

(No Model.)

T. B. WITHERS & C. KNOBEL.

WEATHER STRIP.

No. 440,857.

Patented Nov. 18, 1890.

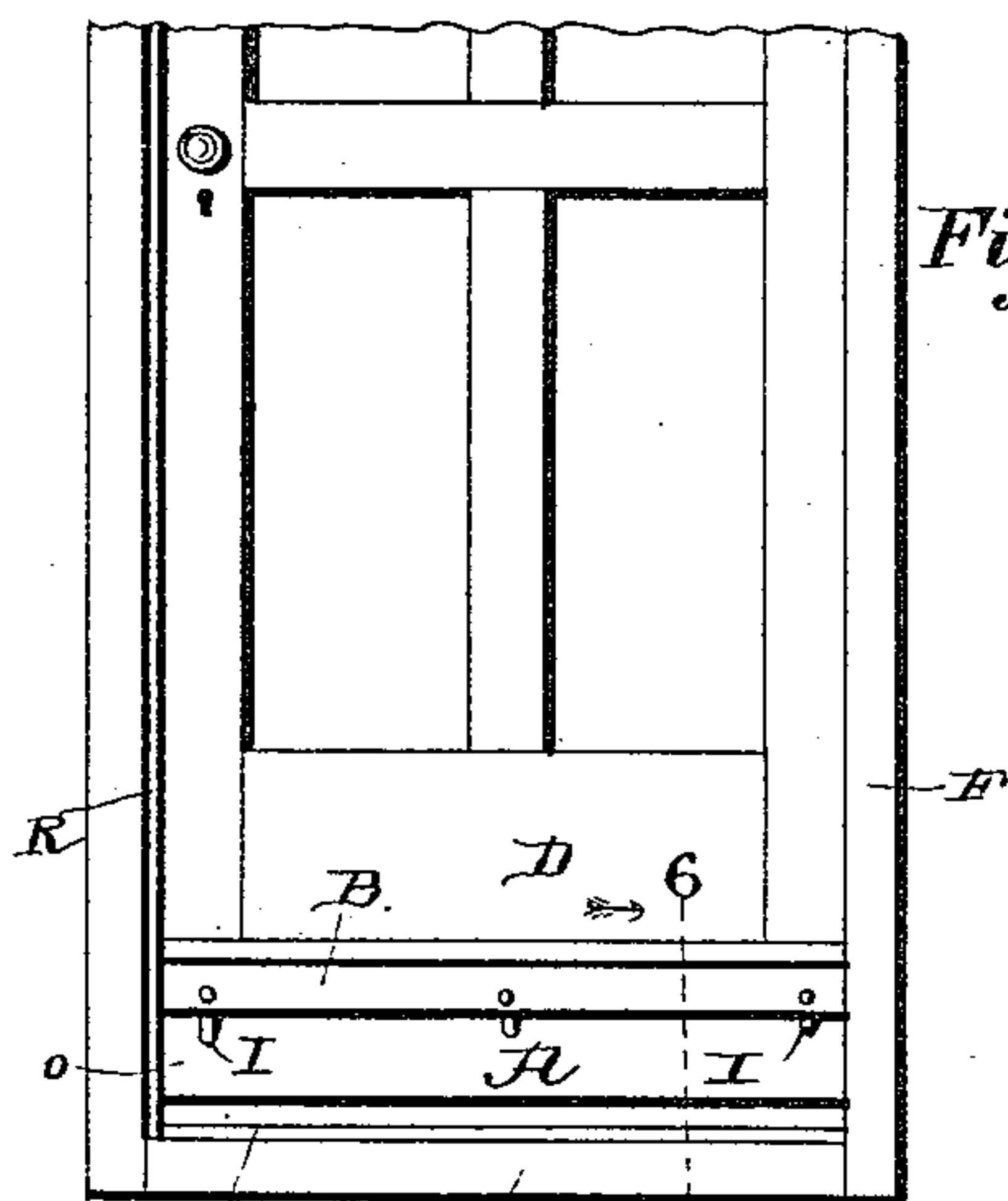


Fig. 1.

