

(No Model.)

C. E. WOODS.
DOOR HANGER.

No. 465,307.

Patented Dec. 15, 1891.

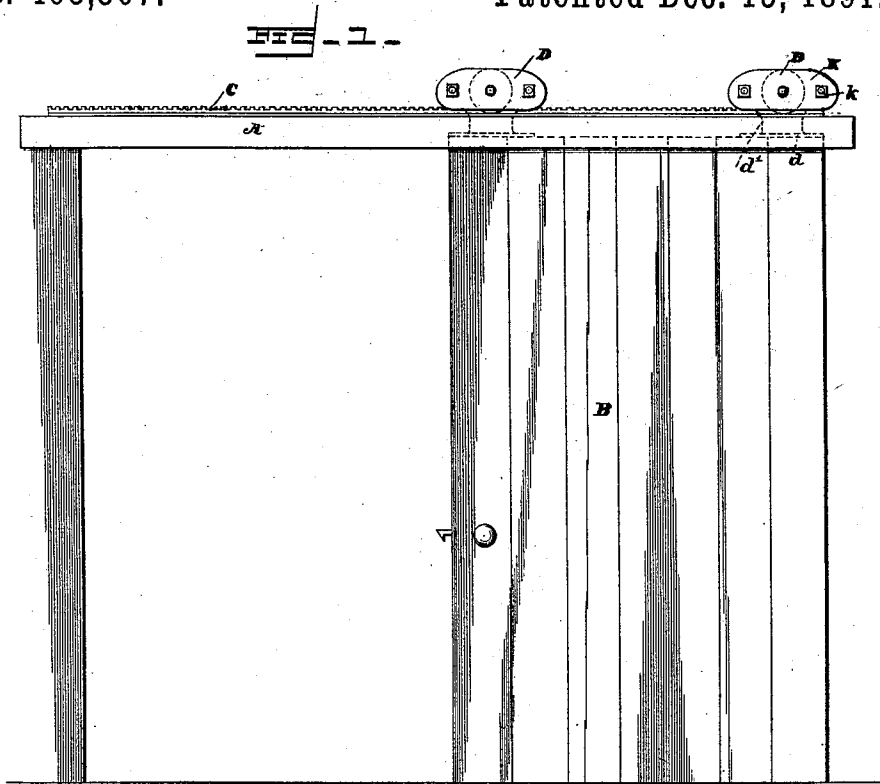


FIG. 3 -

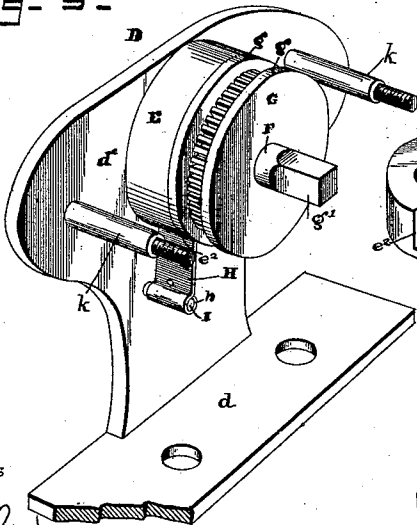


FIG. 5 -

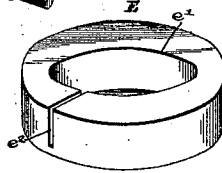
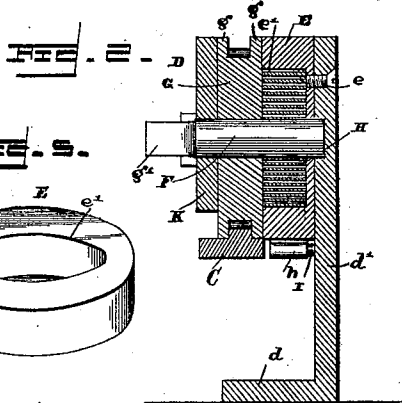
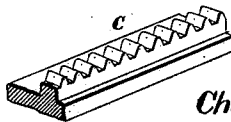


FIG. 4 -



Witnesses

E. S. Duvall Jr. By his Attorneys,
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UNITED STATES PATENT OFFICE.

CHARLES E. WOODS, OF CHATTANOOGA, TENNESSEE.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 465,307, dated December 15, 1891.

