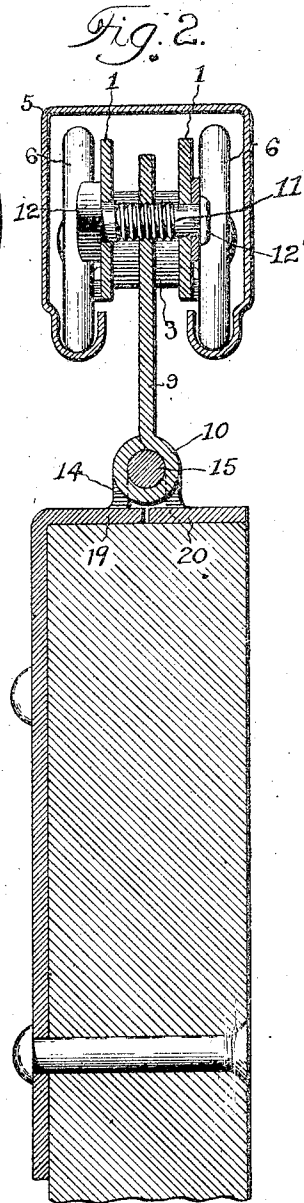
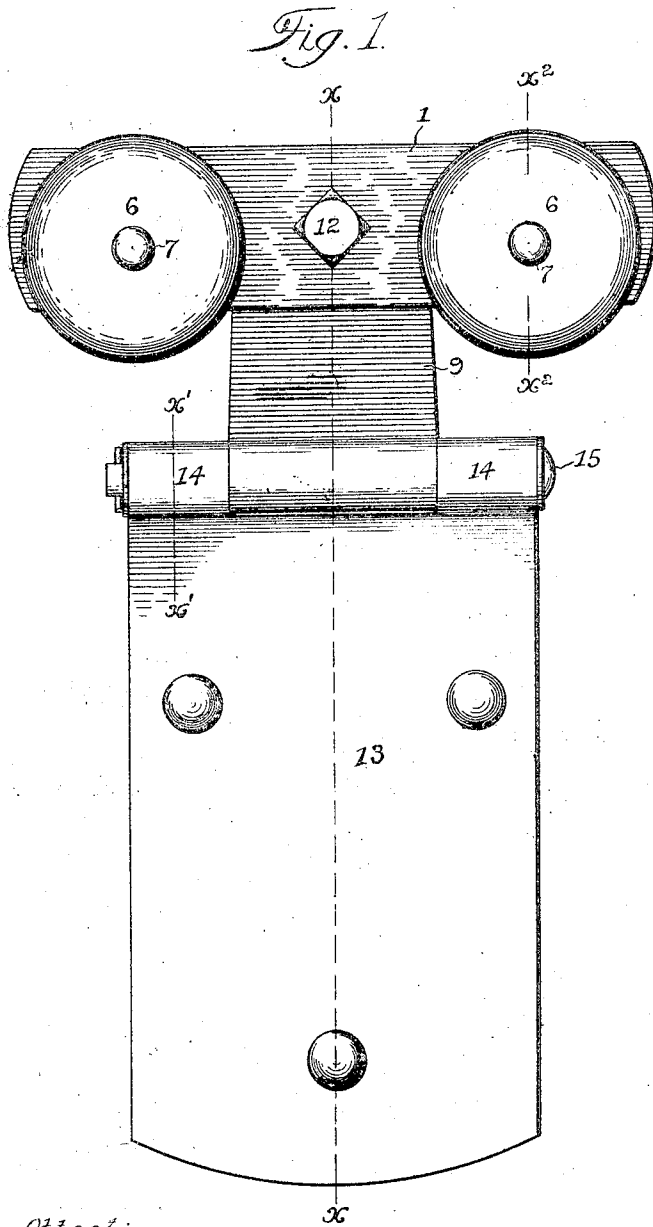


J. H. LAWRENCE.
DOOR HANGER.
APPLICATION FILED FEB. 15, 1909.

942,860.

Patented Dec. 7, 1909.
2 SHEETS—SHEET 1.



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Fig. 3.

