N. BRYAN.

Hub for Carriages.

No. 108,441. Patented Oct. 18, 1870.

Fig. 1

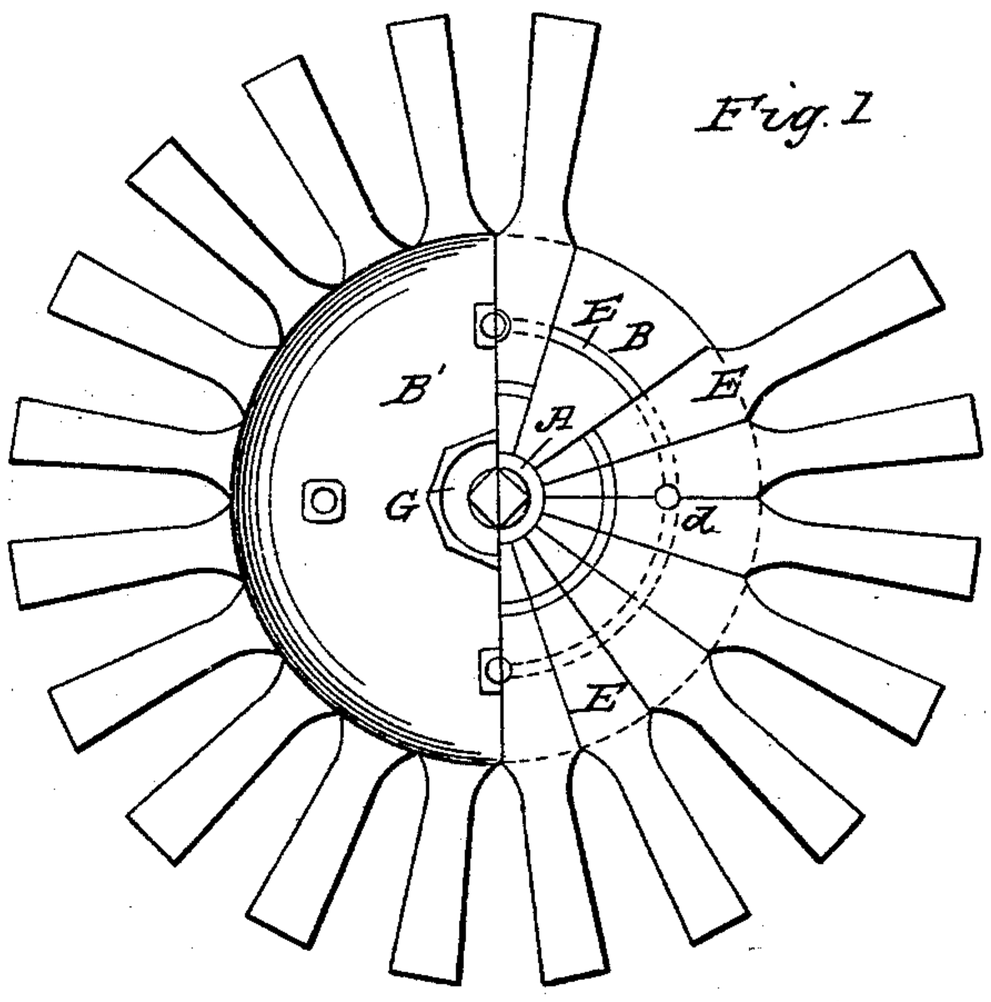
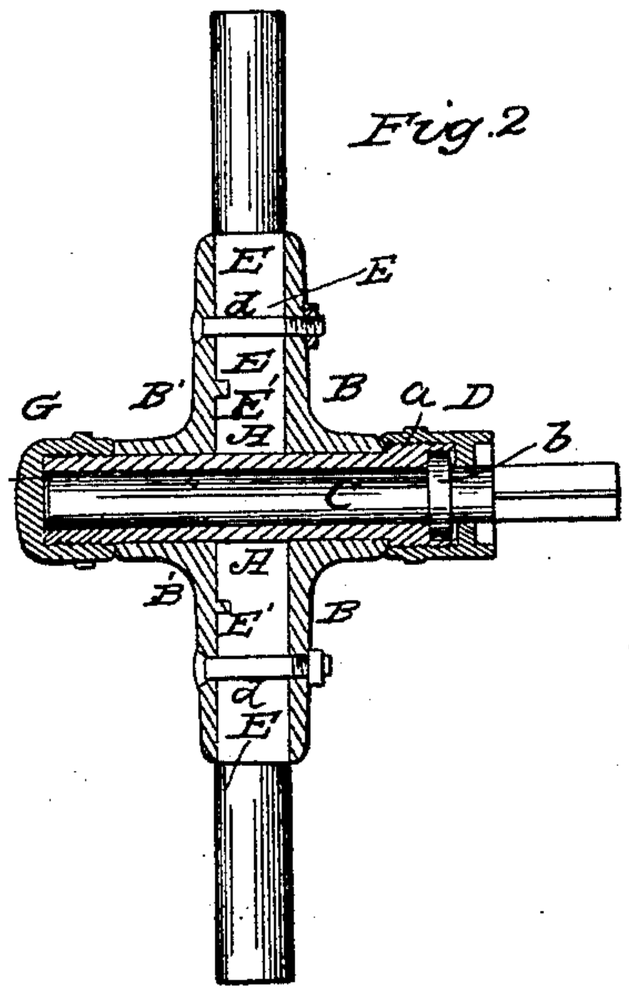


Fig. 2



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NORMAN BRYAN, OF THOMASTON, GEORGIA, ASSIGNOR TO HIMSELF AND WILSON SAWYER, OF SAME PLACE.

