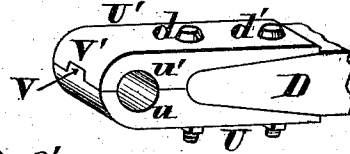
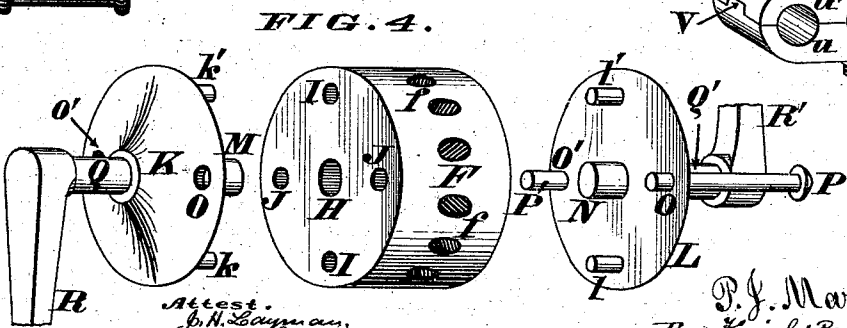
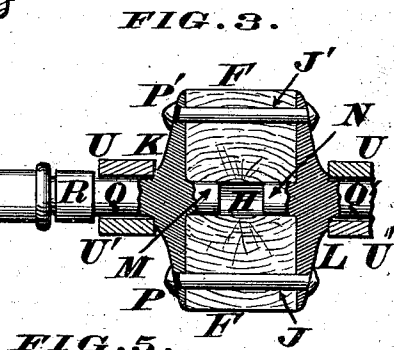
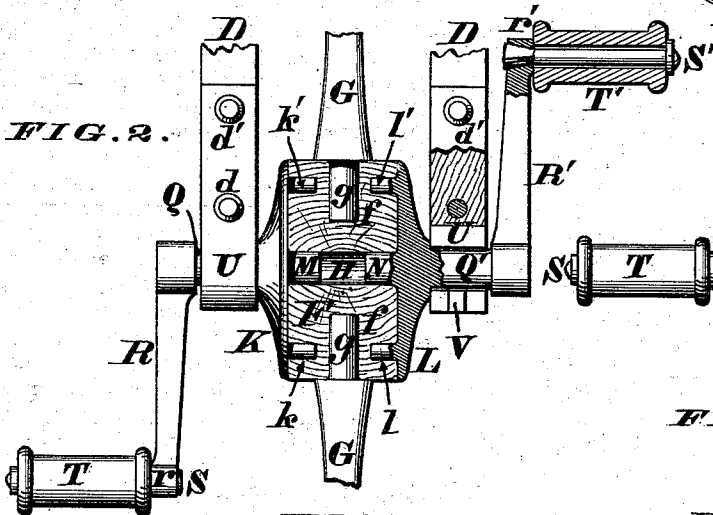
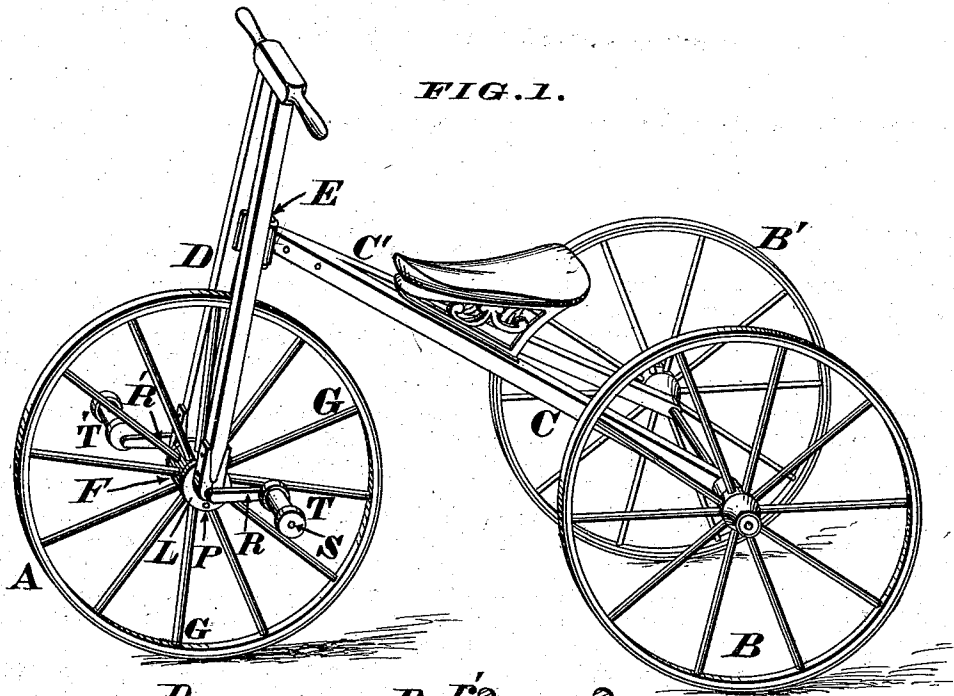


P. J. MARQUA.
Velocipedes.

No. 154,500.

