

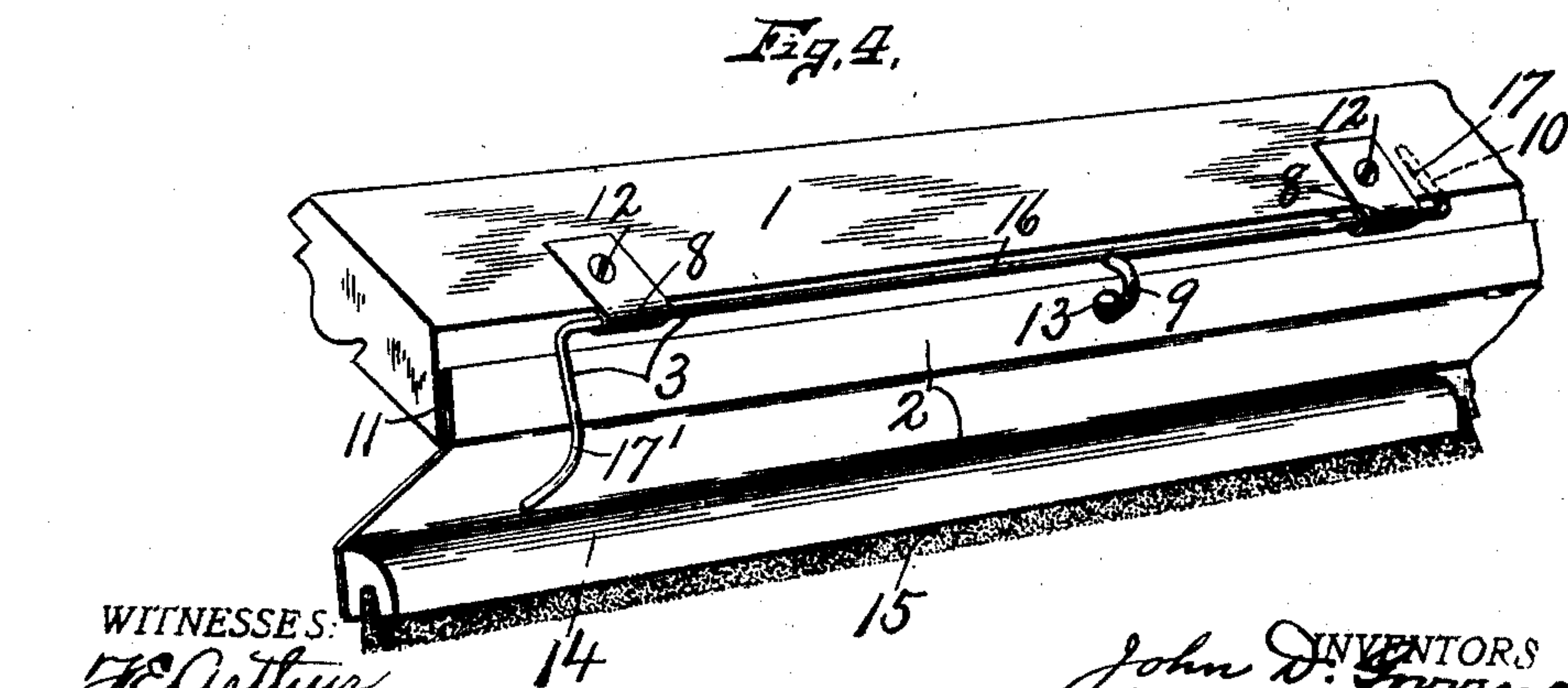
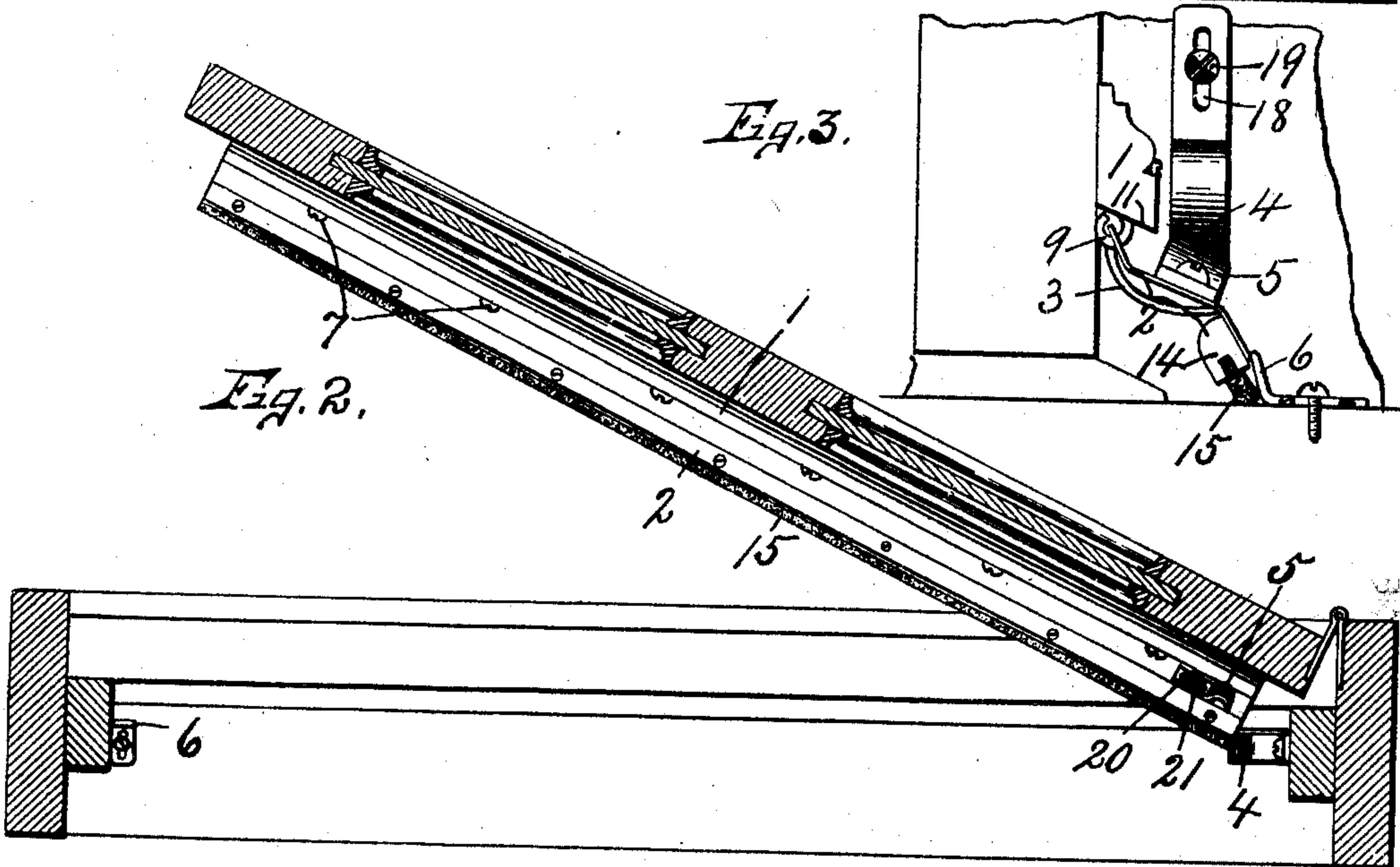
