

No. 856,070.

PATENTED JUNE 4, 1907.

H. E. KENNY.  
WEATHER STRIP.  
APPLICATION FILED MAY 14, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

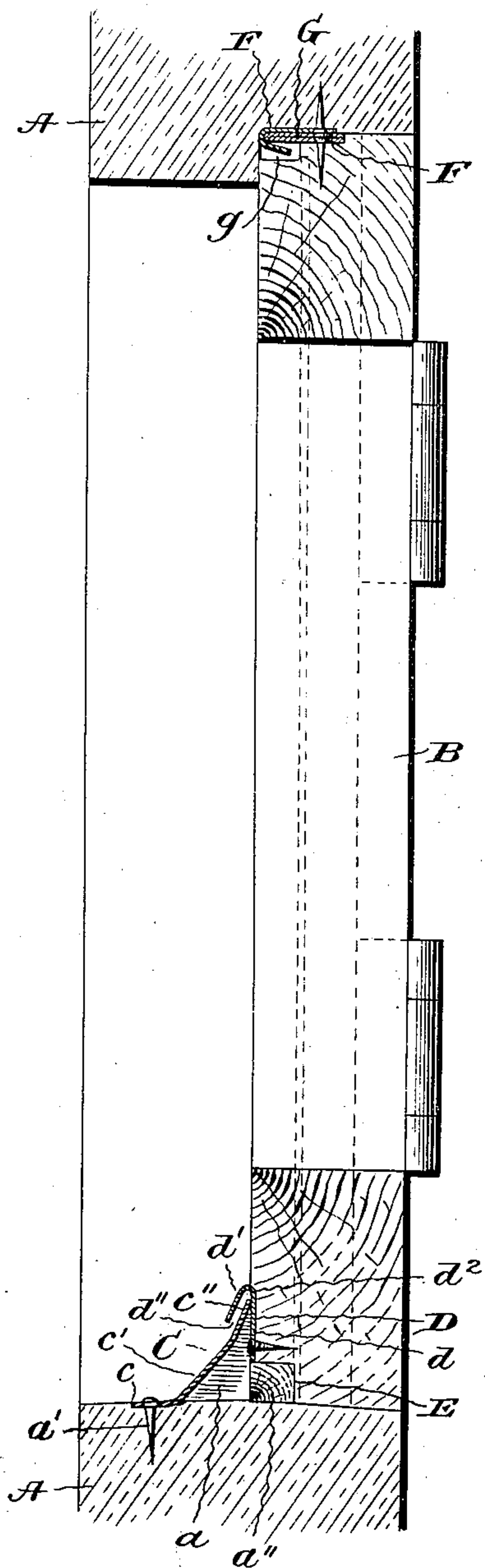
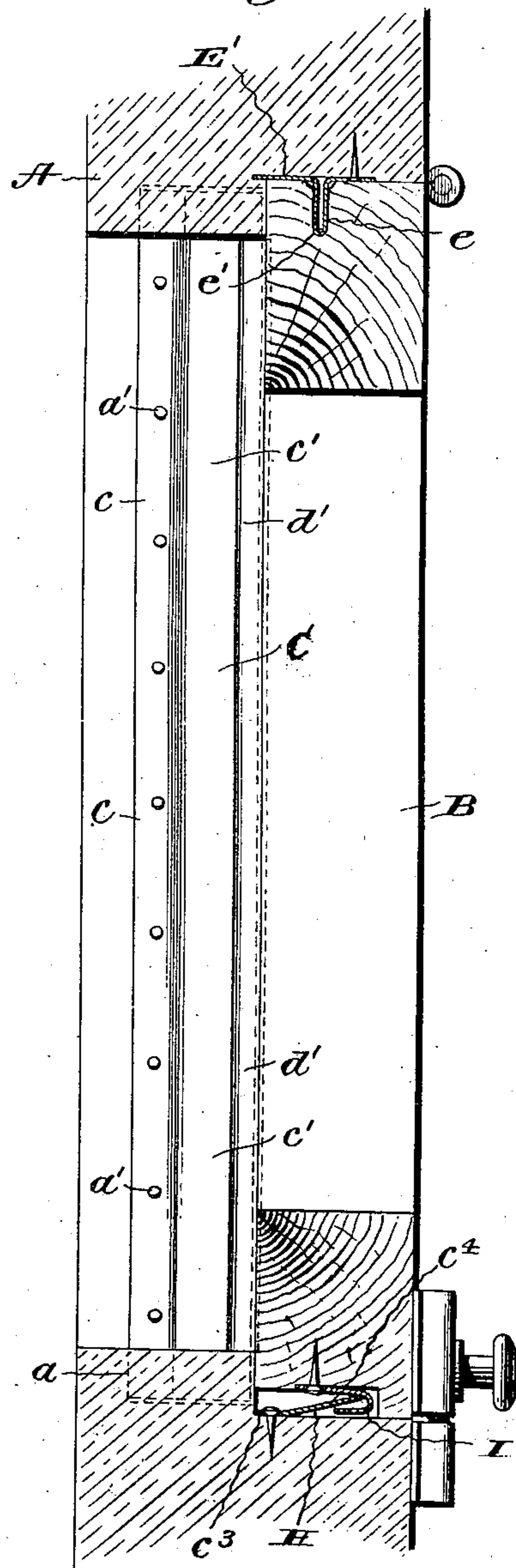


