

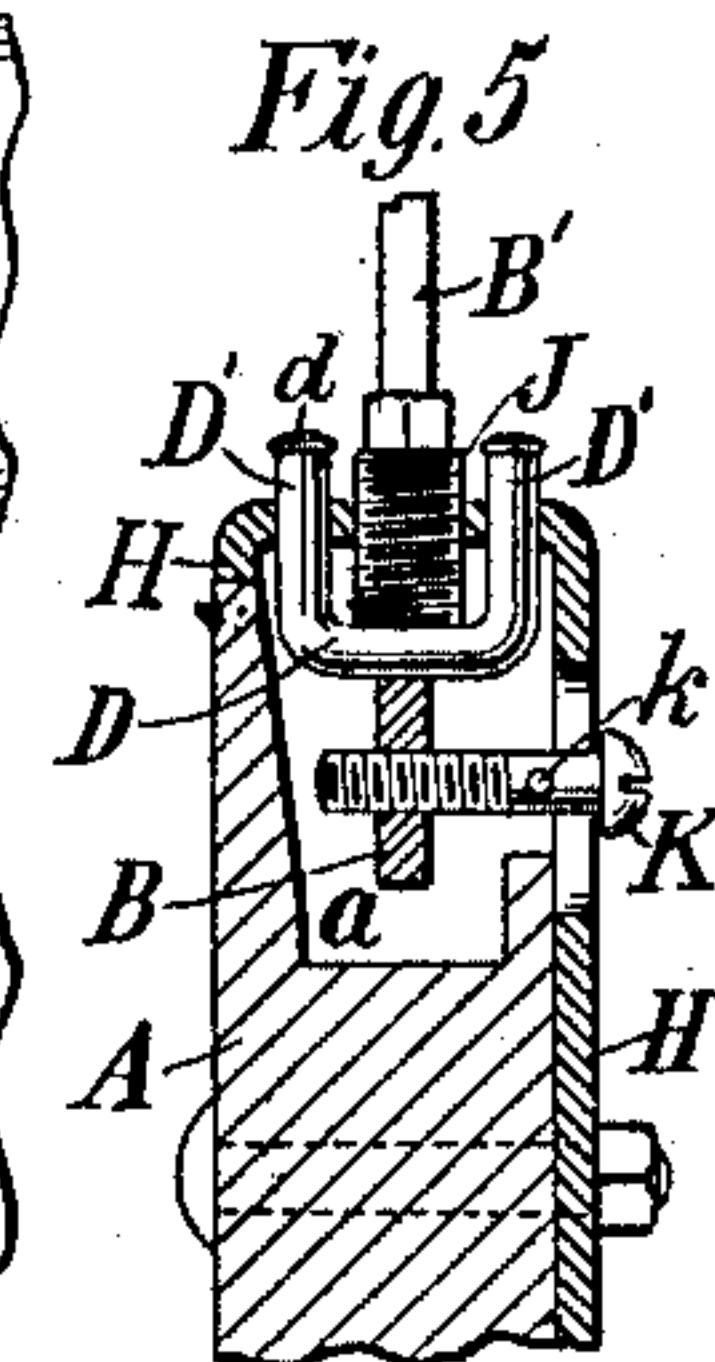
