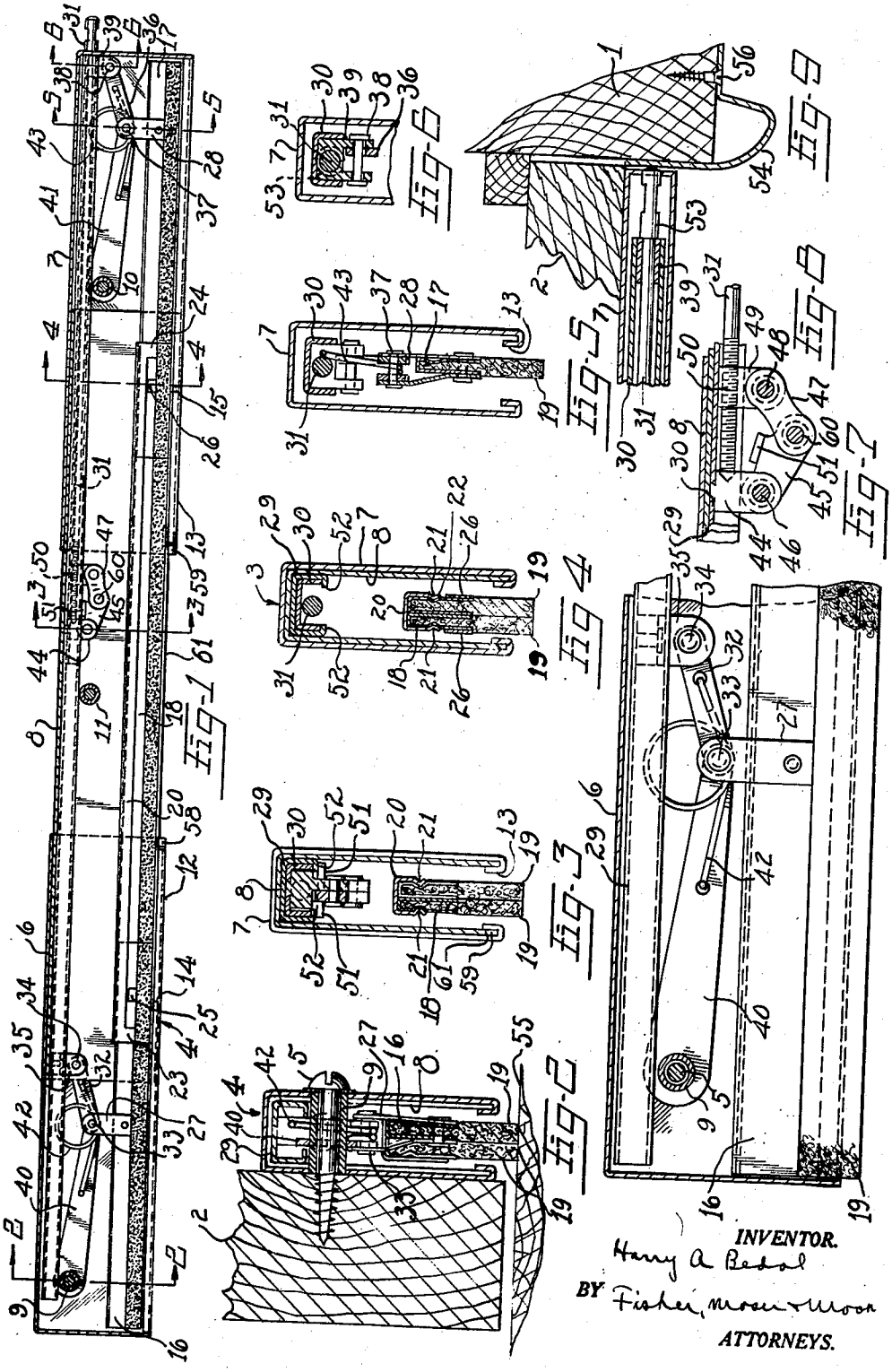
July 29, 1941. H. A. BEDOL 2,250,821

WEATHER STRIP

Filed May 22, 1939



INVENTOR.
Harry A. Bedol
BY Fisher, Moser & Moon
ATTORNEYS.

Patented July 29, 1941 2,250,821

UNITED STATES PATENT OFFICE

2,250,821

WEATHER STRIP

Harry A. Bedol, Cleveland, Ohio

Application May 22, 1939, Serial No. 275,106

3 Claims. (Cl. 20—68)

My invention relates to weather strips for doors and the like.

