

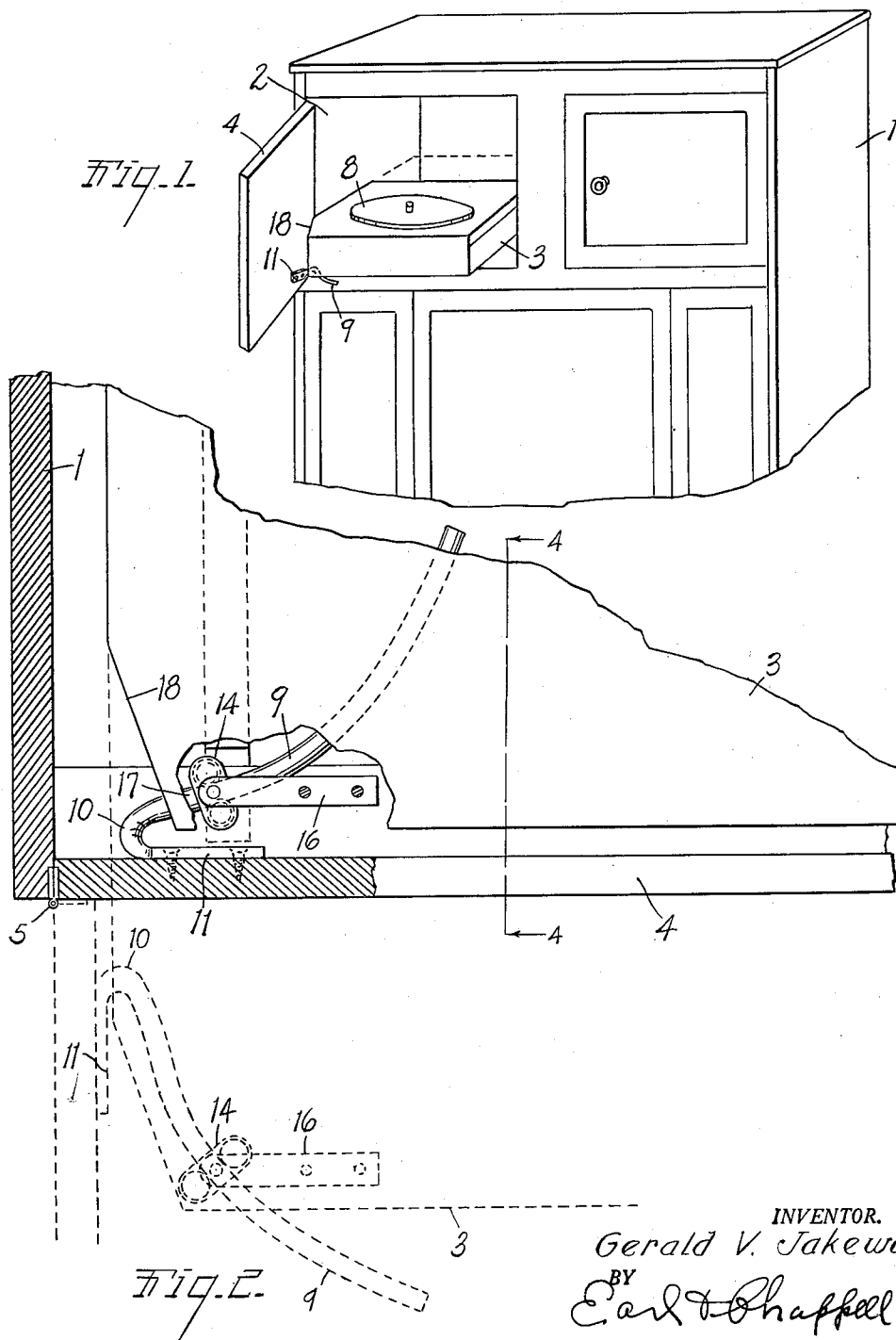
Dec. 5, 1950

G. V. JAKWAY
DRAWER SLIDE ACTUATING MECHANISM
FOR CABINETS AND THE LIKE

2,532,405

Filed July 9, 1945

5 Sheets-Sheet 1



