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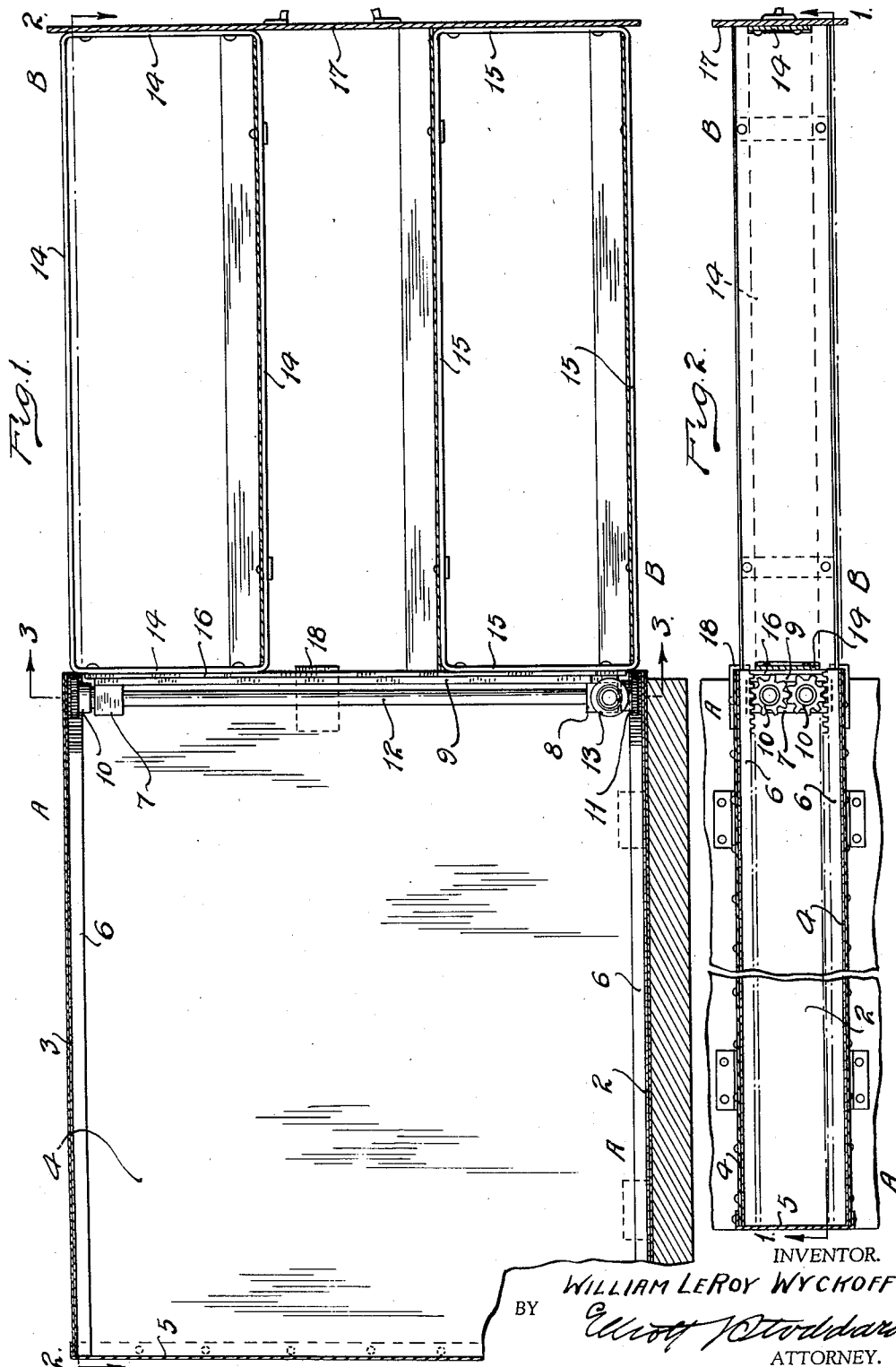
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2,214,291

