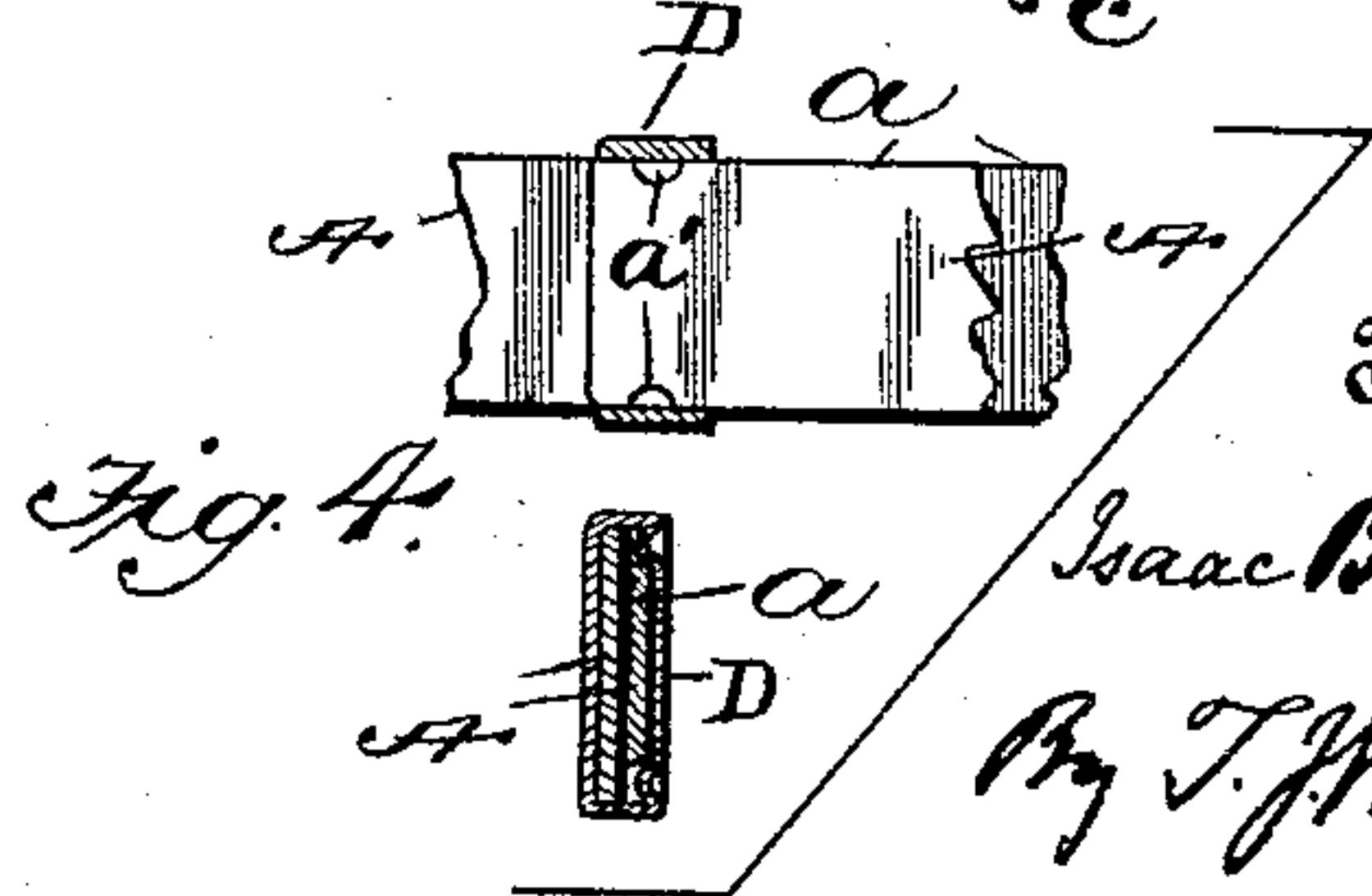
