(No Model.)

G. H. EVERSON.

METALLIC WHEEL.

No. 409,944. Patented Aug. 27, 1889.

Fig. 1.

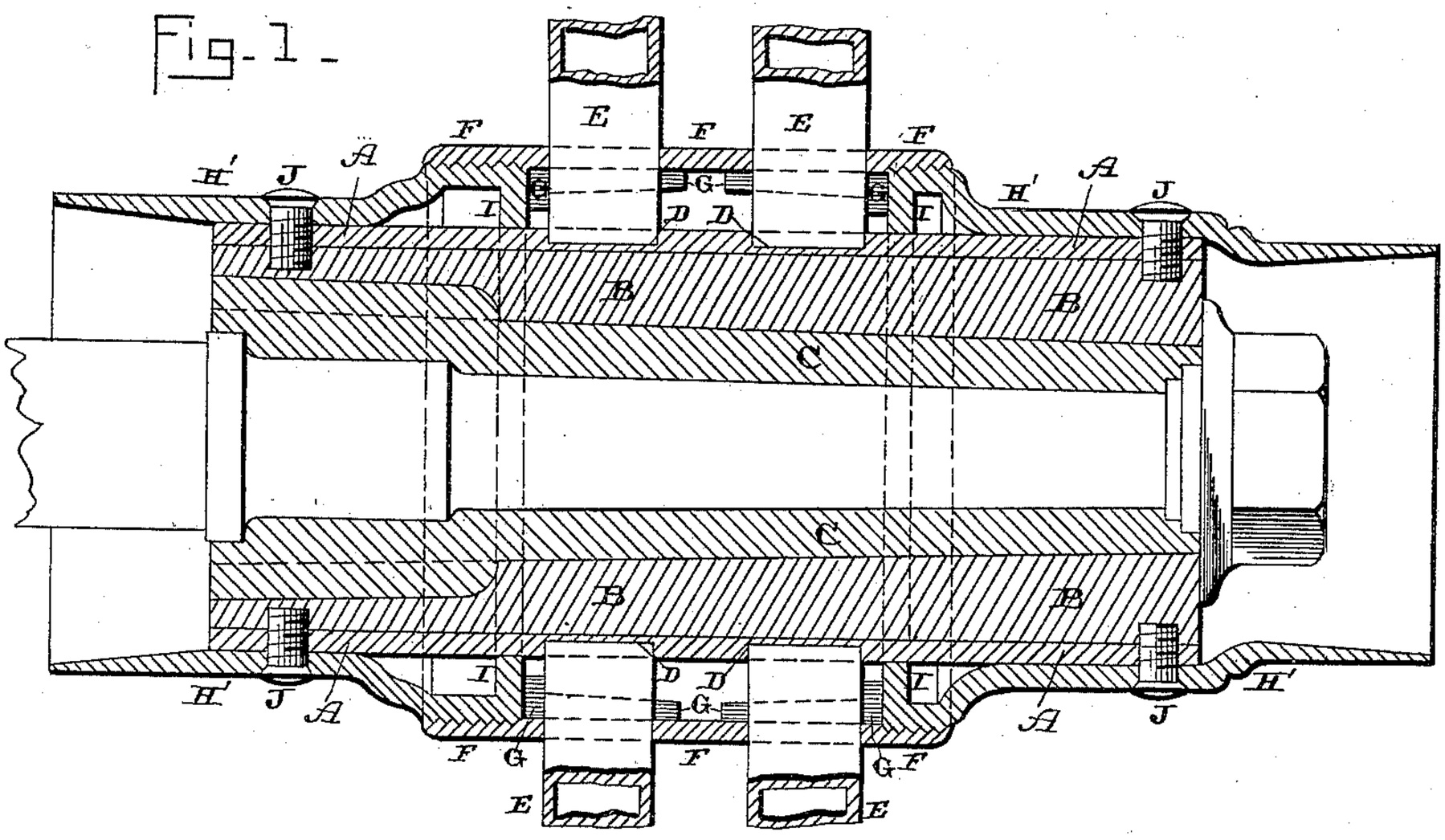

Fig. 2.