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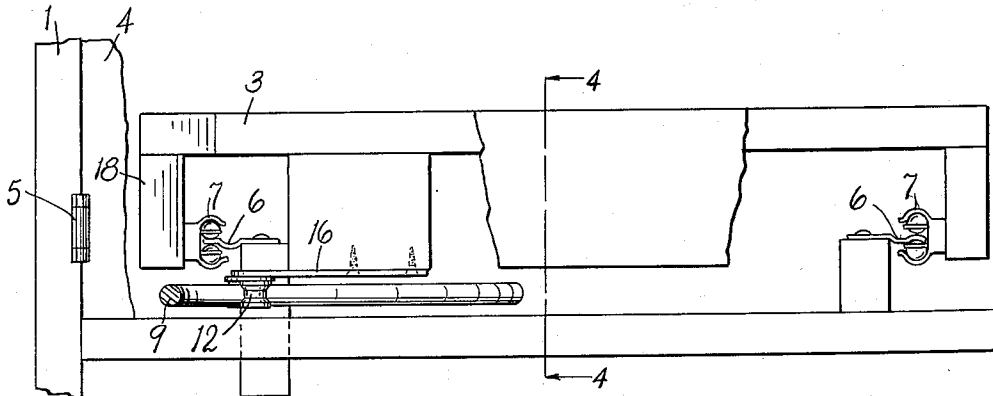


Fig. 3

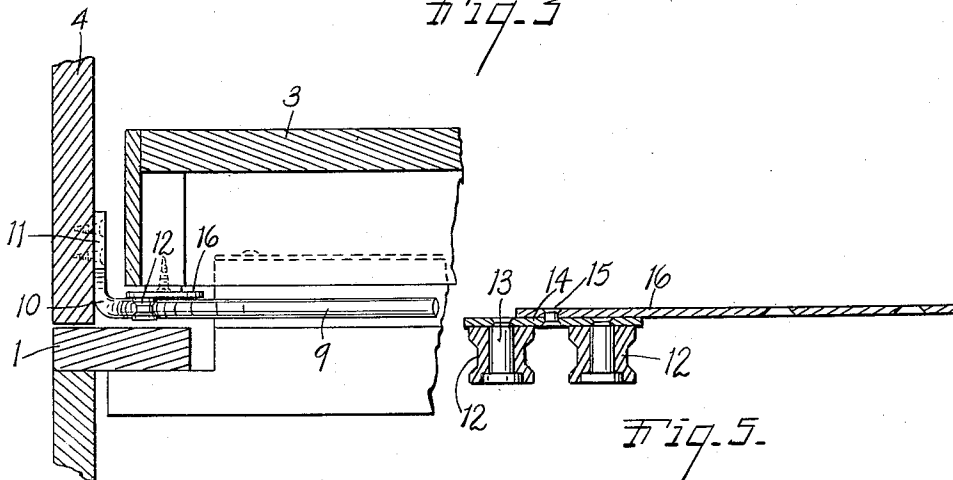


Fig. 4.

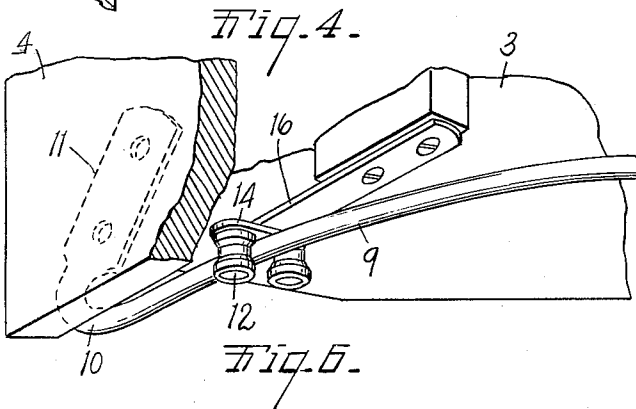


Fig. 5.