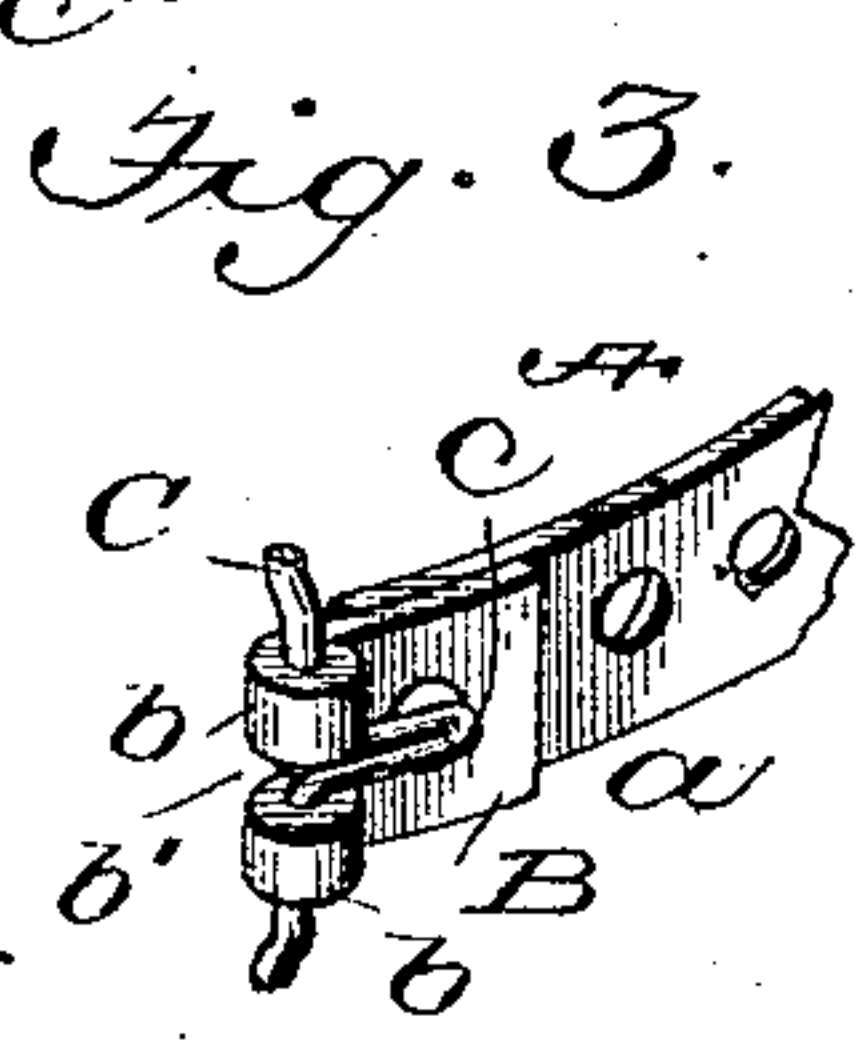
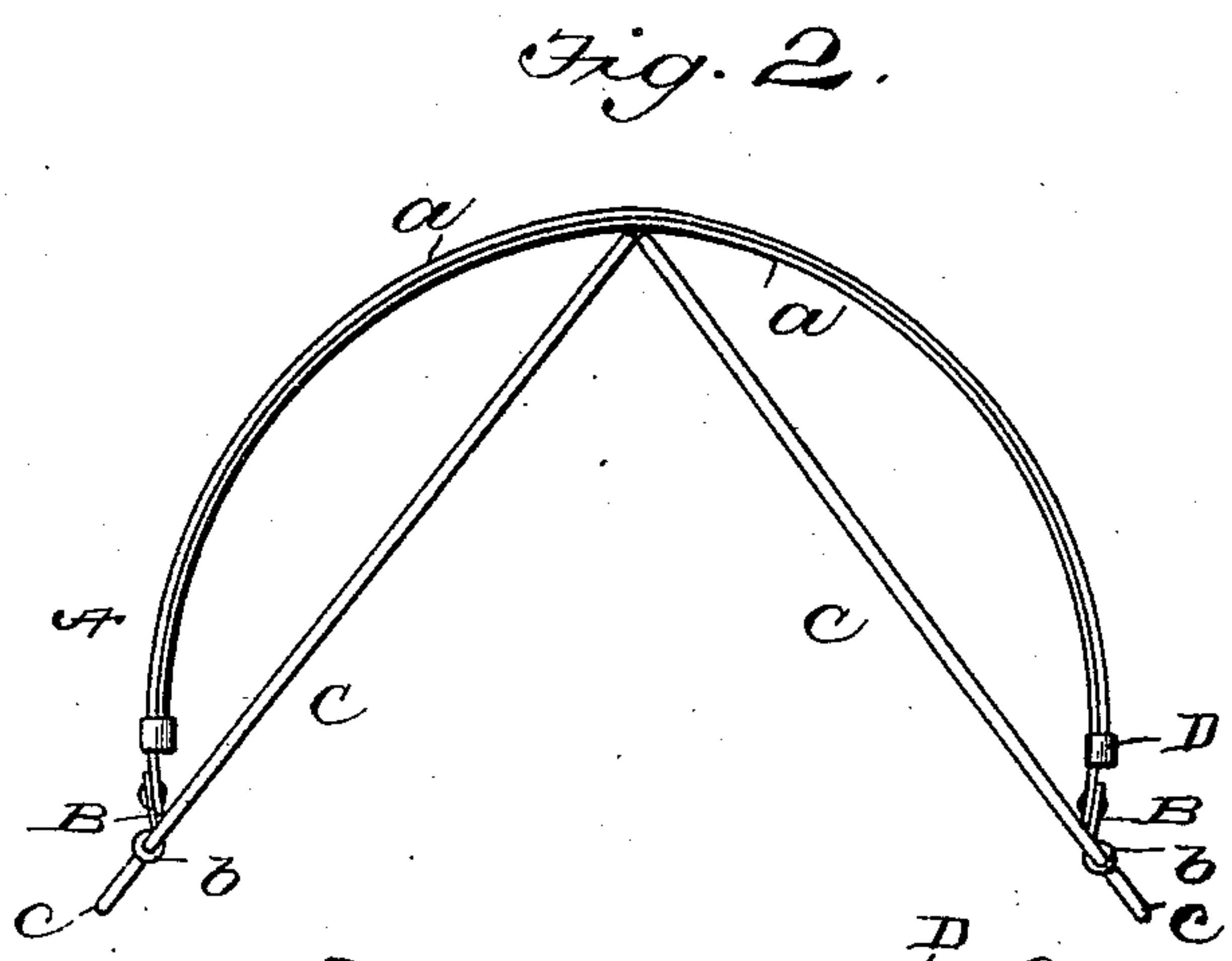
