

No. 620,471.

Patented Feb. 28, 1899.

C. E. MANNING.  
PROTECTIVE ILLUMINATIVE GRATING.

(Application filed Mar. 25, 1898.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

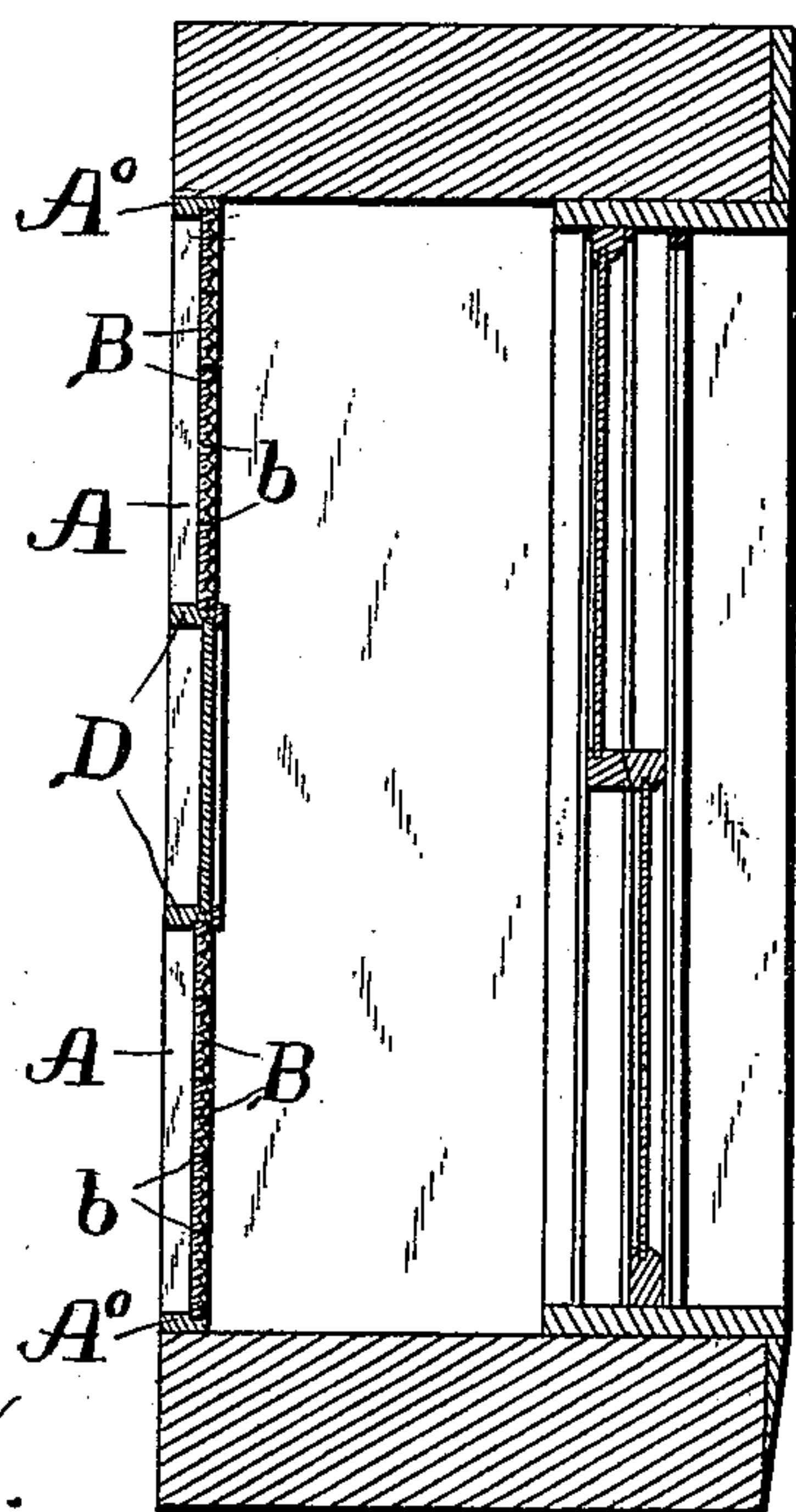
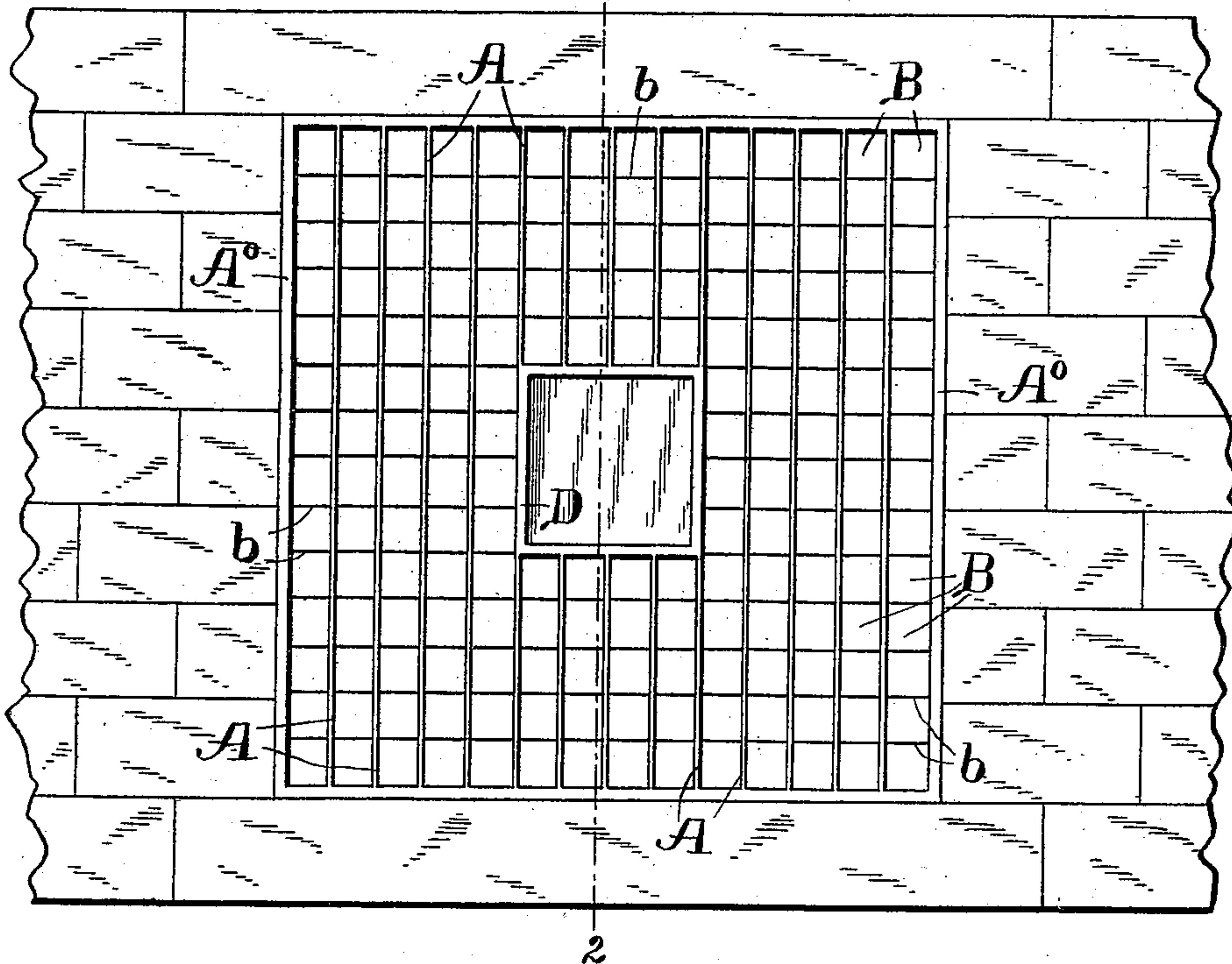


FIG. 2.