Fig. 2.



Witnesses:

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Thos. R. Strath.

Inventor:

Hugh E. Kenny,  
By *Macmillan* Attorneys.

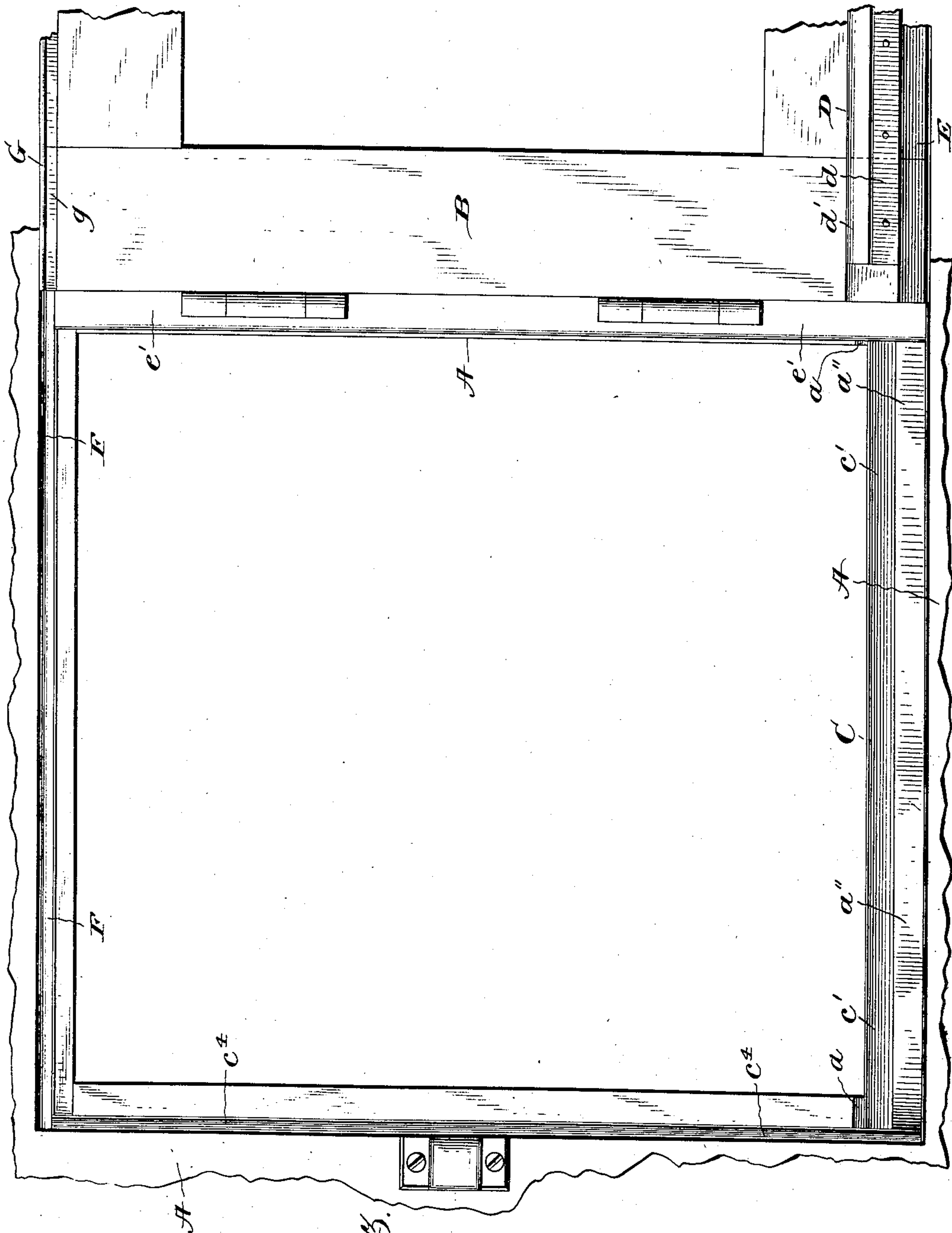
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3 SHEETS—SHEET 2.