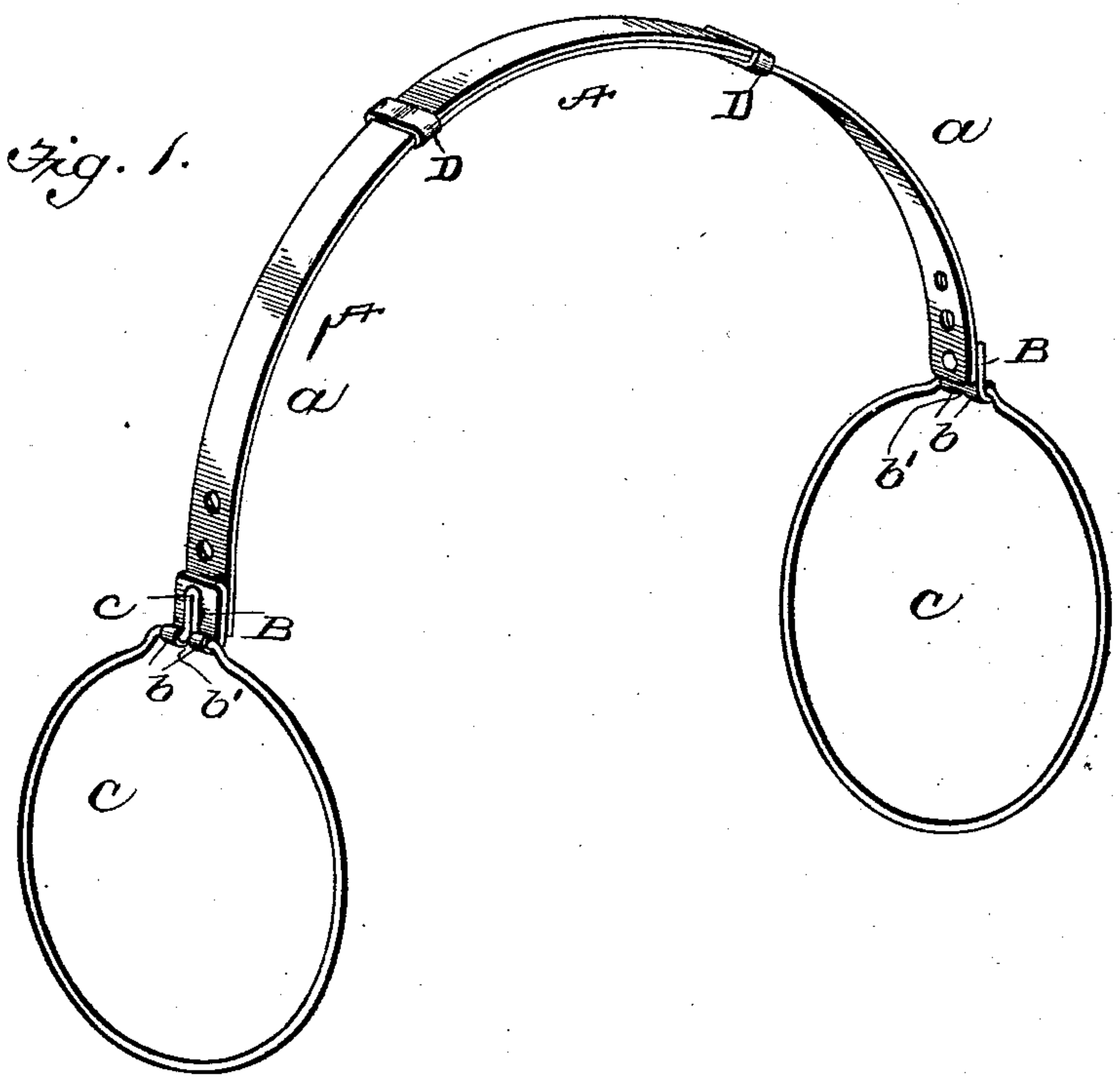


