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E. H. LUNKEN & C. M. CONKLIN.

FIREPROOF WINDOW CONSTRUCTION (LATERALLY INSERTED GLASS).

APPLICATION FILED MAR. 20, 1907.

Fig. 2.

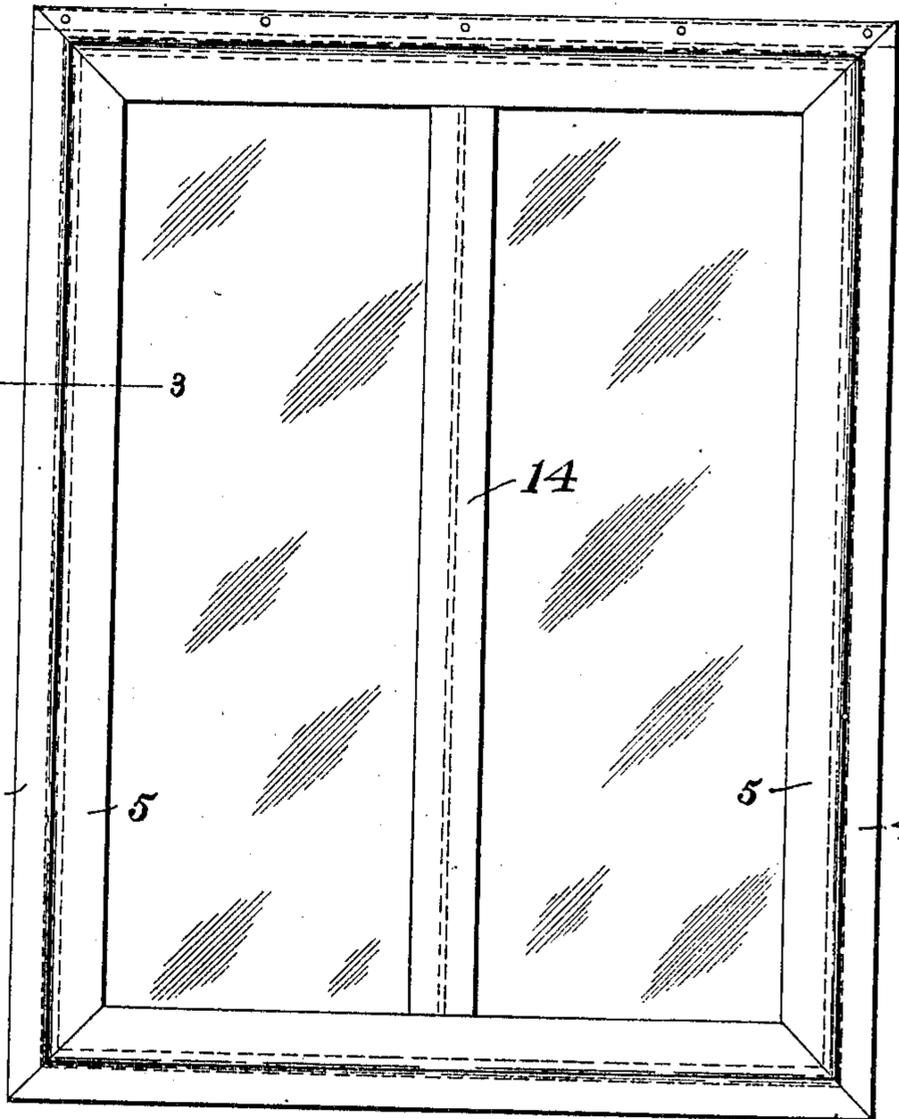


Fig. 1.