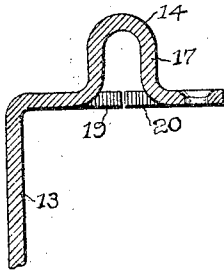


Fig. 4.

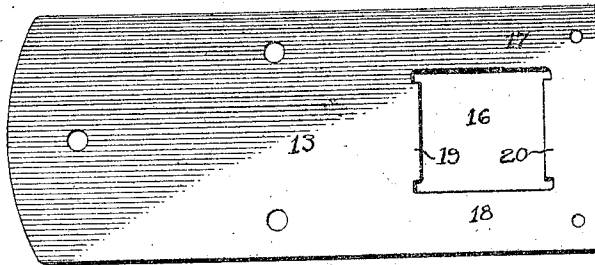


Fig. 5.

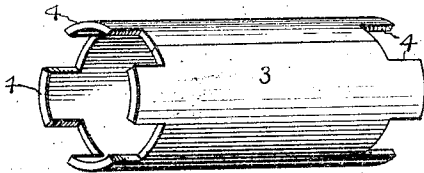


Fig. 6.

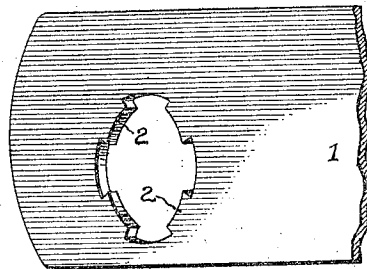


Fig. 7.

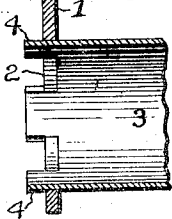


Fig. 8.

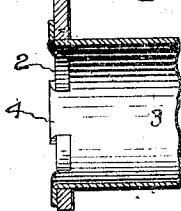


Fig. 9.

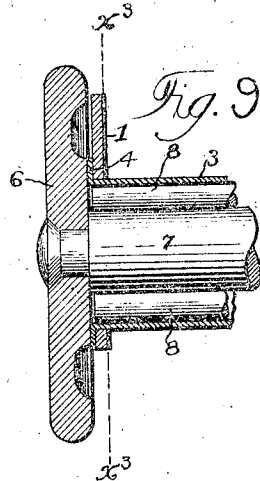
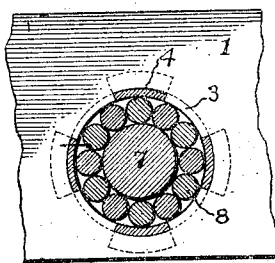


Fig. 10.



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UNITED STATES PATENT OFFICE.

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DOOR-HANGER.

942,860.

Specification of Letter's Patent.

Patented Dec. 7, 1909.

Continuation of application Serial No. 333,281, filed July 30, 1907. This application filed February 15, 1909.
Serial No. 478,052.

To all whom it may concern:

Be it known that I, JOHN H. LAWRENCE, a citizen of the United States of America, and a resident of Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Door-Hangers, of which the following is a specification.

This invention relates to that class of door hangers in which a horizontal sliding door is supported by a carriage moving in a hollow overhead track having a longitudinal opening in its underside for the passage of the pendent strap which connects the door to the hanger carriage. And the present improvement has for its object to provide a simple and efficient structural formation and combination of parts adapted to afford, a simple and economical roller bearing for the axes of the hanger wheels; all as will hereinafter more fully appear.

In the accompanying drawings:—Figure 1 is a front elevation. Fig. 2 is a transverse section on line $x-x$ Fig. 1. Fig. 3 is a detail transverse section of the angle bracket on line $x'-x'$ Fig. 1. Fig. 4 is a plan view of the blank from which the angle bracket is formed. Fig. 5, is a detail perspective view of the sleeve which incloses the bearing rollers and ties the side plates of the carriage in separated relation. Fig. 6, is a detail perspective view of an end of one of the carriage side plates. Fig. 7, is a detail transverse section, illustrating a sleeve and side plate initially assembled. Fig. 8, is a similar view, with the prongs or teeth of the sleeve upset against the outer face of the side plate to permanently secure the parts together. Fig. 9, is a detail transverse section on line x^2-x^2 Fig. 1. Fig. 10, is a detail longitudinal section on line x^3-x^3 Fig. 7.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents a pair of elongated plates secured together in separated relation by the connecting sleeves hereinafter described to constitute the frame or body of the hanger carriage, and to such end said plates are formed with toothed orifices at each end, the teeth 2 of which are adapted for interlocking connection with the correspondingly formed ends of the connecting sleeves above referred to, and now to be described.