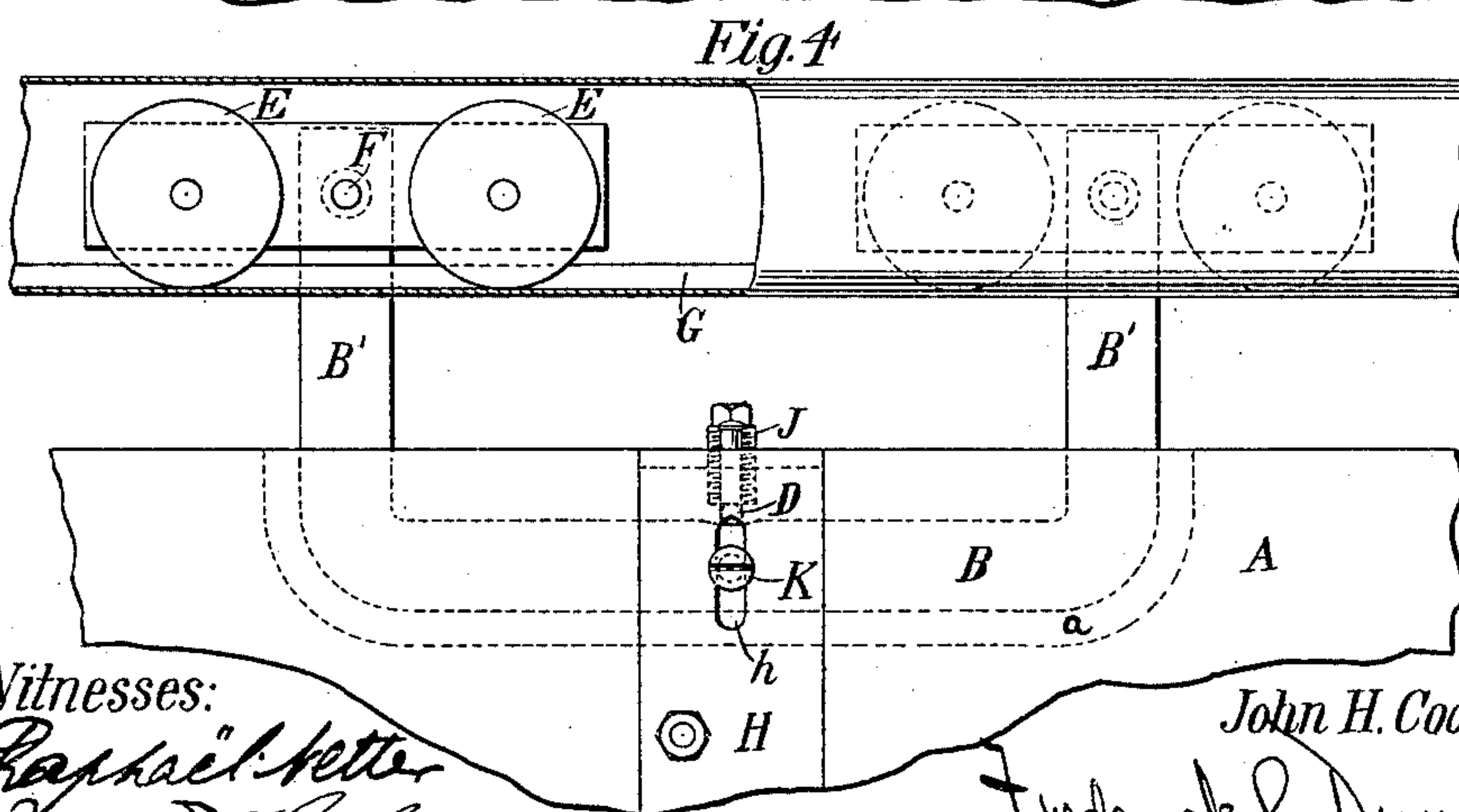
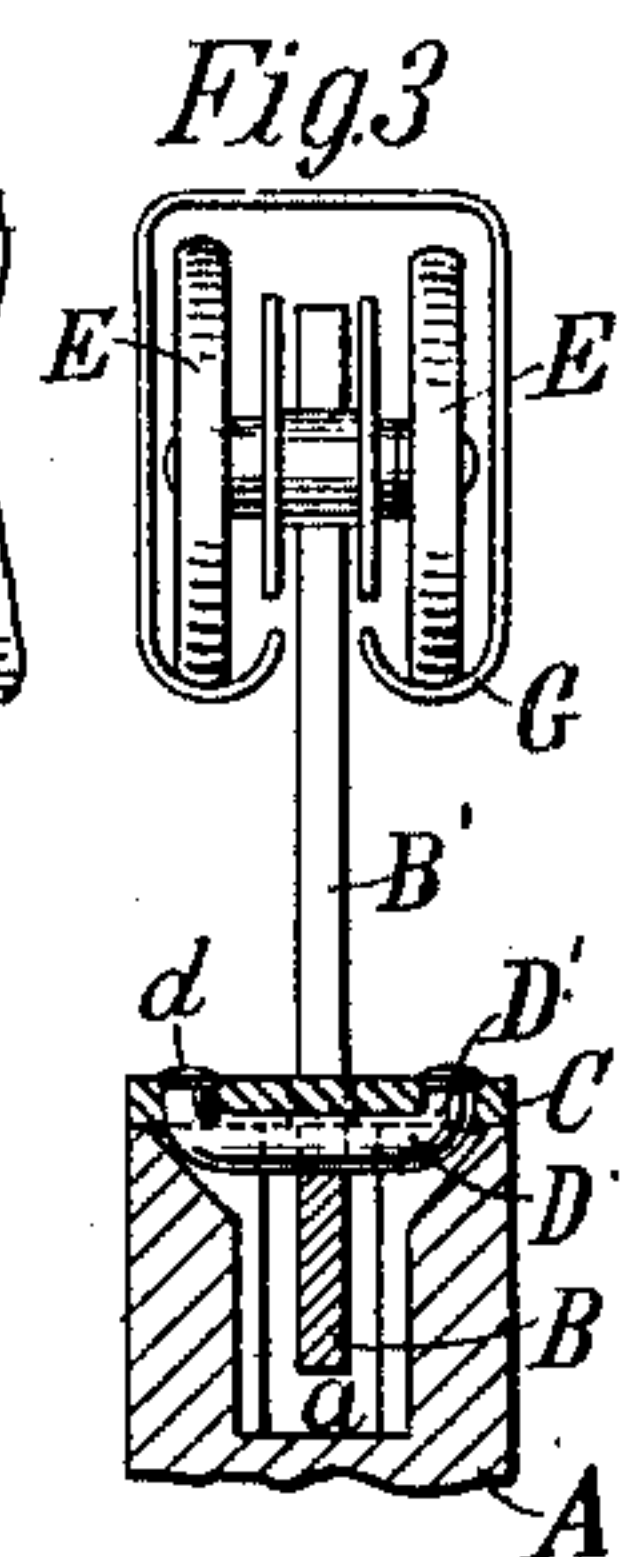
