(No Model.)

P. GENDRON.

METAL WHEEL.

No. 419,937. Patented Jan. 21, 1890.

Fig. 1.

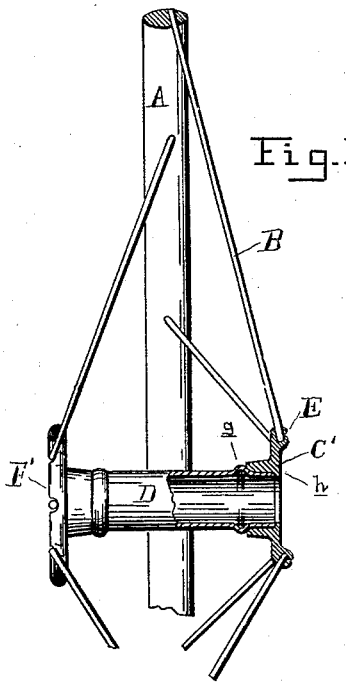


Fig. 4.

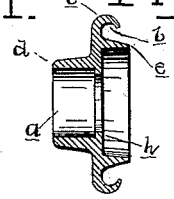


Fig. 3.

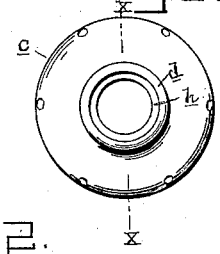


Fig. 2.

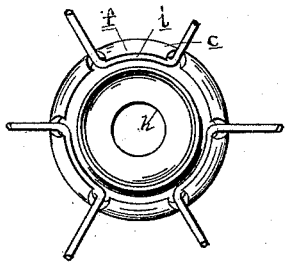
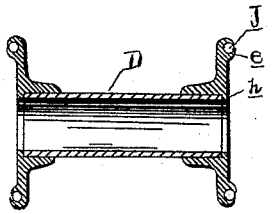


Fig 5



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Edwin Brearley

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Atty

UNITED STATES PATENT OFFICE.

PETER GENDRON, OF TOLEDO, OHIO, ASSIGNOR TO THE GENDRON IRON WHEEL COMPANY, OF SAME PLACE.

METAL WHEEL.

SPECIFICATION forming part of Letters Patent No. 419,937, dated January 21, 1890.

Application filed October 21, 1889. Serial No. 327,731. (No model.)

To all whom it may concern:

Be it known that I, PETER GENDRON, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Metal Wheels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in vehicle-wheels of that class designed to be used in connection with velocipedes, baby-carriages, tricycles, &c.; and the invention consists in the peculiar construction of a wheel in which two spokes are formed of a single wire bent in the middle, the middle portion being secured upon spoke-sections at either end of the body portion of the hub by means of flanges, one of which is adapted to be turned over upon the bearing portion of the hub to hold it in position; and, further, in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings which accompany this specification, Figure 1 is a vertical central section through a wheel embodying my invention, partly in elevation. Fig. 2 is an end elevation of the hub with the spoke secured in position. Fig. 3 is an end elevation of the hub-section without the spokes. Fig. 4 is a section on line *x x* in Fig. 3. Fig. 5 is a vertical central section through the hub of the wheel complete, showing a modified construction of the hub.

A is the tire.

B are the spokes, each pair of which are formed by bending the wire in the middle and securing the middle portion thereof on the hub C′, which is composed of the central part D and two end spoke-sections E E′. These spoke-sections are of the following construction: *a* is an annular collar or sleeve adapted to be secured upon the end of the central portion D of the hub. Upon the outer edge of this collar is secured a rim having a forwardly-projecting flange *b*, in which are formed the spoke-passages *c*. Between the two is the segmental circular bearing *d*. Below the flange *b*, which is preferably hook-shaped, as shown in Fig. 4, is the flange *e*, which is designed, when the spokes are secured in position, to be peened or spun over, as shown in Figs. 1 and 5, upon the bearing portions of the spokes to hold them in position.

The central portion D of the hub is constructed with shoulders, such as *g*, against which the end of the collar *a* abuts. Instead of constructing shoulders *a* upon the exterior of the hub, I preferably construct the section D tubular its entire length and form upon the inner edge of the spoke-sections a downwardly-projecting flange or bead *h*, against which the end of the section D abuts, performing the same office as the shoulders *g*. I prefer this construction for the reason that in using the shoulders *g* in forming a sheet-metal box the dust or sand is liable to be held therein and wear out the axle or clog the action of the wheel thereon.

In constructing my wheel the process is as follows: The spoke-sections E and E′ being secured upon the central portion D, the wire being bent to form two spokes, with the segmental circular bearing part *i* between, the spokes are secured in the spoke-notches with the bearing portion *i* resting upon the bearing *f*. The flange *e* is now turned over to bear upon the bearing portion *i*, holding it firmly in position in the recess *j* between the two flanges. The end of the spokes being secured in the wheel in their proper relation one to the other, my wheel is complete. The spoke-sections are held in position by the lateral thrust of the spokes and by the tinning which is usually applied to such wheels.

A wheel thus constructed consists of the fewest possible numbers of parts, is strong, and cheaply manufactured, giving a pleasing appearance to the eye.

What I claim as my invention is—

In a wheel, the combination, with the hub and double spokes, of integral hub-sections formed with a horizontal shouldered collar *a*, a vertical flange *b*, extending from the same, its outer edge bent or hooked outwardly and

formed with spoke-apertures *c*, an annular flange *e*, extending horizontally from the section below the hooked flange, its outer edge being spun or peened up against the spokes in the hooked portion of the vertical flange, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 11th day of October, 1889.

PETER GENDRON.

Witnesses:
ED MCBREARTY,
P. M. HULBERT.