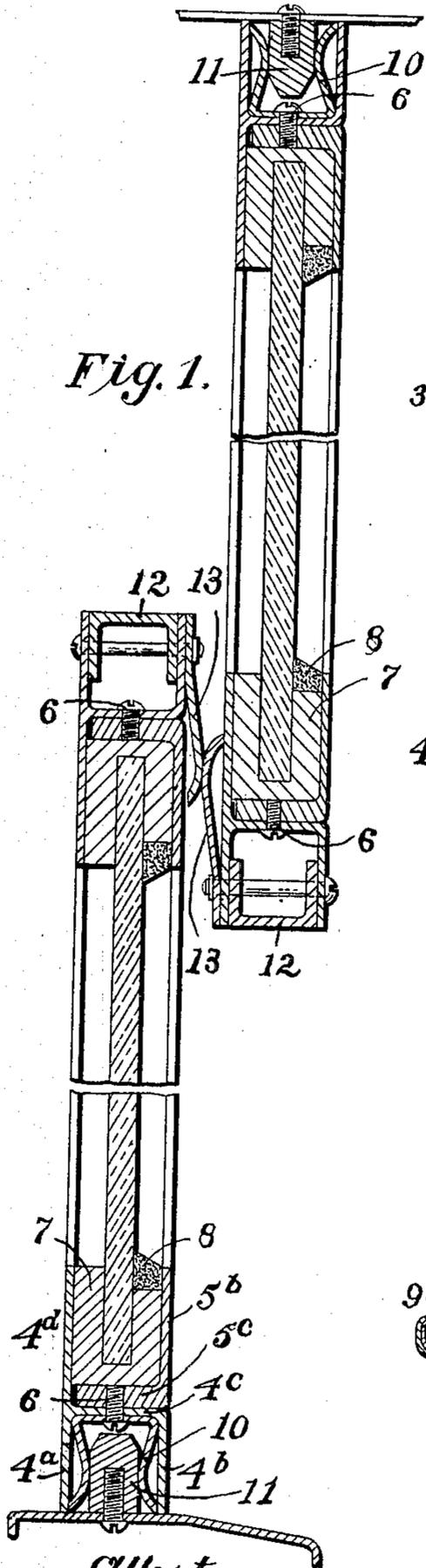
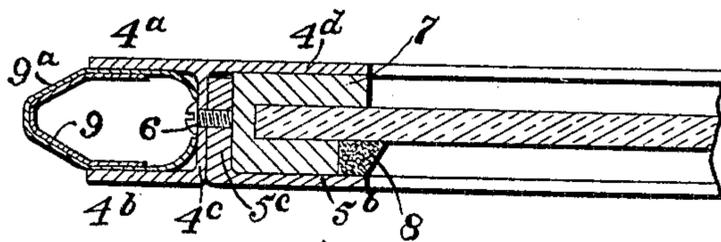


Fig. 3.



Attest:

Edw. L. Tolson.

C. S. Mason

Inventors,

Edmund H. Lunken,

Charles M. Conklin.

By Spear Middleton Donaldson & Spear

Attys.

UNITED STATES PATENT OFFICE.

EDMUND H. LUNKEN AND CHARLES M. CONKLIN, OF CINCINNATI, OHIO, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO THE LUNKEN STEEL WINDOW CO., A CORPORATION OF OHIO.

FIREPROOF WINDOW CONSTRUCTION, (LATERALLY-INSERTED GLASS.)

No. 871,130.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed March 20, 1907. Serial No. 363,490.

To all whom it may concern:

Be it known that we, EDMUND H. LUNKEN and CHARLES M. CONKLIN, citizens of the United States, residing at Cincinnati, Ohio, have invented certain new and useful Improvements in Fireproof Window Construction, (Laterally-Inserted Glass,) of which the following is a specification.

Our invention relates to improvements in a fire proof window sash. These improvements are applicable in the main to either sliding or swinging sashes, although in the present drawing they are shown as embodied in a sliding sash designed with particular reference for use in connection with fireproof windows, such as shown and described, for example, in the application filed by us Nov. 22/06, #344643, although of course not limited to use in connection with such window frames.

Among the objects of the invention are to provide an improved construction of sash which will be very compact, will be strong and rigid, especially at the corners, will present an extremely neat and finished appearance, and will permit of the ready insertion and removal of the glass.

With these and other objects in view, the invention includes the various features of construction and arrangement and combination of parts hereinafter described and particularly set forth in the appended claims.

An embodiment of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a sectional elevation of both the upper and lower sash, the central portion of each being broken away. Fig. 2 is a front elevation of the lower sash. Fig. 3 is a part horizontal section on line 3—3 of Fig. 2.

