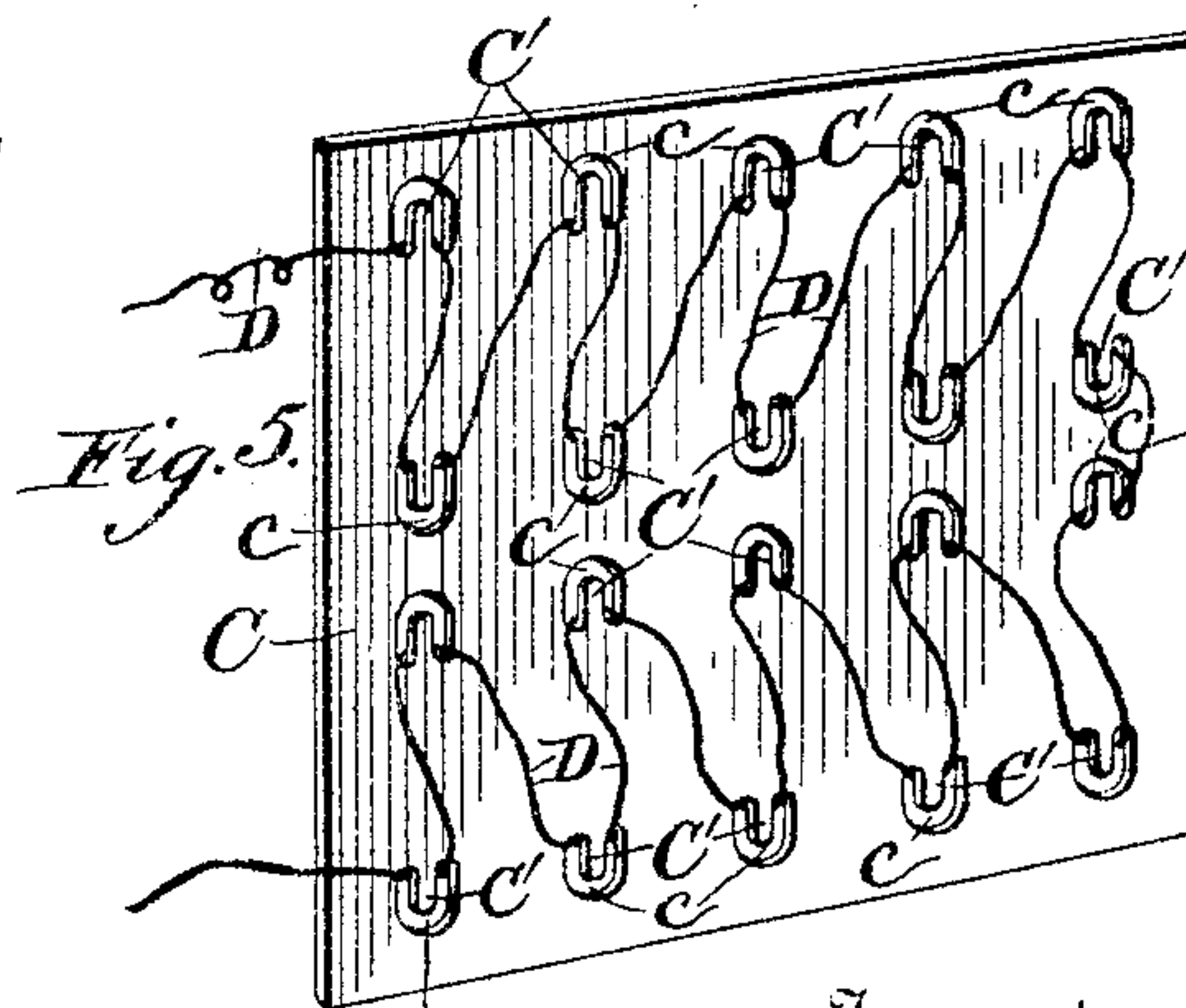
