

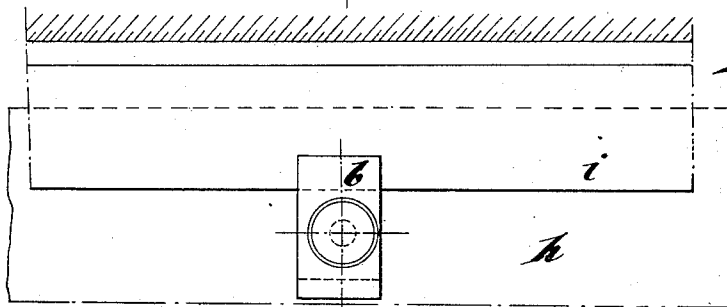
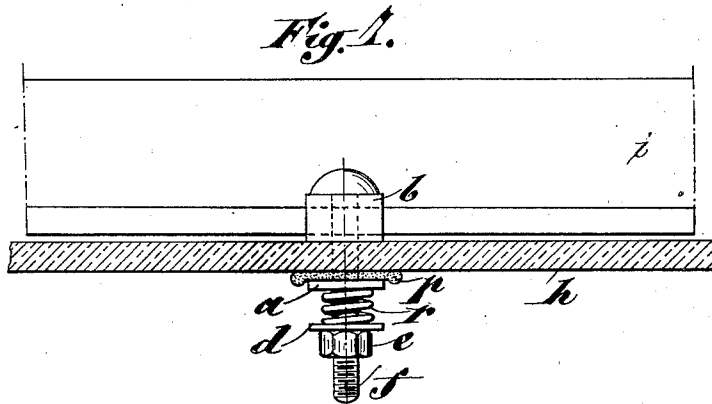
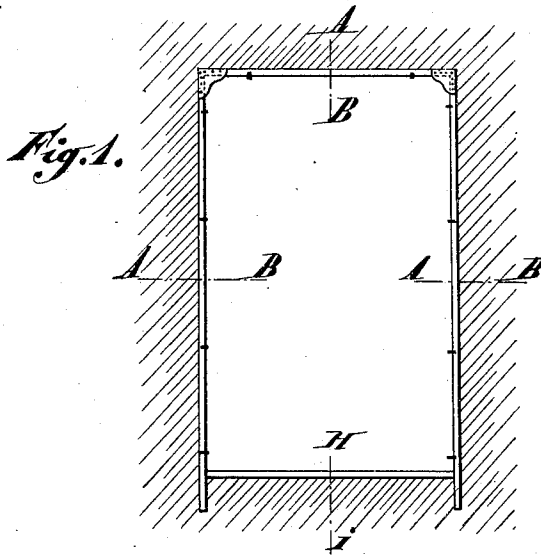
E. FABRY.

MEANS FOR SECURING GLASS IN WINDOW OR OTHER FRAMES.

APPLICATION FILED OCT. 1, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



WITNESSES
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4 SHEETS—SHEET 2.

Fig. 2.

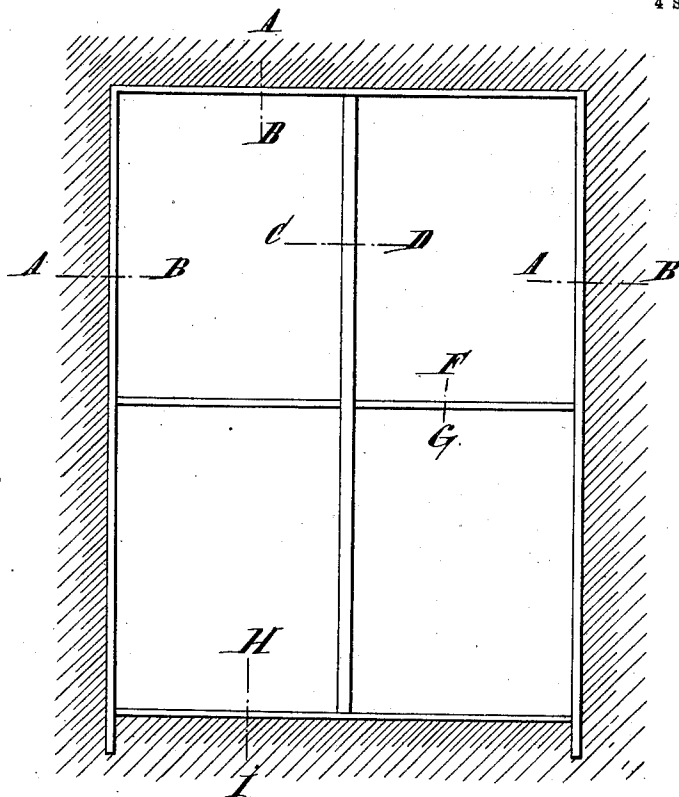
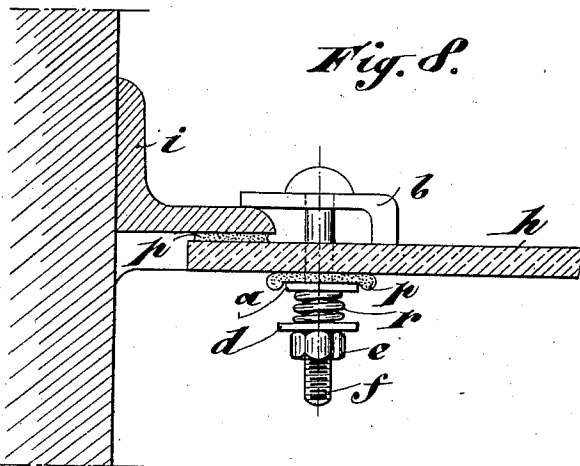