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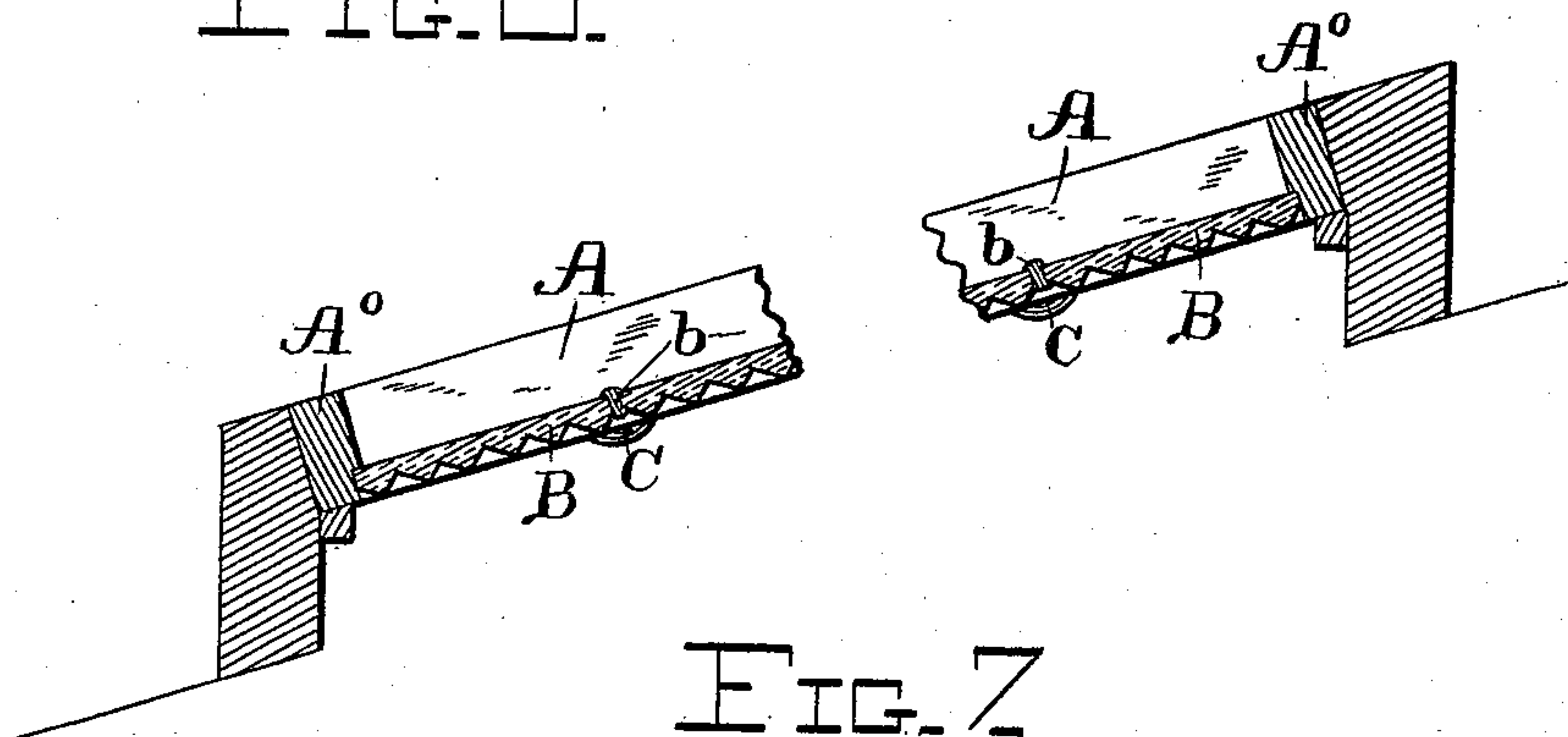
