

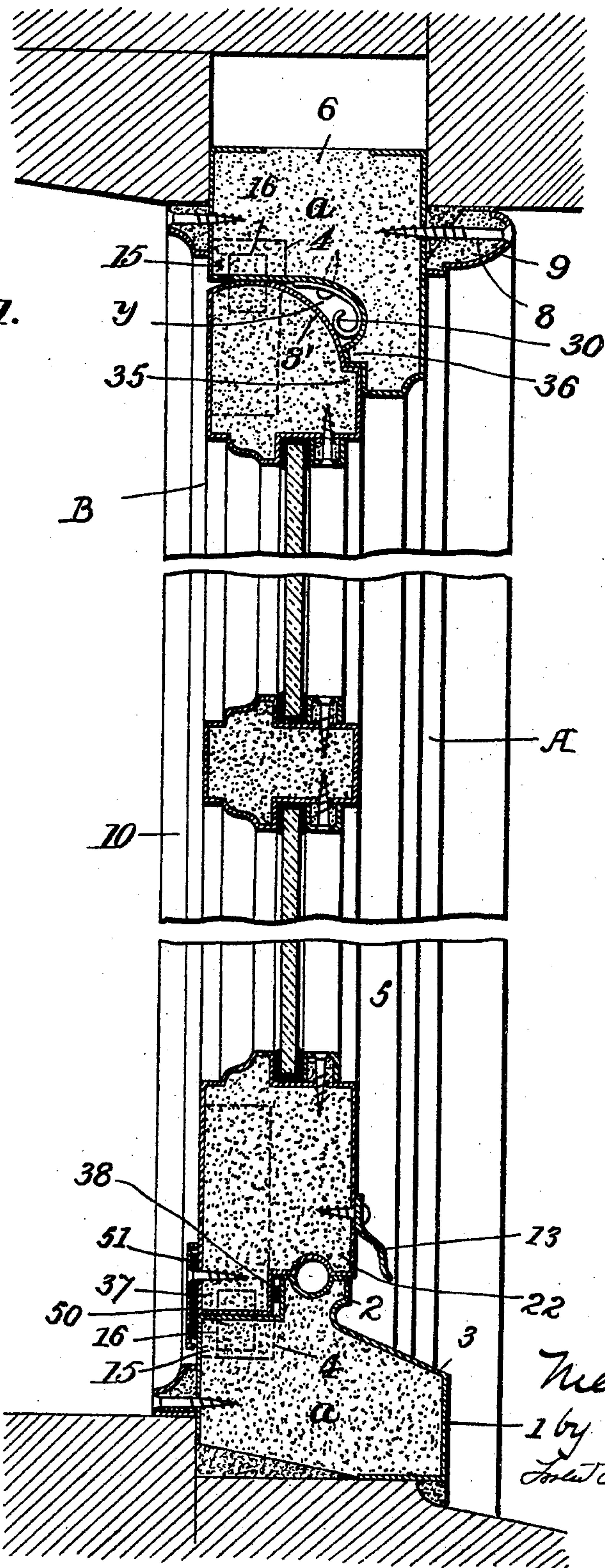
No. 795,306.

PATENTED JULY 25, 1905.

