Oct. 28, 1924.

1,513,596

J. JUDELSON

EXTENSIBLE RACK

Filed Jan. 18, 1922

3 Sheets-Sheet 1

Fig. 1.

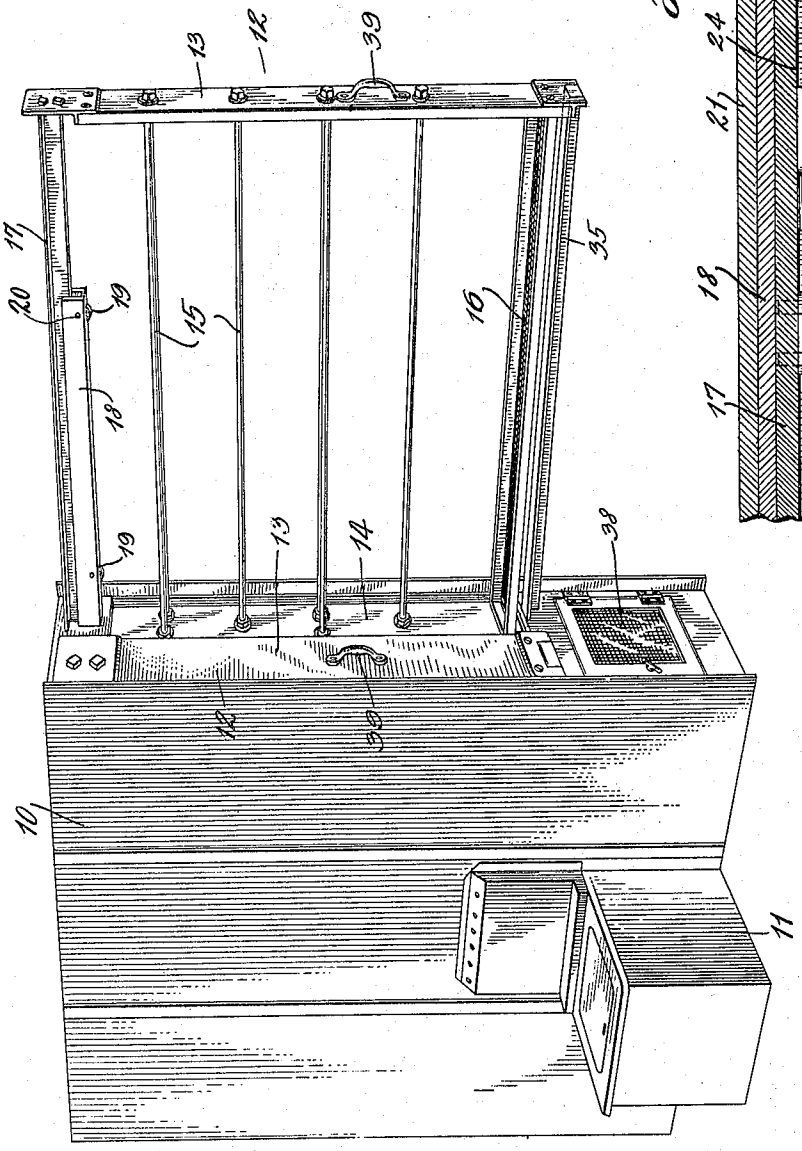
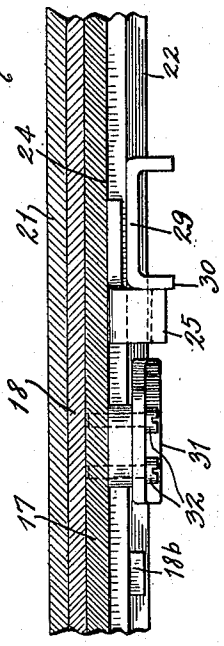


Fig. 6.



