

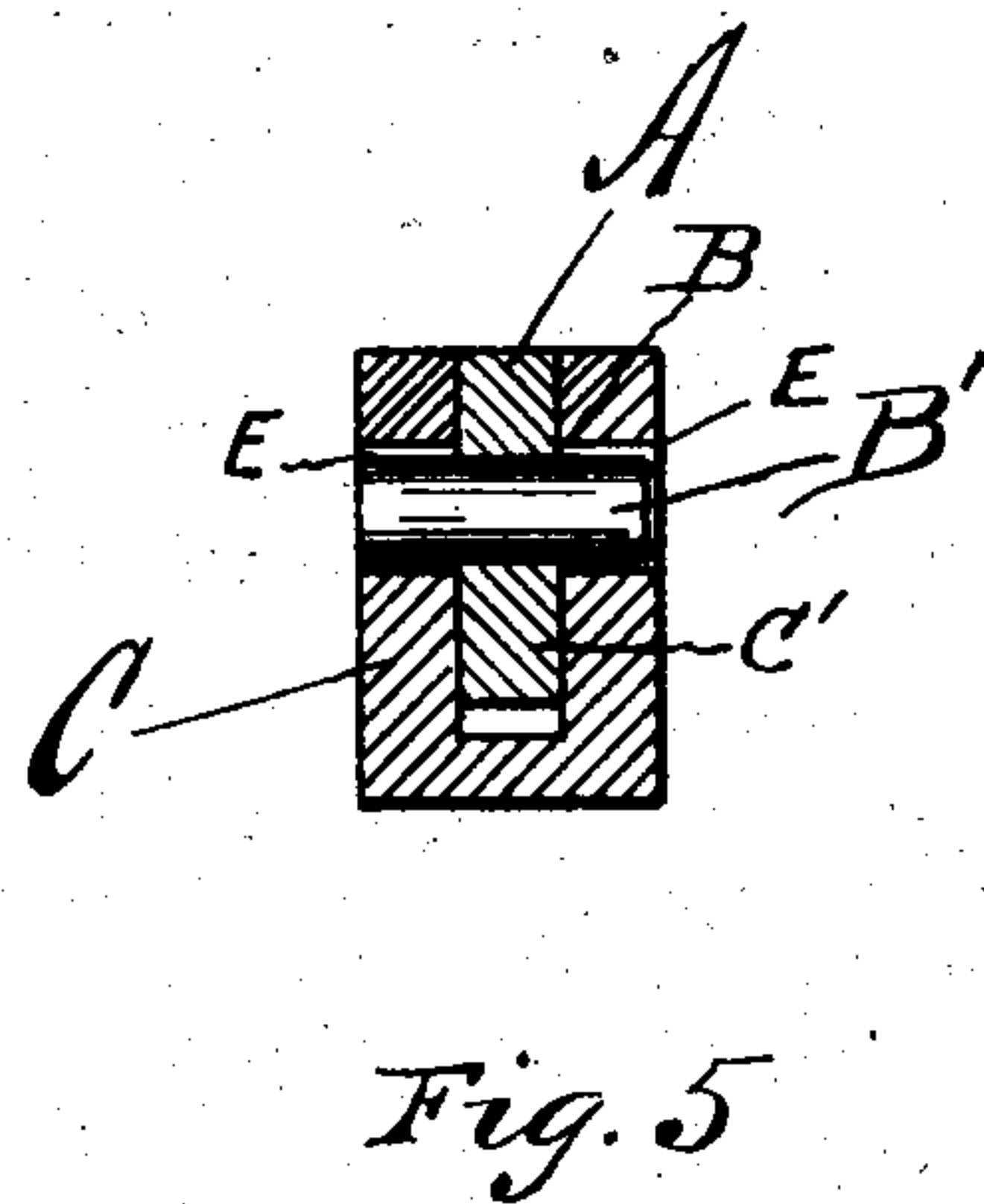
