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SIMEON ATHA.

Carriage Wheel Hub.

No. 119,295.

Fig. 1.

Patented Sep. 26, 1871.

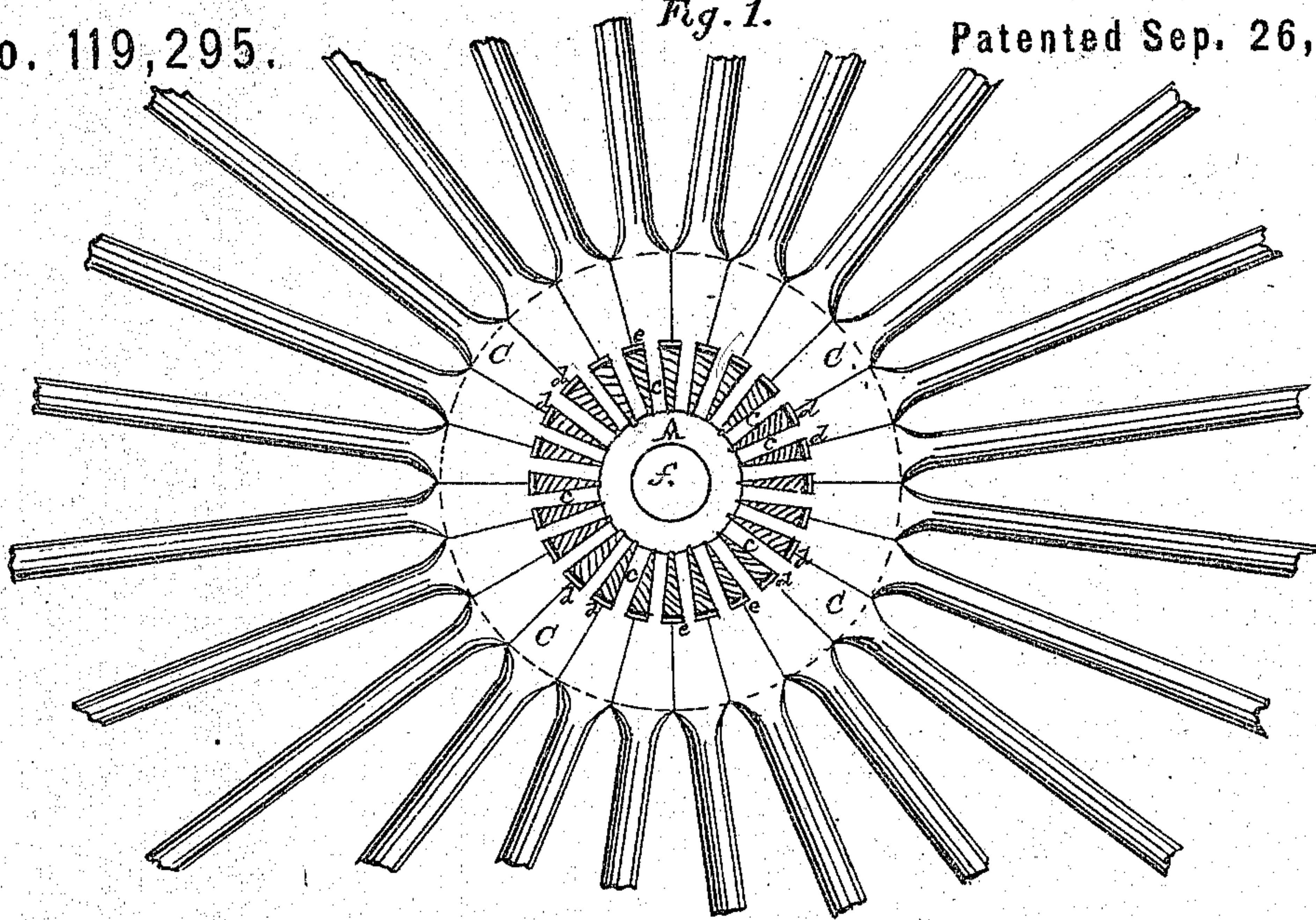


Fig. 2.