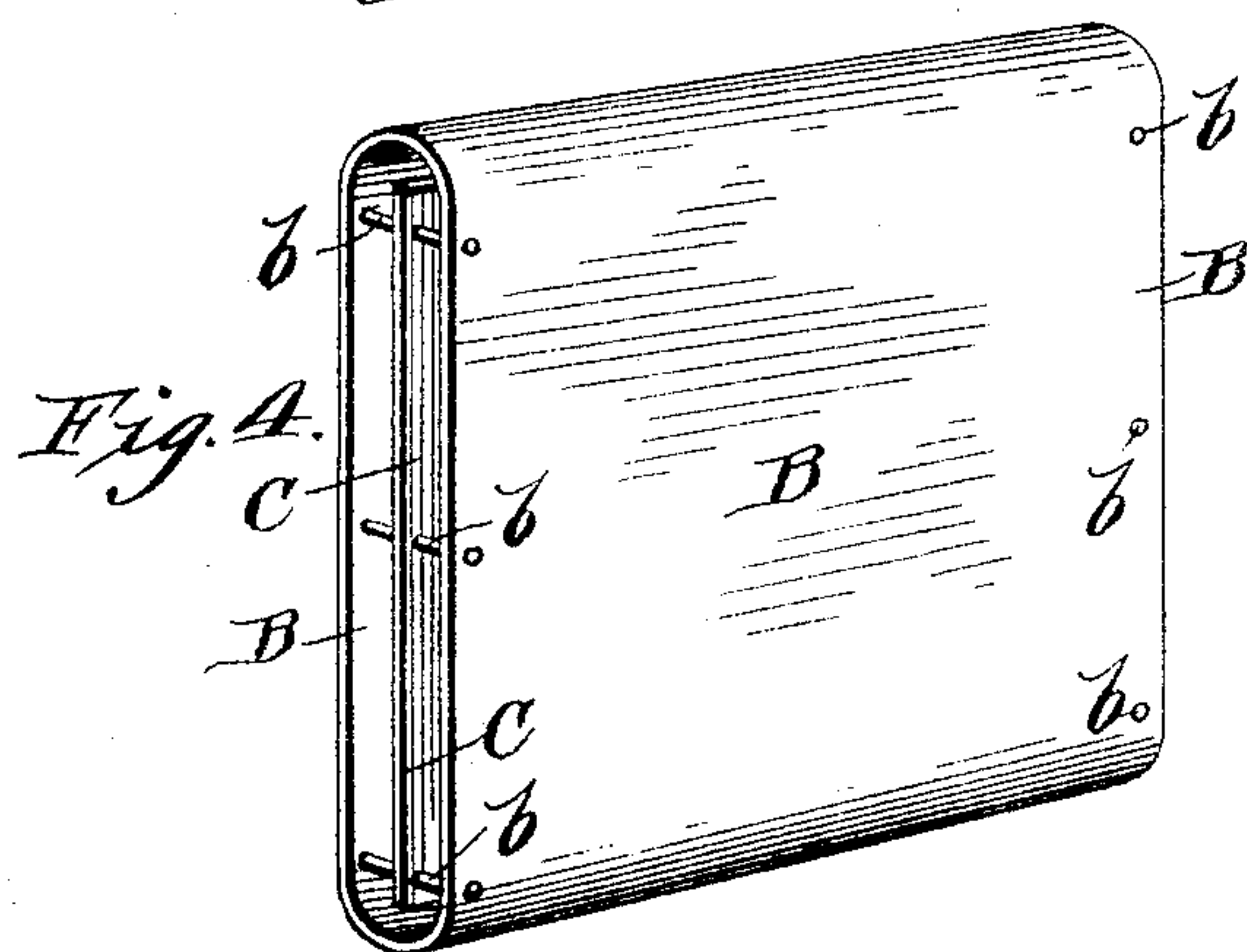
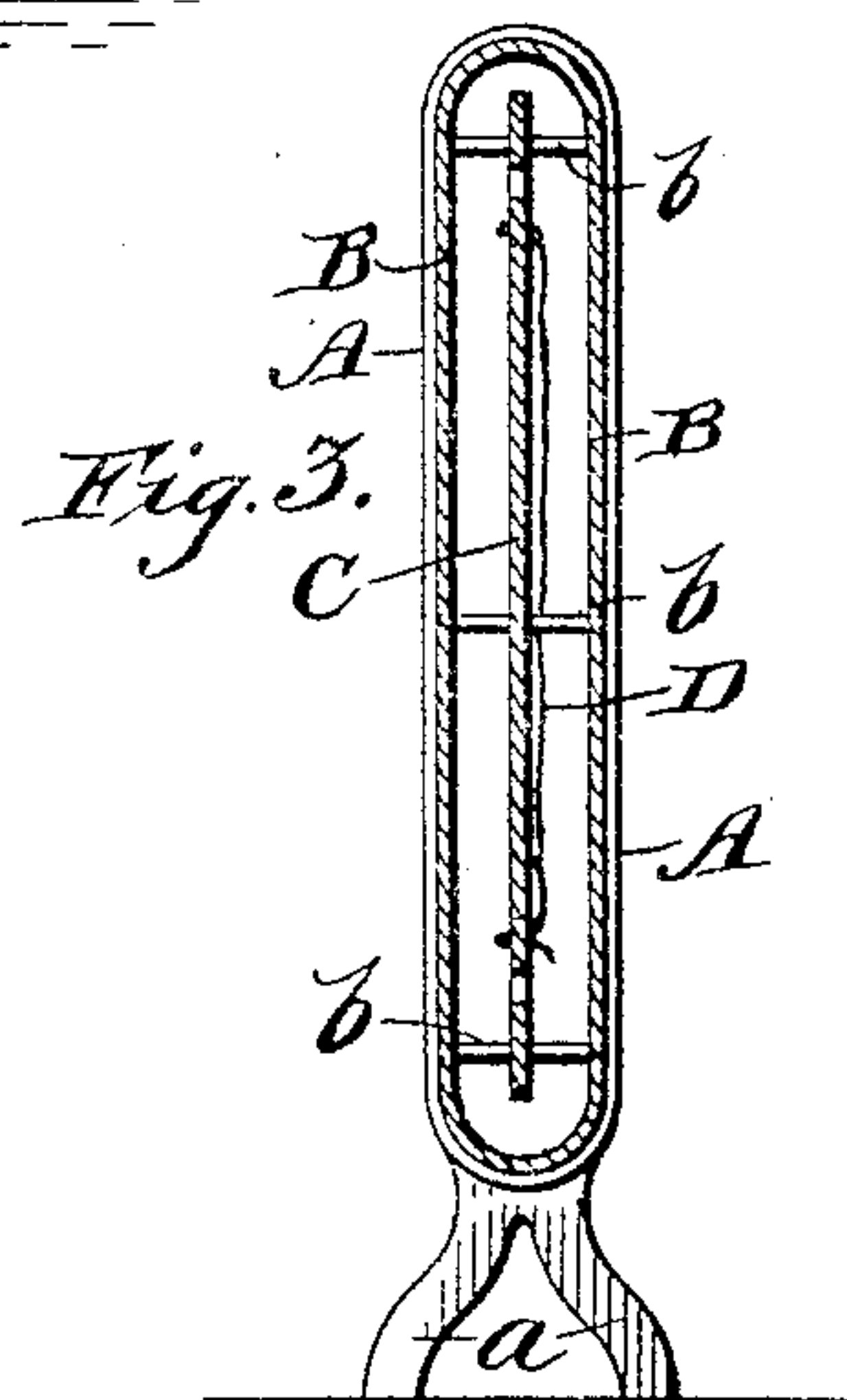
