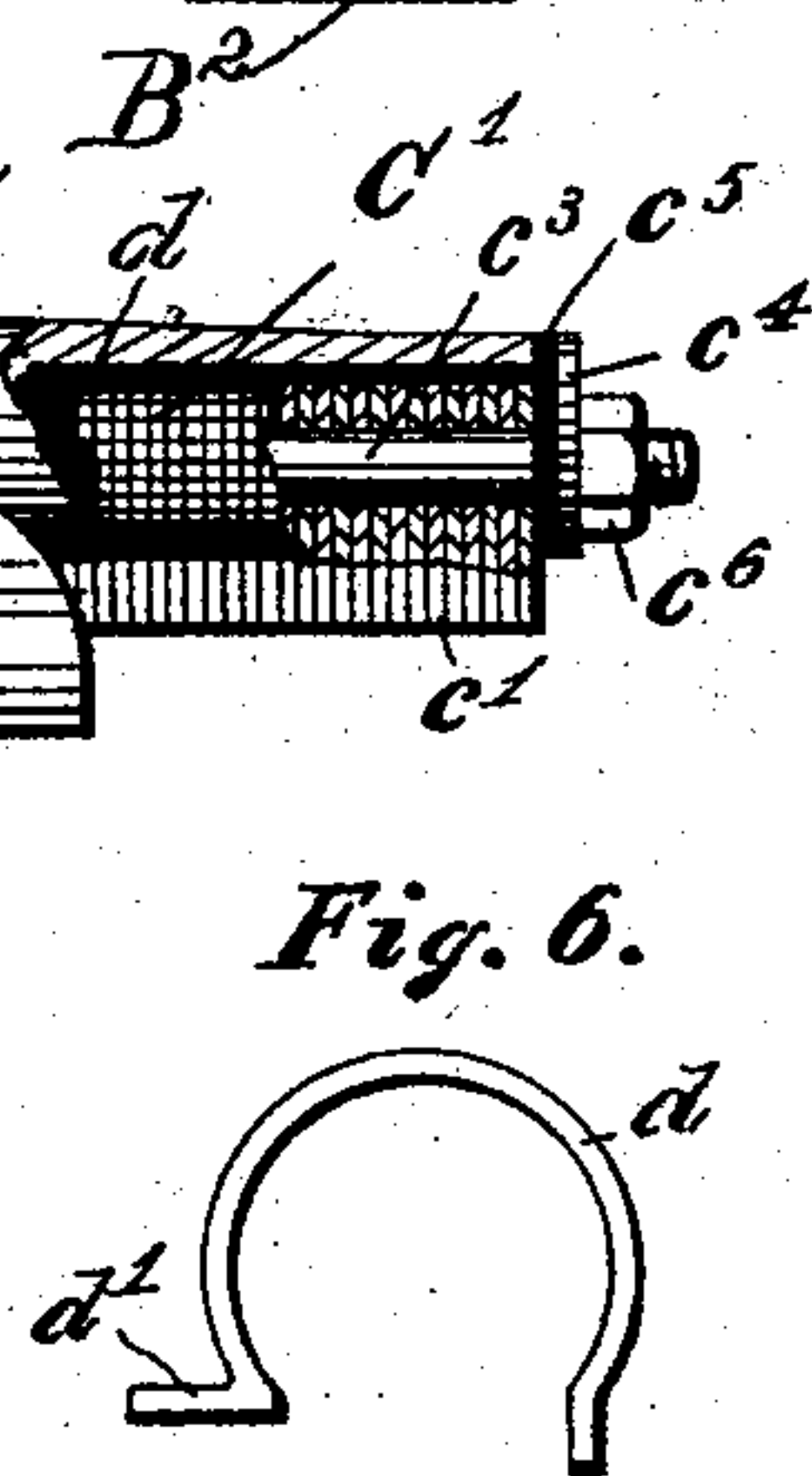