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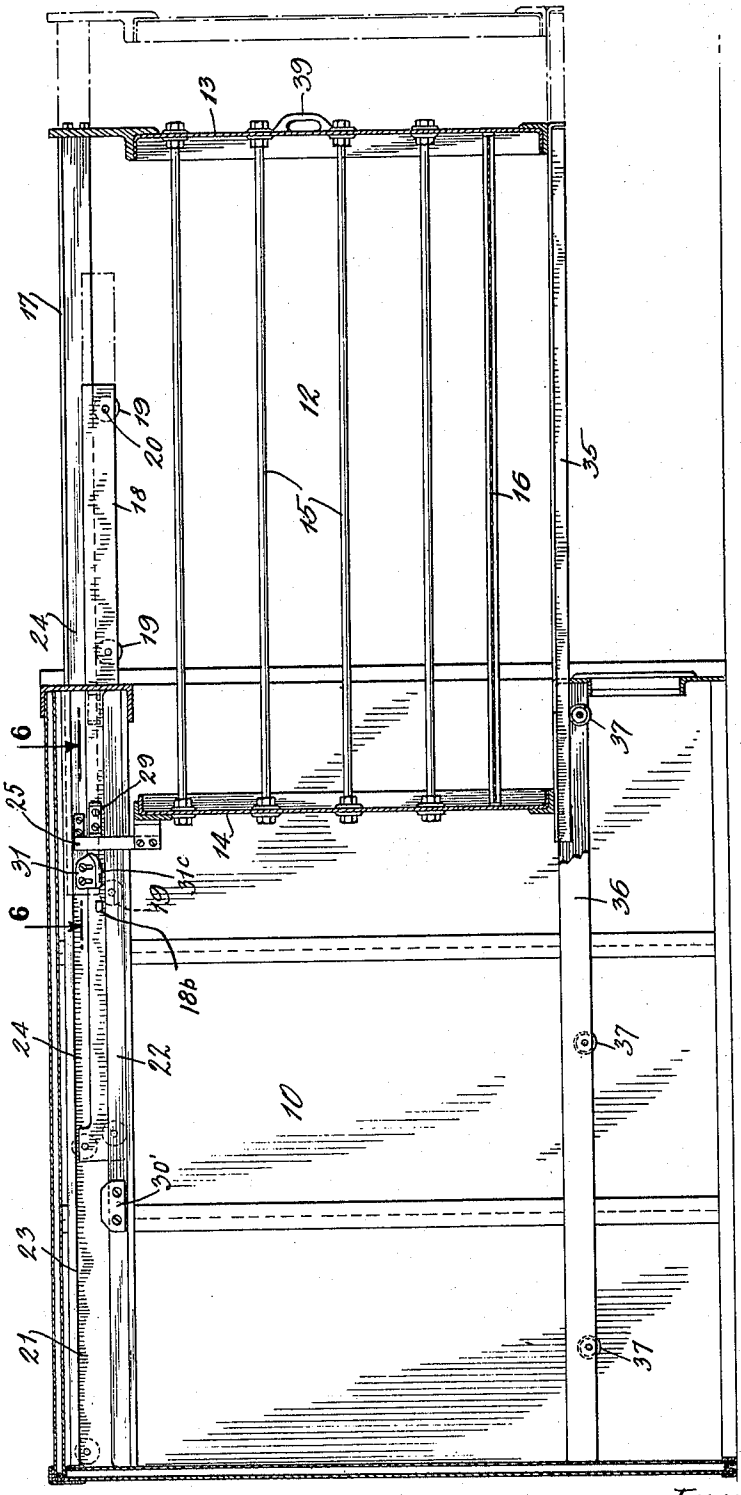


Fig. 2.

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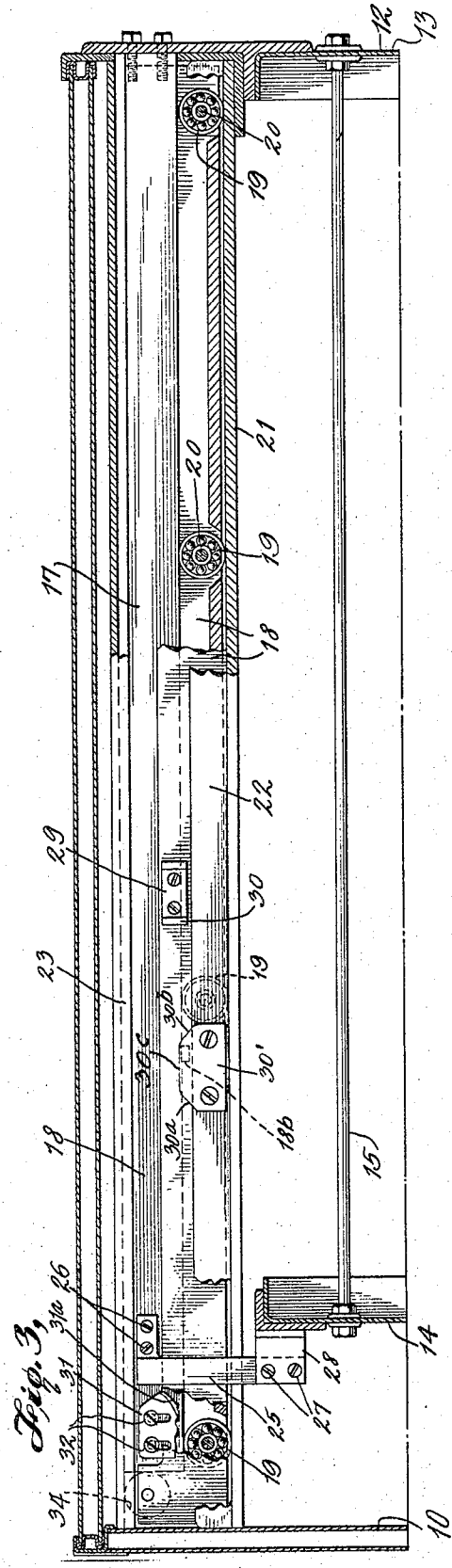