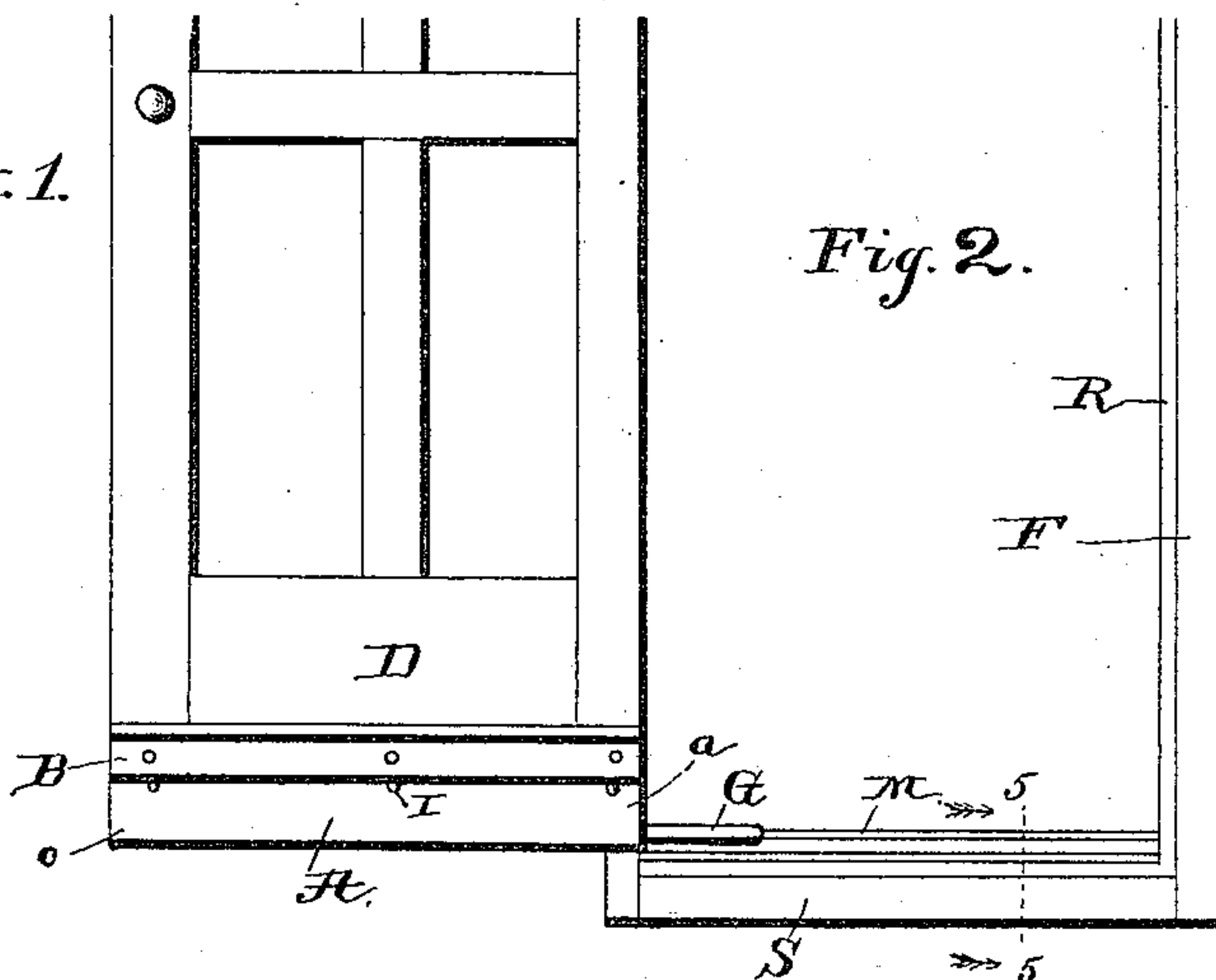


Fig. 2.

