

B. W. Boyce.

Weather Strip.

N^o 39,878.

Patented Sept. 15, 1863.

Fig. 2.

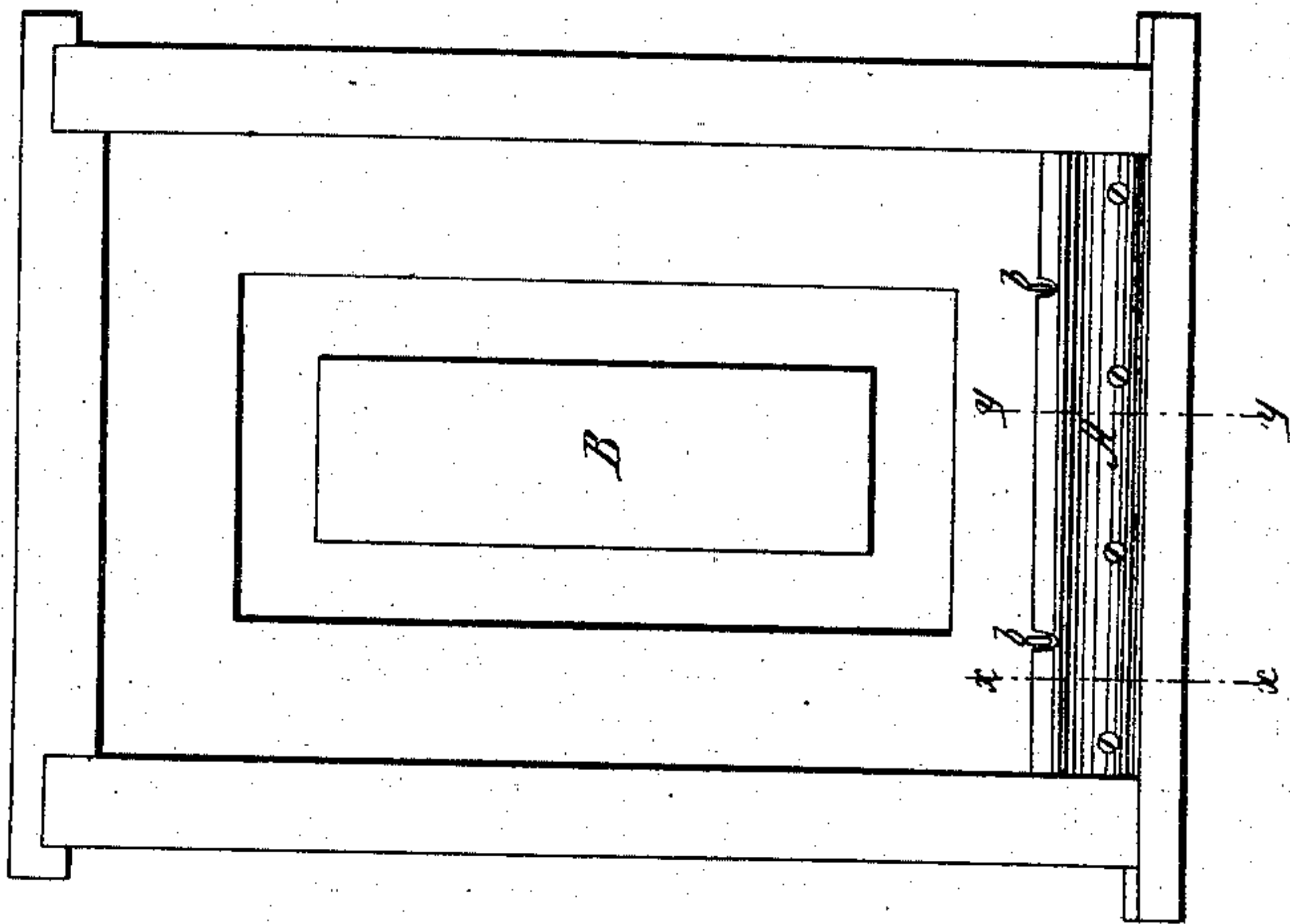


Fig. 4.

