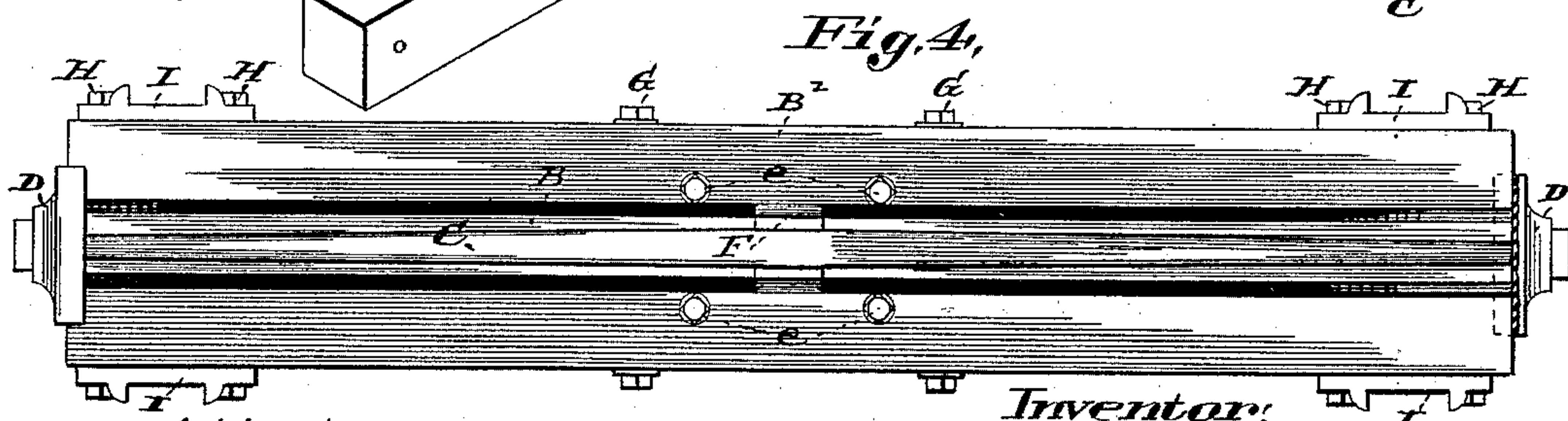
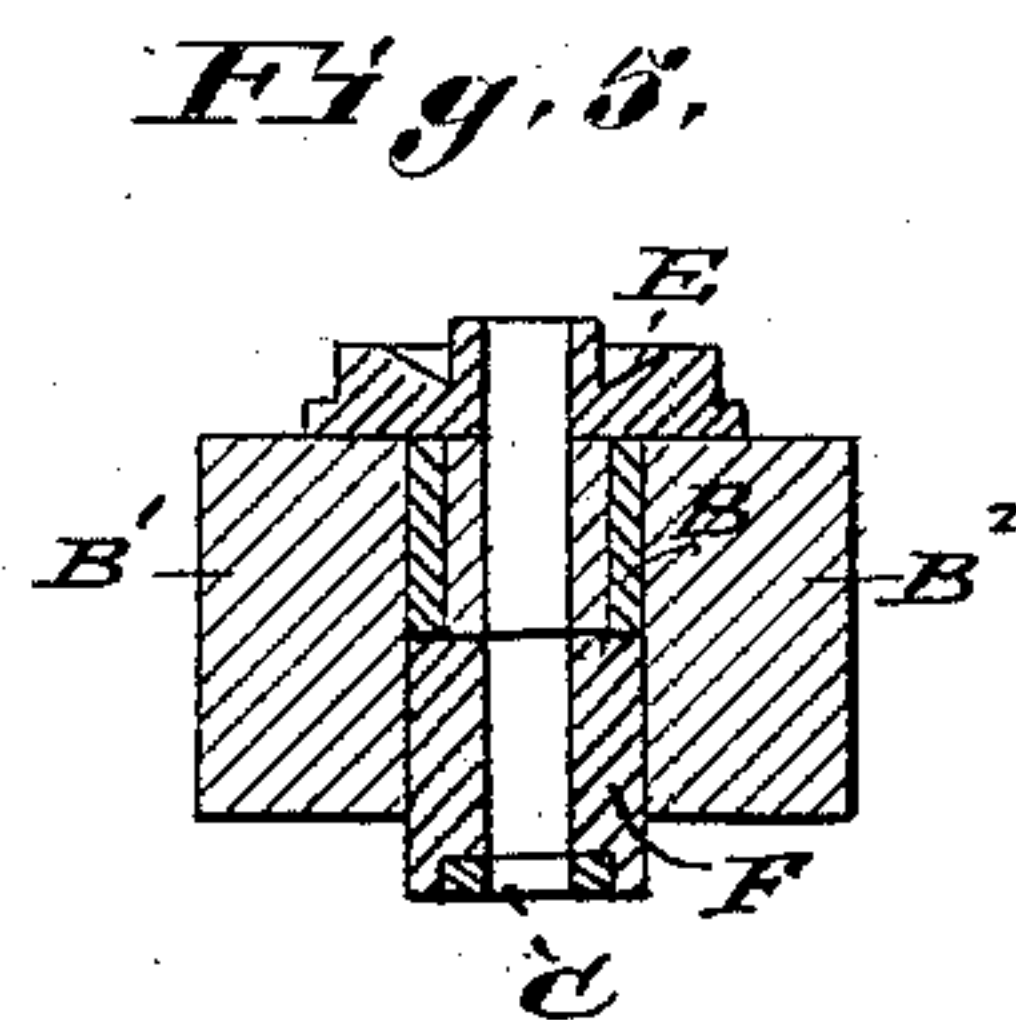