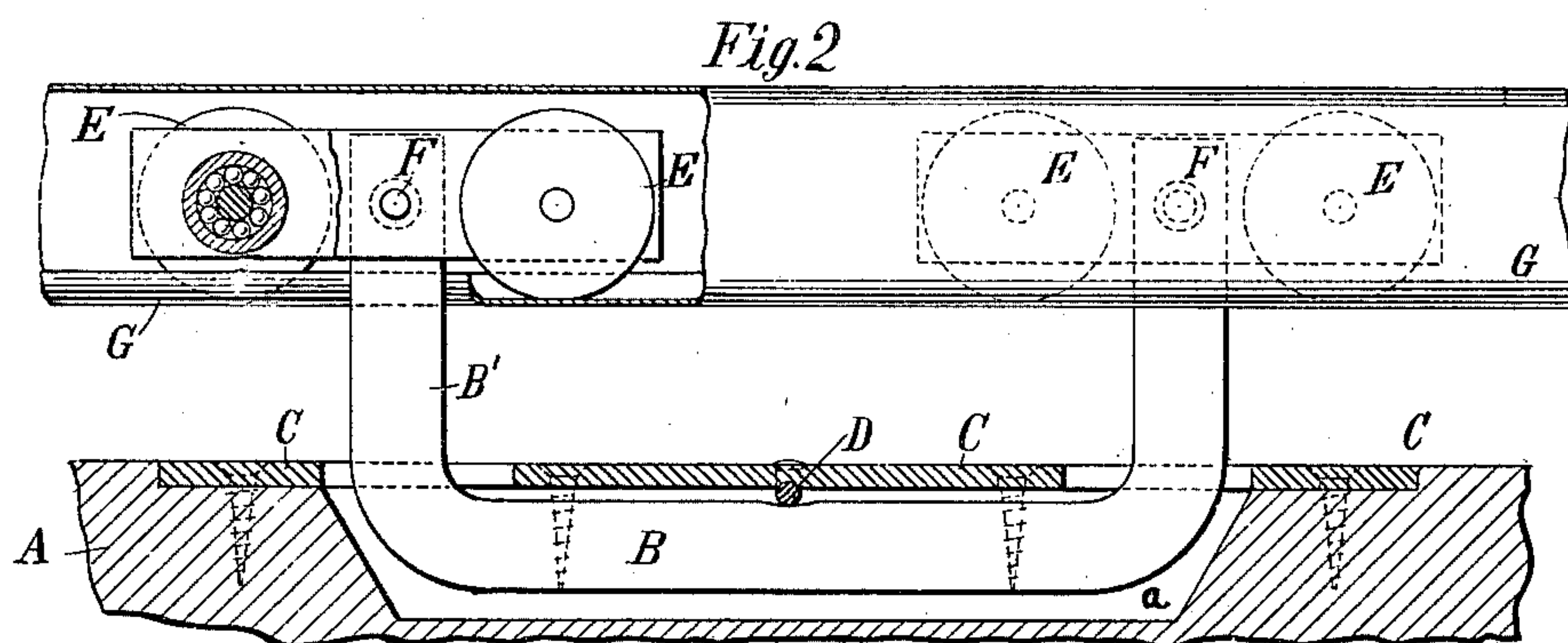
