July 11, 1950 M. M. MILLER ET AL 2,514,664

DRAWER SLIDE

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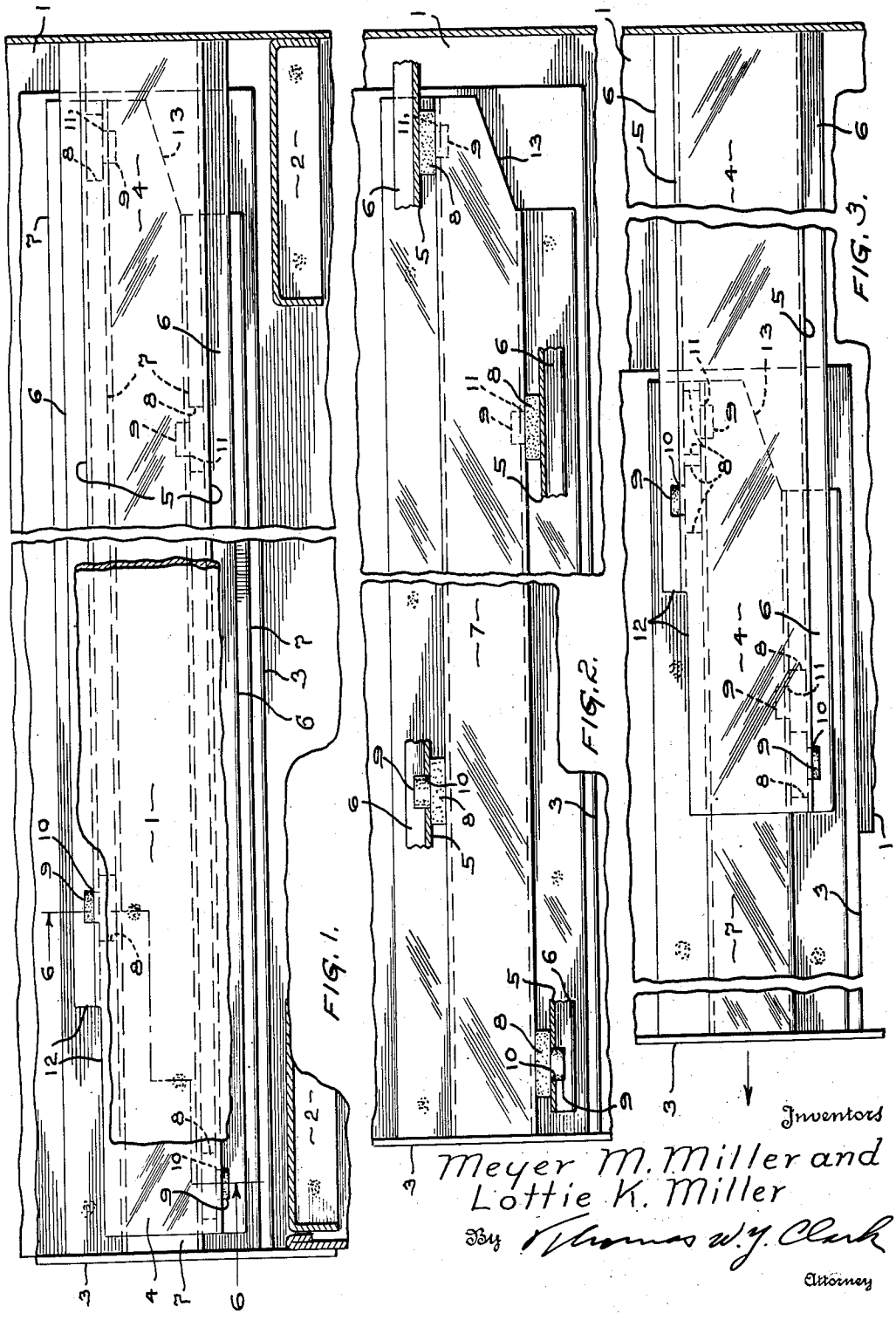


FIG. 1.

FIG. 2.

FIG. 3.

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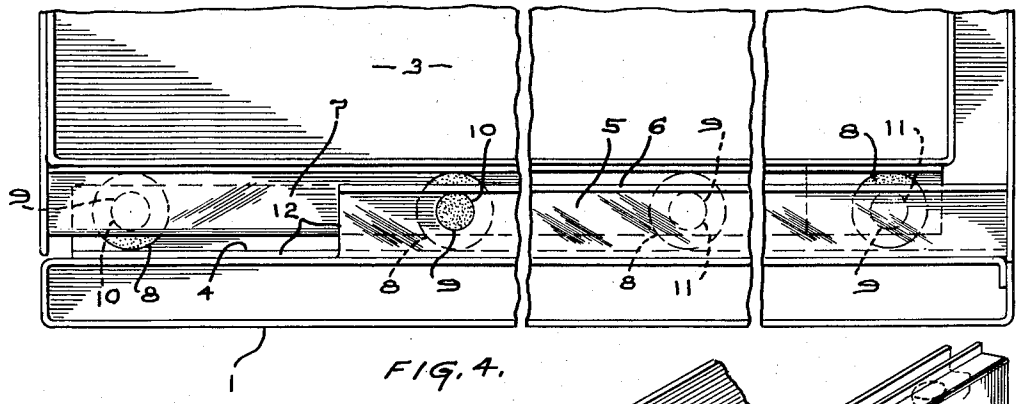


FIG. 4.