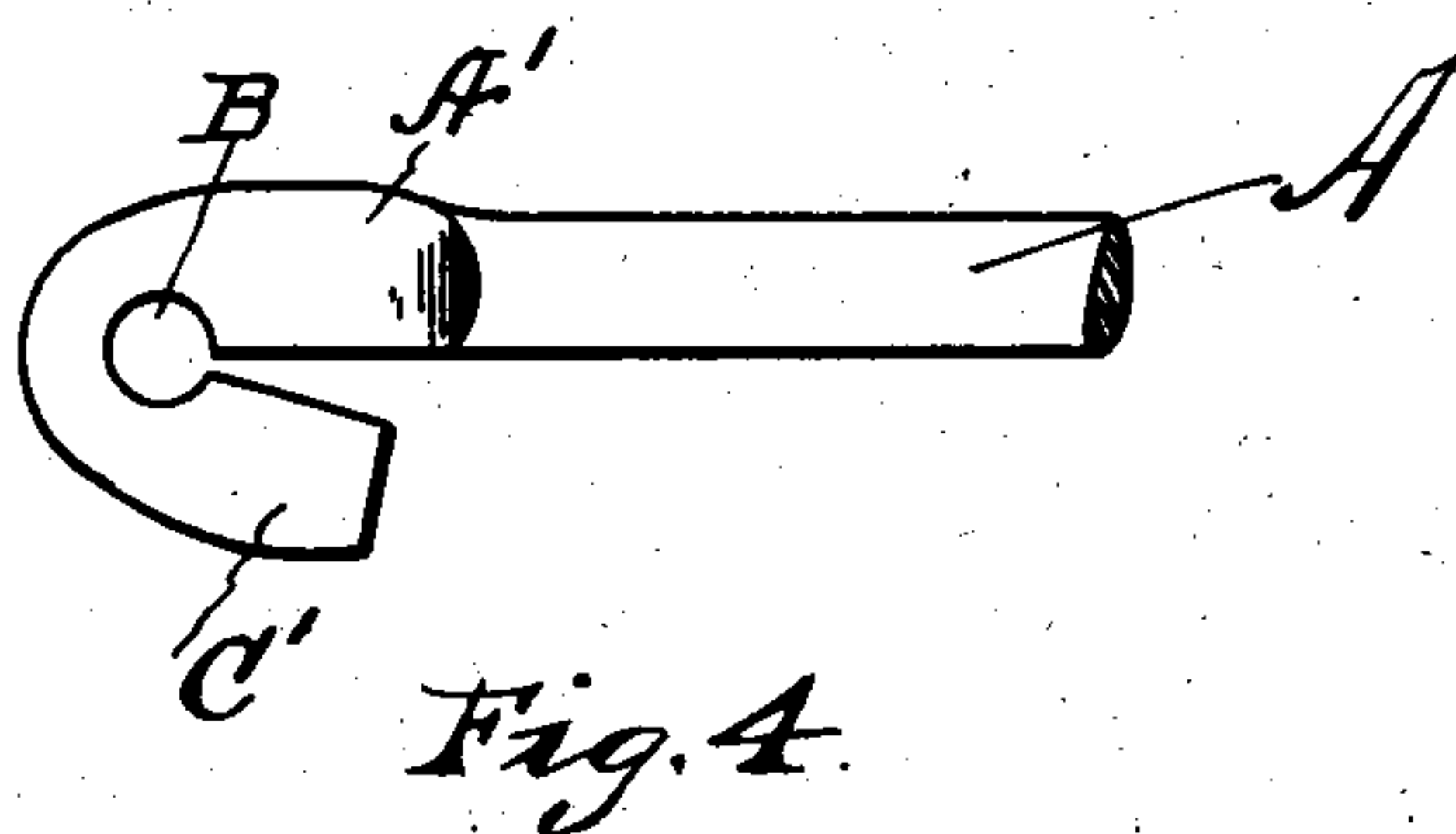
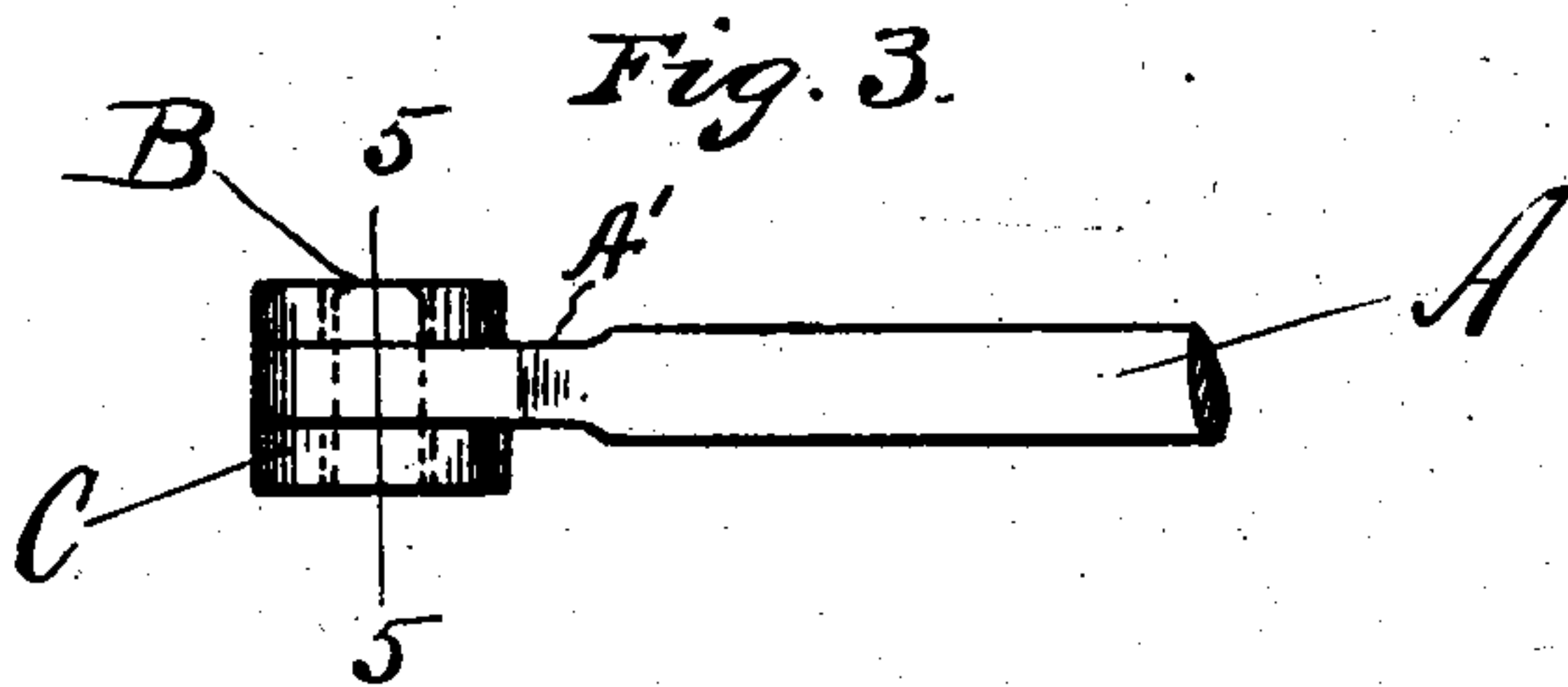
