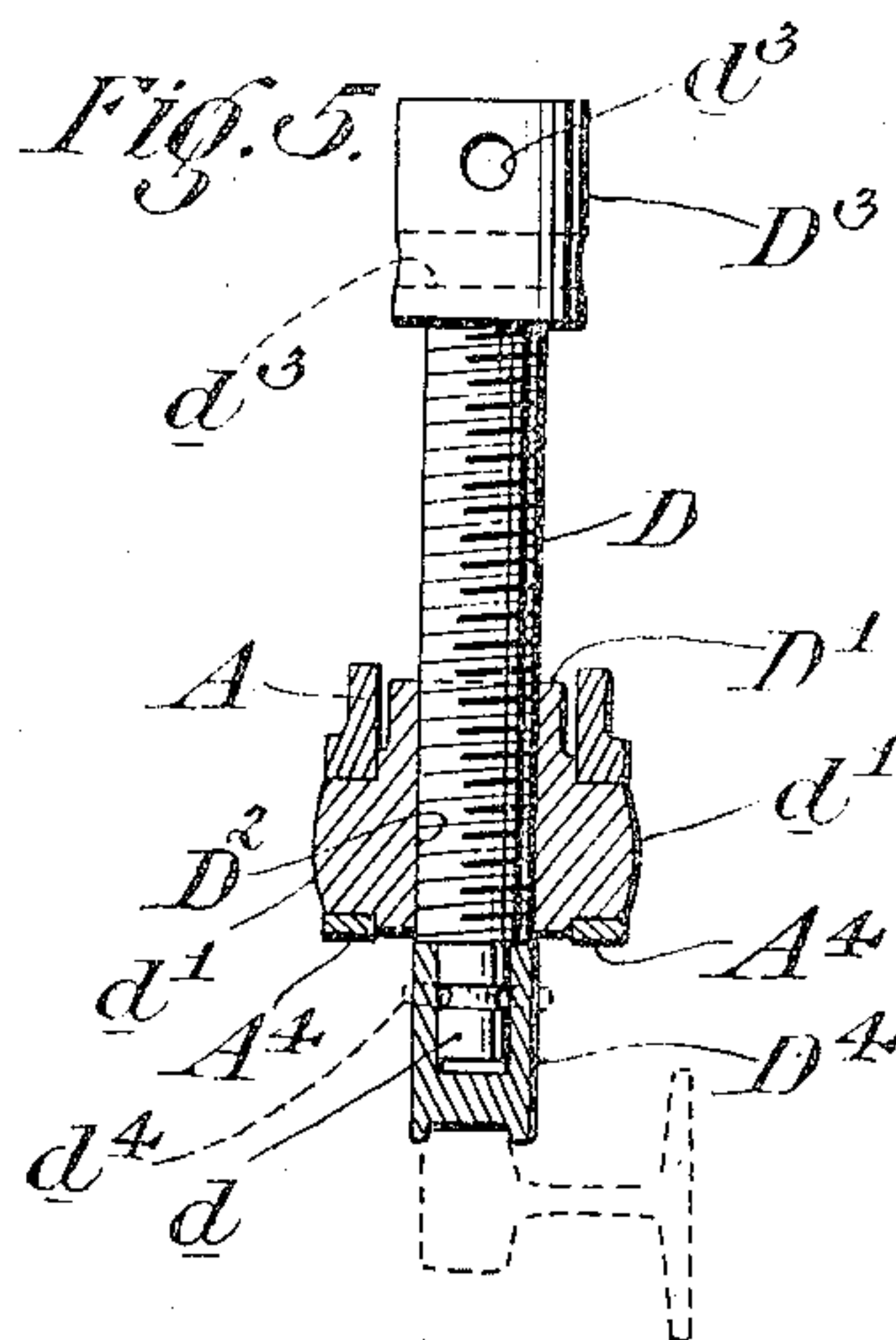
