

C. Neer.

Window Sash.

N^o 46,305.

Patented Feb. 7, 1865.

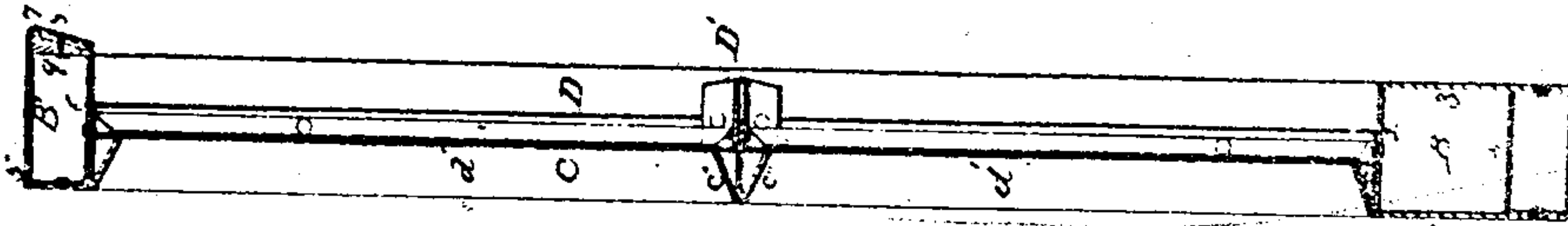


Fig. 2.

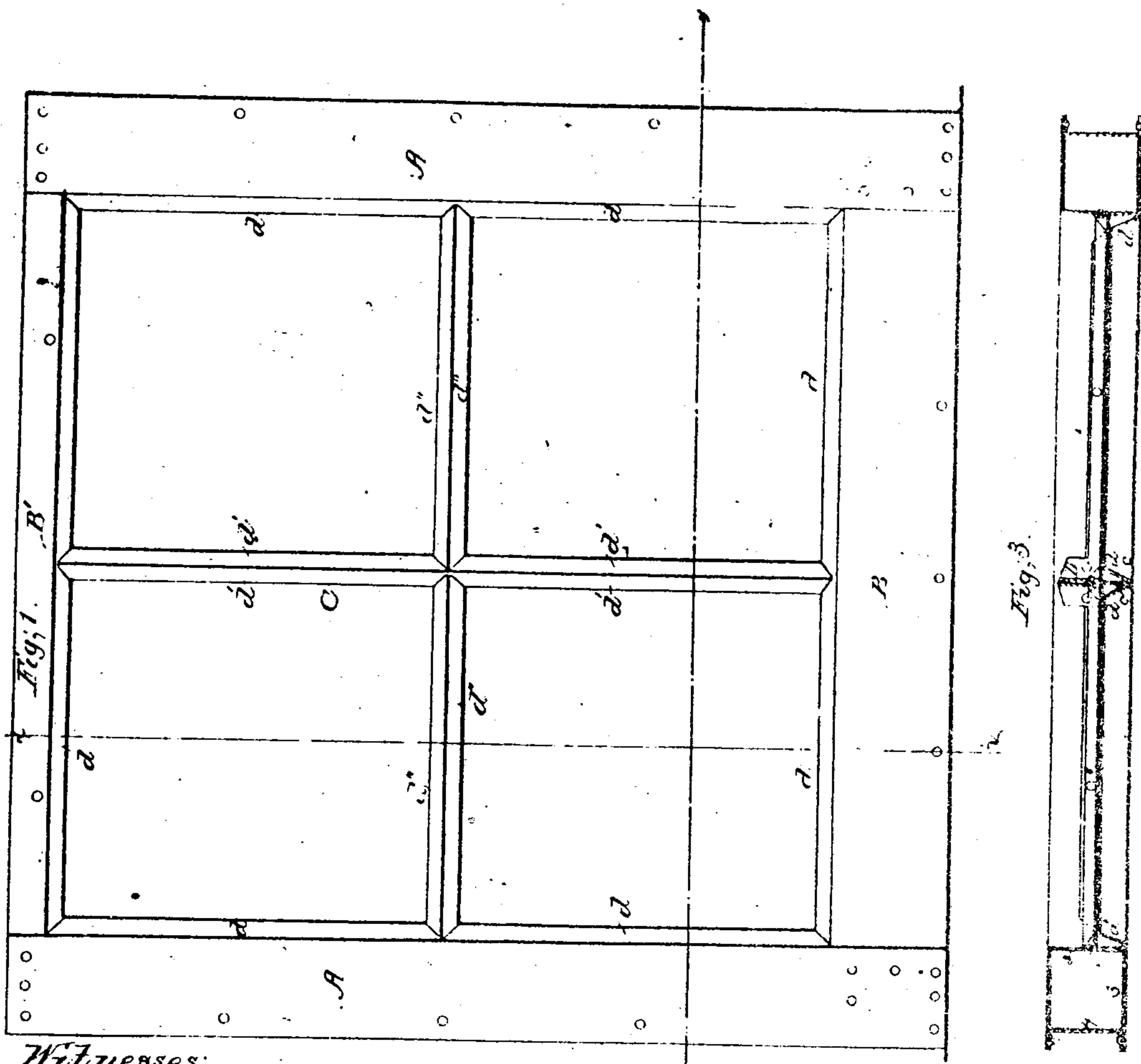


Fig. 3.

