No. 791,915. PATENTED JUNE 6, 1905.

C. F. KADE.

COMBINED ROLLER SUPPORT AND TRACK FOR SLIDING DOORS.

APPLICATION FILED FEB. 14, 1903.

Fig. 1.

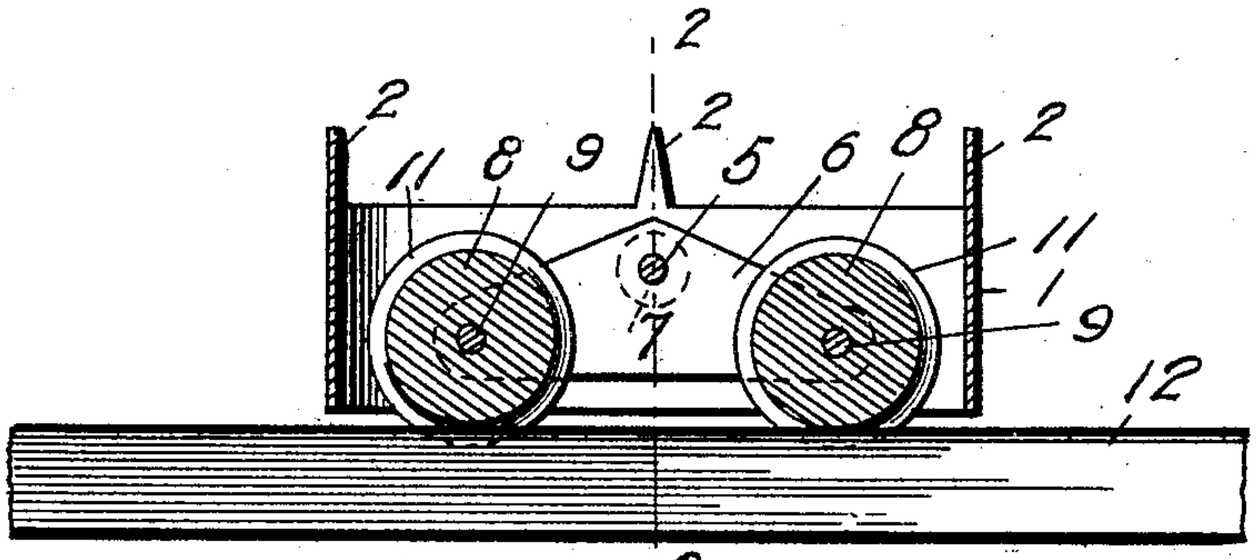


Fig. 2.

