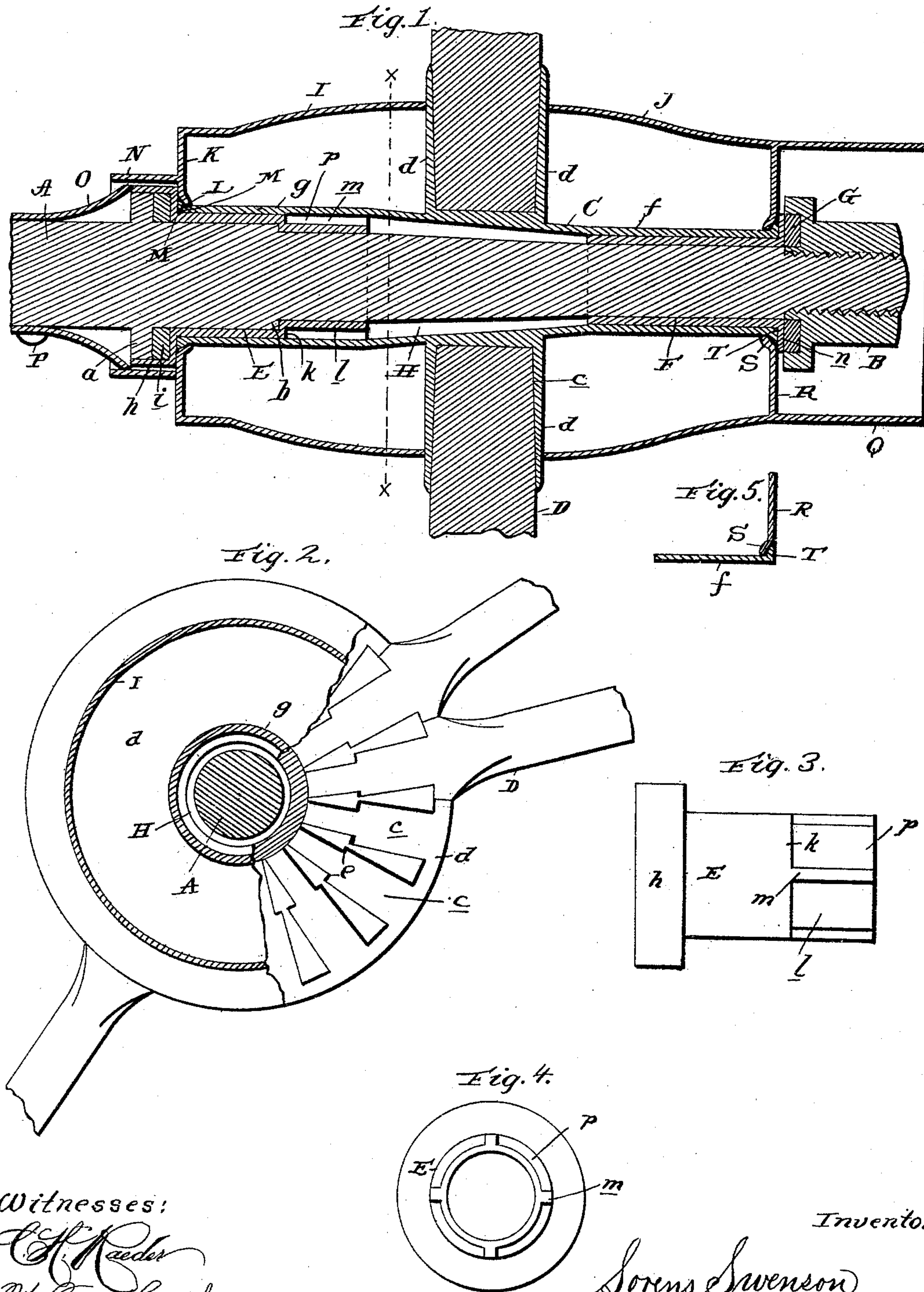


L. SWENSON.
VEHICLE WHEEL HUB.

No. 482,418.

Patented Sept. 13, 1892.



Witnesses:

C. F. Reeder
H. G. Matthews.

Inventor

Loren Swenson
By James Sheehy

Attorney

(No Model.)

2 Sheets—Sheet 2.

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Fig. 6.

