

No. 714,131.

Patented Nov. 25, 1902.

L. D. BIRSACH.
FIREPROOF WINDOW.

(Application filed Feb. 3, 1902.)

(No Model.)

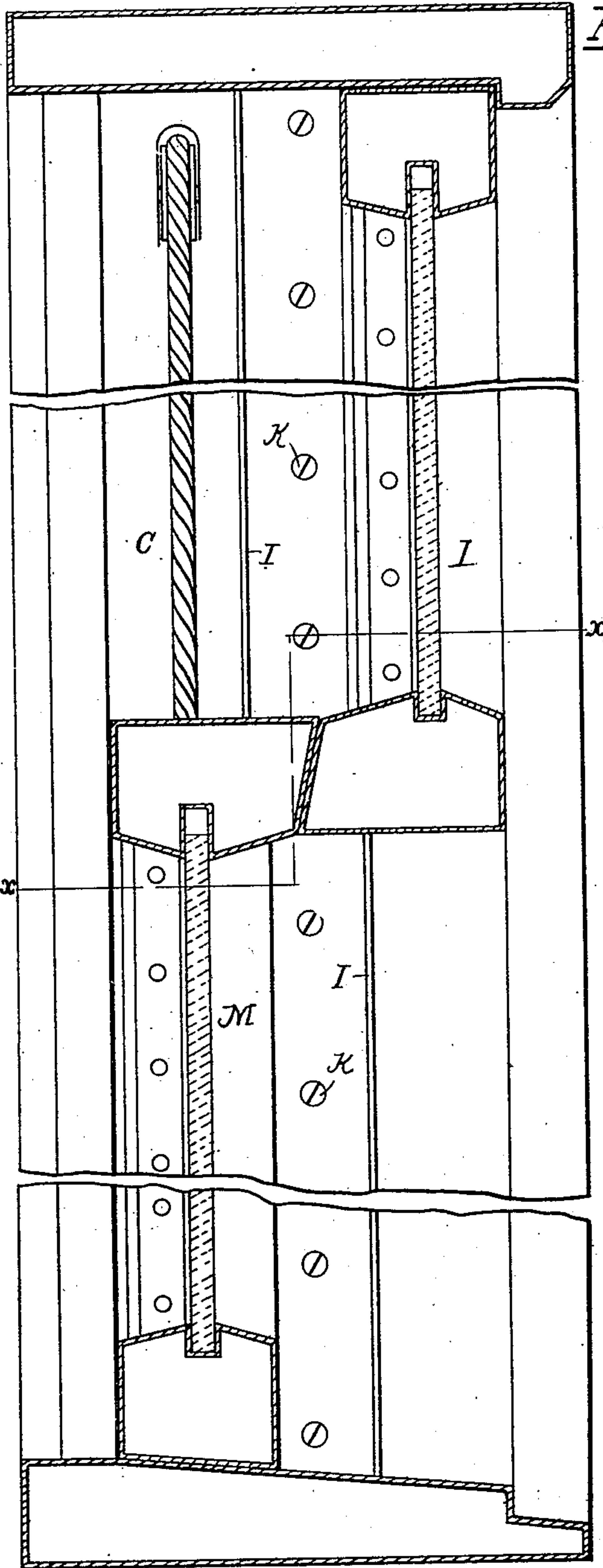


Fig. 1.