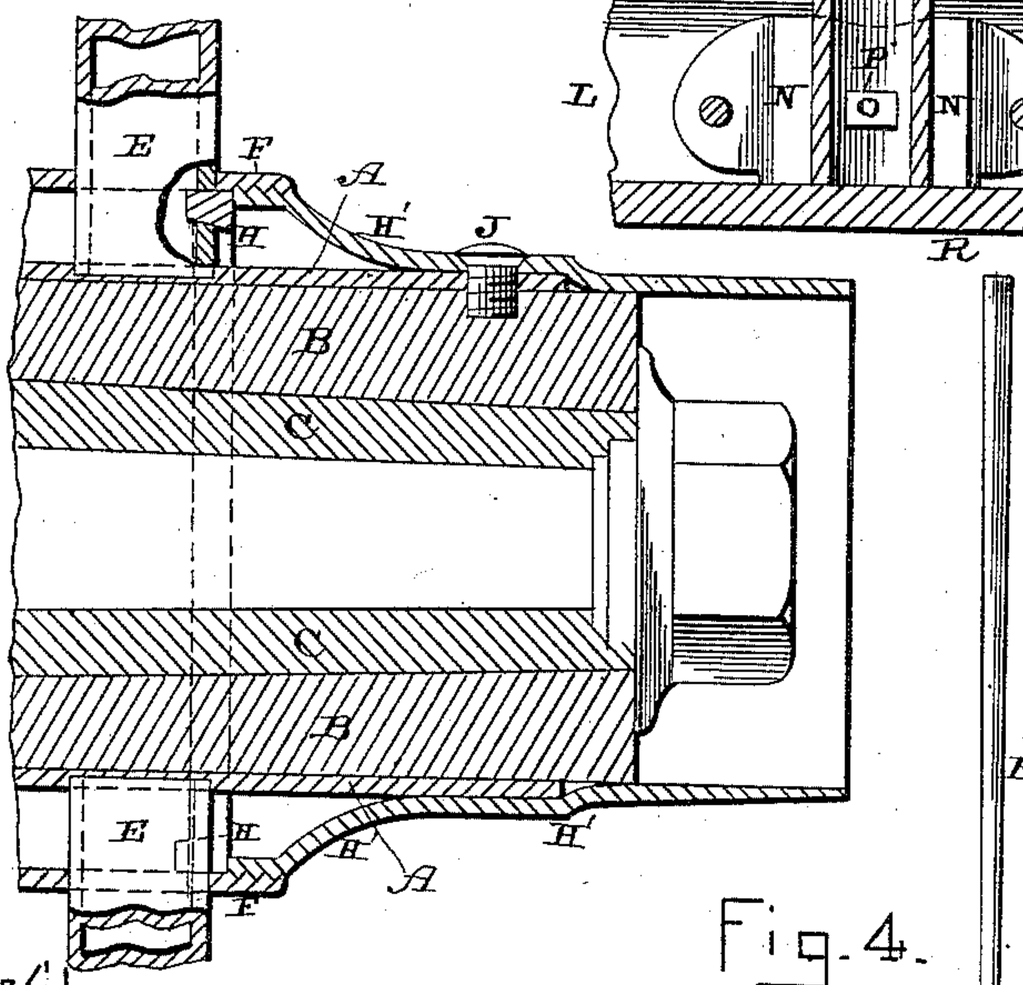

Fig. 5.

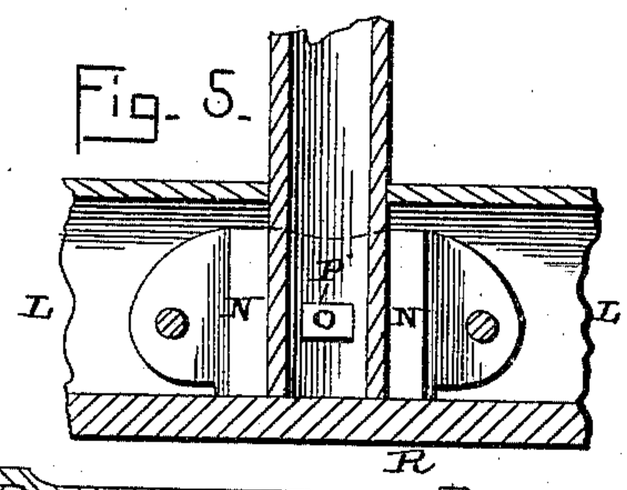

Fig. 3.

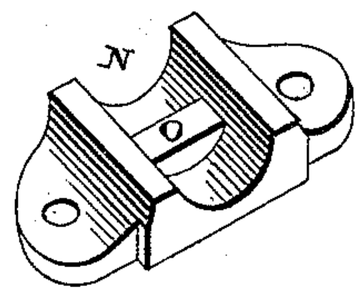

Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE H. EVERSON, OF PITTSBURG, PENNSYLVANIA.

METALLIC WHEEL.

SPECIFICATION forming part of Letters Patent No. 409,944, dated August 27, 1889.

Application filed April 2, 1889. Serial No. 305,749. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. EVERSON, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Wheels; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in metallic wells; and it consists in, first, the combination of the box, a wood filling which surrounds the box, a sleeve which incloses both the filling and the box, a central ring or band through which the ends of the spokes are passed, the hub-sections, and fastenings for engaging with the ends of the spokes and securing them in position; second, the combination of the U-shaped felly, the metallic fastening placed inside thereof, and the spokes having their outer ends provided with slots or grooves in their sides and rivets, as will be more fully described hereinafter.

