

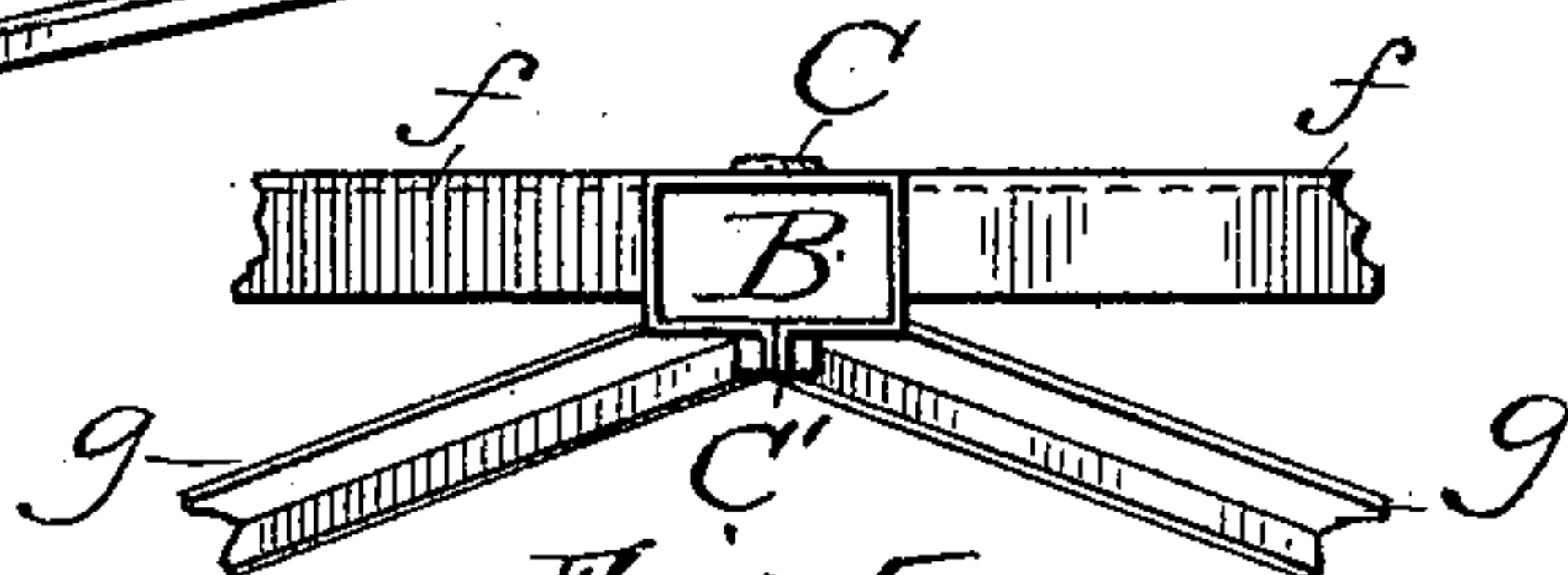