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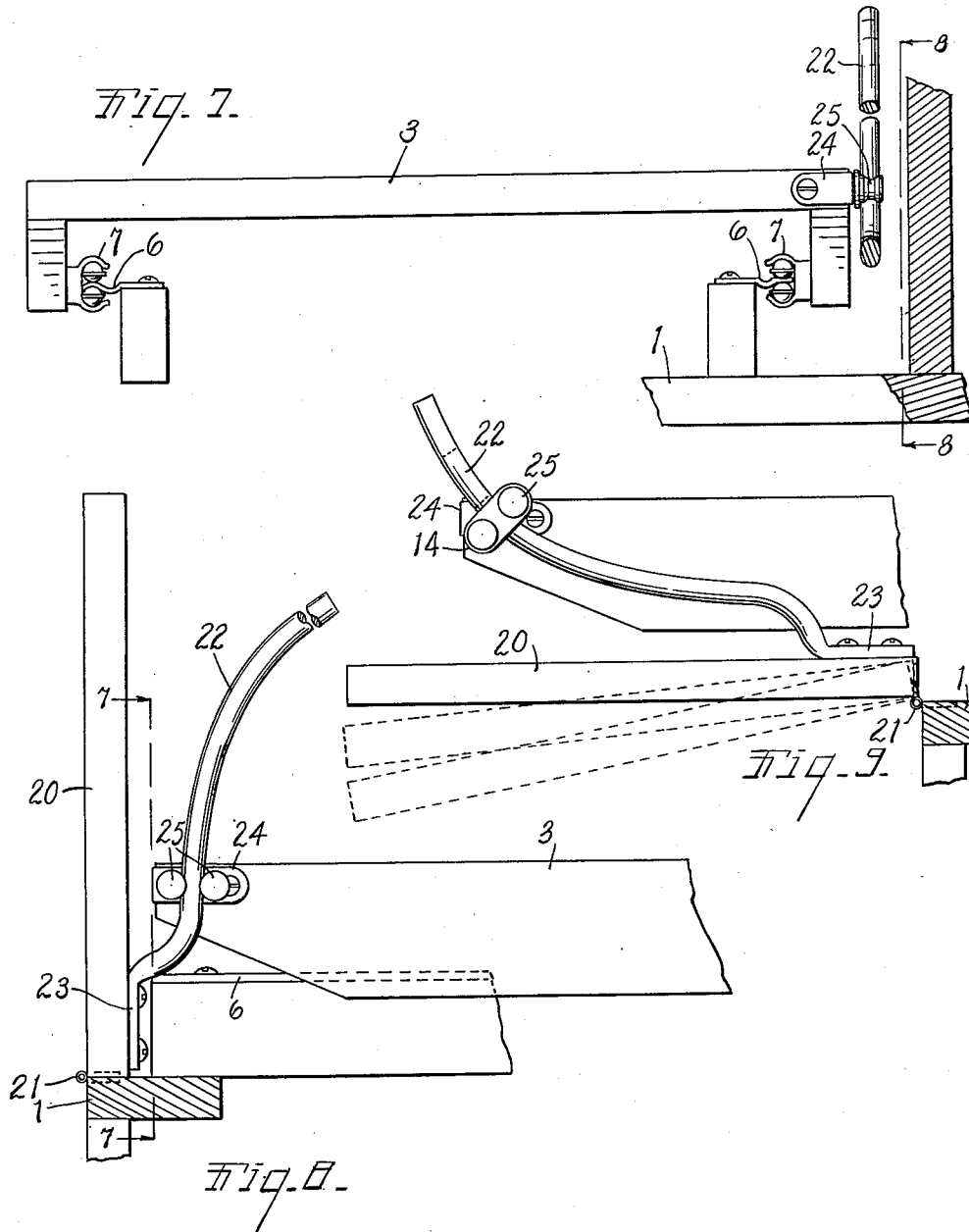
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5 Sheets-Sheet 3



