

(No Model.)

W. W. & H. SPENCER.

BICYCLE.

No. 386,168.

Patented July 17, 1888.

Fig. 1.

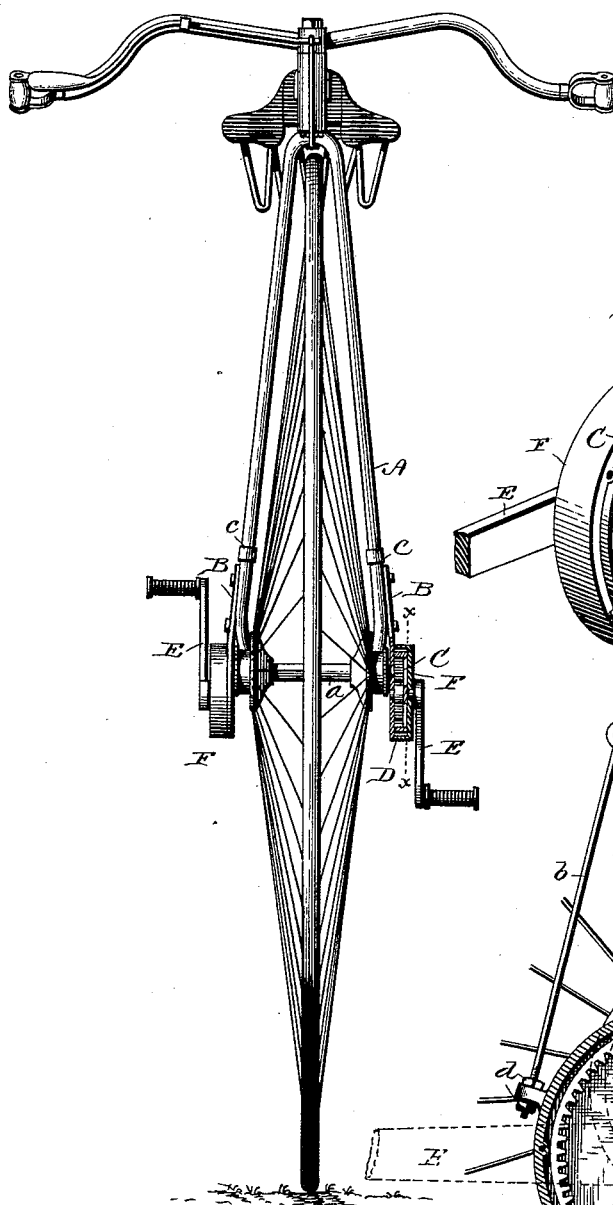


Fig. 2.

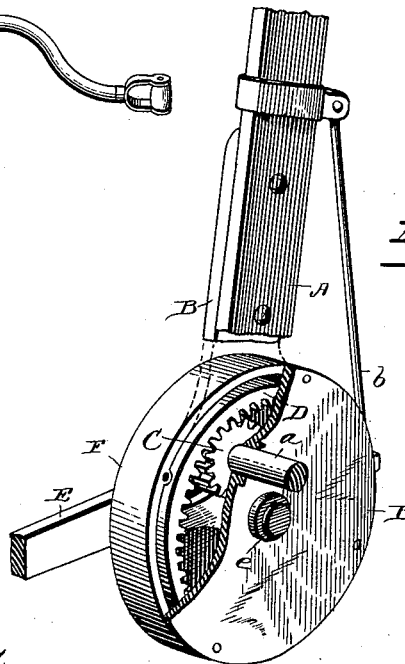
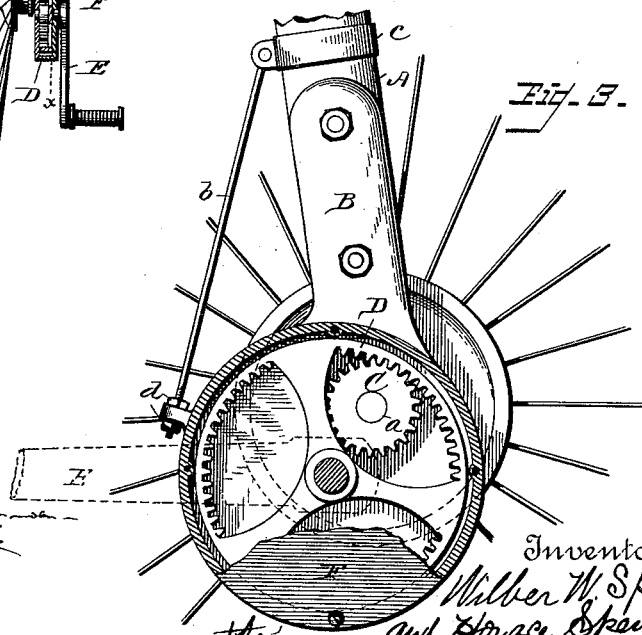


