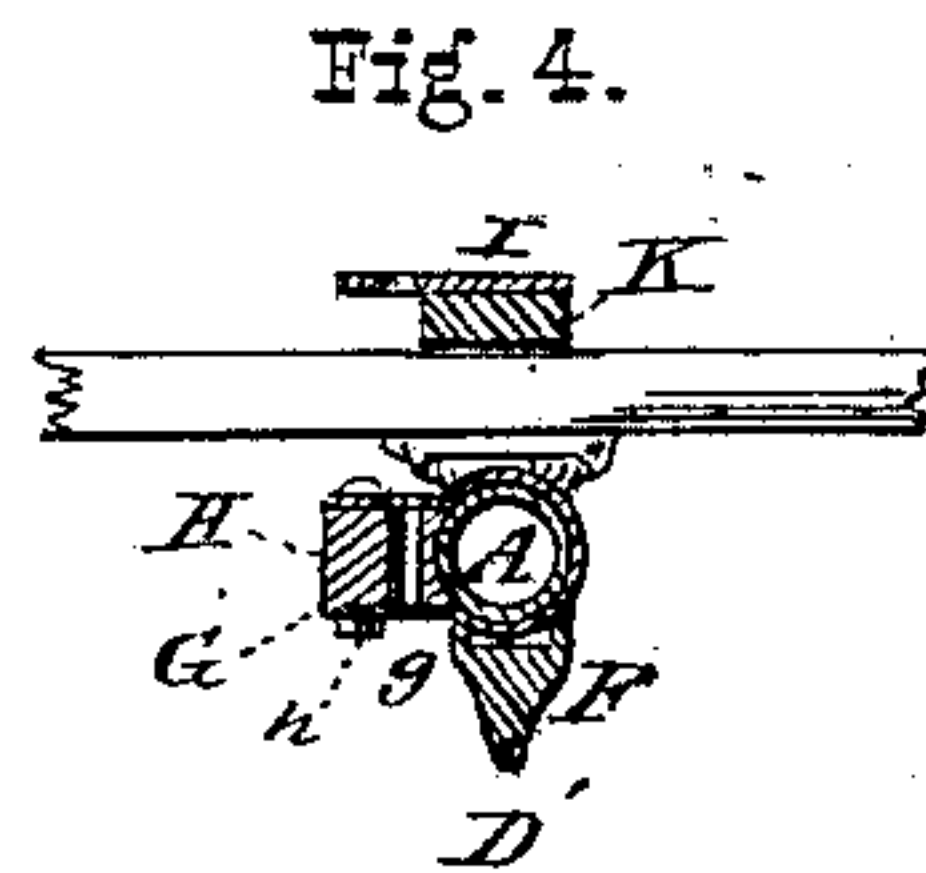