(No Model.)

I. B. KLEINERT.
EAR MUFF.

No. 529,176.

Patented Nov. 13, 1894.



Witnesses
John Smilie
Thos. E. Robertson.

Inventor
Isaac B. Kleinert
By T. W. Robertson
Attorney

UNITED STATES PATENT OFFICE.

ISAAC B. KLEINERT, OF NEW YORK, N. Y., ASSIGNOR TO THE I. B. KLEINERT COMPANY, OF SAME PLACE.

EAR-MUFF.

SPECIFICATION forming part of Letters Patent No. 529,176, dated November 13, 1894.

Application filed August 2, 1894. Serial No. 519,293. (No model.)

To all whom it may concern:

Be it known that I, ISAAC B. KLEINERT, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Ear-Muffs, of which the following is a specification, reference being had therein to the accompanying drawings.

This improvement relates to ear muffs of that character which are designed to be folded so as to occupy the smallest possible amount of space, and the invention consists in the peculiar construction, arrangement and combinations of parts hereinafter more particularly described and then definitely claimed.

In the accompanying drawings—Figure 1 is a perspective view of the metal parts of a pair of ear-muffs constructed according to my invention and shown in the position which they are supposed to occupy when in use. Fig. 2 is a plan of the same in their folded position. Fig. 3 is a perspective view of the hinged joint between the ear-frame and the extensible head-piece. Fig. 4 shows detail views of the method of securing the clasp to the spring sections of the head-frame.