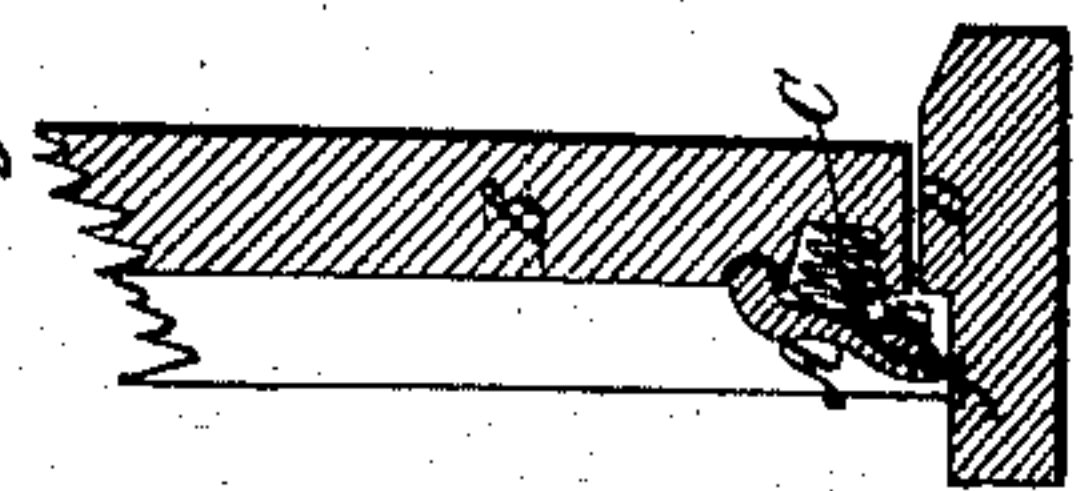


Fig. 6.

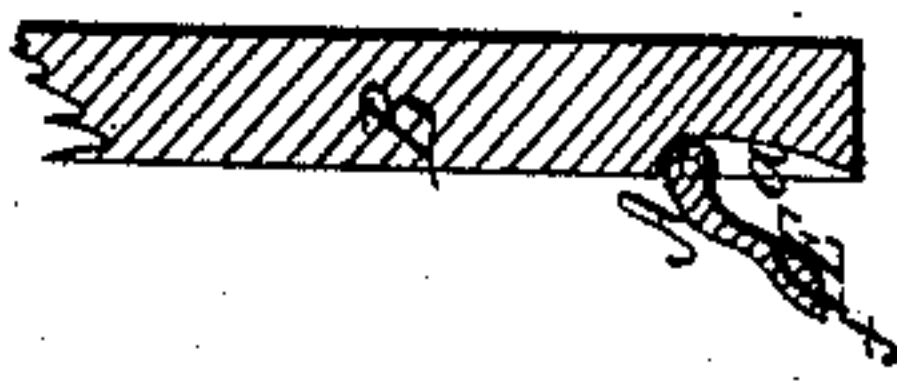


Fig. 3.