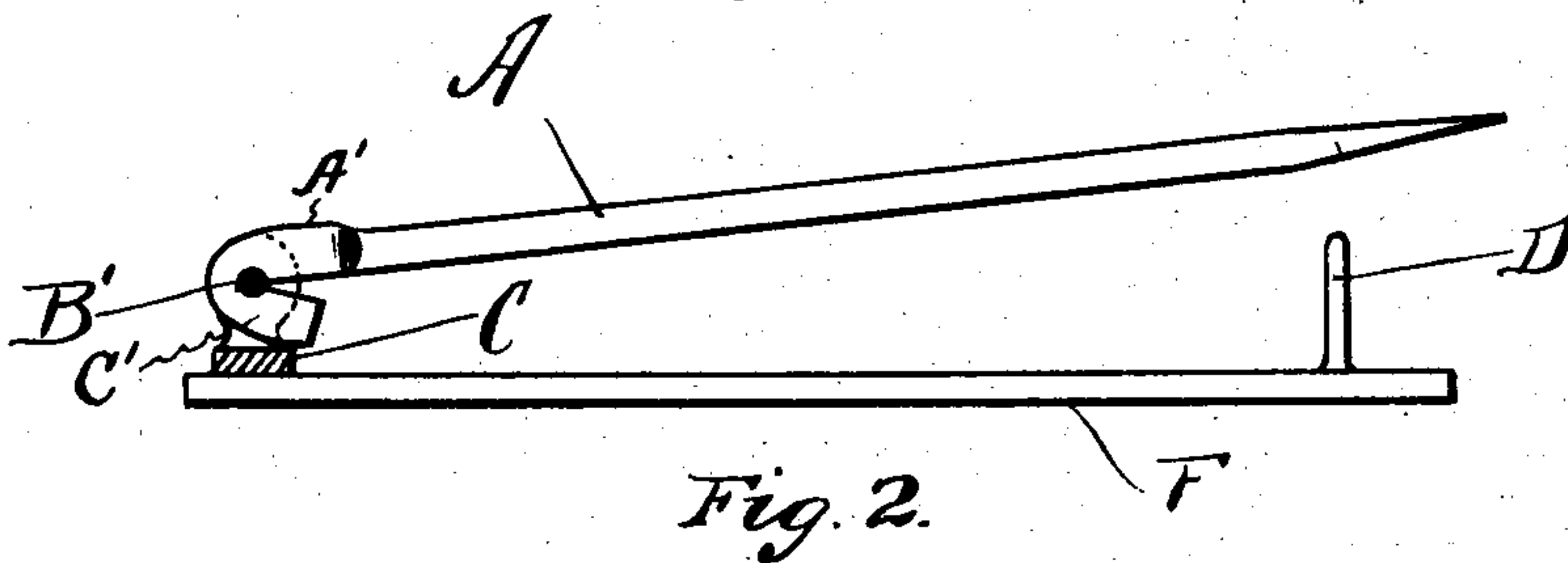