The objects of my invention are to produce a metallic wheel in which the inner ends of the spokes are fastened in position by tightening the hub-sections in place, to form in the sleeve sockets to receive the inner ends of the spokes, and to secure the outer ends of the spokes to the felly by detachable fastenings:

Figure 1 is a vertical section showing one form of my invention. Fig. 2 is a vertical section taken through a portion of the hub, showing another form of fastening for the inner ends of the spokes. Fig. 3 is a perspective of one of the fastenings by means of which the outer end of the spoke is fastened to the felly. Fig. 4 is a detached view of a hollow spoke. Fig. 5 is a detached view showing the fastening of the end of the spoke to the felly.

A represents a suitable sleeve, inside of which the wooden filling B is forced by hydraulic or other pressure, and which filling is then bored out so as to receive the box C, of any shape or form that may be preferred. This filling B gives to the hubs the necessary amount of elasticity required.

In the sleeve A are bored a number of shallow sockets or recesses D, in which the inner ends of the spokes are placed. The shapes of these sockets will be varied to correspond to the shapes of the ends of the spokes used. The inner ends of the spokes E are passed through the outer central ring F, which is provided with suitable openings which correspond to the shape of the inner ends of the spokes, and which openings are placed staggering, in the usual manner. Through the inner ends of the spokes, just inside of this central ring or band F, are formed openings which extend clear through the spokes or recesses in their outer sides, and in these openings or recesses are made to catch the keys G or band H, just as may be preferred. I do not limit myself to either form of fastening, for either one may be used, as may be desired.

Passed over each end of the sleeve A are the end sections H′ of the hub, which are screw-threaded at their inner ends, so as to screw into the ends of the central band F, as shown, and each section H′ is provided with a vertical flange I, and its inner end bears against the outer side of the sleeve A, and thus supports the end of the central ring or band F. As these sections H′ are screwed into the central ring or band F their ends strike against the keys or rings, and thus force them into position in the ends of the spokes and lock them there in such a manner that it is utterly impossible for the ends of the spokes to work loose or become displaced.

Through the sections and the sleeve A into the wooden lining B are passed suitable screws J, which prevent any possibility of the sections H′ from working loose, and also keep the filling from turning in the hub. Where the ring is used to fasten the ends of the spokes in place the ring is made sufficiently strong to support the inner ends of the ring or band F, as shown in Fig. 2. The band is then supported in position at its ends by the ends of the sections H′ and the fastening devices of whatever form used to secure the ends of the spokes in position.

The spokes E are made of hollow steel, and are shaped at their ends so as to correspond to the shape of the ordinary buggy-spokes, and are made thinnest and oval a short distance beyond the hub, from which point they taper gradually into a circular form where

they enter the U-shaped felly L. These spokes and the other parts of the wheel will be coated with metal, Japan varnish, or paint, just as may be desired, thus giving the wheels any finish desired. The fellies L are made of thin steel, which is bent into a U shape, and placed inside of these fellies are separate and detachable devices N, preferably of the shape shown, and which are provided on their inner sides with flanges O to catch in corresponding recesses or grooves P, formed in the sides of the outer end of each spoke. These fastening devices are made entirely separate, and after the end of the spoke has been forced through the opening in the fellies they are applied to opposite sides thereof, and then rivets are passed through each end of the fastening devices and the fellies, as shown, for the purpose of holding the parts rigidly in position. The tire R is shrunk upon the felly and then bolted in position in the usual manner.

Having thus described my invention, I claim—

1. The combination of the sleeve, the wooden filling placed therein, and the box, the wooden filling being bored out to receive the box, the central ring or band F, the hub-sections, and the fastening devices which engage with the inner ends of the spokes and hold them in position, substantially as shown.

2. In a hub, the sleeve A, provided with a series of sockets or recesses in its outer side to receive the ends of the spokes, in combination with the central band or ring, the spokes, the fastenings to engage with the ends of the spokes, and the hub-sections, substantially as described.

3. A metallic spoke formed of thin metal, and which is made angular at its inner end, oval in cross-section a short distance beyond the hub, and then round at its outer end, so as to correspond to the shape of a buggy-spoke, substantially as set forth.

4. The combination of the metallic felly, the detachable separate fastenings placed therein and provided with ribs or flanges on their inner sides, so as to catch in grooves or recesses formed in the sides of the end of the spokes, and the rivets or fastenings which are passed through the fellies, substantially as specified.

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

GEORGE H. EVERSON.

Witnesses:

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