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PATENTED MAR. 21, 1905.

H. D. KEELER.
DRAW BRACE FOR SULKIES.
APPLICATION FILED JULY 9, 1904.

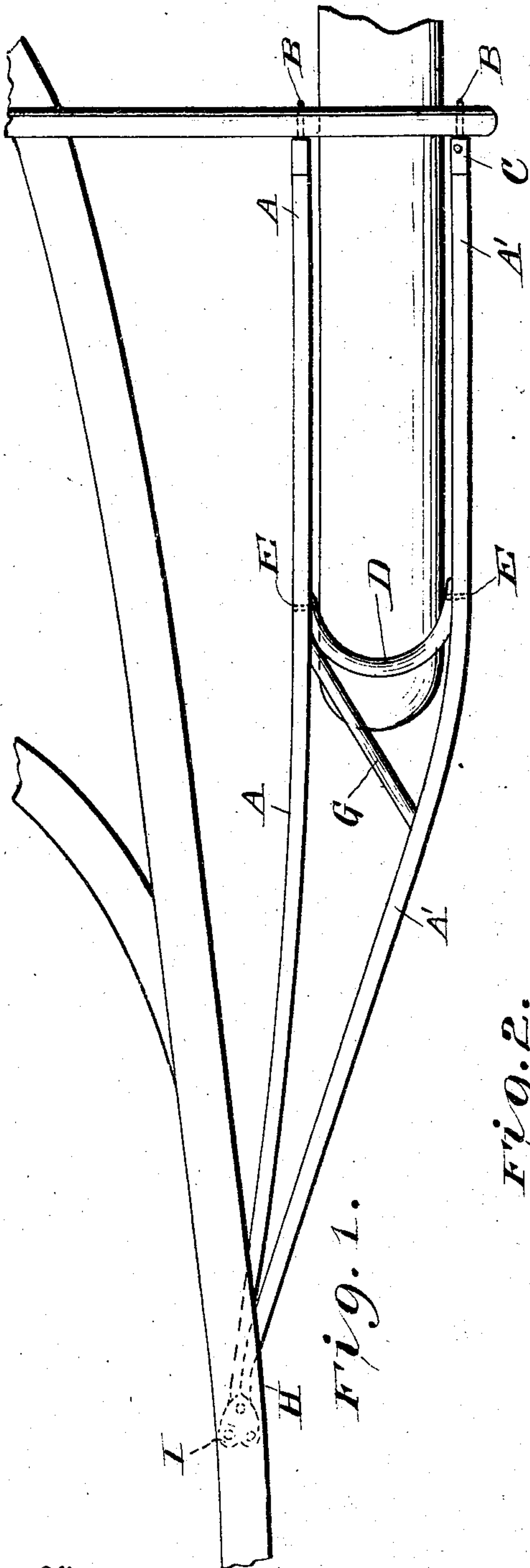


Fig. 1.