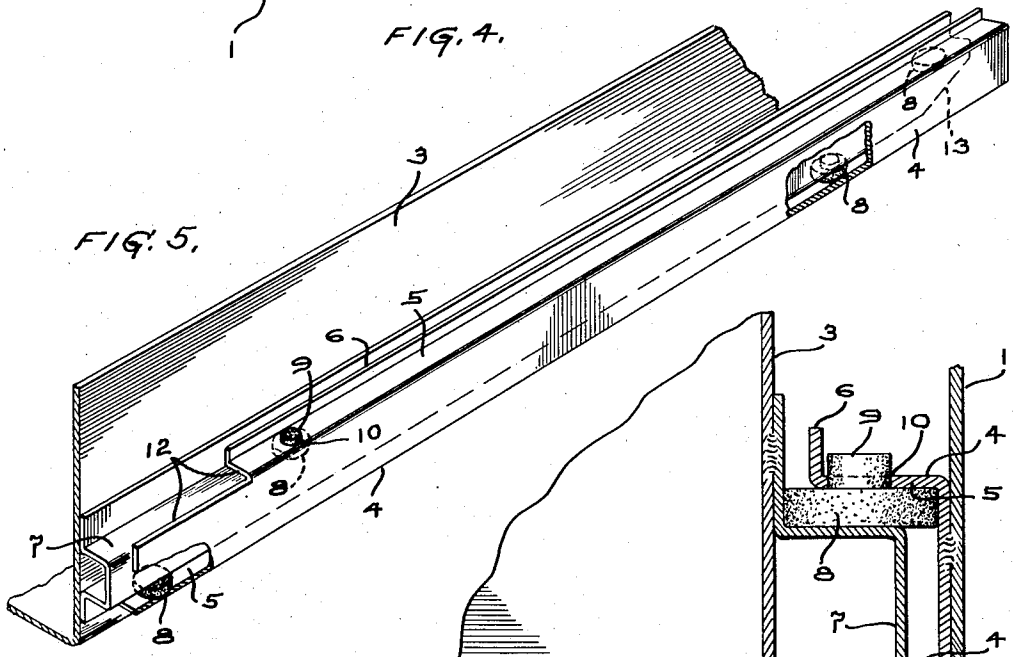


FIG. 5.

FIG. 6.

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Patented July 11, 1950 2,514,664

UNITED STATES PATENT OFFICE

2,514,664

DRAWER SLIDE

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Application October 19, 1946, Serial No. 704,440

5 Claims. (Cl. 45—77)

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This invention relates to a drawer slide for use in kitchen cabinets, filing cabinets, tool cabinets and other metal cabinets, or even wood cabinets whose drawers slide on metallic ways.

Among the objects of the invention are to produce a slide to make the cabinet noiseless in the use of drawers and to make a slide which will be substantially frictionless and will not bind even after standing for long periods of time. Another object of the invention is to make an anti-friction member for the slide which can be readily replaced and which will involve a minimum of skill in its replacement. Also the slide of this invention requires a minimum of parts for mounting and providing runways for the anti-friction members. Also a minimum number of anti-friction members is required for each slide because of the utilization of two bearing surfaces on each slide, one horizontal and the other vertical. Another object of the invention is to make a slide and anti-friction member which will be extremely economical both in manufacture and maintenance. Other objects and advantages of the invention will be apparent from the following description and the accompanying drawings in which:

Figure 1 is a vertical side view of the drawer slide, partially in section and partially broken away, with the outer side panel of the cabinet mostly removed.

Figure 2 is a vertical side view, with the cabinet slides partially broken away, showing the operation of the anti-friction members.

Figure 3 is a view similar to Figure 1 in which the drawer has been partially removed.

Figure 4 is a top plan view of a cabinet and drawer involving this invention with the top of the cabinet removed.

Figure 5 is a fragmentary perspective view of a slide embodying this invention.

Figure 6 is a cross-sectional view substantially on line 6—6 of Figure 1.

In the drawings similar numerals refer to similar parts throughout the several views.

A cabinet 1 having cross supports 2 has a drawer 3 sliding therein. The cabinet has welded to its sides substantially horizontally extending channels 4 which face one another on opposite sides of the drawer compartment of the cabinet. These channels have their sides 5 bent out at right angles and the sides preferably have extending lips 6 likewise bent at right angles, for reinforcement.

The drawers 3 have longitudinally and horizontally extending members 7 adapted to slide in

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the channels 4. They are smaller in cross-section than the channels 4 as shown clearly in Figure 6 to provide the necessary space for the anti-friction members 8. Each side 5 of the channel 4 has an anti-friction member therein preferably spaced out near the front of the cabinet as clearly shown in Figure 2. Likewise each member 7 has an identical anti-friction member 8 in its upper and lower side preferably spaced near the back of the member as shown in Figure 2.

