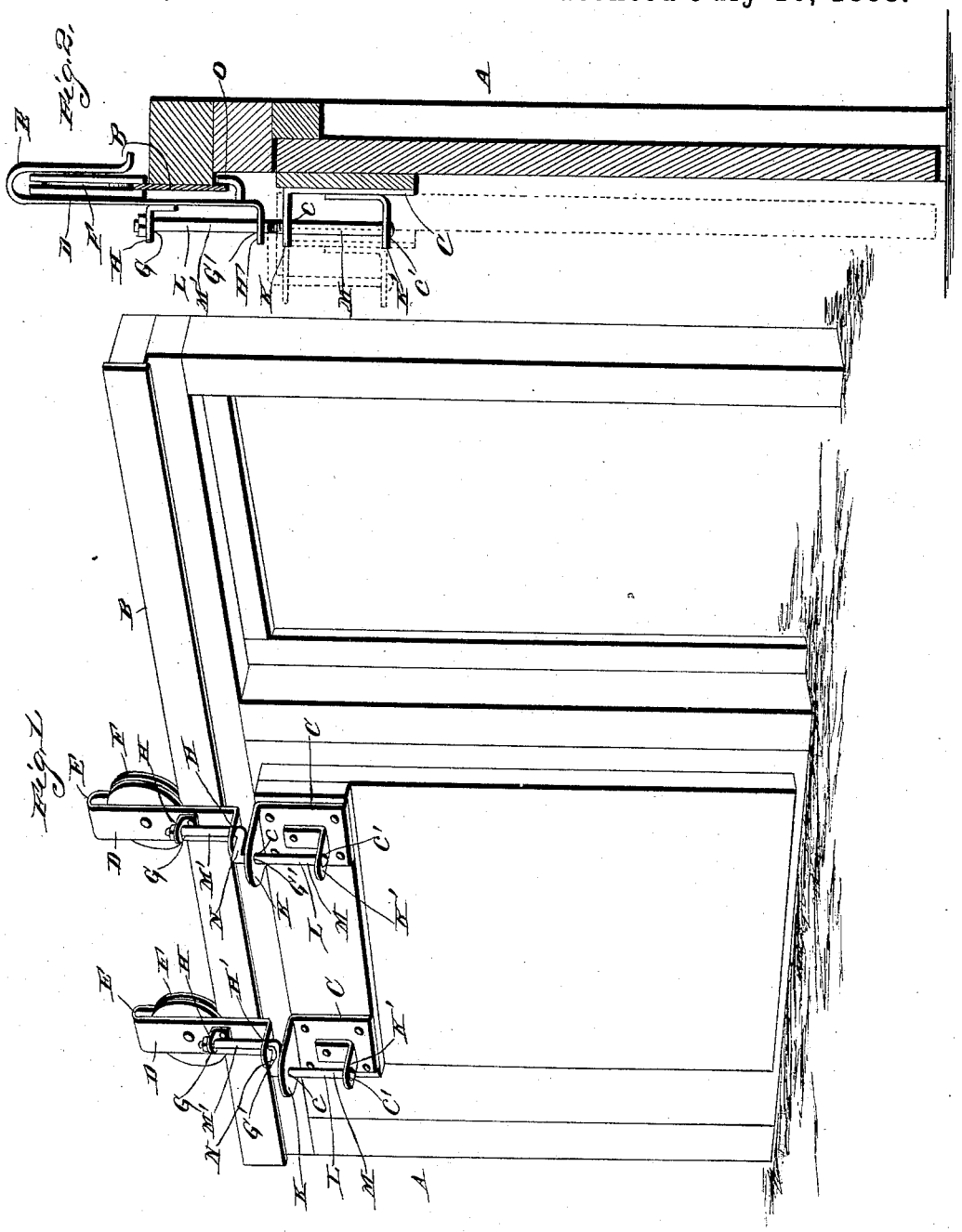
(Model.)

G. F. GRANNIS.

DOOR HANGER.

No. 385,708. Patented July 10, 1888.



Witnesses.
C. L. Taylor,
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Inventor,
George F. Grannis,
By his Attorneys.
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UNITED STATES PATENT OFFICE.

GEORGE FRANCIS GRANNIS, OF VERNON CENTRE, MINNESOTA.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 385,708, dated July 10, 1888.