N. POULSON.
WINDOW FRAME AND SASH.
APPLICATION FILED MAY 2, 1903.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

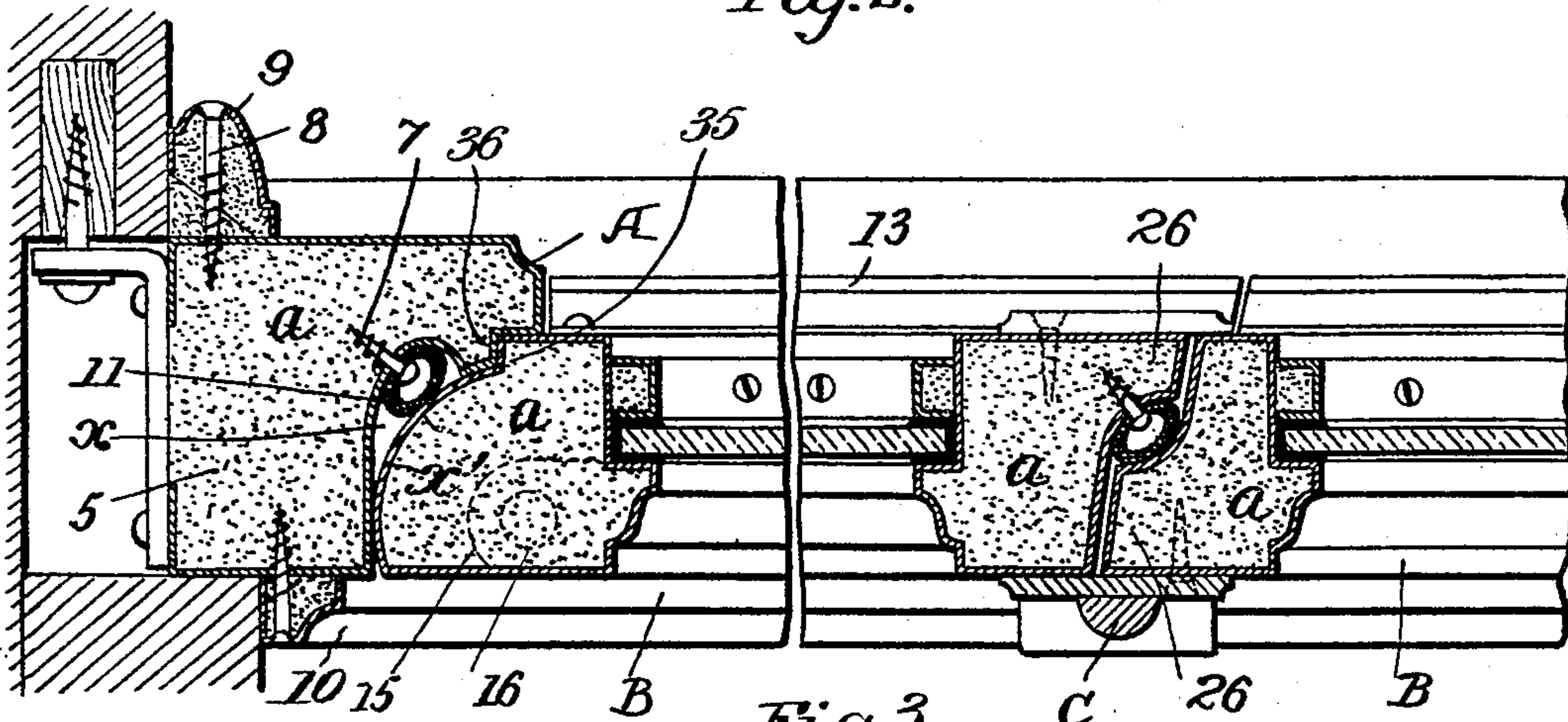
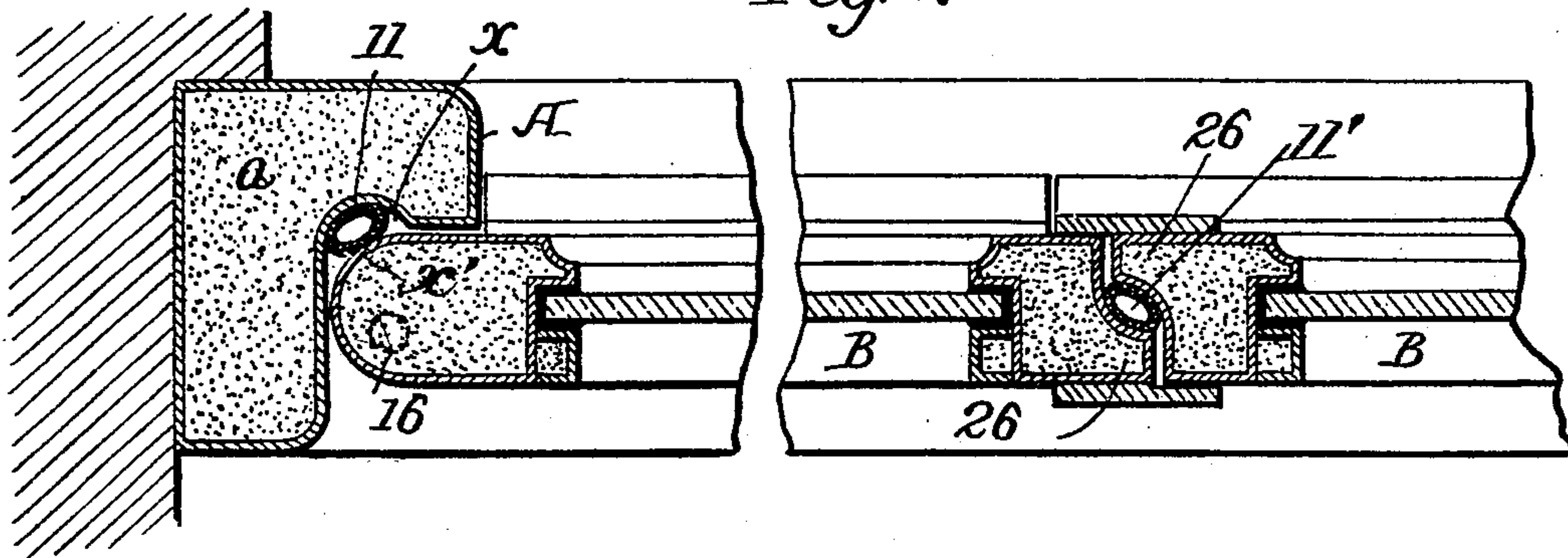