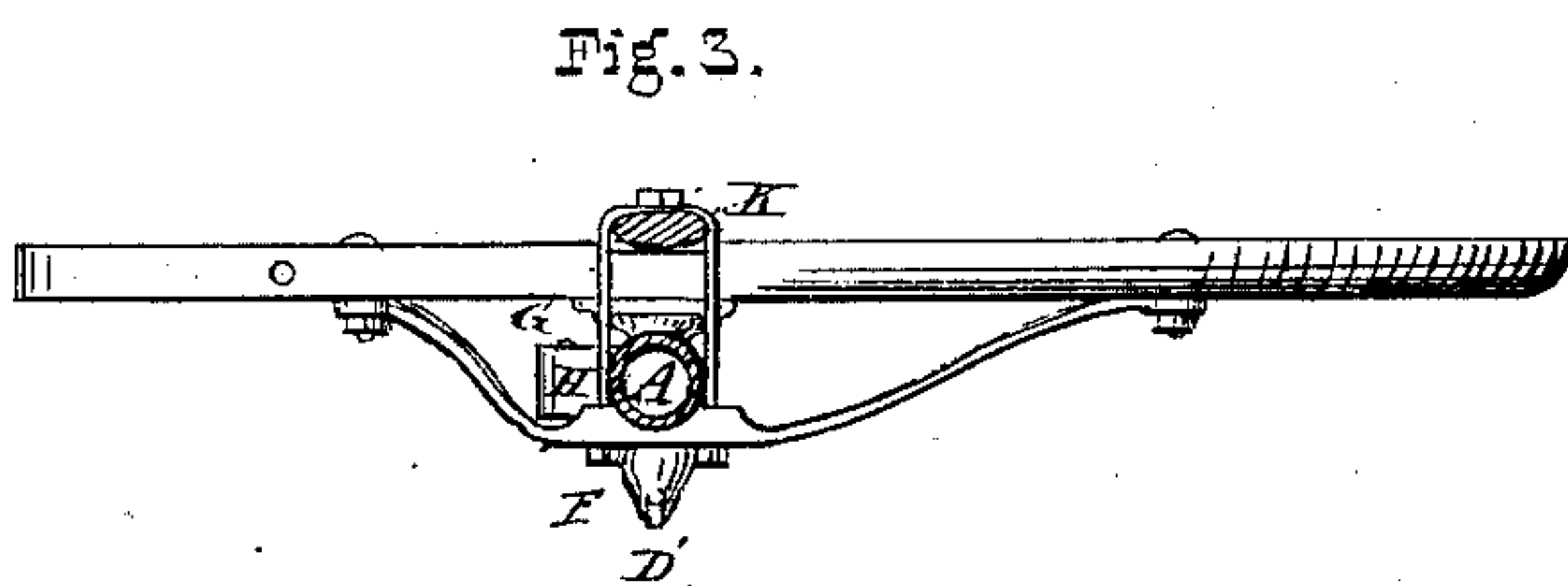
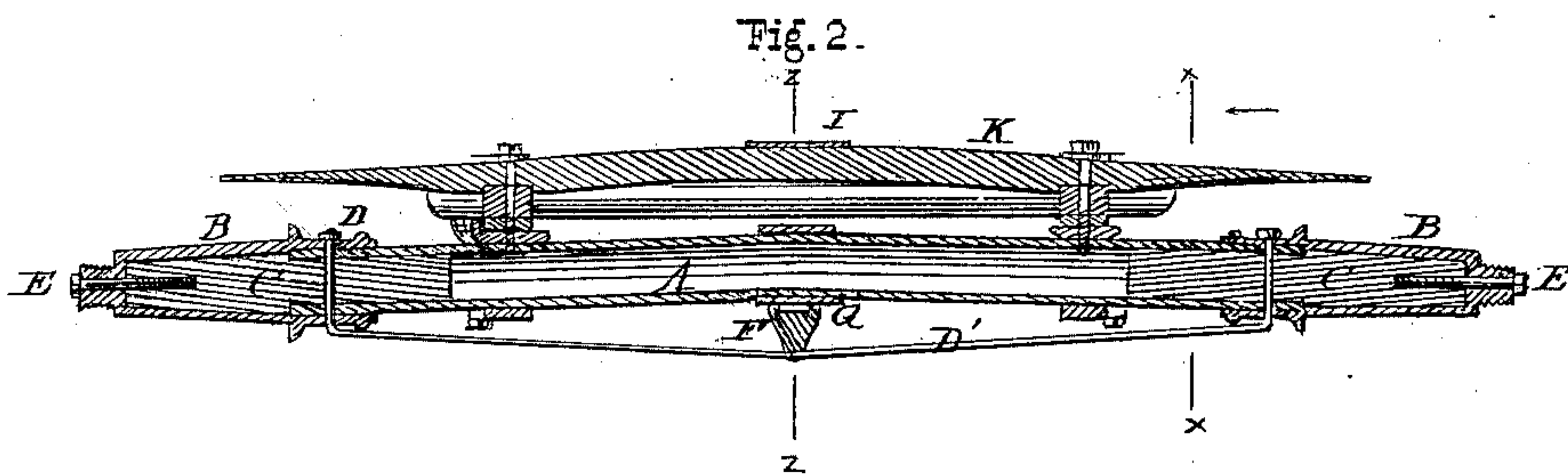