Fig. 8.



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No. 729,148.

PATENTED MAY 26, 1903

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4 SHEETS—SHEET 3.

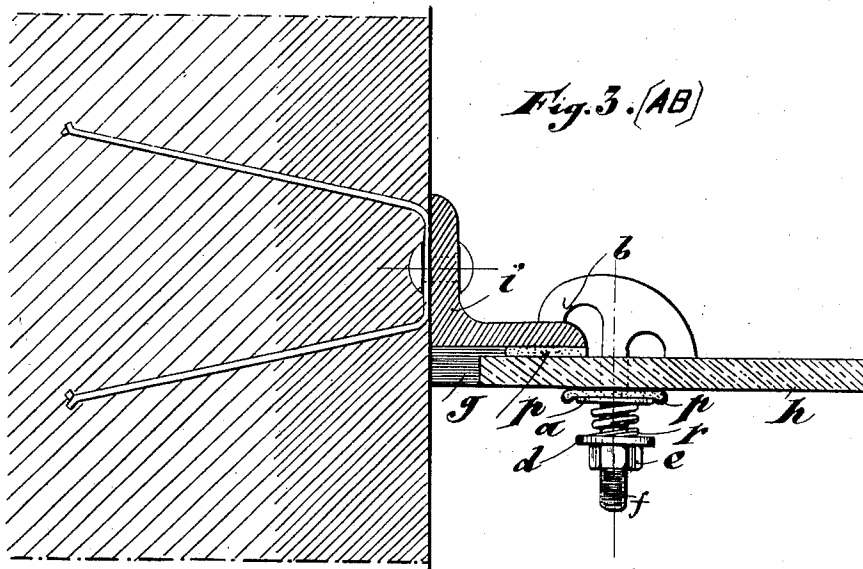
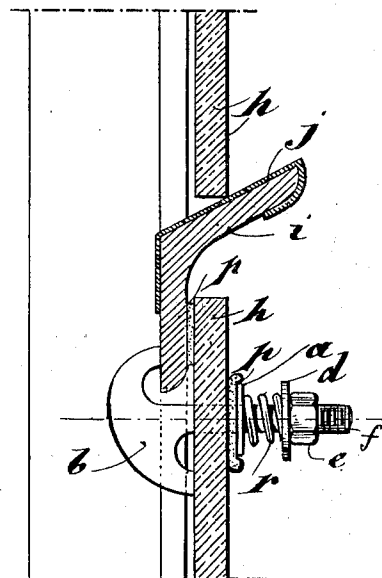


Fig. 5. (FG)



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4 SHEETS—SHEET 4.

Fig. 4. (CD)

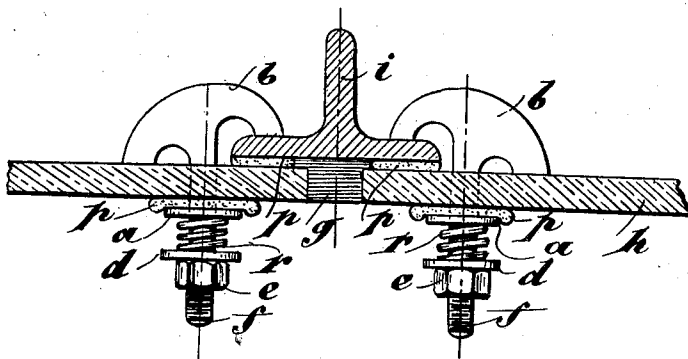
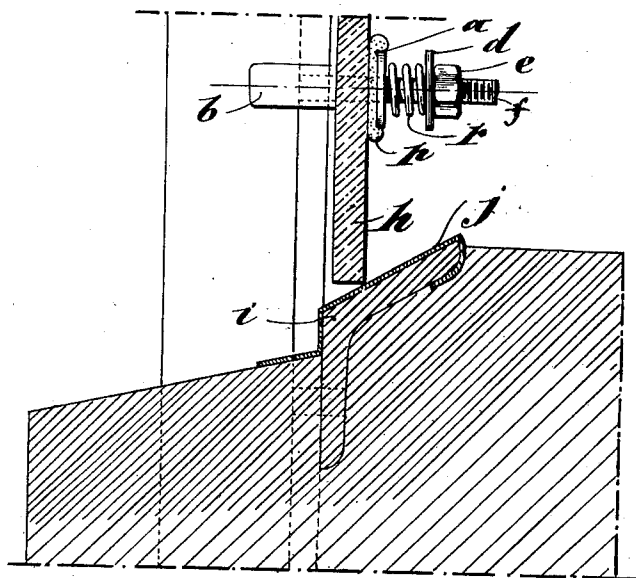