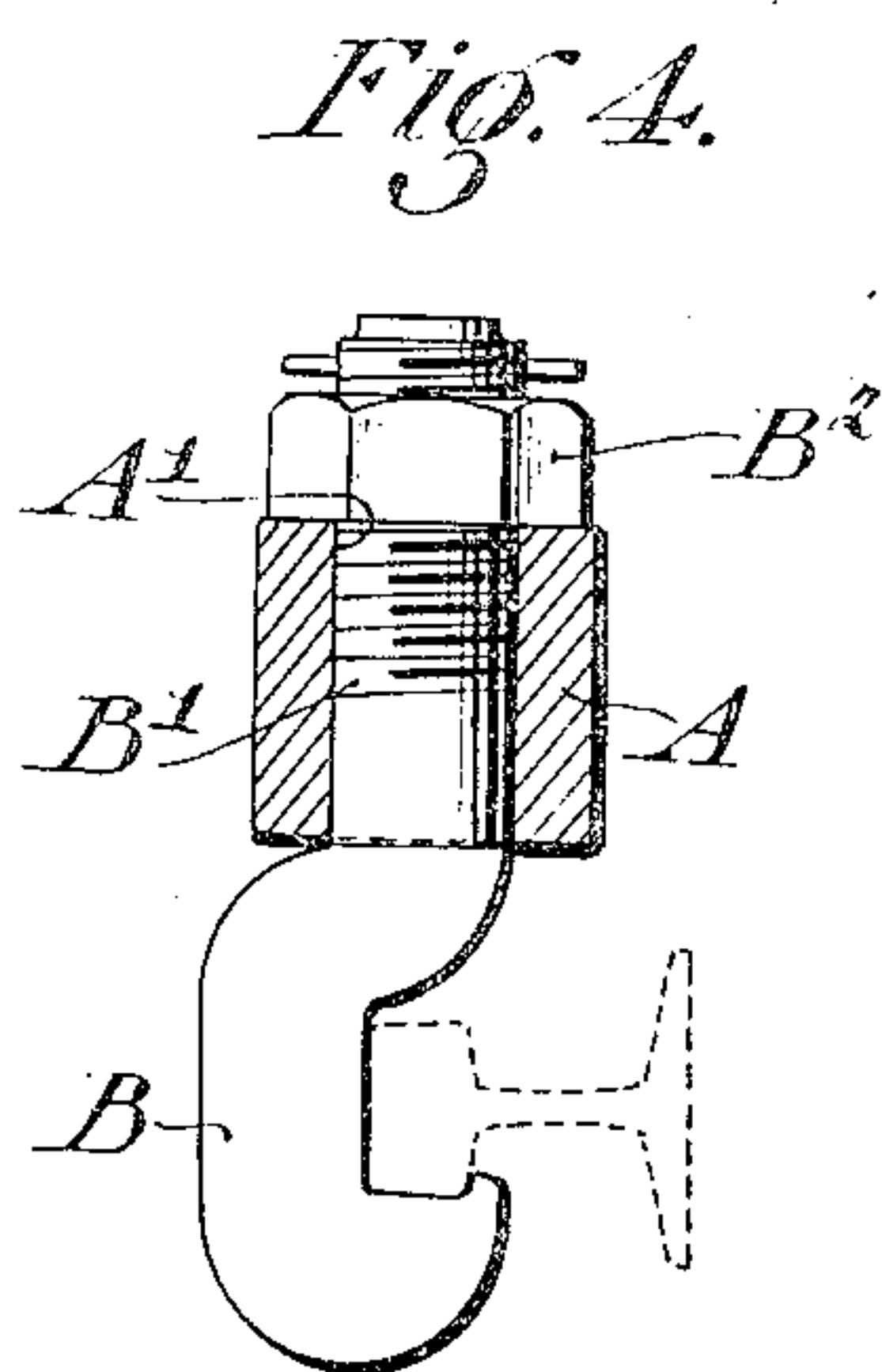