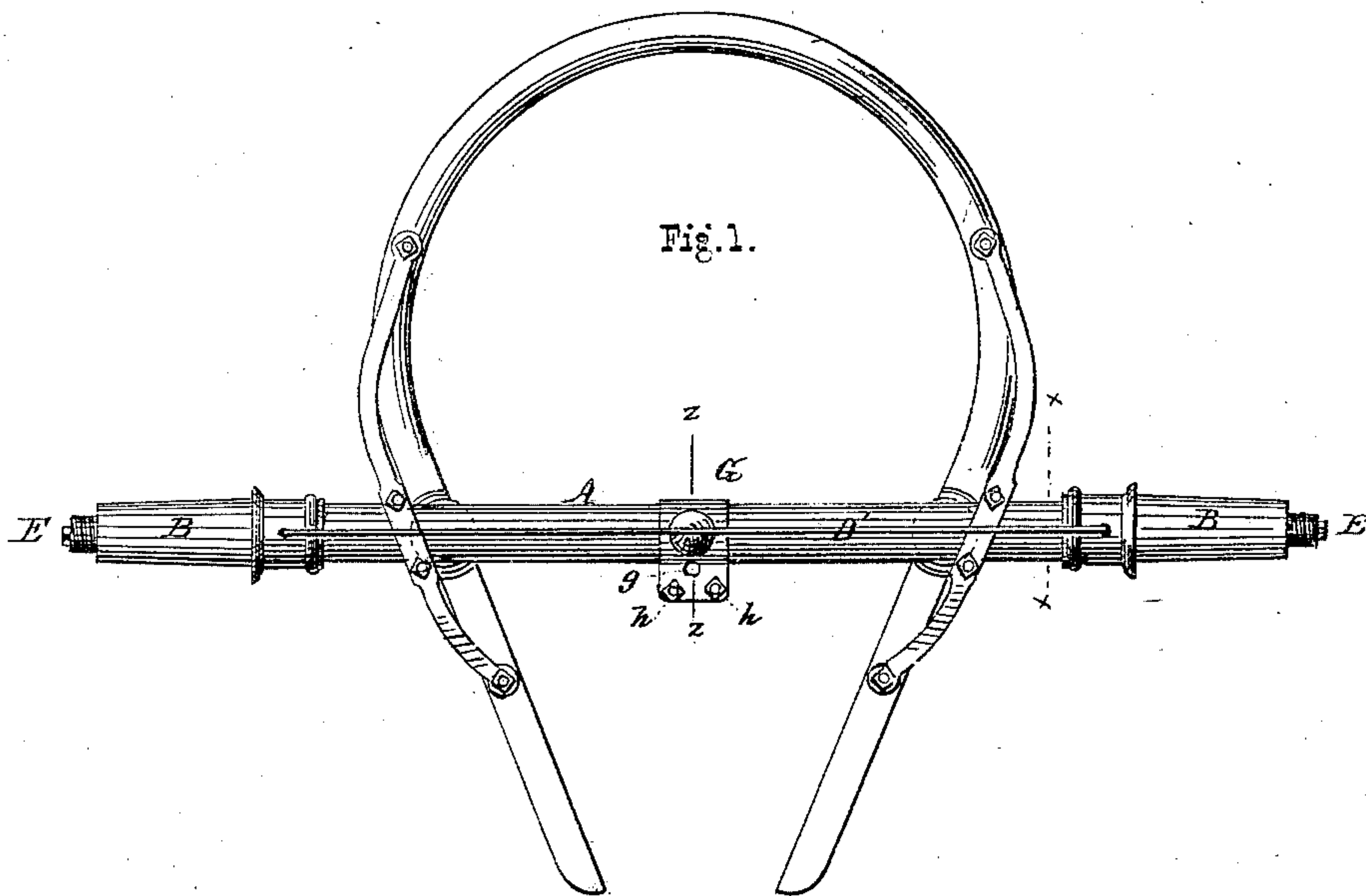


