No. 680,493. Patented Aug. 13, 1901.

A. J. MEUNIER.

BICYCLE FORK.

(Application filed Apr. 9, 1900.)

(No Model.)

FIG. II.

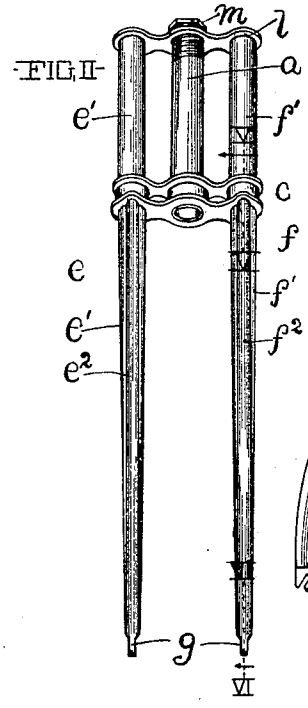


FIG. I.

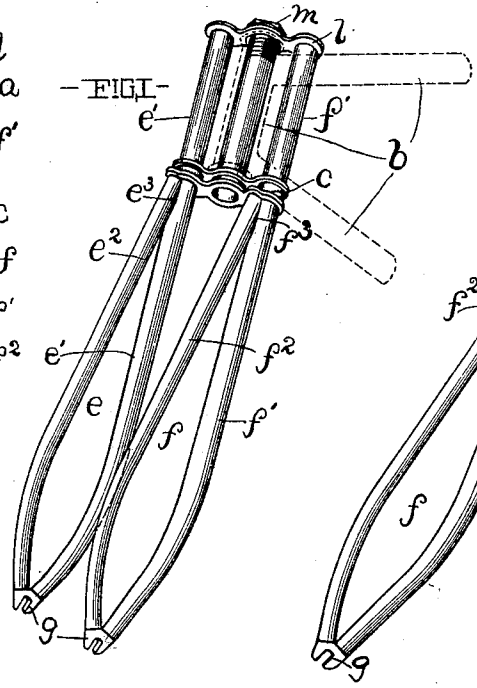


FIG. III.

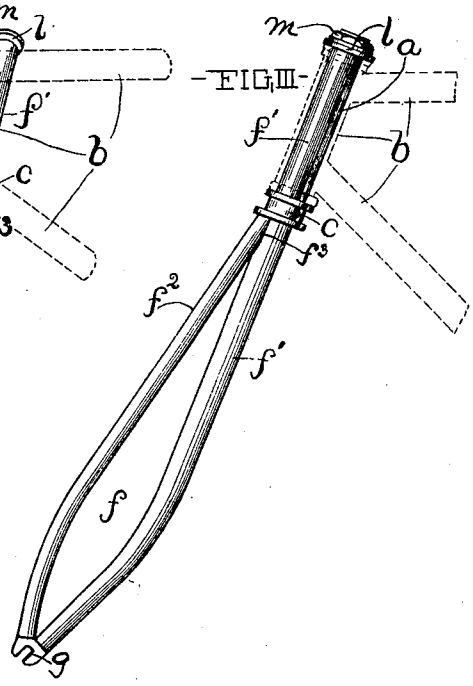


FIG. IV.

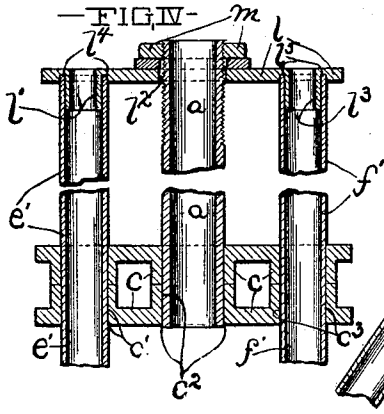


FIG. V.

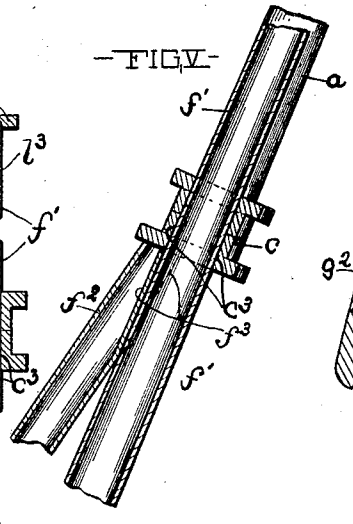
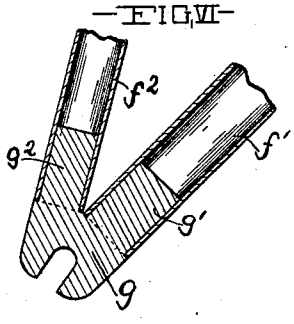


FIG. VI.



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UNITED STATES PATENT OFFICE.

ALFRED J. MEUNIER, OF CLEVELAND, OHIO.

BICYCLE-FORK.

SPECIFICATION forming part of Letters Patent No. 680,493, dated August 13, 1901.

Application filed April 9, 1900. Serial No. 12,157. (No model.)

To all whom it may concern:

Be it known that I, ALFRED J. MEUNIER, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Bicycle-Forks; 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 the same.

My invention relates to improvements in the manufacture of bicycles, and more especially to improvements in the construction of the front forks thereof.