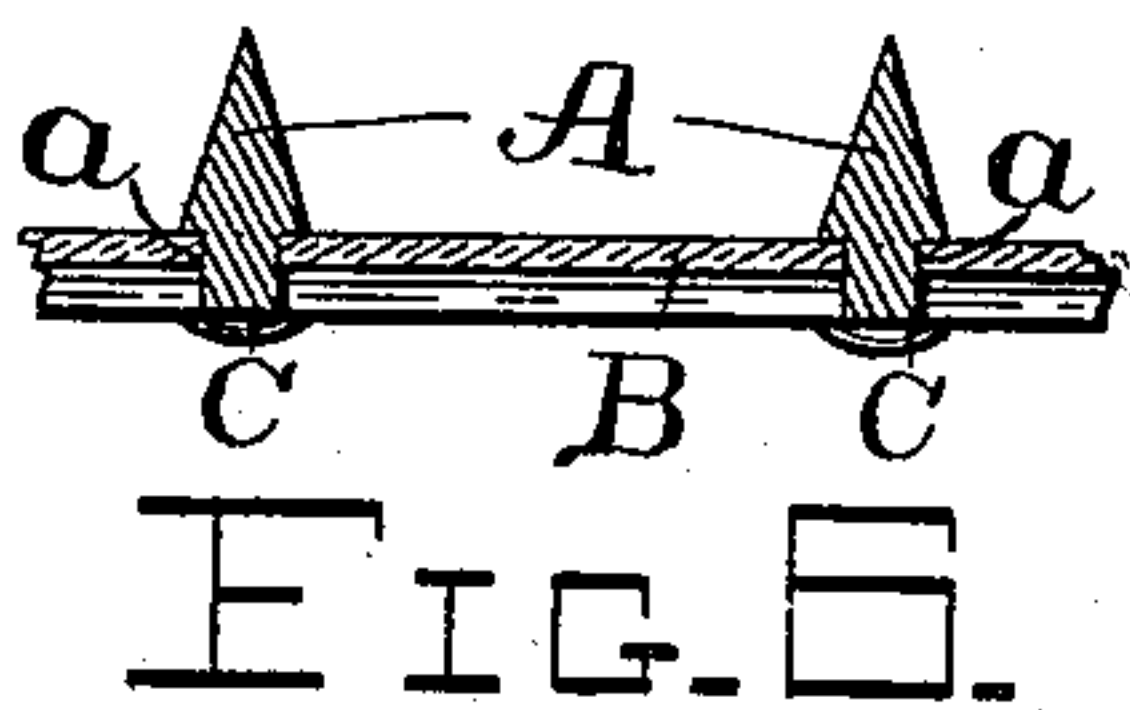
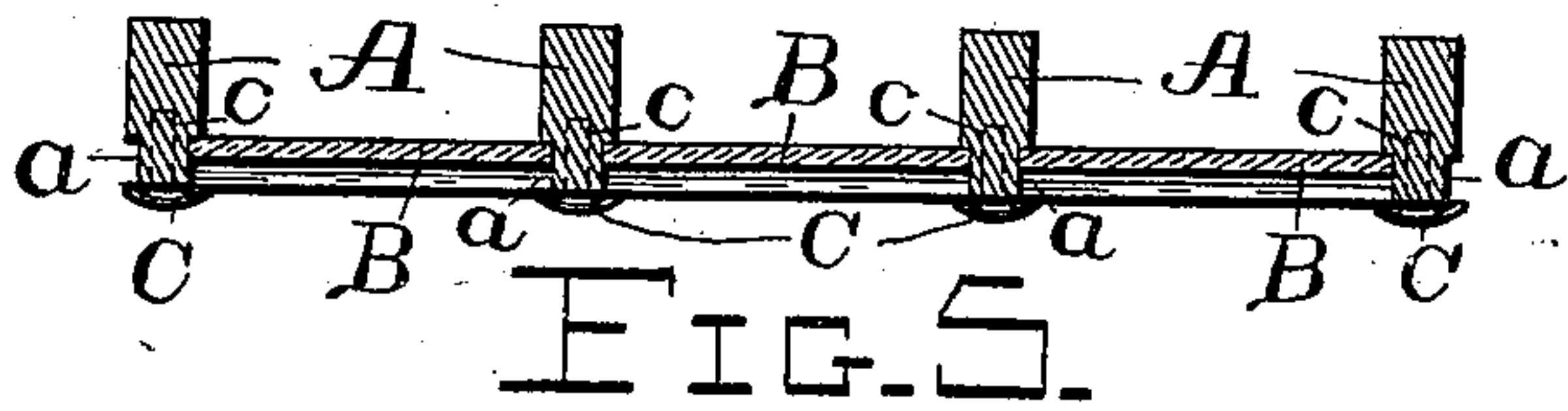