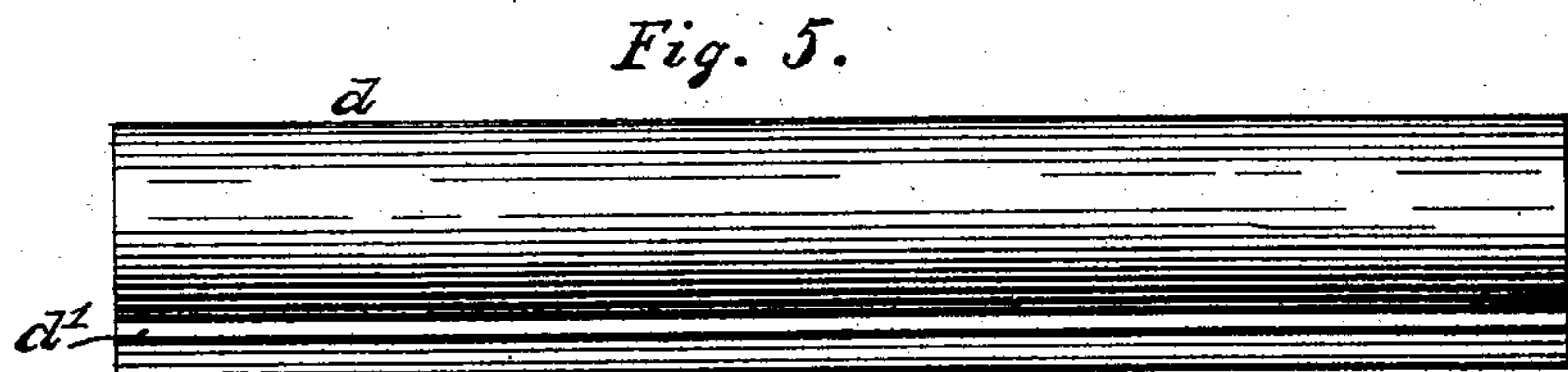