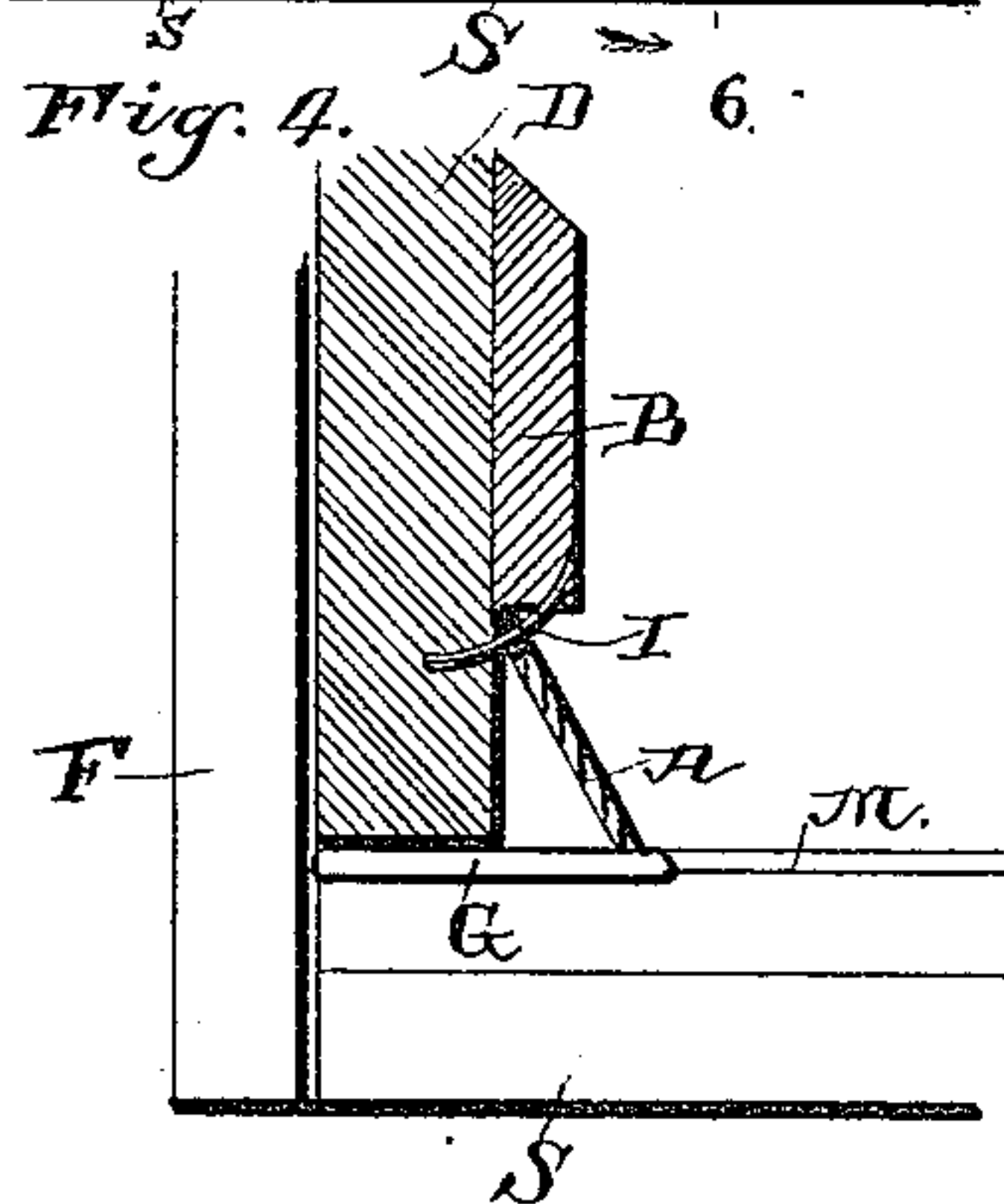


Fig. 4.