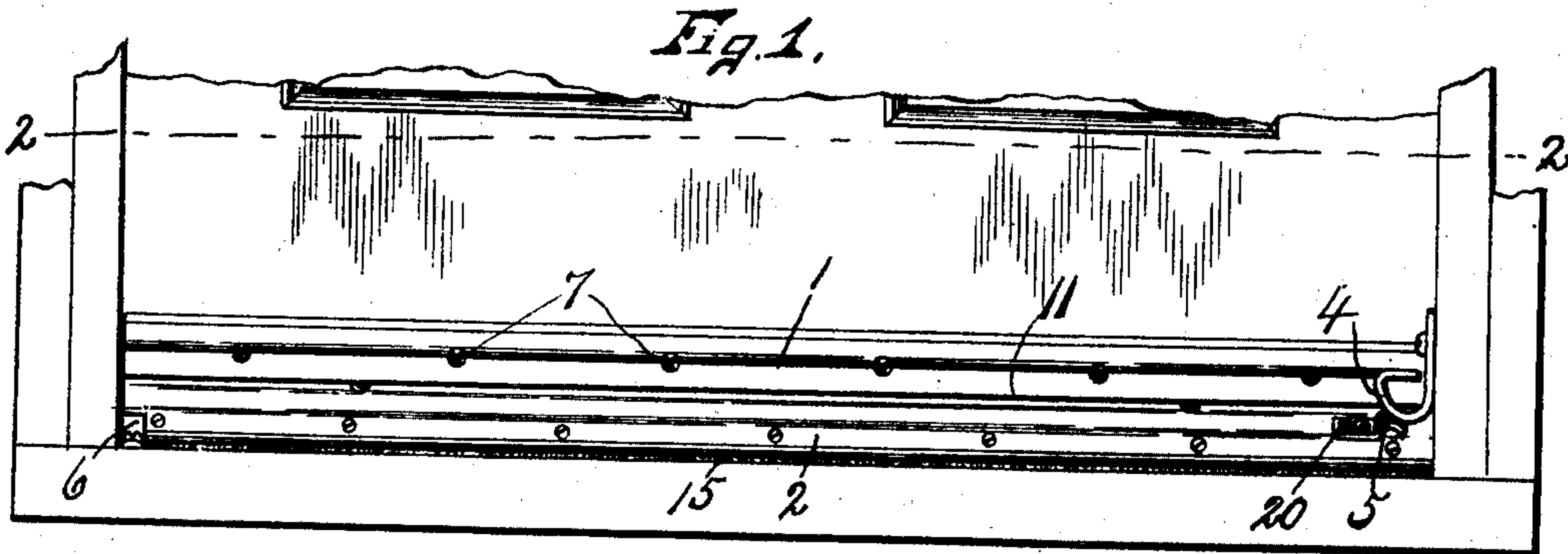
No. 719,657.

