

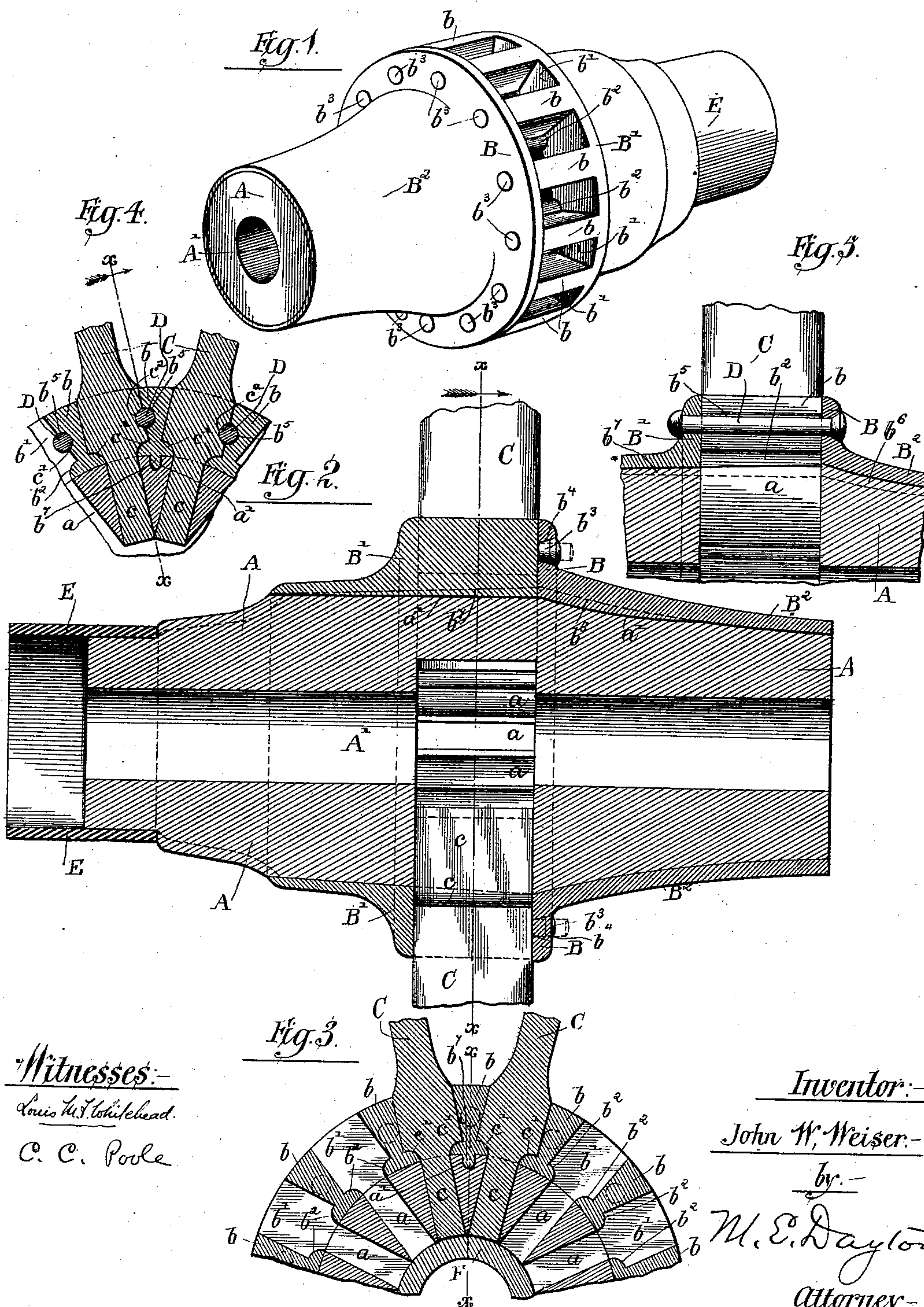
(No Model.)

J. W. WEISER.

WHEEL HUB.

No. 349,190.

Patented Sept. 14, 1886.



Witnesses:-

Louis H. Whitehead.

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by:-

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# UNITED STATES PATENT OFFICE.

JOHN WM. WEISER, OF CHICAGO, ILLINOIS.

## WHEEL-HUB.

SPECIFICATION forming part of Letters Patent No. 349,190, dated September 14, 1886.

Application filed December 18, 1885. Serial No. 186,030. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WM. WEISER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wheel-Hubs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of wheel-hubs for vehicles comprising, generally, a central wooden part or hub and an exterior metal band or shell encircling the hub and provided with sockets continuous with the spoke-mortises of the hub, to engage and additionally sustain the parts of the spokes adjacent to the hub.

The invention consists in the matters hereinafter described, and pointed out in the appended claim.

In the accompanying drawings, illustrating my invention, Figure 1 is a perspective view of a hub constructed in accordance with my invention. Fig. 2 is a central axial section of the same, taken upon the line indicated by  $x$  of Fig. 3. Fig. 3 is a fragmentary transverse section through the hub and metal band shown in Fig. 2, taken upon line  $xx$  of said figure. Fig. 4 is a detail sectional view similar to Fig. 3, illustrating another means for securing together the collars or flanges forming the metallic band surrounding the wooden hub. Fig. 5 is a detail sectional view taken upon line  $x$  of Fig. 4.

A is the central or main wooden part of the hub, provided with the usual mortises,  $a$ , for the spoke-tenons.

