April 12, 1932. W. J. DENNIS 1,853,338

AUTOMATIC DOOR DRAFT STOP

Filed May 15, 1930

Fig. 2.

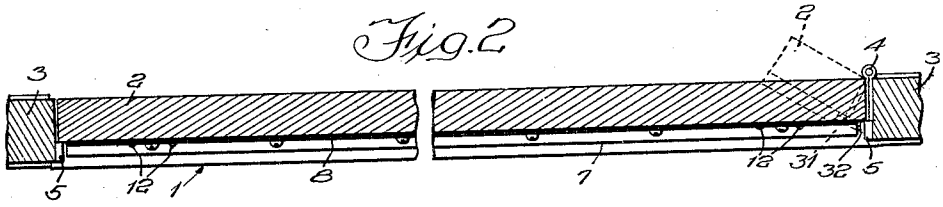


Fig. 1.

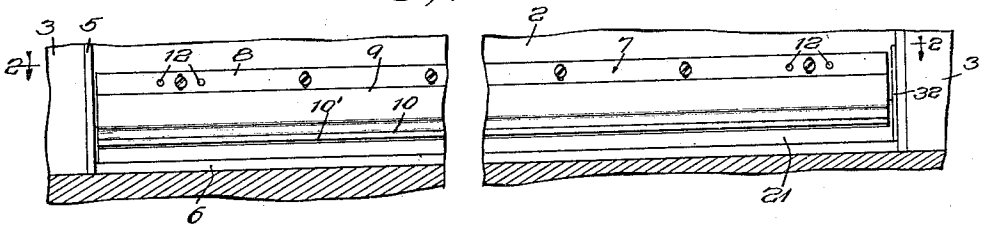


Fig. 3.

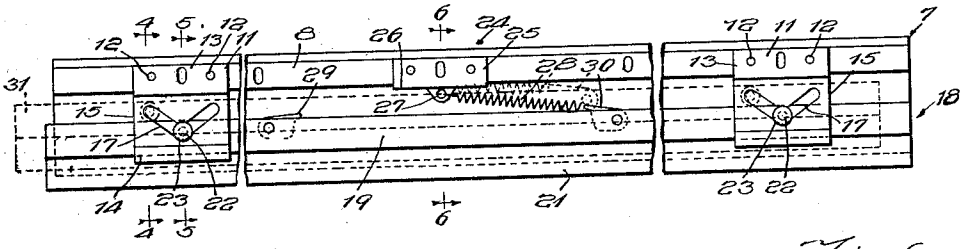


Fig. 4.

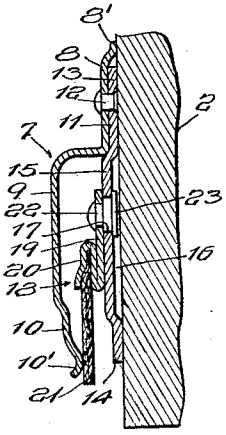


Fig. 5.

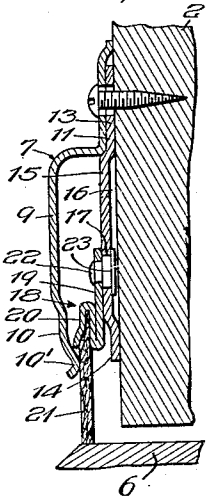
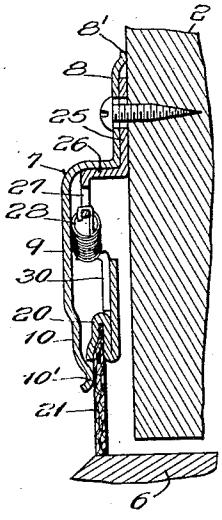


Fig. 6



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UNITED STATES PATENT OFFICE

WILLIAM J. DENNIS, OF CHICAGO, ILLINOIS

AUTOMATIC DOOR DRAFT STOP

Application filed May 15, 1930. Serial No. 452,653.

One object of the invention is the production of a device which is automatically operated by opening and closing a door.