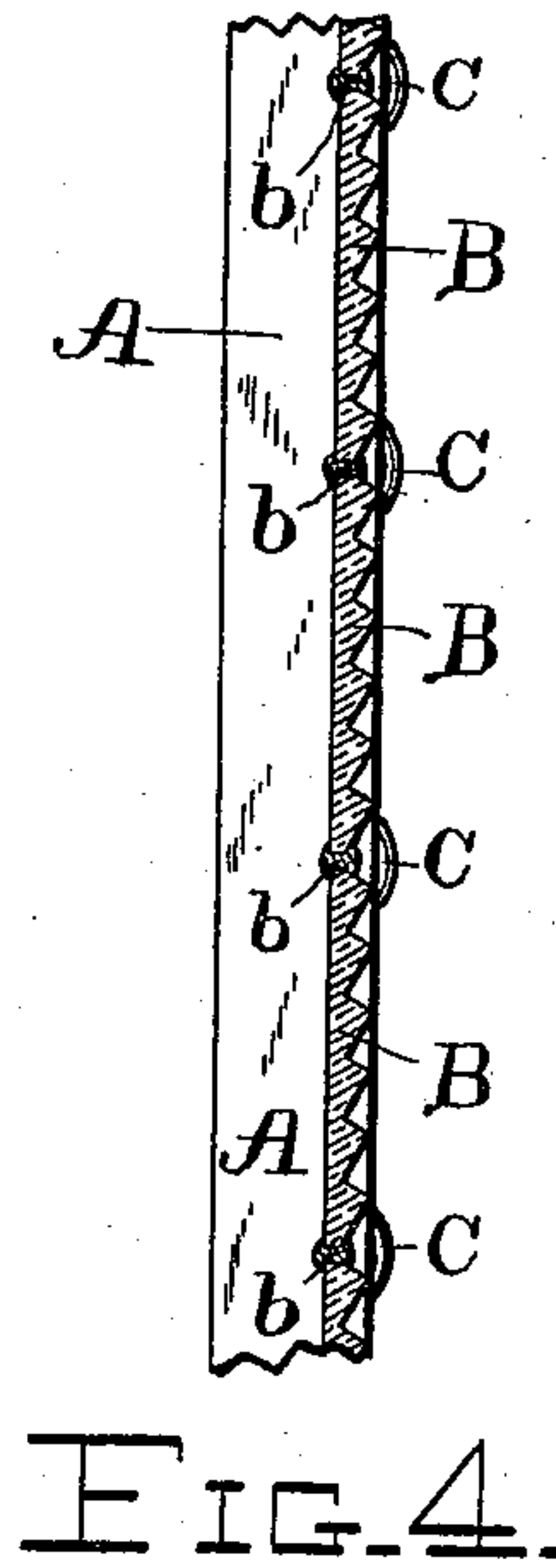