Fig. 6. (HI)



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UNITED STATES PATENT OFFICE.

EDOUARD FABRY, OF BRUSSELS, BELGIUM.

MEANS FOR SECURING GLASS IN WINDOW OR OTHER FRAMES.

SPECIFICATION forming part of Letters Patent No. 729,148, dated May 26, 1903.

Application filed October 1, 1902. Serial No. 125,498. (No model.)

To all whom it may concern:

Be it known that I, EDOUARD FABRY, manufacturer, a subject of the King of Belgium, residing at Brussels, in the Kingdom of Belgium, have invented new and useful Improvements in or Relating to Means for Securing Glass in Window or other Frames; and I do hereby declare the following to be a full, clear, and exact description of the same.

The present invention relates to means for securing glass in window or other frames and to the construction of the frame. By way of example, two frames with one and four panes are represented in the drawings.

Figures 1 and 2 are respectively front views of a frame with one and four panes, respectively. Figs. 3, 4, 5, and 6 are transverse sectional views representing a mode of securing with a clamp in one piece with projecting arms somewhat resembling a bent T, the views being respectively on the lines A B, C D, F G, and H I of Figs. 1 and 2. Figs. 7, 8, and 9 show, respectively, a face view, transverse section, and plan view of a modified fastener having a movable head or clamp.

h indicates the pane of glass; *i*, the window-frame; *g*, the putty, and *j* sheets of protective lead.

The pane *h* is secured in the frame *i* by a fixed or pivoted clamp *b* with a shaft *f*, which traverses the pane *h*, its projecting arms resting, respectively, on the frame *i* and on the pane *h*. The desired pressure is obtained by a nut *e* and spring *r*, washers *a* and *d* being arranged on either side of the spring *r*, the device being tightened by screwing up the nut *e* on the shank *f*.

To prevent metallic contact between the glass and the frame and clamp, a plastic or yielding material *p*, which can be, according to circumstances, either any kind of putty or strips of caoutchouc, cotton, amianthus, &c., can be interposed, a washer of the same material being arranged beneath the washer *a*.

The shaft *f* can either have a fixed knob, Figs. 3 to 6, or a movable or pivoted knob, Figs. 7, 8, and 9. This system of fastening glass can be applied to all kinds of frames—fixed, open, or vertical—for ordinary windows, inclined for skylights, &c., no matter what kind and size of pane is used. I more par-

ticularly desire to use it in connection with windows with armored glass.

The principal advantages of the invention are:

First. The method of glazing is simple, and consequently economical.

Second. The fastening is absolutely safe, because it is obtained by a constant pressure owing to the springs *r*, thus preventing the pane from rattling.

Third. The putting in and the taking out of the panes are easy and can be done from within the building.

Fourth. The pane of glass can move to a limited degree and is thus less liable to be broken than if it were perfectly rigid.

The frame having on the inner side no inflammable projections is secure from burning in case of fire. It will not, therefore, become heated and expand, and consequently cannot detach itself from the wall or support to which it is fixed. By the combination of this means of fastening with armored glass panes a fireproof system is realized.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The combination, with a pane and a portion of the frame therefor lying face to face, of a clamp penetrating the pane and binding the pane and said portion of the frame together, substantially as described.

2. The combination, with a pane and a portion of the frame therefor lying face to face, said frame portion having an exposed surface disposed substantially parallel to the faces of the pane, and a clamp penetrating the pane and binding against the faces of said pane and also against the exposed surface of said frame portion, substantially as described.

3. The combination, with a pane and a portion of the frame therefor lying face to face, of a shaft penetrating the pane, and means on said shaft, comprising one part engaging said frame portion and the adjacent surface of the pane and another part engaging the other surface of the pane, for clamping the pane and frame portion together, substantially as described.

4. The combination, with a pane and a por-

tion of the frame therefor lying face to face,
of a shaft penetrating the pane, and means
on said shaft, comprising one part engaging
said frame portion and the adjacent surface
5 of the pane and another part screwed onto
said shaft and engaging the other surface of
the pane, for clamping the pane and frame
portion together, substantially as described.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

EDOUARD FABRY.

Witnesses:

JOSEPH MARKL,
GREGORY PHELAN.