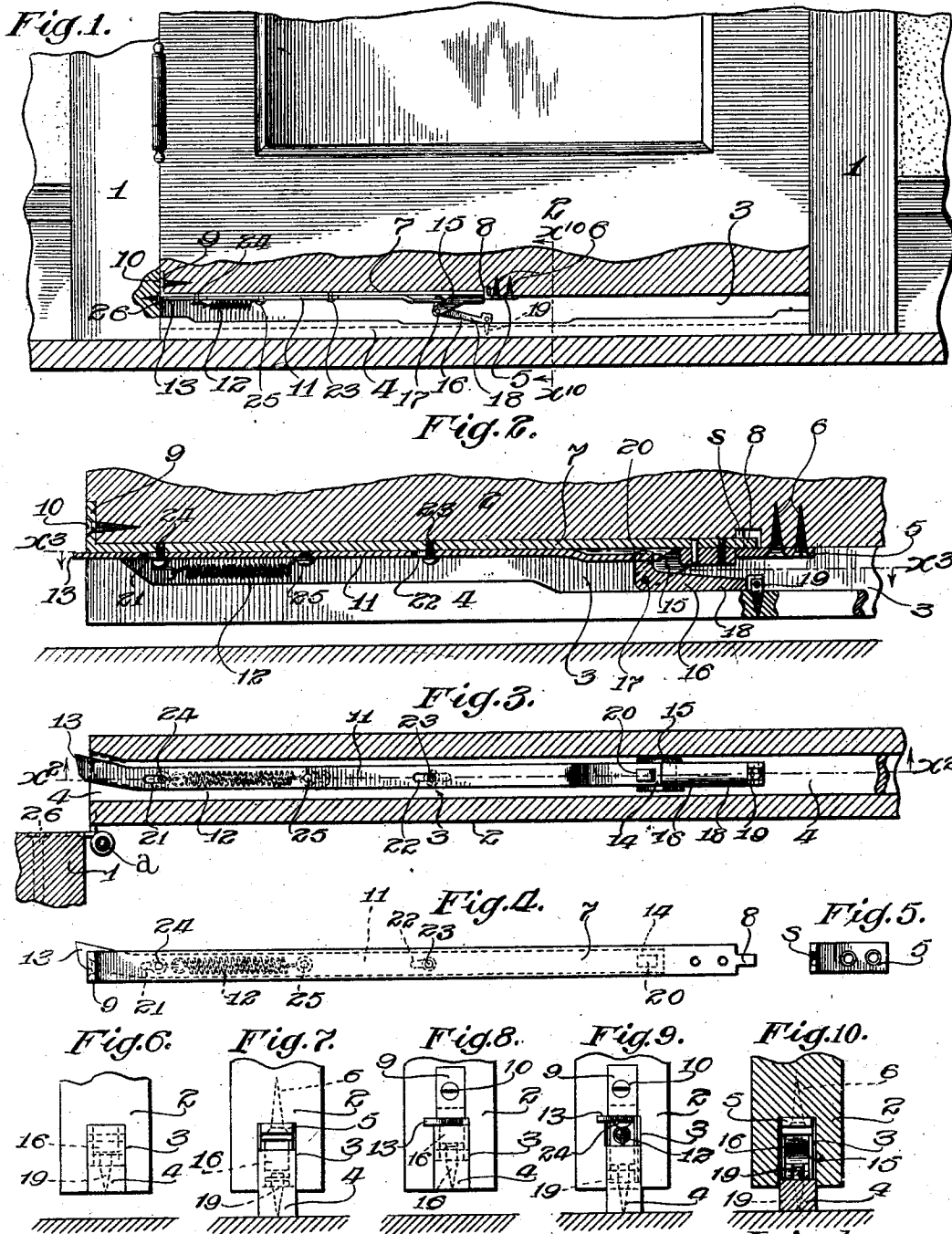


K. W. GALE.
DOOR CLOSURE.

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938,048.

Patented Oct. 26, 1909.



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UNITED STATES PATENT OFFICE.

KNIGHT W. GALE, OF LOS ANGELES, CALIFORNIA.

DOOR-CLOSURE.

938,048.

Specification of Letters Patent.

Patented Oct. 26, 1909.

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To all whom it may concern:

Be it known that I, KNIGHT W. GALE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Door-Closures, of which the following is a specification.

An object of this invention is to provide simple, inexpensive and readily-applied means whereby a door may be so constructed that when the door is closed it entirely closes the doorway, and immediately upon the opening movement of the door clearance is given whereby the door may swing over thick rugs upon the floor without interference.

The accompanying drawings illustrate the invention.

Figure 1 is a fragmental elevation showing a door-closure embodying this invention as the same appears when the door is closed. Portions are broken away to expose parts that would otherwise be hidden. Fig. 2 is an enlarged sectional detail showing the position of parts when the door is open. Fig. 3 is a plan section on line x^3 , Fig. 2, parts being broken away to expose features of construction. Dotted lines indicate position of parts when the door is closed. Fig. 4 is a plan of the bracket-bar. Dotted lines indicate parts below the same. Fig. 5 is a plan of the bracket detached. Fig. 6 is a fragmental view of the free edge of the door open. Fig. 7 is a like view of the free edge of the door closed. Fig. 8 is a fragmental view of the hinged edge of the door open. Fig. 9 is a fragmental view of the hinged edge of the door closed. Fig. 10 is a section on line x^{10} , Fig. 1.

