

No. 713,508.

Patented Nov. 11, 1902.

G. SCHWING.
WINDOW FRAME AND SASH.

(Application filed May 28, 1902.)

(No Model.)

2 Sheets—Sheet 1.

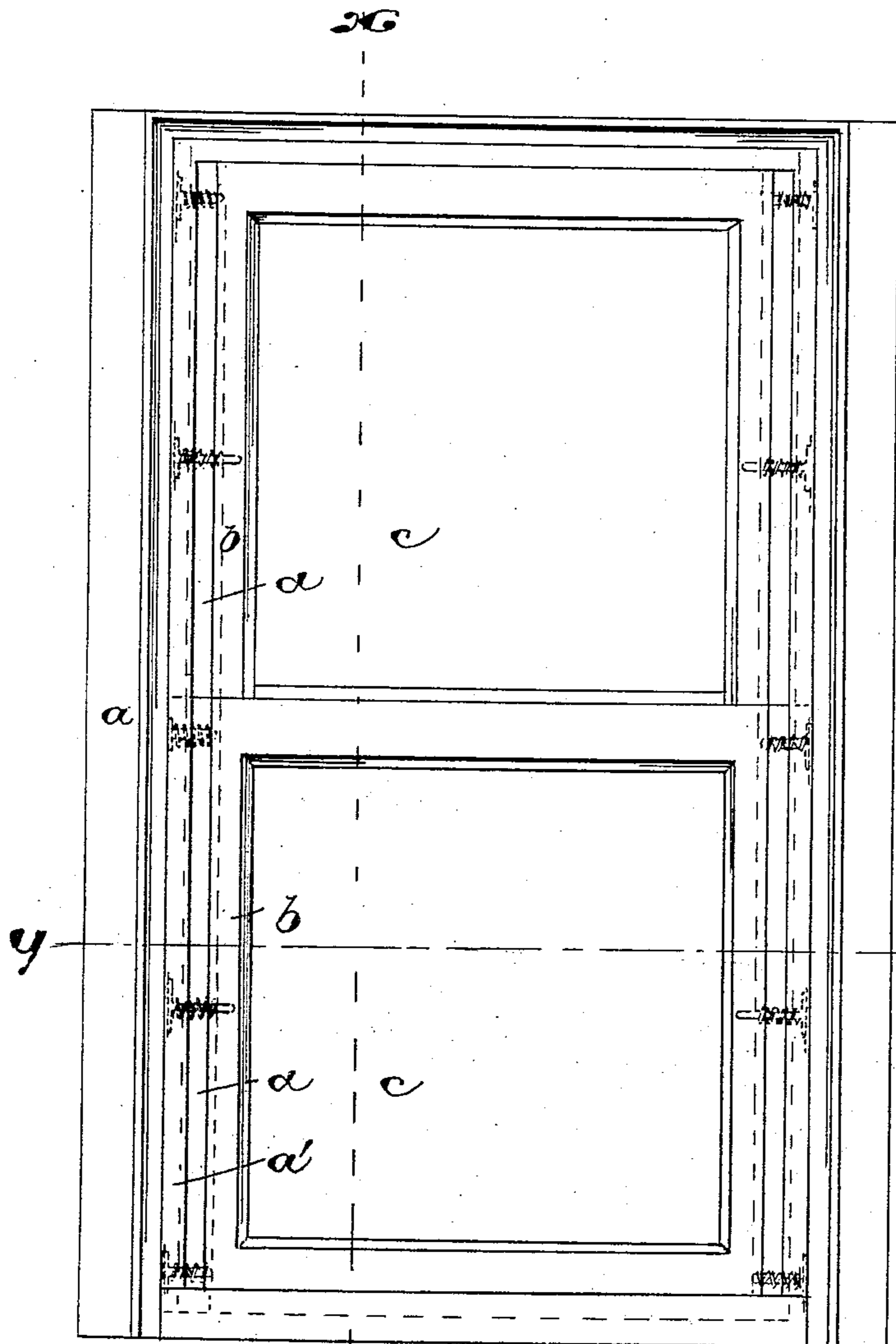


Fig. 1.