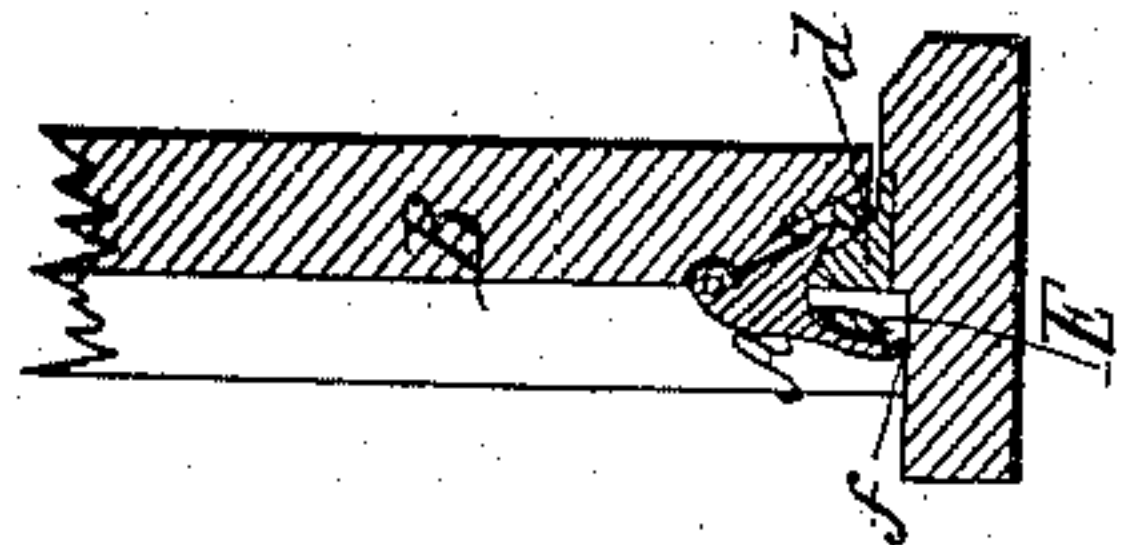


Fig. 1.