IMPROVEMENT IN HUBS FOR CARRIAGES.

Specification forming part of Letters Patent No. **108,441**, dated October 18, 1870.

To all whom it may concern:

Be it known that I, NORMAN BRYAN, of Thomaston, in the county of Upson and State of Georgia, have invented certain new and useful Improvements in Hubs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in a combination iron hub, so constructed that the box and flanges form the hub, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view, one-half in section, and Fig. 2 is a longitudinal vertical section, of my combination hub.

A represents the box, which is cast or made of strong hard metal, in the form shown in Fig. 2. It is of common thickness for light work, but may be increased to any desired thickness, so as to suit the work for which it is intended to be used, and of any desired length. It is cast smooth, and all the way of a size to the shoulder *a* on the back end. The object of this shoulder is to rest against and support the back flange, B, and also to give the box strength where the nut D screws on. The box is hollowed out at the back end to receive the stationary washer *b* on the axle C. It has also a screw cut on the back end, onto which the nut D is firmly screwed, thereby fastening the wheel to the axle. The nut D, it will be seen, is so constructed as to form a sand-band, as well as to attach the wheel to the axle.

B B′ are iron flanges, cast of good malleable iron, in size to suit the various-sized wheels. The center of each is a hollow cylinder, of proper size to fit tightly on the box A. On their inner surfaces there is a ridge or ring, *e* or *e′*, extending all around, the object of which is to hold the spokes E E firmly to their places. The ridge *e′* on the inside of the front flange, B′, is nearer to the center than the one, *e*, on the back flange, B. The object of this is, that the notches in the spokes may not be cut opposite to each other, which would tend to weaken the spoke.

On the back end of the back flange, B, there may be points to fit into notches in the shoulder *a* of the box A, for the purpose of preventing the flange from turning in case it should become loose. The back flange, B, being fitted onto the box A, and the spokes fitted firmly, the front flange, B′, is then slipped onto the box and pressed down on the spokes, the ridges on the inner sides of the flanges fitting in notches made in the spokes. The nut G is then screwed onto the end of the box, forcing the flanges together and clamping the spokes tightly and firmly between them.

Bolts *d d* pass through the flanges and spokes, for the purpose of drawing and holding the flanges closely and firmly against the spokes. For light work, the taps for said bolts are made conical, and the conical part extends through the flange, giving it double depth of thread on the pin, and hence the square part of the tap on the outside may show very thin. The number and size of these bolts may vary, according to the weight and size of the wheel and the strength required for it. Any desired number of spokes may be used.

Some of the more important advantages of this hub over other iron hubs are as follows:

First, its great simplicity in construction.

Second, the saving of time and labor in putting the wheel together.

Third, its great strength.

Fourth, its lightness and cheapness, not costing but little more than the common wooden hub.

Fifth, the great ease with which it may be repaired in case one or more spokes should get broken. Unscrew the nut G from the outer end of the box, and remove the bolts *d d*. The front flange, B, is then easily removed, and new spokes can be as easily and firmly put in as when the wheel was first made.

Sixth, the great ease with which the spokes may be made fast in case they should become loose by shrinkage of timber or otherwise. Just force up the large nut G, and tighten the nuts on the bolts *d d*, and all is tight.

Seventh, the manner in which the wheel is attached to the axle prevents sand getting in to wear the axle.

Eighth, the great ease and advantage in removing the box when it becomes worn and putting in a new one. Just take off the nut G, and drive the box out and insert a new one. This can be done in a very few moments without interfering with any other part of the wheel.

The nut G in front may be plated and have a neat plated band. The flanges may also be plated with silver or brass, so as to present a neat and tasty appearance. The screws on the ends of the box should be cut right and left, so that if the nuts should move in running, they will tighten rather than run off.

I am aware that a hub composed of a metallic box and flanges is not new. I am also aware that spokes have been secured between such flanges by means of a nut at one end of the hub, and I do, therefore, not claim these features as my invention; but

What I do claim as new, and desire to secure by Letters Patent, is—

The flanges B B′, constructed, as described, each with a circular ridge, *e* or *e′*, on its inner side, to fit in notches or recesses made in the spokes and used in combination with the box A, having shoulder *a*, axle C, with its collar *b*, and the nuts D G, all substantially as and for the purposes herein set forth.

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

NORMAN BRYAN.

Witnesses:

W. T. WEAVER,

JAMES W. HIGHTOWER.