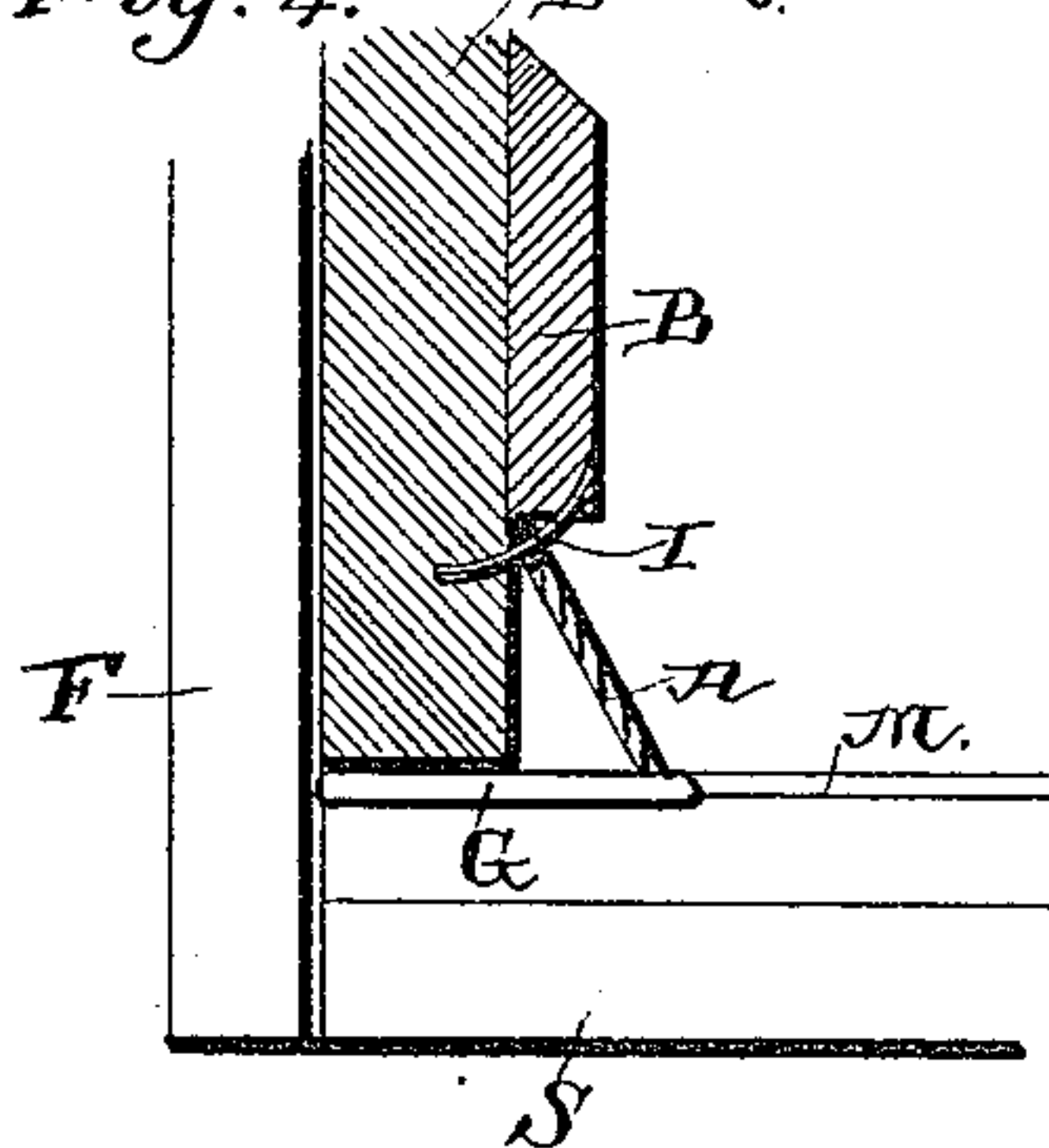


Fig. 5.