We have found that it is possible, in fireproof window construction, to weld the edges of comparatively thin sheet steel plates. We, therefore, construct our improved sash of such thin sheet metal plates or bars having abutting edges welded to form an integral or a homogeneous rectangular frame. The sides and ends of such a sash, we preferably form of two sets of bars, the cross sectional shape of which is clearly shown in Figs. 1 and 3. One bar 4 of the pair has two outer webs or flanges 4^a and 4^b connected by the

cross web 4^c forming an outer channel, and an inner web or flange 4^d. The other bar 5 has a flange or wall 5^c designed to abut against the inner face of the web 4^c and a web or flange 5^b lying parallel to the flange 4^d and forming therewith the glass receiving channel. The webs or flanges 4^c and 5^c are secured together in any convenient manner, as by means of screws 6.

In assembling a sash the four frame members 4 have their mitered corners welded together to form a strong rigid outer frame, and the bars 5 likewise have their mitered corners connected by a welded joint. Grooved wooden strips 7, preferably having mitered ends, are then placed over the edges of the glass as clearly shown in Figs. 1 and 3 to form a packing, supporting, or carrying medium between the glass and metallic frame. The inner frame with its packing strips is then inserted laterally into the outer frame and secured in place by the screws 6.

One side of each wood packing strip is preferably made narrower and a finishing or protecting layer of putty applied in the space formed thereby as shown at 8.

In the outer channel on each side of the sash, we locate a removable guide strip 9 which is preferably covered by a spring plate of non-corrosive metal, such as brass, as indicated at 9^a, the inner ends of which are curved inward and bear against the web 4^c, thereby serving to press the guide strips outward into engagement with the guide grooves of the window frame. These guide strips may be held in any suitable manner, and as their particular construction, and the best manner of holding them removably in place forms the subject of separate applications filed by us, further illustration or description thereof herein is deemed unnecessary.

The channel in the end channel rail or member is provided with a spring packing strip 10 which is designed to engage or embrace a bar or rail 11 carried by the window frame at the top or bottom, as the case may be, to form a tight joint when the window is closed.

The channels at the meeting rails are closed by finishing bars or plates as shown at 12 and packing strips 13 may be held by the same bolts that secure these in place.

When it is desired to use two or more panes

of glass in the sash, we provide a muntin 14 which is formed from a channel bar similar to that which constitutes the sides of the frame, except that the flanges are of equal 5 width providing glass receiving channels of equal depth.

Having thus described our invention, what we claim is:—

1. In fire-proof window construction, a 10 sash frame comprising main frame members secured together at the corners and having outer channeled edges, and an inwardly extending flange, a removable frame composed of angle bars secured to the main frame and 15 forming with the said inwardly extending flange of the main frame, a glass receiving channel, and glass having its edges held by said channel, substantially as described.

2. In fire-proof window construction, a 20 main frame composed of bars suitably connected at the corners, and having outer parallel flanges connected by a transverse web, and an inner flange, angle bars having one flange detachably secured to said web and 25 the other spaced from the inner flange to form a glass receiving channel, substantially as described.

3. In fire-proof window construction, a 30 main frame composed of bars suitably connected at the corners, and having outer par-

allel flanges connected by a transverse web, and an inner flange, angle bars having one flange detachably secured to said web and the other spaced from the inner flange to form a glass receiving channel, grooved 35 packing bars located in said channels, and a glass having its edges seated in the grooves in the packing bars, substantially as described.

4. In fire-proof window construction, a 40 sash frame comprising main frame members having mitered corners, said members having outer flanges connected by a transverse web, and an inner flange, an inner frame consisting of angle bars also having mitered cor- 45 ners, said bars having each one of its flanges removably secured to the main frame and its other flange spaced from the said inner flange to form inner channels, mitered wood strips seated in said channels and having glass re- 50 ceiving grooves and glass having its edges held in said grooves, substantially as described.

In testimony whereof, we affix our signatures in presence of two witnesses.

EDMUND H. LUNKEN.
CHARLES M. CONKLIN.

Witnesses:

BEN B. DALE,
CARRIE B. STUBERT.