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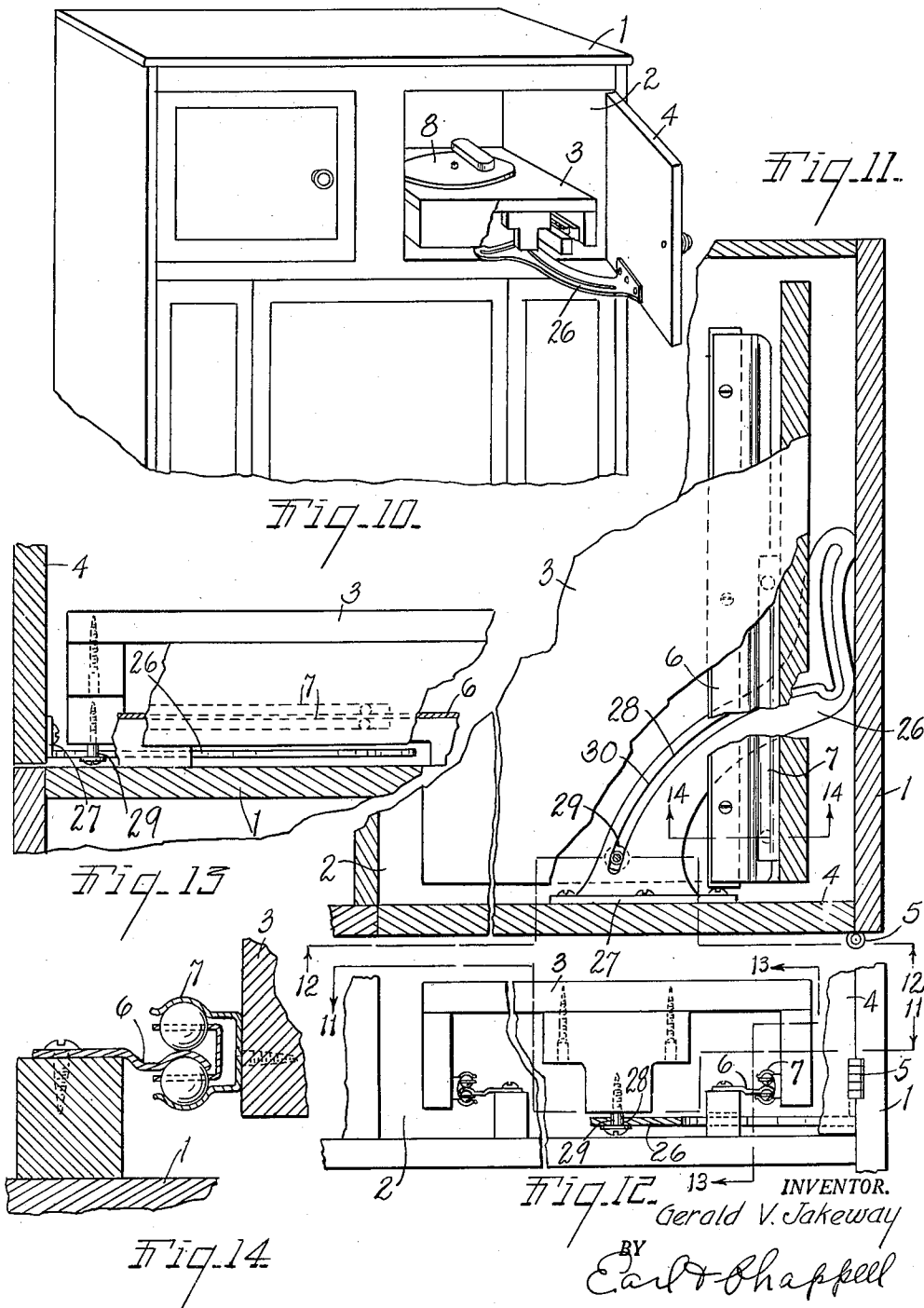
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2,532,405

DRAWER SLIDE ACTUATING MECHANISM
FOR CABINETS AND THE LIKEGerald V. Jakeway, Grand Rapids, Mich., as-
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7 Claims. (Cl. 312—186)

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This invention relates to improvements in drawer slide actuating mechanism for cabinets and the like.

The main objects of this invention are:

First, to provide a drawer slide actuating mechanism for phonograph cabinets and the like in which the drawer slide is automatically withdrawn and returned or moved into the compartment with the opening and closing of the door.

Second, to provide a drawer slide mechanism which may be readily applied to numerous conventional types of cabinets or compartments equipped with drawer slides or slidable supports.

Third, to provide a mechanism of this character which is easy of operation and one which does not subject the cooperating parts to undue strain.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

Preferred embodiments of the invention are illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a phonograph cabinet embodying the invention, the drawer slide being in withdrawn position.

Fig. 2 is an enlarged fragmentary view partially in horizontal section illustrating the door in closed position and the drawer slide fully retracted within the compartment, the door being shown in open position by the dotted lines and the drawer slide withdrawn.

Fig. 3 is an enlarged fragmentary view, the slide actuating cam member being shown in section.

Fig. 4 is an enlarged fragmentary view in section on line 4—4 of Figs. 2 and 3.

Fig. 5 is a fragmentary sectional view of the follower rollers and their supporting bracket.

Fig. 6 is a fragmentary perspective view further illustrating the relation of the door, drawer slide, cam member and the coacting follower.