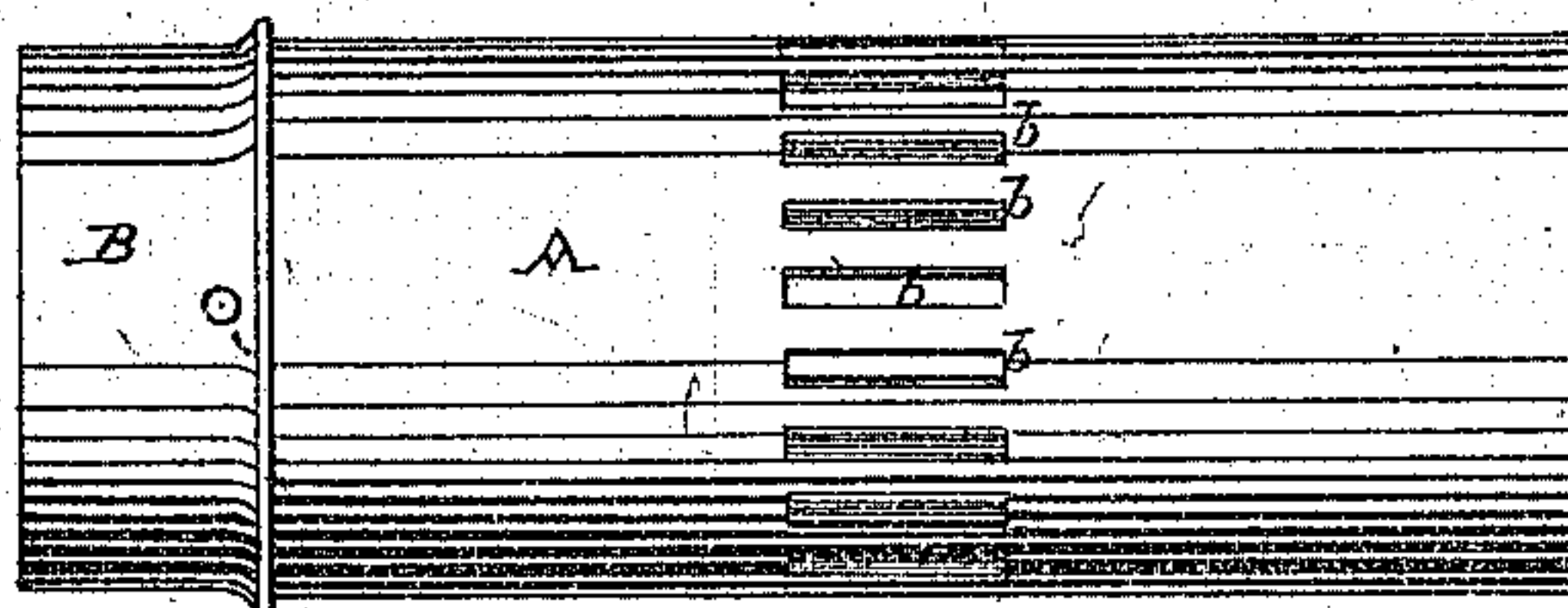
