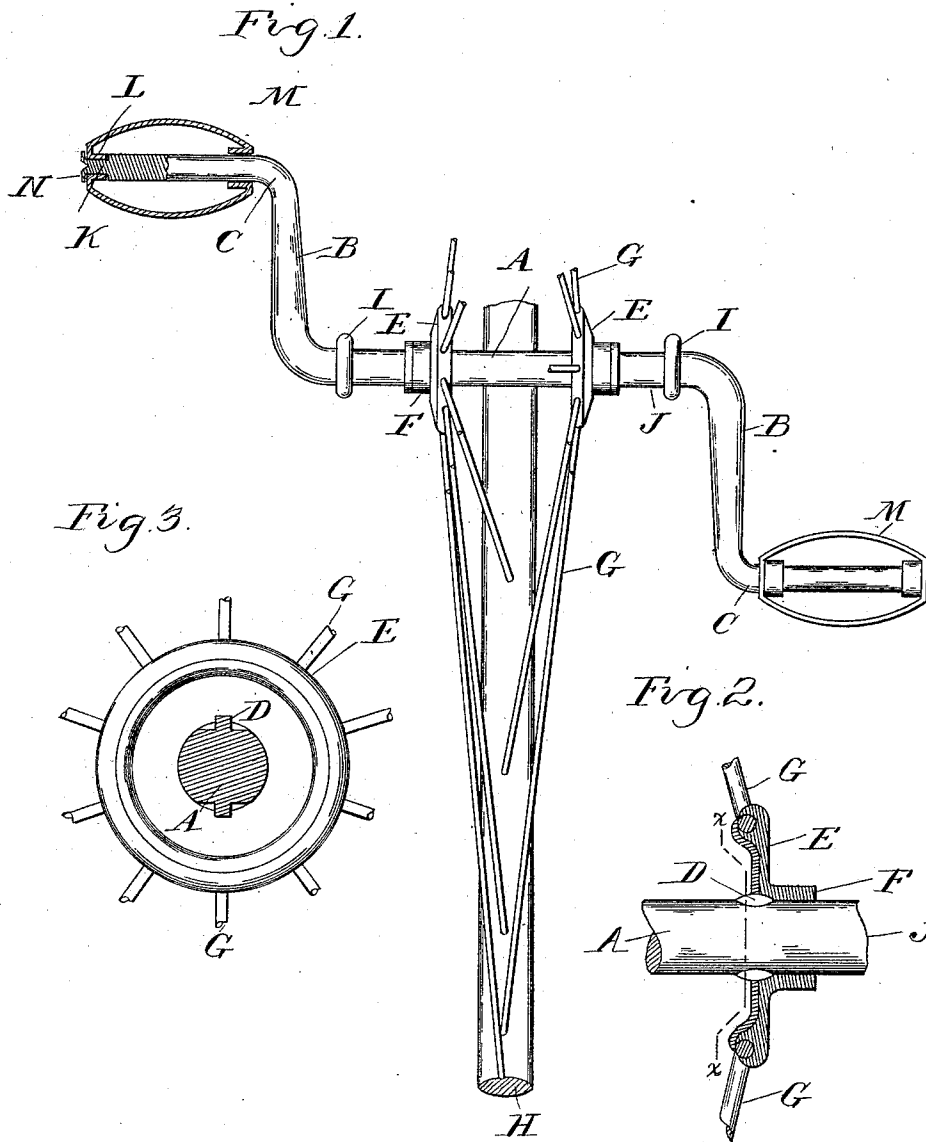


(No Model.)

P. GENDRON.
VELOCIPEDE DRIVE WHEEL.

No. 509,801.

Patented Nov. 28, 1893.



Witnesses
A. L. Hobbie
Th. B. O'Leary

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UNITED STATES PATENT OFFICE.

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

VELOCIPEDE DRIVE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 509,801, dated November 28, 1893.

Application filed February 11, 1893. Serial No. 461,917. (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 Velocipede Drive-Wheels, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention consists in constructing a wheel, upon the crank shaft itself, that is securing the hub flanges which carry the spokes, directly to the crank shaft, dispensing with the usual sleeve or skein.

The invention further consists in the peculiar construction of the journal, and further in the peculiar construction of the pedal, all as more fully hereinafter described.

In the drawings, Figure 1 is a section through the drive wheel of a velocipede, showing the crank shaft and hub in elevation. Fig. 2 is a cross section through the hub, illustrating the manner of securing the hub flanges to the crank shaft. Fig. 3 is a section on line $x-x$ in Fig. 2.

The crank shaft of my wheel comprises the usual central straight portion A, the arm B bent at substantially right angles thereto and the arm C bent at substantially right angles to the arm B.

D are lugs or keys which are preferably formed by pinching up the metal on opposite sides of the central portion A of the crank shaft a distance apart equal to the distance at which the hub disks E are to be secured. This I preferably do while the crank is straight. The hub disks E of any suitable construction are then slipped over the ends of the shaft and forced up upon the inclined faces of the lugs D, as shown in Fig. 2. These disks are provided with a suitable collar F, embracing the crank shaft to give a proper bearing thereon, and are preferably notched to engage the lug or key D. The spokes G and rim H are then secured to the hub flanges, the ends of the spokes being riveted or upset in the usual manner. The shaft thus far is preferably left straight and

is now bent into the shape shown in Fig. 1, and rings I are secured near the ends of the straight portion A, and a suitable distance away from the collars F to leave a journal J between. The crank portion C of the shaft is provided with a reduced end K with which the flanges L of the pedals M are adapted to engage. The shaft is provided with the bifurcated or cupped end forming a flange or flanges N which may be peened over as shown at the left hand in Fig. 1 against the end of the pedals to hold them in position. The drive wheel is now in position to be engaged with the boxes of the front fork of the velocipede.

The process of securing the hub flanges in position upon the crank shaft is immaterial as it may be done in various ways both before or after the crank shaft is formed, the essence of my invention being, as I understand it, the securing of these flanges directly upon the crank shaft itself, so that this shaft with the flanges forms the hub of the wheel.

What I claim as my invention is—

1. A drive wheel for velocipedes consisting of a crank shaft, having integral cranks, hub disks on the shaft, fixed keys integral with the shaft and interposed between the same and disks and the spokes and rim, substantially as described.

2. A drive wheel for velocipedes composed of a crank shaft, keys fixed integral with said shaft, hub disks secured upon said keys, and the spokes and rim, substantially as described.

3. A drive wheel for velocipedes composed of a crank shaft, tapering keys formed integral with the shaft, hub disks forced on the keys, and the spokes and rim, substantially as described.

4. A drive wheel for velocipedes composed of a crank shaft, hub disks E having collars F, keys D on the shaft with which the disks are engaged, the spokes and rim, the rings I pressed upon the straight portion of the shaft to form journals J, substantially as described.

5. In a drive wheel for velocipedes the combination of the crank having the reduced end portion K, of the pedals M having the flanges L engaging such reduced portion, and
5 the flanges or lugs N on the end of the shaft turned over against the end of the pedal, substantially as described.

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

PETER GENDRON.

Witnesses:

M. B. O'DOHERTY,
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