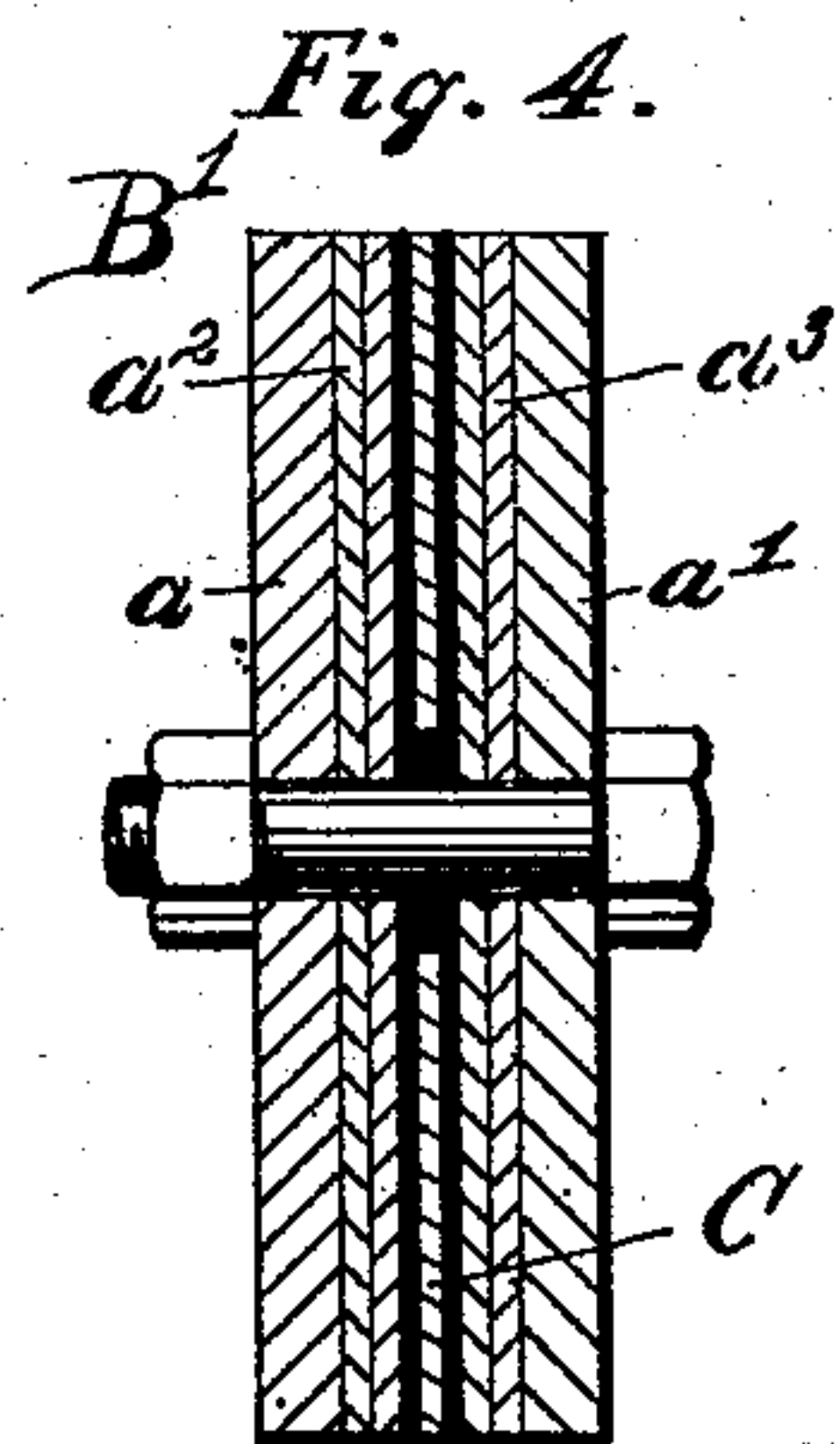
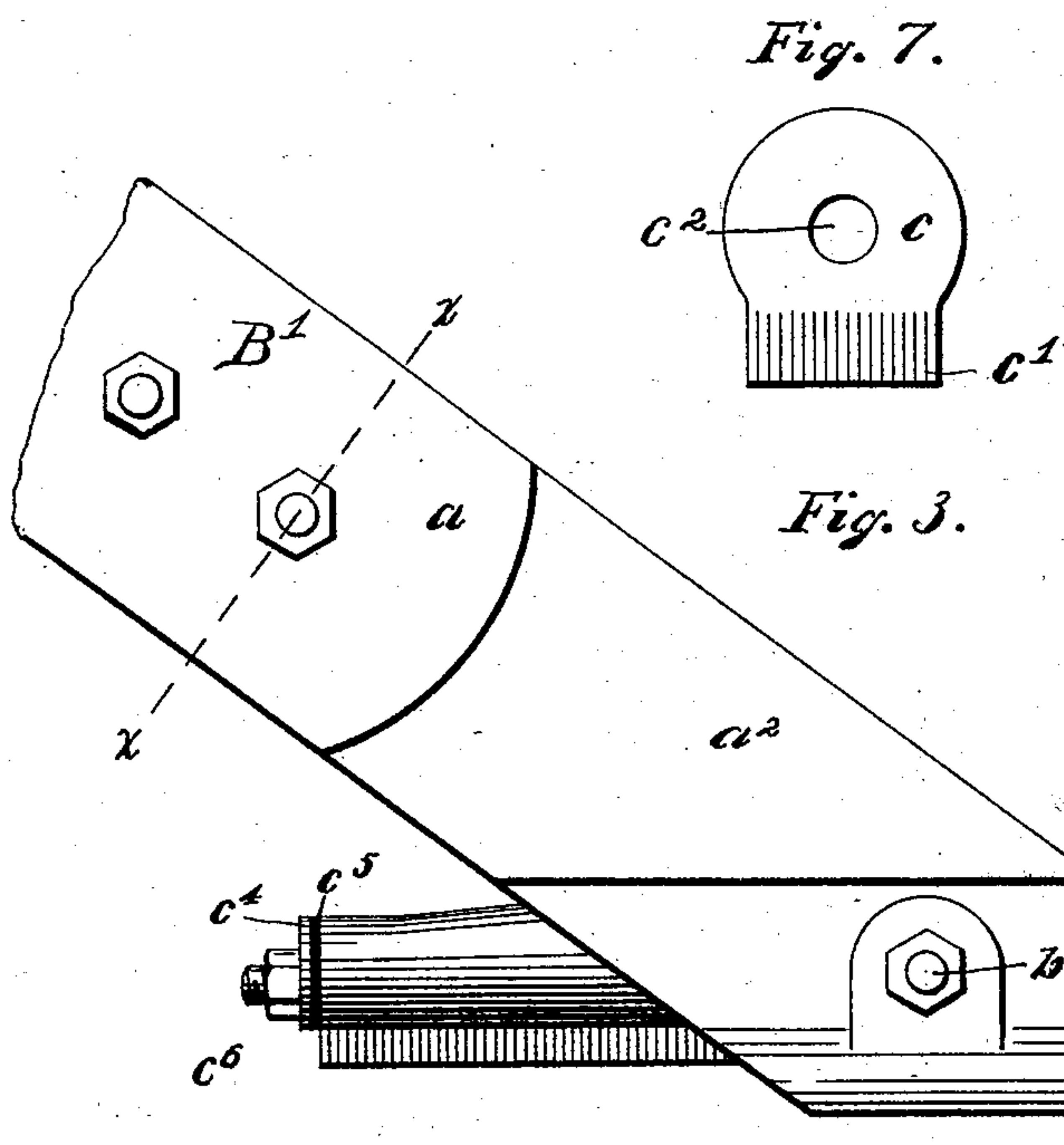