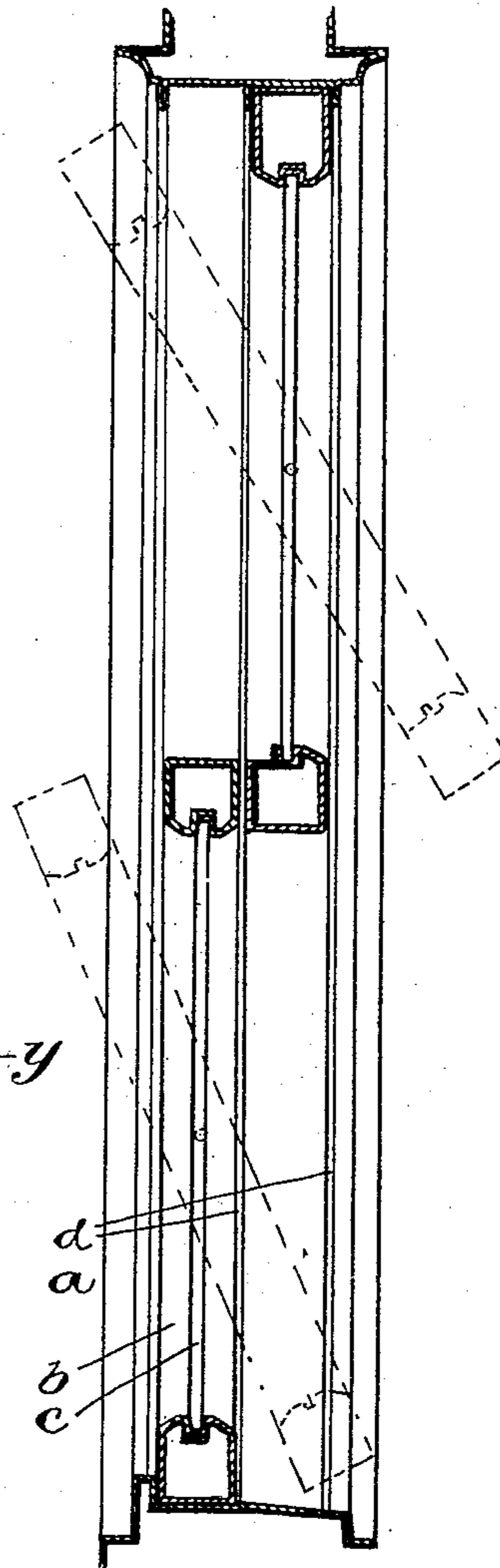


Fig. 2.

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2 Sheets—Sheet 2.