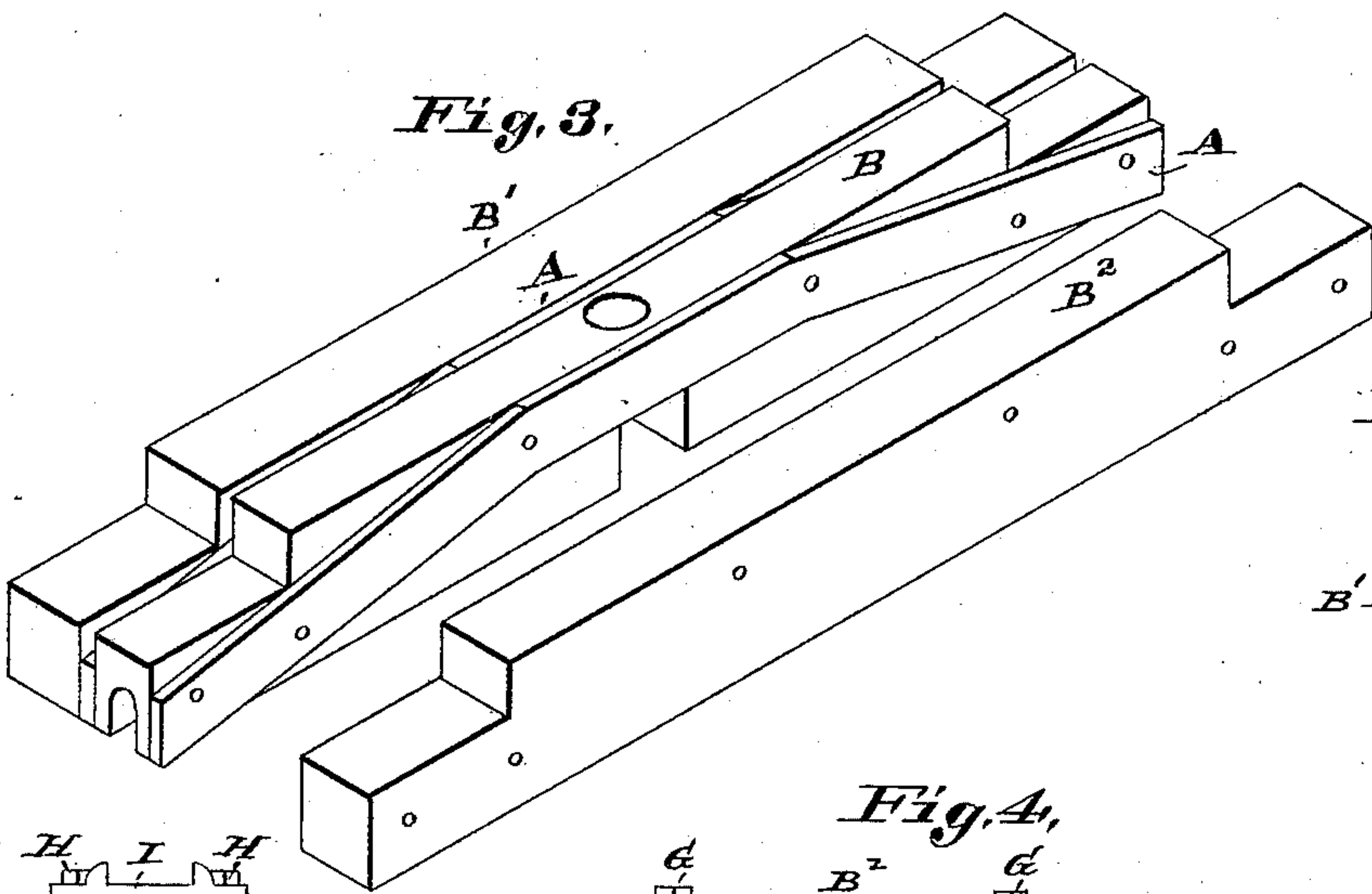
