

A. MARTIN.
FILING CABINET.

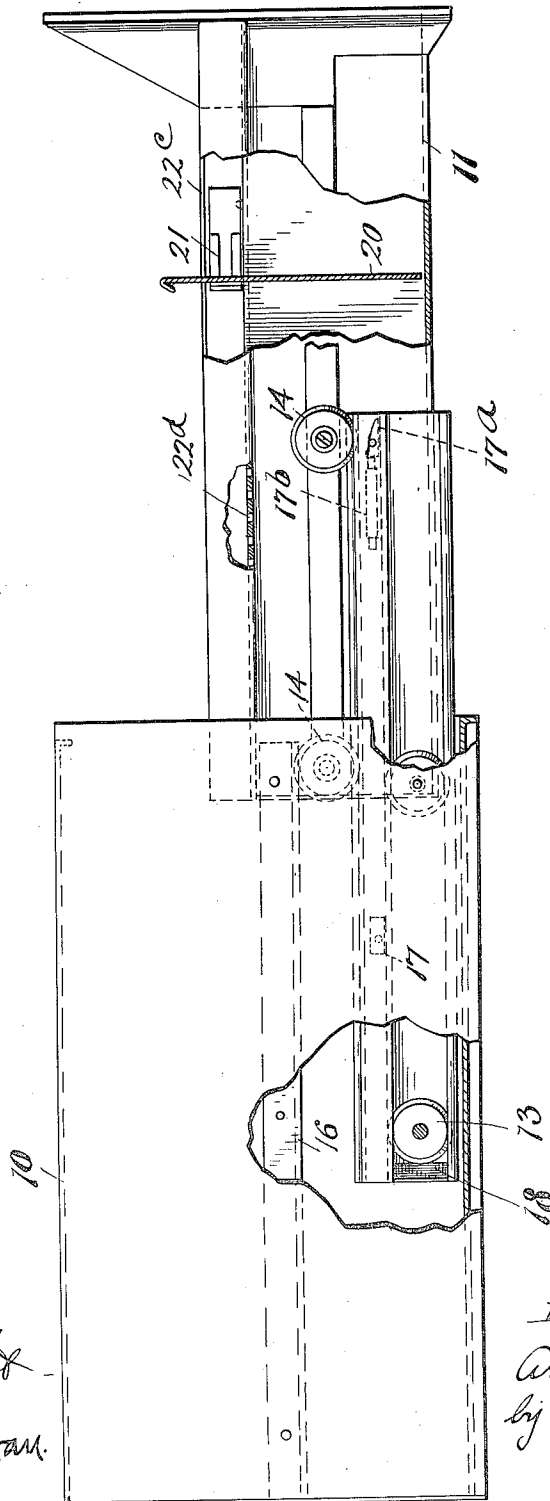
APPLICATION FILED APR. 14, 1911.

Patented July 14, 1914.

3 SHEETS—SHEET 1.

1,103,598.

Fig. 1.