These anti-friction members are small round studs or discs with a projection 9 extending centrally from one face. These projections 9 fit snugly in openings 10 in the sides 5 of channel 4 and similar openings 11 in the sides of member 7.

The sides of member 7 and of channel 4 form bearing surfaces for the opposed anti-friction members as clearly shown in Figures 2 and 6. These sides are parallel and extend respectively substantially the length of the drawer and the depth of the cabinet.

The anti-friction members not only serve to render the movement of the drawer substantially frictionless, but they also serve as a locking means to prevent the drawer from being withdrawn from the cabinet as shown in Figure 3, when the drawer is extended. Anti-friction members 8 on the member 7 contact the anti-friction members 8 on the channel 4 and prevent the further movement of the drawer outwardly from the cabinet.

The upper side 5 of channel 4 near the front end of the cabinet is cut out as shown at 12. Likewise the rear end lower side of the member 7 is cut away as shown at 13. These cut away portions make it possible to lift the front of the drawer 3 upwardly after it has been extended from the cabinet so as to release the drawer from the cabinet, the elevation or tilting of the drawer permitting the anti-friction members to pass one another.

After the drawer has been removed it is apparent that the anti-friction members 8 can be replaced readily. They are preferably made of a fibrous material with the grain running at right angles to the flat bearing surface, and they can even be made to hold oil. Being round in horizontal cross-section and square at the edges they fit snugly against the vertical member adjacent the horizontal member in which they are anchored by their projections 9, and this snug fit tends to prevent the members 8 from rotating upon movement of the drawer, also the round conformation reduces the horizontal friction and prevents binding. They are interchangeable,

The side opposite the firmly held side will slide freely against the drawer member 7 in one instance and the channel member 4 in the instance of the anti-friction members attached to the drawer. These anti-friction members form not only the vertical bearing surface for the member 7 in the channel but likewise the horizontal bearing surface so that the drawer does not tend to twist in the cabinet.

It will be apparent that most economical and yet serviceable anti-friction members with their accompanying slides have been provided to render the cabinet noiseless, not only in its initial manufacture, but also an anti-friction member is provided which may be readily replaced to maintain the service of the cabinet noiseless and substantially frictionless throughout its life.

It will be apparent that modifications of the construction may be made without departing from the invention described in the following claims.

What is claimed as new and is desired to be secured by Letters Patent is:

1. In a cabinet, the combination of a casing, a pair of opposed channel bars opening toward one another rigidly mounted in substantially horizontal position in said casing, a drawer having side formations sliding in said channels, anti-friction discs detachably secured horizontally to the top and bottom of said channels and formations, to space the formations from the channels vertically, the edges of the discs extending from their supporting members to space the formation from the channels horizontally and forming bearing surfaces, both horizontally and vertically, for said drawer.

2. In a drawer slide, wherein the drawer cabinet has a channel bar opening toward the drawer, and wherein the cabinet drawer has a complementary member sliding in the cabinet channel and presenting both horizontal and vertical bearing surfaces, anti-friction discs affixed to said channel horizontally, some of said discs singly bearing on both said horizontal and vertical bearing surfaces on the said member and spacing said member from said channel both horizontally and vertically.

3. In a drawer slide, wherein the drawer cabinet has a channel bar opening toward the drawer, and wherein the cabinet drawer has a complementary member sliding in the cabinet channel and presenting both horizontal and vertical bearing surfaces, anti-friction discs affixed to said channel and member horizontally, some of said discs singly bearing on both said horizontal and vertical bearing surfaces on said member, said discs spacing said member from said channel both horizontally and vertically.

4. In a drawer slide, wherein the drawer cabinet has a channel bar opening toward the drawer, and wherein the cabinet drawer has a complementary member sliding in the cabinet channel, said member and channel providing parallel horizontal and vertical bearing surfaces, anti-friction discs affixed to the inner end of said member and the outer end of said channel horizontally, some of said discs singly bearing on both said horizontal and vertical bearing surfaces, and spacing said member from said channel both horizontally and vertically, said discs on the member contacting those on the channel upon the withdrawal of the drawer, and limiting that withdrawal.

5. In a drawer slide, wherein the drawer cabinet has a channel bar opening toward the drawer, and wherein the cabinet drawer has a complementary member sliding in the cabinet channel, said member and channel providing parallel horizontal and vertical bearing surfaces, anti-friction discs affixed to the inner end of said member and the outer end of said channel horizontally, some of said discs singly bearing on both said horizontal and vertical bearing surfaces, and spacing said member from said channel both horizontally and vertically, said discs on the member contacting those on the channel upon the withdrawal of the drawer, and limiting that withdrawal, said channel at the front top, and the member at the rear bottom being cut away, to allow the drawer to be tilted after its extension so that the opposed discs will slide over each other and allow the complete withdrawal of the drawer.

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