(No Model.)

H. C. WILLIAMSON.

BRAKE BEAM.

No. 565,060. Patented Aug. 4, 1896.

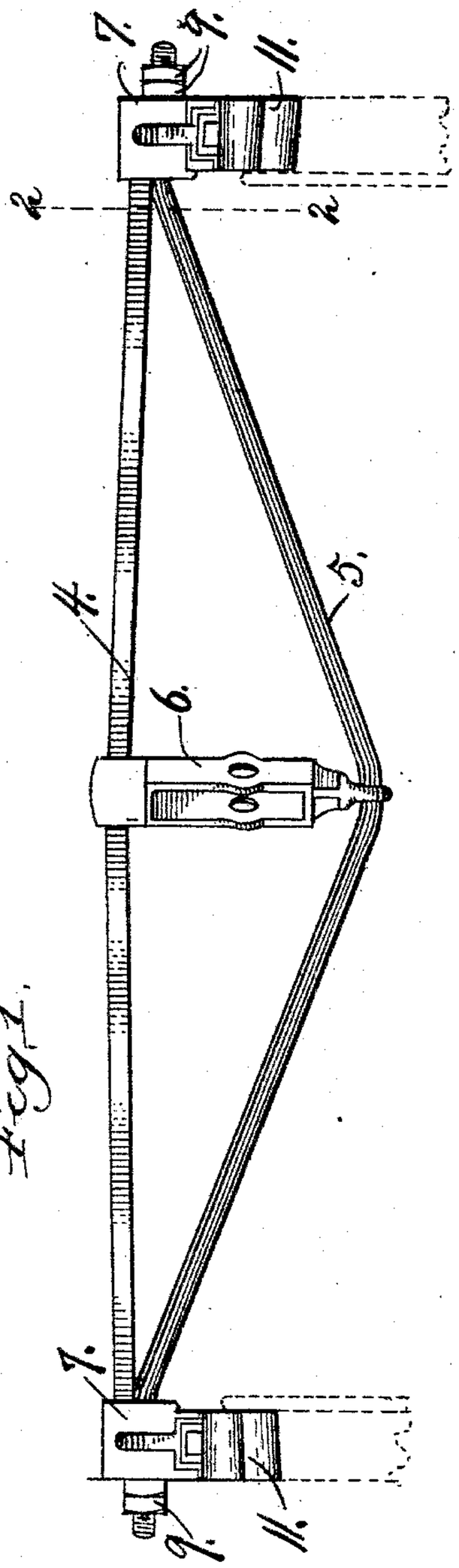

Fig. 1.

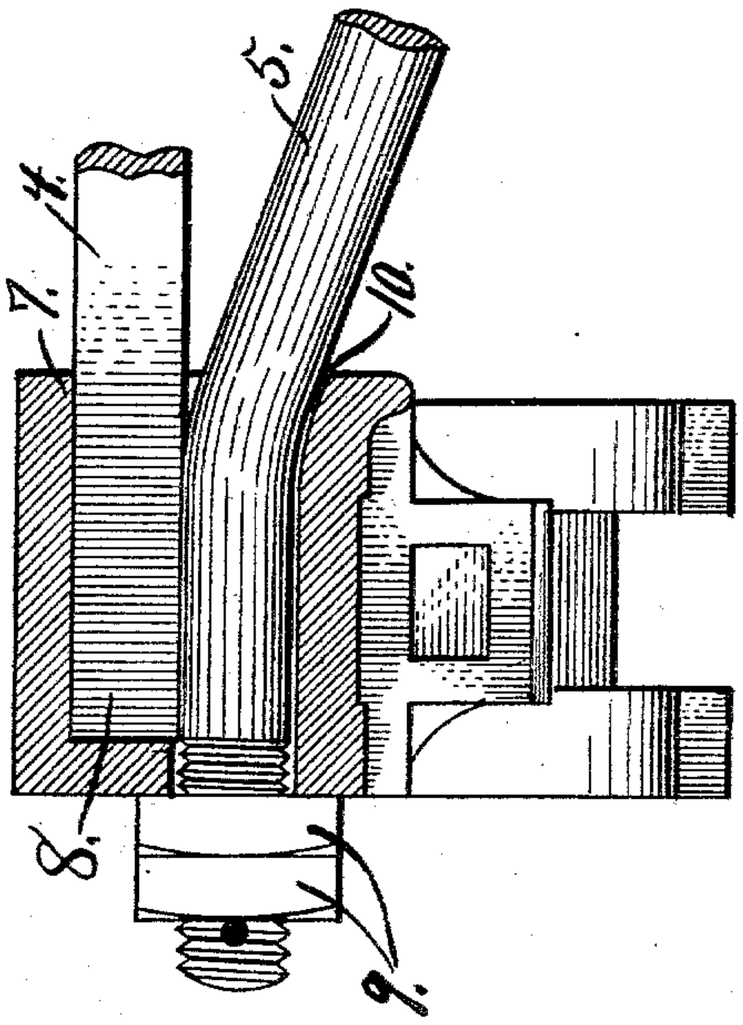

Fig. 3.