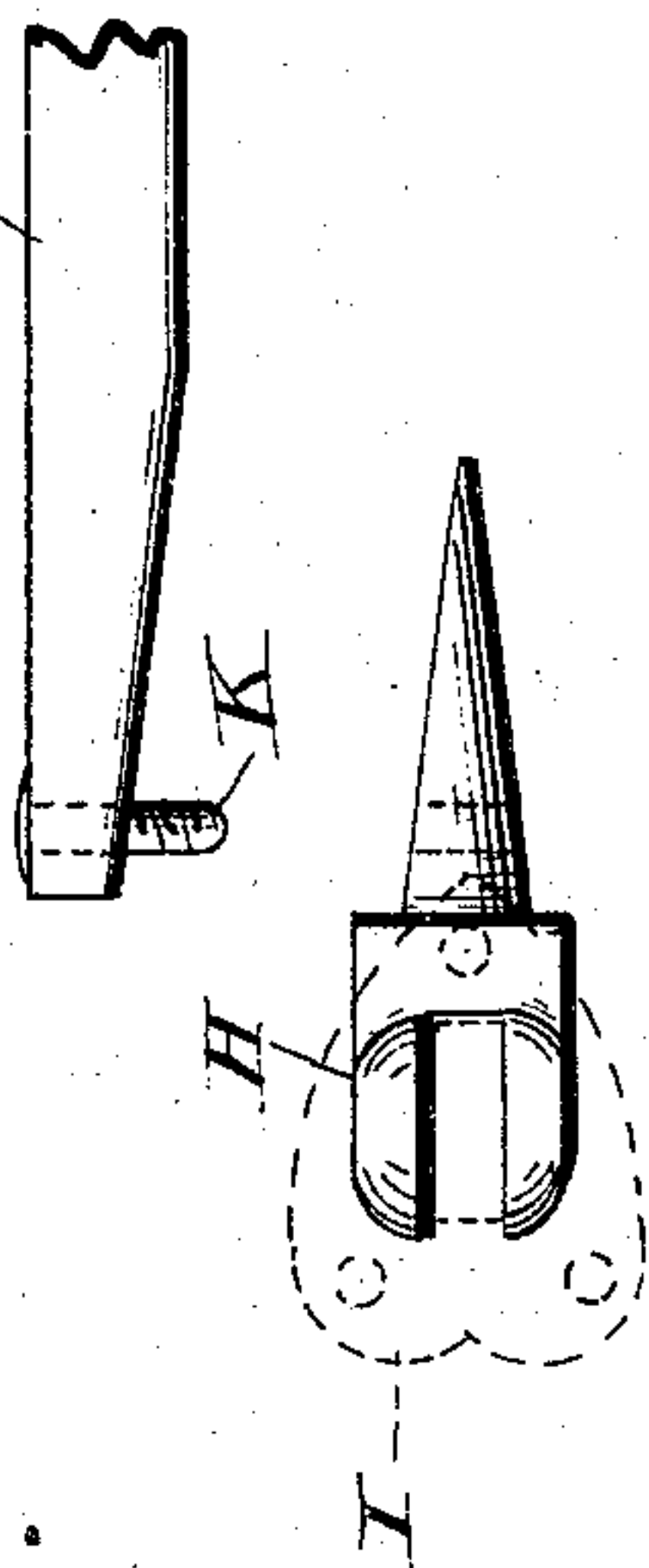


Fig. 2.

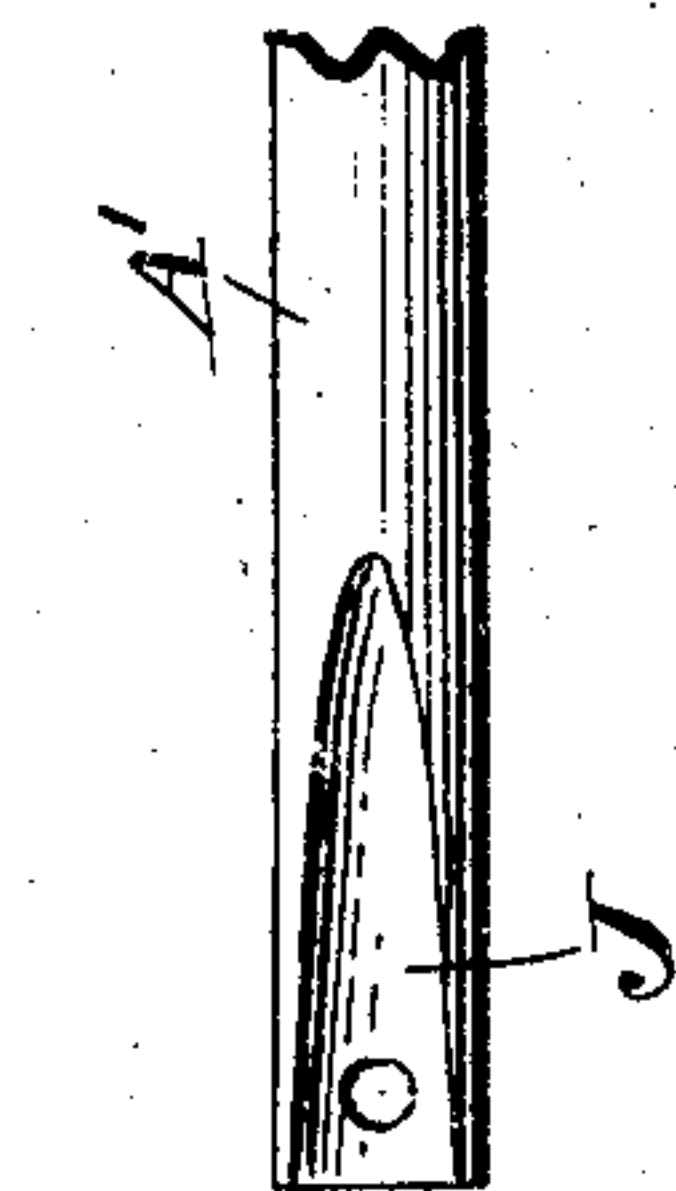


Fig. 3.

