

No. 628,589.

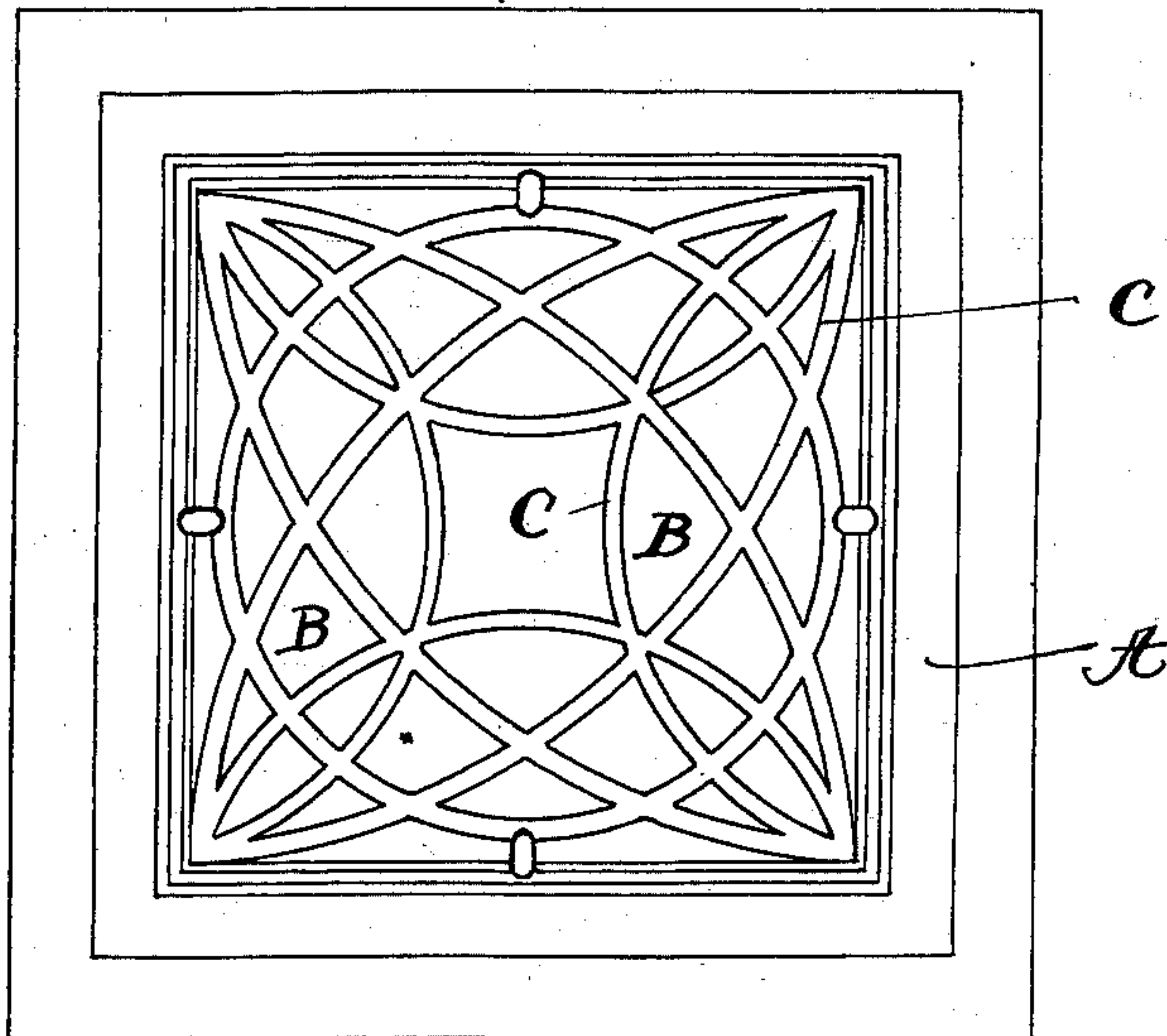
Patented July 11, 1899.