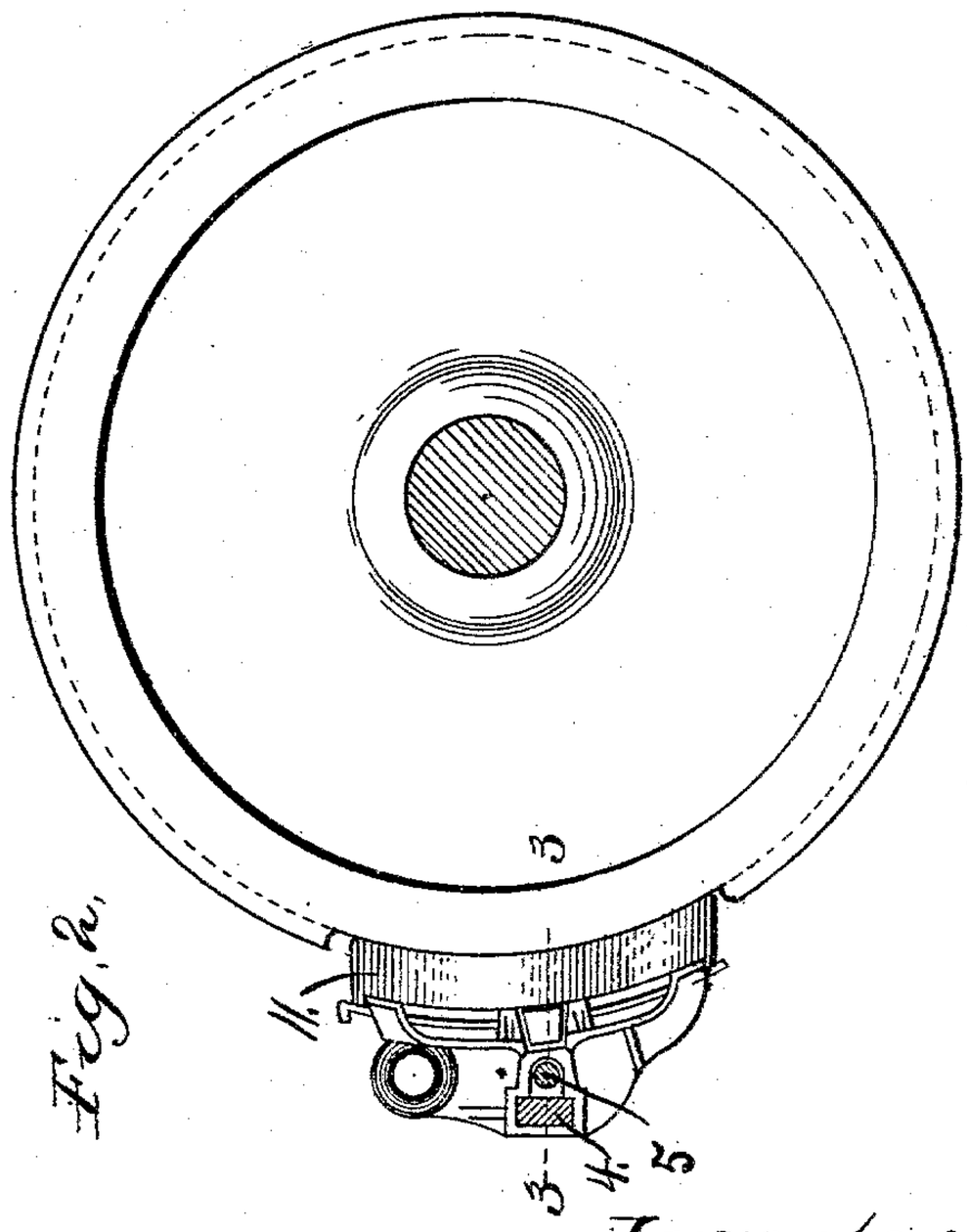

Fig. 2.

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UNITED STATES PATENT OFFICE.

HENRY C. WILLIAMSON, OF MICHIGAN CITY, INDIANA.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 565,060, dated August 4, 1896.