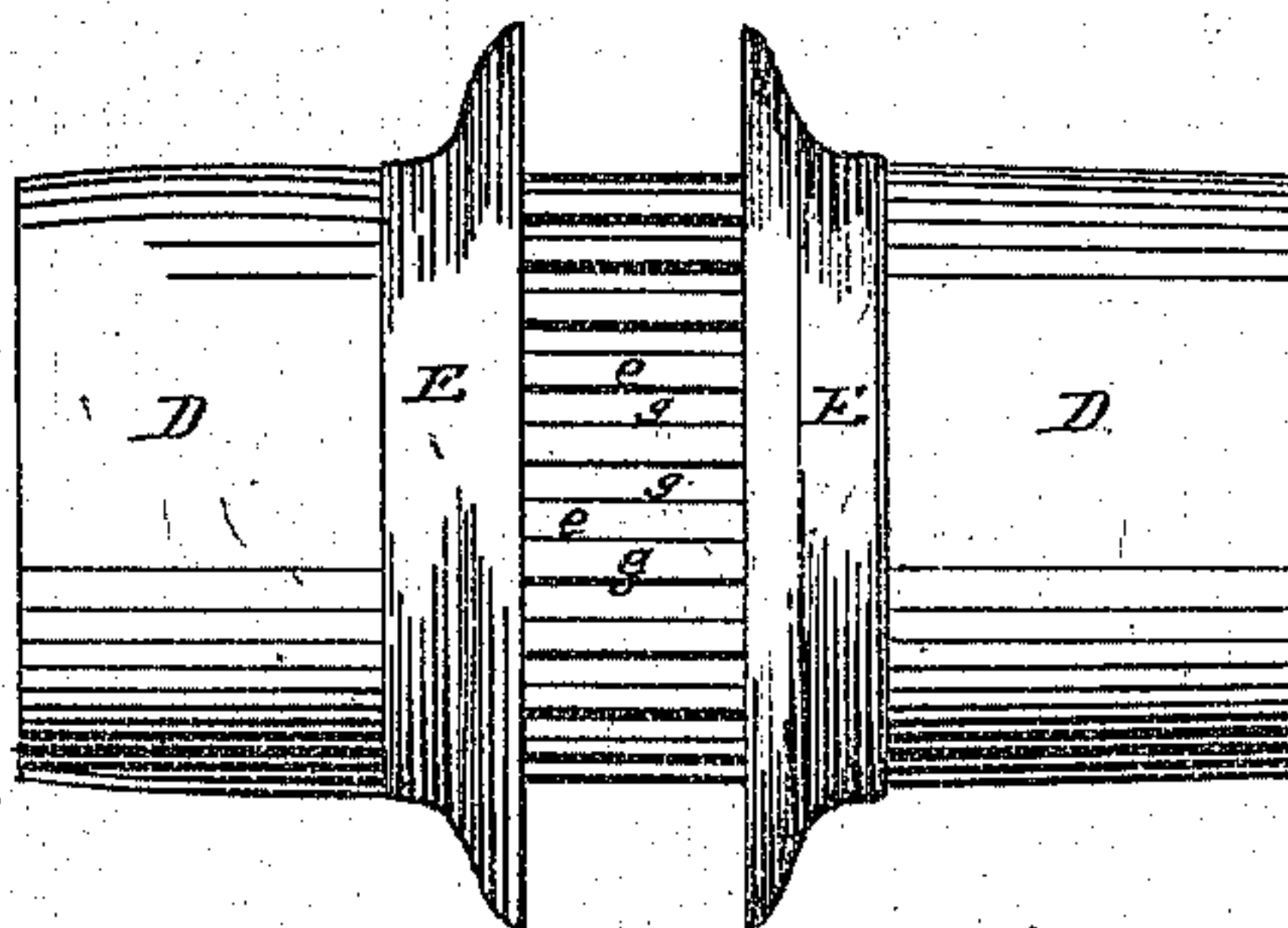