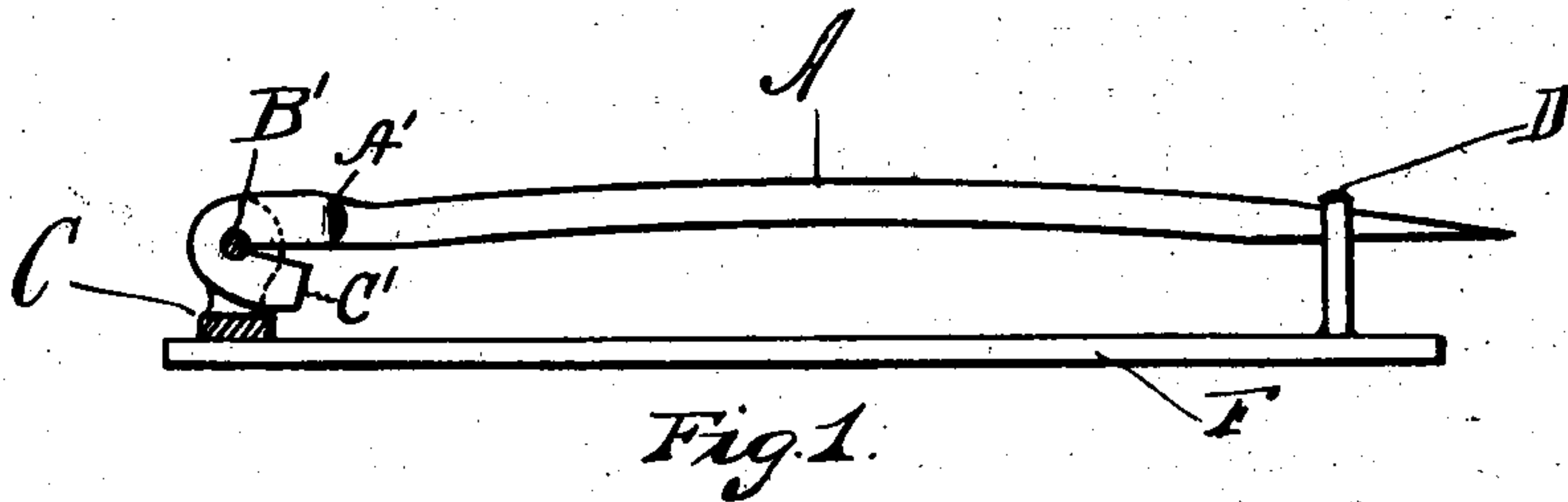
No. 763,483.