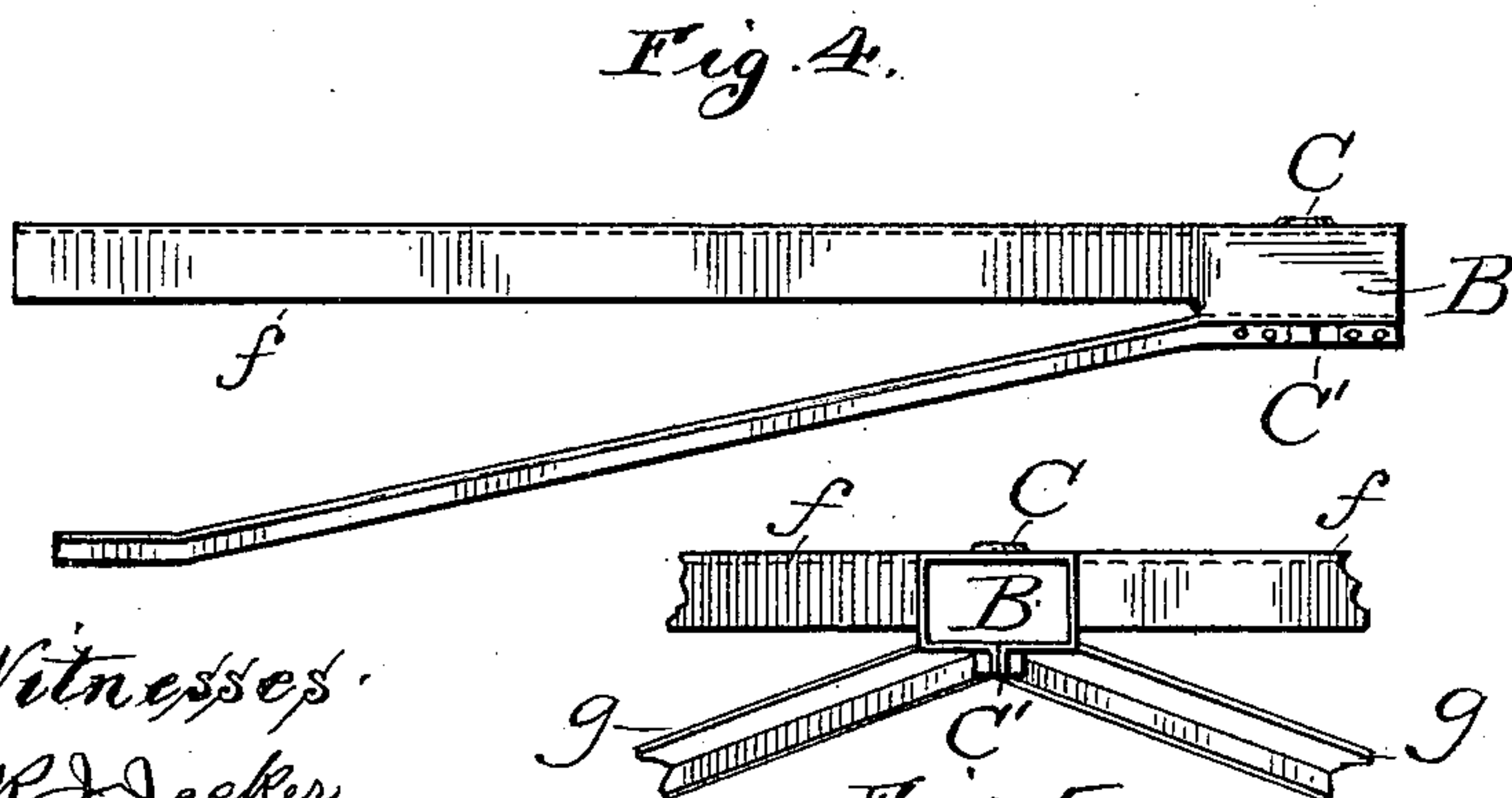
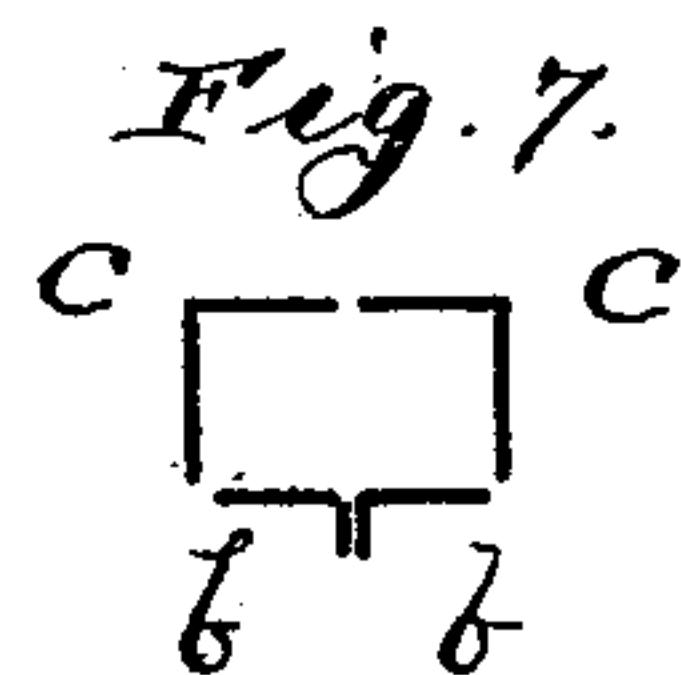
