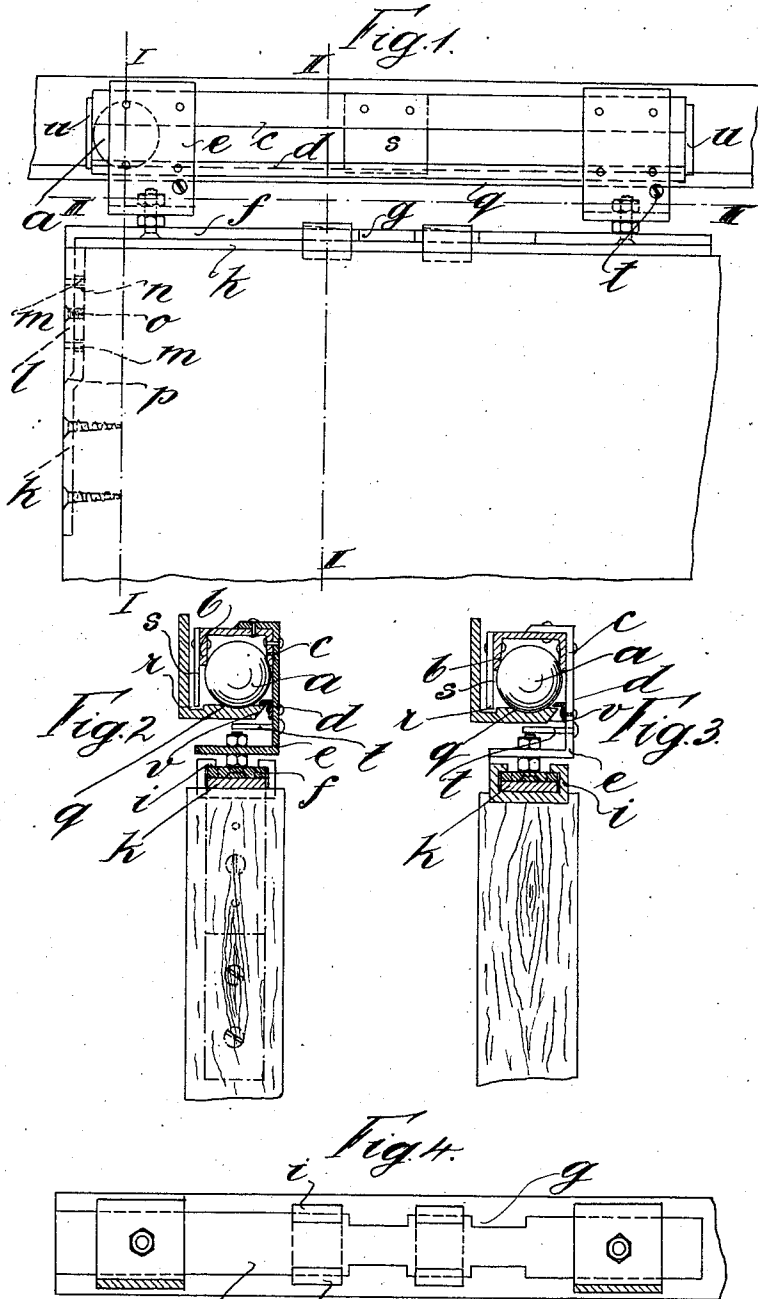


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 BALL BEARING DOOR HANGER.
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1,062,862.

Patented May 27, 1913.



Witnesses
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KARL STROHMANN, OF BREMEN, GERMANY.

BALL-BEARING DOOR-HANGER.

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Specification of Letters Patent.

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Application filed March 6, 1912. Serial No. 632,003.

To all whom it may concern:

Be it known that I, KARL STROHMANN, a citizen of the free and Hanseatic city of Bremen, residing at Bremen, Germany, have invented certain new and useful Improvements in Ball-Bearing Door-Hangers, of which the following is a specification.