The object of my invention is to provide a bicycle-fork which shall be light, firm, and graceful in appearance and also to provide means for bracing the same, so as to minimize the danger of the fork-stem or the fork sides breaking away from the crown-plate.

My invention also consists of certain details of construction and arrangement of parts, which will be hereinafter set forth in the specification, illustrated in the drawings, and pointed out in the claims.

Referring to the drawings, Figure I represents a perspective view of my invention. Fig. II is a view in front elevation. Fig. III is a view in side elevation. Fig. IV is a detail sectional view of the upper portion of the fork, showing the method of mounting and bracing the fork-stem. Fig. V is a detail sectional view on line V V, Fig. II, showing the upper portion of one of the side pieces of the fork. Fig. VI is a detail sectional view on line VI VI, Fig. II, showing the lower end of one of the side pieces of the fork.

Referring to the drawings, *a* represents the fork-stem, by means of which the fork is secured in the head of the frame *b* of the bicycle.

c is the crown-plate, and *e* and *f* represent, respectively, the side pieces of the fork.

Each of the side pieces *e* and *f* comprises two separate pieces of bicycle-tubing e' and e^2 and f' and f^2, respectively. The pieces of tubing e' and f' are the same length and are of equal diameter. These pieces of tubing e' and f' are preferably formed straight for about two-thirds their length and are then curved or bent forward, so that the lower portion of each piece is bowed toward the rear of the machine. The pieces of tubing e^2 and f^2 are of the same length and of equal diameter, but are preferably of less diameter than the tubing e' and f' and are also the length of the fork-stem shorter than the same. The pieces of tubing e^2 and f^2 are bent in the opposite direction to the pieces e' and f', respectively, so as to be bowed toward the front of the machine.

The lower ends of the pieces of tubing e' and e^2 and f' and f^2, respectively, are preferably secured together by means of a coupling device. This device is approximately V-shaped, and comprises a plate *g*, having two upwardly and divergently projecting members g' and g^2. The plate *g* forms the fork-tip and is slotted to allow it to slip down over the axle of the wheel.

The members or lugs g' and g^2 correspond in diameter to the interior diameter of the ends of the respective tubing and are rigidly secured therein, preferably by brazing.

A portion of the side of each of the pieces of tubing e^2 and f^2 at their upper ends where they meet the pieces of tubing e' and f', respectively, is cut away or countersunk, forming a concavity, as at e^3 and f^3. This allows the respective ends of the tubing e^2 and f^2 to lap on or inclose a portion of the surface of the pieces of tubing e' and f', respectively, at their respective points of juncture therewith, insuring a secure and firm joint.

c represents the crown-plate. This plate is provided with three vertical openings c', c^2, and c^3. In the central opening is rigidly secured the fork-stem *a*. The openings c' and c^3 correspond in diameter to the exterior diameter of the tubing e' and f'.

When the crown-plate *c* is adjusted, it slips down over the tubing e' and f' until it rests on top of the respective ends of the tubing e^2 and f^2 and is properly secured in this position. The crown-plate, at the points where it rests on the respective ends of the tubing e^2 and f^2, projects forward, so as to completely cover the same and form a ledge against which they firmly abut. The tubing e^2 and f^2 are thus locked on the lugs g' g' and cannot be drawn therefrom without bending the tubing. The upper ends of the tubing e' and f' project above the crown-plate preferably the length of the fork-stem and are especially designed to act as braces for the fork-

stem. The fork-stem is connected to and held firmly between these projecting ends by a plate l, which preferably corresponds in general outline to the crown-plate c. This plate l has a central opening l^2 of sufficient diameter to permit the fork-stem to fit snugly therein. A nut m secures this plate on the fork-stem. Hollow annular lugs l' and l^3 are formed on the plate. These lugs are arranged to fit tightly into the respective ends of the tubing e' and f'. The surface of the plate immediately around these lugs is countersunk, forming annular grooves l^4 and l^5, adapted to receive the ends of the tubing e' and f', respectively. The lugs l^2 and l^3 are rigidly secured in the ends of the respective pieces of tubing preferably by brazing.

What I claim is—

1. A front fork for a bicycle, comprising two fork sides secured together by two crown-plates, one of said crown-plates being provided with two vertical openings which allow it to slip down on the upper ends of the said fork sides, and the other crown-plate having two lugs formed on its under side, said lugs being adapted to fit into the upper ends of the respective fork sides, a fork-stem rigidly mounted between said crown-plates, curved bracing-rods extending upwardly from the lower end of each of the said fork sides to a point immediately below the said lower crown-plate and means for securing each of the said bracing-rods to each of the said fork sides, comprising a plate provided with two upwardly and divergently projecting members adapted to fit into the lower ends of the respective fork sides and bracing-rods, substantially as described and for the purpose set forth.

2. A fork for bicycles and similar vehicles, comprising two curved fork sides e' and f', oppositely-curved bracing-rods e^2 and f^2 rigidly secured to said fork sides, a crown-plate adapted to fit on the ends of said fork sides and abut against the upper ends of the respective bracing-rods, a crown-plate provided with hollow lugs l' and l^3 adapted to fit into the top of the respective fork sides and a fork-stem rigidly secured between the said crown-plates, substantially as described and for the purpose set forth.

Signed by me at Cleveland, Ohio, this 5th day of April, 1900.

ALFRED J. MEUNIER.

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