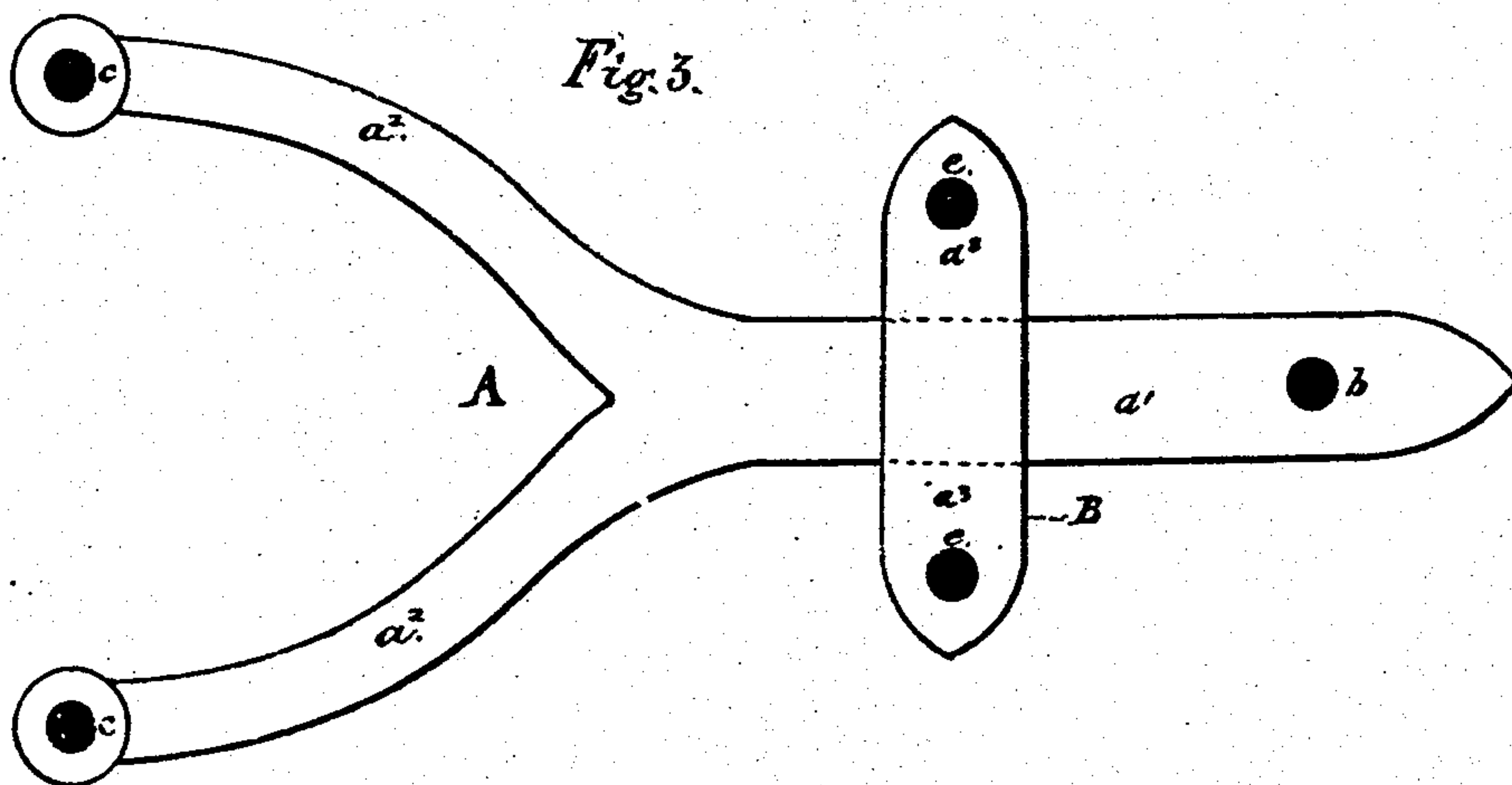
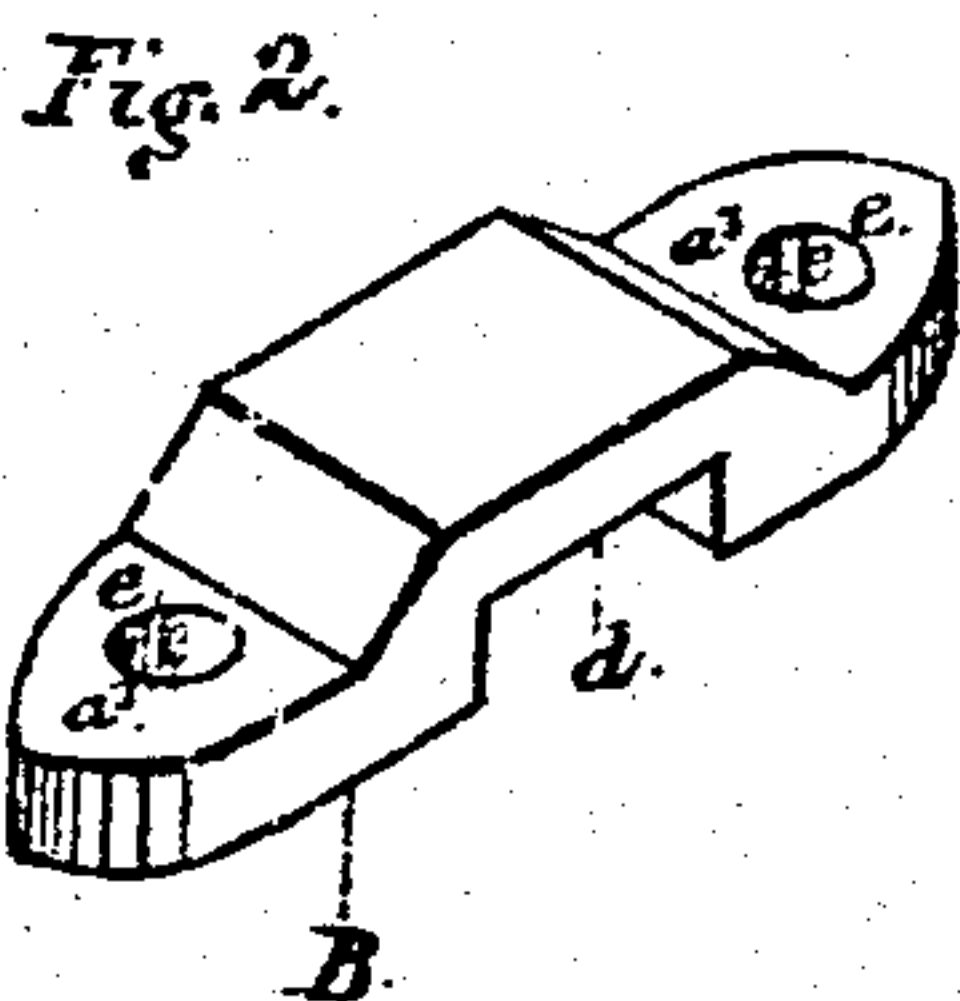