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Fig. 3.

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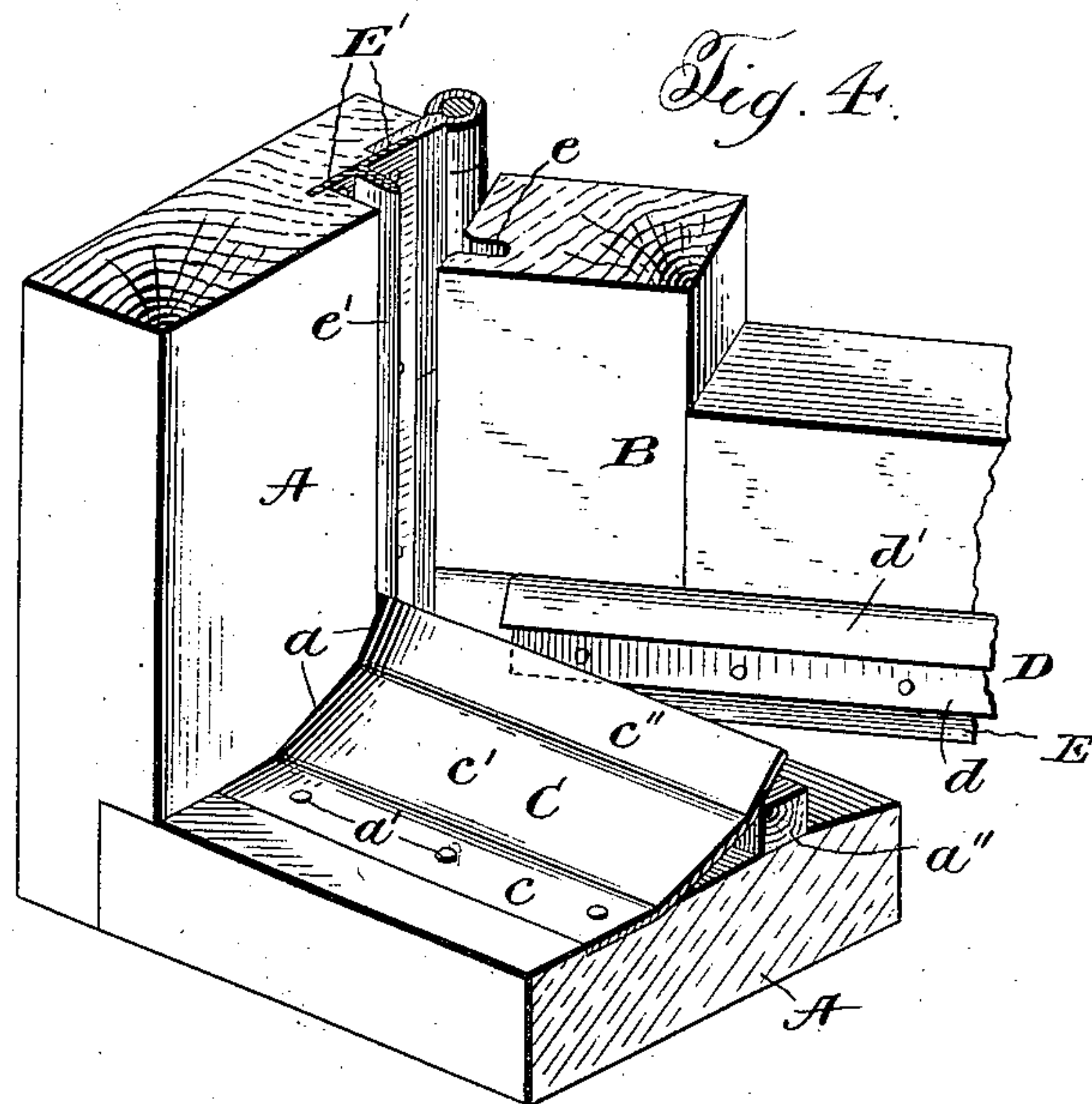
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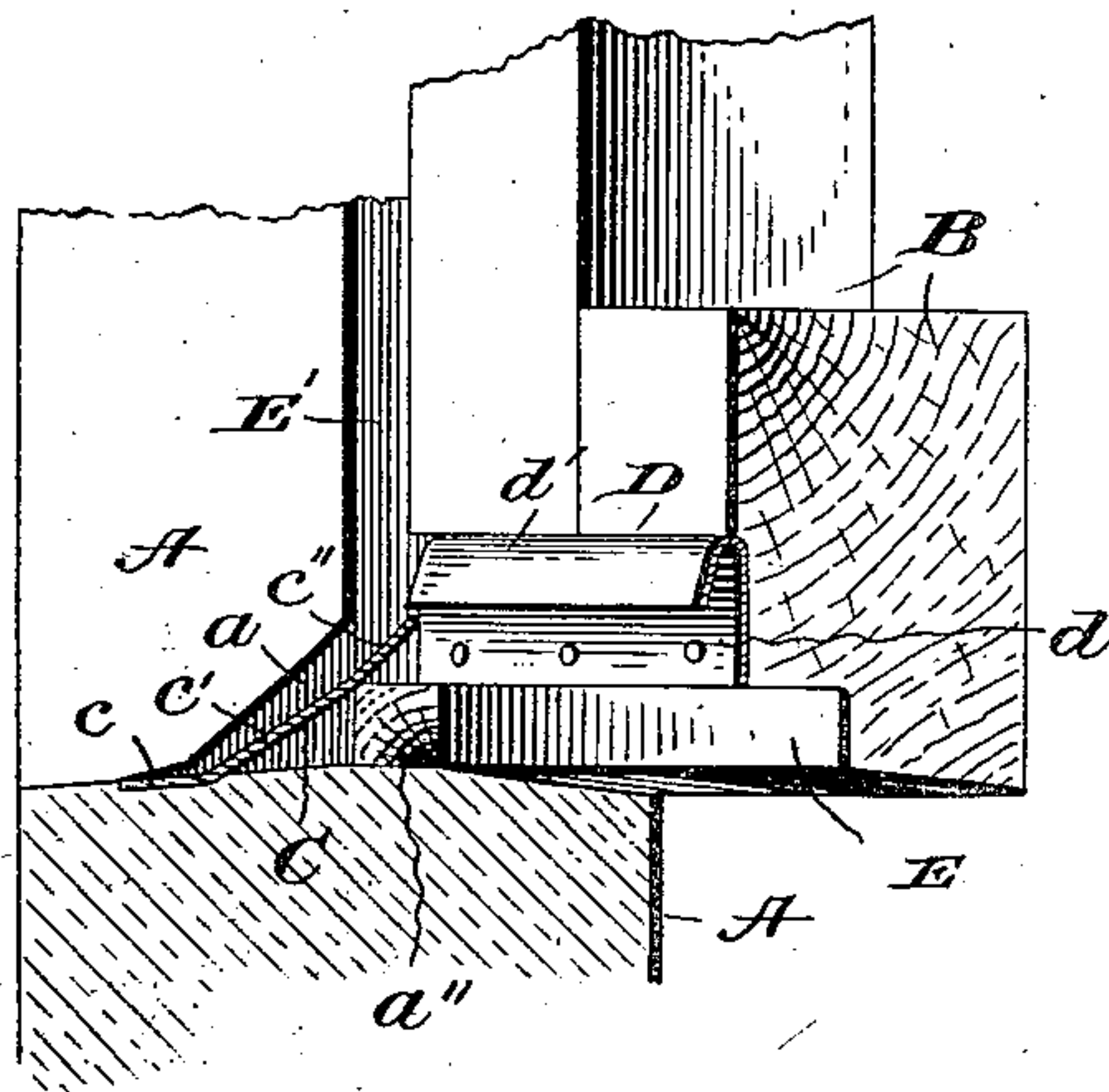