Application filed January 7, 1888. Serial No. 260,061. (Model.)

To all whom it may concern:

Be it known that I, GEORGE FRANCIS GRANNIS, a citizen of the United States, residing at Vernon Centre, in the county of Blue Earth and State of Minnesota, have invented a new and useful Improvement in Door-Hangers, of which the following is a specification.

My invention relates to improvements in door-hangers; and it has for its objects to provide means whereby the door may be swung into the door-opening between the jambs in the same way as the ordinary swinging doors, thereby enabling the hanging doors to be made weather-tight, and also enable them to be secured to the jambs in a way similar to that used with swinging doors. I attain this object by a hanger which is constructed in a peculiar manner, hereinafter described in connection with the accompanying drawings, wherein—

Figure 1 is a perspective view showing a door attached to or operating on a partition. Fig. 2 is a vertical section of the same, showing in dotted lines the position of the door when it is swung out.

Referring by letter to the drawings, A designates the partition, having a door-opening therein, and B designates a track which is arranged above the door-opening and extends a considerable distance on one side thereof. This track is double, having an upper and a lower edge, the functions of which will be explained.

C C designate brackets which are secured to the door at its upper edge, and they are provided with upper and lower bearings, *c* and *c'*, respectively.

D D designate carriers, the upper ends of which are provided with yokes E E, in which are mounted the grooved sheaves F F, which run on the upper edge of the above-mentioned track. The front sides of the carriers are provided with vertically-aligned bearings G and G'. The lower bearings, G', are formed in ears H', which are made integral with the lower ends of the carriers, and the upper bearings are formed in ears H, which are secured to the carriers above the ears H'. The bearings *c c* are formed in integral ears K K, and the bearings *c' c'* are formed in ears K' K', attached to the brackets below the ears K. It will be understood that these brackets and carriers may be cast, and in that case the ears and their bearings will be integral therewith.

L L represent crank-rods, the upper and lower arms, M' and M, of which are mounted, respectively, in the bearings on the carrier and on the brackets. The offsets N of the crank-rods are between the upper and lower arms thereof, and are therefore arranged between the upper bearing of the bracket and the lower bearing of the carrier. The ends of the arms M are provided with nuts, which secure them in place.

The inner sides of the carriers are provided with upward-extending hooks O O, which engage the lower edge of the track and prevent the door from being inclined outward toward its lower edge, and also prevent the grooved sheaves F F from being raised from the track.

The operation of my hanger is as follows: When the door is in the position shown in Fig. 2 and it is desired to open the same, swing it out of the door-opening by turning the crank-rods—that is, draw the door outward—and the crank-rods will turn in their bearings, and the offsets will allow the door to swing bodily outward from the partition far enough to allow it to be moved laterally out of alignment with the door-opening. This latter position is shown clearly in dotted lines in Fig. 2. To shut the door, the operation is obviously reversed.

This device is simple, and it enables a door of this character to be closed tightly into its opening against the jamb, and thus exclude cold air, &c. In the ordinary practice the doors are merely capable of a sliding motion, and to close them they are moved in front of their openings, and therefore large cracks appear between the edges of the door and the jamb.

The improved rods herein described for connecting the door to the partition may be mounted upon any suitable castings, brackets, carriers, &c., their applicability not being restricted to the brackets and carriers herein described.

Having thus described my invention, I claim—

1. In a door-hanger, the combination, with a track, of the carrier to operate on the track, the bracket secured to the door, and the crank-

rod mounted in bearings on the said carrier and bracket, substantially as specified.

2. In a door-hanger, the combination of the carrier having the yoke at its upper end and the bearings G G′ on its outer side, the sheave mounted in the said yoke and running on a suitable track, the bracket adapted to be secured to the door and having bearings on its outer side, and the crank-rod having an offset at its center, the upper and lower arms thereof being mounted in the bearings on the carrier and the bracket and provided at their ends with nuts, substantially as and for the purpose specified.

3. In a door-hanger, the combination, with the track having an upper and lower edge, of the carrier having a sheave operating on the upper edge of the track and the hook engaging the lower edge, the bracket secured to the door, and the crank-rod mounted in the bracket and the carrier, substantially as and for the purpose hereinbefore specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE FRANCIS GRANNIS.

Witnesses:
J. L. WASHBURN,
CHAS. JOHNSON.