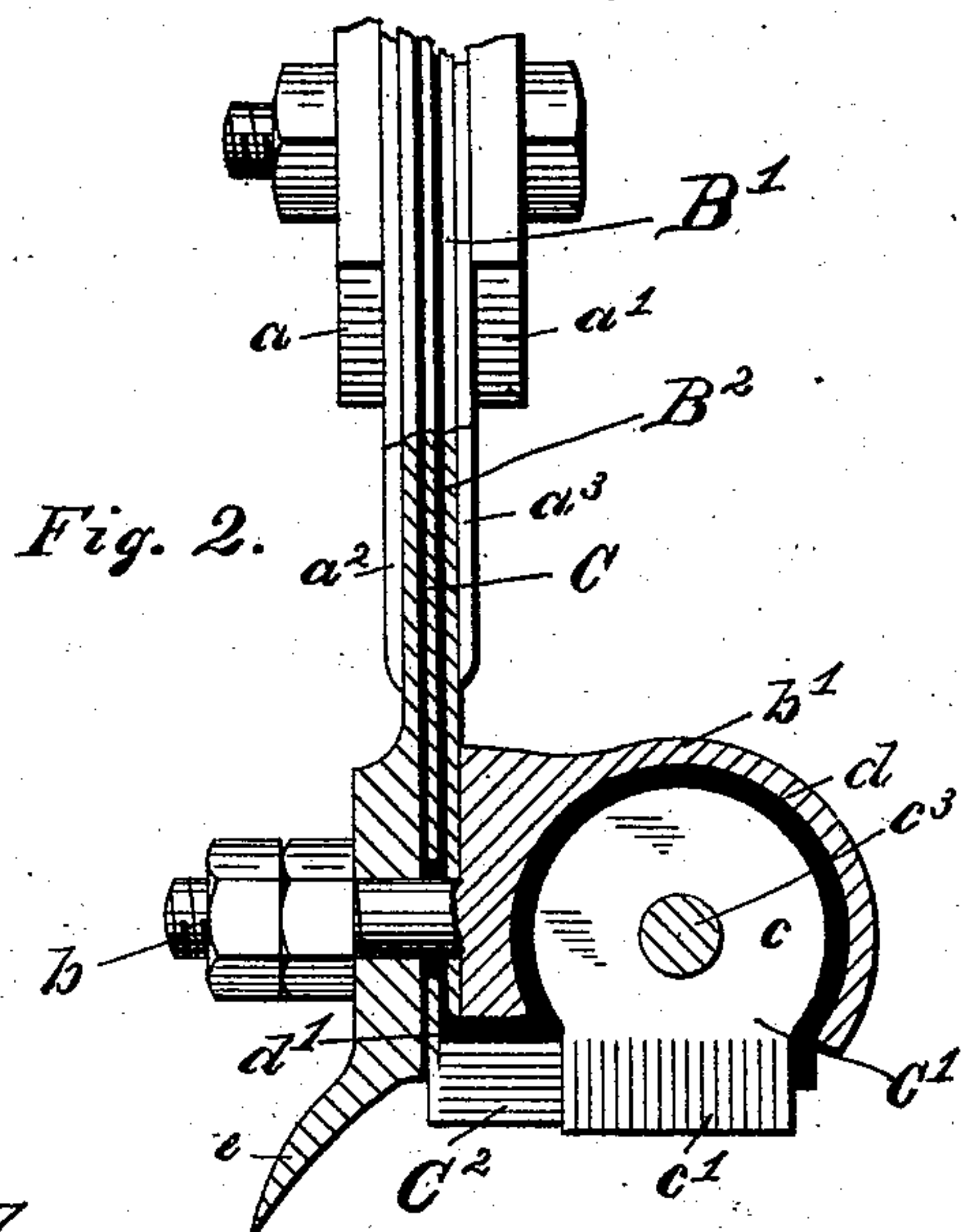
