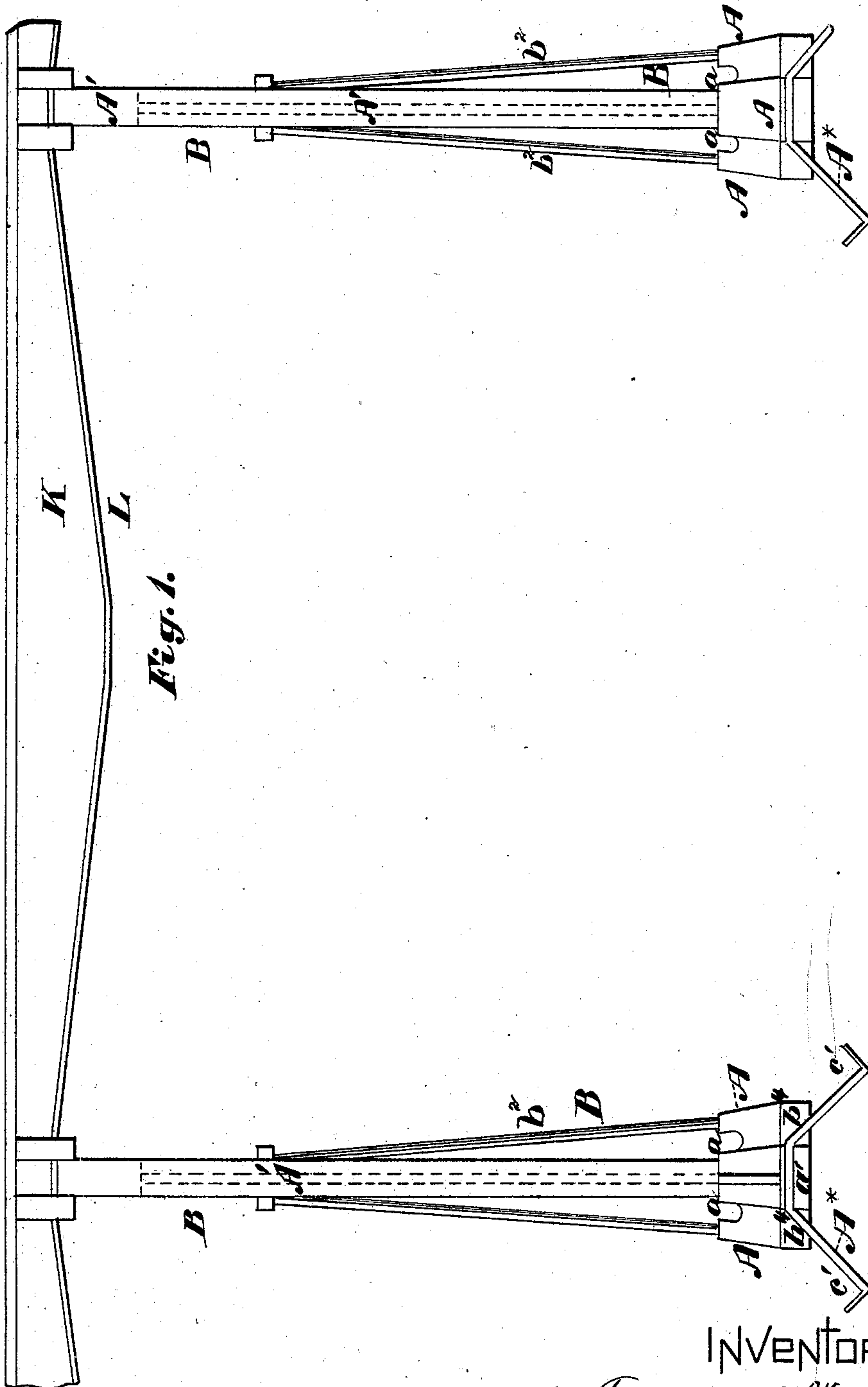


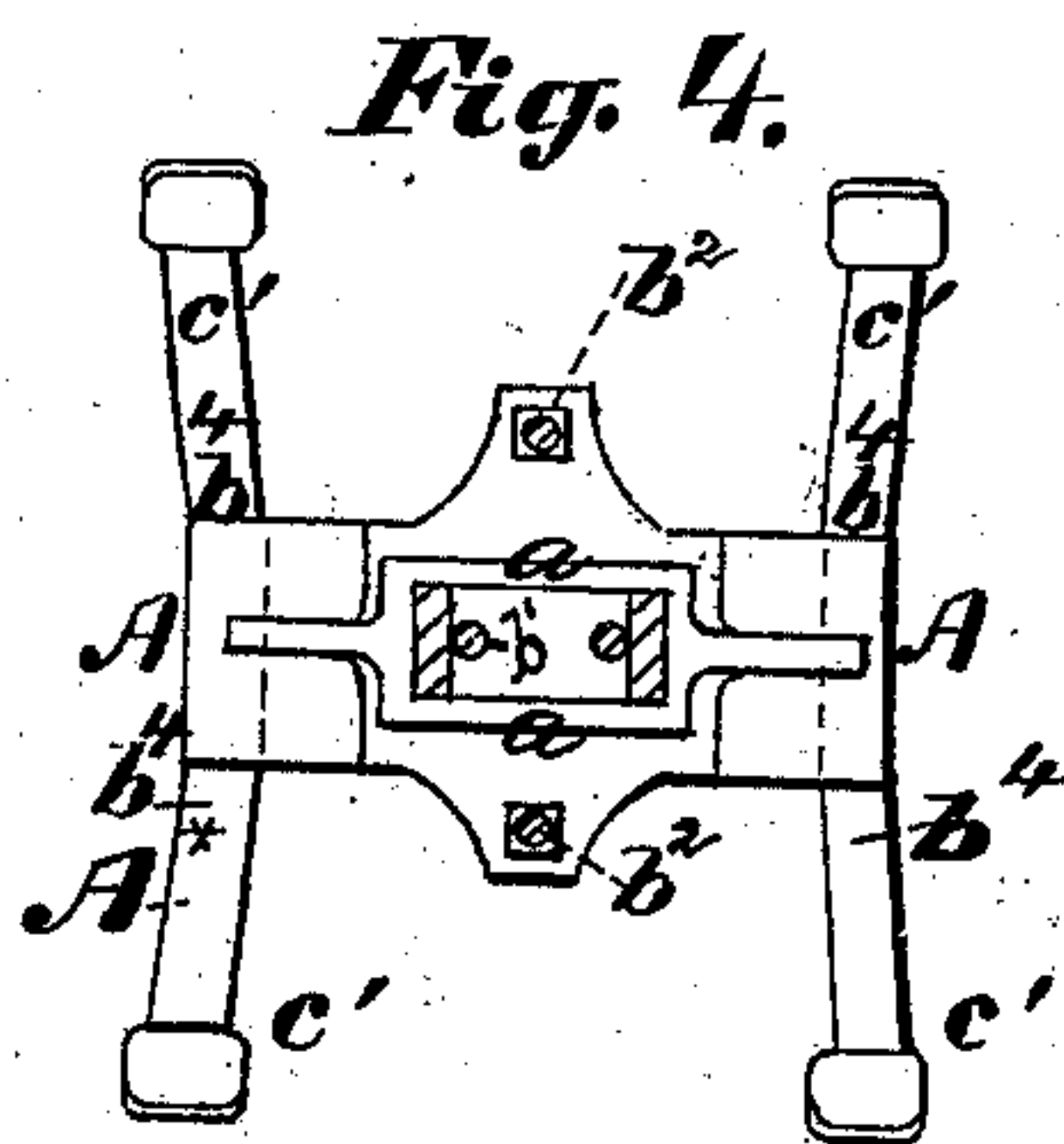