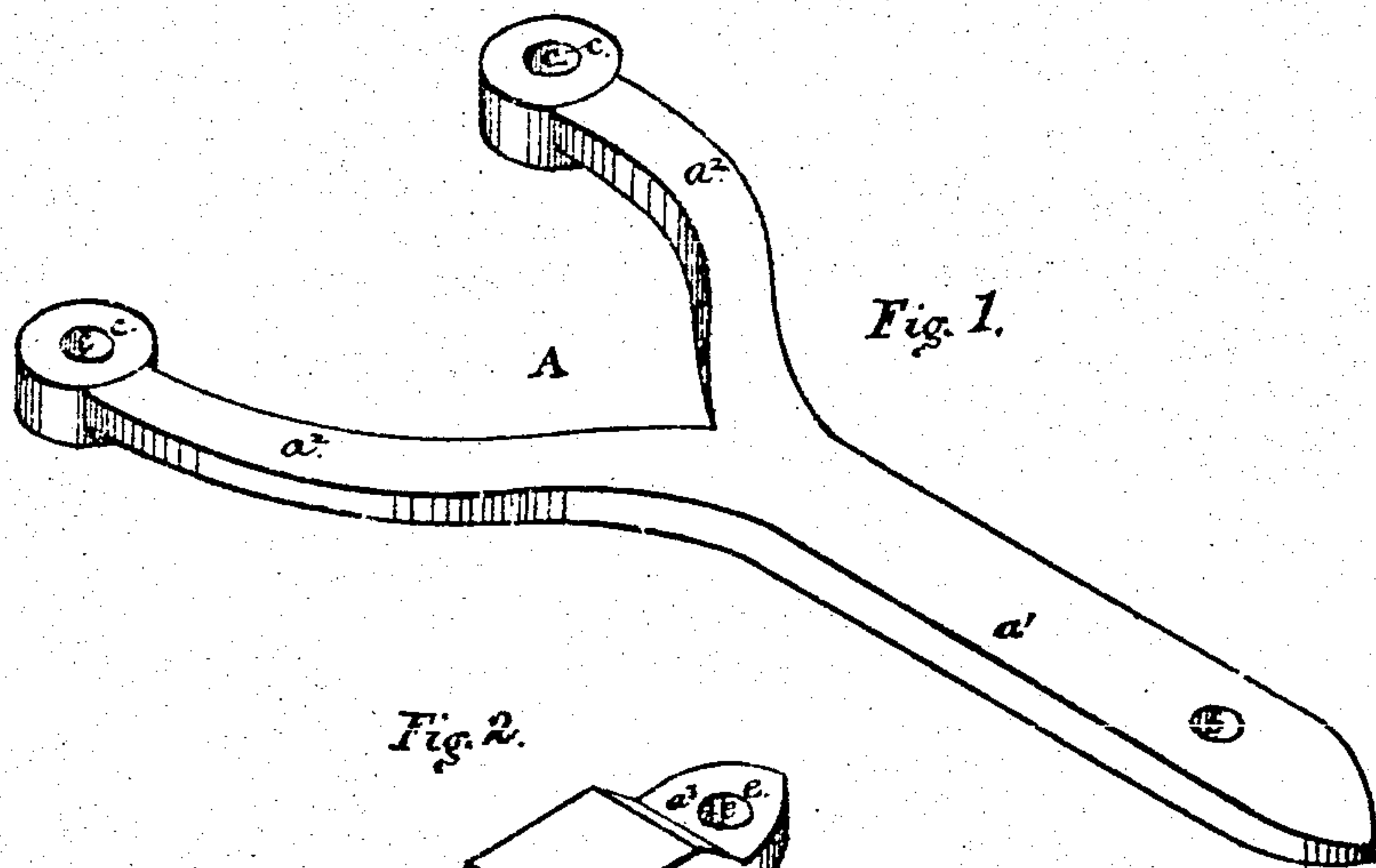