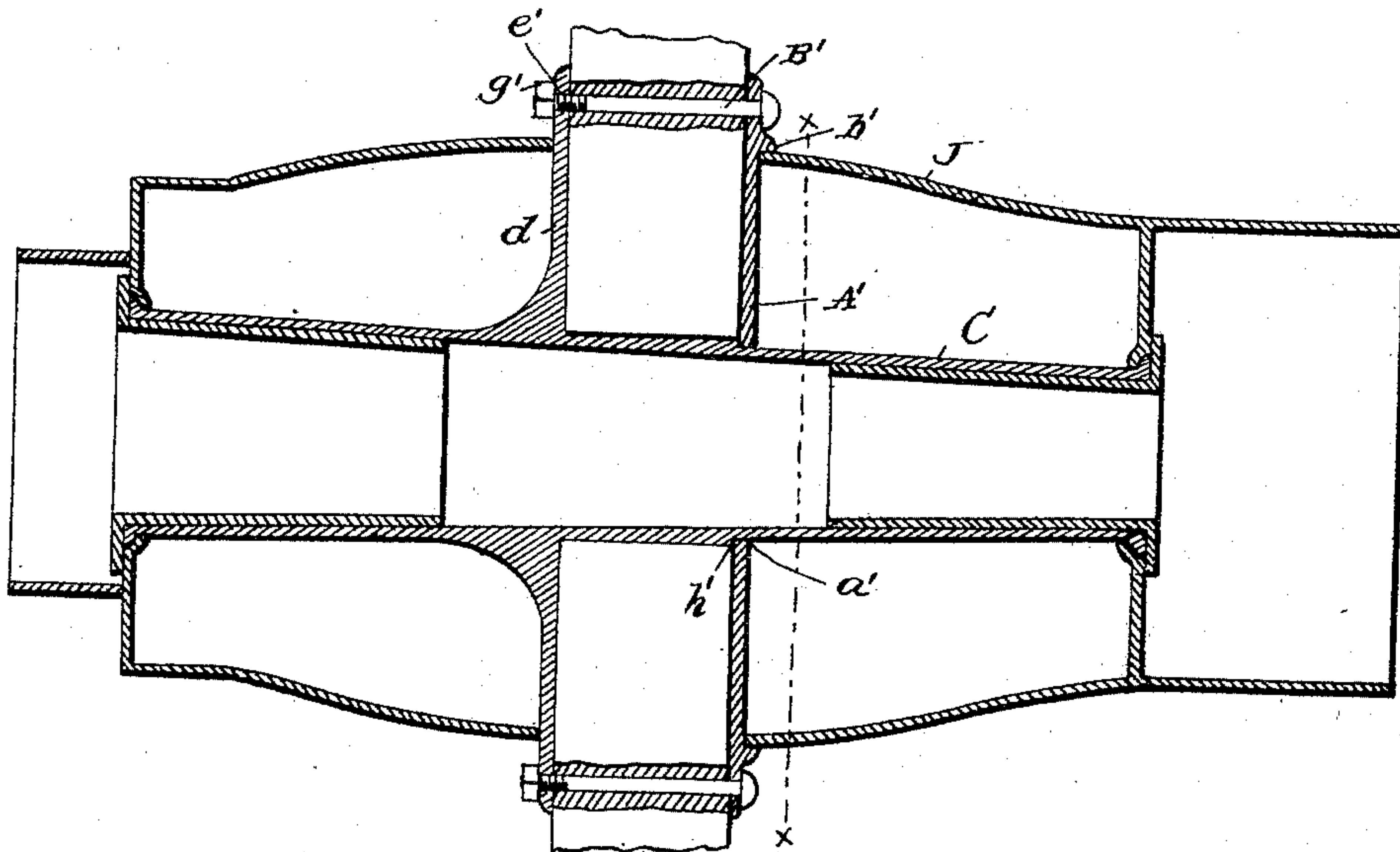
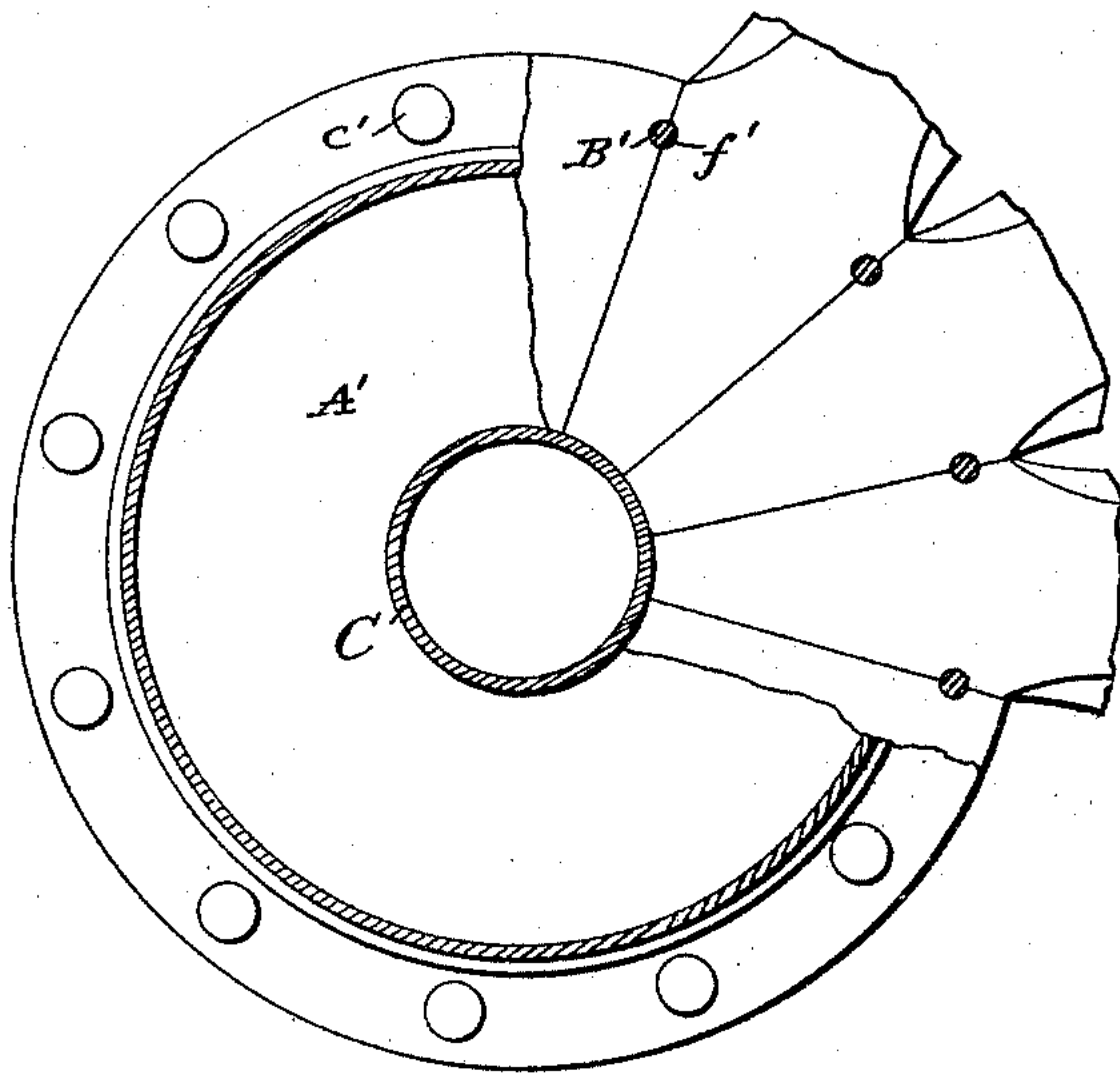