1 designates a door-frame of usual construction.

2 designates a door hinged to the frame in the usual manner.

3 designates a groove in the bottom of the door. 4 is a strip in said groove, the ends of the same being approximately of the same dimensions as the groove so as to be adapted to snugly fit in and close the groove at the edges of the door. The intermediate portion of the strip is cut away to receive the operating mechanism.

5 designates a bracket in the groove secured to the door by screws 6 and adapted to form a socket or seat to hold a bracket-bar 7 that is fitted at one end 8 to engage in the seat s of the bracket 5 and to be supported

thereby, and provided at the other end with a perforated arm 9 let into the edge of the door and fastened thereto by suitable fastening means as a screw 10.

11 designates a slide attached to and longitudinally movable on the under side of the bracket-bar 7.

12 is a spring connected with the slide to normally project one end 13 of the slide outward beyond the arm 9 and the hinged edge of the door. Said end 13 is deflected away from the axis a upon which the door is hinged. The inner end of the slide is provided with a head 14.

15 designates a hanger projecting downwardly from the bracket-bar 7 to support a bell-crank-lever 16 that is pivoted thereto and that has one arm in operative engagement with the head 14 of the slide so that the longitudinal movement of the slide will rock the lever on its pivot 17. The longer arm 18 of the lever is pivoted to a screw-threaded post 19 which is screwed into the strip 4 at the middle thereof.

When the door is open, the spring 12 draws the slide toward the hinged edge of the door, thus to raise the longer arm of the lever, thereby to draw the strip up into the door. This also causes the deflected end of the slide to project toward the door-jamb 1. As the door is closed the final movement thereof brings the projected end of the slide against the door-jamb, thereby forcing the slide into the door and forcing downward the long end of the lever whereby the strip is forced down into contact with the floor or floor-covering, from whence it will be withdrawn by the force of the spring 12 when the door opens. By reason of the deflection or bend at the end of the slide the same engages the door-jamb in an effective manner to quickly force down the strip whenever the door is fully closed. The parts may be so constructed and proportioned that as the door is opened the slide becomes released and the strip fully retracted into the door before the free edge of the door is swung free from the door-frame, thus allowing thick rugs to be brought close to the closed door without liability of interfering with the movements of the door.

The slide may be connected with the lever by any suitable contrivance. In the drawings the slide is shown provided in its head 14 with a seat in the form of a hole 20 through which the short arm of the lever

projects, and by which it is actuated. The slide is also provided with slots 21, 22, one for a fastening screw 23 that is passed there-through and screwed into the bracket-bar 7, and the other for a stud 24 fastened to the bracket-bar and extending through such other slot to hold one end of the spring 12, the other end of which is fastened to a stud 25 on the slide 11.

In practice, to operate the slide, the bracket-bar, slide, lever, spring and pivot-post may be attached together to form a fixture to be sold together with the bracket 5; while the strip 4 and the door will preferably be supplied by the mill. Or, doors already manufactured and even after the same are installed may be separately grooved and a slide provided therefor by any carpenter, so that the attachments may be applied to the door at any time.

To assemble the parts in the grooved door the bracket 5 will first be inserted into the groove and secured there by screws 6. Then the pivot-post will be screwed into the top of the weather-strip at the middle thereof, and then the strip and fixture may be inserted into the groove. This may be done before the door is hinged in place or while the door stands ajar. The groove is located centrally of the door between the sides thereof, and is sufficiently narrow to be exposed when the door is ajar; consequently the strip may be readily removed by being withdrawn from the edge of the door whenever the screw 10 is unscrewed for that purpose.

26 designates a rub plate which may be simply a smooth-headed nail driven into the door-jamb to receive the wear of the end of the slide 13.

I claim:—

1. A door provided in the bottom thereof with a groove and a seat, a bracket-bar having one end in said seat and the other end fastened to the edge of the door, a slide carried by and longitudinally movable on the bracket-bar, a spring to normally hold the slide retracted to project an end of the slide to engage the door-jamb, a bell-crank-lever pivoted to the bracket-bar and operatively engaged by the slide, a strip vertically movable in the groove, and a screw-post pivoted to the lever and screwed into the strip.

2. A door provided in its bottom with a groove and with a seat opening in the groove toward one edge of the door, a bar adapted to be inserted into the groove from one edge of the door and to seat in said seat, means for fastening the external end of the bar to the door, a bell-crank-lever pivotally connected to the bar, a slide carried by the bar and connected to operate the bell-crank-lever, a strip pivotally connected with said lever and adapted to be thereby drawn into the groove in the door and adapted to be moved by the lever to project from the groove, and a spring to hold the slide in position to retract the strip with one end of the slide projecting beyond the edge of the door, and adapted to slide into the door for the purpose of projecting the strip from the groove.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 7th day of April 1908.

KNIGHT W. GALE.

In presence of—

JAMES R. TOWNSEND,
M. BEULAH TOWNSEND.