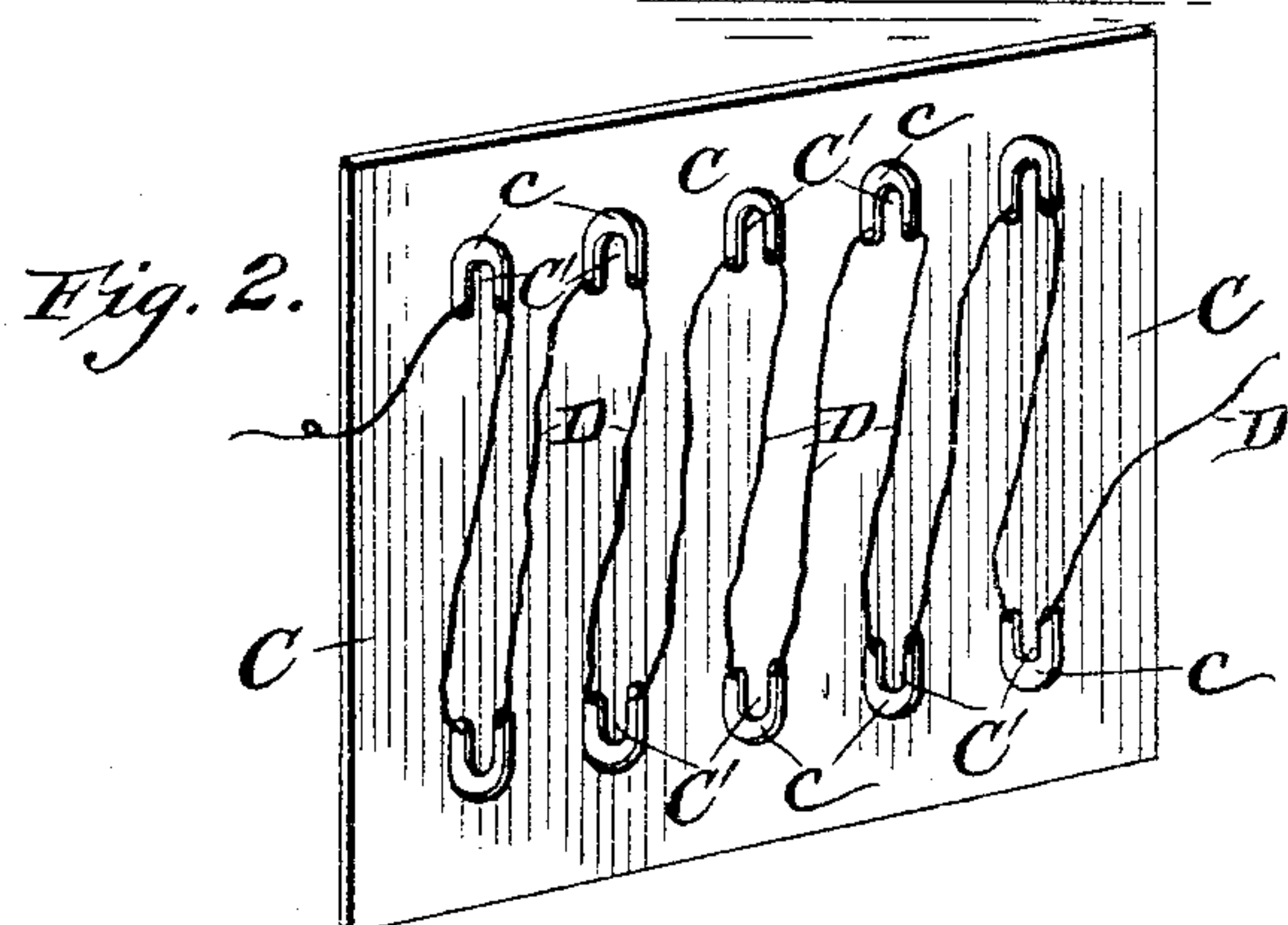