One of the principal objects of the invention is to provide a weather strip and casing therefor which can be conveniently adjusted by the user to fit doors of different sizes, thus avoiding the expense incident to the keeping of a wide range of sizes in stock by the manufacturer or distributor.

Another object of the invention is to provide a combined housing and weather strip with means for simultaneously adjusting the length of the housing and weather strip.

Other objects and advantages of the invention will be apparent as the description is considered in connection with the accompanying drawing, in which:

Figure 1 is a longitudinal sectional view through the improved device;

Figure 2 is a section on line 2—2 of Figure 1 showing the door and floor;

Figure 3 is a section on line 3—3 of Figure 1;

Figure 4 is a section on line 4—4 of Figure 1;

Figure 5 is a section on line 5—5 of Figure 1;

Figure 6 is a section on line 6—6 of Figure 1;

Figure 7 is an enlarged fragmentary sectional view of one end of the assembly;

Figure 8 is a fragmentary detail view of the toggle locking mechanism; and

Figure 9 is a fragmentary detail horizontal sectional view through the right hand end of Figure 1 showing the cam clip.

Referring more particularly to the drawing 1 denotes the usual door frame in which the door 2 is mounted by means of hinges, not shown. A casing 3 for housing a sectional weather strip 4, is secured to the bottom edge of the door 2, by suitable fasteners, such as screws 5. This casing comprises two end sections 6 and 7 and an intermediate section 8, all of substantially U-shape in cross section, the opposite ends of the intermediate section 8 being telescopically received within the opposing inner ends of the sections 6 and 7. The screws 5 pass through eyelets 9, 10 and 11, the latter extending transversely through the intermediate section 8 while the eyelets 9 and 10 are similarly mounted in the respective end sections of the housing. After the casing sections have been assembled for free sliding movement relative to each other the inner end extremities of flanges 12 and 13 are bent inwardly as at 58 and 59 to form stops for shoulders 14 and 15 on the intermediate housing section 8, by means of which the parts are prevented from being accidentally separated. These shoulders are formed by cutting away the lower edge of one side wall of the intermediate casing section 8, as indicated at 61 in Figure 3.

The weather strip proper 4, comprises two end channel sections 16 and 17 and a middle channel section 18 of substantially the same length as the casing sections, and which are also of substantially U-shape in cross section. These channel sections carry lengths 19 of felt or other suitable draft excluding material and are slidably joined together by means of a U-shaped connecting channel member 20. The member 20 is fixed to and slides with the intermediate felt channel section 18 and slidably receives the opposing inner ends of the end channel sections 16 and 17. Thus these end sections are formed on one face with grooves 21 into which the inwardly bent lower edge of the side flange 22 of the connecting channel slidably extend. Lugs 23 and 24 formed on the end extremities of the side flange 22 engage stops 25 and 26 formed on one of the side faces of the end felt channel members 16 and 17 respectively, to limit the extent of relative sliding movement when the weather strip sections are assembled in the casing.

Means is provided for locking the felt receiving channels after the latter, as well as casing sections, have been adjusted longitudinally and for elevating and lowering the same upon opening and closing of the door. Thus, the end felt receiving channel members 16 and 17 are provided with brackets 27 and 28 for pivotally supporting a pair of telescopic U-shaped outer and inner channel members 29 and 30 respectively in which a combined lock and push rod 31 is received. A link 32 is pivoted at one end to a pin 33 carried by bracket 27 and at its other end is pivoted to a pin 34 in a bracket 35, suitably fixed to the channel 29, adjacent one end thereof, and a link 36, similar to link 32, just described, is pivoted at one end to a pivot pin 37 carried by bracket 28, the other end of link 36 being pivoted to a pin 38 carried by a lug or bracket 39 formed on or suitably attached to the channel 30. A link arm 40 is pivotally mounted at one end on the sleeve 9 and at its other end is pivoted to pin 33, for supporting one end of the telescoped felt receiving channel members for up and down movement, while a link arm 41 pivoted at one end on sleeve 10 and at its other end pivoted to the pin 37, cooperates with the link 36 to support the other end of the weather stripping channels. Expansion springs 42 and 43 normally tend to hold the weather stripping in elevated position.