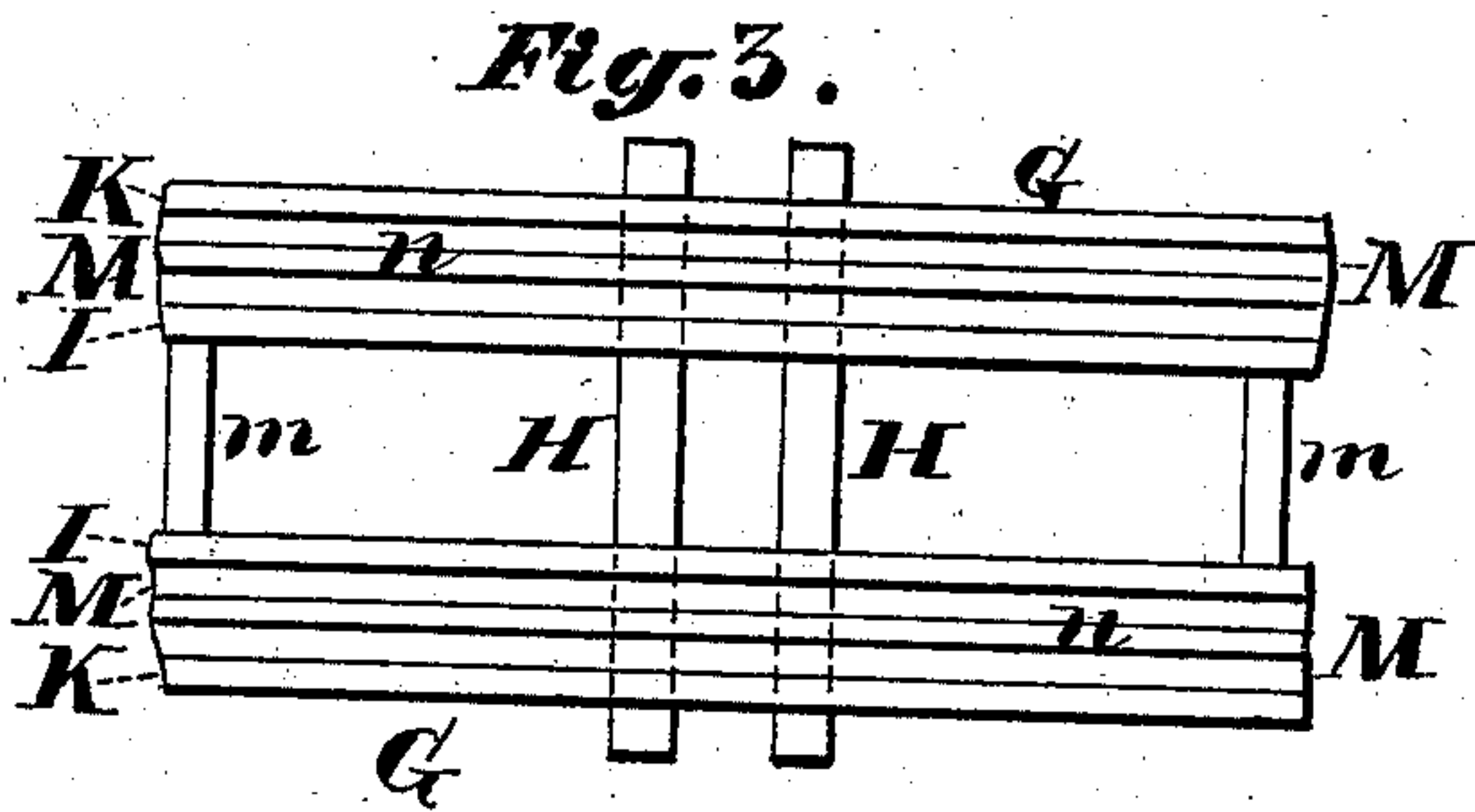
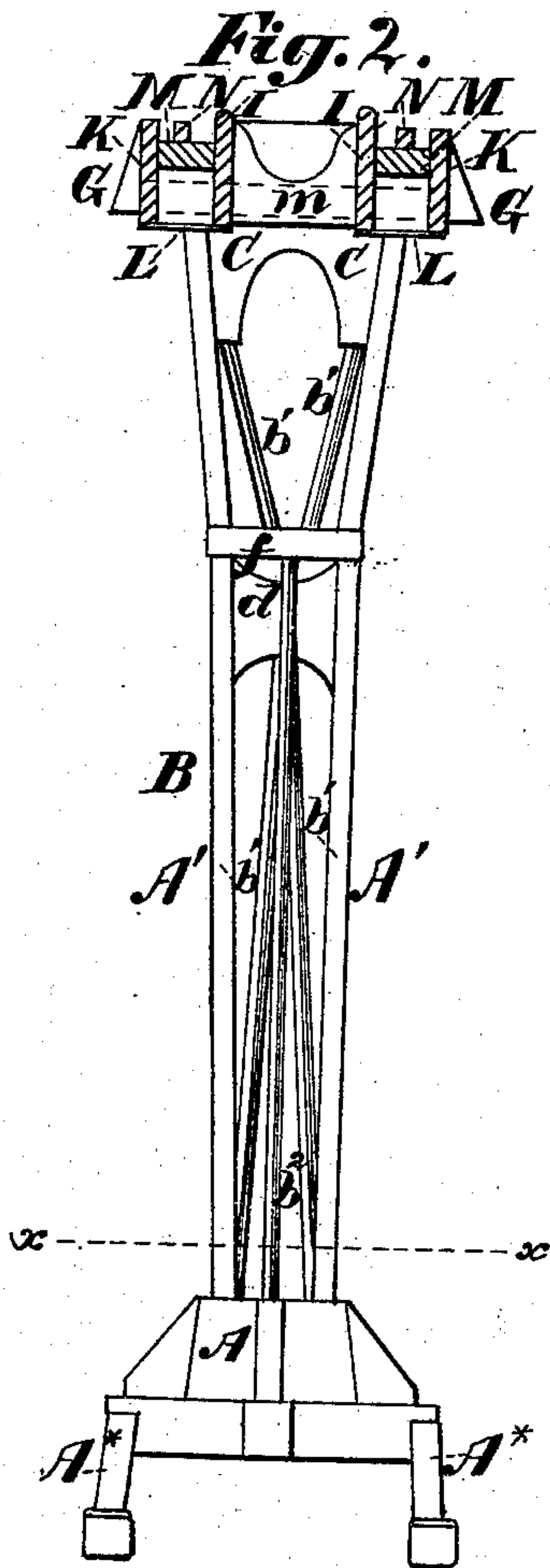
F. A. WILLIAMS.
Column for Elevated Railways.
No. 224,567. Patented Feb. 17, 1880.