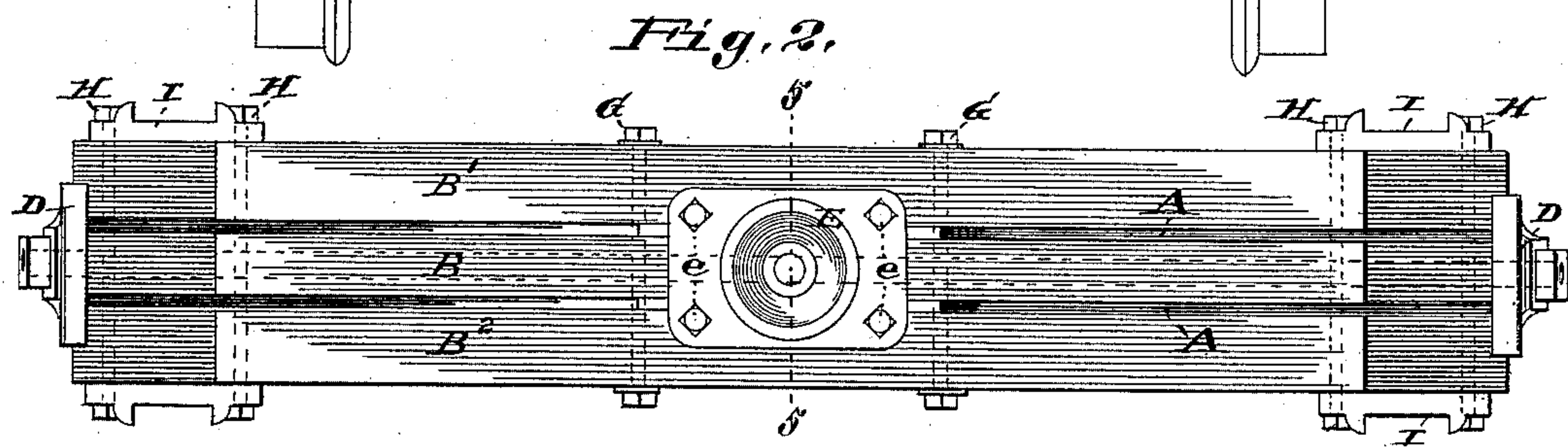
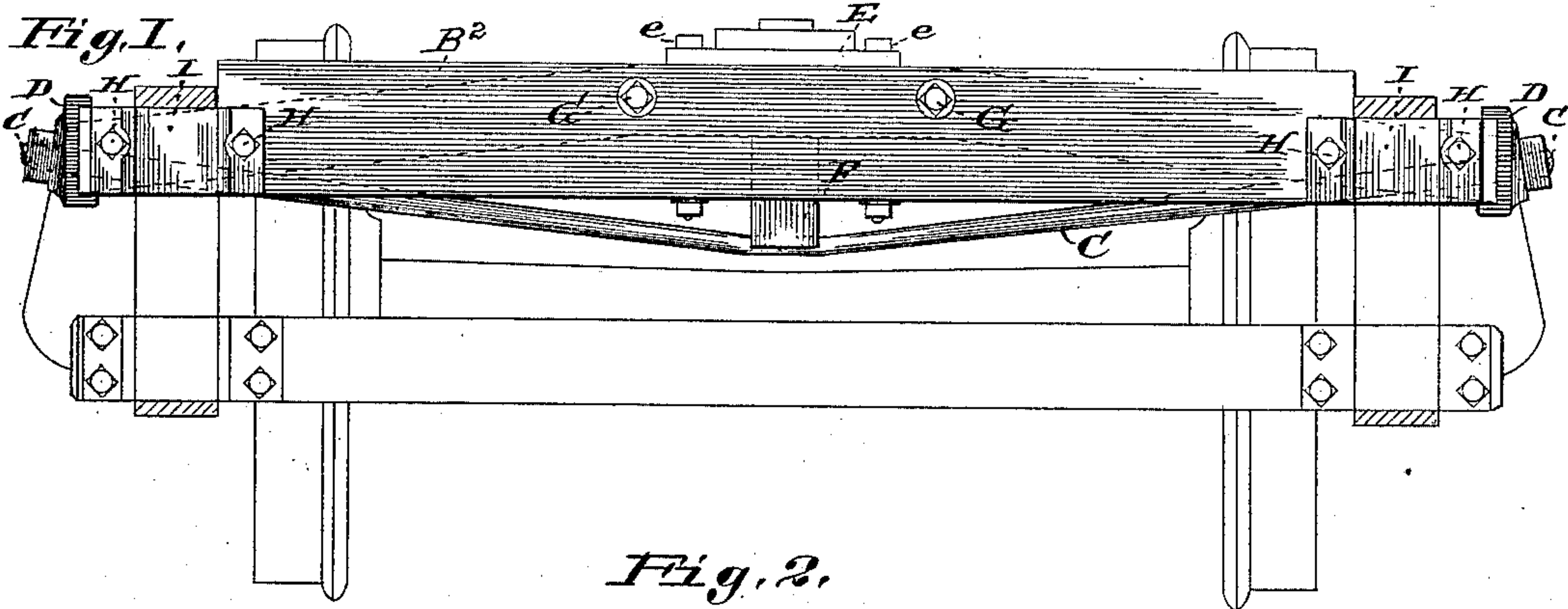