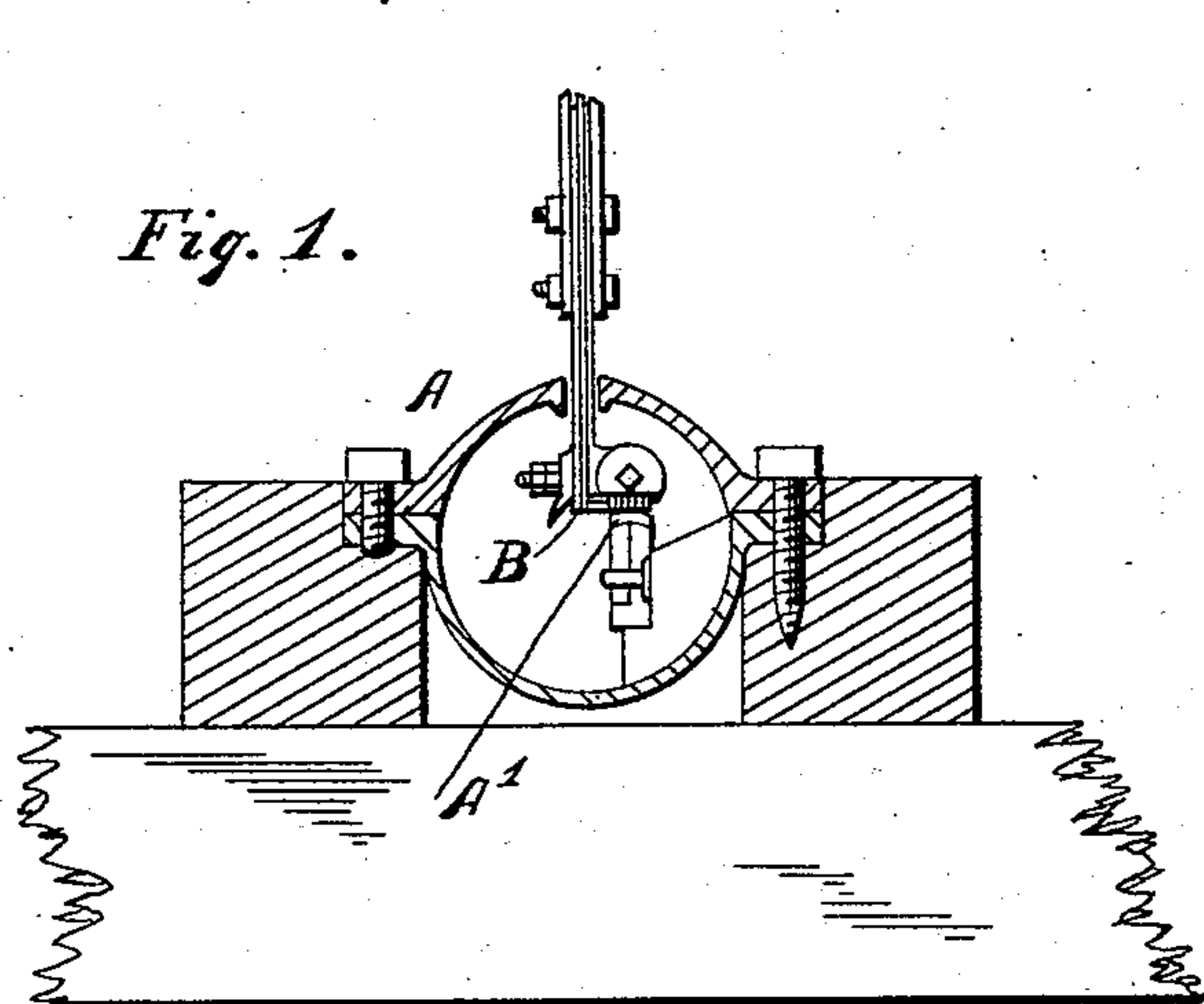