Fig. 3.

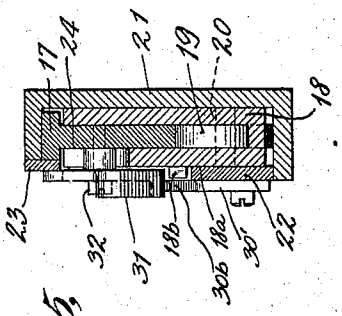


Fig. 5.

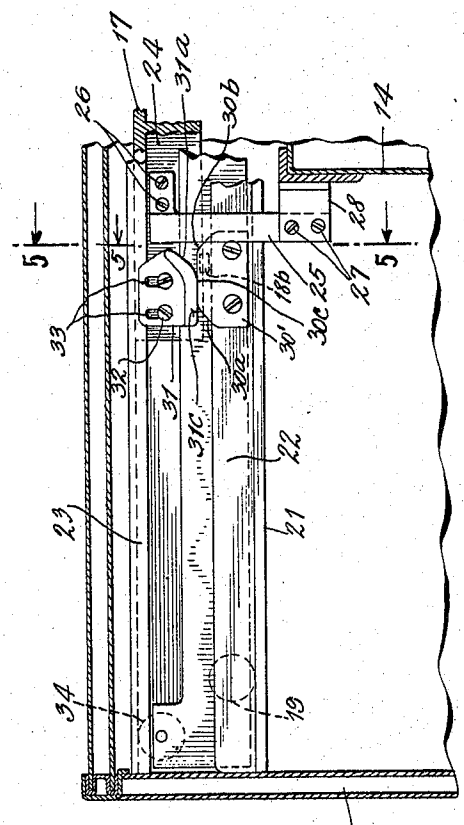


Fig. 4.

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Patented Oct. 28, 1924. 1,513,596

UNITED STATES PATENT OFFICE.

JULIUS JUDELSON, OF NEW YORK, N. Y.

EXTENSIBLE RACK.

Application filed January 18, 1922. Serial No. 530,019.

To all whom it may concern:

Be it known that JULIUS JUDELSON, citizen of the United States, residing at New York city, in the county of Bronx and State of New York, has invented certain new and useful Improvements in Extensible Racks, of which the following is a specification.

This invention relates to improvements in extensible racks, and more particularly to such devices adapted for use in connection with cabinets such as driers or the like. One object thereof is to provide a device of the type described which shall be so constructed as to afford a high degree of economy in floor space.

Another object of the invention is to provide a device of the character described in which the means for supporting the carrying frames when drawn out of the cabinet extend therefrom only at such times when a frame is in extended position, and is capable of being withdrawn when the frame is withdrawn.

A further object is to provide in a cabinet of the type described, means for suspending the carrying frames when the latter are drawn out of the cabinet, which means shall be capable of being drawn into the cabinet when the racks are returned thereinto, and which shall be efficient in operation to a high degree.