PATENTED FEB. 3, 1903.

J. D. GROVER & G. M. ARMSTRONG.
WEATHER STRIP.

APPLICATION FILED NOV. 11, 1901.

NO MODEL.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN D. GROVER, OF SYRACUSE, AND GRANT M. ARMSTRONG, OF LAKE-
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WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 719,657, dated February 3, 1903.

Application filed November 11, 1901. Serial No. 81,899. (No model.)

To all whom it may concern:

Be it known that we, JOHN D. GROVER, of Syracuse, and GRANT M. ARMSTRONG, of Lakeland, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Weather-Strips, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

Our invention relates to improvements in weather-strips particularly applicable for use in connection with outside doors.

The object of this invention is to provide a door with a suitable weather-strip which is simple in construction, neat in appearance, and obviates the necessity for any plates or other mechanism in the path of travel over the threshold of the door-frame.

Another object is to provide means whereby the movable section of the weather-strip is normally held in a plane above the threshold to afford suitable clearance for the movable section of the weather-strip over the threshold during the opening and closing of the door.

A still further object is to provide means whereby the movable section of the weather-strip may be adapted for any size of door or height of threshold to cause the free edge of said movable section to lie closely and firmly in engagement with the sill of the door-frame when the door is closed.

To this end the invention consists in the combination, construction, and arrangement of the parts of a weather-strip and its operating means, as hereinafter fully described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of our improved weather-strip and its operating devices, shown as attached to the lower portion of a door and door-frame. Fig. 2 is a transverse sectional view on line 2-2, Fig. 1. Fig. 3 is an enlarged end view of our improved weather-strip and the adjacent portions of the door and frame. Fig. 4 is an enlarged perspective view of a portion of the detached weather-strip, showing particularly the hinge-section and the spring for holding the same in its inoperative position.

Similar reference characters indicate corresponding parts in all the views.

In the use of weather-strips of the character previously mentioned one of the essential requirements is that when the door is closed the outer edge of the strip shall lie in close proximity to or in firm engagement with the sill of the door-frame at the outside of the threshold in order to perfectly serve the purpose for which the weather-strip is intended.

Our invention is adapted to be readily adjusted for any height of threshold after the same has been placed in position upon the door, and it consists, essentially, of lengthwise sections 1 and 2, a spring 3, and suitable cams 4, 5, and 6.

The section 1 is preferably formed of wood and is secured to the outer face of the base of the door by suitable fastening means, as screws 7, being provided with suitable strap-eyes 8, staples or hooks 9, an aperture 10, and a stop face or shoulder 11.