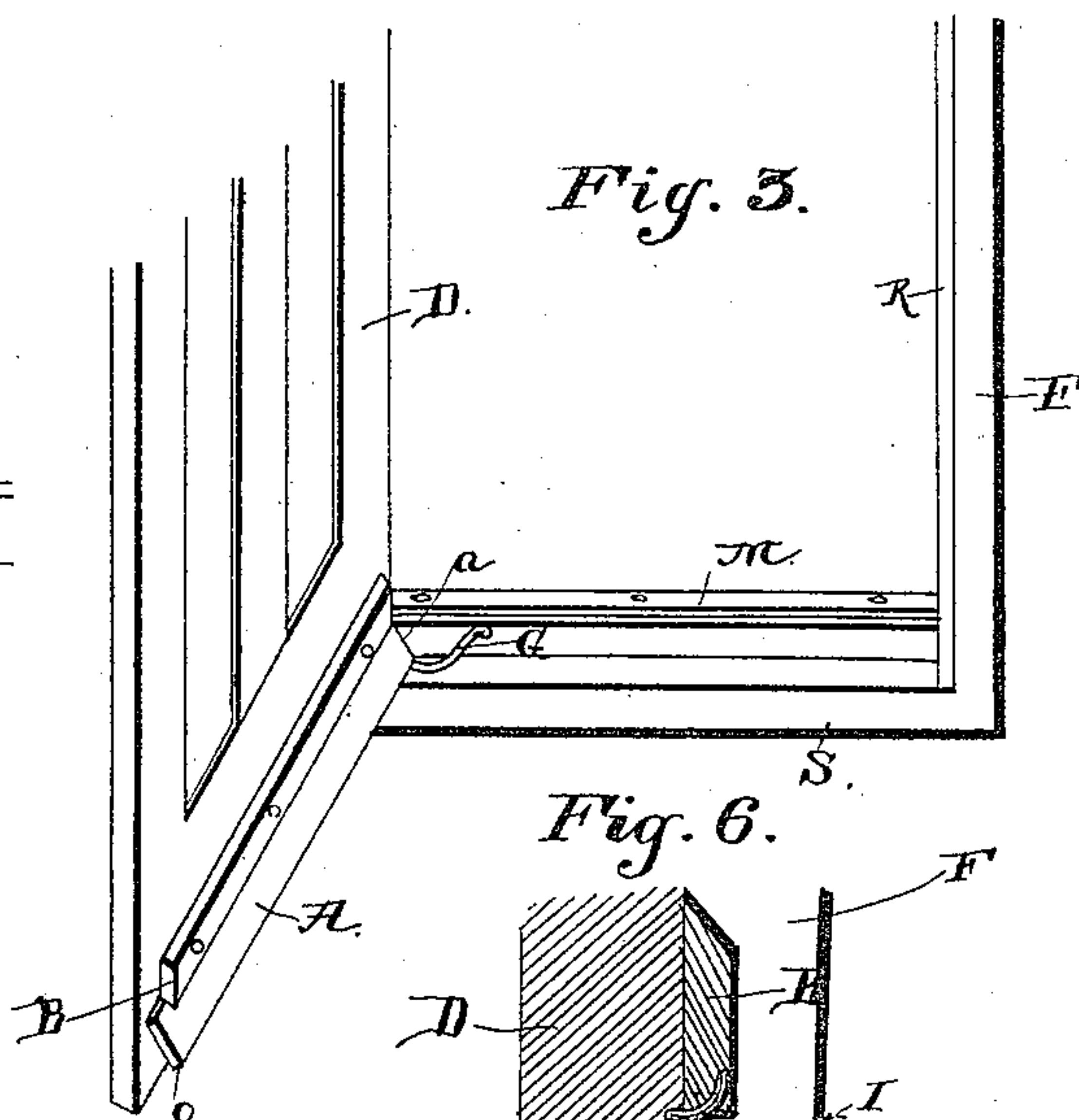


Fig. 3.