PATENTED JUNE 28, 1904.

T. F. GREENWOOD.
JOINT.

APPLICATION FILED FEB. 1, 1902.

NO MODEL.



Witnesses.

M. L. Hazard.
A. L. Makepeace.

Inventor.

Thomas F. Greenwood.

By *Arnold & Barlow*
Attorneys

UNITED STATES PATENT OFFICE.

THOMAS F. GREENWOOD, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
DAVID M. WATKINS AND FREDERICK H. WATKINS, OF PROVIDENCE,
RHODE ISLAND, DOING BUSINESS AS D. M. WATKINS & COMPANY, A
FIRM.

JOINT.

SPECIFICATION forming part of Letters Patent No. 763,483, dated June 28, 1904.

Application filed February 1, 1902. Serial No. 92,124. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. GREENWOOD, a resident of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Joints; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in pin-tongues for brooches or the like.

The invention has for its object the production of a simple and inexpensive pin-tongue provided with a maximum bearing-surface, whereby lateral play of the pin in its support is entirely overcome.

A further object is to provide a simple and efficient connection between the pin-tongue and its supporting-pivot.

A further object is to provide means whereby the resiliency or spring action between the pin-pivot and the pin-catch is greatly increased.

A further object is to provide a pin-tongue which may be securely mounted in its supporting-cup without heading over the pivot-pin.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 are side views of a pin and plate, partly in section, illustrating my invention. Fig. 3 is a top view of the joint. Fig. 4 is an enlarged detail view of the joint end of the pin. Fig. 5 is a sectional view on line 5 5, Fig. 3.

Referring to the drawings, A designates the pin-tongue, preferably formed of a single piece of wire bent back upon itself to form a hook and flattened, as indicated at A', a hole or opening B being formed to receive the pivot-pin B'. By this arrangement the completed pin is provided with a spring-arm C'. In practice I prefer to first bend or double up a piece

of wire to form the arm C' and then compress or swage said doubled portion in suitable dies to flatten the sides and square the edges. The hole B is then formed in any suitable manner, the same being preferably of smaller diameter than the diameter of the pivot-pin B', whereby when the latter is driven into said hole it will be rigidly held, because of the resiliency of spring-arm C'.

While I have described the foregoing as the preferred manner of constructing my improved pin-tongue, I do not limit myself thereto, as there are various other methods of constructing the same which would not depart from the spirit of my invention.

The plate or brooch F is provided with a cup C, formed with parallel ears, between which the hook end of the pin-tongue is adapted to fit, with the opening B thereof coinciding with the openings E. When in this position, the pivot-pin B' is passed through said coinciding openings and cut off flush with the outer walls of said ears, whereby heading over of the pivot-pin is rendered unnecessary. Another and convenient way of assembling the parts is to first make the pivot-pin B' of the desired length and insert same in opening B of the pin-tongue. The hook end of the latter is then inserted between the sides of the cup C and said sides pressed together, whereupon the ends of pin B' will be supported in the openings E. The plate F is also provided with the usual keeper D to engage the free end of the pin A.