Patented Aug. 25, 1874.



Attest.
J. H. Layman,
Henry Farmer.

P. J. Marqua
By Knight Bros ATTYS.

UNITED STATES PATENT OFFICE.

PHILIP J. MARQUA, OF CINCINNATI, OHIO.

IMPROVEMENT IN VELOCIPEDES.

Specification forming part of Letters Patent No. 154,500, dated August 25, 1874; application filed July 20, 1874.

To all whom it may concern:

Be it known that I, PHILIP J. MARQUA, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Velocipedes or Perambulators, of which the following is a specification:

This invention relates to that class of vehicles which are propelled by the alternate action of the rider's feet upon spools having cranked connections with the front or driving wheel of the velocipede; and my improvement consists in a simple and secure method of attaching the actuating cranks to the hub of said driving-wheel.

This secure attachment is effected by casting, with each crank, a flange or collar of about the same diameter as the hub of the wheel, each flange being provided with a number of lugs or stumps that are adapted to enter suitable sockets or pits in the aforesaid wooden hub. These disks are applied to the ends of the hub, so as to cause the aforesaid lugs to enter their appropriate sockets, after which the disks are firmly secured to the hub by bolts or rivets, as hereinafter fully described.

In the accompanying drawings, Figure 1 is a perspective view of a three-wheeled velocipede provided with my improved crank-connection. Fig. 2 is an enlarged vertical section through the hub of the driving-wheel and its accessories. Fig. 3 is a horizontal section of the same. Fig. 4 is a perspective view, showing the various members of the crank-connections separated from each other. Fig. 5 is a perspective view of one of the journal-bearings of the driving-wheels.

A represents the front or driving wheel, B B' the rear wheels, C C' the perches, and D the fork or swivel-bearing, of an ordinary velocipede. E is the king-bolt, wherewith the swivel-bearing D is coupled to the perches of the vehicle. F is the hub of the driving-wheel, said hub being composed of wood, and provided with radial mortises *f*, to receive the tenons *g* of the spokes G, which latter may be of any approved form. The hub is furthermore provided with an axial bore, H, sockets I, and perforations J, for purposes which will pres-

ently appear. K and L represent two circular collars or flanges, of about the same diameter as hub F, the inner or flat faces of said plates being provided, respectively, with two diametrically-opposite lugs, stumps, or pins, *k k'* and *l l'*, which are adapted to enter the longitudinal sockets I, as shown in Fig. 2. In addition to said lugs, these flanges are provided, respectively, with central inwardly-projecting studs M and N, that are seated in the opposite ends of the bore H, when the hub and its inclosing circular plates are united together. Furthermore, the flanges K and L are pierced with diametrically-opposite apertures O O', for the reception of rivets or bolts P P', that pass through the perforations J of the wooden hub F.

By referring to Fig. 4, it will be seen that the lugs *l l'* and apertures O O' are at right angles to each other; or, in other words, when said lugs are in a vertical line with the stud N, the apertures O O' occupy a horizontal position with reference to said central projection.

Cast with the flanges K L, and projecting at right angles from the crowning or exposed faces of the same, are cylindrical portions Q Q', which constitute the journals for the driving-wheel of the velocipede. These journals have cast or forged with them the arms R R' of the cranks, said arms being arranged at right angles with reference to the journals, and having wrists S S' for customary spools T T'. The bearings for the journals Q Q' may be of the customary form, clearly shown in Fig. 5.

In fitting up my improved velocipede the flange K is applied to one end of hub F, and the flange L to the opposite end of the same, care being taken to dispose said flanges in such a manner as to bring the shafts T T' of spools S S' diametrically opposite to each other. When the flanges are thus applied their respective studs M N enter the opposite ends of the bore H, and thereby act to center the cranks with the utmost accuracy, and without any loss of time in fitting them to the wheel. At the same time the lugs K K' and *l l'* enter the sockets I, and as soon as the rivets P P'

are passed through the perforations J and apertures O O', and headed up, the wheel is complete and ready to be journaled in the boxes U U', which is the work of but a few minutes only.

In addition to cheapness of manufacture and facility of application, my mode of constructing the crank-connections is strong, durable, and is not liable to catch and tear the clothes of the rider when in use.

I claim as my invention—

In combination with the perforated wooden hub F, the pair of flanged and riveted cranks K Q R S, N Q' R' S', having the studs M N, lugs k k' l l', and apertures O O', substantially as and for the purpose designated.

In testimony of which invention I hereunto set my hand.

P. J. MARQUA.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.