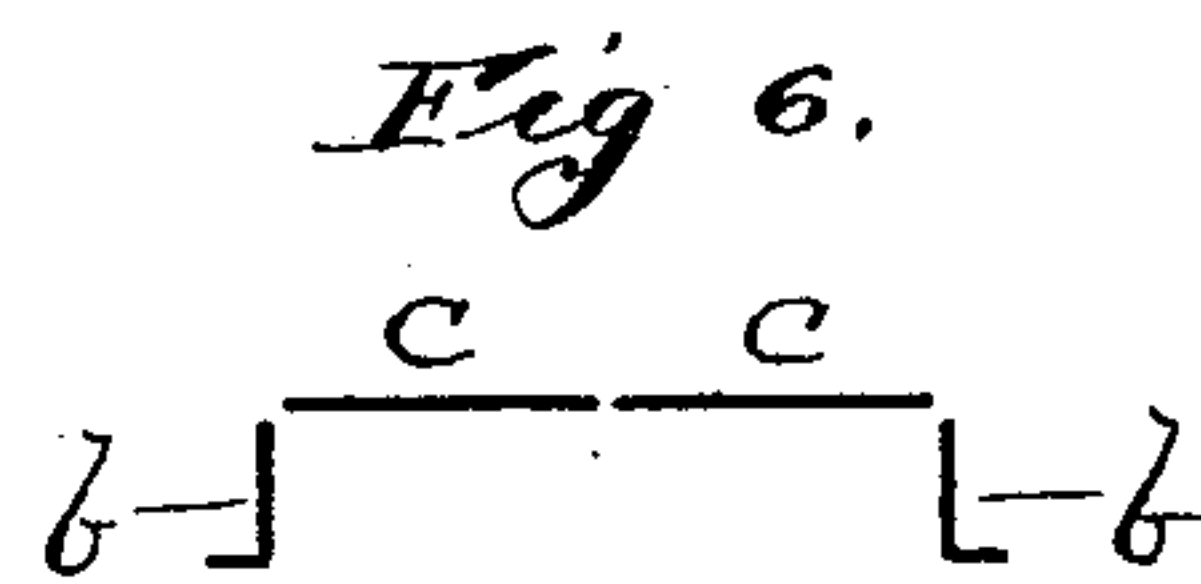