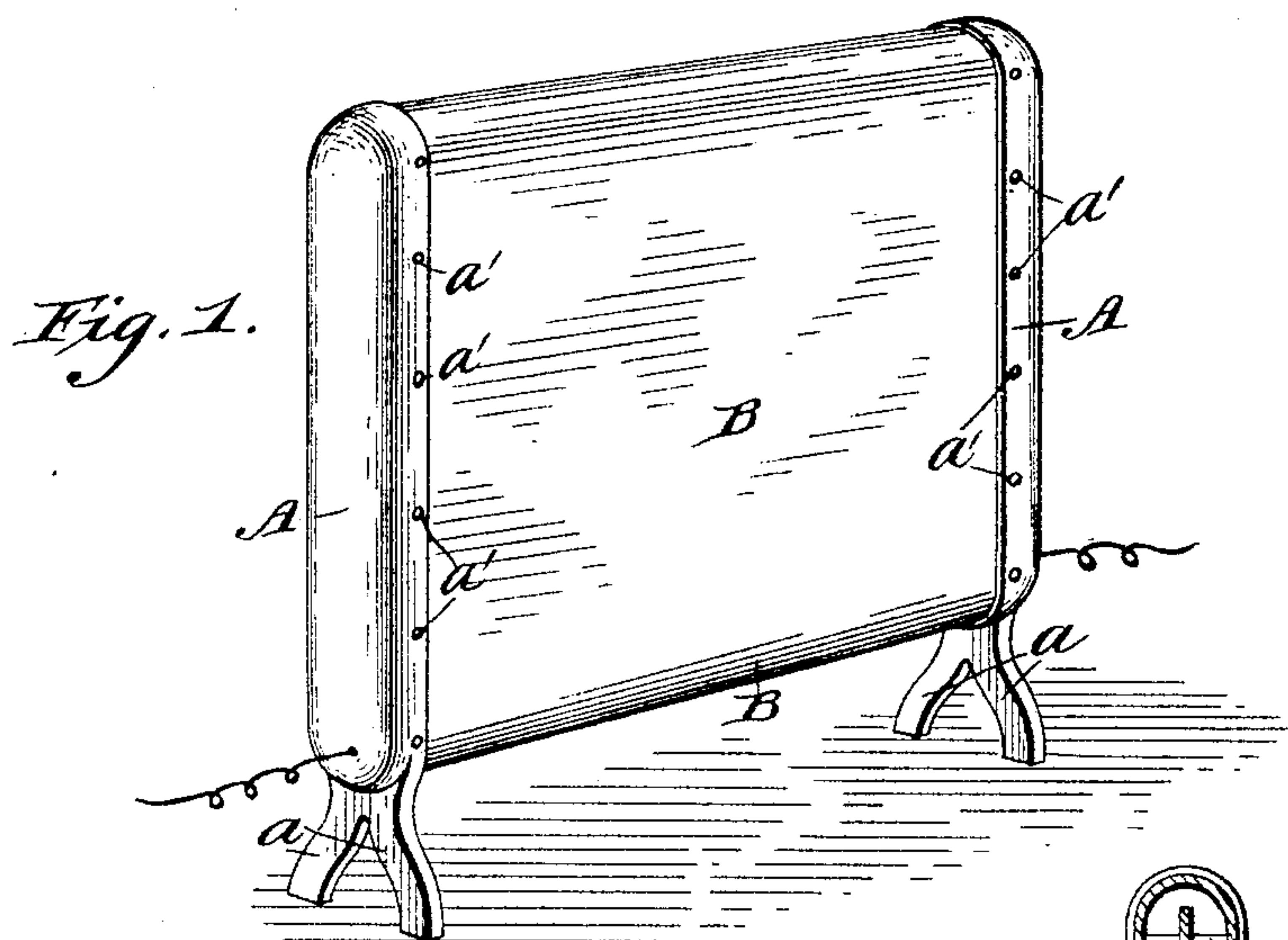