The advantages of my invention will be at once apparent to those skilled in the art to which it appertains. It will be particularly noted that by bending over the end of the pin and flattening the same the flattened bent end affords an increased bearing-surface, allowing the inner faces of the cup to fit closely thereagainst, whereby an absolutely rigid joint is secured and lateral play entirely overcome. It will be further seen that this result is obtained with a pin-tongue formed entirely from a single piece of round wire. It will be further observed that flattening the bent end of

the pin-tongue squares up the edges and facilitates the formation of a bore or aperture for the pivot-pin of substantially uniform cross-section—*i. e.*, the bore may be cylindrical or any other shape of uniform cross-section—thus securing an extended bearing-surface between the pin-tongue and the pivot-pin. A further advantage of securing the pivot-pin in the return-bend by pressure is that heading over of the ends of said stud is rendered unnecessary. It will also be observed that the resiliency and efficiency of the spring-arm is greatly increased and enhanced by flattening the bent end of the pin-tongue and fitting the same snugly between the walls of the supporting-cup to overcome lateral play. It will be further noted that when the pin-tongue is in engagement with the keeper the pressure upon the spring-arm of the bent end is increased, whereby the latter is caused to more tightly grip the pivot-pin. This is of particular advantage where the said pivot-pin is held in the bent end of the pin-tongue by pressure.

I claim as my invention—

- 25 1. A pin-tongue having one end bent over, said bent end being provided with a substantially cylindrical bore or aperture, and a pivot-pin secured in said bore or aperture by pressure.
- 30 2. A pin-tongue having one end provided with a bend, and a pivot-pin secured in said bend solely by pressure.
3. A pin-tongue having one end provided with a bend, and a pivot-pin secured in said bend by spring-pressure.
- 35 4. A pin-tongue having one end bent over and flattened said bent end being provided with a substantially cylindrical bore or aperture, and a pivot-pin secured in said bore or aperture by pressure.
- 40 5. A pin-tongue having one end bent over to form a hook portion, a cylindrical bore or aperture being formed in said bend.
6. A pin-tongue having one end bent over to form a hook portion, a bore or aperture being formed in said bend, said bore or aperture being of substantially uniform cross-section.
- 45 7. A pin-tongue having one end bent over

to form a hook portion, and a pivot-pin secured in said bend. 50

8. A pin-tongue bent over to form a hook portion, and a pivot-pin having a substantially uniform cross-section, said pivot-pin being secured in said bend. 55

9. A pin-tongue having one end bent into substantially V shape, a bore or aperture being formed near the apex of the bend, and a pivot-pin secured in said bore or aperture.

10. A pin-tongue having one end bent into substantially V shape, a bore or aperture being formed near the apex of the bend, and a pivot-pin secured in said bore or aperture, said pin having a substantially uniform cross-section. 65

11. In a device of the character described, the combination with a pin-tongue having one end bent over to form a hook portion, a pivot-pin secured in said bend, a plate, and a cup mounted on said plate and adapted to receive the ends of said pivot-pin. 70

12. In a device of the character described, the combination with a pin-tongue having one end bent over to form a hook portion, a pivot-pin of substantially uniform cross-section secured in said bend, a plate, and a cup mounted on said plate and adapted to receive the ends of said pivot-pin. 75

13. In a device of the character described, the combination of a pin having a hook-shaped portion at one end inclosing a substantially cylindrical bore, a pivot secured in said bore by pressure, a plate, and a cup mounted on the plate and arranged to loosely engage the ends of the pivot. 80

14. In a device of the character described, the combination of a pin having a resilient hook-shaped portion at one end inclosing a substantially cylindrical bore, a pivot secured in said bore by spring-pressure, a plate, and a cup mounted on the plate and arranged to loosely engage the ends of the pivot. 85

In testimony whereof I have hereunto set my hand this 30th day of January, A. D. 1902.

THOMAS F. GREENWOOD.

In presence of—

H. E. BARLOW,
BENJ. ARNOLD.