I. WAGEMAKER.

DRAWER GUIDE.

APPLICATION FILED SEPT. 28, 1912.

1,089,514.

Patented Mar. 10, 1914.

2 SHEETS—SHEET 1.

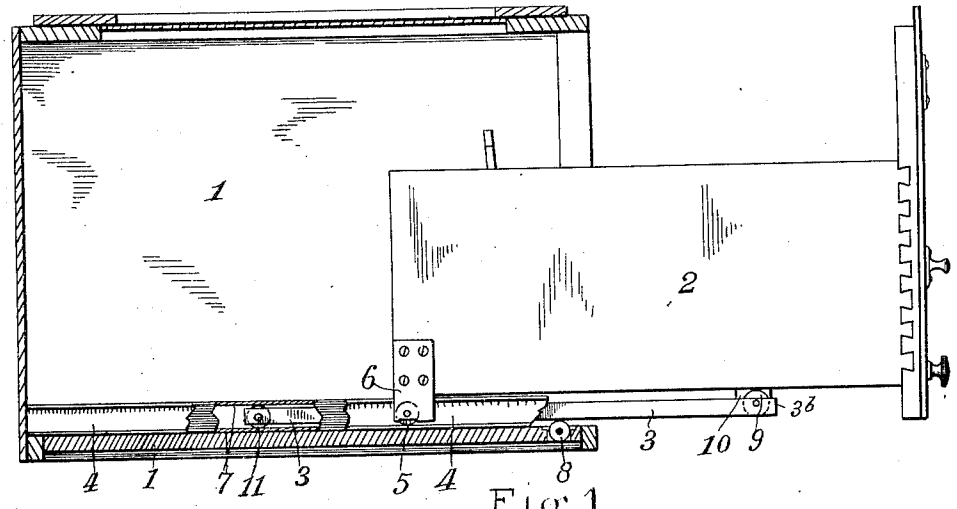


Fig. 1.

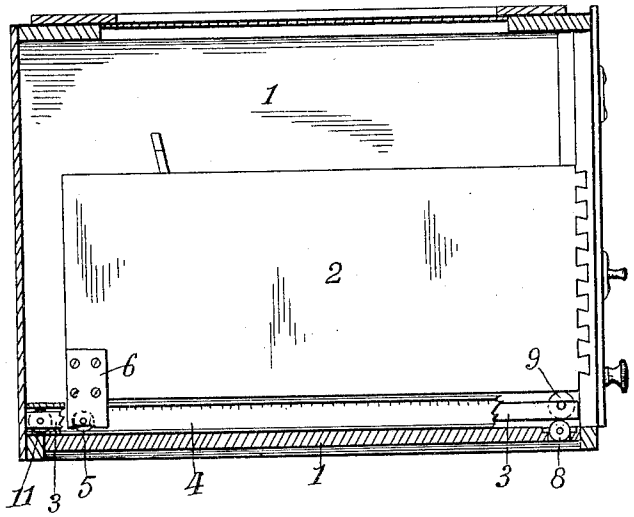


Fig. 2.

Inventor

Witnesses

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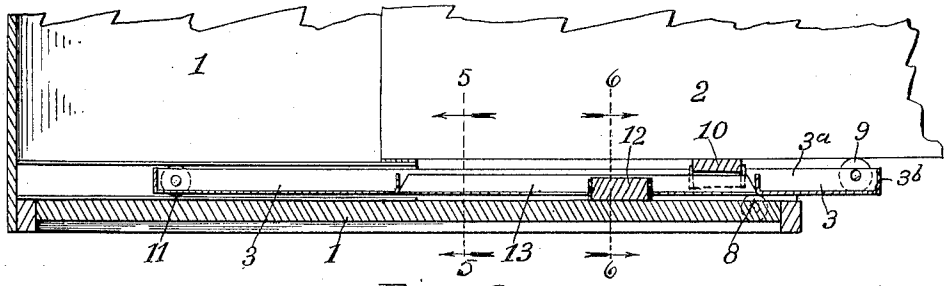


Fig. 3.

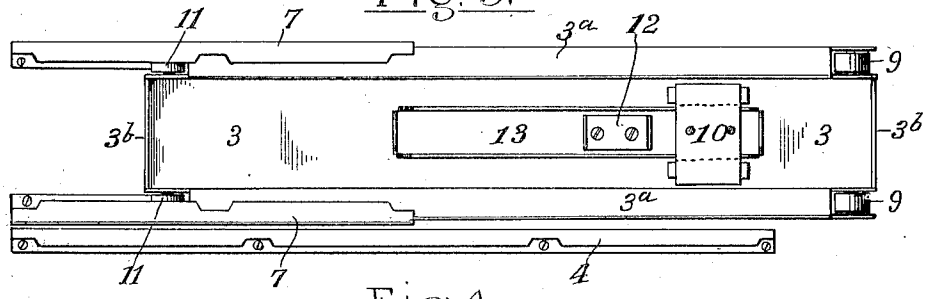


Fig. 4.