Fig. 3.



Witnesses.

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SIMEON ATHA, OF WEST LIBERTY, OHIO.

IMPROVEMENT IN HUBS FOR WAGON-WHEELS.

Specification forming part of Letters Patent No. 119,295, dated September 26, 1871.

To all whom it may concern:

Be it known that I, SIMEON ATHA, of West Liberty, in the county of Logan and State of Ohio, have invented a new and useful Improvement in Hubs for Wagon-Wheels; and I do hereby declare the following to be a full and correct description of the same, sufficient to enable others skilled in the art to which my invention appertains to fully understand and construct the same, reference being had to the accompanying drawing which makes part of this specification, and in which—

Figure 1 is a side elevation of a central vertical section of my improved hub. Fig. 2 is a side elevation of the wooden part of the same, and Fig. 3 is a similar elevation of the metal cover inclosing the entire surface of the wooden hubs.

Like letters of reference indicate like parts in the several figures.

The nature of my invention consists in constructing a wagon-wheel hub of a wooden core covered by a metal covering, which latter is constructed in one piece, provided with flanges to prevent the lateral movement of the spokes, which pass between those flanges, through openings in a connecting-plate, into corresponding openings in the wooden hub, so that while the lower ends of the spokes rest on the connecting-plate their beveled edges are contiguous and form one solid wooden ring, which is held between the side flanges of the cover.

In the drawing, A may represent the wooden part of my improved hub, consisting of a perfectly straight wooden cylinder, provided at a suitable distance from its ends with openings *b* extending from the periphery to the center opening *f* for the axle, into which openings *b* fit the lower square ends *c* of the spokes C. Above these ends *c* the spokes are beveled and wider, forming shoulders, as shown at *d*. D represents the two ends of a metal cover fitting closely over the wooden hub A, and connected to each other by a plate, *e*, which is provided with openings *g* to correspond with openings *b* of the wooden-hub flanges E rising from the parts D, where they connect with the plate *e* and extend upwardly to near the place where the spokes separate. This metal cover, as shown in Fig. 3, I cast or otherwise form in one piece. The several parts being prepared as described, the hub A, which may be provided with a cap, B, is passed

into the metal cover until the openings *b g* are in line and the spokes driven in between the flanges E. It will be readily understood that when the hub is in proper place within the cover all the wood is covered by the metal cover, and that when the spokes are driven in the space between the flanges E is also completely filled, so that no dust or dirt can accumulate in the hub. The ends *c* of the spokes pass through openings *g* of the connecting-plate *e* into the corresponding openings *b* of the hub, their shoulders *d* resting on the plate *e*, their beveled edges contiguous to each other, as shown at *a*, forming a solid wooden ring held firmly between the flanges E. It is an established fact that a hub in which the spokes are contiguous to each other is much stronger and consequently more durable than a hub into which the spokes are driven without supporting each other, and at the same time it is desirable to have the ends of the spokes extend through the hub. My improvement accomplishes these desiderata, and by the use of the metal cover, completely inclosing the wooden hub, I am not only enabled to make a much smaller and neater hub of the same required strength, but the splitting of the wooden part of the hub is entirely obviated; and by use of flat connecting-plates there is a great advantage obtained over any other manner of constructing hubs for wheels, as it will be seen that when driving in the spokes their shoulders will carry down those connecting-plates close against the wooden hub, and they will also give down and press more firmly to the wooden hub when the tire is shrunk on the wheel. By this it will be seen that the connecting-plates and the wooden hub are held firmly together, and, by the use of rivets or bolts passing through the flanges and between the spokes, that neither the spokes nor plates can start or move from the hub; and by the metal cover over the entire surface of the wooden hub a neat and substantial hub is produced. The point cap may be formed on and with the cover, if desired, but I prefer to make it separate and apply it in the usual manner, as shown.

There are various forms of metal constructions used with wooden hubs, but there are none where the wooden portion of a wheel-hub is effectually and entirely covered and protected by a metal cover formed in one piece and provided with side flanges which allow the beveled edges of the

spokes to be contiguous, as herein described; nor are there any with connecting-plates that will give down and press to the wooden hub by the shoulders of the spokes, as herein shown and described.

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

The hub for carriage or wagon-wheels constructed of the wooden portion A *b*, metal cover

D with flanges E, and thin connecting-plates *e*, all formed in one piece, the plates *e* held so as to firmly press against the wooden hub by reason of their elasticity, and through the shoulders of the spokes, as herein described.

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Witnesses:

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