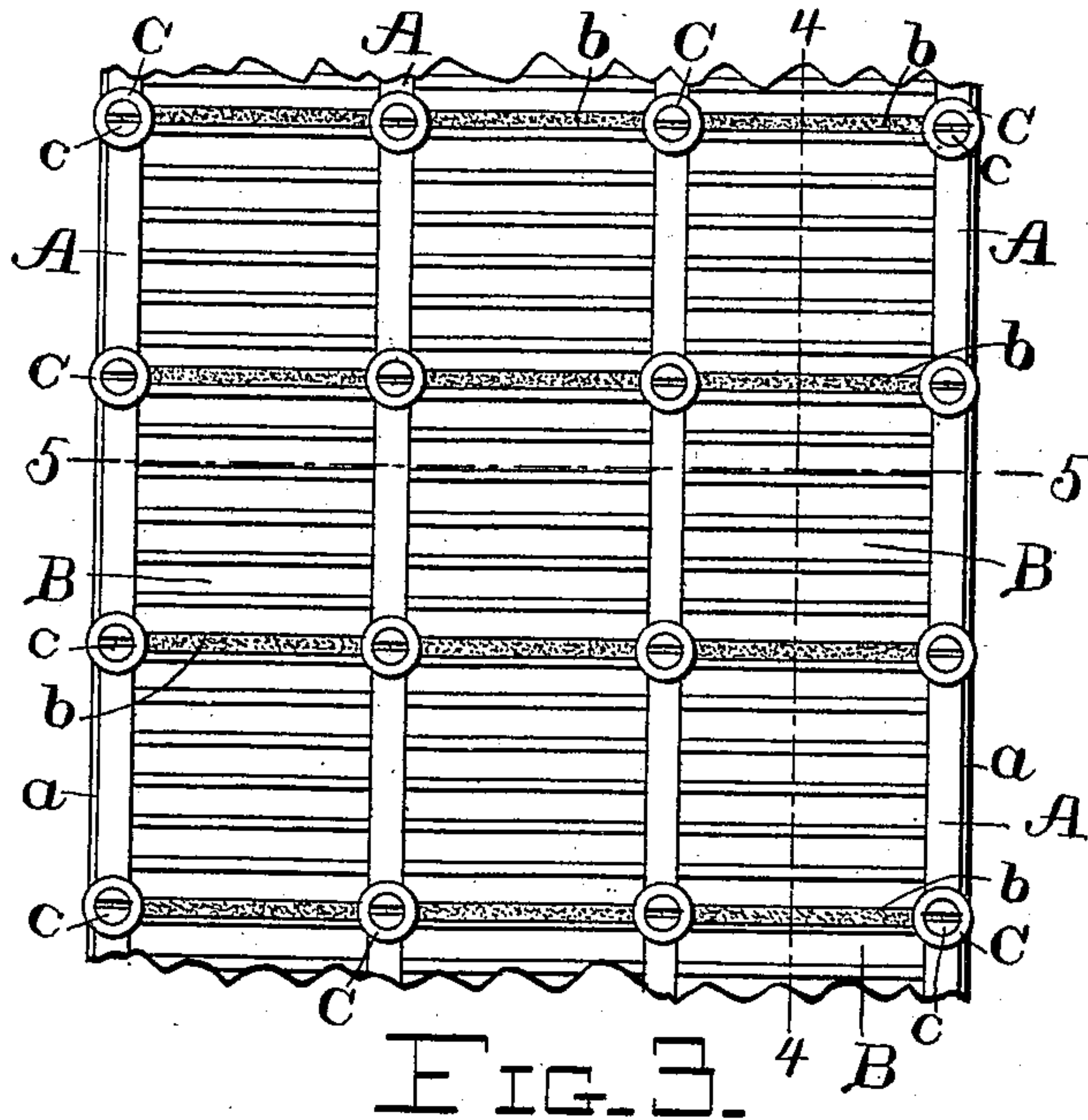
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