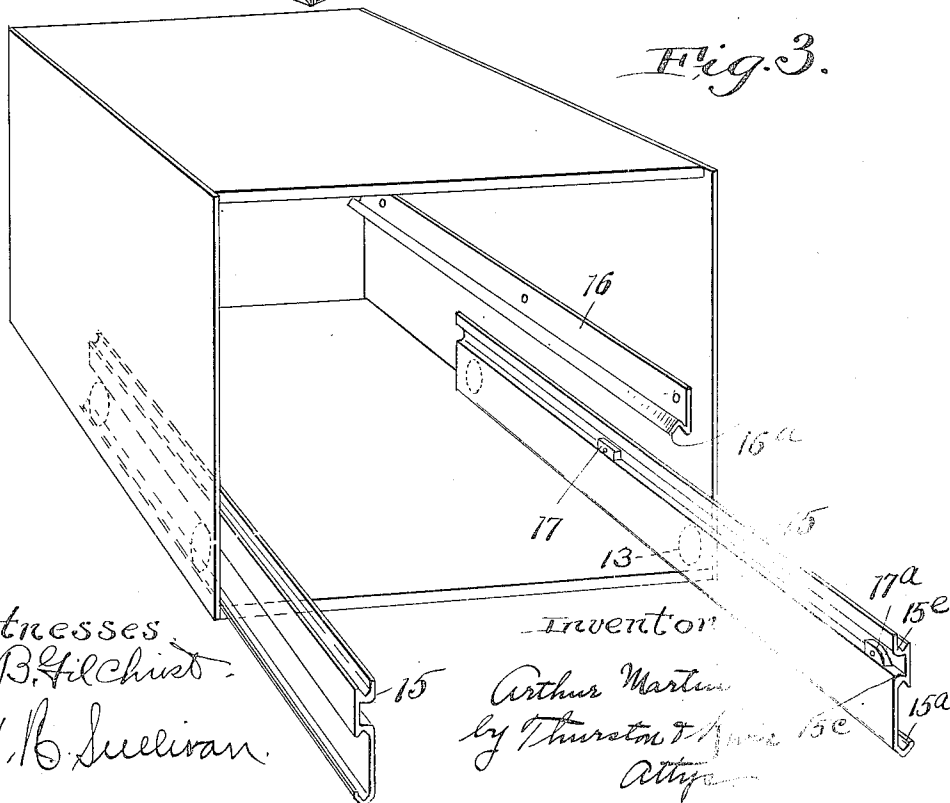
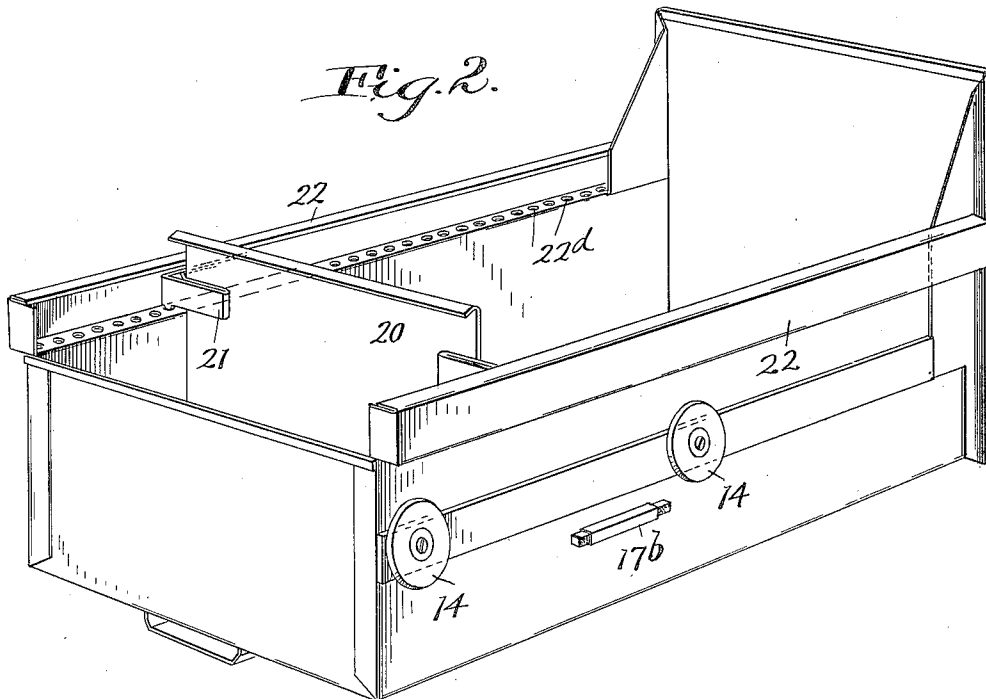