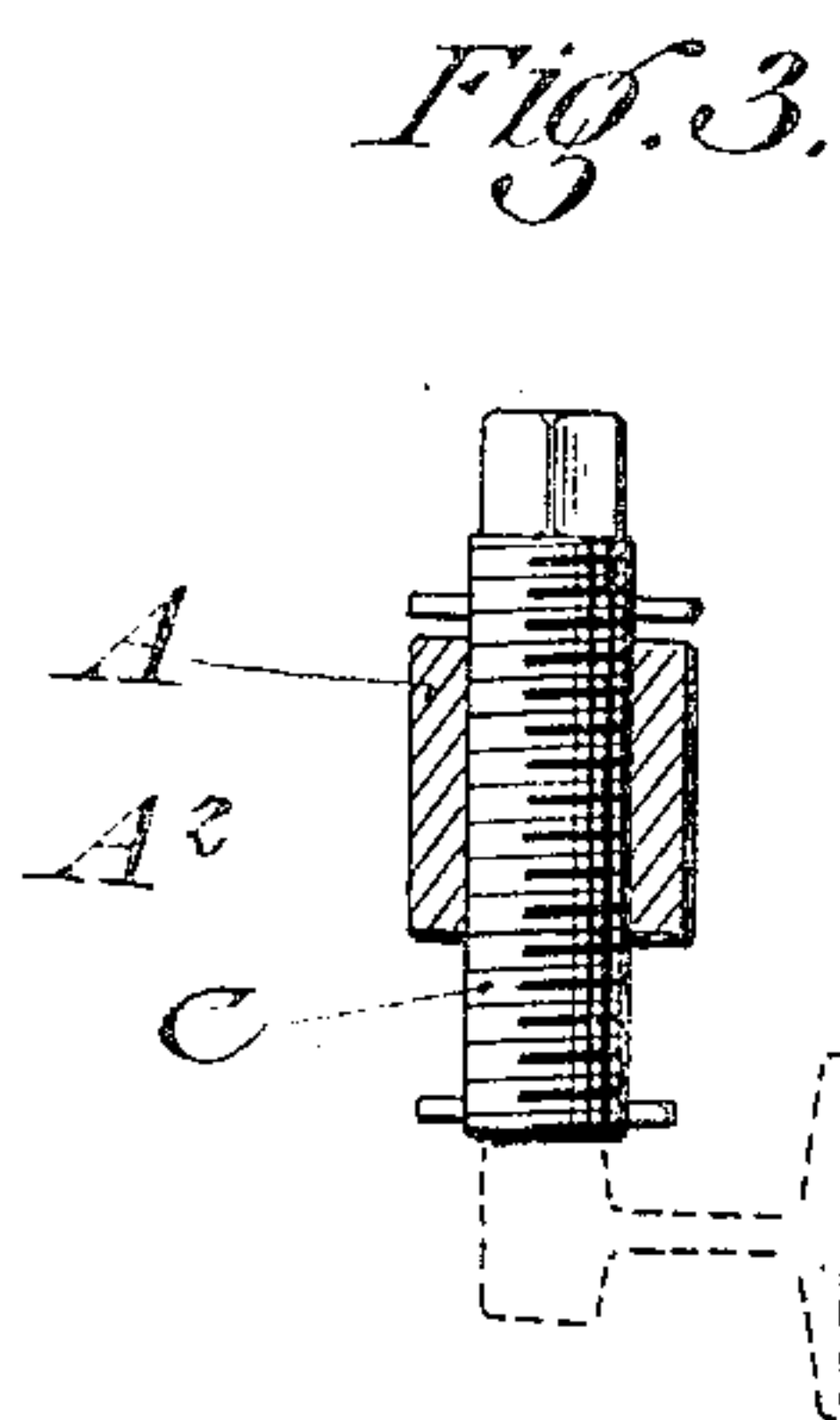