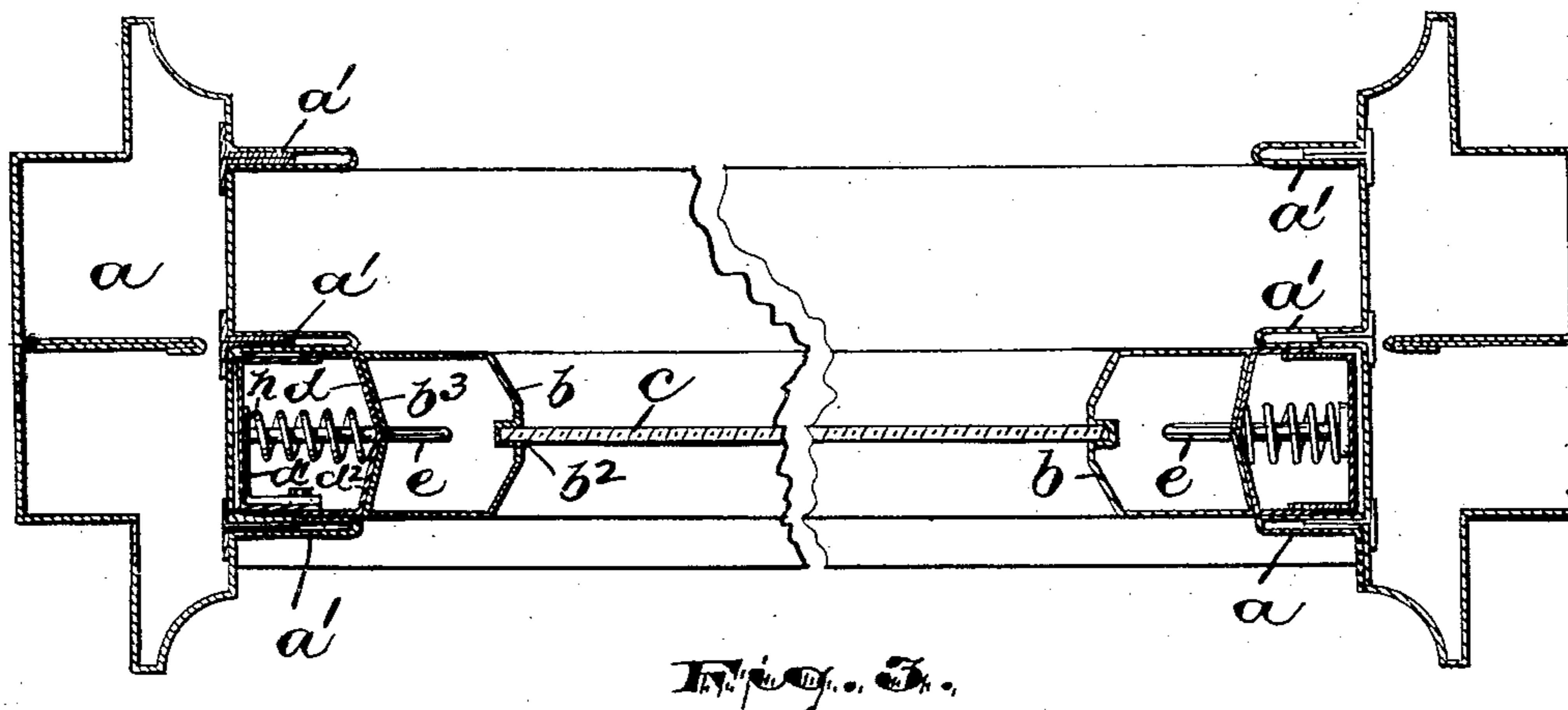


Fig. 3.