H. W. RUDOLF.  
METAL JOINT FOR WINDOW GLASS.

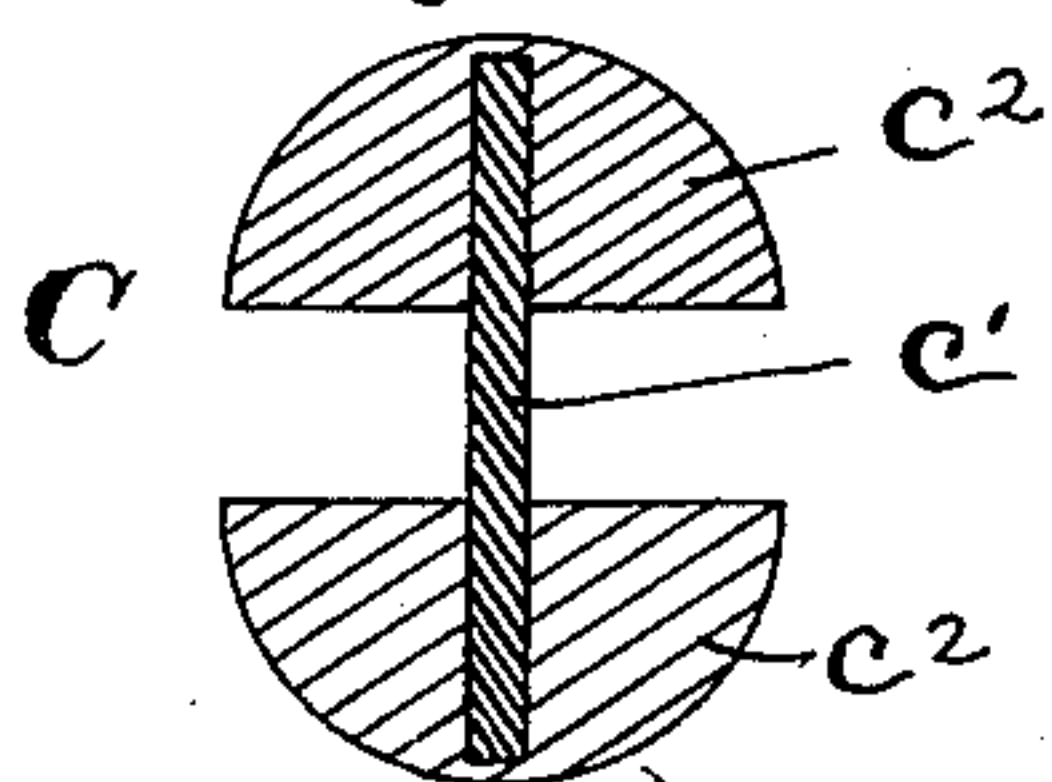
(Application filed Jan. 17, 1898.)

(No Model.)