(No Model.)

G. F. GREEN.
TROLLEY.

No. 506,492.

Patented Oct. 10, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE F. GREEN, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF ONE-HALF TO OLIVER S. KELLY, OF SPRINGFIELD, OHIO; MARTHA L. GREEN EXECUTRIX OF SAID GEORGE F. GREEN, DECEASED.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 506,492, dated October 10, 1893.

Application filed April 28, 1892. Serial No. 431,059. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. GREEN, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo, and State of Michigan, have invented certain new and useful Improvements in Electric Contact Devices, of which the following is a specification.

My invention relates to improvements in electric contact devices especially adapted for use with electric railways, and the object of my invention is to provide a contact device of simple construction especially adapted to be operated in connection with underground conductors, or conductors inclosed in suitable conduits.

My invention consists in the various constructions and combinations of parts herein-after described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a transverse sectional view of a conduit having an electric conductor therein, showing my improved contact device in connection therewith. Fig. 2 is a transverse sectional view of a contact device on a larger scale. Fig. 3 is a side elevation of the same, some of the parts being broken away and shown in section to better illustrate the construction. Fig. 4 is a transverse sectional view on line X X in Fig. 3. Figs. 5 and 6 are respectively side and end elevations of the insulating covering or sleeve, used in the construction of my contact device. Fig. 7 is a detail view of one of the plates or disks used in the construction of the contact surfaces.

Like parts are represented by similar letters of reference in the several views.

In the said drawings A, represents a conduit having an electric conductor A', therein, the arrangement and construction of which form the subject matter of another pending application.

B, is my improved contact device. This contact device B, consists essentially of a holder B', formed of two plates a a' , which may be connected in any suitable manner to a moving vehicle to which the current is to be supplied from the continuous conductor.

Between the respective plates a a' , of the holder B', is the supporting standard B², pref-

erably provided on each side with wearing plates a^2 , a^3 , formed of hardened steel or other suitable material and adapted to receive the wear from the sides of the slotted opening in the conduit A.

Inclosed within the standard B², and insulated therefrom, is an electric conductor C. Pivotaly connected to the lower end of the standard B², by means of a pivot bolt b , is a metallic sleeve or casing b' , arranged at one side of the standard B², and preferably formed integral with the projecting stud or bolt b , which forms the connection between said sleeve and the standard B². This metallic sleeve or casing b' , is formed open at the bottom and provided with an interior chamber formed on the arc of a circle somewhat greater than a semi-circumference.