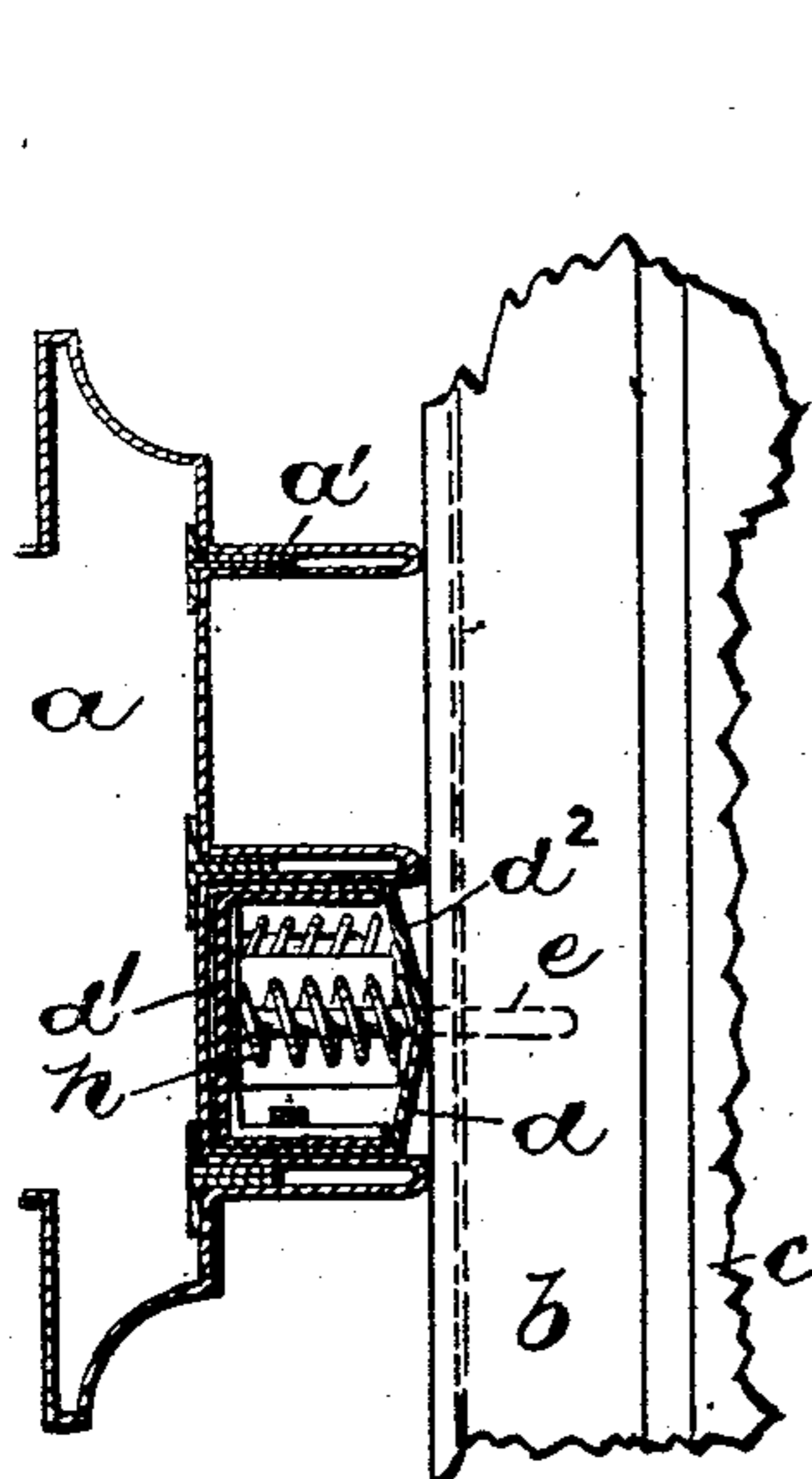


Fig. 4.

