C. T. WESTLIN & G. S. ELLITHORPE.

DOOR HANGER.

APPLICATION FILED MAR. 8, 1912.

1,035,064. Patented Aug. 6, 1912.

Fig. 1.

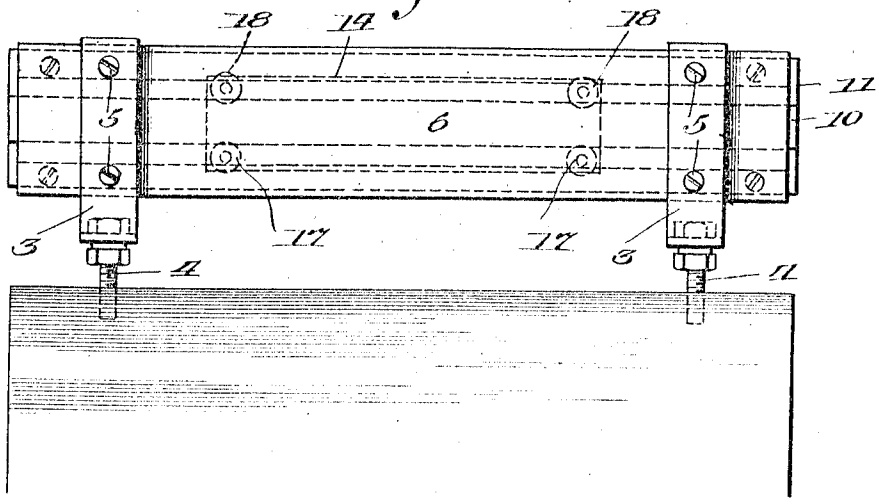
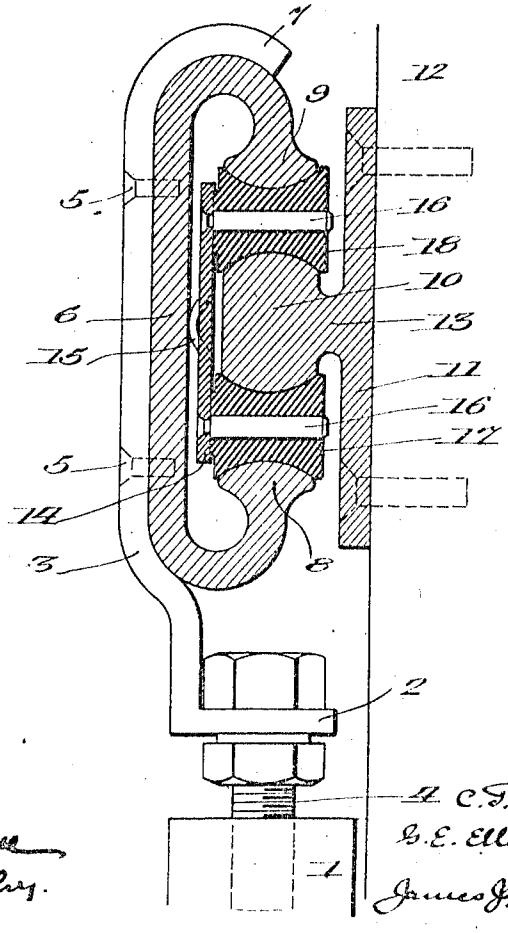


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

CARL TORSTEN WESTLIN, OF ARLINGTON, AND GILBERT SAMMONS ELLITHORPE, OF MAPLEWOOD, NEW JERSEY.

DOOR-HANGER.

1,035,064. Specification of Letters Patent. Patented Aug. 6, 1912.

Application filed March 8, 1912. Serial No. 682,347.

To all whom it may concern:

Be it known that we, CARL TORSTEN WESTLIN and GILBERT SAMMONS ELLITHORPE, citizens of Sweden and of the United States, respectively, residing at Arlington, in the county of Hudson, and Maplewood, in the county of Essex, respectively, both in the State of New Jersey, have invented new and useful Improvements in Door-Hangers, of which the following is a specification.

Our present invention pertains to door hangers; and its novelty, utility, and practical advantages will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a front elevation illustrative of a door hanger constructed in accordance with our invention. Fig. 2 is an enlarged detail taken at a right-angle to Fig. 1, and showing some parts in vertical cross-section, and other parts in elevation.

Similar numerals of reference designate corresponding parts in both views of the drawings.

In the best practical embodiment of our invention of which we are cognizant, we prefer to effect connection of the slidable door 1 to angularly-disposed portions 2 at the lower ends of spaced hanger straps 3 through the medium of adjustable bolts 4. We would have it clearly understood, however, that the door may be connected with the hanger straps in any other approved manner without involving departure from the scope of our claimed invention.

The hanger straps 3 are connected in suitable manner as by screws 5 to the member 6 that moves at all times with the door 1, and it will also be noted here that the hanger straps are hooked or disposed above the member 6, as indicated by 7 and best shown in Fig. 2, this being advantageous since it places the weight of the door directly on the top of the movable member 6 and takes such weight off the means connecting the straps 3 and the member 6.