L. C. MILLER.  
Spring Brace.

No. 111,229.

Patented Jan. 24, 1871.



Witnesses.

Thomas J. Bewley  
Samuel H. Runner

Inventor

L. C. Miller  
By his atty. Stephen H. Harkness

# UNITED STATES PATENT OFFICE.

LUMON C. MILLER, OF HUMPHREY, NEW YORK.

## IMPROVEMENT IN BRACES FOR CARRIAGE AND OTHER SPRINGS.

Specification forming part of Letters Patent No. 111,229, dated January 24, 1871.

I, LUMON C. MILLER, of Humphrey, in the county of Cattaraugus and State of New York, have invented certain Improvements in Braces for Carriage and other Springs, of which the following is a specification:

My invention is an improvement on my brace patented April 28, 1868; and consists in making the arms, which are secured to the carriage-box, adjustable instead of fixed parts of the brace. By this construction the brace is adapted to any length from the carriage-box to the spring-bar, whereby I obviate the expense and inconvenience of having various sizes of patterns and keeping a large supply of assorted sizes of braces on hand to meet the demand.

To enable others skilled in the art to make and use my improved brace, I will now give a detailed description thereof.

In the accompanying drawing, which makes a part of this specification, Figure 1 is an isometrical view of a casting, A, composed of the longitudinal bar  $a^1$  and crotched arms  $a^2$ , which project from one end of the same. Fig. 2 is a like view of the casting B, forming twin arms  $a^3 a^3$ . Fig. 3 is a plan view of the pieces A B in connection.

Like letters in all the figures indicate the same parts.

A is a casting, having a longitudinal bar,  $a^1$ , and crotched arms  $a^2$ , which project from one end of the same. The part  $a^1$  has a hole,  $b$ , through which a bolt is passed to confine the casting to the carriage-box, and the holes  $c c$  in the ends of the arms  $a^2 a^2$  are used for confining the arms to the spring by means of the two bolts by which the spring is fastened to the cross or spring bar.

So far the brace is essentially the same as described in my patent above referred to.

What constitutes the present improvement is the construction of the part  $a^1$  without the

cross-arms  $a^3 a^3$ , and with parallel sides, and the combination and arrangement, with the said part  $a^1$ , of the casting B, which piece is shown detached in Fig. 2, and in connection with the part  $a^1$  in Fig. 3. The said casting B, as seen in Fig. 2, has a cross-groove,  $d$ , which fits on the part  $a^1$ , and by means of which the casting is adjustable on the same, so as to vary the distance from the said piece B to the holes  $c c$  in the ends of the arms  $a^2 a^2$  of the casting A, whereby to adapt the piece to any distance between the carriage-box and the spring-bar. The holes  $e e$  in the ends of the casting B are used for confining it by means of bolts to the carriage-box.

I make the brace of malleable iron, and hence it will be seen that without the improvement, by which the size of the pieces A B is adapted to various distances between the carriage-box and the spring-bar, much inconvenience would arise in keeping a suitable supply of braces on hand, the braces in such cases having necessarily to be of various sizes; and this state of things would involve much greater expense than having but one size of casting effected by the present improvement.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination and arrangement of the adjustable piece B, constructed substantially as described, with the piece A, whereby the brace is adapted to various distances between the carriage-box and spring-bar, as herein set forth.

In testimony that the above is my invention I have hereunto set my hand and affixed my seal this 5th day of December, 1870.

LUMON C. MILLER. [L. S.]

Witnesses:

EZRA MARSH,  
STEPHEN S. COLE.