Referring now to the details of the drawings by letters—A represents the extensible spring head-piece which consists of two sections *a a* preferably made of thin sheet steel, to the outer end of each of which is secured the ear-frame in the manner hereinafter described. These sections *a a* are adjustably connected together by having their inner ends sliding on each other, each of said inner ends having a clasp D rigidly secured to it by riveting or otherwise, the clasp on one end having the opposite section sliding therethrough, as will be seen from an inspection of the drawings. These clasps D are preferably cut from a piece of seamless or drawn tubing and are then flattened to assume the shape shown in Figs. 1 and 4. The ends of the sections *a a*, to which said clasps are secured, are preferably notched as shown at *a'*, and after the clasp D is slipped over the end as shown in Fig. 4, that part of the metal of the clasp over the notch *a'* is punched in to fill the space left by said notch so as to securely fasten the clasp to the end of the said section. In this way, a secure and cheap fastening between the clasp and the section of the head frame is

provided. To the outer ends of these sections *a a* are secured by riveting or otherwise the end-pieces B which have their ends curled to form the knuckles *b b* of the hinges for the ear-pieces. It will be noticed that the curled up end of these end-pieces has a cutaway portion *b'* for a purpose which will be seen hereinafter. Of course it is evident that these end pieces may be dispensed with and the knuckles of the hinges formed directly on the ends of the spring sections *a a*, but I prefer to make them in the manner shown for the reason that the end pieces may be made of softer material and thus be made much easier than if the ends of the stiff steel spring are used for that purpose.

C is the ear frame to which a suitable covering (not shown) is applied in the ordinary manner. This ear frame is made of wire bent into elliptical form, and the wire forming this elliptical frame passes through the knuckle *b* or turned up edge of the end-piece B and has a loop or extended arm *c* projecting therefrom in line with the elliptical frame through the cutaway portion *b'* formed by the two halves of said knuckle, for the purpose of forming a stop to the outward movement of the ear frame.

It is believed that the operation of the ear-muff will be understood from the drawings, so it will be sufficient to state that in use the spring sections *a a* may be slidingly extended upon each other to suit different sizes or shapes of heads, and that in operation the extended arms or loops *c* will strike against the end pieces B and prevent the ear frames from being opened too far, as clearly shown in Fig. 1.

From the above it will be seen that I have produced an ear-muff that can be folded so as to occupy a very small space, as shown in Fig. 2, or can be adjusted to suit the size of any wearer, and at the same time one that is very durable and thus not likely to get out of order.

It will also be observed that the use of the arm *c* extending outside the ear frame to act as a stop has a great advantage over the use of a part of the ear frame itself as a stop, as has been proposed, inasmuch as in my case the frame need not be larger than the ear, and can thus be made to tightly inclose the same;

whereas, when the ends of the head-piece extend inside the ear frame, as in the previous construction referred to, the ear frame must be considerably larger than the ear to allow
5 it to inclose it, because the ends of the head-piece would prevent the ear frame closely fitting the ear.

What I claim as new is—

10 The combination with an ear-muff head-frame having knuckles *b b* on its ends, of ear-muff frames, each pivotally connected to said head-frame by having the wire forming said

ear frame passing through said knuckles, and an arm or loop extending from each of said ear-frames between said knuckles, and adapted 15 to limit the movement of said ear frame, substantially as described.

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

ISAAC B. KLEINERT.

Witnesses:

L. H. SALOMON,
SAM GLASS.

It is hereby certified that the name of the assignee in Letters Patent No. 529,176, granted November 13, 1894, upon the application of Isaac B. Kleinert, of New York, N. Y., for an improvement in "Ear-muffs," was erroneously written and printed "I. B. Kleinert Company;" that said name should have been written and printed "*I. B. Kleinert Rubber Company;*" and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 27th day of November, A. D. 1894.

[SEAL.]

JNO. M. REYNOLDS,
Assistant Secretary of the Interior.

Countersigned:

JOHN S. SEYMOUR,
Commissioner of Patents.