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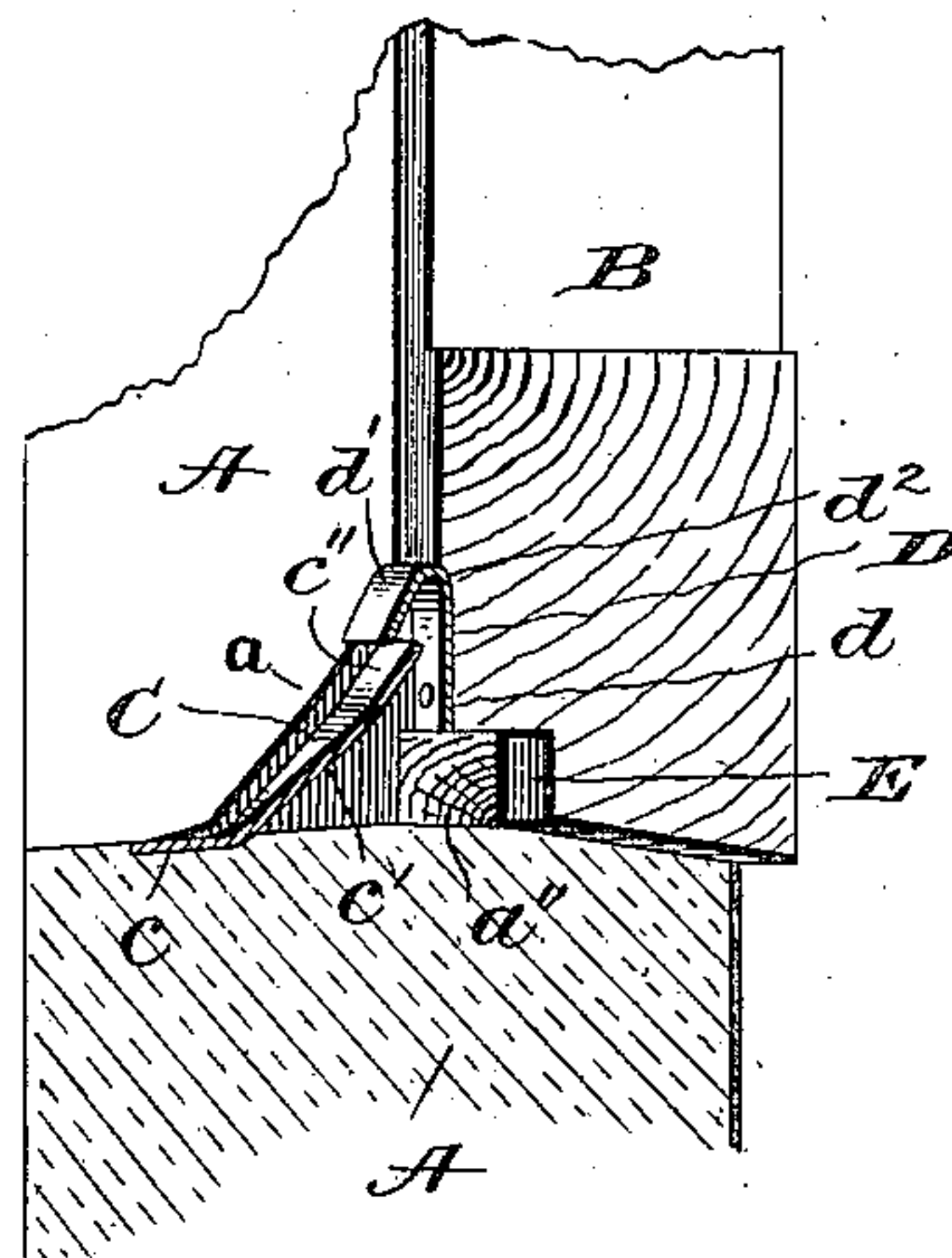
3 SHEETS—SHEET 3.



