 and on the outer sides of the channel bars 15 are in turn mounted two pairs of rollers 18—19 and 20—21, respectively, one pair being arranged on each channel bar and comprising forward rollers 18 and 20 and rear rollers 19 and 21. Depending plates 22 on the underside of the drawer bottom 5, having inwardly turned flanges 23, provide channel bars 24 having upper and lower tracks 23 and 25 for the slide rollers similar to the tracks 16 and 17. Ex-

tending between these two tracks in each case is a stop 26 operating between the front and rear slide rollers.

The normal position of the parts is that shown in Fig. 4, all of the rollers being in engagement with the upper tracks 17 and 23, that is, provided the drawer is evenly loaded. When the latter is pulled out to the position shown in Fig. 1 it moves forwardly on the slide rollers until the stops 26 engage the forward slide rollers 18 and 20, whereat the extension of the slide begins, the latter moving on the stationary rollers at the bottom of the chamber. When the fully extended position has been reached the forward slide rollers are in engagement with the upper tracks 23 on the drawer and bear a majority of the weight thereof in most instances, whereas by reason of the tilting tendency of the latter the rear slide rollers 19 and 21 are coöperating with the lower tracks 25. The stationary rollers 7—8 and 9—10, both front and rear, are in corresponding engagement with the tracks of the slide at this time and the limit of forward movement of the slide is determined in this instance by a stop 27 at its rear end in the form of a transverse bar that engages either the rear rollers 8 and 10 or their supports. In the extended position the forward rollers 18 and 20 of the slide are just in front of the stop 26 and as a means for detaching the drawer altogether when desired from its supporting connection I provide openings 28 in the lower tracks 26 of the drawer channels adjacent the stops 26 so that these forward rollers may pass transversely from the channels through the tracks by lifting the forward edge of the extended drawer and the rear rollers 19 and 21, through a succeeding outward movement of the drawer, are free to pass out at the rear ends of the channels. In returning the drawer to its former closed position it first moves rearwardly on the slide and then, by reason of the engagement of the lower portion of the drawer front 4 with the front slide rollers, carries the slide along with it to a rearward position, the limit thereof being fixed by the engagement of stops 30 preferably extending between the tracks on the slide, with the forward fixed rollers 7 and 9 on the bottom of the chamber.

It will be observed that in the preferred practice of my invention, the drawer supporting parts are concealed at all times and, if desired, a drawer with light skeleton side walls may be employed which would be more difficult with the supporting devices arranged between the side walls of the drawer and chamber. It is contended, however, that features of the invention could be employed in a side suspension construction of this kind. Further advantage will be noted in that the extension slide, the roller supports, and the tracks may be formed of sheet metal stampings which reduces the cost of construction and promotes uniformity in the product, the channel bar features also contributing to the strength throughout.

I claim as my invention:

1. The combination with a drawer casing and a drawer operating therein, of two laterally spaced pairs of rollers mounted on the casing centrally beneath the drawer the units of each pair being spaced from each other in the direction of movement of the drawer, an extension slide embodying a channel bar likewise arranged beneath the drawer within which channel bar all of the said rollers operate and constituting two sets of oppositely arranged flanges forming tracks for the respective pairs of rollers, a second pair of similarly spaced rollers mounted on each lateral outer side of the channel bar in a different plane from the adjacent pair of rollers on the support and channel bars on the bottom of the drawer respectively forming tracks for the two pairs of rollers on the slide.

2. The combination with a drawer casing and a drawer operating therein, of a pair of rollers mounted on the casing spaced from each other in the direction of movement of the drawer, an extension slide embodying a channel bar within which the said rollers operate and constituting oppositely arranged flanges forming tracks for the respective rollers, a second pair of similarly spaced rollers mounted on the outer side of the channel bar and a similar channel bar on the drawer forming upper and lower tracks for the rollers on the slide, the lower track being provided with an opening through which one of the rollers of the slide may pass transversely out of the channel bar on the drawer.

3. The combination with a drawer casing and a drawer operating therein, of an extension slide movable in the casing and having a pair of rollers mounted thereon spaced from each other in the direction of movement of the drawer, and upper and lower tracks on the drawer with which the slide rollers are adapted to respectively coöperate, the lower track being provided with a forward opening permitting the forward roller to be passed therethrough laterally of the track and the rear end of both tracks being open to the passage of the rear roller to disengage the drawer from the slide.

4. The combination with a drawer casing and a drawer operating therein, of an extension slide movable in the casing and having a pair of rollers mounted thereon, upper and lower tracks on the drawer with which the slide rollers are adapted to respectively coöperate, the lower track being provided with an opening permitting one of the rollers to be passed therethrough laterally of

the track to disengage the drawer from the slide and a roller engaging stop on the drawer operating between the rollers to move the slide, said stop being arranged adjacent to the opening in the lower track.

5. The combination with a casing provided with a drawer chamber and a drawer operating therein, of an extension slide movable on the bottom of the casing, a pair of rollers mounted on each side of the slide, each pair comprising a front and a rear roller and two pairs of tracks on the drawer, each pair comprising an upper and lower track with which a pair of rollers on the slide coöperate.

6. The combination with a casing provided with a drawer chamber and a drawer operating therein, of two pairs of rollers mounted on the bottom of the chamber, each pair comprising a front and rear roller, an extension slide having two pairs of tracks thereon, each pair comprising an upper and lower track with which a pair of rollers on the casing coöperate, similarly arranged pairs of rollers on the slide, and pairs of upper and lower tracks on the bottom of the door with which coöperate the rollers on the slide.

7. The combination with a casing having a drawer chamber therein and a drawer operating in the chamber, of two pairs of rollers mounted on the bottom of the chamber, each pair comprising a front and rear roller, an extension slide comprising two channel bars within each of which one pair of rollers operates, upper and lower flanges of the bar constituting upper and lower tracks for the rollers, rigid connections between the channel bars, a pair of rollers, each comprising a front and rear roller, mounted on the outer side of each channel bar and a pair of channel bars on the bottom of the drawer, each bar constituting upper and lower tracks for a pair of rollers on the slide.

8. The combination with a casing having a drawer chamber therein and a drawer operating in the chamber, of two pairs of rollers mounted on the bottom of the chamber, each pair comprising a front and rear roller, an extension slide composed of a plate having its opposite edges turned downwardly and inwardly to form parallel channel bars for receiving the rollers, the upper and lower flanges of the bars providing upper and lower tracks for the rollers of each pair, a pair of rollers mounted on the outer side of each of the downwardly turned portions of the plate and two channel bars on the bottom of the drawer, each bar forming an upper and lower track for a pair of the rollers on the slide.

9. The combination with a casing having a drawer chamber therein and a drawer operating in the chamber, of a roller mounted on the bottom of the latter and an extension slide arranged between the drawer and the bottom of the chamber and embodying a channel bar, the upper and lower flanges of which are disposed upon opposite sides of the roller on the chamber bottom, the roller being supported on the open side of the channel bar.

10. The combination with a casing having a drawer chamber therein and a drawer operating in the chamber, of an extension slide movable between the bottom of the drawer and the bottom of the chamber, a roller journaled on the slide and a depending plate on the bottom of the drawer having an inwardly turned flange engaging beneath the roller, the latter being disposed between the flange and the bottom of the drawer.

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Witnesses:
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