

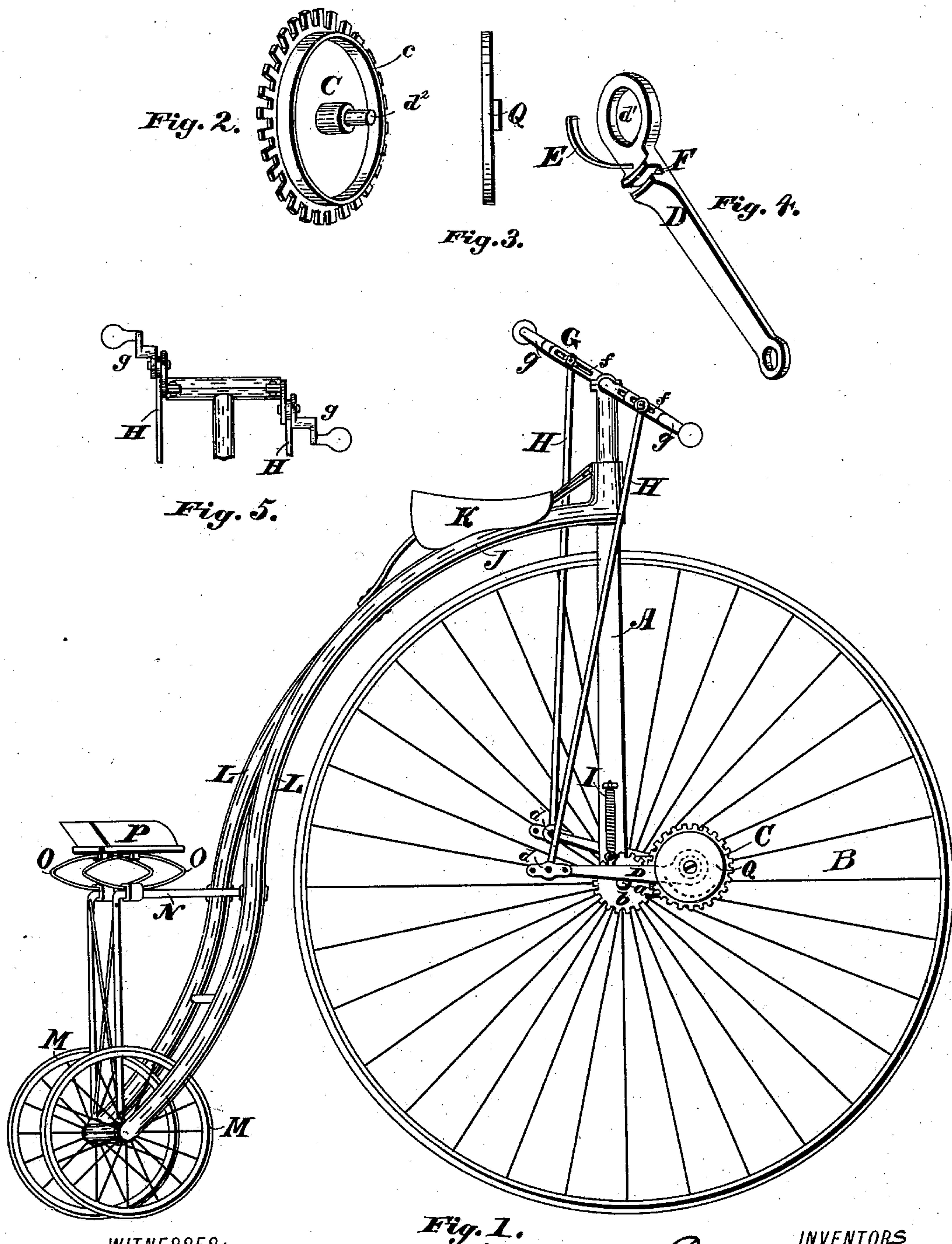
(No Model.)

P. F. FILLIEZ & A. C. MONNIN.

BICYCLE.

No. 376,241.

Patented Jan. 10, 1888.



WITNESSES:

*Harry Grease.*

*Harry O. Reed*

*Fig. 1.*

INVENTORS  
*Peter Filliez*  
*Alphons C. Monnin.*

BY  
*Bond & Wise*  
their ATTORNEYS.



# UNITED STATES PATENT OFFICE.

PETER F. FILLIEZ AND ALPHEUS C. MONNIN, OF CANTON, OHIO.