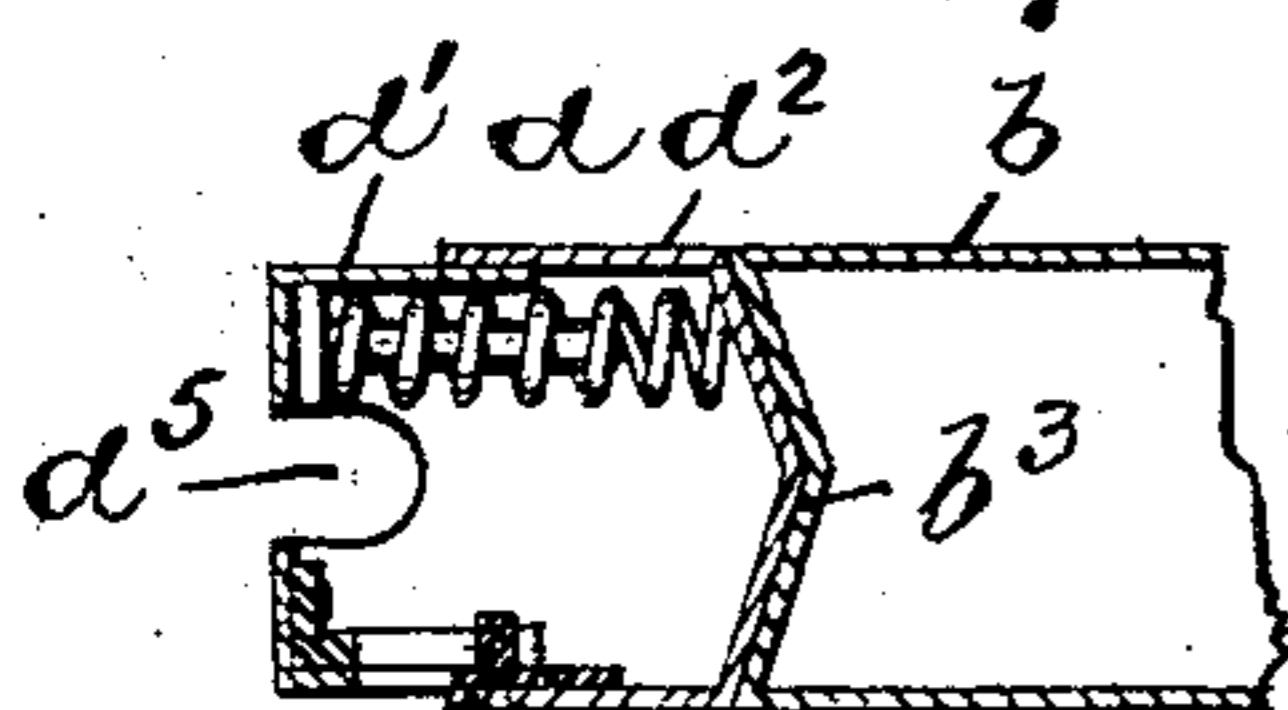


Fig. 7.

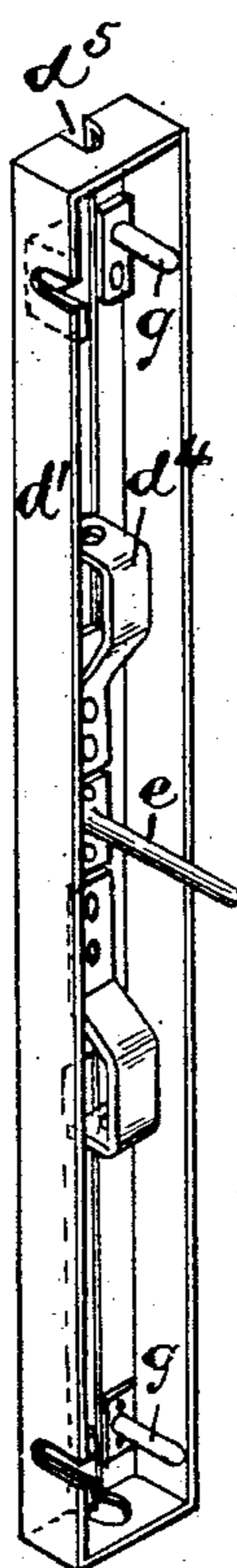


Fig. 5.

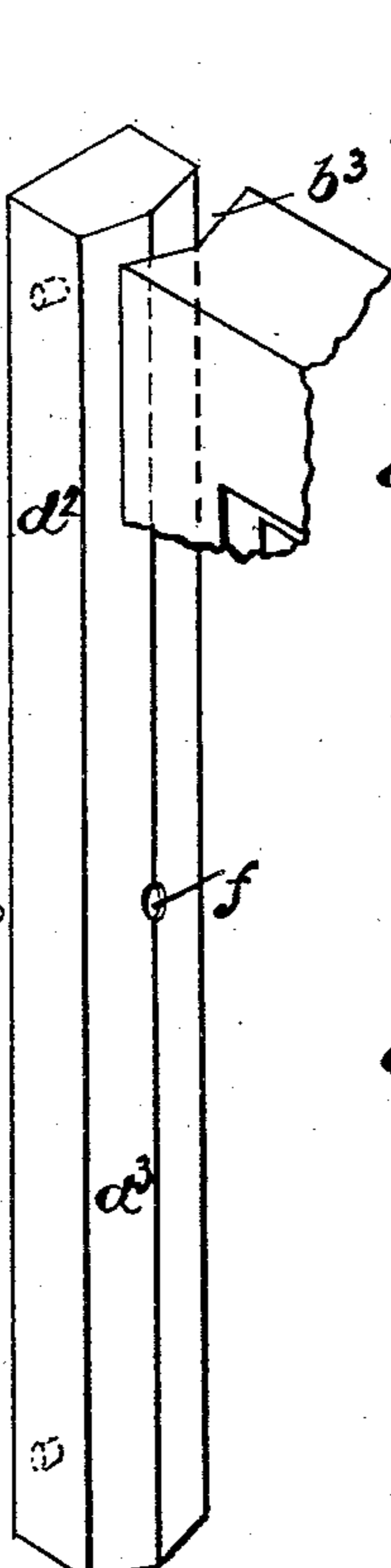


Fig. 6.