(No Model.)

J. HIGGINSON.  
CAR TRUCK BOLSTER.

No. 405,703.

Patented June 25, 1889.



Attest:  
J. H. Ruchman Jr.  
Charles Pickles.

Inventor:  
John Higginson  
by C. D. Moody atty



# UNITED STATES PATENT OFFICE.

JOHN HIGGINSON, OF ST. LOUIS, MISSOURI.

## CAR-TRUCK BOLSTER.

SPECIFICATION forming part of Letters Patent No. 405,703, dated June 25, 1889.

Application filed February 6, 1888. Renewed May 10, 1889. Serial No. 310,358. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HIGGINSON, of St. Louis, Missouri, have made a new and useful Improvement in Car-Truck Bolsters, of which the following is a full, clear, and exact description.

The improvement relates to bolsters for rigid trucks for freight-cars, and, more particularly stated, to what are termed the "top bolsters." In the construction of such bolsters the practice has generally been to compose the bolster mainly of a wooden beam, and to strengthen it by means of truss-rods whose ends respectively bear against shoulders upon the beam at points within those at which the bolster bears upon its supports. Another method, but not so common as that alluded to, is to make the bolster a composite structure—namely, a combination of straight wooden bars and straight metallic plates alternately arranged and bolted together. As thus made, the bolster is liable to sag, and if a truss-rod is used, as described, it is liable to be loosened by reason of the shrinkage of the wooden portion of the bolster. This difficulty is obviated, or at least diminished, by means of the improvement under consideration, which consists substantially as follows: of a combination of arched metallic bars and metallic tension-rods, forming, in effect, a metallic truss-beam, whose members, wherever they bear upon each other, are metal against metal. Wood is used, but substantially as a filling between and at the side of the arched bars, thereby serving to stiffen the arched bars laterally and to give body to the structure. An additional feature of the improvement is, making the truss-rods to bear against the arched bars at points outside the vertical bearings of the bolster.

The most desirable form of the improved bolster is shown in the annexed drawings, making part of this specification, in which—

Figure 1 is a side elevation of the bolster in position; Fig. 2, a plan of the bolster; Fig. 3, a view in perspective, showing detached in part from each other the arched bars and the wooden bars; Fig. 4, a bottom view of the bolster, and Fig. 5 a vertical cross-section on the line 5 5 of Fig. 2.

The same letters of reference denote the same parts.

A A represent the arched bars. They extend throughout the length of the construction to come at least to the ends of the wooden bars B B' B<sup>2</sup>, and the truss-rod C is connected with them by means of the truss-rod plate D, which extends laterally to bear upon the ends of both of the arched bars, and also to lap upon the outer wooden bars B' B<sup>2</sup>, substantially as shown in Figs. 1, 2, and 4. The arched bars at the central portion of the bolster rise to the top of the wooden bars, so that the center plate E can bear directly upon the arched bars. The center plate laps laterally upon the wooden bars B' B<sup>2</sup>, and is held in place by means of the bolts e. The bolster truss-seat F serves also as a post at the center of the truss to transmit the strain imposed upon the arched bars downward to the truss-rod. While the wooden portion of the structure is of use in strengthening the bolster against vertical strains, the weight imposed upon the center plate E is mainly sustained by the metallic truss described. The arched bars and the wooden bars are united laterally by means of the bolts G H. The bolts H also serve to attach the column-guides I to the bolster. As the truss extends to the ends of the bolster, the vertical bearings of the bolster, which are in line with the column-guides, come within the ends of the truss.

I claim—

1. A car-truck top bolster consisting of the arched metallic bars, the metallic tension-rod, the wooden bars, the center plate, and the bolster truss-seat, combined substantially as described.

2. A car-truck top bolster having embodied within it an arched metallic truss, the center plate of the bolster resting directly upon the truss, substantially as described.

3. A car-truck top bolster having embodied within it an arched metallic truss, the center plate of the bolster resting directly upon the truss, and the truss extending beyond the vertical bearings of the bolster, substantially as described.

Witness my hand.

JNO. HIGGINSON.

Witnesses:

C. D. MOODY,  
CHAS. H. GLEASON.