Located within the sleeve or casing b' , is the contact device proper C', which preferably consists of a series of disks or washers c , of sheet copper or other suitable conducting material, formed with a main body on the arc of a circle with a projecting side slitted to form a flexible brush c' , (see Fig. 7.) These washers or disks are each perforated with an opening c^2 , and adapted to be threaded onto a rod c^3 , which passes through the entire series. A contacting brush substantially as long as the sleeve or casing b' , is thus formed and over which is slipped a sleeve or casing d , of rubber or other suitable non-conducting material formed on the outside of a size and shape to fit snugly within the outer casing b' , and having an interior shape and construction adapted to fit snugly over the contact device C', having the brushes c' , projecting from the bottom thereof. This insulating sleeve or casing d , is provided with a lip d' , which is adapted to extend under the bottom of the sleeve or casing b' , until it contacts with the insulating substance at the side of the main conductor C.

The contacting conductor C', is held in place in the casing B', by suitable washers c^4 , arranged at the respective ends of the sleeve or casing B', and insulated therefrom by disks c^5 , of rubber or other suitable non-conducting material; the disks being adapted to be pressed firmly against the ends of the said

sleeve or casing by nuts c^6 , on the respective ends of the rod c^3 , which extends through said washers c^4 .

To provide for maintaining an electrical connection between the brush contact device C' , and the main conductor C , and at the same time permit a yielding movement of the contacting conductor about the pivotal connection between the outer casing and the supporting standard, I employ a flexible yielding electrical connection C^2 , consisting preferably of metallic brushes of copper or other suitable material, formed on the end of the main conductor and contacting with the brushes c' , of the contacting conductor.

It will be understood that the brushes c' of the main contact device C' , rest on and form an electrical connection with the main conductor A' , in the conduit or otherwise, and thus furnish the means for transmitting the current from said conductor to a moving car or vehicle to which the holder B' , is connected. The pivoted connection between the main contacting device and the standard permits it to adjust itself to different positions of the standard or holder and thus remain always in contact with the continuous conductor.

I preferably provide the standard B^2 , with a curved deflecting portion e , below the point where it is pivotally connected to the sleeve or casing B' , which serves to deflect the water or moisture which may follow down the said standard to a point below the conductor.

I have shown the device adapted for use with one well known system of operating electric railways. It is obvious that the constructions may be adapted to other systems without departing from the spirit of my invention.

A device of this construction, it will be seen, is extremely simple in its construction and may be readily removed for repairs or otherwise, and is not likely to get out of order.

Having thus described my invention, I claim—

1. An electric contact device having a supporting standard and a semi-circular casing

pivoted thereto, an insulating sleeve within said casing, and an electric contact device within said sleeve, said contact device being formed of a series of plates or washers of metal on a connecting rod which extends through said sleeve, substantially as specified.

2. In an electric contact device, a series of sheet metal washers or plates perforated and threaded on a rod, each having a projecting contacting side, an insulating sleeve adapted to fit over said contacting device, and a metallic sleeve or casing to fit over said insulating sleeve, and means, substantially as described for holding said contacting device in said outer casing, substantially as specified.

3. In an electric contact device the supporting standard and the pivoted casing or sleeve connected to said standard, said casing or sleeve being provided with a series of metallic plates partially surrounded by a sleeve of non-conducting material, and means for securing said parts in said casing, substantially as specified.

4. The combination with the pivoted casing containing the insulated conducting contact device formed of a series of metal strips or plates, as described, a supporting standard for said casing, said standard being provided with a curved deflecting portion, substantially as specified.

5. The combination with the supporting standard and the main conductor insulated therein, a pivoted casing containing a series of metallic plates insulated therefrom and threaded on a common supporting rod, retaining washers at the end of said sleeve or casing pierced by said rod, and a flexible connection from the main conductor to said contact device, substantially as specified.

In testimony whereof I have hereunto set my hand this 19th day of April, A. D. 1892.

GEORGE F. GREEN.

Witnesses:

ELBERT S. ROOS,

HARRY C. HOWARD.