Application filed March 6, 1896. Serial No. 582,083. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. WILLIAMSON, a citizen of the United States, residing in Michigan City, county of La Porte, and State of Indiana, have invented certain new and useful Improvements in Brake-Beams, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to that class of beams which are formed of metal of commercial shapes, assembled together in such a manner as to constitute a united whole.

Specifically stated, the object of my invention is to produce a beam of this class which will be of moderate cost, efficient strength, simple construction, and easily repaired, and which will occupy less room next the wheels than constructions of a similar kind heretofore proposed.

To the accomplishment of the above-mentioned desirable objects, particularly the last, my invention consists of certain combinations which will be specifically pointed out in the claims.

The nature of my improvements will be more clearly seen, however, by an examination of the accompanying drawings, in which—

Figure 1 is a plan view of the beam as a whole. Fig. 2 is a sectional elevation taken on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 2.

Referring now more particularly to Fig. 1, it will be seen that in general my beam consists of a compression member 4, a tension member 5, a strut 6, and two brake-shoe heads or end pieces 7 7. The compression member 4 is preferably rectangular in cross-section, with its vertical greater than its horizontal diameter, this arrangement being adopted with a view to securing the maximum degree of strength against vertical distortion. The tension member 5 is preferably made of a round rod, this, as well as the compression member, being clearly shown in section in Fig. 2.

Fig. 3, which is made on a larger scale than the other two figures, illustrates the method of arranging and combining the compression member, the tension member, and the end piece. As will be clearly seen by an examination of this figure, the compression member 4 extends only part way through the end piece 7, its end 8 abutting against the outer wall of the casting 7 to afford an efficient stop. The tension member 5 passes entirely through the end casting 7, in a line approximately parallel with and adjacent to the compression member 4. The outer ends of the tension member, as shown, are held by a nut 9, but as the precise method of fastening the end of the tension member against withdrawal from the end casting does not form an essential part of my invention it is obvious that any of the well-known methods used in securing the ends of such pieces could be substituted, such, for example, as a slot and key. At the point 10, where the tension member 5 first enters the end casting 7, the opening made to receive it is curved outwardly, this being done partly to prevent any danger of a cutting action or breaking effect on the tension member when it is put under strain and partly to aid in securely holding the end piece 7 from rotating around the axis of the beam.

It will be noticed that the end pieces are integral with the brake-shoe heads. To explain this it is to be observed that on many trucks the amount of room in which a brake-shoe head can be put is exceedingly limited, as, for example, next the middle pair of wheels of a six-wheeled passenger-truck. By making the end pieces integral with the brake-shoe heads I am enabled to materially reduce the size of the parts, thus not only saving metal, but also enabling the use of my form of beam in places where a beam having a larger head either could not be used at all or else would have to be hung so low as to cause serious trouble in the operation of the brake, such as flat wheels, or damage to the beam and brake connections caused by its striking projections in the roadway or coupler-pieces which may have fallen from disconnection of the train.

In the manufacture of a beam in accordance with my invention the parts are put together in the manner clearly shown in the drawings, the nuts 9 being drawn just sufficiently tight to bring the tension member close against the curved portion 10 of the end piece 7. To avoid placing any undue strain

on the tension-rod 5, the compression member is made with the requisite camber before the parts are put together.

It will be seen that by the above-described method of forming and combining the different parts I secure a fastening at the ends of the beam which requires little expense to manufacture, and it is at the same time rigid and secure. It is further to be noted that the structure so formed can very readily be taken apart when it is required to replace any broken piece.

As shown, the strut 6 is of a construction very commonly used, and the shoe 11 is of the ordinary Christie type, but either of these parts may be altered as desired without in any manner departing from the spirit of my invention, and while I prefer to use a rectangular compression member and a round tension member on account of their simplicity, other suitable shapes might be substituted, if desired, and combined with the end pieces in the manner I have shown.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a brake-beam, the combination with a compression member; tension member; and strut; of end pieces having sockets adapted to receive said members, said sockets being so made as to permit the compression member to pass partially through said end pieces and abut against the outer walls thereof, and the tension member to pass entirely through said end pieces and be secured against withdrawal therefrom by suitable means, the sockets at the point of entrance of the tension member being curved outwardly and the tension member being curved to conform to the curves of the sockets, substantially as described.

2. In a brake-beam the combination with the compression member, and tension member, of an end piece having a socket adapted to receive said members, said socket at the point of entrance of the tension member being curved outwardly, the tension member being curved to conform to the curve of the socket, and a brake-shoe head formed integral with said end piece.

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Witnesses:

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