Fig. 7.



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UNITED STATES PATENT OFFICE.

LORENS SWENSON, OF CRESCO, IOWA, ASSIGNOR OF TWO-THIRDS TO WILL PATTERSON, OF SAME PLACE.

VEHICLE-WHEEL HUB.

SPECIFICATION forming part of Letters Patent No. 482,418, dated September 13, 1892.

Application filed March 16, 1892. Serial No. 425,145. (No model.)

To all whom it may concern:

Be it known that I, LORENS SWENSON, a citizen of the United States, residing at Cresco, in the county of Howard and State of Iowa, have invented certain new and useful Improvements in Vehicle-Wheel Hubs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to an improvement in vehicle-wheel hubs; and the novelty will be fully understood from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is a central longitudinal sectional view of an axle-spindle with my improvements applied. Fig. 2 is a cross-sectional view taken in the plane indicated by the dotted line *xx*, with parts broken away. Fig. 3 is a side view of the inner thimble removed. Fig. 4 is an end view of Fig. 3, and Fig. 5 is a sectional detail view of one of the joints between the hub sleeve or box and the shell or casing of the hub. Fig. 6 is a longitudinal sectional view of a modification. Fig. 7 is a cross-sectional view taken in the plane indicated by line *xx* of Fig. 6, with parts broken away.

Referring by letter to said drawings, A indicates a spindle, which is provided with the usual collar *a* and at a suitable point therefrom is provided with an annular shoulder *b*, and the spindle is reduced in diameter from said shoulder *b* to its outer end, where it is threaded to receive a nut B.