*Fig. 5.*



*Fig. 6.*



Witnesses:

James Hutchinson  
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# UNITED STATES PATENT OFFICE.

HUGH E. KENNY, OF DETROIT, MICHIGAN, ASSIGNOR TO CHAMBERLIN METAL WEATHER STRIP COMPANY, OF DETROIT, MICHIGAN.

## WEATHER-STRIP.

No. 856,070.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed May 14, 1906. Serial No. 316,801.

*To all whom it may concern:*

Be it known that I, HUGH E. KENNY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Weather-Strips for Casement-Windows, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to improvements in metal weather strips, which, though susceptible of various uses, is primarily designed for casement or swinging windows.

15 The object of the invention is the provision of a weather strip of the character designated which is simple in construction, durable, and effective in preventing air, dust, moisture, etc., from entering the room around the edges of the sash, and especially at the bottom thereof.

20 A convenient embodiment of the invention embraces, in combination with a casement sash and its frame, interlocking metal strips therebetween so arranged that when the sash is closed the space between the same and the casing or frame will be sealed entirely therearound, that is, at the top, bottom and sides thereof, including the corners formed by the juncture of said top, bottom and sides.

25 The above mentioned embodiment includes a novel combination comprising a spring metal member rigidly secured at one edge to the sash frame and having an outwardly turned free sealing flange, and a complementary grooved member secured to the sash adapted when the sash is closed to receive said sealing flange and engage therewith to create a yieldable sealing contact therebetween.

30 Novel details in the construction and arrangement of the several parts of the weather strip will be apparent from the detailed description hereinafter contained when read in connection with the accompanying drawings forming part hereof and wherein said convenient embodiment of the invention is illustrated.

35 In the drawings: Figure 1 is a vertical sectional view through the casement sash and its frame, Fig. 2 is a horizontal sectional view therethrough, Fig. 3, is an inside elevational view, the sash being open and broken away, Fig. 4, is a fragmentary perspective

5 view showing the relative positioning of the parts of the weather strip upon the sash and sash frame at the bottom thereof, Fig. 5, is a transverse sectional view of the same illustrative of the initial engagement of the two sections of the weather strip during the closing movement of the sash, and Fig. 6, is a similar view showing the engagement of and positioning of these parts during the interval of movement of the sash from the position shown in Fig. 5, to that shown in Fig. 1.