WITNESSES—
H. R. Parker.
Chas. H. Doxat

INVENTOR—
Francis A. Williams
By James A. Whitney
Att'y.

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UNITED STATES PATENT OFFICE.

FRANCIS A. WILLIAMS, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF OF
HIS RIGHT TO ALBERT A. DRAKE, OF SAME PLACE.

COLUMN FOR ELEVATED RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 224,567, dated February 17, 1880.

Application filed November 11, 1879.

To all whom it may concern:

Be it known that I, FRANCIS A. WILLIAMS, of the city, county, and State of New York, have invented certain Improvements in Elevated Railways, (Case B,) of which the following is a specification.

This invention relates to "elevated railways," so termed, and its object is to provide a structure more firm and secure than those hitherto in use. Said invention comprises a novel combination of a base-casting constructed with a socket or sockets for the reception of a pillar with peculiarly-shaped anchor-bars, whereby effective provision is made for retaining the pillar securely in its vertical position and measurably diminishing the strain upon the cross-ties or braces of the elevated superstructure of the railway.

The invention also comprises certain novel combinations of parts relating to the construction of the pillars upon which the superstructure is supported, and to the general strength and permanence of the structure.

Figure 1 is a side view, representing my said invention; and Fig. 2 is a transverse vertical section thereof. Fig. 3 is a plan view of the superstructure; and Fig. 4, a horizontal section of the pillar taken in the line $x x$ of Fig. 2.