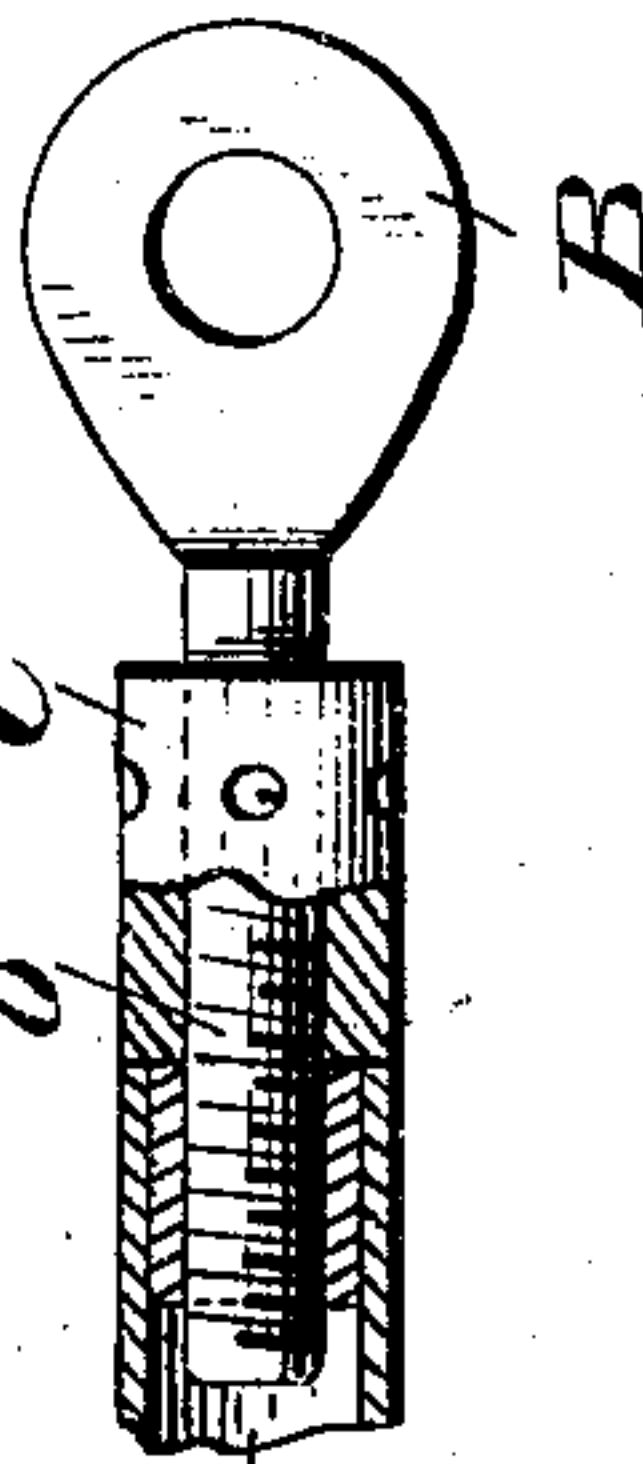


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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DRAW-BRACE FOR SULKIES.

SPECIFICATION forming part of Letters Patent No. 785,218, dated March 21, 1905.

Application filed July 9, 1904. Serial No. 215,918.

To all whom it may concern:

Be it known that I, HARRY D. KEELER, a citizen of the United States, residing at Marion, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Draw-Braces for Sulkies, of which the following is a specification.