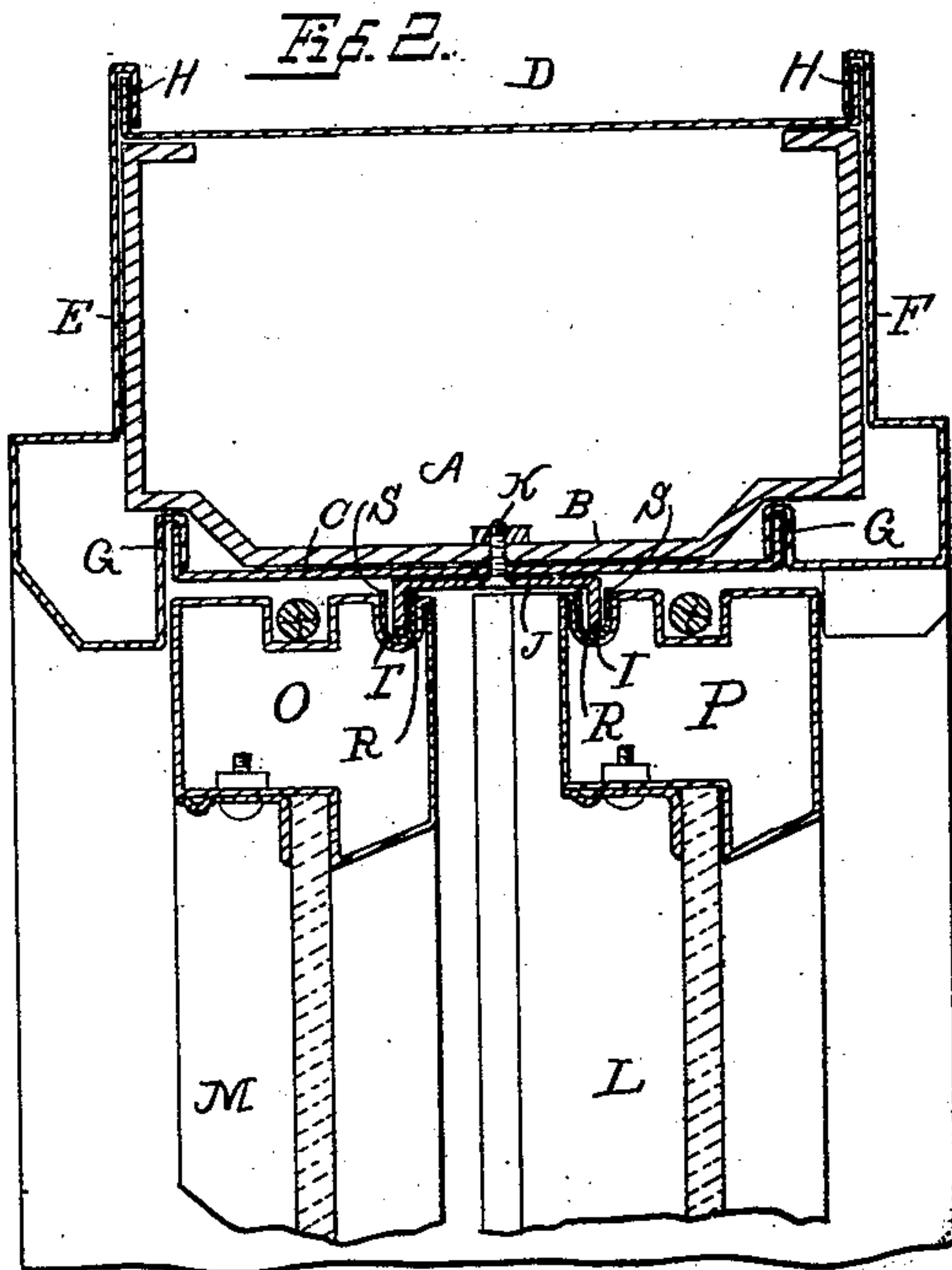


Fig. 2.