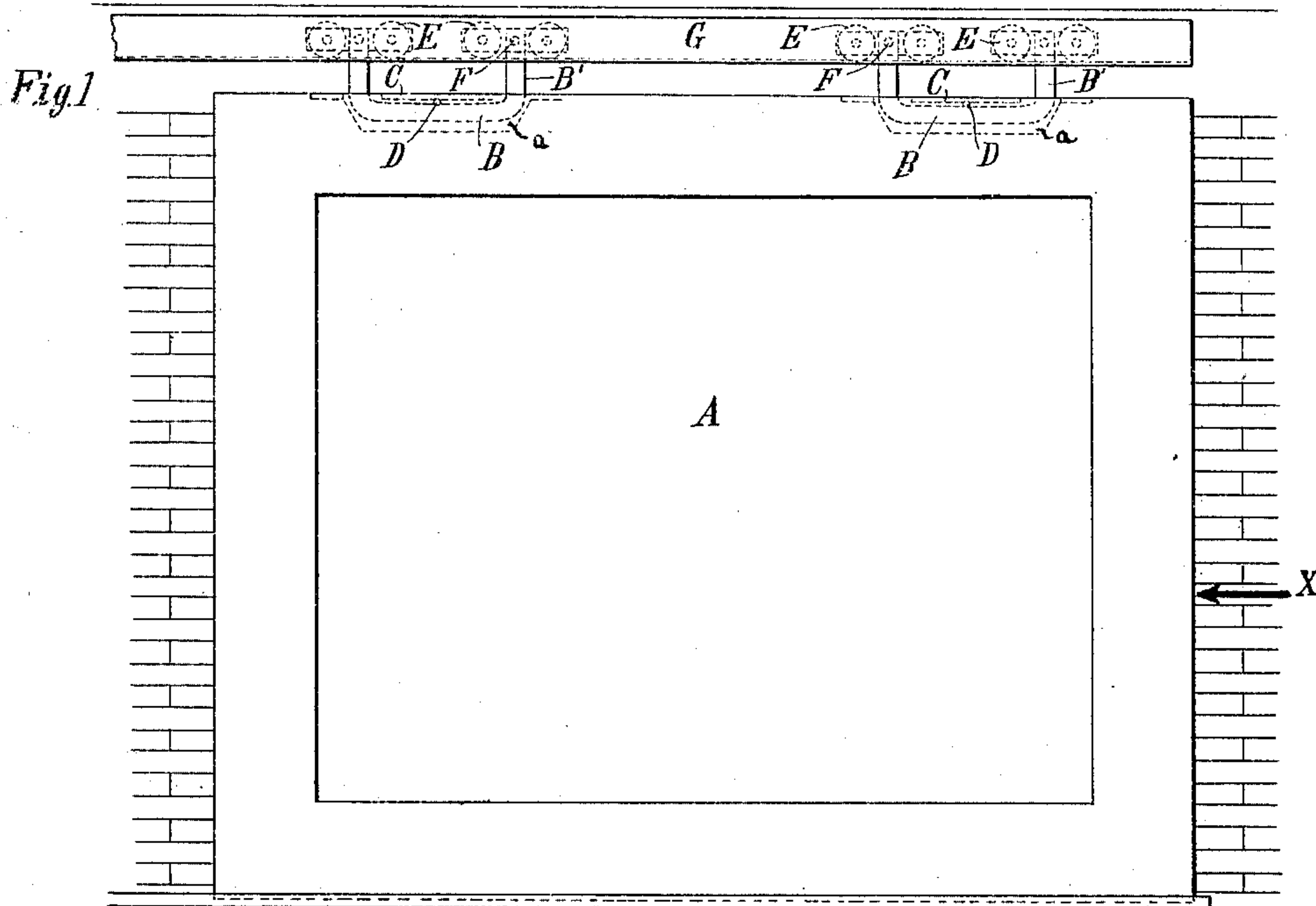
No. 692,241.