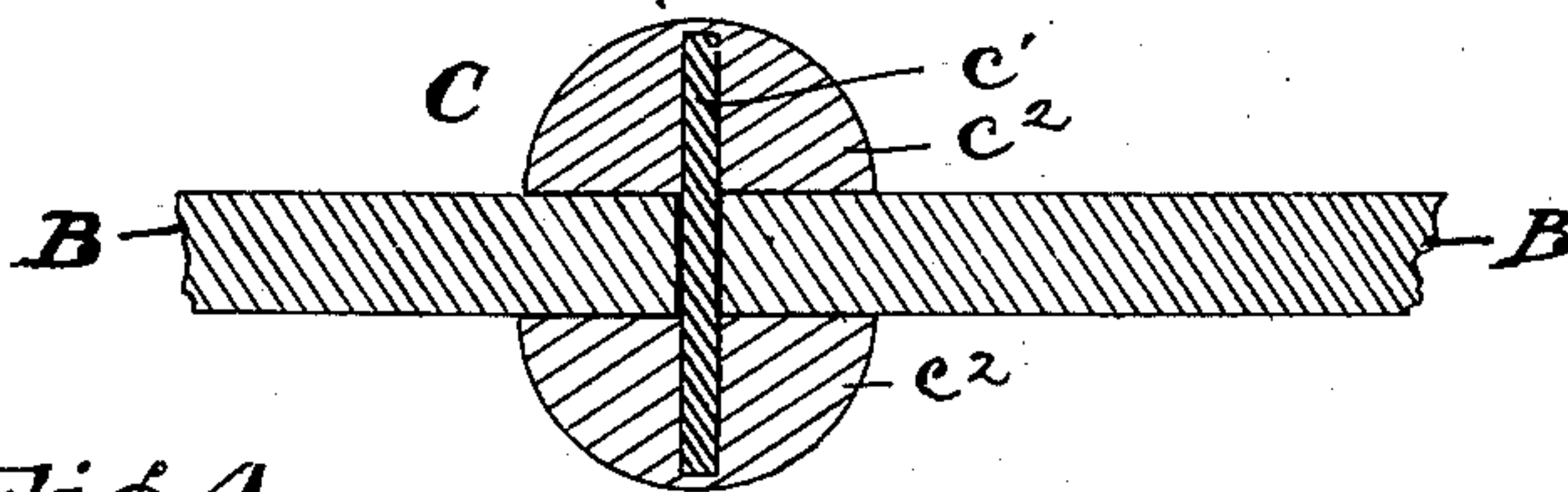
*Fig. 1.*



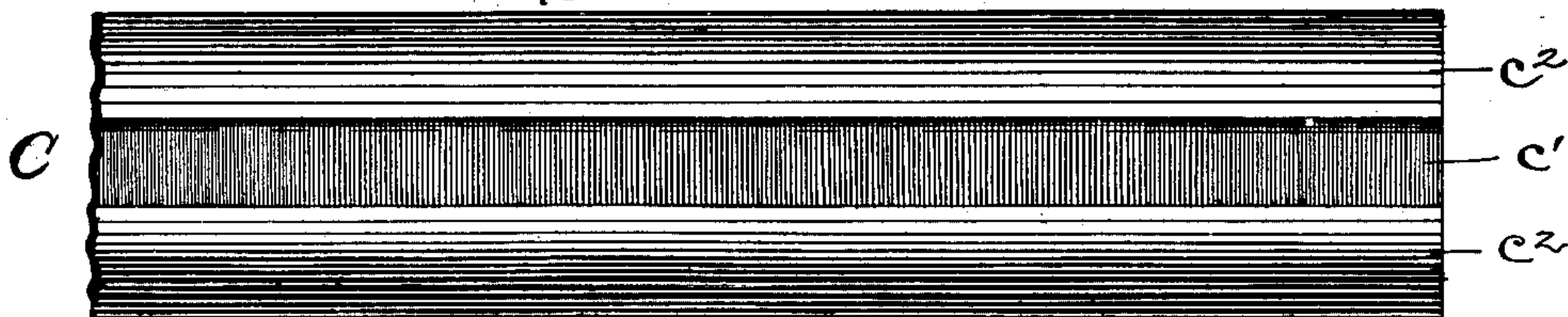
*Fig. 3.*



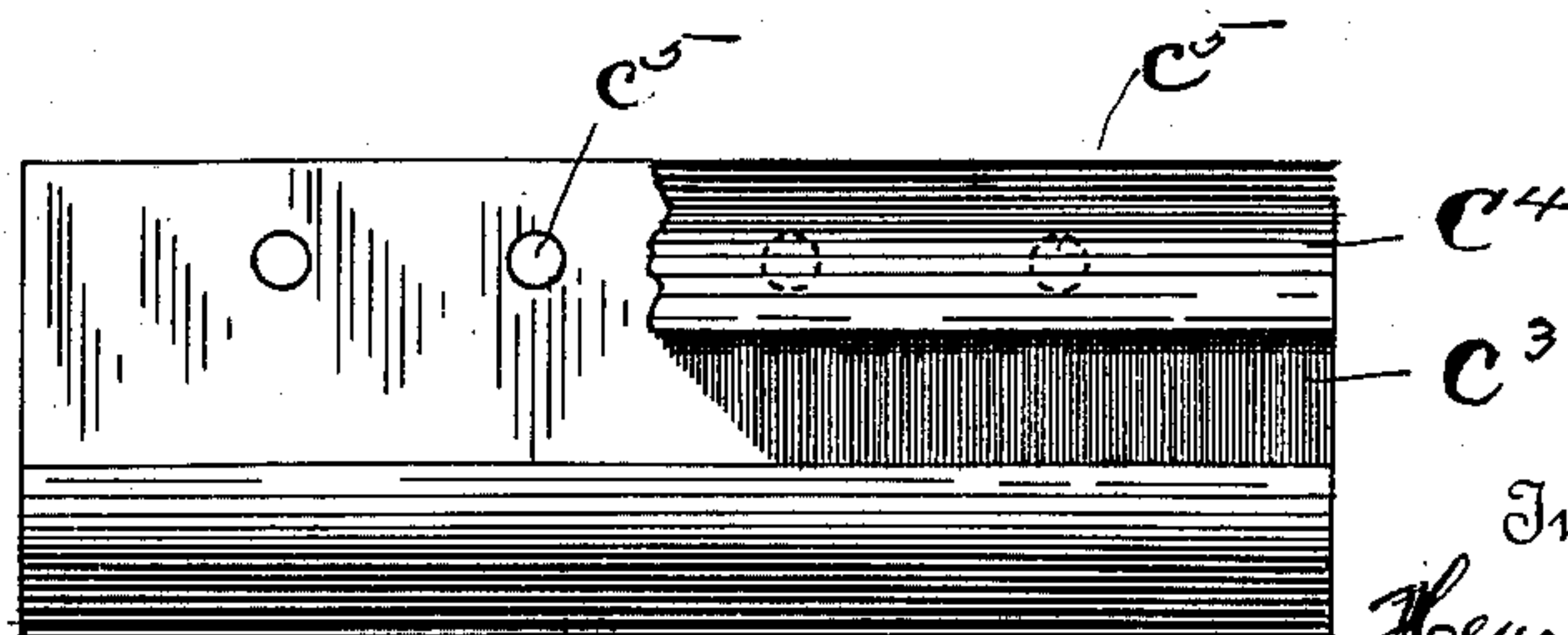
*Fig. 2.*



*Fig. 4.*



*Fig. 5.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY W. RUDOLF, OF INDIANAPOLIS, INDIANA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE RUDOLF METAL SASH COMPANY, OF SAME PLACE.

## METAL JOINT FOR WINDOW-GLASS.

SPECIFICATION forming part of Letters Patent No. 628,589, dated July 11, 1899.

Application filed January 17, 1898. Serial No. 666,898. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. RUDOLF, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Metal Joints for Window-Glass, of which the following is a specification.

This invention relates to improvements in means for uniting the edges of adjacent pieces of glass of various sizes and colors which are assembled in ornamental patterns in making up what is known as "art-glass" for windows and doors. The ordinary practice has been to use a leaden joint I-shaped in cross-section, made in strips which are readily cut the required lengths and are easily bent into shape to fit the outlines of the pieces of glass which are to be united; but in filling large frames or frames in doors where there is a continual jar the lead is not stiff and strong enough to stand the strain, and the result is the bulging out and the final breaking of the composite pane. Strips of metal like galvanized sheet-iron have been used, in which the edges of the strip have been bent to form the flanges. This has remedied the original evil, but has produced another which is almost as serious, for in producing the double-flanged edges necessary to hold the glass the strip is rendered so stiff that it will not bend freely in any direction and can only be shaped with the greatest difficulty to fit the contour of the irregular-shaped pieces of glass used in making up the complete designs.

The object of the present invention is to provide a joining-strip which will be stiff in a direction at right angles to the sides of the glass, but will be pliable in the opposite direction and will retain any shape which may be given to it without a tendency to spring back out of that shape.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a window-frame filled with pieces of glass united with my improved strip to form a continuous body or pane. Fig. 2 is a transverse section of my strip, showing the application of

the joint to the edges of the glass to be united. Fig. 3 is a like view of the joining-strip with the glass removed. Fig. 4 is a view in side elevation of a part of a strip made in accordance with my invention, and Fig. 5 is a detail in side elevation of a modified construction.