CABINET

Filed Oct. 13, 1937

3 Sheets-Sheet 1



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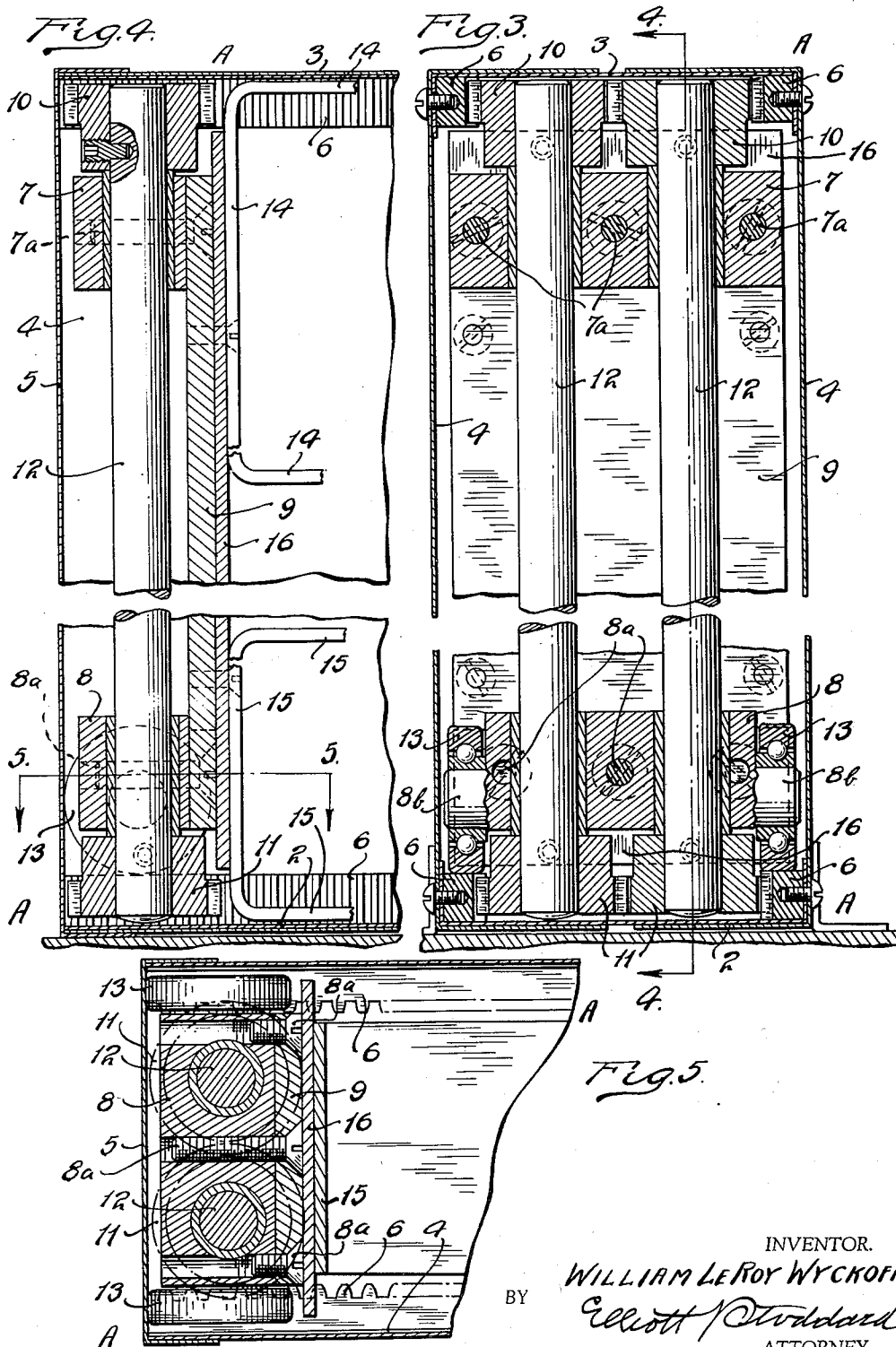
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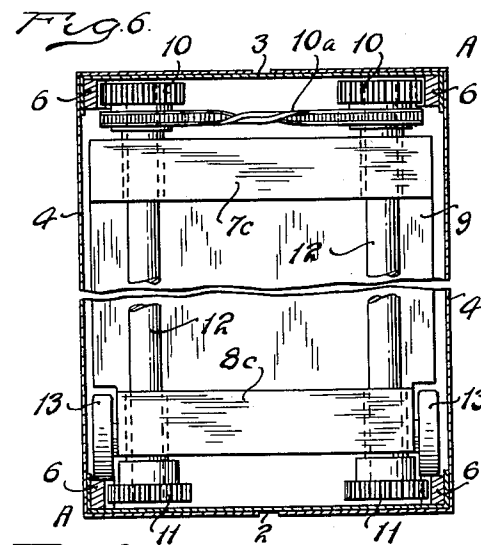
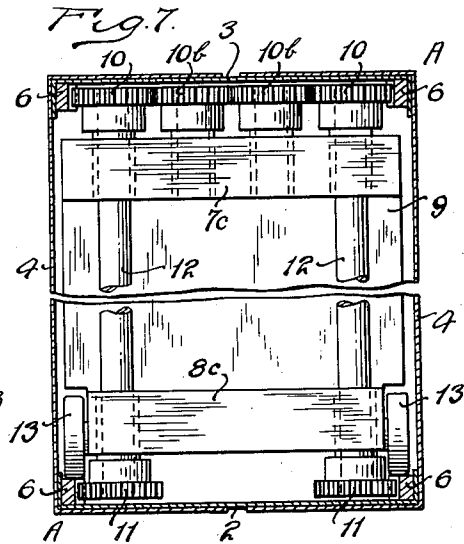
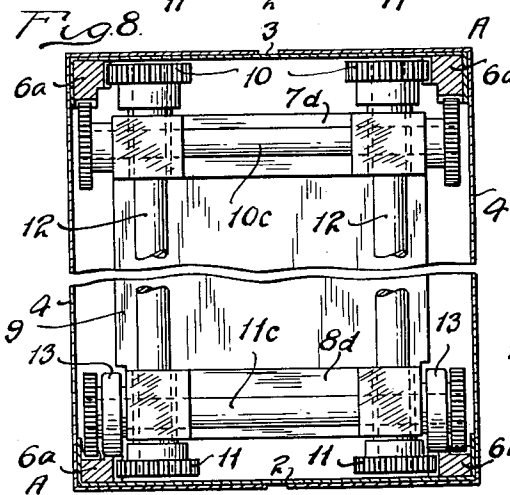
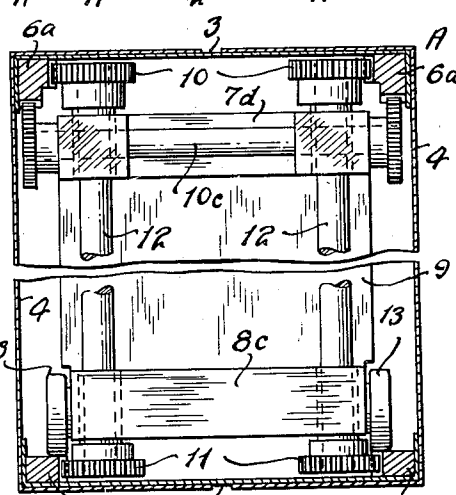
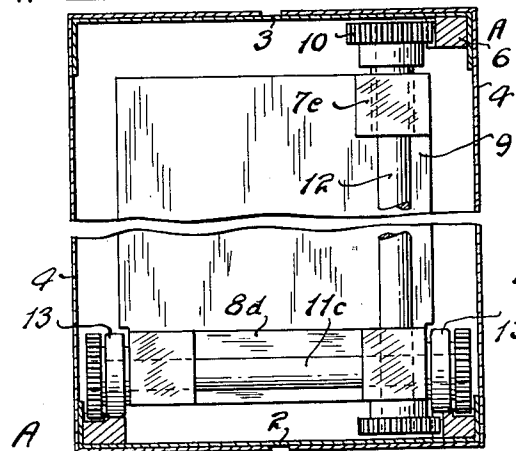
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CABINET