Patented Feb. 4, 1902.

J. H. COOK.  
DOOR HANGER.

(Application filed Oct. 23, 1900.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 692,241, dated February 4, 1902.

Application filed October 23, 1900. Serial No. 34,016. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. COOK, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the  
5 county of Kings and State of New York, have invented new and useful Improvements in Door-Hangers, of which the following is a full, clear, and exact description, reference being had to the drawings accompanying and forming a part of the same.

My invention relates to means for suspending a door or similar object from a track, rail, or the like; and its object is to provide means whereby the inertia of the door may be more  
15 quickly and easily overcome than at present, the weight of the door may be equally distributed over the track in spite of irregularities therein, and the easy continuous movement of the door may be effectively accomplished.

My invention consists in the novel construction and combination of parts, as hereinafter described, and defined in the claims.

Reference is to be had to the accompanying  
25 drawings, forming part of this specification, in which similar characters of reference indicate corresponding parts in all figures.

Figure 1 is a view in side elevation of a door suspended from its track by my improved  
30 hangers. Fig. 2 is an enlarged detail, in side elevation, of one hanger. Fig. 3 is an end view of the hanger and its attachment to the door, shown partly in cross-section. Fig. 4 is a view in side elevation of a modified form of one  
35 of my hangers. Fig. 5 is an end view, partly in cross-section, illustrating the modification shown in Fig. 4.

The drawings illustrate what now seem to me to be the preferable forms in which my invention may be embodied.

A represents a door or gate, which is suspended by a series of trolleys E upon the overhead track G.

B is a hanger, of iron or other suitable material, having upwardly-extending arms B',  
45 to the upper ends of which are fastened the trolleys E E. The body of the hanger B fits into a groove *a*, cut in the top of the door A. A plate C is fastened to the top of the door,

covering this groove. The arms B' of the  
50 hanger extend up through openings in the rocker-plate C. Between the upper surface of the hanger B and the lower surface of the plate C is interposed a rocker D, which is here shown as composed of a rounded wire,  
55 having upwardly-extending arms D', which pass through suitable openings in plate C and, if desired, are provided with caps *d* at the end of the arms D'. This rocker engages a seat in the hanger-bar. The entire weight  
60 of the door thus falls, primarily, through the plate C upon the rocker D and is ultimately carried through the hanger B by the trolleys E E, which bear upon the track G. The trolleys E may be constructed in any suitable  
65 way to bear upon the track; but the form I prefer is that illustrated in the drawings, in which each trolley consists of two double wheels connected by a bar. Each upwardly-extending arm of the hanger is attached, preferably pivotally, as shown at F, to the connecting-bar of the trolley.

If power be applied to one edge of the door A at a point, as X, and in the direction indicated by the arrow, the result will be that the  
75 door will take on a slight rocking motion and that the friction of the forward trolleys on the track will be very much lessened, and the inertia of the door will be overcome much more rapidly and with less expenditure of  
80 energy than with the kind of hangers now employed. Owing to the fact that the immediate point of suspension of the door lies under the plate C and that the plate is free to move up and away from the hanger B when  
85 the door is lifted, the friction on the trolleys may be relieved without lifting the trolleys from the track and incurring the danger of displacement of the trolleys therefrom. The rocking of the hanger on the rocker D permits the entire trolley system to accommodate itself when the door is in motion to any  
90 inequalities in the track, the weight being evenly distributed in spite of the unevenness of the track. The pivoting of the connecting-bar of each set of trolleys to the upwardly-projecting end of the hanger gives each trolley a freedom of motion which permits that



trolley to accommodate itself to slight inequalities in the track.