Fig. 3.



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UNITED STATES PATENT OFFICE.

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WINDOW FRAME AND SASH.

No. 795,306.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed May 2, 1903. Serial No. 155,359.

To all whom it may concern:

Be it known that I, NIELS POULSON, a citizen of the United States of America, and a resident of the borough of Brooklyn, New York city, in the State of New York, have invented a new and useful Improvement in Window Frames and Sashes, of which the following is a specification.

This invention relates to window frames and sashes in which hollow metallic "strips," as they have been termed, provided, preferably, with suitable fireproof fillers, are made use of instead of strips of wood; and the present invention consists in constructing and combining the parts, as fully set forth hereinafter, to facilitate manufacture and to insure tight joints.

Two sheets of drawings accompany this specification as part thereof.

Figure 1 is a vertical section of the improved window frame and sash. Fig. 2 is a sectional plan of the same, and Fig. 3 is a sectional plan showing a slightly-modified construction.

Like reference characters refer to like parts in all the figures.

A is a window-frame, and B B are hinged sashes which when closed are secured by suitable means, as by means of sliding bolts operated by handles C of usual construction.

The frame A has a sill 1, uprights 5, and a top rail 6, all preferably of non-combustible material, as hollow metallic strips drawn or struck up from suitable sheet metal and filled with a fireproof composition, (represented at *a*), and the rails and side members of the sashes B are formed in like manner. Beads 9, preferably of like construction, are secured by metallic fastenings or screws 8 to the side and top members of the frame A, all externally, and fit closely against the contiguous surfaces of the wall of the building. Like beads 10 may be attached to all the frame members internally.

Each of the uprights 5 is provided with a transversely-curved concavity, forming a longitudinal recess *w* for the reception of the side member of the adjacent sash, and this side member has a transversely-curved convex face or projection *w'*, that does not closely fit the recess, the recess *w* being so formed as to allow the insertion of a compressible metallic or other packing or weather-strip 11, shown as a rubber tubing, suitably secured in place, as by screws 7 passing through slits in the outer side of the tubing. A similar strip 11'

is inserted in a recess formed by providing the meeting members of the sashes B B with overlapping but separated ribs 26 26. It will be seen that by this arrangement the packing receives a lateral pressure and is not scraped or rubbed. There is a rib or shoulder 35 on each of the top and side members of the sash, which coincides with a rib 36 on the frame to secure a closed joint. The top rail 6 of the frame A is also provided with a recess *y*, Fig. 1, within which is secured a weather-strip 30 in the form of a curved metal blade, contacting with a convex surface or projection *y'*. Said weather-strips 11, 11', and 30 insure perfectly tight rain, snow, and dust proof joints, while avoiding the necessity for tightly fitting the sashes to the frame or to each other.