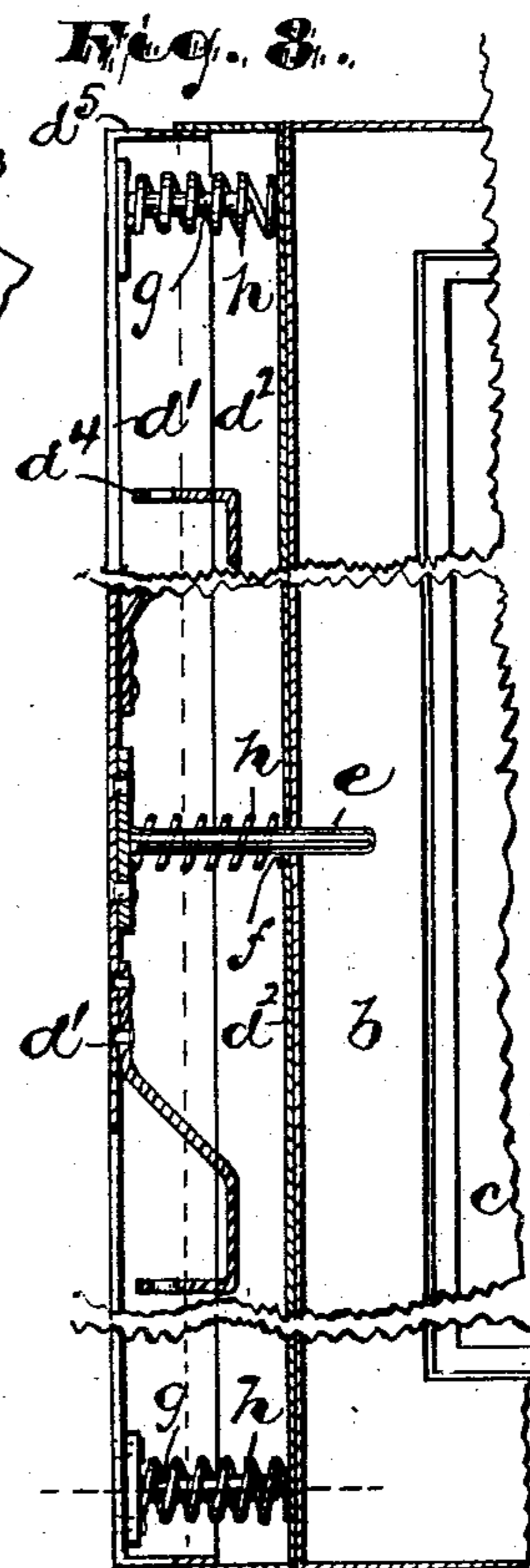


Fig. 8.

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UNITED STATES PATENT OFFICE.

GEORGE SCHWING, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE NEWARK CORNICE AND SKYLIGHT WORKS, A CORPORATION OF NEW JERSEY.

WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 713,508, dated November 11, 1902.

Application filed May 28, 1902. Serial No. 109,269. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SCHWING, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Window Frames and Sashes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates more particularly to certain improvements in metallic window-sashes, more particularly for high fireproof buildings, the objects being to secure a sash which can both revolve on an axis thereof and slide vertically within a window-frame and do so without loose joints or such as will permit the dust, rain, or wind from entering the room and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved window frame and sash and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is an elevation of a window-frame having my improved sashes therein. Fig. 2 is a section of the same, taken at line *x* of Fig. 1. Fig. 3 is a horizontal section, taken at line *y* of Fig. 1, on an enlarged scale. Fig. 4 shows the pivotal part of the frame, the sash being turned on its pivot to a horizontal position. Figs. 5 and 6 each show in detail perspective a section of a certain runner. Fig. 7 is a horizontal, and Fig. 8 is a vertical, sectional view of the runner and a part of the sash, showing the relation of the sections of said runner to one another and to the sash more clearly.