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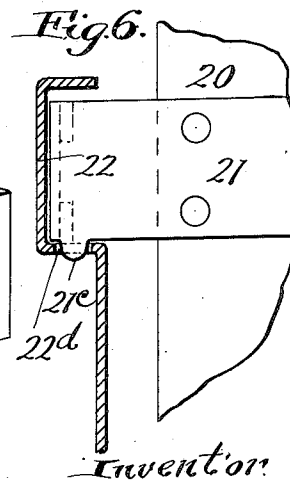
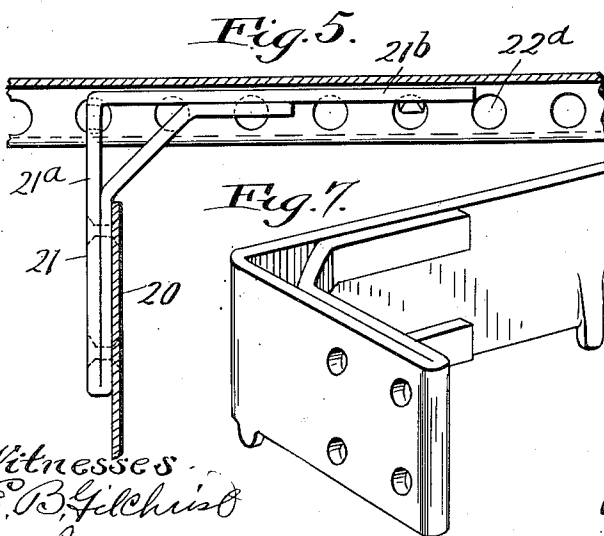
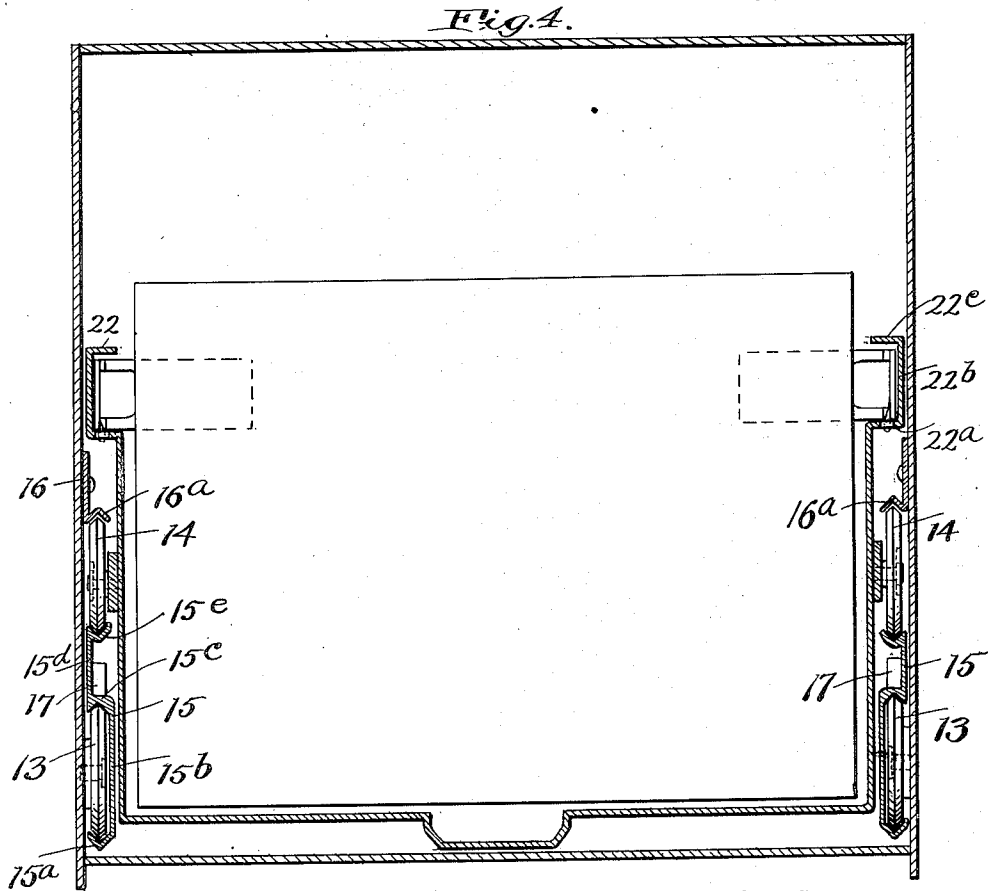
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3 SHEETS—SHEET 3.