(No Model.)

S. B. JENKINS.  
ELECTRIC RADIATOR.

No. 497,791.

Patented May 23, 1893.



Witnesses  
*E. Leverance*  
*W. Harvey Muzzey*

Inventor  
*Samuel B. Jenkins*  
by *Wm. H. Babcock*  
Attorney

# UNITED STATES PATENT OFFICE.

SAMUEL B. JENKINS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE  
AMERICAN ELECTRIC HEATING COMPANY, OF SAME PLACE.

## ELECTRIC RADIATOR.

SPECIFICATION forming part of Letters Patent No. 497,791, dated May 23, 1893.

Application filed November 25, 1892. Serial No. 453,061. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL B. JENKINS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Electric Radiators; 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.

The object of this invention is to produce a very simple, cheap and efficient electrical device for heating rooms, halls and spaces generally. To this end I make use of a plate of sheet metal or cast metal having tongues stamped out of it or cast with it and an insulated wire forming part of an electric circuit which is wound from tongue to tongue in zigzag or undulating lines, an exterior casing being employed as a protection.

In the accompanying drawings Figure 1 represents a perspective view of the complete radiator embodying my invention. Fig. 2 represents a similar view of the heating plate and wire. Fig. 3 represents a vertical cross section through the said radiator. Fig. 4 represents a perspective view of the casing and inner plate with fastening rivets; and Fig. 5 represents a detail view of the heating plate modified to receive two rows of windings.

A designates two supporting castings or frames, which are provided with legs *a* and elliptical upper parts, that receive the ends of a casing B, which is of similar form in cross-section, being rounded at the top and bottom and thin in comparison with its length and height. Within this casing a flat thin plate C of sheet metal is supported in upright position by rods *b* that pass transversely through it and through the walls of the said casing. This plate is of area nearly equal to

that of the side of the latter. At intervals, forming two rows as in Fig. 1 or four or more rows as in Fig. 5, it has horseshoe-shaped holes *c* stamped out of it forming tongues C'. An insulated wire D which forms part of an electric circuit is wound from tongue to tongue as shown passing from the upper row to the one below and back again in long undulations or zigzag lines and repeating this proceeding for each two rows of tongues, in case there are more rows than two. The casing B is connected to its frame A by rivets *a'*. When the electric current passes through the wire the resistance evolves heat, which is communicated to the plate C and the interior of the casing B and radiated from the latter into the surrounding apartment or other space. Instead of sheet metal, the plate may be cast and the tongues cast with it.

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

1. In an electric radiator, the combination of a plate having tongues stamped out of it so as to project laterally, with an insulated wire wound from tongue to tongue in serpentine lines and forming part of an electric circuit substantially as set forth.

2. In an electric radiator, the combination of a plate having tongues stamped out of it so as to project laterally with an insulated wire wound from tongue to tongue in serpentine lines and forming part of an electric circuit, and a casing which incloses the said plate and wire substantially as set forth.

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

SAMUEL B. JENKINS.

Witnesses:

EDWIN W. PIERCE,

WALTER A. BROWNE.