CHARLES E. MANNING, OF CHICAGO, ILLINOIS.

## PROTECTIVE ILLUMINATIVE GRATING.

SPECIFICATION forming part of Letters Patent No. 620,471, dated February 28, 1899.

Application filed March 25, 1898. Serial No. 675,152. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. MANNING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Protective Illuminating-Gratings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in protective gratings which combine the qualities of protection and distribution of light to the interior of a building.

My invention is particularly adapted for use in front of basement windows of large buildings, where the windows are directly adjacent to the sidewalk, or in alleys, where a protective grating is needed, such windows as are used in banks, safe-deposit vaults, and similar places.

The object of my invention is to provide a protective grating fitted with an illuminating-glass that will refract the rays of light from the sky into the interior of a building, the said grating serving the double purpose of protecting the windows as well as protecting the illuminating-glass from exposure.

My invention will be understood by reference to the accompanying drawings, wherein similar parts are indicated by similar letters throughout the several views.

Figure 1 represents an exterior elevation of a protective illuminating-grating constructed according to my invention. Fig. 2 represents a vertical section taken on the line 2 2 in Fig. 1. Fig. 3 represents an enlarged interior elevation of a portion of the grating. Fig. 4 represents a vertical section taken on the line 4 4 in Fig. 3. Fig. 5 represents a horizontal section taken on the line 5 5 in Fig. 3. Fig. 6 represents a section similar to that shown in Fig. 5, illustrating a modified form of grating-bars; and Fig. 7 represents a sectional view taken longitudinally of the grating-bars and showing a protective illuminating-grating constructed according to my invention used in an inclined position as a "skylight" or for a similar purpose.

The grating is made up of vertical parallel iron bars A A, mounted in a suitable, pref-

erably rectangular, frame, such as A<sup>0</sup>, (seen in Fig. 1,) the thickness of the said bars being somewhat greater than their width, as seen in Fig. 5. The inner edges of these bars are cut away along the sides, as seen at a a in Fig. 5, and into these cut-away portions or channels a a fit the side edges of plates of prismatic glass B B. These plates of prismatic glass are cemented together along their top and bottom or horizontal edges, as seen at b b, to render them water-tight and wind-tight and are held firmly in place by means of disks or washers C C, secured by screws c c, engaging in the inner edges of the bars A A, as seen in Figs. 3, 4, and 5. These washers and screws are so arranged that each washer and screw secures the four adjacent corners of four adjacent plates of glass, as seen in Fig. 3.

If preferred, the bars A A instead of being made rectangular in cross-section, as shown in Fig. 5, may be made with their sides beveled to an acute angle upon their outer edges, as seen in Fig. 6.

The protective illuminating-grating above described may be fitted within the outer portion of a window-opening as a protection to the ordinary window-sash within, as shown in Fig. 2, or may be used alone in such a position or as a skylight, as shown in Fig. 7.

When desired, the grating may be constructed with a smaller inner frame D, into which may be fitted a plate of ordinary window-glass in order to allow persons upon the interior of a building to see outside, as shown in Figs. 1 and 2.

It will thus be seen that I provide a grating which will distribute light well to the interior of a building and will serve not only as a protection against forcible entry to the building through the window, but will serve as its own protection against injury from without and has the added advantage of cheapness and simplicity of construction.

I do not wish to limit myself to the uses hereinbefore referred to, as it will be evident to any practical mind that many other uses equally appropriate would suggest themselves under different conditions.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

In a protective grating, the combination with a plurality of parallel bars provided with longitudinal channels at their inner edges; of a plurality of plates of prismatic glass fitted in vertical tiers between said bars with their side edges in said channels, and united by a cement at their horizontal edges; and means for securing said plates of glass remov-

ably in the channels of said bars, substantially as described. 10

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

CHARLES E. MANNING.

Witnesses:

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WILLIAM G. GORDON.