3, represents connecting sleeves, preferably formed of a piece of plate metal bent into a cylindrical shape and having its ends formed into a series of longitudinally extending teeth 4 of some length and adapted to be inserted in the respective orifices of the side plates aforesaid and between the teeth 2 thereof as shown, after which the outer ends of said teeth 4, are set up against the outer face of a side plate 1 to permanently secure the parts together and at the same time constitute an end bearing hub for an adjacent track wheel as shown. With the described construction the bottom of the recesses between the sleeve teeth 4 abut against the inner faces of the plate detents 2, to hold the frame plates 1 in proper separated relation. With the foregoing sleeve construction it is intended that the seam in each sleeve, formed by the meeting edges of the plate from which the sleeve is formed, be arranged at the bottom part of the sleeve so as not to interfere with the proper action of the bearing rollers hereinafter described.

5, represents a hollow track of any usual and suitable form, but preferably of the construction shown in Fig. 2, and which is fully set forth in my Letters Patent No. 868,932, dated October 22nd, 1907.

6, represents pairs of opposed track wheels connected together by axles 7, arranged axially in the bores of the sleeves 3 aforesaid, and maintained in such axial condition by the series of bearing rollers 8, as shown. Endwise movement of the wheels and axles is prevented by an abutment of the inner faces of the wheels against the end bearing hubs formed on the frame plates 1 by the upset teeth 4, above described.

9, represents a centrally arranged depending hanger strap formed at its lower end with a longitudinal pivot eye 10, and at its upper end with a transverse screw-threaded orifice for the reception of a transverse adjusting bolt 11, journaled in the frame plates and held against longitudinal movement by means of an operating head 12, at one end, and a bearing washer 12' at the other end. The central or body portion of such bolt is screw-threaded for engagement with the screw-threaded orifice of the hanger strap 9, so that by a rotation of such bolt in the proper direction a corresponding lateral ad-

justment will be imparted to the hanger strap with relation to the track and the carriage of the track wheels.

13, represents an angle bracket formed of plate metal, secured to the upper end of the door, and formed with a pair of longitudinal pivot eyes 14 on its upper horizontal member. Between such pivot eyes 14, the pivot eye 10 of the hanger strap is arranged to receive the pivot pin 15 by which the parts are pivotally connected together. In the present improvement the pivot eyes 14 are formed integrally in the angle bracket 13, by punching out an orifice 16 of the elongated I form shown in Fig. 4, from the blank, and then bending the marginal upper and lower parts 17 and 18 into open bottom loops as shown in Fig. 3 to constitute the pivot eyes 14 aforesaid. As so formed the tongues 19 and 20 at the sides of the orifice 16, are brought together to form a bottom stop or bearing which holds the pivot pin 15 in place within said pivot eyes 14.

25 Having thus fully described my said invention what I claim as new and desire to secure by Letters Patent, is:—

1. In a carriage for door hangers, the combination of a pair of frame plates in sepa-

rated relation and formed with toothed orifices, and a connecting sleeve having its ends formed with teeth to fit the toothed orifices aforesaid and flared outwardly against the faces of the plates to form bearing rims upon said faces, substantially as set forth.

2. A door hanger comprising in its construction, a wheeled carriage, a depending hanger strap attached at its upper end to said carriage and formed with a longitudinal pivot eye at its lower end, in combination with an angle bracket adapted for attachment to the top of the door and formed with pivot eyes, a pivot pin passing through said pivot eyes to connect the depending strap and angle bracket together in a pivotal manner, the pivot eyes of the angle bracket being formed by integral end loops and intermediate horizontal tongues projecting underneath the pivot eye of the hanger strap to form a top therefor, substantially as set forth.

Signed at Sterling, Illinois, this 10th day of Feby. 1909.

JOHN H. LAWRENCE.

Witnesses:

S. G. CRAWFORD,
JOHN ROYER.