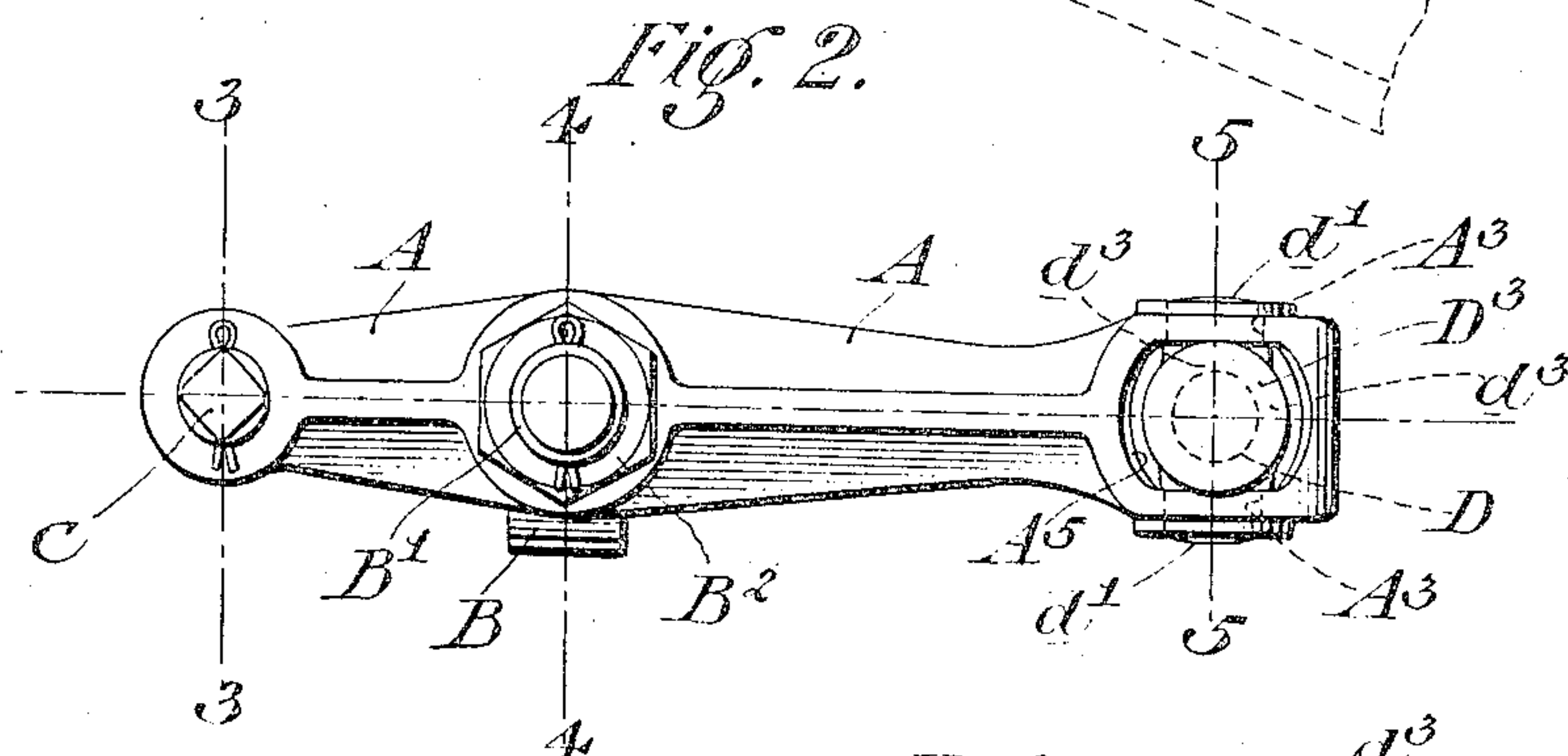