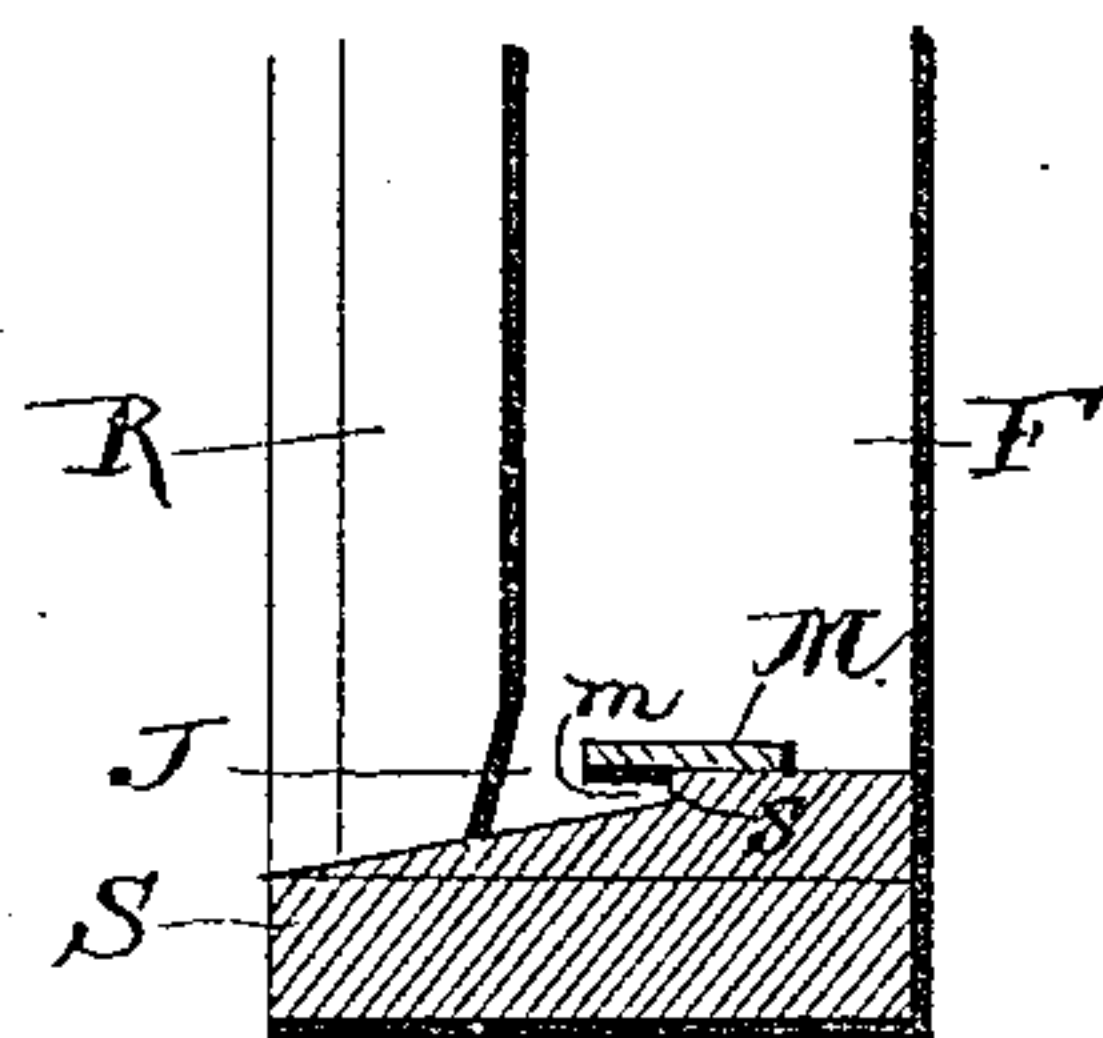


Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS B. WITHERS AND CASPER KNOBEL, OF MONTICELLO, WISCONSIN.

WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 440,857, dated November 18, 1890.

Application filed January 25, 1890. Serial No. 338,110. (No model.)

To all whom it may concern:

Be it known that we, THOMAS B. WITHERS and CASPER KNOBEL, citizens of the United States, residing at Monticello, in the county of Green and State of Wisconsin, have invented a new and useful Weather-Strip, of which the following is a specification.