Filed Oct. 13, 1937

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,214,291

CABINET

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Application October 13, 1937, Serial No. 168,783

3 Claims. (Cl. 45-77)

My invention relates to cabinets and an object of my improvements is to facilitate the movement of the drawers, or tills, and to obviate irregularity or unevenness therein.

I secure this object in the apparatus illustrated in the accompanying drawings in which:

Figure 1 is a longitudinal cross section on a vertical plane of a cabinet embodying my invention, the front wall of the casing and front flanges of the shelves of the drawer being broken away, the drawer, or till, being shown as drawn out of the casing;

Figure 2 is a plan view, the upper part of the casing and drawer being broken away on the line 2-2 Figure 1;

Figure 3 is a sectional elevation on the line 3-3 Figure 1;

Figure 4 is a section on the line 4-4 Figure 3, except that the drawer is here closed and the shelves omitted;

Figure 5 is a section substantially on the line 5-5 Figure 4 the ball-bearing rollers being however, shown in full;

Figures 6, 7, 8, 9, and 10 are views similar to Figure 3, but diagrammatic in character, illustrating modified constructions.

As shown in the first five figures the drawer, or till, is tall and narrow the access to the shelves being from the sides, when the drawer is open, as shown in Figure 1.

A is a casing having a bottom 2, top 3, sides 4-4 and back 5.

The numeral 6 is used to designate four rack bars which are secured in the lateral corners, between the top and bottom and sides of the casing A, with their teeth extending inward.

7 and 8 are bars in the casing A extending transversely across the same respectively at the top and bottom thereof. 9 is a plate rigidly secured at its ends to the cross bars 7 and 8 as by screws 7a and 8a. 10-10 are pinions above the cross bar 7 their teeth engaging with each other and with the teeth of the upper bars 6-6; 11-11 are similar pinions, below the cross bar 8 similarly engaging with each other and with the lower racks 6-6. 12, 12 are cylindrical shafts extending vertically and bearing in the cross bars 7 and 8 and having the pinions 10 and 11 keyed to their ends.