The strap-eyes 8 are preferably let into a suitable recess in the back face of the sections 1, so as to be substantially flush therewith, and are secured in position by suitable fastening means, as screws 12, the eyes on said straps being extended slightly beneath the lower edge or bearing-face 11 of the section 1 for receiving and supporting one end of the spring-arm 3, previously mentioned.

The staples 9 are suitably secured to the lower edge of the section 1 and serve to receive and support the section 2, presently described. This section 2 preferably consists of a metal plate formed of substantially the same length as the section 1 and having one of its edges hinged to said section 1, being provided with a series of eyes 13, which receive the staples 9 and form the hinge connections upon which the section 2 is adapted to rock vertically.

The movable section 2 preferably extends outwardly beyond the outer face of the section 1, its outer edge being inclined downwardly and provided with a slotted bar 14 for receiving a yielding sill-engaging strip 15, which may be formed of felt or similar material.

The spring 3 may be of any desired form or construction for the purpose of holding the movable section of the weather-strip in its in-operative position against the bearing-face 11 of the section 1; but we preferably provide a wire rod having a substantially horizontal portion 16, mounted in the eyes 8 and having one end provided with a lateral offset 17, inserted in the aperture 10, and its other end 17' bent outwardly and tensioned upwardly to engage the lower face of the movable section 2 for the purpose of holding said movable section in its up position against the bearing-face 11.

The section 1 of the weather-strip is secured to the base of the door in such manner that the lower edge of the flexible strip 15 will clear the threshold during the opening and closing of the door, thus preventing any possible injury or undue wear to the movable section of the weather-strip.

Secured to the hinge side of the door-frame, in proximity to the sill, is a suitable cam 4, which is provided with a vertical slot 18 for receiving a fastening member, as a screw 19, whereby the cam 4 may be adjusted to the desired position and firmly secured. This cam usually consists of a strap of metal having its lower end bent inwardly and upwardly in an inclined plane for the purpose of engaging the adjacent end of the movable section of the weather-strip and forcing the flexible strip 15 downwardly into engagement with the sill when said movable section of the weather-strip is passed beyond the threshold during the closing of the door.

In order to force the adjacent end of the movable section of the weather-strip more firmly into engagement with the sill, we provide said section 2 with an additional cam 5, which is provided with a slot 20 and a fastening-screw 21 for permitting said cam to be adjusted relatively to the cam 4 or lengthwise along the movable section of the weather-strip. These two cams 4 and 5 cooperate to force the flexible strip 15 firmly and closely into engagement with the sill of the door-frame at the outside of the threshold when the door is closed and form one of the essential features of our invention. It is evident, however, that the detail construction of this means for forcing the hinge end of the weather-

strip into engagement with the sill may be somewhat modified without departing from the spirit of this invention.

The cam 6 is secured to the end of the sill and consists of a metal strap having an upwardly and inwardly inclined bearing-face adapted to engage the adjacent end of the movable member of the weather-strip for additionally forcing the flexible strip 15 into engagement with the sill when the door is closed. This cam is also adjustable toward and away from the weather-strip, and the inward inclination of the upward extension cooperating with the downward and outward inclination of the hinge-section of the weather-strip causes the flexible strip 15 to engage the sill throughout its entire length, thus positively shutting out the entrance of snow or cold air.

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

1. A door-frame having adjustable cams at each side, one being adjustable horizontally transversely of the sill and the other adjustable vertically toward and from the sill in combination with a door having a hinged weather-strip at its base adapted to engage said cams as the door is closed, and a lengthwise spring-wire having one end fixed and its other end bearing against the strip to hold said strip clear of the threshold when the door is opened.

2. In combination with a door and door-frame, a weather-strip hinged to the base of the door, means acting to automatically rock the strip upwardly when the door is opened, a cam adjustable horizontally transversely of the sill to engage and depress one end of the strip when the door is closed, a vertically-adjustable cam secured to the frame and engaging the other end of the weather-strip to depress the same when the door is closed substantially as described.

In witness whereof we have hereunto set our hands this 8th day of November, 1901.

JOHN D. GROVER.

GRANT M. ARMSTRONG.

Witnesses:

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HOWARD P. DENISON.