By preference the member 6 is formed in one piece and comprises an outer body portion, an upwardly extending inner portion 8 and a downwardly extending inner portion 9, all of which portions extend throughout the length of the member.

10 is a rail, of any desired length from which the door is suspended and on which it is movable in the manner hereinafter set forth. The said rail may be supported in any manner consonant with the purpose of our invention without departure from the spirit thereof, though we prefer to form it integral with a body plate 11 that is arranged against and fixedly connected to a stationary support 12; the rail 10 and the body plate 11 being joined by a reduced portion 13 which preferably extends throughout the length of both.

Located between the opposed portions of the movable member 6 and the rail 10 is a roller separator plate 14, equipped, by preference, at its outer side with a rounded projection 15, the function of which is to reduce the contact surface between the plate 14 and the member 6, should the plate come into contact with the movable member.

Suitably connected with the separator or plate 14 (preferably by being loosely mounted on spindles 16 that extend laterally inward from the separator) are lower anti-friction rollers 17 and upper anti-friction rollers 18; the rollers 17 being interposed between the movable-member portion 8 and the underside of the rail 10, and the rollers 18 being interposed between the upper movable-member portion 9 and the upper side of the rail 10. By virtue of this latter relative arrangement it will be manifest that all of the weight of the door is placed directly on the upper rollers 18 and through the same alone on the fixed rail 10, and that in consequence no weight or strain is placed on the connections between the upper rollers 16 and the separator 15.

By reference to Fig. 2 it will be observed that the fixed rail 10 is made convex at its upper and lower sides on a radius equal to one-half its depth, and that the movable-member portions 8 and 9 and the anti-friction rollers 17 are curved in the direction of the thickness of the hanger conformably to the convex sides of the rail 10. This is materially advantageous, inasmuch as it renders the hanger self-alining—*i. e.*, the movable member portions 8 and 9 and the rollers 17 and 18 can swing on the said convex sides to adjust themselves to the hanging of the door, and hence the hanger does not have to be "lined up" accurately when it is put in place in order to assure its

working evenly and smoothly. The importance of this feature will be better appreciated when it is borne in mind that practically all of the high-class door hangers extant have to be carefully hung and adjusted. The hanger is also materially advantageous because of its simplicity, the small amount of friction that attends its use, and the adaptability of the movable member and the fixed rail to be formed by cold rolled or drawn sections. From this it follows that the manufacturing cost of the hanger will be very low; the operations necessary to the production of the fixed rail and the movable member consisting merely in cutting off sections of the desired length and drilling the same. It will also be noted here that but little work is necessary on the roller separator or spacer 14, and that on the hanger as a whole there is no extensive machine work.

Having described our invention, what we claim and desire to secure by Letters-Patent, is:

1. The herein described door hanger, comprising a body plate, a fixed rail integral with said body plate and joined thereto by a reduced portion and having upper and lower convex sides that describe arcs of the same circle, anti-friction rollers disposed against the upper and lower sides of said rail and concaved in the direction of their length conformably to said sides, a separator connected with said rollers and having a rounded projection on its outer side, a movable member arranged opposite the outer side of said separator and contacting with the said rounded projection thereof and having an inwardly and downwardly directed portion bearing directly on the upper roller and convexly and transversely curved conformably thereto, and also having an inwardly and upwardly directed portion bearing against the lower roller and convexly and transversely curved conformably thereto, and a hanger strap connected with the outer side of and depending from the movable member and having a hook-shaped portion that extends above the upper side of the movable member and beyond the vertical center thereof and bears on said movable member.

2. A door hanger comprising a body plate, a fixed rail integral with said body plate and joined thereto by a reduced portion and having upper and lower convex sides that describe arcs of the same circle, anti-friction rollers disposed against the upper and lower sides of said rail and concaved in the direction of their length conformably to said sides, a separator connected with said rollers, a movable member arranged opposite the outer side of said separator and having an inwardly and downwardly directed portion bearing directly on the upper roller and convexly and transversely curved conformably thereto, and also having an inwardly and upwardly directed portion bearing against the lower roller and convexly and transversely curved conformably thereto, and a hanger strap connected with the outer side of and depending from the movable member and having a hook-shaped portion that extends above the upper side of the movable member and beyond the vertical center thereof and bears on said movable member.

3. A door hanger comprising a suitably supported and fixed rail having upper and lower convex sides that describe arcs of the same circle, anti-friction rollers disposed against the upper and lower sides of said rail and concaved in the direction of their length conformably to said sides, a separator connected with said rollers, a movable member arranged opposite the outer side of said separator and having an inwardly and downwardly directed portion bearing directly on the upper roller and convexly and transversely curved conformably thereto, and also having an inwardly and upwardly directed portion bearing directly against the lower roller and convexly and transversely curved conformably thereto, and means for effecting connection of a door with said movable member.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

CARL TORSTEN WESTLIN.
GILBERT SAMMONS ELLITHORPE.

Witnesses:
ANTON GRONICH,
JACOB T. GOLDBERG.