A still further object is to provide a drier in which the drier frames may be suspended when drawn out of the cabinet by means movable in and out of the cabinet with said frames.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawings, in which is shown one of various possible illustrative embodiments of this invention,

Fig. 1 is a perspective view of a drier embodying this invention showing one of the drying frames in extended position and the means for supporting the same;

Fig. 2 is a vertical cross-sectional view showing one drying rack and the supporting means therefor, in partially extended and fully extended positions;

Fig. 3 is an enlarged partial view similar to Fig. 2 showing the relation of the parts of the slidable frame supporting mechanism when the frame is in completely closed position;

Fig. 4 is a partial detailed sectional view similar to Fig. 3 with the catch means for returning the supporting guide rail for the rack in tripped position;

Fig. 5 is a detail cross-sectional view taken along line 5—5 of Fig. 4; and

Fig. 6 is a detailed cross-sectional view taken along line 6—6 of Fig. 2.

Referring in detail to the drawing, the embodiment of the invention there illustrated shows the invention as applied to a drier comprising a drying chamber or cabinet 10 provided with a heater 11 for supplying heat thereto. A plurality of drying frames 12 are adapted to be reciprocated in and out of the cabinet and supported in position in the manner hereinafter more fully described. Each of these drying frames comprises a front vertical panel 13 adapted to provide a closure or door and a rear vertical panel 14. Extending between said panels 13 and 14 are racks 15 from which the clothes or other objects to be dried may be suspended. At the bottom of the drier frame is a horizontal screen 16 for the drippings from the materials or objects being dried.

Suitably secured to the top of the drier frame is a T-rail 17 for reciprocating the drier frame and sustaining the same in extended position. This T-rail 17 travels in a preferably U-shaped channel or guide rail 18 on rollers 19 mounted in said guide rail by means of spindles 20 and projecting below the guide rail. These rollers may be ball bearings if desired. The guide rail 18 moves within a casing comprised of a substantially C-shaped angle member 21 having the open side of the C partially closed by a rectangular piece 22 at the bottom and a rectangular member 23 at the top. The lug member 25 extends from the T-rail 17 adjacent the rear end thereof and is secured to one of the vertical faces 24 of said T-rail

by means such as the screws 26, and is further secured to the rear panel 14 of the drier frame by means such as the screws 27 and an attaching plate 28. At about the mid-length of the guide rail 18, or any other suitable position, is secured a stop piece 29 having a projecting ear 30 on the side thereof nearest to the lug member 25. A cam piece 30′ is secured to the guide member 22 and has cut-away cam faces 30^a, 30^b, and a horizontal face 30^c. The cam follower 31 is secured at the rear end of the T-rail 17 and has a cut-away face 31^a adapted to ride on the cam faces 30^a, 30^b and a flat or horizontal bottom face 31^c adapted to ride on the face 30^c of the cam piece. Extending from the side 18^a of the rail 18 is a pin 18^b disposed in the completely closed position of the drier rack behind the cam piece 30′. This cam follower 31 is secured to the T-rail by means of screws 32 operating in elongated slots 33 so that the member 31 may have limited upward and downward motion.

The guide rail 18 is provided at the rear end thereof with a roller rail 34 which rides along the top wall of the C-shaped member 21 as the guide rail moves in and out of the casing. If desired, another T-rail 35 may be secured to the drier frame at the bottom thereof and a guide rail 36 provided therefor with rollers 37 so as to help reciprocate the drier racks in and out of the casing with a minimum of friction and wobbling.

When the drying racks are all in closed position, the front panels 13 completely close the front of the cabinet, and for the purpose of admitting air thereinto when the drier frames are all in closed position, a screen 38 is provided for the bottom of the cabinet.

The operation of the mechanism for reciprocating the drier frames and supporting them in extended position outside of the cabinet will now be described. As a drier frame is drawn out of the cabinet, by means for example of the handle 39, the T-rail 17 rides on the rollers 19 in the guide rail 18, the bottom T-rail 35 at the same time riding in the fixed guide rail 36 on the rollers 37.

When an outward pull is had on the drier frame the T-rail 17 will cause the rollers 19 to turn and as the latter run on the base 21 of the fixed guide member, the rails 17 and 18 will move outwardly but the former will move an appreciably greater distance than the latter until the projection 25 engages the lug 30 when both bars will move together. The plate 31 is so shaped at its forward end that it will ride over the lug 18^b as the rail 17 moves outwardly, but on the return movement of the rail 17 the inner end of the plate 31 will engage the lug 18^b and compel the rail 18 to move inwardly to its extreme position. As this extreme position is reached the cam plate 30′ is engaged by the plate 31 and causes the latter to be elevated out of engagement with the lug 18^b to allow the rail 17 to move to its extreme inward position.