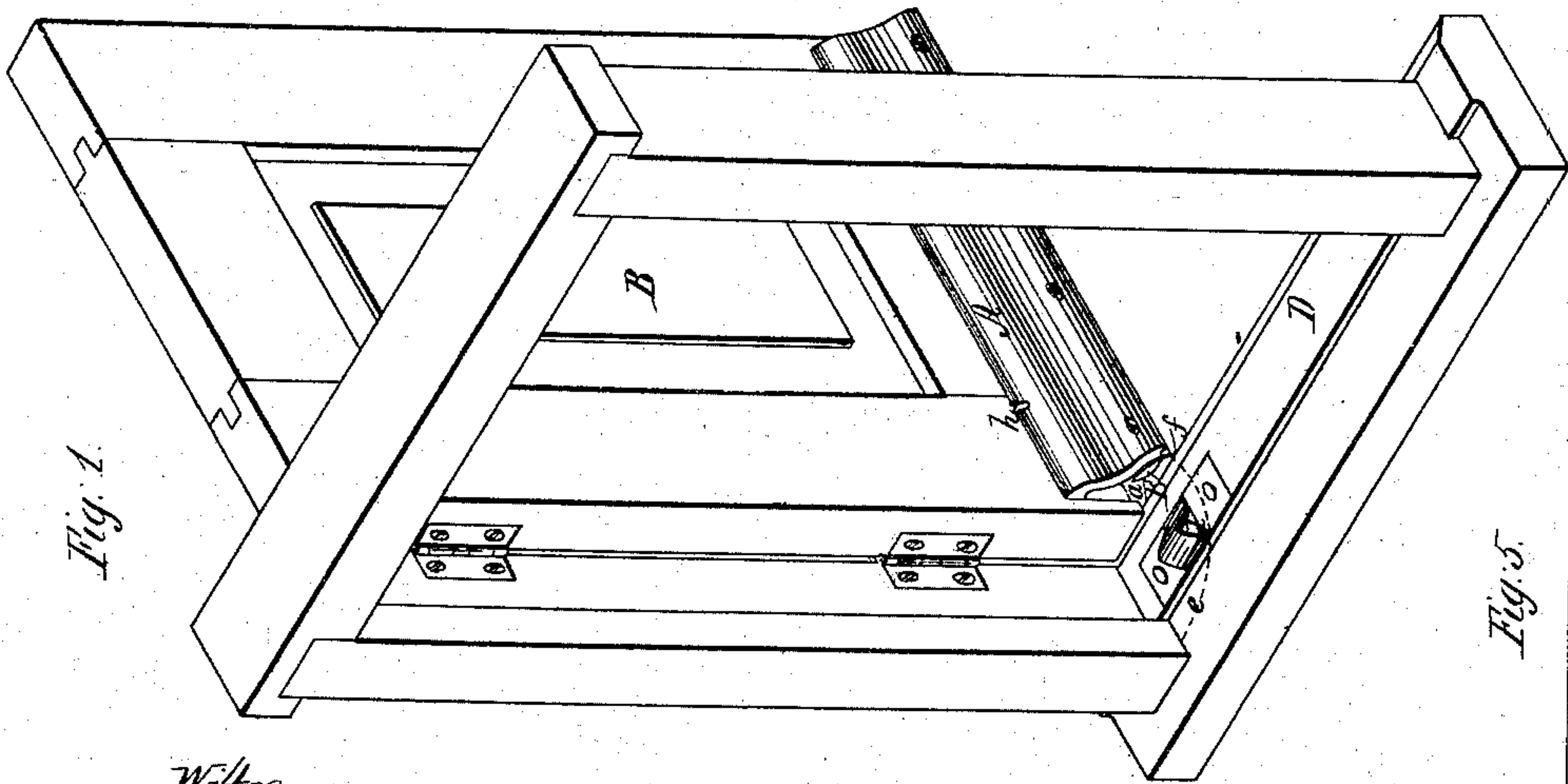
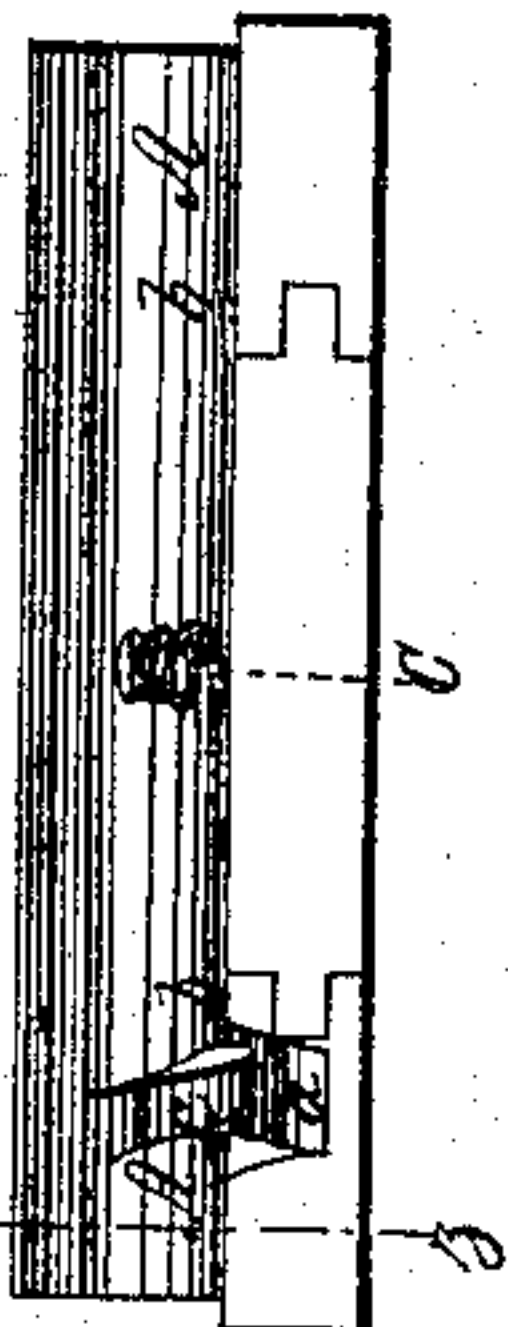


Fig. 5.



Witnesses;
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UNITED STATES PATENT OFFICE.

B. W. BOYCE, OF LANSING, MICHIGAN.

IMPROVEMENT IN DOOR WEATHER-STRIPS.

Specification forming part of Letters Patent No. 39,878, dated September 15, 1863.