Similar letters of reference indicate like parts throughout the several views of the drawings.

A represents the frame within which the glass is mounted.

B are the pieces of glass, which will vary in size and other physical characteristics with the design or pattern which it is intended to produce, except that the edges will all be approximately of uniform thickness in the same design.

C represents my improved joining-strip, which comprises a web of thin sheet-iron  $c'$ , although copper or other material having the requisite qualities of strength and rigidity under a strain edgewise of the strip and flexibility sidewise might be used in place of iron, and  $c^2$  are laterally-projected flanges of lead, which I have found can be made to adhere with great tenacity to the iron web if the latter is first covered with a thin coating of tin. The metal for the web is cut in strips of suitable width and is placed with the lead in a melting-pot and is drawn from thence through a die, together with the molten lead. The die gives the lead the shape required for the flanges. The strip is ready to use as soon as it is sufficiently cooled.

The web of iron stiffens the complete strip in a direction edgewise of said web; but when the latter is made out of thin sheets it will bend freely sidewise, and the lead flanges will serve to hold the shape which may be given to the web in bending it sidewise. The flanges may be varied in shape in cross-section, and the finished strips can be made in various sizes to suit the job on which it is to be used.

Should it be desired to use a web which is not tinned, a series of perforations  $c^5$ , as shown in the modification in Fig. 5, may be formed in the web, whereby the flanges will be made to adhere thereto.

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

1. A joining-strip for the purposes specified  
5 comprising a web of tinned sheet-iron or the like and marginal laterally-projected flanges of lead soldered to the tinned web, as and for the purposes set forth.

2. As a new article of manufacture, a strip  
10 having a web of tinned sheet metal and flanges of lead secured to and covering the

margins only of said web, and projecting laterally therefrom, substantially as described and for the purposes specified.

In witness whereof I have hereunto set my  
hand and seal at Indianapolis, Indiana, this  
7th day of January, A. D. 1898.

HENRY W. RUDOLF. [L. S.]

Witnesses:

JOSEPH A. MINTURN,  
CARL SCHLEGEL.