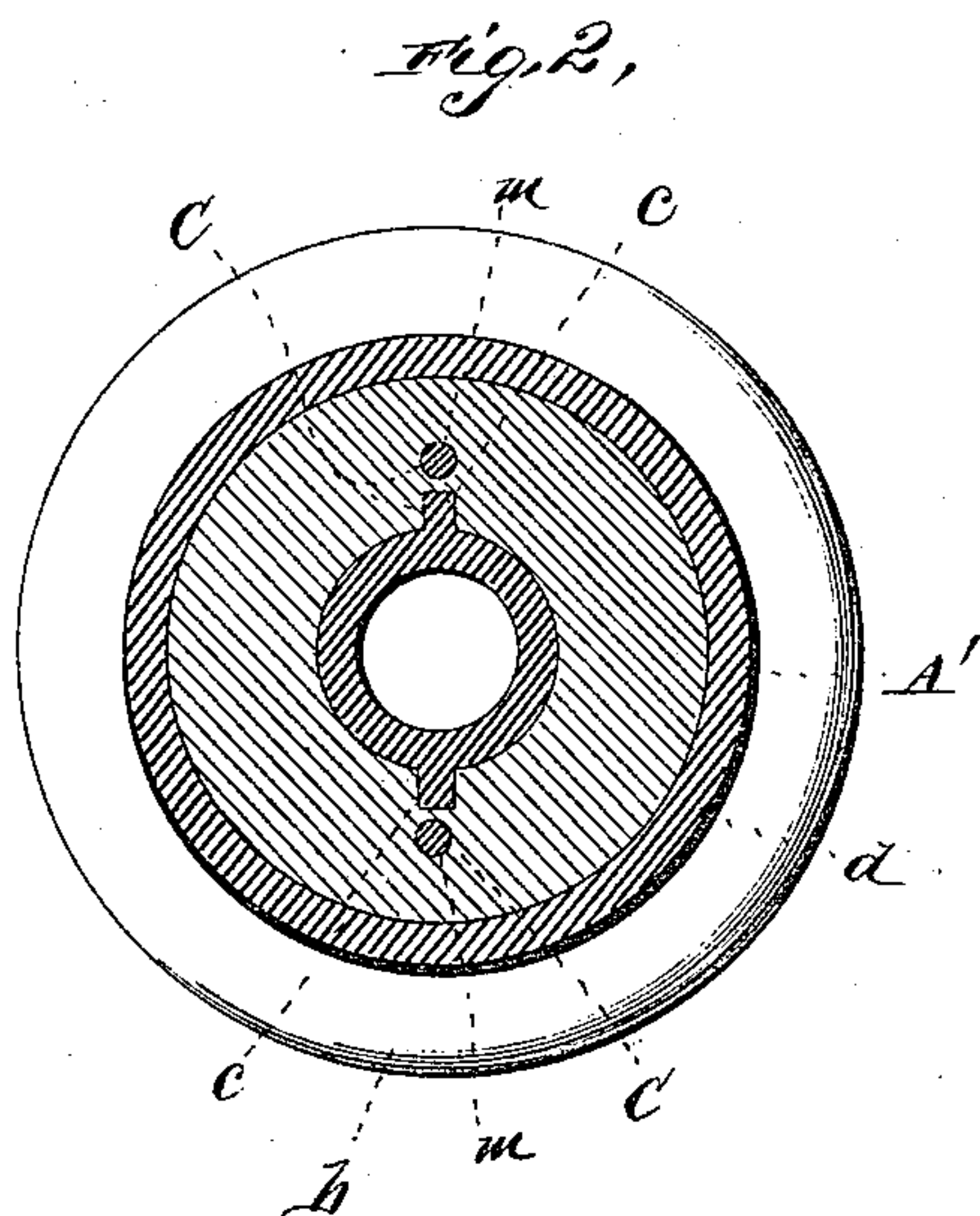
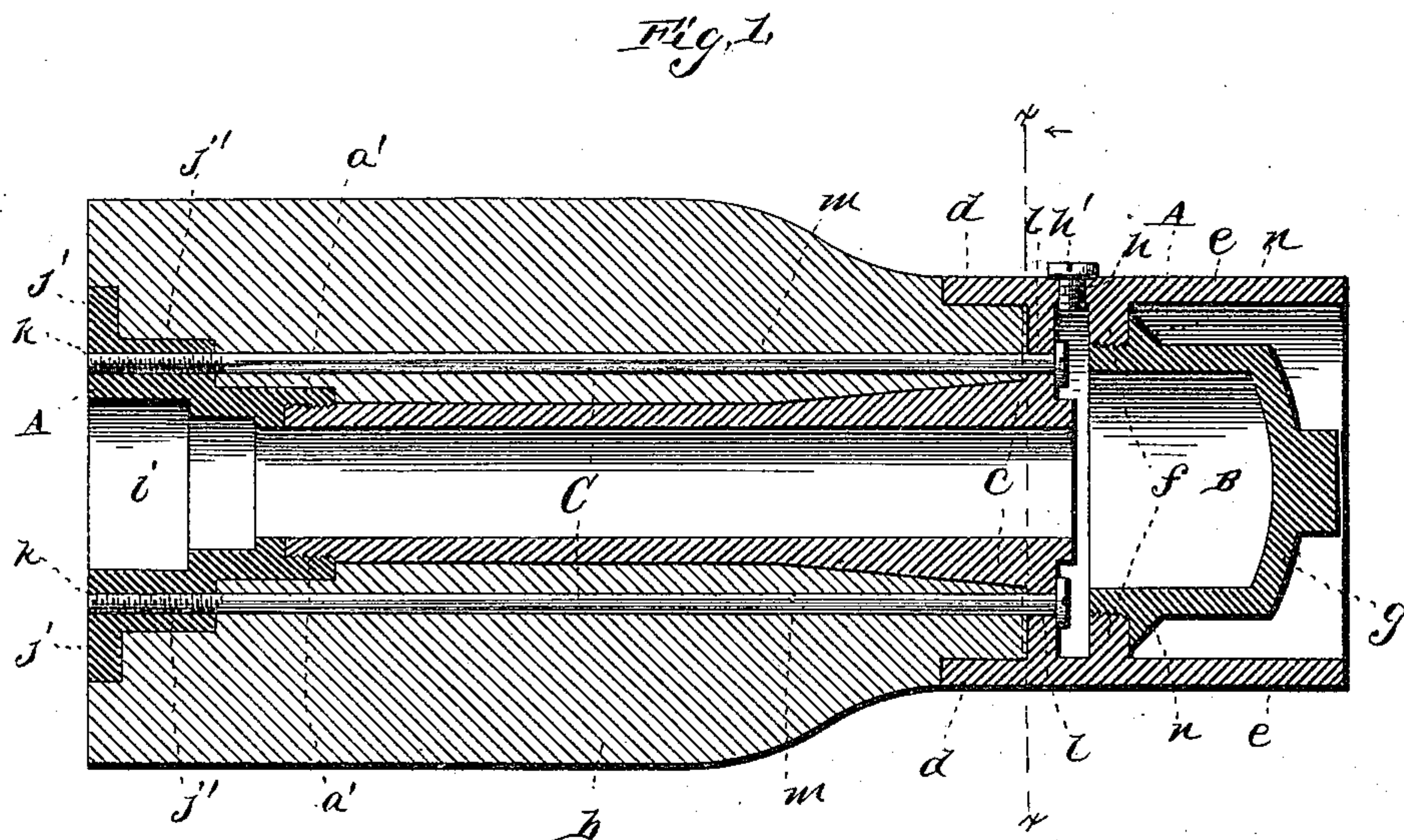