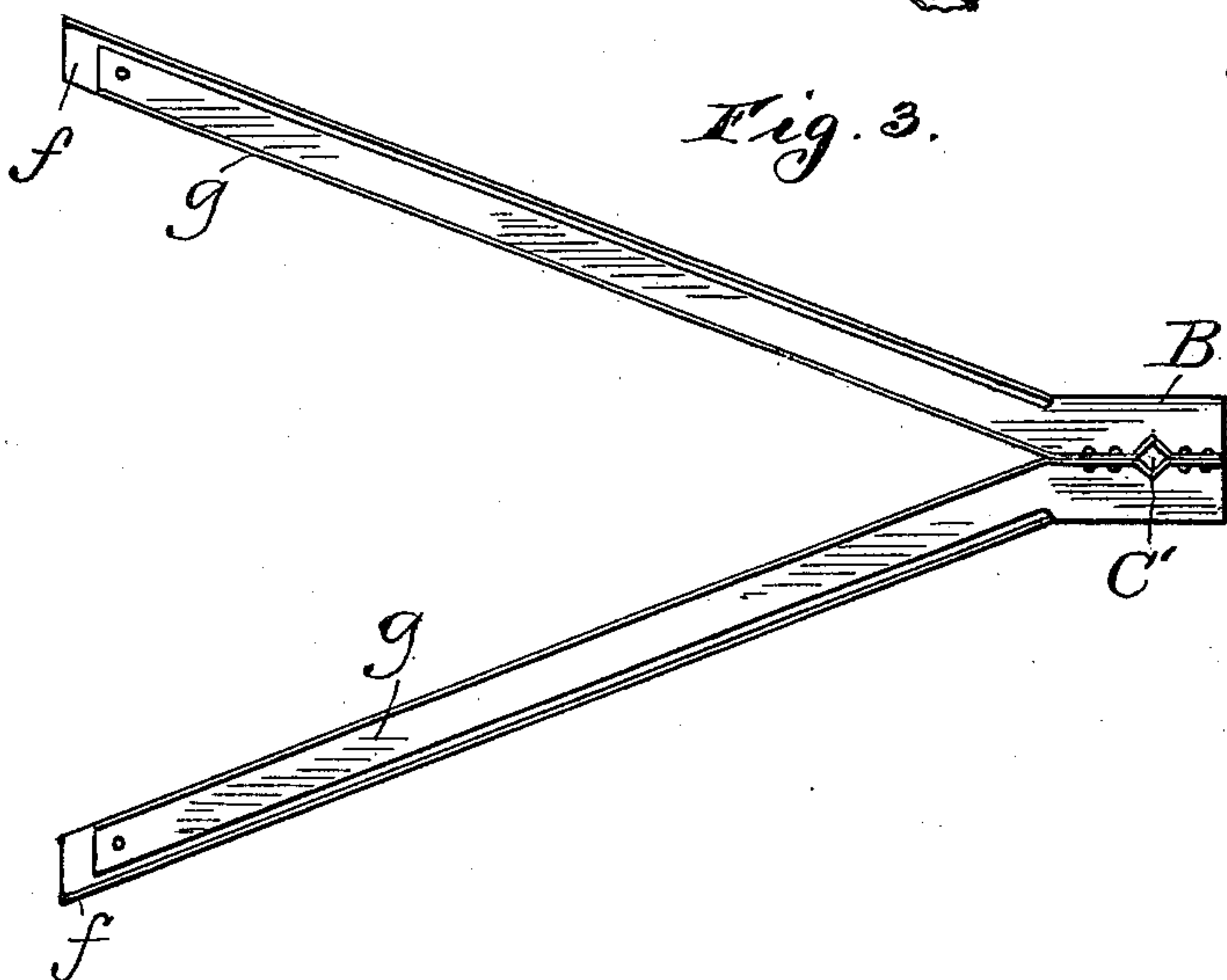
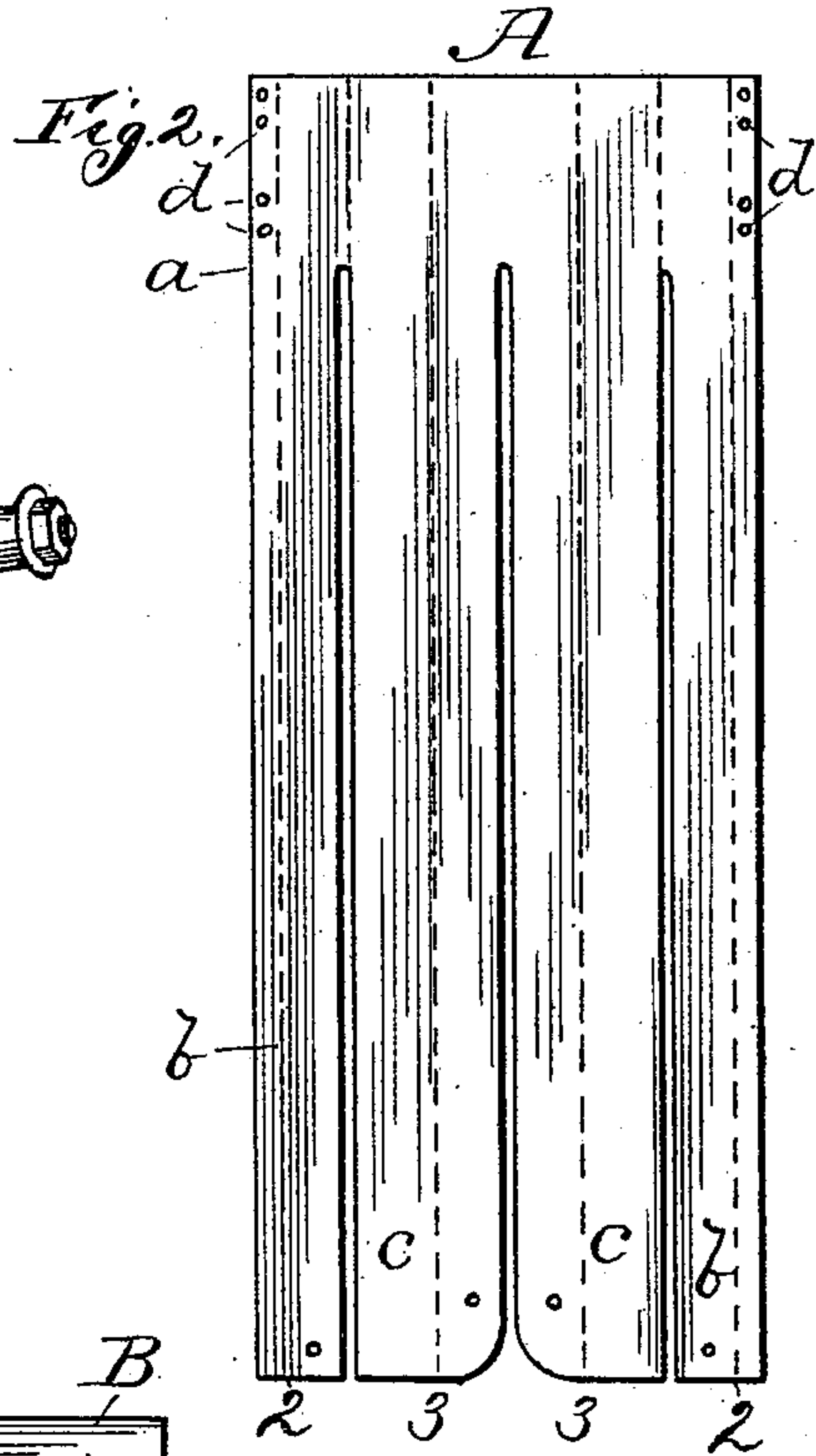