Another object of the invention is the provision of a device which may be adjusted to operate in either of two directions, thereby allowing the device to be affixed to a door regardless of which edge of the door is hinged to a door casing.

A further object of the invention is the novel arrangement or association of parts which are employed to produce the new and improved mode by which the device is operated.

Another object of the invention is the production of a device that is simple, inexpensive, compact, attractive, durable, efficient and satisfactory for use wherever found applicable.

A still further object of the invention is to provide a novel and improved means for guiding the movable member relatively the stationary member.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein set forth in the drawings wherein the parts of the device are indicated by numerals:

Fig. 1 is a view in elevation showing the device associated with the lower part of a door, with the door in a closed position;

Fig. 2 is a section taken substantially on the line 2—2 of Fig. 1;

Fig. 3 is a rear plan view of the device in elevation;

Fig. 4 is an enlarged sectional view taken substantially on the line 4—4 of Fig. 3, showing the position of the movable member relatively the stationary member when the device is in inoperative position;

Fig. 5 is an enlarged sectional view taken substantially on line 5—5 of Fig. 3, showing the movable member in extended position in contact with a door sill; and

Fig. 6 is a section taken substantially on line 6—6 of Fig. 3, clearly showing the novel means which are employed for guiding and operating the movable member in either of two directions.

With reference to the drawings, the device generally designated 1 is shown adapted for association with a door 2 which is hinged as at 4 between the door casings 3. Any suitable means may be employed for securing the device to a door. Suitable door stops 5 are secured to the inner faces of the casings 3. Numeral 6 indicates a door sill.

The stationary member or part of the device generally designated 7, preferably comprises a strip of non-corrosive metal of a length substantially equal to the width of a door. This stationary member generally designated 7 includes a flat flange-attaching portion 8 which is curved over to provide a bead portion 8′ which bears against the door. This member is formed into a sort of housing portion 9, and is further bent downwardly as indicated at 10, and formed with a bead 10′. This bead 10′ is adapted for contact with the draft excluding element to prevent the circulation of air between the stationary member and movable member of the device.

One of the means whereby the movable member of the device is shifted or guided, consists of spaced guides 11 which are suitably secured by rivets 12 or other means to the flange-attaching portion 8 of the stationary member. Each guide is formed with flat bearing portions 13 and 14, and a raised central portion 15, the object of which is to provide a space in which a part of the movable mechanism of the device may operate. This particular form of guide also serves as a bracing agent and urges the movable member and draft excluding element which will hereinafter be described, against the bead portion 10′ of the stationary member. Provided in the raised central portion 15 of the guides 11, are angular two-way cam slots 17, the object of which is to provide the means for shifting and guiding the movable member of the device in either of two directions.

The movable member of the device, generally designated 18 is preferably made of metal and includes a flat portion 19 and a portion such as 20, which is formed to secure

thereto, a draft excluding element 21. Secured to this movable member, generaly designated 18, are pins 22, arranged for engagement within the two-way cam slots 17 of the guides 11. As shown, these pins are headed over or flanged, as at 23, to thereby prevent the movable member from being detached from the guides. It will thus be evident that unique means are provided whereby the movable member may be shifted in either of two directions by reason of the pins riding in the cam slots. One particular object of such a construction, is to decrease the amount of friction when several of the parts are moved.

Secured by any suitable means to the flange-attaching portion 8 of the stationary member, is an angularly shaped lug, generally designated 24, which consists of the flat portion 25 and an angular portion 26, the latter being provided with an eye or hole 27. One end of the spring 28 is secured in the eye 27 of the lug and the other end of the spring 28 is adapted for interchangeable association with either of the lugs 29 and 30, which are suitably secured to the flat portion 19 of the movable member. It will thus be apparent that the spring may be adjusted to one of two positions, to thereby move the movable member in either of two directions; pins 22 being adapted for a prescribed movement in the cam slots 17. When the spring is secured in either of said positions, one end such as 31 of the movable member is always adapted to extend beyond one end of the stationary member.