2b are arbors extending laterally from the ends of the cross bar 8 above the lower racks 6-6. 13-13 are ball-bearing rollers on the arbors 2b engaging upon the upper surfaces of the rack bars 6-6, and supporting the carriage consisting of the cross bars 7 and 8, vertical plate 9, shafts

12-12 and pinions 10-10 and 11-11, which carriage I will designate as a whole by the letter B. 14 and 15, Figure 1, are rectangular frames made up of metal strips of a width about equal to the distance apart of adjacent rack 6-6, said frames being of a height about equal to a third of the height of said casing. 16 is a plate of about the width of the casing A between opposite rack bars 6-6 and length of the vertical distance between rack bars 6. 17 is a plate similar to the plate 16 except that it is adapted to serve for closing the open end of the casing A.

Ends of the frames 14 and 15 are secured to the plates 16 and 17 so that said frames will be held thereby in the same plane and spaced from each other so that the top of the frame 14 shall support the top, the bottom of the frame 15 the bottom, the lower part of the frame 14 one of the shelves, the top of the frame 15 the other of the shelves constituting with the plates 16 and 17 the drawer or till, of the cabinet which I will designate by the letter C. The plate 16 is rigidly secured to the plate 9 to unite the drawer C to its carriage B. Said drawer may now be drawn out of the casing A, or moved therein, wholly supported by the carriage B which is itself supported and carried by the ball-bearing rollers 13-13 running upon the upper surfaces of the lower rack bars 6-6.

When the drawer C is closed the plate 17 completely closes the open end of the casing A.

18 is a stop limiting the outward movement of the drawer C, but engaging the edge of the plate 16 which in this position substantially closes the open end of the casing A.

The interengagements of the pinions 10 and 11, connected by the shafts 12 as described, and their engagement with the racks 6 holds the carriage B firmly in its vertical position and supports the drawer in its horizontal position no matter how loaded the latter may be, while the ball bearings of the rollers 13-13 running on their tracks on the upper surfaces of the lower rack bars 6-6 make the movements of the drawer C perfectly easy and the drawer is carried without any sagging or unevenness of motion.

While I regard the above described construction as the preferred form of embodiment of my invention it may be modified in various ways as, for instance, as shown in Figures 6-10 of the drawings.

In the form of Figure 6 the cabinet is made wider, the cross bars longer and instead of the pinions 10-10 and 11-11, severally engaging with each other directly the shafts 12-12 are

connected by a chain-and-sprocket gearing 10a, or a chain of interengaging pinions may be interposed between the gears 10—10 as shown in Figure 7 at 10b.

- 5 In Figure 8 the rack bars 6a are provided with gear teeth also on their horizontal outer edges, and the cross bars 7d and 8d, are provided with shafts 10c and 11c having pinions on their ends engaging the horizontal teeth of the rack bars
- 10 6a. In Figure 9 the construction of Figure 8 is shown omitting the shaft 11c and its pinions, and in Figure 10 the construction of Figure 8 is shown omitting the left hand shaft 12 and its attached pinions, the rack in the upper left hand corner of
- 15 the casing A, the shaft 10c and its pinions and the cross bar 7d, substituting for the latter the bearing block 7e united to other parts of the carriage B by the plate 16a.

- 20 It will be obvious that the gear wheels and connections should be so arranged and proportioned that the drawer at at least three points shall be constrained to move at the same rate and in the same direction.

- 25 I have for convenience, referred to the racks as located in the corners of the casing, in the following claims but it is to be understood that this is for the purpose of specifying their location with reference to the other parts of the operative apparatus only.

What I claim is:

1. In a cabinet the combination of a casing rectangular in cross-section, a drawer in, and adapted to move horizontally relative to, said casing, a rack fixed in each of the two corners of said cabinet that are in a vertical plane, and gearing on said drawer engaging said racks and constraining the movement of said drawer adjacent to said racks to the same direction and the same rate.

2. In a cabinet the combination of, a casing rectangular in cross-section, a drawer in, and adapted to move horizontally relative to said casing, a rack fixed in each of three corners of said casing, and gearing on said drawer engaging said racks and constraining the movement of said drawer adjacent to said racks to the same direction and the same rate.

3. In a cabinet the combination of, a casing rectangular in cross-section, a drawer adapted to move horizontally relative to said casing, a rack fixed in each of the four corners of said casing, vertical shafts having similar gear wheels at their ends revolvable in bearings, on said drawer and severally engaging each pair of vertically located racks, the gear wheels on said shafts engaging each other.

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