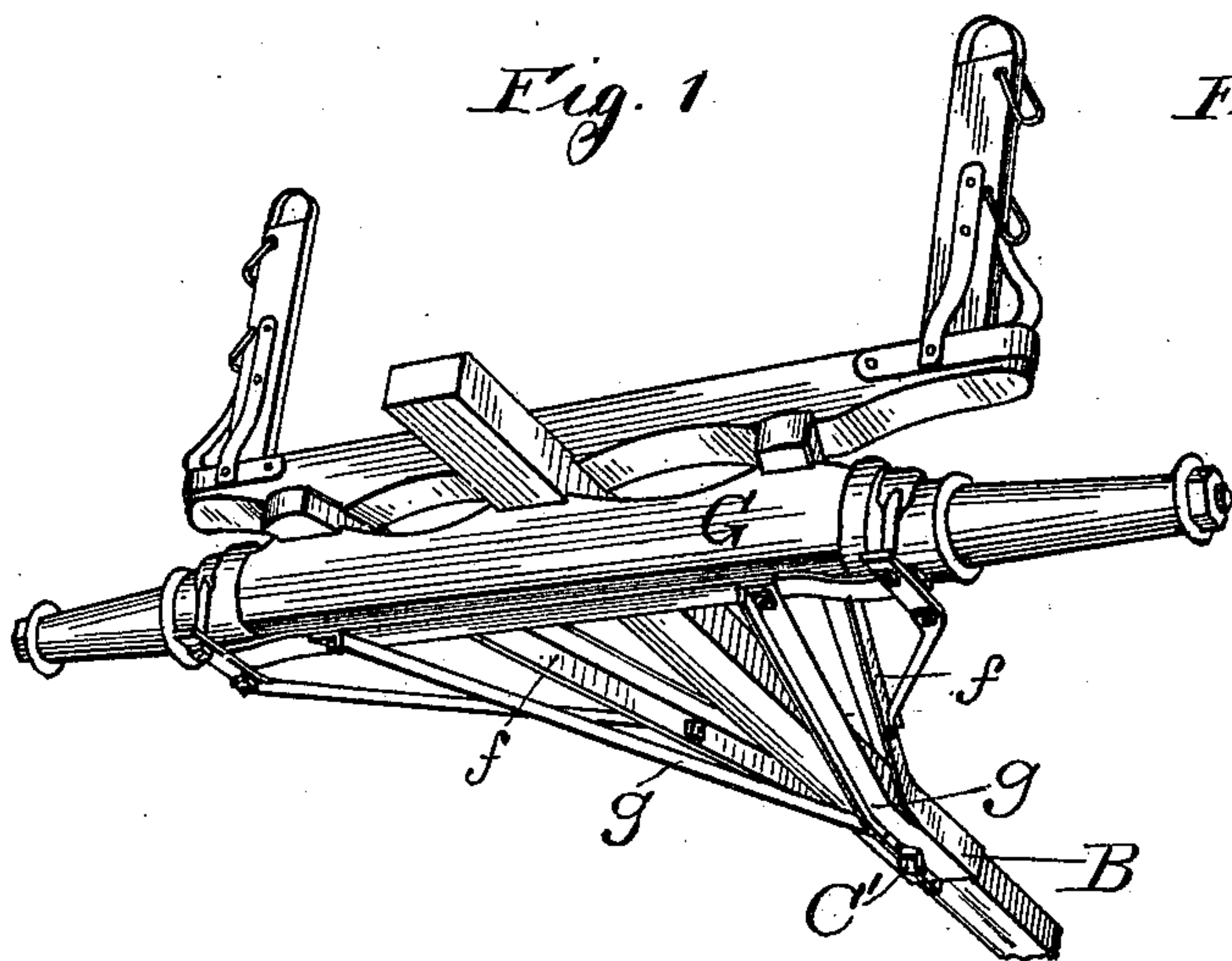
No. 620,095.