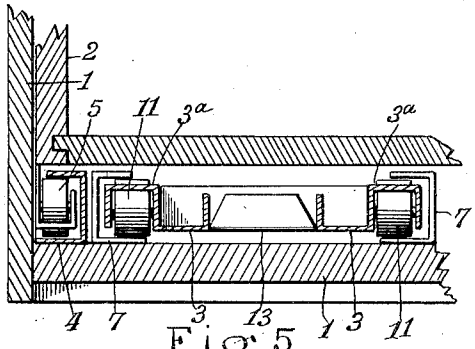


Fig. 5.

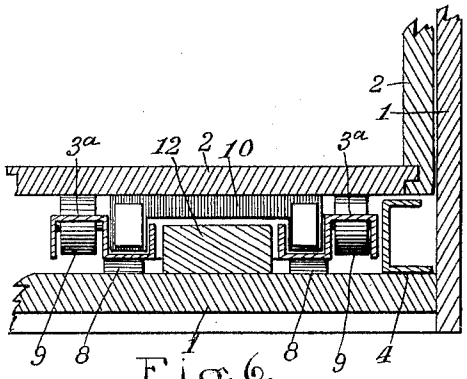


Fig. 6.

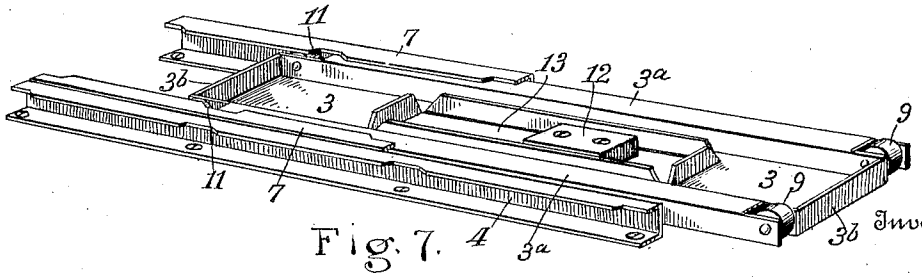


Fig. 7.

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ISAAC WAGEMAKER, OF GRAND RAPIDS, MICHIGAN.

DRAWER-GUIDE.

1,089,514. Specification of Letters Patent. **Patented Mar. 10, 1914.**

Application filed September 28, 1912. Serial No. 722,810.

To all whom it may concern:

Be it known that I, ISAAC WAGEMAKER, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Drawer-Guides; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in drawer guides, and its object is to provide an improved drawer guide adapted to be made of sheet metal; to provide a device that is strong and durable and adapted to carry heavy loads; to provide a device adapted to be used under drawers of various widths, and to provide the same with various new and useful features hereinafter more fully described and particularly pointed out in the claims.

The device consists essentially of an underrunning carrier made of sheet metal and stamped up into channels at the opposite sides to stiffen the same, and having upturned flanges with guide rollers and supporting rollers, and channel-bars formed of sheet metal traversed by the rollers, and in various details of construction and arrangement as will more fully appear by reference to the accompanying drawings, in which:—

Figure 1 is a side elevation of a device embodying my invention with parts broken away to show the construction and with the drawer partially opened. Fig. 2 the same with the drawer closed; Fig. 3 is an enlarged detail in vertical section; Fig. 4 is a detail, shown in plan view, of the underrunning carrier and ways for the same together with the stop to operate the carrier; Fig. 5 is an enlarged detail in vertical section on the line 5—5 of Fig. 3; Fig. 6 is the same on the line 6—6 of Fig. 3; and Fig. 7 is a perspective detail of the carrier and guides shown in Fig. 4.

Like numbers refer to like parts in all of the figures.

1 represents a case of any suitable dimensions to receive the drawer 2 and closed at the front by the front of the drawer; 3 is an underrunning carrier between the drawer and the bottom of the case.

4 is a channel-bar fixed in the case beneath one side of the drawer.

5 is a roller traversing the channel-bar 4, and journaled on the hanger 6 attached to the rear lower corner of the drawer. This channel-bar and roller serve to guide the rear of the drawer and hold the same from tilting upward when the drawer is pulled out of the case. This channel 4 extends from front to rear of the case and is traversed from end to end by the roller 5, as the drawer is moved outward and inward.

7 are channel-bars at each side of the carrier 3 which extend from the rear of the case forward about one-half of the length of the bar 4, these channel-bars 7 have their channel sides facing each other and are at opposite sides of the carrier, and traversed by rollers 11 on the rear end of the carrier 3 to movably support the same and prevent it from tilting upward when the drawer is pulled outward. The carrier is also supported upon rollers 8 mounted in the bottom of the case 1 and traversing the bottom of the carrier. The outer end of the carrier is provided with rollers 9 which engage the bottom of the drawer 2 and movably support the same. The drawer is thus carried at the front on the rollers 9 and at the rear on the rollers 5.