To all whom it may concern:

Be it known that I, B. W. BOYCE, of Lansing, in the county of Ingham and State of Michigan, have invented a new and useful Improvement in Weather-Strips for Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, and of which—

Figure 1 is a view in isometrical perspective of a door-frame and door with my improved weather-strip attached thereto; Fig. 2, a front elevation of the same; Fig. 3, a vertical section in the line *x x* of Fig. 2, showing the manner in which the strip is pressed down and closed upon the door-sill; Fig. 4, a vertical section in the line *y y* of Fig. 2, showing the position and arrangement of the spring placed beneath the strip; Fig. 5, a bottom view of the edge of the door, with my improved strip attached thereto; and Fig. 6 is a vertical section in the line *z z* of Fig. 5, showing the form of the recess formed in the door for the reception of the upper edge of the vibrating strip.

Similar letters indicate like parts in each of the drawings.

My improved weather-strip consists, mainly, of a single piece, A, Figs. 1 and 2, of wood or metal, (I prefer metal,) molded into the form illustrated in the accompanying drawings, (see the sections thereof, Figs. 4 and 6,) or such other shape as will admit of proper attachment to the door and attain the result sought for in my invention. In attaching this strip A to the door B, I first cut out a rabbet or recess, *a*, Fig. 6, in the latter at a proper distance above its lower edge to receive the upper edge of the vibrating strip A, which may be hinged thereto very quickly and simply by means of two or more staples, *b b*, Fig. 2, which embrace a wire secured longitudinally in or along the upper edge of the strip.

Where it is preferable, butts or other forms of hinges may be substituted for the device above described.

To keep the vibrating strip up above the reach of any obstructions when the door is open, I place and secure one or more suitable springs, C, Figs. 4 and 5, beneath the strips A, and between it and the door B. And in order

to overcome the resistance of such springs and to force and close down the strip upon the door-sill so as to make a tight joint when the door is shut, I form an inwardly-projecting arm or tooth, *c*, Figs. 3 and 5, upon the inner side of the vibrating strip A, a few inches from its inner end, the recess in the door being enlarged at this point, as shown in Fig. 5, to receive it when the door is closed. This projection *c* serves as one arm of an angular lever, of which the lower edge of the vibrating strip A would form the other, as shown in Fig. 3. A tooth or lug, *d*, Fig. 1, is secured to the door-sill D in such a position as to strike the arm *c* when the door is closed, and by pushing it inward and upward causes it to force the lower edge of the vibrating strip downward closely upon the threshold of the door. The lug *d* may be cast of metal and secured to the sill D by means of screws, as is clearly shown in Fig. 1; or it may be arranged in any other suitable manner in combination therewith, care being taken that it shall be placed within the sweep or circumference of an imaginary circle, *e*, Fig. 1, described by the inner lower corner of the vibrating strip A, as the door B, to which it is attached, turns upon its hinges.

To perfect my improved weather-strip, and add to its efficiency by causing it to form an air-tight joint with the door-sill D, I combine therewith a strip, *f*, Figs. 5 and 6, of india-rubber or its equivalent, which will project below the edge of the vibrating strip A, and which is secured thereto by means of a binding or stay piece, E, Figs. 5 and 6.

My improved weather-strip differs from all others chiefly in being hinged directly to the door, and in being combined with rubber in such a manner as to add greatly to its efficiency.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement of a single vibrating strip, A, with the recess *a*, cut in the lower portion of a door, B, by means of the staples *b b*, or their equivalents, substantially in the manner and for the purpose herein set forth.

2. Combining with the lower edge of a vibrating strip, A, Fig. 1, a strip of india-rubber or other equivalent elastically-yielding

substance, substantially in the manner and for the purpose herein set forth.

3. The operating tooth or lug *d*, when combined with the sill *D* and vibrating strip *A* of a door, substantially in the manner and for the purpose herein described.

This specification of my improved weather-

strip signed by me this 19th day of May, A. D. 1863.

B. W. BOYCE.

In presence of—

D. C. WILEY,

F. M. COWLES.