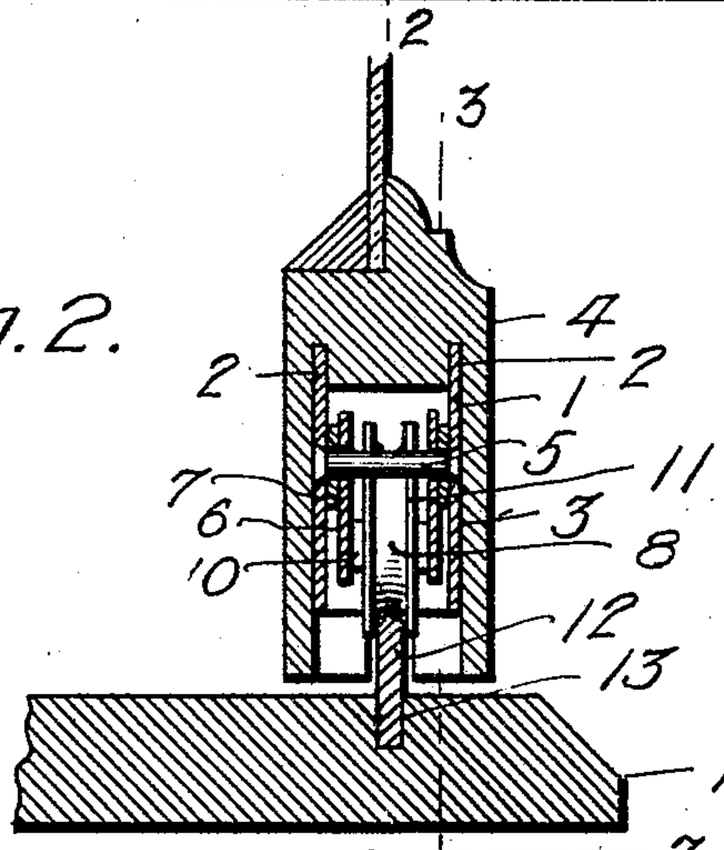
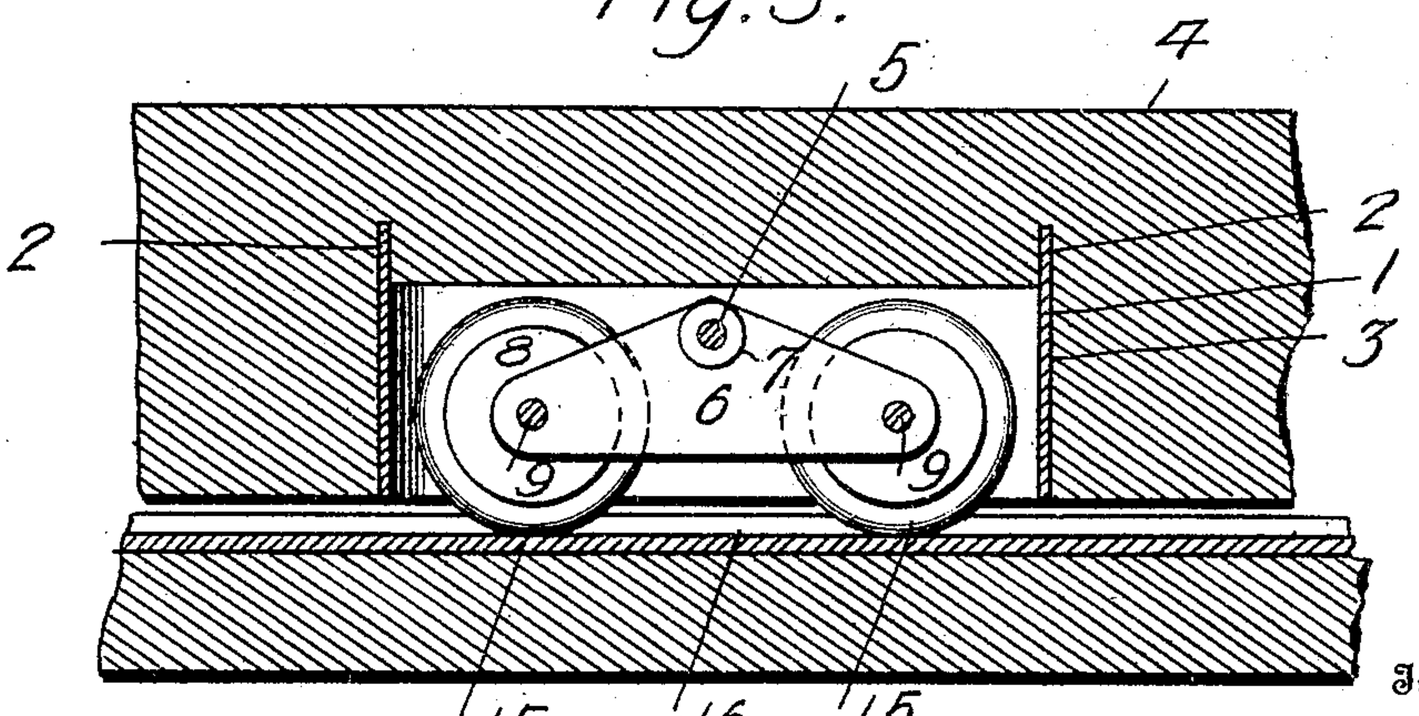


Fig. 3.



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Witnesses

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No. 791,915. Patented June 6, 1905.

UNITED STATES PATENT OFFICE.

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COMBINED ROLLER-SUPPORT AND TRACK FOR SLIDING DOORS.

SPECIFICATION forming part of Letters Patent No. 791,915, dated June 6, 1905.

Application filed February 14, 1903. Serial No. 143,412.

To all whom it may concern:

Be it known that I, CHARLES F. KADE, a citizen of the United States, residing at Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented new and useful Improvements in a Combined Roller-Support and Track for Sliding Doors, of which the following is a specification.

This invention relates to supporting and guiding means for doors, and has for its objects to provide a comparatively simple inexpensive device of this character which may be readily applied for use and one wherein the roller-carrying casing and track will be fixed securely to the parts to which they are attached, and this without the employment of screws or analogous fastening devices.