Fig. 7 is a fragmentary view partially in section illustrating an adaptation of the invention to a compartment having a drop door or door hinged at the bottom edge thereof, the parts being sectioned on line 7—7 of Fig. 8.

Fig. 8 is a fragmentary view partially in section on line 8—8 of Fig. 7.

Fig. 9 is a fragmentary view showing the door in its open position with the drawer slide partially withdrawn, certain open positions of the door being illustrated by dotted lines.

Fig. 10 is a fragmentary perspective view of

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another modification or adaptation of my invention, the modification being mainly in the form of the cam member.

Fig. 11 is a fragmentary view partially in horizontal section on broken line 11—11 of Fig. 12.

Fig. 12 is a fragmentary view partially in section on broken line 12—12 of Fig. 11.

Fig. 13 is an enlarged fragmentary view partially in section on the broken line 13—13 of Fig. 12.

Fig. 14 is an enlarged fragmentary view in section on line 14—14 of Fig. 11.

Fig. 15 is a fragmentary view partially in section of a modified form of the embodiment of my invention shown in Figs. 10 to 15 inclusive showing an adaptation to a door hinged at the bottom edge thereof.

Fig. 16 is a fragmentary view in section on line 16—16 of Fig. 17.

Fig. 17 is a fragmentary view in section on line 17—17 of Fig. 16.

In the embodiment of my invention illustrated in Figs. 1 to 6 inclusive I illustrate my invention in a phonograph cabinet in which I illustrate the cabinet generally, 2 the playing compartment which is provided with a drawer slide 3, the compartment door 4 being hinged at 5. The drawer slide 3 is mounted on the slide rails 6 and provided with a carriage 7 traveling thereon, this drawer mounting feature being that shown in my Patent 2,370,861 issued March 6, 1945. This mounting is advantageous in this connection as it provides a freely slidable drawer slide or record support and one which does not bind as it is moved back and forth into the cabinet. The main purpose of withdrawal of the slide is to facilitate changing of the records conventionally shown at 8.

My mechanism is designed to provide means whereby the drawer slide is automatically withdrawn from and retracted or moved into the compartment with the opening and closing of the door. In the embodiment shown in Figs. 1 to 6, this mechanism comprises a forwardly curved rod-like cam member 9 terminating in a gooseneck bend at 10 and flattened to provide an attaching plate or bracket 11. The cam member is attached adjacent the hinged edge of the door and on the inner side thereof to project rearwardly under the drawer slide. In this embodiment, I provide a coacting pair of grooved cam follower rollers 12 having journals 13 carried by the support 14 which is pivotally mounted at 15 on the attaching bracket 16. This permits the rollers to freely travel along the opposed sides of the cam member and to swing to prevent

binding. The portion 17 of the cam member between the goose-neck bend 10 and the free end of the cam member is curved longitudinally away from the door to retard the movement of the slide as the door approaches the outer limit of its opening movement. To prevent the slide contacting the door as the same is opened the slide has a bevel 18 at its front corner adjacent the door hinge. The cam member 9 is preferably formed of a section of rod. While it appears to be of substantially uniform curvature, the dwell portion results from the relationship of the cam member to the hinge of the door. With this arrangement, the door may be easily opened and, as stated, the drawer slide is withdrawn from and moved into the compartment by the opening and closing of the door.

In Figs. 7 to 9 inclusive I show an embodiment of my invention adapted to a door 20 hinged at 21, the hinges being disposed horizontally. In this case, the cam member 22 is substantially the same as that described, its attaching plate 23 being an extension of the cam member to facilitate mounting on the door, with the cam member projecting upwardly at one edge of the drawer slide 3. The mounting bracket 24 for the support pivoted thereto for the cam follower rollers 25 is in the form of an angled plate, the angle embracing the edge of the drawer slide 3. The operation is the same as described.

In the embodiment of my invention shown in Figs. 10 to 15 inclusive, the cam member 26 is in the form of a sheet metal stamping, terminating at its inner end in an attaching plate 27 secured to the inner side of the door 4 which in this embodiment is provided with vertical hinges. The drawer slide has the same mounting. This cam member 26 is provided with an angular cam slot 28 while the drawer slide is provided with a cam follower roller 29 engaging the slot. The inner portion 30 of the cam slot is conformed substantially in the arc of a circle, the center of which is substantially in alinement with the axis of the hinge 5 so as to permit a substantial opening of the door before imparting movement to the drawer slide.