Patented Feb. 28, 1899.

W. P. BETTENDORF.  
COMBINED HOUND AND BRACE FOR WAGONS.

(Application filed June 29, 1896.)

(No Model.)



Witnesses:  
W. J. Jaeger,  
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Inventor:

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By Frank D. Thomas, Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM P. BETTENDORF, OF DAVENPORT, IOWA.

## COMBINED HOUND AND BRACE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 620,095, dated February 28, 1899.

Application filed June 29, 1896. Serial No. 597,399. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, Scott county, Iowa, have  
5 invented certain new and useful Improvements in a Combined Hound and Brace for Wagons, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and to the letters  
10 of reference marked thereon.

My invention relates to the rear or hind hounds for wagons; and its object is to greatly simplify the construction of the same and at the same time make it lighter, more durable,  
15 and economical. This I accomplish by making the reach sleeve or socket, the hounds, and braces all in one integrant piece of sheet metal, substantially as hereinafter fully described and as illustrated in the drawings, in  
20 which—

Figure 1 is a perspective view of my invention, showing its application to the rear axle of a wagon. Fig. 2 is a plan view of the blank from which my improvements are made. Fig.  
25 3 is a plan of my invention inverted. Fig. 4 is a side view of the same. Fig. 5 is a front view thereof; and Figs. 6 and 7 are end edge views of the blank, illustrating, respectively, the first and second positions imparted to the  
30 branches of the blank during the process of its manufacture.

As stated, my improved hound is made from one piece of sheet metal. To do this, a sheet-metal plate of suitable dimensions is  
35 cut into a blank A, having a head portion *a* of a breadth corresponding to the full width of the same and of a length corresponding to about one-sixth of the entire length of the blank and having four parallel branches *b b*  
40 and *c c*, extending from said head longitudinally the remainder of the length thereof. The two inner branches *c* correspond in dimensions and are nearly twice as wide as the outer branches *b*. When reduced to their  
45 final shape, branches *c* constitute the hounds proper and the branches *b* constitute the braces of my invention, as will hereinafter more fully appear.