60 Referring more specifically to the drawings wherein like reference characters refer to corresponding parts in the several views, A designates a casing or frame of a casement window, and B, the sash hingedly mounted at one edge thereof, said frame and sash being of any ordinary or preferred construction.

65 That portion of the weather strip which is at the bottom of the sash and frame will first be described.

70 C represents one member of the strip, the same being composed of sheet spring metal having a horizontal flange *c* lying flat upon and rigidly secured to the upper surface of the bottom of the frame through the medium of tacks *a'*; an intermediate portion *c'* bent upwardly and inwardly from the flange *c* to span the space between said flange and the edge of a stop strip *a''* of the frame, whereby the strip may when the sash is opened rest upon said sill and be held in operative position against the tendency of the same to spring downwardly; and a sealing flange *c''* projecting upwardly and inwardly from the intermediate portion *c'* into position to engage a complementary section of the strip on the window frame which will now be considered. D represents this complementary section, the same being formed of sheet metal and having a depending flange *d* tacked to the side surface of the sash B, the latter being rabbeted as at *d<sup>2</sup>* for that purpose, and a somewhat narrower flange *d'* bent downwardly from said flange *d* whereby to form a receiving groove or channel *d''* therebetween for the reception of the sealing flange or edge *c''* of the strip section C. The arrangement of these parts is such that during the closing movement of the sash the bottom edge of the narrower flange *d'* will barely escape the edge of the sealing flange *c''* of the strip C, whereby said sealing flange will initially and at its



extreme edge contact with the smooth surface of the flange *d* of the complementary section D, and be gradually sprung from its normal position to cause the same to ride upwardly against said smooth surface of the flange *d* until, when the sash is nearly closed said sealing flange *c''* will bear against the surface of the flange *d* throughout its entire extent and at a plane slightly above that of the lower edge of the narrower flange *d'*, when the final closing movement of the sash will force the spring sealing flange *c''* up into the groove or channel *d''* of the strip section *d* to near the top thereof whereby the sealing action is secured not only by the firm impingement of the sealing flange *c''* upon the flange *d*, but also by the overhanging narrower flange *d'* which now extends downwardly over the sealing flange *c''* to a very substantial extent. The ends of the strip section C are sealed by projecting them into suitable grooves or cut-away portions *a* in the sides of the window frame and against the upper walls of which said strip section is forced into contact by the engagement of the sash therewith when being closed, as is obvious.

The bottom of the sash is cut away as at E whereby it may fit against and over the stop-strip *a''* of the frame. At the hinged edge of the sash, I form a groove *e* shaped to slip over and receive the rib *e'* of the strip E' secured to the side of the frame, said strip and rib being formed of sheet metal doubled upon itself as is well known in this art. This sealing rib *e'* projects downwardly beyond the stop strip at the bottom of the frame as clearly shown in Fig. 3, but stops short of the top of the frame to permit engagement of the top strip as will now appear.

At the top of the frame I secured a strip section F in all respects the same as the section D hereinbefore described, and at the top of the sash I rabbet the same and seat therein a sealing rib G composed of sheet metal doubled upon itself and tacked to the window, said rib overhanging a cut away portion *g* at the inner edge of the top of the sash whereby to co-operate therewith in forming a groove for the reception of the free flange of the strip F. The strip G slips into the space between the top of the window frame and the upper end of the side strip E' and at its opposite end projects slightly beyond the top of the sash to slip into the space beneath the top of the frame and over the upper end of the opposite side strip section now to be defined. H represents this strip section secured to the opposite side of the frame, said strip being identical with the strip C before described, save that the flange *c''* is omitted, i. e. in this instance the section comprises a securing flange *c'* tacked to the frame, and an outwardly springing portion *c''* projecting therefrom, and it is to be here observed that

in this strip section as also in the strip section C, the creases intermediate the several portions thereof in a measure constitute hinged lines upon which the strip may bend when in operative position.