Application filed April 29, 1891. Serial No. 390,914. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. WOODS, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and useful Door-Hanger, of which the following is a specification.

My invention relates to an improvement in door-hangers, and has for its object to provide a hanger for sliding doors that will securely and efficiently support the door and that will at the same time automatically return the door to its normal closed position after it has been opened, or which, on the other hand, will open the door when released from its catch, as may be desired, being especially adapted for use on such doors as elevator-doors and the like; and it consists of a spring-actuated door-hanger working on a cog-track constructed and operated in a novel manner hereinafter specified, illustrated in the drawings, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a sliding door and frame provided with my invention. Fig. 2 is a transverse vertical section of the hanger detached from the door. Fig. 3 is a detail in perspective of the same with the detachable retaining-plate removed. Fig. 4 is a similar view of the section of the track. Fig. 5 is a detail in perspective of the spring-casing.

Referring to the accompanying drawings by letter, A represents a suitable frame in which the sliding door B may work, and is provided on top with a cog-track C, upon which the door-supporting hanger and operator D is designed to work. The said track of course may be concealed from view by a suitable casing, so that the hanger and operator will not be exposed during operation, as is customary in hanging doors of this character. The hanger D is made of a suitable casting and is provided with a perforated flange *d*, that is adapted to be secured to the top of the door by suitable securing means engaging the perforations in said flange. Extending up from said flange is the main casting of the hanger *d'*, which comprises the hanger-arm and back plate, and upon the upper portion of which is secured by means of screws *e* the boxing or casing E, provided with the circular spring

receiving and holding recess *e'*, and also with the diagonal slot *e*².

Rigidly mounted upon a shaft F is a solid cog-wheel G, the cogs of which are inclosed between the surrounding flanges *g g*, thus forming a groove, the base of which is provided with cogs that are adapted to engage the cogs on the door-track and be held into engagement therewith and prevented from displacement by means of the flanges which form the groove, traveling on either side of the cogs on said track, thereby giving, as can be readily seen, a firm and steady connection between the hanger and its track. Securely attached to said shaft and immediately to one side of the cog-wheel mounted thereon is an operating-spring H, which is wound around the shaft sufficiently tight to obtain the requisite tension and is adapted to be seated in and increased by the recessed boxing or casing E, previously referred to, the end of said spring passing through the diagonal slot in said casing and the looped end *h* of the same being designed to be placed over the pin I, projecting from the back plate of the hanger, thus holding the free end of the spring and allowing the same to unwind when wound up by the sliding of the door, and to operate the same when released either from the hand when opened manually, or vice versa when released from its lock as previously described. The said shaft passes through the boxing or casing and is journaled therein and in the back plate of the hanger, and also passes through and is journaled in a detachable plate K, that holds the said shaft, cog-wheel, and spring in position by means of the bolts *k*, which fasten the same to the back plate of the hanger, the terminal of the shaft, journaled in said detachable plate, being provided with a squared end *g'*, upon which is designed to be placed a crank or wrench for increasing or diminishing the tension of the spring, as found necessary.

It is thought the operation of my invention can readily be seen from the foregoing description. The casing, which serves the double function of a hanger and an operator, is operated upon by the sliding of the door and controls the movement of the same in either direction, as desired. The flanges in-

closing the cogs on the operating-wheel being adapted to bear and roll upon the smooth portion of the track on either side of the cog-teeth, therefore bear the whole weight of the door and allow the same to be readily actuated by the tension of the spring, while the meshing cogs insure the movement as described.

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

1. In a door-hanger, a casing or boxing having an open recess, a solid revolving wheel mounted adjacent to said casing and entirely inclosing the recess therein and forming a cap therefor, and a spring located within said inclosed recess and connected with said wheel, substantially as set forth.

2. In a door-hanger, the combination, with

a sliding door, of a track having an elevated rack or cog-bar, a casing having a central circular recess, a revolving grooved wheel mounted adjacent to and inclosing said recess in the casing, said wheel having the opposite parallel flanges adapted to run on the smooth portion of the track on either side of said elevated rack, and a cogged bearing-face or valley between said flanges adapted to engage the rack or cog-bar, and a spring located within said recess and connected with said wheel, substantially as set forth.

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

CHARLES E. WOODS.

Witnesses:

THOMAS McDERMOTT,
JOHN M. HOLMES.