A is a heavy cast-iron base or base-casting, which has any desired or requisite number of vertical sockets, a , for the reception of the pillar B, placed transversely upon each end of the said base-casting, and firmly bolted or otherwise fixed thereto are two anchor-bars, which are preferably made of bar-iron. Each of these anchor-bars has the shape shown more fully in Fig. 1—that is to say, flat or horizontal at its central upper part, a' , at which it is attached to the base-casting, sloping downward at an angle therefrom, as shown at b^4 , and then, toward its ends, turned upward at an angle, c' .

The pillar B is composed of two side beams, A' , which may flare at their upper parts, as represented in Fig. 2, and the lower ends of which are fixed in the sockets a of the base-casting. Between the upper ends of these side beams is placed a saddle, C, and lower

down, between said beams, is placed a central bracing-block, D, which may, when desired, be composed of two pieces, $d f$. From the opposite sides of the base-casting to the corresponding sides of the bracing-block D extend tension-braces b^2 . From the saddle C, down through holes in the bracing-block D, and thence to the base-casting A, are two tension-rods, b' , strained hard. The superstructure G, which carries the track, rests upon the pillar as thus constructed, and is attached thereto by means of cross-ties H.

The construction of the pillar renders it very strong intrinsically, and insures the secure holding in position of the superstructure.

The superstructure is made up of sections identical in construction, and each supported at its ends by the cross-ties by which it is attached to the pillars, there being, of course, one pillar at each junction of the succession or series of sections.

For the purposes of this specification it is sufficient to describe, in detail, but one of the sections.

At each side of the section are two parallel beams, I and K, which are deeper than they are wide, and which have the order, contour, or profile shown in Fig. 1, in order to secure the greatest resistance to vertical pressure with the least quantity of metal, these beams being, like the pillars, of wrought-iron. Bolted firmly underneath and to the beams of each pair, I K, is a plate, L, of iron, of any desired or suitable thickness, and which serves as a bottom brace to keep the lower edges of the two beams from lateral displacement—in other words, holds them in the position which affords the greatest strength against pressure exerted vertically. Firmly secured between these beams I K are wooden beams M, on which are placed (and secured by the usual or any suitable means) the rails N of the track. The rails being thus placed upon beams of comparatively non-conducting material as concerns the transmission of sound, the jar and noise of passing trains is very much reduced and ameliorated.

To prevent any inward displacement of the

beams I, transverse cross-pieces *m* may be placed between them at intervals, if desired.

It is to be observed that the base-castings are to be embedded in the earth, and that the holding action of the latter, rammed or compacted upon and around the anchor-bars, retains the base-castings firmly in position to sustain the pillars perfectly vertical.

I do not claim as part of this present application the rail-bearing wooden beams suspended between the beams I K of the track-sustaining superstructure, as the same is claimed in Division A of my application for Letters Patent now pending; but

What I here claim as my invention is—

1. In an elevated-railway structure, the combination of the base-casting A, constructed with a socket or sockets for the reception of the pillar, with the anchor-bars A*, having the angles *b' c'*, all substantially as and for the purpose herein set forth.

2. The combination of the flat side beams, A', the centrally-located tension-braces *b'*, the

lateral tension-braces *b*², saddle C, bracing-block D, a superstructure for sustaining the track, and a base-casting having sockets for the reception of the side bearing, all substantially as and for the purpose herein set forth.

3. An elevated-railway structure comprising the following elements, viz: a base-casting, A, having a socket or sockets for the reception of the pillar, anchor-braces A*, fixed to the base-casting, and constructed with angles *b' c'*, to insure the fixity of the base-casting when embedded, a pillar constructed with the lateral bearing A', tension-rods *b'*, lateral tension-braces *b*², saddle C, central bracing-block, D, and a superstructure for sustaining the track, the whole combined, constructed, and arranged for joint use and operation, substantially as and for the purpose herein set forth.

FRANCIS A. WILLIAMS.

Witnesses:

JAMES A. WHITNEY,
THOS. J. FARRELL.