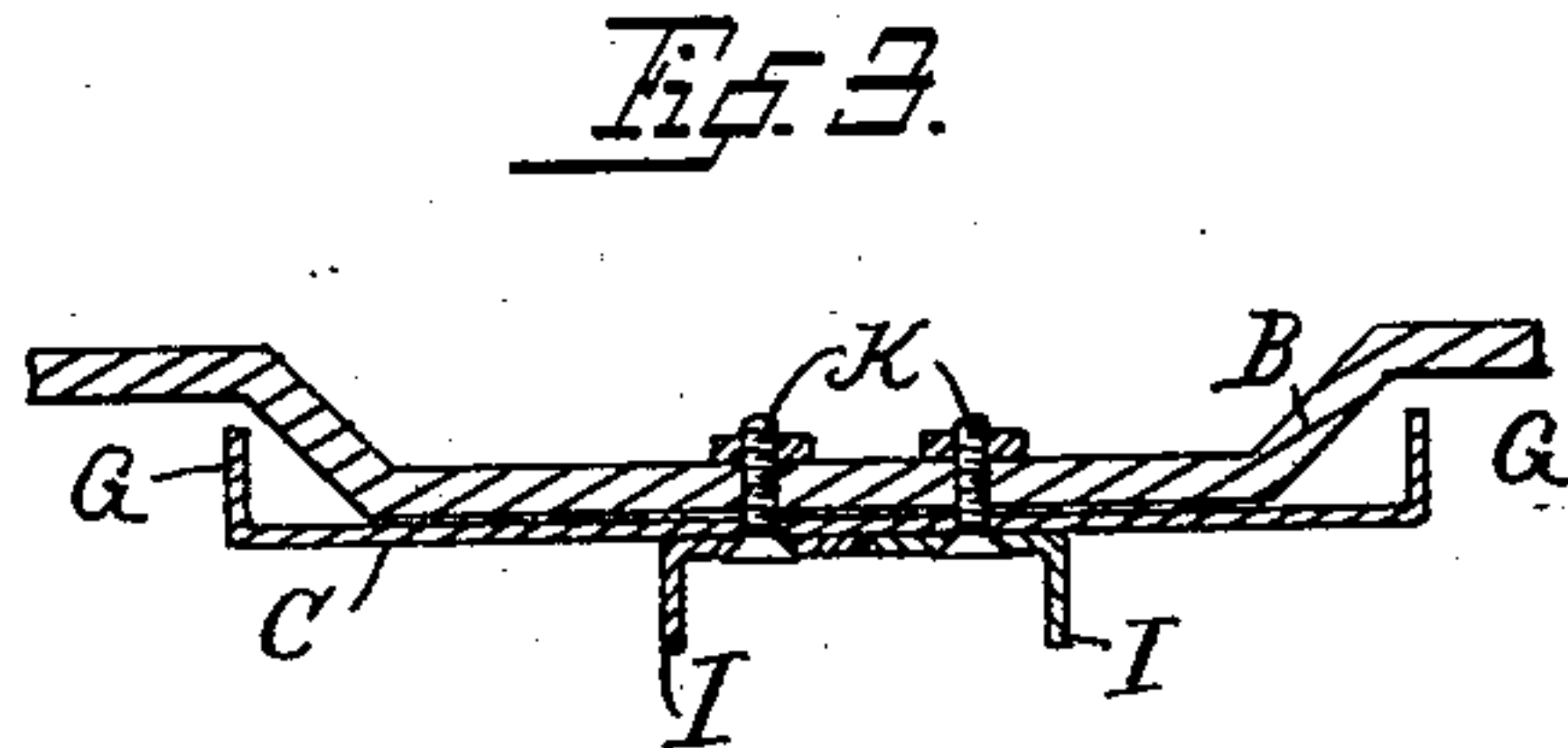


Fig. 3.

Witnesses.

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By

UNITED STATES PATENT OFFICE.

LOUIS D. BIRSACH, OF MILWAUKEE, WISCONSIN.

FIREPROOF WINDOW.

SPECIFICATION forming part of Letters Patent No. 714,131, dated November 25, 1902.

Application filed February 3, 1902. Serial No. 92,242. (No model.)

To all whom it may concern:

Be it known that I, LOUIS D. BIRSACH, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Fireproof Windows, of which the following is a specification.

My invention relates to improvements in that class of fireproof windows which is shown and described in Letters Patent No. 690,392, issued to me January 7, 1902; and my present improvement pertains more especially, first, to the peculiar construction and arrangement of the guide flanges or tongues which hold and guide the sash; second, to the construction and arrangement of the grooves or channels formed in the edges of the sash for the reception of the guide-flanges, and, third, to the general construction and arrangement of the parts comprising the window and frame.

Heretofore it has been common to form the sash-guide flanges or tongues in two different ways, by one of which ways such flanges are formed in two separate pieces and thereafter secured to the frame independently of each other by two separate and independent fastenings, as shown in my said Patent No. 690,392, in which case it is extremely difficult to form and secure such flanges to the frame in perfect parallel lines to each other, so that the sash will move freely thereon in close contact without binding against each other or against said flanges. In the other form of construction referred to, while the sash-guide flanges are formed integrally with each other they are also formed in connection with the window-frame and form an integral part of it, and therefore cannot be removed when worn out without serious injury to the frame, while by my present improvement both of said guide-flanges are not only formed integrally with each other, as stated, from a single strip of sheet metal, but they are also formed separately and independently from the window-frame and thereafter detachably secured to it, so that they are readily removed, as stated, when worn out and replaced by others.