It will thus be seen that the initial movement of the rack will cause both bars 17 and 18 to move outwardly on the roller mounting, but the movement of the bar 18 is relatively slow until the bars are coupled by reason of the engagement of the projection 25 with the lug 30.

In Fig. 2, the full lines show the drier frame and the guide rail 18 in one position after the projection 25 has struck the lug 29, and the dotted lines show the panel of the drier frame and the guide rail after the drier frame has been fully drawn out of the cabinet. During the forward motion of the T-rail, when the member 31 reaches the cam 30′, it rides up on the face 30^a and then along the face 30^c so as to clear the pin 18^b. It then rides down on the face 30^b with the screws 32 in the highest positions of the slots 33 as in Fig. 2. Upon the return of the drier frame into the cabinet, it will be clear that at first the drier frame moves by itself independently of the guide rail 18 until the member 31 strikes the pin 18^b when the guide rail 18 is carried along back into the cabinet.

It will be clear from the foregoing description that when the drier frames are not in use and are all in closed position, no supporting structure extends either along the floor, or from the ceiling or cabinet. When a supporting structure for the drier frame becomes necessary upon withdrawal of the drier frame from the cabinet, it is supplied by the movable suspension and guide rail 18 which extends from the cabinet only for such time as the drier rack is in extended position. This supporting structure is a part of the drier itself, requires no mechanisms or devices outside of the cabinet extending either on the ceiling or floor of the room and is readily returned into the cabinet so as to take up no space when the drier frames are closed. Also it will be noted that the T-rail 17 and the guide rail 18 both operate within a substantially completely enclosed casing formed by the members 21, 22 and 23, thus preventing the dropping of dirt or rust down into the cabinet on the materials being dried.

While the invention has been described with particular reference to its application to driers, it will be readily understood that the same dominant features of construction might be embodied in other cabinet constructions such as filing cabinets and the like. Thus, where the invention is applied to filing cabinets, as will be readily understood, suitable carrier frames or telescopic holders may be employed in connection with

the suspension means herein described. Other applications of this invention will readily occur to one skilled in the art.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. An extensible rack of the character described, comprising a stationary guide bar, a U-bar, rollers on the U-bar mounted to run on the guide bar, a rack, a T-bar constituting a part of the rack and mounted to run on the rollers, and means coupling the rack bar and the U-bar after the former is moved a predetermined distance.

2. An extensible rack of the character described, comprising a stationary guide bar, a U-bar, rollers on the U-bar mounted to run on the guide bar, a rack, a T-bar constituting a part of the rack and mounted to run on the rollers, devices coupling the rack bar and the U-bar and compelling their uniform movement after one has been moved a predetermined distance relative to the other, and means for uncoupling the bars as they are moved inwardly.

3. An extensible rack of the character described, comprising a stationary guide bar, a U-bar, rollers on the U-bar mounted to run on the guide bar, a rack, a T-bar constituting a part of the rack and mounted to run on the rollers, a lug on the U-bar, a cam plate on the rack bar adapted to ride over the lug when moved in the one direction, and to couple with the lug when moved in the other direction, and a fixed cam engaged by the cam plate to release the latter from engagement with the lug on the inward movement of the rack bar.

4. In a cabinet of the class described, a casing, a carrying frame reciprocable therein, means reciprocable within the casing for suspending said frame in extended position, said means comprising a guide rail adapted to extend from the top of the casing, means for moving said frame out of the casing a predetermined distance with the guide rail but at a greater speed, co-acting means on said frame and said guide rail for moving said guide rail together with said frame after the latter has been moved in said predetermined distance, co-acting means on said guide rail and said frame for moving said guide rail back into the cabinet together with the frame, and means for preventing the operation of said last mentioned co-acting means on the outward movement of said frame.

5. In a cabinet of the class described, a casing, a carrying frame reciprocable therein, means reciprocable within the casing for suspending said frame in extended position, said means comprising a guide rail adapted to extend from the top of the casing, means for moving said frame out of the casing a predetermined distance with the guide rail but at a greater speed, co-acting means on said frame and said guide rail for moving said guide rail together with said frame after the latter has been moved in said predetermined distance, co-acting means on said guide rail and said frame for moving said guide rail back into the cabinet together with the frame, and means for preventing the operation of said last mentioned co-acting means on the outward movement of said frame, said means comprising a cam piece and a cam follower adapted to co-act to prevent the co-action of the said last-mentioned co-acting means.

In testimony whereof I affix my signature.

JULIUS JUDELSON.