This invention relates to weather-strips, more particularly of that class which are adapted to be attached to the lower edge of a hinged door and to close or seal the crack beneath the door when the latter is closed; and the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

Figure 1 is an outside view of the door in its closed position. Fig. 2 is an inside view of the door in its open position. Fig. 3 is a perspective view of the door, showing it in the act of closing. Fig. 4 is a cross-section of the pivoted strip and its support. Fig. 5 is a section on the line 5 5 of Fig. 2. Fig. 6 is a section on the line 6 6, Fig. 1.

The letter F designates the door-frame having an ordinary sill S, and in this frame is hinged the door D. The sill S has a shoulder s, at a proper point from which it is beveled outwardly, and on the flat upper face of the sill is secured the metallic strip M, whose outer edge projects slightly over the shoulder s, thereby forming a small groove or space *m* beneath the outer edge of the strip, all as shown in Fig. 5.

The door D is of the ordinary construction, except that along its outer face near its lower edge is pivoted the metallic strip A. We prefer to attach this strip as shown in the drawings—that is, by securing a wooden or other strip B irremovably along the door and providing small eyes I, arranged at its lower edge and formed by curved pins, these eyes passing through apertures near the upper edge of the movable strip; but it will be understood that almost any other form of pivot will answer equally well. We prefer this form, however, because the use of the rigid strip B more firmly holds the pivoted strip in place, and also serves other advantages which experience has taught us are desirable.

In the upper face of the sill S, adjacent the hinge-bar of the frame F, we secure a guide or loop wire G, whose body preferably stands in an arc of a circle projecting inwardly from the sill. The movable plate A hangs normally below the horizontal plane of the upper face of the sill, and as the door is closed, Fig. 3, the inner end *a* of the movable plate A strikes the rounded guide-wire G and rides up over the same, whereby the lower edge of the plate A is caused to slide over the upper face of the stationary strip M. The door having reached its closed position, the plate A of course falls down beyond the outer edge of the stationary plate M, and just as the door is tightly seated in its place the outer end *o* of the strip A enters a notch J in the rabbet R, the latter then pressing the plate A firmly into place. It will be understood that during the entire closing movement of the door and while the plate A is sliding upon the plate M the former is in an inclined position. This position is of course maintained until the plate A slides off the plate M and drops to its vertical position. The last portion of the plate A which slides on the plate M is its outer end *o*, and just as it drops off the same it falls into the notch J. This notch is employed to receive the plate while it is turning about its pivot, and the flat vertical face of the rabbet R, just above the notch, strikes against the plate A and bears the same firmly in position when the door is tightly closed. In this latter condition the inner face of the plate a slight distance from its lower edge bears against the outer edge of the stationary plate M, and the body of the plate A below said point of impact projects downwardly in front of the space *m* below the stationary plate, thereby forming what we prefer to call the "dead-air space." When the door is thus tightly closed, not only the air, but also water, snow, or sleet is prevented from entering beneath the same, as the movable plate A closes the crack beneath the door, and the dead-air space *m* serves an additional guard to prevent the undesirable entrance of cold and moisture. The door is opened in the ordinary manner, as will be readily understood, the outer end of the plate A drawing naturally out of its seat without any difficulty.

Having described our invention, what we claim is—

5 The sill S, having the shoulder s, the stationary plate M, secured to the upper face of the sill and projecting beyond the said shoulder, the vertical rabbet R, having the inclined notch J in front of said plate, and the curved wire guide G in rear of said plate adjacent the hinge-bar of the door-frame, in combination with the hinged door B and the plate A,
10 pivoted thereto on its outer face and hanging normally below the level of said stationary plate M, the inner end of said plate riding

upwardly over the guide and over the stationary plate, and its outer end passing into said notch as the door is closed, as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

THOMAS B. WITHERS.
CASPER KNOBEL.

Witnesses:

E. F. WRIGHT,
EMILY F. WRIGHT.