The carrier is formed up into channels 3^a at its opposite sides and turned up at the ends as at 3^b, whereby it may be made of thin sheet metal and at the same time be strong and rigid. An opening 13 is also formed in the carrier in the form of a parallelogram and of such length and width as to receive a stop block 12 and permit the carrier to move about one-half of the length of the drawer as hereinafter described. The metal removed to form this opening is also turned up to form flanges as shown, whereby the carrier is further stiffened and strengthened, the results being a substantial and strong carrier made of thin sheet metal. The stop block 12 is fixed on the bottom of the case and a stop block 10 is secured to the under side of the drawer and engages the end 3^b of the carrier to bring the same outward when the drawer is pulled out and when the drawer is moved inward the downward projecting part of the drawer front engages the

end 3^b and moves the carrier inward, the stop 12 traversing the opening 13 and limiting the movement of the carrier.

Two of the described devices are used in case of a drawer of any considerable width, thus enabling the device to be used without change with drawers of various widths.

By lifting the front of the drawer to carry the block 10 over the end 3^b of the carrier the drawer can be wholly removed from the case and in like manner the carrier can be removed by lifting the front end of the same to carry it above the block 12 until the rollers 11 leave the front ends of the channels 7. The device is thus conveniently disassembled or reassembled at pleasure.

What I claim is:—

1. In combination with a case and a drawer, a sheet metal carrier formed into channels at the sides and also provided with an opening, rollers in the bottom of the case along the front thereof to support the carrier, rollers at the front of the channels to support the drawer, rollers in the rear of the channels, channel bars embracing the carrier and traversed by the last mentioned rollers, channel bars beneath the sides of the drawers, rollers carried by the rear of the drawer and traversing the last mentioned channel bars, a stop block in the opening of the carrier fixed on the bottom of the case to limit the movements of the carrier, and a stop block fixed on the bottom of the drawer to engage the outer end of the carrier.

2. In combination with a case and drawer, a roller in the bottom of the case at the front thereof, a carrier longitudinally movable in the case and carried on said roller, a channel bar fixed in the case, a roller on the rear of the carrier traversing the said bar, a roller at the front of the carrier supporting the front of the drawer, a channel-bar beneath the side of the drawer, a hanger extending downward from the rear corner of the drawer, and a roller mounted on the hanger and traversing the said channel-bar.

3. In combination with a case and a drawer, rollers in the bottom of the case near the front thereof, a longitudinally movable carrier supported at the front on said rollers, rollers on the front of the carrier supporting the drawer, channel-bars embracing the carrier and extending forward from the rear of the case, rollers on the rear end of the carrier traversing the said channel-bars, channel-bars beneath the sides of the drawers and extending from front to rear of the case, hangers on the rear corners of the drawer and extending downward therefrom, and rollers mounted on the hangers, and traversing the last named channel-bars.

4. In a drawer guide, a carrier of sheet metal folded in channel-form at the sides and upturned at the ends, rollers in the outer ends of the margin channels to carry a drawer, rollers in the inner ends of the channel, and channel-bars traversed by the last named rollers.

5. In combination with a case and a drawer, a sheet metal carrier formed into channels at the sides and upturned at the ends, and also having an opening with upturned margins, rollers in the front and rear ends of the channel of the carrier, channel-bars fixed in the case and traversed by the rear roller, rollers in the bottom of the case at the front thereof to support the carrier, and a fixed stop block in said opening to limit the movements of the carrier.

6. In combination with a case and a drawer, a sheet metal carrier formed into channels at the sides and having upturned ends, and also having an internal opening with upturned margins, rollers in the bottom of the case, near the front thereof to support the carrier, rollers in the front of the channels to support the drawer, rollers in the rear of the channels, channel-bars embracing the carrier and traversed by the last named rollers, channel bars beneath the sides of the drawer hangers on the rear corners of the drawer, rollers on the hangers traversing the last named channel-bars a stop block in the opening of the carrier fixed on the bottom of the case to limit the movement of the carrier and a stop block fixed on the bottom of the drawer to engage the end of the carrier.

7. In combination with a case and drawer, rollers in the bottom of the case at the front thereof, a carrier longitudinally movable in the case and mounted on said rollers, channel bars fixed in the case, rollers on the rear of the carrier traversing said channel bars, rollers at the front of the carrier to support the front of the drawer, channel bars beneath the sides of the drawer, rollers journaled at the rear corners of the drawer and traversing the last mentioned channel bars, and means for limiting the outward movement of the carrier.

8. In combination with a case and a drawer, a sheet metal carrier formed into channels at the sides and upturned at its outer end and also provided with an opening, rollers in the front and rear of the channels of the carrier, channel bars fixed in the case and traversed by the rear rollers, rollers in the bottom of the case at the front thereof to support the carrier, and a stop disposed in said opening to limit the movements of the carrier.

9. In combination with a case and a drawer, a sheet metal carrier formed into channels at the sides and also provided with an opening, rollers in the bottom of the case

near the front thereof to support the carrier, rollers in the front of the channels to support the drawer, channel bars embracing the carrier and traversed by the last named rollers, channel bars beneath the sides of the drawer, rollers carried by the drawer adapted to traverse the last named channel bars, and means adapted to be engaged by the ends of the opening of the carrier to limit the movement of the carrier.

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

ISAAC WAGEMAKER.

Witnesses:

HAROLD O. VAN ANTWERP,

LUTHER V. MOULTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."