I is the section which is formed complementary to the strip H, and is carried at the free edge of the sash, said free edge of the sash being cut away and rabbeted for the reception of the strip I whereby the same will be located within the plane of the outermost edge of the sash at this side. The strip I, as will be readily appreciated, is of the same formation as the strips D and G, before described.

The upper end of the spring strip H extends slightly above the free flange of the strip which is secured to the top of the frame, as does also the sealing rib *e'* of the strip E', and the bottom of the strip H extends downwardly beyond the stop-strip the same as is hereinbefore suggested with respect to said strip E'.

I claim:

1. The combination with a frame and swinging sash, of a stop-strip at the bottom of said frame, the bottom of the sash being rabbeted to fit against and over said stop-strip, and a weather strip adapted to seal the space between the upper surface of said stop-strip and the adjoining surface of the sash comprising interfitting metallic sections, one on the sash adjacent to its rabbeted portion and another on the frame facing said rabbeted portion, and one of said sections being resilient whereby to yieldably engage the other to create a sealing contact therebetween when the sash is closed.

2. The combination with a frame and swinging sash, of a stop-strip at the bottom of said frame, the bottom of the sash being rabbeted to fit against and over said stop-strip, and a weather strip adapted to seal the space between the upper surface of said stop-strip and the adjoining surface of the sash comprising interfitting sections one on the sash adjacent to its rabbeted portion, and another on the frame facing said rabbeted portion, and one of said sections being resilient whereby to yieldably engage the other to create a sealing contact therebetween when the sash is closed and having a securing flange lying flat and rigidly fastened to the bottom of the frame, an intermediate portion spanning the space between said flange and the adjacent edge of said stop-strip, and a free edge normally projecting above the upper surface of the stop-strip into a position to be engaged by the sash when closing.

3. The combination with a frame and a sash, said frame having a stop-strip, the sash being rabbeted at a point adjacent to said stop-strip, of a weather strip adapted to seal the space between the stop-strip and the adjoining surface of the sash comprising inter-



fitting metallic sections, one on the sash adjacent to its rabbeted portion, and another on the frame facing said rabbeted portion.

4. The combination with a frame and a sash, said frame having a stop-strip, the sash being rabbeted at a point adjacent to said stop strip, of a weather strip adapted to seal the space between the stop strip and the adjoining surface of the sash comprising interfitting metallic sections, one on the sash adjacent to its rabbeted portion and another on the frame facing said rabbeted portion, one of said sections being resilient whereby to yieldably engage the other to create a sealing contact therebetween.

5. The combination with a frame and swinging sash, of a weather strip adapted to seal the space between one edge of the sash and its frame comprising interfitting members one constituting a spring flange and the other formed of a part bent upon itself to provide substantially parallel relatively broad and narrow flanges with a groove therebetween for the reception of said spring flange, the relatively broad flange and the spring flange occupying intersecting planes whereby in the closing movement of the sash the spring flange will initially pass beneath the narrow flange in a direction toward the

broad flange and subsequently contact with and be deflected by the latter into the groove while maintaining a sealing engagement therebetween, the broad flange constituting a smooth contacting surface for the spring flange over which the latter may ride in the closing movement of the sash.

6. In combination with a frame, and swinging sash, of a weather strip adapted to seal the space between one edge of the sash and its frame comprising interfitting members one constituting a spring flange and the other formed of a part bent upon itself to provide substantially parallel flanges with a groove therebetween for the reception of said spring flange, the innermost flange of the bent member, and the spring flange occupying intersecting planes whereby in the closing movement of the sash the spring flange will contact therewith and be deflected thereby into the groove while maintaining sealing engagement therebetween.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH E. KENNY.

Witnesses:

E. P. BARNES,  
CHAS. T. VENNERS.