The construction of my invention is further explained by reference to the accompanying drawings, in which—

Figure 1 represents a vertical section of a window frame and sash provided with my improvements. Fig. 2 is a horizontal section drawn on line $x x$ of Fig. 1, and Fig. 3 is a detail showing a modified form of construction of the guide-flanges made in two separate pieces.

Like parts are identified by the same reference-letters throughout the several views.

The two vertical sides A of the window-frame consist of the interior reinforcing-column B and the inclosing sheet-metal shell. The shell comprises the vertical interior wall C, to which the guide-flanges are secured, the exterior wall D, and the two side walls E and F, by which said interior and exterior walls are connected together. The interior wall C is connected with the two side walls by folding joints G G, while the exterior wall is connected with said side walls by folding joints H H. I I are the guide-flanges, which are formed integral with each other, as stated, by turning up the two opposing edges of the metallic plate J by passing the same between two parallel rollers, which rollers are so constructed as to simultaneously turn up the two sides of said strip of metal at right angles to each other, whereby said guide-flanges are formed absolutely straight and at uniform distances apart and whereby it becomes impossible to accidentally change the relative position of such parts to each other when fastening them to the window-frame. The central portion of the plate J serves as a fastening plate or bearing for the flanges. The plate J, with its flanges, is secured to the window-frame by a plurality of bolts or rivets K. L represents the upper, and M the lower, window-sash. The two vertical sides O and P of the window-frame are provided throughout their entire length with recesses or grooves R R, which are formed in the sheet-metal sash itself, while the channel-bearings S in said grooves are formed of a separate piece of heavy brass or other non-corrosive metal made U-shaped in cross-section to conform to the shape of the grooves R, in which they are secured. Thus it is obvious that by the construction shown the window-frame proper and the window-sash may, if desired, be made of galvanized iron or other comparatively thin sheet metal,

while the guide-flanges and channel-grooves in which such flanges operate and upon which the durability and successful operation of the device depend may be made of heavy sheet-brass or other strong non-corrosive metal.

While the guide-flanges I are preferably formed of a single piece of metal, such parts may, if desired, be formed of two separate angle-irons and secured to the window-frame with their two opposing edges in direct contact, as shown in Fig. 3, in which case the width of the angle-irons will govern the distance between the guide-flanges, while the fact that such angle-irons are of uniform dimensions and secured to the window-frame with their edges in contact facilitates in adjusting the guide-flanges at uniform distances apart.

It will of course be understood that in the form shown in Fig. 3 two series of fastening bolts or rivets are required to secure such parts to the window-frame.

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

1. A fireproof window comprising a plurality of sash, adapted to slide in close proximity past each other, provided with longitudinal vertical grooves; non-corrosive, reinforcing guide-bearings (U-shaped in cross-section) located in said vertical grooves; a plurality of guide-flanges formed integral with each other, separate from the window-frame and detachably secured to the opposing walls of said frame, so as to register with and operate in the reinforcing guide-flanges

of said sash; and means for securing said guide-flanges to said frame, as set forth.

2. In a fireproof window, the combination of hollow sheet-metal sides A, hollow sheet-metal sash-rails O and P, respectively provided with longitudinal grooves R; separate reinforcing guide-bearings S, secured in said longitudinal grooves; two non-corrosive guide-flanges interposed between the opposing surfaces of said sash and frame and detachably secured to said frame so as to register with and operate in the guide-bearings of said sash; and means for securing said flanges to said frame, as set forth.

3. In a fireproof window the combination of hollow, metallic sides A, comprising an interior, reinforcing-column B of comparatively heavy metal, and a sheet-metal inclosure comprising the parts C, D, E and F of lighter material; hollow sheet-metal sash-rails O and P, respectively provided with longitudinal grooves R; separate reinforcing guide-bearings S secured in said longitudinal grooves; two non-corrosive guide-flanges formed separately from, and detachably secured to the window-frame so as to register with and operate in the guide-bearings of said sash; and means for securing said flanges to said frame, all substantially as and for the purpose specified.

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

LOUIS D. BIRSACH.

Witnesses:

JAS. B. ERWIN,
C. L. ROESCH.