The mounting for sliding doors according to the present invention is constructed in such a manner that the upper rail is composed of three guide flanges fixed to brackets, two of said guide-flanges being situated above and one below the balls so that in case the door should jump an independent movement of the balls is prevented by the circumstance that the position of the balls becomes oblique. The door is further connected with the mounting in such a manner that it can be easily removed from the same which is very advantageous if the door has to be repaired.

In the accompanying drawings the object of the invention is shown by way of example:—

Figure 1 shows the mounting for the sliding door in side elevation. Fig. 2 is a section on line I—I of Fig. 1. Fig. 3 is a section on line II—II of Fig. 1. Fig. 4 is a section on line III—III of Fig. 1.

According to this invention the loose balls *a* are guided between three flanges *b*, *c* and *d* which are all fixed to supporting brackets *e*. Two of these three guide flanges, the flanges *b* and *c*, are situated above the balls and the third guide-flange *d* is situated below the balls. These guide flanges form longitudinal slots in which the balls are well guided but which are not large enough to permit of the balls dropping out. The supporting brackets *e* are fixed upon the bar *f* which also carries the door. The bar *f* has narrowed parts *g* (Fig. 4), and the door *h* has brackets *i* fixed in any convenient manner upon the upper edge of the door which are slotted at the upper face so that inwardly projecting arms are formed. The space between the ends of these arms is equal to the width of the supporting bar *f* at the places where the narrowed parts *g* are arranged. If the door *h* is to be suspended upon the supporting bar *f*, its brackets *i* are pushed from below against the bar *f* so that they engage with the narrowed parts *g* of the bar *f*, whereupon the door is lifted and moved to the right or left as the case may be so that the arms of the brackets *i* rest

upon the large parts of the supporting bar *f*. At the upper end of the door an angle band iron *k* is fixed against which the vertical part *l* of the bar *f* bears when the door is suspended upon said bar. The downwardly projecting arm *l* of the bar *f* has pins *m* which engage with holes *n* of the vertical arm of the angular band iron *k*. The vertical arm of the angular band iron *k* is bent at about its middle so that the outer surface of its lower part is in alinement with the outer surface of the arm *l* of the bar *f*. The ball *a* runs upon the rail *q* which has an off-set *r* with which engages the plate *s* which covers the guide bar *b*.

The operation of the device is as follows:—As long as the weight of the door is acting upon the ball, this ball runs between the lower guide rail *q* and the two guide flanges *b* and *c* of the upper guide rail. If the door jumps the ball will suddenly strike against the lower guide flange *d* fixed to the supporting bracket *e* so that the axis around which the ball has revolved and which was horizontal, becomes suddenly oblique. In consequence of this variation in its position the ball is stopped for a moment whereby the independent movement of the ball at the jumping of the door is absolutely prevented. Stops *u* at the ends of the guide rails serve for limiting the movement of the ball. The outer edge *v* of the lower guide rail *q* is preferably beveled so that the space between the guide rail and the bracket is sufficiently large to permit of the removing of the bracket with the upper guide rail from said lower guide rail after the door has been removed.

I claim:—

A mounting for sliding doors with balls running loosely between an upper and a lower guide rail, comprising in combination with the lower guide rail fixed to the lintel of the door, an upper guide rail composed of an upper guide bar having two lateral vertical flanges and of a lower guide flange, supporting brackets to which said bars of the upper guide rail are fixed, a supporting bar fixed to the horizontal part of said supporting brackets and having indentations at either side, brackets of longitudinal cross section fixed upon the upper edge of the door and slotted at the top part so that inwardly projecting arms are formed adapted to engage with said indentations of said horizontal bar and to be placed upon the

larger parts of said bar, a downwardly projecting vertical arm on said bar, pins projecting from the inner surface of said vertical arm, an angular band iron fixed upon
5 the upper edge of the door so that its vertical arm bears against the inner surface of the vertical arm of said bar, said vertical arm of the angular band iron having holes corresponding with the pins of the vertical

arm and a screw for connecting the bar with 16 the angular iron, substantially as described and shown and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

KARL STROHMANN.

Witnesses:

FR. TIEMANN,

WILH. STRUSS.

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