In forming the blanks the branches *b* thereof  
50 of are bent at right angles to the plane of branches *c*, so that the angle formed by so bending them will coincide with dotted lines

2 2, Fig. 2. At the same time branches *b* are bent, as above stated, they are given an angle-iron shape by flanging the lower portions  
55 thereof outward, as shown in Fig. 6.

The portion of the blank coming between the longitudinal dotted lines 3 3, Fig. 2, and the sides thereof are then bent downward at right angles to the portion coming between  
60 said lines 3 from end to end of the blank, thus bringing the branches into the position shown in Fig. 7.

When in the position shown in Fig. 7, I rivet the flanged side edges of the head to  
65 gether by passing rivets through the holes *d*, which had been punched in the blank before shaping it and swaging their points in the usual manner. When these flanged edges are riveted together, a sleeve or socket B is com-  
70 pleted, through which the reach of the wagon is passed. In order to secure the reach in said socket B, it is necessary to have a queen-bolt opening therethrough. The queen-bolt  
75 opening C in the upper shell of the socket is made in the center of the head of the blank A and subsequently finished; but the companion opening C' in the under side of the  
80 socket is formed, preferably, by placing a suitably-shaped core between the flanged side edges of the head of the blank when riveting the same together to form the socket. As the  
riveting is done by hydraulic press it will be seen that the formation of the lower queen-bolt hole C' is an easy matter.  
85

After the blank has been shaped, as shown in Fig. 7, and the socket formed the branches are heated at the point where they unite with the socket, in which condition the hounds *f f*  
(branches *c*) are spread apart at about the  
90 angle shown and the braces *g g* (branches *b*) are likewise spread at about the same angle and are inclined downward from the socket.

The rear ends of the hounds and braces are secured to the axle G, the former on top  
95 of the axle, when it is constructed of wood, as shown in the drawings, and the latter under the same. When the axle is made of metal, the ends of both braces and the hounds may be bent, so that they can bear and be  
100 secured flatwise against the same by rivets or otherwise.

The method of forming my improved hounds from the blank A, hereinbefore de-



scribed, was simply alluded to in order that a better understanding of its construction might be had. I desire not to be prejudiced, however, by such expose, for while it may not  
5 be the way in which ultimately said hounds may be made, yet the method of manufacturing the same will be made the subject-matter of another application by me for Letters Patent of the United States.

10 What I claim as new is—

1. The combined hound and braces for wagons formed in one piece from a blank consisting of a head and four parallel longitudinal branches, as set forth.

15 2. The combined hound and braces for wagons consisting of a sleeve or reach socket, hounds proper extending obliquely to the rear therefrom on either side of the line of the reach, and two braces each extending from  
20 said sleeve at an angle corresponding to that of the hound above and at a slight downward incline from said sleeve; said sleeve, the hounds, and said braces being made in one piece from one plate of sheet metal, as set  
25 forth.

3. The combined hound and braces for wagons consisting of a sleeve or reach socket, an-

gle-shaped hounds extending from and forming a continuation of the top and vertical sides of said sleeve, and spreading at a suitable angle to the line of the reach as they  
30 extend from said sleeve, and two braces angle-shaped in cross-section, and extending in the same direction as said hounds from the said sleeve as a continuation of the under  
35 side thereof; said sleeve, the hounds and braces made integrant from one plate of sheet metal.

4. Combined hounds and braces for wagons, consisting of a sleeve or reach socket which is  
40 rectangular in cross-section and two hounds and two braces extending to the rear therefrom, all of which are angle-shaped in cross-section, the flanges being riveted together and the extensions of said flanges forming  
45 the vertical portion of said braces, and said sleeve being provided with a queen-bolt opening in its top and under side, the latter being formed between the riveted flanged edges of said sleeve, as set forth.

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Witnesses:

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