(No Model.)

H. M. GOODMAN.  
AXLE BOX.

No. 442,520.

Patented Dec. 9, 1890.



WITNESSES

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# UNITED STATES PATENT OFFICE.

HENRY M. GOODMAN, OF LOUISVILLE, KENTUCKY.

## AXLE-BOX.

SPECIFICATION forming part of Letters Patent No. 442,520, dated December 9, 1890.

Application filed May 3, 1890. Serial No. 350,452. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY M. GOODMAN, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Vehicle Boxes; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical longitudinal section, and Fig. 2 is a cross-section.

This invention relates to certain improvements in boxing for vehicle-wheel hubs; and it consists in the construction and combination of parts, as will appear hereinafter.

In the drawings, the letters A A' refer to two box-sections, one having a screw-threaded connection with the other, as at *a' a'*, the boxing thus formed fitting in the bore of the hub *b*. The sections A A' are of unequal length, the longer one A' being inserted into the hub from the outer end and having upon its tubular portion, just near its outer end, opposite webs or cleats *c*, engaging recesses in the hub to prevent the turning of the latter thereon. At this end of the section A' is also an annular cap *d*, which fits upon the outer end of the hub and obviates the use of the ordinary band or ring for that purpose. The said end of the section A' is also formed with a tubular extension *e*, which is provided upon its inner surface, a short distance from the vertical wall of the cap *d*, with a screw-threaded circular flange *f*, which is engaged by the inner screw-threaded end of a cap *g*, inclosed by the extension *e*. This construction and arrangement of parts forms a lubricant or oil reservoir or chamber B, having a supplemental filling-opening *h*, closed by a screw-threaded plug *h'*, obviating the removal of the cap *g* for that purpose. The shorter box-section A is inserted into the hub from the inner end, and is slightly enlarged at one end, as at *i*, to enable it to receive the top shoulder on the axle, and has a flange *j* fitting against the inner end of the hub. The

box-section A, adjacent to the flange *j*, is thickened or stepped, as at *j'*, to provide for passages *k* therethrough, the purpose of which will appear farther on.

The sections A A' are additionally connected together by rod-bolts C C, passed through apertures *l* in the end or vertical wall of the cap *d* of the section A, and apertures or passages *m* in the hub *b*, and screwed into the passages *k* of the section A. The nut screwed upon the outer end of the axle-arm bears against the stop-shoulder *n*, formed upon the extreme outer end of the box-section A'. This boxing prevents any possibility of the breaking of the wooden portion of the hub, the metal portion or boxing being necessary to give way or collapse first.

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

1. The hub-boxing comprising the screw-thread-connected sections, one having an annular cap fitting the outer end of the wooden portion of the hub, substantially as set forth.

2. The hub-boxing having one end provided with a lubricant or oil reservoir having a filling-opening, said reservoir or chamber comprising an inner cap, having screw-thread connection with a screw-threaded flange, substantially as specified.

3. The hub-boxing consisting of the shorter and longer screw-thread-connected sections, one section having a flange fitting against the inner end of the hub and the other section having an annular cap fitting upon the outer end of hub, and a tubular extension containing a lubricant chamber or reservoir having a supplemental screw-plug, closed filling-opening, and a screw-thread-connected cap arranged within said extension, and the additionally securing rods passing through openings in the end wall of said annular cap and passages in the hub and engaging apertures in the inner or shorter hub-section, substantially as specified.

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

HENRY M. GOODMAN.

Witnesses:

GEO. C. STAUBER,  
CHAS. A. WILSON.