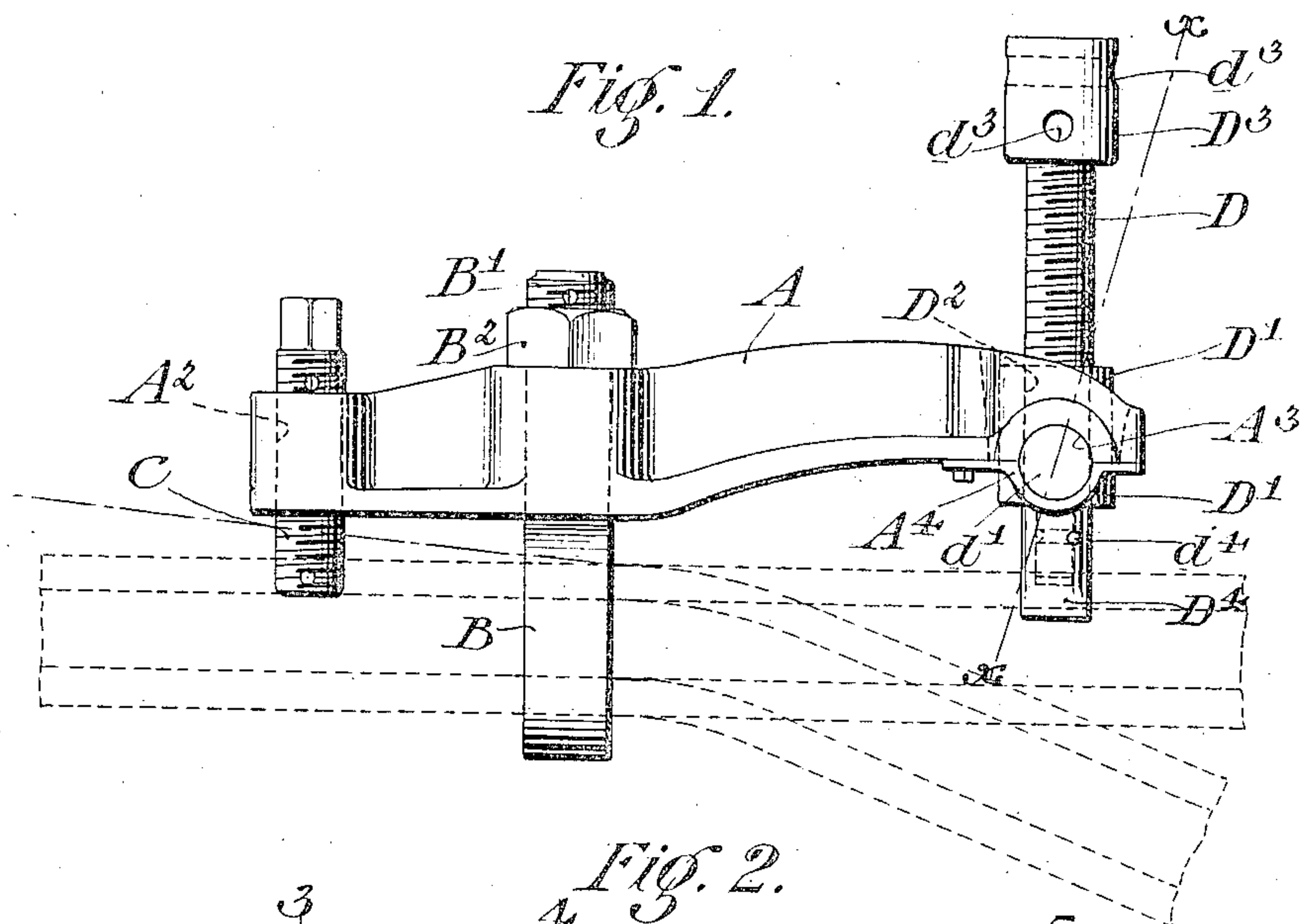