C indicates a sleeve or box, which is placed upon the spindle, as will be presently described. This sleeve is provided with spoke-sockets *c*, which are closed on opposite sides by parallel walls *d*, and the sockets are reduced at a suitable point by shoulders *e* to receive the correspondingly-shaped tenoned ends of the spokes D, which bear against the said sleeve. The socket-bearing portions, and also the sleeve C, are preferably made entire, although it is obvious that they may be made of parts and firmly fixed together, and it will be observed that the section *f* on the outer side of the sockets is of a less diameter than the section *g* on the inner side of the socket, so as to snugly bear upon the spindle with the

interposed thimbles, as will be presently described.

E indicates the thimble at the inner end of the hub. This thimble has its inner end enlarged and formed with a band *h* to receive a leather or other suitable washer *i* and overlap the flange or collar *a* of the spindle. This thimble, which extends into the hub box or sleeve, as shown, is shouldered at *k* to engage the shoulder *b* of the spindle, and from this shoulder-point said sleeve is reduced, as shown at *l*, and the reduced portion is provided on its external cylindrical surface with longitudinal flanges *m*.

F indicates the outer thimble. This thimble also extends into the hub box or sleeve for a sufficient length and has a flange *n* turned on its outer end, which bears against the outer end of the hub sleeve or box and comes in contact with a leather or other suitable washer G, interposed in a socket in the nut B.

It will be observed that a chamber or space H is formed between the external surface of the spindle and the interior wall of the sleeve or box C between the adjacent ends of the thimbles E and F, within which oil or other lubricant may be placed, and such lubricating material will pass into the channels *p*, formed on the inner thimble by the flanges *m*.

The hub casing or shell is composed of an inner section I and an outer section J. The inner section I is designed to abut against the adjacent side walls *d* of the spoke-sockets, and its opposite end, which is carried inwardly, as shown at K, is turned slightly inward at its marginal edge, as shown at L, to receive the displaced metal turned up on the inner end of the sleeve or box C, as shown at M, so that said shell or section may be firmly secured to the sleeve by rivets or the like and held against the adjacent side wall of the spoke-sockets. This inner shell or section is also provided with an inwardly-directed sand-band N, which overlaps the band on the inner end of the inner thimble and the inner edge of a mud-guard O, which is preferably formed from sheet metal or other suitable material and secured to the axle-spindle by means of a screw P or other suitable fastening device. This mud band or guard has its inner end flaring, so that it may cast off any mud which would other-

wise have a tendency to enter the box, and its flaring end passes into the band N of the hub shell or casing.

The outer section J of the shell or casing terminates in the usual band Q and is provided at a suitable point with an internal annular flange R, having its edge also bent inwardly, as shown at S, to receive a flange T or displaced metal at the outer end of the hub box or sleeve, so as to hold said outer shell or casing in position and against the outer wall of the spoke-sockets. The ends of the hub-box are to be riveted to the shells or hub-sections in a manner similar to the flues in a boiler.

A hub of this construction may be cheaply manufactured. It is very light and durable and not liable to get out of order.

Referring more particularly to Figs. 6 and 7 of the drawings, it will be seen that I provide a separate plate A', which composes the walls of the spoke-sockets on one side. This plate has an eye a', which is designed to be passed over the sleeve C and is preferably provided with an annular shoulder, which takes over the inner edge of the hub shell or section J. This plate is also provided at suitable points adjacent to its margin with holes c', and the margin of the opposite plate or walls d is provided with aligned apertures or holes e' to receive a bolt B'. The spokes in this latter construction, instead of being shouldered, as shown in Fig. 2 of the drawings, are simply tapered and are provided on their abutting edges on their inner ends with transverse grooves f', which when brought

together will form an eye or hole, so that each will receive one-half of the connecting-bolts B', a nut g' being employed on each bolt for clamping the spokes between the walls of the sockets.

By this construction it is designed, instead of driving the spokes in their seats, to clamp and hold them by means of the connecting or securing bolts, and the sleeve C is provided with a recess or shoulder h' to receive the edge of the eye a' in the center of the plate A'.

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

1. The combination, with the spindle, of the thimble at the inner end, the thimble at the outer end, the sleeve or box carrying the spoke-sockets, the shell-sections on opposite sides of the sockets and secured to the opposite end of the sleeve or box, and a nut for retaining the hub on the spindle, substantially as specified.

2. The combination, with a hub, of the spindle, shouldered as described, the sleeve on the inner end of the spindle, also shouldered and provided with the channels on its outer side near its inner end, the sleeve on the outer end of the spindle, having a flange at its outer end, and a nut on said spindle, substantially as and for the purpose specified.

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

LORENS SWENSON.

Witnesses:

FRED SWENSON,
JOHN L. BOWMAN.