A. KESSBERGER.

WAGON AXLE.

No. 113,896.

Patented Apr. 18, 1871.



Witnesses.

W. L. Smith
P. H. Poole

Inventor.

August Kessberger
by Prindle and Gyer
Attys.

United States Patent Office.

AUGUST KESSBERGER, OF SPRINGFIELD, ILLINOIS.

Letters Patent No. 113,896, dated April 18, 1871.

IMPROVEMENT IN WAGON-AXLES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, AUGUST KESSBERGER, of Springfield, in the county of Sangamon and in the State of Illinois, have invented a certain new and improved Wagon-Axle; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view of the lower side of my improved axle;

Figure 2 is a vertical central section of the same; and

Figures 3 and 4 are vertical cross-sections on the lines *x* and *z*, respectively, of figs. 1 and 2.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to produce an axle that, while possessing more than ordinary rigidity, shall be durable, light, and comparatively inexpensive; and

It consists, principally, in the peculiar construction and combination of the hollow axle, detachable arms, and wood filling, substantially as hereinafter shown.

It further consists in the combination of a wrought-iron pipe-axle with molten-iron skeins or axle-arms, substantially as and for the purpose hereinafter shown and described.

It further consists in a truss-rod combined with an axle, substantially as and for the purpose hereinafter set forth.

It finally consists in the construction of the socket for the reception of the king-bolt, substantially as and for the purpose hereinafter specified.

In the annexed drawing—

A represents the axle, constructed of metal pipe, upon and over each end of which is fitted a metal arm, B, having the usual exterior shape, and provided with a corresponding interior opening.

Fitted tightly to or within the interior of the axle-arm, and within the end of the axle, is a wooden plug, C, which not only serves to strengthen the joint between said arm and axle, but also adds to the rigidity and durability of said parts, and furnishes a means whereby they may be more firmly united.

The latter object is accomplished by means of a bolt, D, which passes vertically through the center, transversely of the axle-filling and arm, near the inner end of the latter, and insures their longitudinal positions, while a second bolt, E, passing through the end of said arm and into said wooden filling, enables said parts to be more firmly drawn together and held in place.

In order to give increased rigidity, vertically, to the axle, the bolts D form the ends of a rod, D', which,

extending beneath said axle and over a central post or support, F, forms a truss-rod, which may be so adjusted longitudinally as to produce any desired degree of strain upon or camber of said axle, and largely increase its strength.

When worn upon one side the axle-arms may be removed and reversed, so as to bring a true surface in contact with the thimble-skein of the wheel.

A socket, *g*, for the reception of the lower end of the king-bolt, is formed within and by means of a metal band or clip, G, passing around the center of the axle, and having its ends clamped upon a wooden block, H, placed between the same, and held in place by two bolts, *h*, passing vertically through both parts.

The upper end of said king-bolt passes through and is held in position by means of a metal lug, I, secured upon and projecting forward from the upper side of the head-block K.

As thus constructed, the end of the reach is passed between the axle and head-block and locked thereto by passing the king-bolt through the lug I, through said reach, and the clip G.

Having thus fully set forth the nature and merits of my invention,

What I claim as new is—

1. The axle, composed of the pipe A, the hollow arms B, the wooden plugs or fillings C, and the bolts D and E, substantially as and for the purpose specified.

2. The combination of a wrought-iron pipe-axle with molten-iron skeins or axle-arms, substantially as and for the purpose shown and described.

3. In combination with a wagon-axle, the truss-rod D', constructed and arranged substantially as and for the purpose shown.

4. The socket-clip G provided with the opening *g*, the block H, and the bolts *h*, when constructed as shown, and combined with the axle in the manner and for the purpose set forth.

5. The axle-arm B, constructed as described, and combined with an axle, substantially as and for the purpose specified.

6. The axle A, the arms B, the wooden plugs or fillings C, the bolts D and E, the truss-rod D', and the post or support F, all constructed and combined substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of January, 1871.

AUGUST KESSBERGER.

Witnesses:

CHAS. EDWARDS,
JAMES SMITH.