In said drawings, *a* indicates the window-frame, which is made of metal in any ordi-

nary manner, the said frame having parting-strips *a'*, of metal, forming runways for the runners *d* of the sash hereinafter described.

b indicates the sash, which is also of metal and is provided with a suitable groove *b'* or receptacle for the glass in any suitable manner. Said sash *b* on its side edges is provided with shallow V-shaped grooves *b'*, Fig. 6, adapted to receive the correspondingly V-shaped edge of the runner *d*. Said sash midway between its top and bottom is perforated at opposite sides to receive pivotal pins *e* of the runners *d d*. Said runners *d d* are made in sections *d'* *d''*, one of which fits telescopically over the other, as shown more clearly in Figs. 3, 4, and 5, the said sections having a sliding movement one on the other for the purpose hereinafter described. One of the sections *d'* of each of said runners is provided with a pivotal pin *e*, which is rigidly secured by riveting, soldering, or any other suitable manner to the inside wall of the outer side of said runner-section *d'* and extends through a perforation *f* in the inner angular side *d''* of the other runner-section *d''* and thence through a perforation into the sash, as in Fig. 8. At the opposite ends of said runner-sections are pins *g g*, adapted to hold springs *h* in suitable relation. A similar spring is on the pivotal pin. The said springs *h*, arranged on said pivotal pin *e* and end pins, bear inwardly against said member *d* of each runner, and thus tend to force said inner section close against the sash, so as to form an impervious joint therewith. Said sliding sections *d'* because of the springs therein are permitted to move outwardly, so as to permit the sash to turn on its pivot, the sliding movement being effected by the engagement of inclines as the sash is turned on its pivots. Inside the runner-sections *d'* is rigidly secured a sash cord or cable holder *d'*, to which the sash-cord may be attached and passed up to a suitable pulley through the opening *d'*.

In operating the device constructed as described I am enabled under ordinary conditions, where it is desired, to open and close the window by vertically sliding the sash in the ordinary manner. This I am enabled to

do by simply lifting the sash as usual, the sash *b* and runners *d d* remaining in their longitudinal relation because of the V-shaped meeting surfaces. Should I, however, desire
 5 to clean the outside of the windows, I am enabled to do so without danger by turning the sash pivotally, and to enable the sash to thus be turned I simply press upon the sash at a point distant from the pivotal pins, so that
 10 the inclined edges of the sash, engaging the correspondingly-inclined edges of the runners, force the inside sections of the runner pivotally outwardly or toward the frame, this movement being permitted by the springs *h*
 15 within the runner. The sash may be again closed with greatest ease, as may be understood.

I am aware that various modifications from my construction thus positively described
 20 may be made or employed without departing from the spirit or scope of my invention, and consequently I do not wish to be understood as limiting myself by the positive expressions employed above except as the state of the art
 25 may require.

Having thus described the invention, what I claim as new is—

1. The combination with the frame *a*, of metallic runners each made in telescopic sections one of said sections being provided with
 30 a pin which extends through the other section into the sash, substantially as set forth.

2. The combination with the frame, of a sectional runner, one section of which slides
 35 within the other, said runner-sections sliding together in said frame and providing a pivot on which the sash may be pivoted, substantially as set forth.

3. The combination with a frame having
 40 runner-ways between parting-strips, of sectional runners arranged in said ways, one of the sections of each of which is provided with

pins upon which springs are arranged, the central of said pins being extended through the other section to provide a pivot for the
 45 sash, the said sash and the runner-section next adjacent thereto being provided with corresponding inclines to hold the said parts normally in longitudinal engagement, substantially as set forth. 50

4. The combination with the metallic frame having parting-strips making vertical slideways, of sectional metallic runners arranged in said slideways and having shaped inner
 55 faces and inwardly-projecting pivotal pins, and metallic sashes arranged on said pivotal pins and having correspondingly-shaped opposite side edges fitting the shaped faces of the runners, and springs arranged between the sections of the runner permitting of a
 60 movement of one of the sections away from the sash when the latter is turned pivotally, substantially as set forth.

5. The combination with the frame providing vertical slideways, of sectional runners
 65 arranged in said slideways, one of the sections of each of said runners being provided with pins *g, g*, springs arranged on said pins and normally tending to throw said sections
 70 apart, a central pivotal pin fastened upon one section of each runner and extending therefrom into the sash, a cord-holder also fastened on a section of each of said runners, and a sash engaging said runners and held
 75 by the pivotal pins thereof, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of May, 1902.

GEORGE SCHWING.

Witnesses:

CHARLES H. PELL,
 C. B. PITNEY.