A further object of the invention is to provide a device of this character in which the guiding-rollers will be carried by pivoted members, thus adapting them to conform readily to any irregularities in the track upon which they travel whereby the door will move smoothly and evenly and objectionable vibrations be overcome.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional elevation of a device embodying the invention. Fig. 2 is a vertical transverse section taken on the line 2 2 of Fig. 1 and showing the parts of the device applied to a door and its casing. Fig. 3 is a vertical longitudinal sectional elevation, the section being taken on the line 3 3 of Fig. 2 and showing a slight modification in the form of track and rollers.

Referring to the drawings, 1 designates a casing composed of sheet metal stamped or otherwise formed and bent into shape and provided on its normally upper edge with uprising spurs or prongs 2, which when the casing is seated in a socket 3, provided in a door 4, enter and become securely embedded in the material of the door at the upper wall of the socket, thus maintaining the casing firmly and securely in place.

Extending transversely through the casing at its longitudinal center and adjacent its upper edge is a pintle 5, on which is pivoted a pair of spaced equalizing bars 6, between the faces of which and the adjacent walls of the casing are arranged washers 7, there being disposed between the bars, and respectively at opposite ends thereof, a pair of guide-rollers 8, pivoted for rotation upon transverse pintles or axles 9, secured at their ends to the bars, while between the side faces of the rollers and the adjacent inner faces of the bars there are mounted upon the pintles 9 washers 10, which serve to space the rollers from and maintain them centrally between the bars.

The rollers 8 are formed with peripheral semicircular grooves 11, which receive and conform to the adjacent upper edge of a track or way 12, upon which the rollers travel, said track being preferably formed by rolling or otherwise flattening heavy steel wire to the cross-sectional form illustrated in Fig. 2, whereby the latter presents an upper rounded edge and flat side faces, the lower edge of the track being firmly seated in an appropriate channel 13, formed in the sill 14 beneath the door, it being understood that the channel 13 may be initially formed for the reception of the track or produced by driving the latter into the sill.

It is apparent that in practice the bars 6 will, during the travel of the door in moving to open or closed position, oscillate freely upon the pintle 5, thus insuring a smooth even travel of the rollers 8 upon the track 12 and ready conformation of the rollers to any unevenness existing in the track, and consequently obviating objectionable vibrations of the door. Furthermore, it is obvious that the track 12 and the casing 1 containing the rollers will be maintained in secure engagement with the parts to which they are attached, and this without the use of screws or other fastening devices, while at the same time the washers 7 and 10 serve, respectively, to maintain the equalizing-bars spaced from the casing and the rollers from the equalizing-bars,

thereby affording reduced bearing-surfaces for the parts and minimizing friction during the operation of the device.

In Fig. 3 the rollers 8 are shown as equipped with rubber tires 15 and the track as provided with a groove 16, in which the peripheries of the wheels formed by the tires travel.

From the foregoing it is apparent that I produce a simple inexpensive device admirably adapted for the attainment of the ends in view and one which in practice will efficiently perform its functions, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. The combination with a casing having prongs integral with and projecting from one edge thereof, said prongs alining with the walls of the casing, of similar parallel equalizing-bars pivoted within the casing, and rollers journaled between the ends of the bars and projecting from the casing, the pivots of the equalizing-bars being out of alinement with the journals of the rollers.

2. The combination with a casing having prongs integral with and projecting from one edge thereof, said prongs alining with the walls of the casing, of similar parallel equalizing-bars, a pivot-pin extending through the bars and casing, a track, rollers journaled between the ends of the bars and adapted for travel upon the track, the journals of the rollers being out of alinement with the pivot-pin, and spacing devices between the bars and sides of the casing.

3. The combination with a door having a recess therein, of a casing located within the recess and open at opposite ends, prongs integral with the inner end of the casing and extending therefrom into engagement with the inner wall of the recess, said prongs and the walls of the casing being in alinement, similar parallel angular equalizing-bars within the casing, a track having a rounded edge, rollers journaled between the ends of the bars and projecting from the casing, said rollers being adapted for travel upon the track and having peripheral grooves to receive the rounded edge of the latter, and a pivot-pin extending through the casing and equalizing-bars at a point out of alinement with the journals of the rollers.

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

CHARLES F. KADE.

Witnesses:

F. H. POETHIG,

P. J. PETERSON.