Secured to one end of the inner pusher rod channel 30, as by riveting or the like, is a combined bracket and stop member 44, to which one end of a toggle arm 45 is pivoted at 46. A second toggle arm 47 is pivoted at one end, as at 48, to a lug 49 carried by a nut 50 slidably mounted in the channel 30, in spaced relation to the bracket 44. The inner ends of these toggle arms 45 and 47 are connected together by means of a pivot pin 60 and formed on the toggle arm 45 is an upwardly extending shoe member 51 adapted to be forced into engagement with the lower inturned edges 52 of the outside pusher rod channel member 29 in a manner hereinafter described.

When assembly is made at the factory the device is adjusted to fit a minimum sized or say a twenty eight inch door, and if the door upon which the purchaser desires to install the weather stripping is of that width it is merely necessary to insert the screws 5 through the sleeves 9, 10 and 11. However should the door be larger the user merely disengages the lock shoe 51 and slides the end section of the casing outwardly until the desired length is reached. As the end felt carrying channel members move with the corresponding end sections of the casing, adjustment of the latter will result in automatic adjustment of the former. The combined lock and pusher rod 31 extends through the end walls of the casing section 7 and channel member 29 respectively and at its inner end threadedly engages the nut 50. Assuming that the felt carrying channels have been adjusted to proper length by the user, screws 5 are screwed into the door 2, and the rod 31 is screwed up by means of the handle 53, in a clockwise direction until its inner extremity engages the stop member and bracket 44, further rotation of the rod in the same direction will cause the nut to move outwardly on the rod 31, thus straightening out the toggle arms 45 and 47 and elevating the shoe 51, into engagement with the outside channel 29 to lock the same against relative movement with respect to its companion channel member 30. If the door 2 is now swung to closed position, as shown in Figure 9, the handle 53 of rod 31 will engage and ride over a cam clip 54, secured to the side of the door frame 1 by screws 56. The curvature of the cam is such that in closing the door the rod 31 and its channel members 29 and 30 will be bodily moved to the left, viewing the device from Figure 1. As the link arms 40 and 41 cannot move in this direction because of their pivotal mounting on sleeves 9 and 10, the inner ends of these arms and the links 32 and 36, together with their pivot pins 33 and 37 will be moved downwardly, thus causing the felt strips 19 to be lowered into engagement with the surface of floor 55, that is in proper position to effectively exclude draft. Movement of the door to open position permits the coil expansion springs 42 and 43 to reverse the movement just described.

What I claim is:

1. In a device of the class described, a longitudinally adjustable sectional casing, a longitudinally adjustable weatherstrip in said casing, means for mounting said casing on a door, a pair of telescopically connected channel members, links pivotally connecting said channel members to certain of the weatherstrip sections, a stop member fixed to and a movable member carried by and slidable in one of said channel members, a pair of toggle arms pivotally connecting said movable member to said stop member, a shoe on one of said toggle arms adapted to engage the other of said channels to lock said channel members against relative movement upon movement of said slidably movable member, and longitudinally movable means secured to said movable member and bearing against said stop member for actuating said movable member.

2. In a device of the class described, a longitudinally adjustable sectional casing, a longitudinally adjustable weatherstrip in said casing, means for mounting the casing on a door, a pair of slidably connected channel members, links pivotally connecting said channel members to certain of said weatherstrip sections, a stop member fixed to and a nut slidable in one of said channels, a toggle lock fixed to said last mentioned channel, said lock having a shoe adapted to engage the other of said channels to lock said channels together against relative movement when said nut is moved in one direction, and a threaded rod operable in said nut for actuating said nut in said direction when said rod engages said stop member.

3. In a device of the class described, a longitudinally adjustable sectional casing, a longitudinally adjustable weatherstrip in said casing, means for mounting the casing on a door, a pair of outer and inner slidably connected channel members, links pivotally connecting said channel members to certain of said weatherstrip sections, a nut slidably supported in said inner channel member, a stop member fixed to said last mentioned channel, a pair of toggle arms pivotally connecting and supported by said nut and stop member respectively, one of said toggle arms formed with a shoe adapted to be moved into frictional engagement with said outer channel to lock said channels together, against relative movement when said nut is moved in one direction, and a threaded rod mounted for manual rotation in said inner channel and adapted for engagement with said stop and nut for actuating said nut.

HARRY A. BEDOL.