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CHARLES NEER, OF NEW YORK, N. Y., ASSIGNOR TO THE ARCHITECTURAL
IRON WORKS, OF SAME

IMPROVED METALLIC WINDOW-SASH.

Specification forming part of Letters Patent No. 46,305, dated February 7, 1865.

To all whom it may concern:

Be it known that I, CHARLES NEER, of the city, county, and State of New York, have invented a new and useful Improvement in Metallic Window-Sashes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improvement; Fig. 2, an end sectional elevation of the same, taken in the line *x x*, in Fig. 1. Fig. 3, a plan sectional view of the same taken in the line *y y*, Fig. 1.

Similar letters of reference indicate like parts.

The object of this invention is to facilitate the construction of window-sashes of sheet metal with a view to render them light in weight, cheap in construction, and in other respects more durable and superior to the ordinary wooden or metallic window-sashes.

In carrying out my invention I make no essential change from the exterior form or appearance of the ordinary sashes.

A A are the side pieces or stiles; *B B'*, the top and bottom pieces or rails of the sash, *B* being the usual meeting-rail. The side and bottom pieces, *A A B*, are composed of strips of rolled or sheet metal, three sides thereof, 1 2 3, being composed of a single piece of iron, bent in the form shown, the remaining open side being closed or filled by another strip of similar metal, 4, having flanged edges, and riveted to the surfaces 1 3 between the open edges thereof, as shown. The parts *A A B* thus made are tubular or hollow within, and therefore have but little weight, while their peculiar form gives them great strength. The hollow side pieces may be made to receive the weights and cords, if desired; but this feature I propose to secure by a separate patent, and no particular description thereof is here necessary.

The bottom rail, *B*, is fitted at its ends between the edges of the metal comprising the stiles *A*, and the stiles and rails are firmly riveted together at their corners, as shown.

The meeting-rail *B'* is composed of two pieces, 5 6, of sheet metal, bent as shown,

and riveted together, the outer edges thereof, 7 and 8, being inclined or beveled, as shown in Fig. 2, for the bottom sash—the bevel opposite for the top sash so as to form the usual weather-strip for the exclusion of water. Behind the inclined edges 7 and 8, within the top rail, there is a plug, 9, riveted, as shown, to the edges 7 and 8, to give additional stiffness thereto and fill the end thereof.

The meeting-rail *B'* is hollow within, and riveted at its ends between the extremities of the stiles *A A*, as shown. The stiles *A A*, rails *B B'*, made and combined as above described, form a very strong and durable window-sash frame, easily constructed, and light in weight.

Upon the inner edges of the sash-frame thus constructed I rivet a series of strips of rolled or sheet metal, *C*, having one edge turned over in the form of a beveled flange, *d*, and between these strips *C*, I arrange the usual cross-bars for supporting the panes of glass, of which bars there may be any desired number. *C* indicates one of these vertical bars, composed of two strips of rolled or sheet metal *C' C'*, extending from one rail, *B*, to the other, *B'*. Said strips *C' C'* have one edge turned over, so as to form a beveled flange, *d*, as shown. Two of these bars *C' C'* placed side by side, with their flat faces toward each other, form the inside of one vertical glass-supporting bar, *C*. The bars *C' C'* are riveted together. The outside edges of the bar *C* are inclosed and riveted between the edges of a vertical strip, *D*, bent, as shown, and extending from one rail, *B*, to the other rail, *B'*. The extremities of the strip *D* are split, as shown, so as to form end flanges, which are riveted to the rails *B B'*. The bar thus composed of the parts *C D*, combined as shown, forms a complete vertical bar, to which the lateral cross-bars are now to be applied. The part *D* forms the outside weather edge of the said vertical bars.

The lateral cross-bars are each composed of rolled or sheet metal strips, *C'' C''*, having beveled flanges *d''*, and placed together similar to the parts *C' C'* and arranged laterally between the strips *C' C'* and the vertical bars *C D*, in the manner hereinafter shown. The inside edges of the parts *C'' C''* are riveted between the strips *D*, which are made like the

parts D before described. The strips D' are split at their ends to form flanges, which are riveted to the stiles A A' and to the vertical strips D, as shown. Vertical and cross bars are thus formed for the support of the glass, which are very light, durable, and ornamental in their character. The flanges *d d' d''* form a bed or cavity for the reception of the cement or putty which is to seal the glass. After the cement has been applied, the glass is inserted, and the front edges of the glass are then cemented or puttied in the usual manner. The green lines indicate the glass and the cement is shown in red.

Sashes may be constructed substantially in the manner described in any desired form or size.

The parts A A B B', instead of being made

of two parts, as described, may be made of a single piece of metal.

I do not claim, broadly, the construction of window-sashes of metal; but

Having thus described my invention, I claim, and desire to secure by Letters Patent—

As an improved article of manufacture, a sheet-rolled metal window-sash, constructed with sides 1 2 3, flanged strip 4, two-part meeting-rail B', plug 9, stiles A A, and flanged strips or bars C *d*, all substantially as herein shown and described.

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Witnesses:

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