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UNITED STATES PATENT OFFICE.

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FILING-CABINET.

1,103,598.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ARTHUR MARTIN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Filing-Cabinets, of which the following is a full, clear, and exact description.

This invention relates to filing cabinets and has particular reference to the drawer support or suspension and to the compressor which is arranged transversely of the drawer and is adapted to be adjusted lengthwise thereof.

One of the objects of the invention is to provide an improved suspension of the roller-bearing extension-slide type, which is strong and durable, and at the same time occupies very little space in the sides of the drawer; which permits the drawer to be moved very freely without sticking or binding and supports the same without any material sagging when the drawer is extended or withdrawn the full distance from the cabinet; and which is simple in construction and consists of few parts not susceptible to material wear or derangement. These and other objects are accomplished by my invention which may be briefly summarized as consisting in certain novel details of construction and combinations and arrangements of parts described in the specification and set forth in the appended claims.

In the accompanying sheets of drawings, Figure 1 is a side view of the cabinet with the drawer extended or withdrawn the full distance, certain parts being broken away and in section; Fig. 2 is a perspective view of the drawer removed from the cabinet or casing; Fig. 3 is a perspective view of the casing and slides of the drawer suspension; Fig. 4 is a transverse vertical sectional view through the casing and drawer; Fig. 5 is an enlarged horizontal detail sectional view through a portion of the compressor and a portion of the drawer; Fig. 6 is a vertical sectional view of the same; and Fig. 7 is a perspective view of one of the supporting brackets or shoes for the compressor.

In the drawings I have shown a cabinet consisting of a single drawer unit, comprising a case or casing 10, and a drawer 11 which is adapted to be moved into and out of the compartment of the casing, both the casing and drawer being in this case formed of sheet metal. Between the side walls of

the drawer and the side walls of the casing are spaces for the drawer suspension which is of the roller-bearing extension-slide type, as before stated. The suspension includes a pair of roller bearings or rollers 13, stationary relative to the casing and journaled in each of the side walls thereof, and a pair of roller bearings or rollers 14 journaled in each side wall of the drawer and arranged above and in the same vertical plane with the rollers 14, the rollers 13 and 14 being preferably provided with V-shaped rims. The suspension also includes extension slides 15 which are preferably formed of sheet metal and are each in the form of a double channel or Z-bar, being provided with a lower outwardly turned flange 15^a, a vertical web 15^b which extends alongside of the corresponding side wall of the drawer, an intermediate outwardly turned flange 15^c, an upper vertical web 15^d which extends alongside of the corresponding side wall of the casing, and an upper inwardly-turned flange 15^e. Thus it will be seen that each of these slides is provided with two longitudinally extending channels, the lower one being outwardly facing, and the upper one being inwardly facing. The lower channel constitutes a runway for the rollers 13, the flanges 15^a and 15^c having respectively upwardly facing and downwardly facing V-shaped grooves which correspond in shape substantially to the periphery of the rollers 13. The object of so shaping the peripheries of the rollers and the grooves of the runways is to prevent relative lateral movement between the rollers and slides. The upper inwardly turned flange 15^e constitutes a track or rail for the bearings 14 carried by the drawer. Secured to the side walls of the casing, slightly above the bearings 14, are strips or rails 16 provided with inwardly extending flanges 16^a, which together with the flanges 15^c constitute the runways for the rollers 14, these flanges being provided respectively with downwardly facing and upwardly facing V-shaped grooves which correspond to the shape of the peripheries of the rollers 14.