## BICYCLE.

SPECIFICATION forming part of Letters Patent No. 376,241, dated January 10, 1888.

Application filed September 24, 1887. Serial No. 250,618. (No model.)

*To all whom it may concern:*

Be it known that we, PETER F. FILLIEZ and ALPHEUS C. MONNIN, citizens of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Bicycles; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon, in which—

Figure 1 is a side elevation. Fig. 2 is a detached view of one of the propelling-wheels. Fig. 3 is a detached view of a cap for the propelling-wheels. Fig. 4 is a detached view of one of the propelling-levers, showing spring attached thereto; and Fig. 5 is a front view of the cranked handle-bar and connections.

The present invention has relation to bicycles; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the yoke, which is constructed so as to properly attach the different parts belonging to said yoke. The wheel B is constructed in the ordinary manner, having rigidly attached to its shaft *a* pinions *b*, said pinions *b* meshing into the propelling-wheels C. The propelling-wheels C are provided with the side flange, *c*, said side flange being substantially of the form shown in Fig. 2. The operating-levers D are located as shown in Fig. 1, and are provided with the pedals *d*. The inner ends of these operating-levers are provided with the eye *d'*, which receives the post *d''*, upon which the propelling-wheels C rotate. These operating-levers are also provided with the springs E, which are for the purpose hereinafter described. The operating levers are provided with the recess F, which is formed somewhat wider than the thickness of the flange *c*, so that the flange will move through the recess without friction during the upward movements of the levers D.

It will be seen that as the levers D are forced

downward the recess F will bite into the flange *c*, and thereby communicate motion to the propelling-wheels C, thus causing the wheel B to rotate. To the top or upper end of the yoke A is journaled the crank-shaft G, and to this crank-shaft are attached the connecting-rods H, the bottom or lower end of said connecting-rods being attached to the levers D by means of suitable bolts or rivets.

It will be seen that by means of the crank-shaft G and the connecting-rods H the operator can use his hands and feet in propelling the bicycle. In case it is desired to operate entirely with the feet the connecting-rods H and the crank-shaft G are removed, and an ordinary guide-bar takes the place of the crank-shaft.

For the purpose of elevating the free ends of the levers D after they have been forced downward, the springs I are provided, the bottom or lower ends of said springs being attached to the levers D and the top or upper ends attached to the yoke A, substantially as the one spring is shown in Fig. 1.

The front or forward end of the backbone J is attached to the yoke A, substantially as shown in Fig. 1. To the backbone J is attached the saddle K in any convenient and well-known manner. The rear portion of the backbone J is provided with the arms L, which are for the purpose of attaching the wheels M and the seat-connecting bars N. These seat-connecting rods or bars N are preferably clipped to the arms L, so that they can be easily removed. To the arms L are attached the springs O, said springs carrying the seat P, as shown in Fig. 1. It will be seen that by this arrangement two persons can ride. The springs E are for the purpose of holding the inner ends of the levers D in such a position that the recesses F will not bind on the flanges *c* when the pressure of the foot is removed.

It will be understood that the bottom or lower ends of the yoke A are provided with suitable arms for the purpose of attaching the propelling-wheels C.

The eyes *d'* are formed somewhat larger than the posts *d''*, so that the recesses will take hold of the flange *c* as the levers D are forced downward. It will be seen that by the use of the



spring E the levers D will at all times be in readiness to take hold of the flange c, thereby taking up all lost motion.

5 The crank-shaft G is provided with the slots f, which are for the purpose of regulating the movements of the connecting bars or rods H and shortening or lengthening the throw of the cranks g.

10 The cap Q is attached to the propelling-wheel C after the lever D is placed in position.

It will be seen that the propelling mechanism can be applied to velocipedes and tricycles.

15 Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the yoke A, having attached thereto the propelling-wheels C, the shaft a, having attached thereto the pinions b, the levers D, provided with the recess F, and

the spring E, substantially as and for the purpose specified. 20

2. The combination of the yoke A, the wheel C, the pinions b, the levers D, the connecting bars or rods H, and the crank-shaft G, substantially as and for the purpose specified. 25

3. The propelling-wheel C, provided with the flange c, in combination with the levers D, provided with the recesses F, and the springs E, substantially as and for the purpose specified. 30

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

PETER F. FILLIEZ.

ALPHEUS C. MONNIN.

Witnesses:

L. C. WISE,

FRED. W. BOND.