My invention relates to an improvement in the construction of the draw-braces used in modern sulkies. The brace now in general use is constructed of metal tubing, because a greater percentage of strength is obtained to the weight of material used in construction. In my invention the draw-braces are constructed of two pieces of metal tubing in the form of a fork having suitable clips at the open end of the fork. The other end of the brace is formed by bringing the two pieces of tubing together and securing them to a head provided with a clip to secure it to the sulky-thill. The construction at the head end of the brace comprises one feature of my invention and consists in bending or swaging the meeting surfaces of the tubing inwardly, so as to fit a cone-shaped extension on said head, the three parts being then brazed and riveted together. Intermediate the ends of the fork an arch-shaped brace is provided whose ends are swaged, as are the meeting ends of the fork, to fit the surface of the fork-tubing. The brace is also secured to the arms of the fork by rivets and brazing. In order to more firmly brace the outer arm of the fork, a straight piece of tubing may be provided that will connect the outer arm with the angle formed by the arch-shaped brace and the inner arm.

The construction and advantages of my invention will be further explained hereinafter and understood from an inspection of the drawings, in which—

Figure 1 is a top plan view of a part of a sulky, showing my improved fork in position thereon; Fig. 2, a detail view of the forward end of the fork, showing the three pieces before being joined together; Fig. 3, a detail view of one end of the arch-shaped brace, showing it bent preparatory to securing it to the arm of the fork; and Fig. 4, a detail view of the adjustable end of the fork.

In the drawings similar reference characters indicate corresponding parts throughout the several views.

A and A' represent the two arms of a brace-fork made of metal tubing and having axle-bearings B at their rear ends to receive the wheel-axle. The axle-bearing on the outer arm A' is adjustable by means of a screw-threaded shank b and nut C.

D represents an arch-shaped brace connecting the two arms of the fork. The ends of the brace D are secured to the arms of the fork by means of rivets E and brazing, the ends of the brace being first shaped by bending or swaging the outer portion of the end of the brace inwardly, as shown at F in Fig. 3.

The two arms of the fork are bent inwardly in front of brace D, the bend of the outer arm A' being greater than the inner arm, so that the front ends of the arms come together and are secured to a head, as will be hereinafter described.

G represents a straight brace secured in the angle formed by the arch-shaped brace D and to the outer arm A' forward of the bent portion above described. This brace serves to stiffen the fork forward of the arch-shaped brace D and relieve said arch-shaped brace of some of the crushing effect of the pull.

H represents the head of the fork, having a bracket I pivotally secured thereto to be attached to the thill. The head H is secured to the ends of the arms A and A' by bending the surfaces of said arms inwardly, as shown at J, and providing a conical-shaped extension on the head to fit said bent portions of the arms, the conical extension and bent portions being brazed together and secured by one or more rivets or screws K.

By employing the means above described for joining tubing it is apparent that the full strength of the material forming the tube is retained and at the same time a smooth surface provided for brazing. It is also apparent that my improved method of joining tubes is applicable alike to circular, elliptical, and U-shaped tubes.

Having thus described my invention, what I claim is—

1. In joints for tubing having converging members, the meeting ends of the tubes bent or swaged to form a conical opening, a conical plug to fit said opening, and means to secure said parts together, substantially as shown and described.

2. A brace-fork for sulkies comprising two arms adapted to be secured at one end on opposite sides of the wheel, an arch-shaped brace secured to the two arms of the fork in front of said wheel, and a straight brace secured in the angle, formed by the inner arm and the arch-shaped brace and to the outer arm, said arms being converged at their free ends and secured to the sulky-thill, substantially as shown and described.

3. A brace-fork for sulkies comprising two arms adapted to be secured at one end on opposite sides of the wheel, an arch-shaped brace secured to the two arms of the fork in front of said wheel, the two arms bent inwardly in front of said arch-shaped brace, in converging lines, and a straight brace secured in the angle formed by the inner arm and the arch-shaped brace and to the outer arm, substantially as shown and described.

4. In a tubular wheel-fork, the head provided with a conical extension, the ends of the fork-arms bent or swaged to fit said conical extension, and said conical extension and tube ends riveted and brazed together, substantially as shown and described.

5. A brace-fork for sulkies comprising two arms adapted to be secured at one end on opposite sides of the wheel, an arch-shaped brace having its ends bent or swaged to conform to the inner surfaces of the two arms of the fork and secured in front of said wheel by riveting and brazing the ends of said arch-shaped brace to the arms of the fork, the two arms of the fork bent inwardly in front of said arch-shaped brace in converging lines, and a straight brace secured in the angle formed by the inner arm and the arch-shaped brace and to the outer arm, substantially as shown and described.

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

HARRY D. KEELER.

Witnesses:

C. H. CONLEY,

J. W. ULSH.