As will be apparent particularly from Fig. 1, the rollers 13 will engage both the upper and lower grooved flanges of the lower runway, the forward rollers engaging the upper flanges, and the rear pair of rollers 13 engaging the lower flanges, when the drawer is extended. Also the forward rollers 14 will engage the flanges 15^e of the up-

per runway and the rear pair of rollers will engage the upper flanges 16^a. As the vertical play of the rollers between the upper and lower groove flanges of the corresponding runways is slight, and as the particular shape or construction of the slides obviously prevent bending of the slides in a vertical direction, there will be very little sagging of the drawer when extended or withdrawn the full distance from the cabinet. Furthermore, in view of the shape of the peripheries of the rollers and of flanges or rails of the runways, relative side movement between the rollers and flanges is so slight that the drawer is held substantially centrally in the compartment. Consequently there can be no binding or sticking and the drawer can be shifted inwardly or outwardly very easily, and practically noiselessly. Furthermore the suspension so far described is simple and extremely rigid and durable. It occupies very little space between the side walls of the drawer and casing, and considerably less space than would appear from the drawings, inasmuch as the thickness and proportions of the parts must of necessity be somewhat exaggerated in order to properly show the construction.

As before stated between the upper flange 15^a and the intermediate flange 15^b of each slide is an inwardly facing channel. This channel is in the present case utilized to accommodate two relatively fixed stops arranged on the slide, and to serve as a guideway for a cooperating stop carried by the drawer for the purpose of limiting the movements of the drawer relative to the slide. Each slide is provided in the upper channel with two fixed stops 17 and 17^a, and the drawer is provided at each side with a cooperating stop device 17^b provided at each end with a rubber nose, each stop 17^b being adapted to be shifted in the channel of the corresponding slide and being adapted to engage the stop 17^a to limit the outward movement of the drawer relative to the corresponding slide and to engage the stop 17 to limit the inward movement of the drawer relative to the slide. The outward movement of the slides is limited by means of stop devices 18 which may be formed of rubber and which are adapted to engage the rear rollers 13. In opening the drawer, the drawer rolls along the slides until the stop devices 17^b engages the stops 17^a and thence during the further outward movement of the drawer, the slides are moved outward therewith along or over the rollers 14 until the stops 18 engage the rear set of rollers 14. The forward stop devices 17^a carried by the slides, although normally in the line of movement of the stop devices 17^b, carried by the drawer, are of less height than the rear stop devices 17. The purpose of this is to permit the removal of the

drawer from the cabinet by first raising the outer end of the drawer until the stop devices 17^b will clear and slide over and beyond the forward stop devices 17^a.

Other novel features of my invention reside in the compressor 20 which consists of a flat plate extending across the drawer, and supporting members secured thereto and to be described in detail. To support and securely hold the compressor in any desired position and to readily and easily permit its adjustment lengthwise of the drawer, the compressor is provided near the top thereof with laterally projecting supports in the form of brackets 21, and the drawer is provided along the top edges and extending lengthwise thereof with guideways 22 which receive the outer ends of the brackets and in which the latter are adapted to slide. Preferably, these guideways are integral with the side walls of the drawer and are in the form of lateral extensions each including an outwardly bent horizontal base 22^a, an upright portion 22^b which is adjacent the corresponding side wall of the casing, and an inwardly bent horizontal flange 22^c which is parallel to the base 22^a. In the base or lower flange 22^a of each of the guideways are a series of equally spaced openings 22^d arranged substantially the length of the guideway. Preferably, the compressor brackets 21 are substantially L-shaped, each including a portion 21^a which projects laterally beyond the vertical side edge of the compressor and a forwardly projecting portion 21^b which is in the form of a shoe and is adapted to move lengthwise in the channel or guideway formed by one of said extensions 22. Furthermore, each of the brackets is provided with a pair of downwardly extending lugs 21^c which are adapted to enter into the openings 22^d of the corresponding guideway. The spacing of these lugs lengthwise of the shoe is such that when one enters one opening, the other enters another opening. The distance between the upper and lower horizontal flange 22^a and 22^c of the guideways is slightly greater than the distance between the upper and lower edges of the shoes of the brackets,—the difference in heights being such that the compressor may be lifted so as to cause the lugs to clear the openings 22^d. The compressor may then be shifted lengthwise of the drawer, the shoes sliding freely in the guideways. On the other hand, if the compressor is released or lowered at any part of the drawer, the lugs will drop into the opening and securely lock the compressor in that position. The length of the shoes 21^b is such that when the compressor is moved backward or forward, there is no tendency for it to bind. Furthermore, because of the length of the shoes and the small clearance between