In the modified form of my device illustrated in Figs. 4 and 5 I use a side plate H instead of the plate C shown in Figs. 1, 2, and 3. The side plate H is arranged to be attached to one side of the upper part of the door to extend across the top of the door and a short way down the other side, as may be seen in Fig. 5. The plate may be attached to the door by bolts or in any other suitable manner. The hanger B is sunk in a groove in the top of the door and passes under the head of the plate H. The rocker D is arranged in connection with the plate H in the same way as heretofore described in connection with the plate C, except that in this form the upwardly-extending arms D' are generally longer. Through the head of the plate H and at a point directly over the middle of the rocker D is cut a threaded hole, through which projects a screw J, the lower end of which comes in contact with the top of the rocker D. By regulating the screw J the position of the rocker D relative to the top of the plate H may be correspondingly regulated, and the door may thus be lifted or lowered at will. Through the side of the plate H at a point opposite the hanger B is cut a slot *h*, through which projects a screw-bolt K. The inner end of the bolt K passes through a threaded hole in the hanger B. The bolt K is provided with a suitable washer *k* on the inner side of the plate H. By regulating the screw-bolt K the position of the side plate H and of the door A relative to the hanger B will be correspondingly regulated, and the lateral adjustment of the door may be thus accomplished at will.

It is evident that the adjusting devices illustrated in Figs. 4 and 5 may be applied to the form of device shown in Figs. 1, 2, and 3 and that various other modifications may be made without departing from the spirit of my invention.

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

1. A door-hanger consisting of two sets of trolleys each set consisting of two double-trolley wheels arranged to engage a track and a trolley-bar connecting the axles of said trolley-wheels, a rigid hanger-bar pivotally attached at its ends to the center portions of said trolley-bars and its middle portion extending below its end portions, said hanger-bar being formed with a seat in its central portion, a carrying-plate secured to a door and extending over the central portion of said hanger-bar, and means attached to said plate to engage the seat in said bar to form a point of suspension for said door from said hanger-bar, substantially as described.

2. A door-hanger consisting of two sets of trolleys each set comprising two double trol-

leys to engage a track, a trolley-bar connecting the bearings of both of said double trolleys said bar being midway between the trolleys of a set, a U-shaped hanger-bar pivotally connected at its ends with said trolley-bars and having a seat formed at its central portion, and a carrying-plate to be attached to a door having a rocker mounted therein to engage said seat in said hanger-bar, substantially as described.

3. A door-hanger consisting of a rigid hanger-bar the ends of which are pivotally connected to bars joining the front and rear wheels of a trolley, a carrying-plate attached to a door and extending when in position over the hanger-bar, and a rocker between said hanger-bar and said carrying-plate, substantially as described.

4. A door-hanger consisting of two sets of double trolleys connected together by a rigid hanger-bar located between the trolleys of a set, a carrying-plate arranged to be fastened at one end of a door and a rocker attached to said carrying-plate to engage said hanger so that said carrying-plate is free to move about said rocker, substantially as described.

5. A door-hanger consisting of two sets of trolleys each set consisting of two trolleys joined by a rigid trolley-bar, a rigid hanger-bar connected at its two ends to said trolley-bars and formed with a seat, and a carrying-plate having a rocker mounted thereon arranged to be attached to a door and engaging said seat in said hanger-bar so that said door may rise with respect to said hanger-bar and swing pivotally about the same, substantially as described.

6. A door-hanger consisting of two sets of trolleys each set consisting of two double-trolley wheels arranged to engage a trolley-track and a trolley-bar connecting the axles of said trolley-wheels, a rigid hanger-bar pivotally attached at its ends to the center portions of said trolley-bars and formed with a seat therein, and means arranged to be attached to a door and suspended from said seat in said hanger-bar so as to have freedom of movement about said hanger-bar, substantially as described.

7. A door-hanger consisting of two sets of trolleys arranged to engage a trolley-track, rigid means mounted midway between the trolleys of a set connecting said sets of trolleys and having a support therein, and means arranged to be attached to a door hung in said support to allow said door to move vertically with respect to said support and also to swing about said support, substantially as described.

8. A door-hanger consisting of trolleys, a hanger-bar the ends of which are connected with said trolleys, a carrying-plate attached to the door and extending over said hanger-bar, a rocker between said hanger-bar and said carrying-plate, and an adjusting-rod



bearing on the top of said rocker to vertically adjust the door relative to said hanger-bar, substantially as described.

5 9. A door-hanger consisting of trolleys, a rigid hanger-bar the ends of which are connected with said trolleys, a carrying-plate attached to the door and extending over said hanger-bar, a rocker between said hanger-bar and said carrying-plate, and a threaded

rod connected to said carrying-plate and engaging said hanger-bar to laterally adjust the door relative to said hanger-bar, substantially as described.

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Witnesses:

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