J. R. JAMES.  
RAIL BENDING TOOL.  
APPLICATION FILED MAY 3, 1909.

940,325.

Patented Nov. 16, 1909.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES ROWLAND JAMES, OF RIDLEY PARK, PENNSYLVANIA.

## RAIL-BENDING TOOL.

940,325.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed May 8, 1909. Serial No. 493,725.

*To all whom it may concern:*

Be it known that I, JAMES ROWLAND JAMES, a citizen of the United States, residing at Ridley Park, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Bending Tools, of which the following is a specification.

My invention relates to bending tools and particularly to bending tools for rails in which a beam is provided at one end with a fulcrumed bending head and at the other with an adjusting screw, while between the two extremities is an adjustable grip for gripping the rail.

It is possible by means of my invention to produce a curve of small radius since the head will turn inwardly as the rail is being bent thus relieving the screw from lateral strain and permitting the screw to press downwardly to the full extent of its movement. The adjusting screw arranged at the opposite end of the beam will permit of a further blocking up of the rail to facilitate further sharp bending which is desirable in rail sections employed in connection with frogs and switches; and will also permit, according to its adjustment the straightening of the rail.

The object of the invention is the construction of a rail bending tool having a substantially central grip with adjusting screws oppositely disposed and arranged at the extremities of the beam, one or both of which may be connected to the beam by a fulcrumed head. The adjustable grip permits of either right or left hand bending as the grip may be turned from one side to the other.

The various features of novelty which characterize the invention are pointed out with particularity in the claims annexed to and forming part of this specification.

For a better understanding of the invention, however, and the advantages possessed by it, reference may be had to the accompanying drawings and descriptive matter in which I have illustrated and described one of the forms in which my invention may be embodied.

Of the accompanying drawings, Figure 1 illustrates a side elevation of a rail bending tool embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 shows a transverse section taken through one extremity of the tool as indicated at 3—3 in Fig. 2.

Fig. 4 is a similar section taken on the line 4—4 of Fig. 2 and showing the adjustable character of the grip, and Fig. 5. shows a section similar to Fig. 3. of the opposite extremity of the tool as indicated at 5—5 in Fig. 2, showing the manner in which the screw is carried by the head, as also the manner in which the head is fulcrumed to the beam of the tool.

A designates a beam preferably formed of cast steel and T shaped in cross section between the bending points.

B is a grip fashioned to receive a rail and having a threaded shank B' adapted to a plain hole A' in the beam in which it may be turned.

B<sup>2</sup> is a nut threaded to the shank B' and adapted to hold the grip rigidly in position during a bending operation.

C is an adjusting screw or set screw adapted to a threaded opening A<sup>2</sup> of the beam A and occupies a position upon the head of the rail during the bending operation as shown in Fig. 1.

D is a bending screw fitted to a threaded opening D<sup>2</sup> in a head D' and provided at the upper end with a cap D<sup>3</sup> and at the lower end with a block D<sup>4</sup>. The cap D<sup>3</sup> is provided with the conventional openings d<sup>3</sup> to receive a rod by which means the screw may be turned. The head D' is provided with trunnions d' d' which rest in bearings A<sup>3</sup> A<sup>3</sup> in the beam and are held in place by boxes A<sup>4</sup> A<sup>4</sup>. The screw D turns in the block D<sup>4</sup> which is held in place by a pin d<sup>4</sup> engaging a groove in the reduced portion d of the screw. At the point where the head D' is journaled to the beam A, the beam is recessed as shown at A<sup>5</sup> to permit the head and screw to turn upon the trunnions d' during the operation of bending.

It will be obvious that as a rail is acted upon as shown by dotted lines in Fig. 1 the block D<sup>4</sup> will remain in the same position with respect to the rail as the bending operation progresses, thus causing the screw D and head D' to move upon the trunnions d' and out of vertical alinement to approximately a position shown by the dotted line x—x in Fig. 1.

Having now described my invention, what I claim and desire to secure by Letters Patent is:—

1. A rail bending tool comprising a beam provided with a centrally disposed grip, a set screw threaded to one end of the beam,



a trunnioned head and a bending screw adapted thereto at the opposite end of the beam.

2. A rail bending tool, comprising a beam  
5 having a grip for engaging a rail, said grip being adapted to turn in the beam and having a nut to prevent it from turning, a set screw adapted to a threaded opening in one extremity of the beam, a head fulcrumed to  
10 the other extremity of the beam and a bending screw threaded to said head.

3. A rail bending tool, comprising a beam, a grip for engaging a rail adapted to an opening in the beam in which it is normally

free to turn, means for securing the grip 15 against turning, a set screw threaded to one of the extremities of the beam, a head fulcrumed to the other extremity of the beam, a bending screw threaded to said head and a block swiveled to the end of the bending 20 screw.

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

JAMES ROWLAND JAMES.

Witnesses:

CHAS. C. COLLIER,  
JAY R. GRIER.