the shoes and the top flanges of the guides, the compressor is held against any material swinging movement about the shoes as an axis. Not only can the compressor be moved very easily lengthwise of the drawer, but it can be very easily and quickly released for movement, and as quickly locked or fastened against movement in its adjusted position, regardless of the position that it occupies in the drawer, and furthermore, the compressor can be placed substantially flush with the rear or end wall of the drawer and practically the entire length of the drawer can be utilized, if so desired. A further point to be noted is that I am enabled to employ the construction and to obtain the advantages above mentioned, without decreasing the effective width of the drawer or increasing the width of the casing over that which would be otherwise required, for the reason that these guideways formed by the lateral extensions on the sides of the drawer project into the spaces which are provided for the drawer suspension. It may be stated further in regard to the suspension that not only is all rubbing and friction between the drawer and the slides, and between the slides and the casing eliminated, but because of the particular construction employed, there is very little friction between the rollers and the grooved members on which the rollers bear.

Having thus described my invention, what I claim is:

1. The combination in a file cabinet, a casing, a drawer adapted to be moved into and out of the same, supports for the drawer arranged between each side of the drawer and the casing and comprising rollers carried by the casing, rollers carried by the drawer, a slide having an outwardly facing channel forming a runway for the rollers, carried by the casing, a rail secured to the casing and cooperating with the slide to form a runway for the rollers carried by the drawer.

2. The combination in a file cabinet, a casing, a drawer adapted to be moved into and out of the same, a drawer suspension including supporting devices arranged between each side of the drawer and the corresponding side of the casing and comprising rollers carried by the casing, rollers carried by the drawer, a slide supported by the rollers of the casing, and a strip fixed to the casing and extending over the rollers carried by the drawer, said slide having an outwardly facing channel forming a runway for the rollers carried by the casing, and the top of the slide and said strip forming a runway for the rollers carried by the drawer.

3. In combination in a file cabinet, a casing, a drawer adapted to be moved into and

out of the same, a suspension arranged between the drawer and the sides of the casing 65 and comprising rollers carried by the casing, rollers carried by the drawer, a slide supported by the rollers of the casing, and a fixed rail secured to the casing and having an inwardly extending flange above the 70 rollers of the drawer, said slide having a lower flange and an intermediate flange forming a runway for the rollers of the casing, and said slide having at the top a flange which cooperates with the flange of 75 the rail to form a runway for the rollers of the drawer.

4. In combination in a file cabinet, a casing, a drawer adapted to be moved into and out of the same, and a suspension including 80 supports at each side of the drawer comprising rollers carried by the casing, rollers carried by the drawer, a slide supported by the rollers of the casing, a strip secured to the casing above the rollers of the drawer 85 and provided with an inwardly projecting flange, said slide being in the form of a Z-bar having an outwardly facing channel including a lower flange and an intermediate flange grooved to form a runway for the 90 rollers of the casing and having an upper channel formed by the intermediate flange and an upper flange, said upper flange and the flange of said strip being grooved to form a runway for the rollers of the drawer, 95 and stop devices for limiting the movement of the drawer relative to the slide, said stop devices being carried by the slide and drawer respectively and arranged in said upper channel.

5. In combination in a file cabinet, a casing, a drawer adapted to be moved into and out of the same, and a drawer suspension comprising rollers carried by the casing, rollers carried by the drawer, a slide supported by the rollers of the casing, and a 105 strip secured to the casing above the rollers of the drawer, said slide having an outwardly facing channel forming a runway for the rollers of the casing and having 110 above said channel an inwardly facing channel, the top of the slide and said strip forming a runway for the rollers of the drawer, and stop devices for limiting the movement of the drawer rela- 115 tive to the slide, said stop devices being carried by the slide and drawer respectively, and arranged in said inwardly facing channel.

In testimony whereof I hereunto affix my 120 signature in the presence of two witnesses.

ARTHUR MARTIN.

Witnesses:

H. A. ROCK,
E. S. DAY.