The sashes B B are hinged by vertical pivots 16 and by placing these eccentrically with reference to the projections *w'*, as indicated in Fig. 2 and Fig. 3, the opening of the sash carries them directly away from the weather-strips 11 of the hinge-joints, so that there is no rubbing of the strips in operation and so that there is a direct pressure upon the strips to secure tight joints in closing.

To facilitate inserting the parts in place, each of the upper and lower rails of the frame A has a pocket or recess 4 (shown in dotted lines in Figs. 1 and 2) to receive a pivot-plate 15, and after these plates, the pivots 16, and the upper and lower rails of the sashes B B have been brought into proper relation to each other they are inserted together into the frame A, the pivot-plates 15 entering the recesses 4, within which they are suitably secured in place.

The sill 1 of the frame A is provided with a weather-rib 2 and an outwardly-slanting edge 3, Fig. 1, and the lower rail of each sash B has a projecting portion 22 extending over the weather-rib 2 of the sill when the sash is closed to exclude moisture. Further, there is an additional horizontal projection 13 at the outside of the lower rail, projecting beyond the rib 2 and parallel therewith, but higher than the edge of said rib.

Secured to the depending rib 37 of each sash B is a packing-strip 38, which abuts against the side of the rib 2 and closes the joint tightly when the sash is closed.

To close the joint between the sill and lower sash-rail at the inside, a flexible strip or flap 50 is placed flat against the faces, crossing the joint, as shown in Fig. 1, and to hold it closely in contact with the rail and sill it is covered

by a plate 51, suitably secured to the sash-rail and extending below said flap 50. Preferably the flap 50 consists of a sheet of rubber cloth folded on itself.

It will be evident that my invention may be used in connection with swinging sash swinging either horizontally or vertically and that different fastening devices may be employed and other details of construction differing from those illustrated may be used without departing from the essential features of the invention.

While any suitable fireproof composition may be used as a filler, I prefer to make use of the composition known as "lignolith," having wood fibers, which is non-combustible, light, stiff, and capable of being readily introduced and is cheap and takes as strong hold of the screw-threads as wood itself.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. In a window, the combination of a sash having an outer horizontal projection upon its lower rail, and a sill consisting of a metallic casing containing fireproof composition and having a narrow weather-rib extending up under said horizontal projection, said horizontal projection being wholly above the upper edge of said rib, substantially as set forth.

2. In a window, the combination of adjacent frame and sash members, the frame member having a curved longitudinal recess, and the sash member having a complementary curved projection, and a flexible packing interposed between said projection and the back of said recess, substantially as set forth.

3. In a window, the combination of adjacent frame and sash members, the frame member having a curved longitudinal recess and the sash member having a complementary curved projection, and a flexible packing interposed between said projection and the back of said recess, the sash being eccentrically pivoted, substantially as set forth.

4. In a window, the combination of adjacent frame and sash members, the frame member having a curved longitudinal recess and the sash member having a complementary curved projection, and a flexible packing consisting of a rubber tube interposed between said projection and the back of said recess, substantially as set forth.

5. A window-frame having a longitudinal recess combined with a pivoted sash and with a flexible weather-strip arranged in said recess to be compressed laterally against the face of the sash as the sash is closed, substantially as set forth.

6. A window-frame constructed to form a longitudinal recess combined with a flexible weather-strip, consisting of rubber tubing, arranged in said recess, to be compressed laterally against the face of the sash as the sash is closed, substantially as set forth.

7. The combination with the sill and lower sash-rail having inner faces in line with each other of a flexible flap extending below said rail to meet the adjacent face of the sill, substantially as set forth.

8. The combination with the sill and lower sash-rail of a flexible flap extending below said rail to meet the adjacent face of the sill and a cover-plate clamped against the outer face of and extending below said flap, substantially as set forth.

9. The combination, in a window, of a frame having a top rail constructed with a curved inner face forming a recess, *y*, and with a rib, 36, and a pivoted sash, the top rail of which has a shoulder, 35, engaging the shoulder 36 of the frame, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NIELS POULSON.

Witnesses:

FRANCIS FORBES,
WILLIAM J. HARVEY.