Fig. 3.



Witnesses

*Wm. W. Spencer*  
*Horace Spencer*

Inventor,

*Wilber W. Spencer*  
*and Horace Spencer.*

By their Attorney.

*Franklin D. Hough.*

# UNITED STATES PATENT OFFICE.

WILBER W. SPENCER AND HORACE SPENCER, OF PIQUA, OHIO.

## BICYCLE.

SPECIFICATION forming part of Letters Patent No. 386,168, dated July 17, 1888.

Application filed April 23, 1888. Serial No. 271,587. (No model.)

### *To all whom it may concern:*

Be it known that we, WILBER W. SPENCER and HORACE SPENCER, citizens of the United States, residing at Piqua, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Bicycles; and we do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in bicycles, and it relates more particularly to the means for propelling the same.

The novelty of the invention resides in the peculiar combinations and in the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the claims.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 represents a front view of a bicycle provided with my improvements, with parts broken away. Fig. 2 is a detached perspective view showing the operating mechanism. Fig. 3 is an enlarged detail partly in section.

Referring now to the details of the drawings by letter, A designates the fork of the bicycle, which is secured to the spindle *a* of the wheel and has rigidly secured thereon the casting B, which is supported by the stay-rod *b*, rigidly held to the fork by the clamp *c*, the other end of said stay-rod being adjustably connected to the casting by means of the nuts *d*. This construction provides for the ready attachment or removal of the casting and its attached parts, and the rod greatly strengthens the parts where the greatest strain comes. The adjusting-nuts provide for adjustment to compensate for wear.

C is a spur-wheel fixed to the spindle *a*, and D is an internal gear crown-wheel having a suitable spindle, which has a bearing at *e* in

the center of the casting B and which meshes with the spur-wheel C. The crank E is connected to the spindle of the crown-wheel.

F is a cap or cover, removably secured in position in any desired manner. This cover has bearings for the spindle of the crown-wheel and serves to protect the operating parts.

By this construction the power is applied directly to the internal gear by the pressure of the feet on the pedals, by means of which we obtain more than twice the speed of an ordinary crank-wheel of the same diameter.

The device is very simple and cheap and is efficient in operation.

We are aware that it is not new to provide a velocipede with multiplying mechanism consisting of a gear-wheel on the driving-axle and a gear-wheel on the axis of the crank which is set eccentric to the driving-axle, and we do not seek to cover such construction, broadly.

What we claim to be new, and desire to secure by Letters Patents, is—

1. The combination, with the wheel, of the casting and its contained mechanism and the fork secured to an extension of said casting and braced, substantially as described.

2. The combination, with the fork, of the casting secured to the fork, the clamp on the fork, and the stay-rod secured at one end to the clamp and its other end adjustably secured to the casting, substantially as described.

3. The combination, with the fork, the casting secured thereto, and the spur-wheel on the spindle of the wheel, of the crown-wheel journaled in the casting, the crank secured to the spindle of the crown-wheel, and the removable cover, and the brace-rod *b*, connected at one end with the fork and its other end adjustably connected to said casting, all substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILBER W. SPENCER.  
HORACE SPENCER.

Witnesses:

PRISCILLA M. SPENCER,  
W. W. V. BUCHANAN.