From the above description, it will be clear that the device may be adjusted and affixed to the lower part of the door with one end such as 31, adapted when the door is closed, to contact a metal guard plate 32, which may be secured to a stop 5, to thereby operate a movable member longitudinally and transversely of the stationary member, so that the draft excluding element will engage a door sill 6, to thereby prevent circulation of air between the bottom of the door and said sill.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence, I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. A device including two members, slotted guides secured to one of said members, pins mounted on the other member arranged in said slots, and a spring arrangement for moving the other member longitudinally and transversely of said first-mentioned member in either of two directions.

2. A device including two members, of which one has spaced slotted guides affixed thereto, and the other having spaced lugs and pins associated therewith, said pins being adapted for movement in said slots, a spring having one end secured to one member and the other end adapted for association with either of said lugs to thereby cause one member to be moved longitudinally and transversely of the other to an inoperative position in either of two directions.

3. A device including two members, of which one has spaced guides thereon, said guides having offset ends, two-way slots provided in said guides between the said offset ends, pins secured to the other member and engageable with said slots to thereby allow one member to be moved longitudinally and transversely of the other in either of two directions, a spring, means for securing one end of said spring to one member, and means for securing the other end of said spring to the other member.

4. A device comprising a stationary member formed with a flanged attaching portion, a housing portion, and an inwardly extending guide portion, a plurality of slotted guide members mounted on the flange attaching portion, a movable member having a draft excluding element secured thereto interposed between the housing portion and the guides, said movable member having pins affixed thereto for engagement with the slots in said guides, said draft excluding element adapted for frictional contact with said inwardly extending guide portion, a lug secured to said flange attaching portion, a spring having one end secured to said lug, and spaced means provided on the movable member whereby the position of the spring may be reversed to secure the free end of the same to either of said means to thereby cause the movable member to be moved longitudinally and transversely of the stationary member to an inoperative position in either of two directions.

5. A device including two members made of relatively thin material, of which one has spaced slotted guides affixed thereto, and the other being movable and having a draft excluding element, spaced lugs, and pins associated therewith, said pins being secured and adapted for movement in said slots, a spring secured to one member and adapted for reversible association with either of said lugs, to thereby cause the movable member to be moved longitudinally and transversely of the other in either of two directions to an inoperative position.

6. A device including two members, of which one is movable and is provided with a draft excluding element secured thereto, and means including slotted guides, pins, and a spring arrangement for constantly urging the movable member longitudinally and transversely of the other to an inoperative position in either of two directions with the

draft excluding element being adapted for frictional contact with the other member.

7. A device including a stationary member formed with a flange attaching portion and a housing portion, a plurality of slotted guide members mounted on the flange attaching portion, said guide members provided with offset end portions, a movable member having a draft excluding element secured thereto interposed between the housing portion and the guides, said movable member having pins affixed thereto for engagement with the slots in said guides, a lug secured to said flange attaching portion, a spring having one end secured to said lug, spaced means provided on the movable member whereby the position of the spring may be reversed to secure the free end of the same to either of said means to thereby constantly urge the movable member longitudinally and transversely of the stationary member to an inoperative position in either of two directions.

8. A device including a stationary member, slotted guides secured to said stationary member, a movable member, pins carried by said movable member, said movable member being adapted for longitudinal and transverse movement in either of two directions relatively said stationary member by reason of said pins being movable in said slots, and means provided for constantly urging said movable member to an inoperative position regardless of either direction, said movable member is adapted to be moved.

In witness whereof, I hereunto subscribe my name this 29th day of April A. D., 1930.

WILLIAM J. DENNIS.

CERTIFICATE OF CORRECTION.

Patent No. 1,853,338. Granted April 12, 1932, to

WILLIAM J. DENNIS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, before line 1, insert the following paragragh:-

> The invention relates to devices known in the art, as door weather strips, and concerns primarily, an automatically operable device adapted for association with the lower part of a door, to thereby serve as a sealing agent to exclude air, dust, snow, etc., from entering a room through the space between the bottom of the door and the door sill, or floor.;

and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 31st day of May, A. D. 1932.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.