In Figs. 16 and 17 I illustrate an embodiment in which the cam member 26 is applied to a door 20 hinged at its lower edge. In this case, the cam member 26 is disposed at the side of the drawer slide 3, the bracket 31 for the cam follower 29 projecting upwardly from the edge of the drawer slide as clearly illustrated.

In both cases, the cam slot is formed so that its inner portion constitutes a dwell-producing portion with which the follower coacts during the initial opening movement of the door thereby providing clearance for the drawer slide.

I have illustrated and described commercial embodiments of my invention which are highly practical. I have not attempted to illustrate or describe other embodiments or adaptations which might be desired for particular cabinet structures or compartment structures and/or slides as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

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

1. The combination with a compartment, of a vertically hinged door for said compartment, a drawer slide mounted within said compartment to be partially withdrawn therefrom, a rod-like member having cam-like surfaces extending lon-

gitudinally thereof along opposite sides thereof, said rod-like member being mounted on the inner side of the door adjacent the hinge thereof and projecting therefrom below the drawer slide, a bracket mounted on the under side of said slide, a roller support pivotally mounted on the under side of said bracket, and grooved rollers on said roller support in spaced relation to receive said rod-like member between them and to coactively engage said cam surfaces whereby the drawer slide is automatically withdrawn from and moved into the compartment with the opening and closing of the door.

2. The combination with a compartment, of a hinged door for said compartment, a drawer slide mounted within said compartment to be partially withdrawn therefrom, a rod-like member having cam-like surfaces extending longitudinally thereof along opposite sides thereof, said rod-like member being rigidly mounted on the inner side of the door adjacent the hinge thereof and projecting adjacent said drawer slide, a roller support pivotally mounted on the drawer slide, and grooved rollers on said roller support in spaced relation to receive said rod-like member between them and to coactively engage said cam surfaces whereby the drawer slide is automatically withdrawn from and moved into the compartment with the opening and closing of the door.

3. The combination of a compartment, a door for said compartment hinged at one edge thereof, a drawer slide slidably mounted within said compartment to be partially withdrawn therefrom, an arm-like member mounted on the inner side of said door adjacent the hinge thereof to project inwardly therefrom, said arm-like member having extending longitudinally thereof on opposite sides thereof cam-like surfaces, and a follower element carried by said drawer slide and coacting with said cam-like surfaces whereby upon the opening and closing of the door the drawer slide is automatically withdrawn from and retracted into the compartment, the cam-like surfaces being curved longitudinally away from the door to retard the movement of the slide as the door approaches the limit of its opening movement.

4. The combination with a compartment, of a door for said compartment hinged at one edge thereof, a support slidably mounted within said compartment, a cam element mounted on said door adjacent the hinge thereof to swing therewith, said cam element consisting of a rod having cam-like surfaces extending longitudinally thereof on opposite sides thereof, grooved follower rollers coacting with said cam surfaces on the opposite sides of the cam element, and a roller support pivotally mounted on the said support, said rod being curved away from said door starting from a point adjacent its point of connection to said door.

5. A drawer slide actuating mechanism comprising an arm-like cam member adapted for attachment at one end to a drawer slide compartment door to rigidly project therefrom and to swing therewith, grooved follower rollers spaced to receive said cam member between them, a support on which said rollers are journaled, and a mounting bracket on which said support is pivotally mounted, the mounting bracket being adapted for attachment to a drawer slide.

6. A drawer slide actuating mechanism comprising a rod-like cam member adapted to be mounted on the inner side of a hinged door of a

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drawer slide compartment, said rod-like cam member having cam surfaces extending longitudinally thereof on the opposite sides thereof, and coacting cam follower rollers receiving said cam member between them adapted to be mounted on a drawer slide to coact with said cam surfaces.

7. A drawer slide actuating mechanism comprising means adapted for connecting a swinging compartment door to a slide within the compartment to withdraw the slide from a compartment upon opening the door and to move the slide into the compartment upon closing the door, said means including a rod-like cam member having cam surfaces extending longitudinally thereof along the opposite sides thereof and a coacting cam follower including spaced rollers for receiving the rod-like cam member therebetween and for coactively engaging the cam surfaces on the opposite sides of said member, and means for swingingly supporting said cam follower to permit of swinging movement thereof while moving longitudinally relative to said cam surfaces.

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