B B' are two flanged collars encircling the hub, and together forming a metal band or annulus for sustaining the inner ends of the spokes. The said collars B and B' are arranged with their adjacent faces flush with the side walls of the spoke-mortises, one of said collars, B', being provided with wedge-shaped projections  $b$ , cast integral with the said collar B', and secured to the collar B, so as to form a series of spoke-sockets,  $b'$ , continuous with the mortises  $a$ .

C are the spokes, made with the usual tenons,  $c$ .

In the particular construction illustrated

the collar B is provided with an extension or shell, B<sup>2</sup>, which is prolonged to cover the entire inner end of the wooden part of the hub.

The parts or projections  $b$  upon the collar B' are formed in such manner as to make the sockets or recesses  $b'$  of sufficient width in their outer parts to receive the unreduced inner end of the spoke, said projections  $b$  being provided at their inner ends adjacent to the wooden hub with ribs or flanges  $b^2$ , constructed to reduce the width of the inner parts of the sockets to the same size as the spoke-mortises  $a$ , the shoulders  $c'$  upon the spokes C being properly located to engage said flanges  $b^2$ , as clearly shown in Fig. 3.

One means of fastening the free ends of the projections  $b$  to the collar B is shown in Figs. 1, 2, and 3, in which the said projections are provided upon their ends with integral studs  $b^3$ , which are inserted through holes  $b^4$ , formed in the flange B, and upset or headed upon their outer ends, to prevent their withdrawal from the said holes, the metal parts or the collar B' being in this case made of malleable metal, in order to enable the said studs to be headed, as described. As a preferred construction, and as herein illustrated, the holes  $b^4$  are made of conical shape, and the studs  $b^3$  are upset to fill the said holes, so as to make the ends of the headed studs approximately flush with the outer surface of the flange B', as clearly shown in the drawings.

Another construction in means for holding the collars B and B' together is shown in Figs. 4 and 5, in which separate rivets D are inserted through the collars B and B' and suitably headed upon their ends exterior to the said collars, said rivets being constructed to pass through circular bolt-apertures  $b^5$  and  $c^2$ , formed half in the projection  $b$  and half in the spokes C. This construction has the advantage of holding the spokes from coming out without materially weakening the latter, while at the same time affording a rigid support for the outer or free ends of the projections  $b$ .

To enable the several parts to be readily assembled or brought together, with the recesses  $b'$  opposite the spoke-tenons  $a$  and with the collars B and B' in proper relative position, inwardly-projecting ribs or fins  $b^6$   $b^7$  are preferably cast upon the collars B and B', respectively, said ribs or fins being adapted to fit and



enter a longitudinal groove,  $a'$ , Figs. 2 and 3, formed in the exterior surface of the wooden hub A. The exterior surface of the wooden hub A and the inner surface of the collars B and B' are preferably made conical or tapering, and with their greatest diameter at the joint between the collar B and the projections  $b$ , this construction being used for convenience in casting, and to enable the collars to be driven tightly and immovably upon the hub.

An obvious advantage of the construction described in the spoke-sockets  $b'$ , whereby said sockets are provided with ribs or flanges  $b^2$  adjacent to the wooden part of the hub, is that the portions of the spokes containing the shoulders  $c$  are contained within the said sockets and supported by the walls of the latter, whereby liability of breakage at the point where the said shoulders are formed is obviated, this, as is well known, being the point where the spoke is most liable to break. The flanges  $b^2$ , furthermore, afford a wide bearing-surface on the parts of the projections  $b$ , which rest in contact with the hub. Said flanges also aid in rigidly holding the spokes in place, inasmuch as when pressure is applied to the outer ends of one of spokes, tending to throw it laterally, the contact of the end portions of the shoulders  $c'$  with the said flanges will operate, in addition to the clamping action of the collars B and B', to resist any displacement of the spoke.

In the particular construction illustrated the shoulders  $c'$ , instead of being made square, are made rounded or concave in form to lessen liability of breakage at the point at which the tenon joins the body of the spoke. The construction in which the collars B and B' are united by studs  $b^3$ , cast integral with the projections  $b$ , is for several reasons preferred, and is made the subject of claim herein.

It is entirely obvious that in carrying out

my invention the collars B B' may be extended to cover the exterior of the wooden hub to a greater or less extent, as desired, the collar B, as before stated, being herein shown as extended to the inner end of the hub. The collar B', as illustrated, is made of sufficient width only to provide a sufficient bearing therefor; but said collar may be also extended to form a shell or case covering the entire wooden surface of the hub outside of the spokes. This construction is illustrated by dotted lines in Fig. 2, which show the said collar B' extended to meet a band, E, such as is usually placed at the outer end of the hub.

As shown in Fig. 2, the wooden part of the hub is provided with a central passage or opening,  $A'$ , adapted to be afterward reamed out to fit a box of the size which it is desired to use. The said opening will be usually enlarged sufficiently to allow the inner ends of the spoke-tenons to bear upon the outer surface of the box, as is shown in Fig. 3, in which F indicates the box in place within the hub.

I claim as my invention—

The combination, with the wooden hub A, provided with mortises  $a$  for the spoke-tenons, of metal collars B B', forming an annular metal band encircling the hub, one of said collars being provided with projections  $b$ , having ribs or flanges  $b^2$  adjacent to the wooden hub A, whereby are formed a series of spoke-sockets,  $b'$ , adapted to receive the inner ends of the spokes, and adapted to fit the spoke-tenons at their inner portions, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOHN WM. WEISER.

Witnesses:

C. CLARENCE POOLE,  
C. H. MANNING.