

(No Model.)

T. O'BRIEN.  
BICYCLE.

No. 413,415.

Patented Oct. 22, 1889.

FIG. 1.

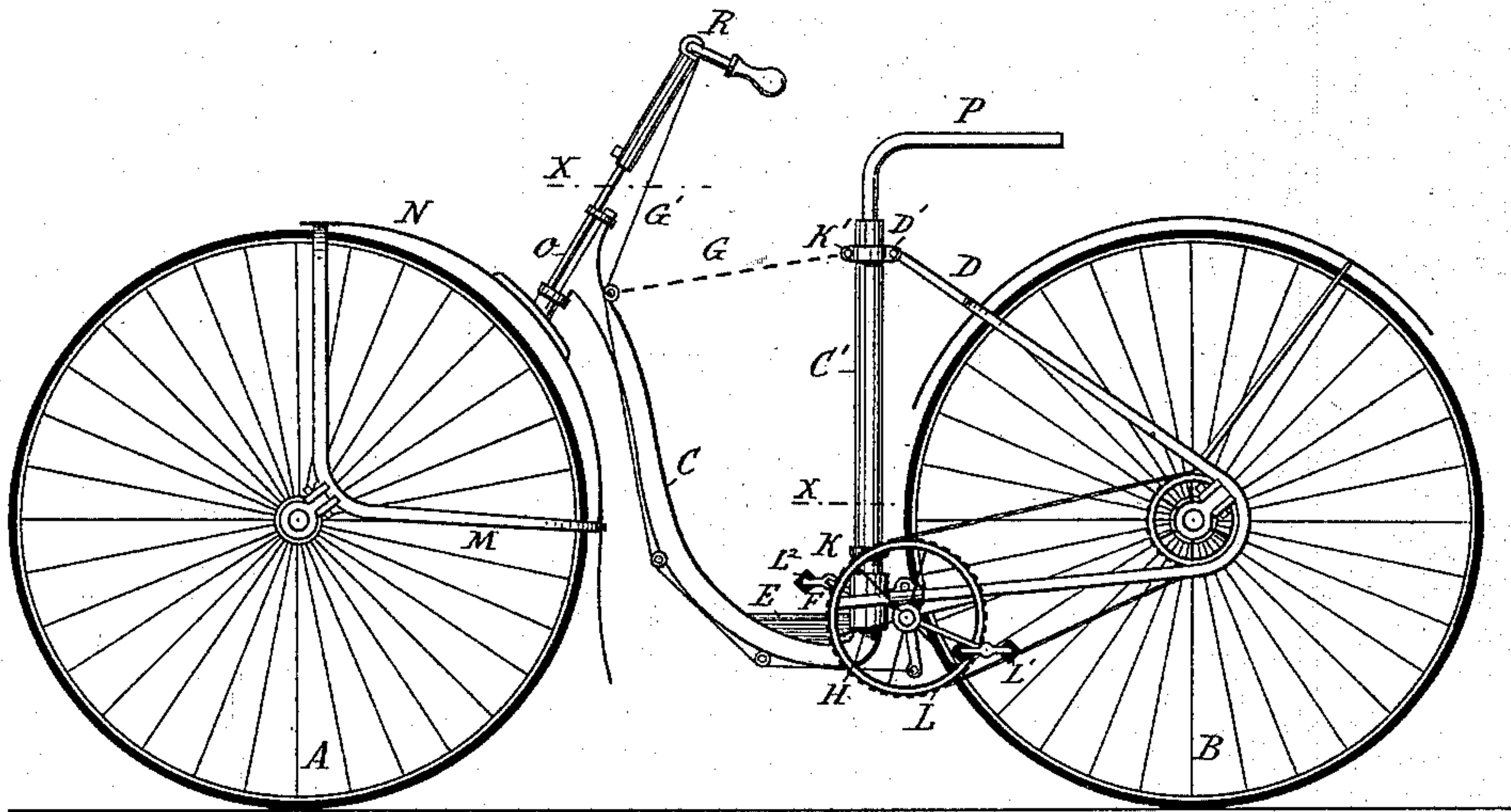


FIG. 2.

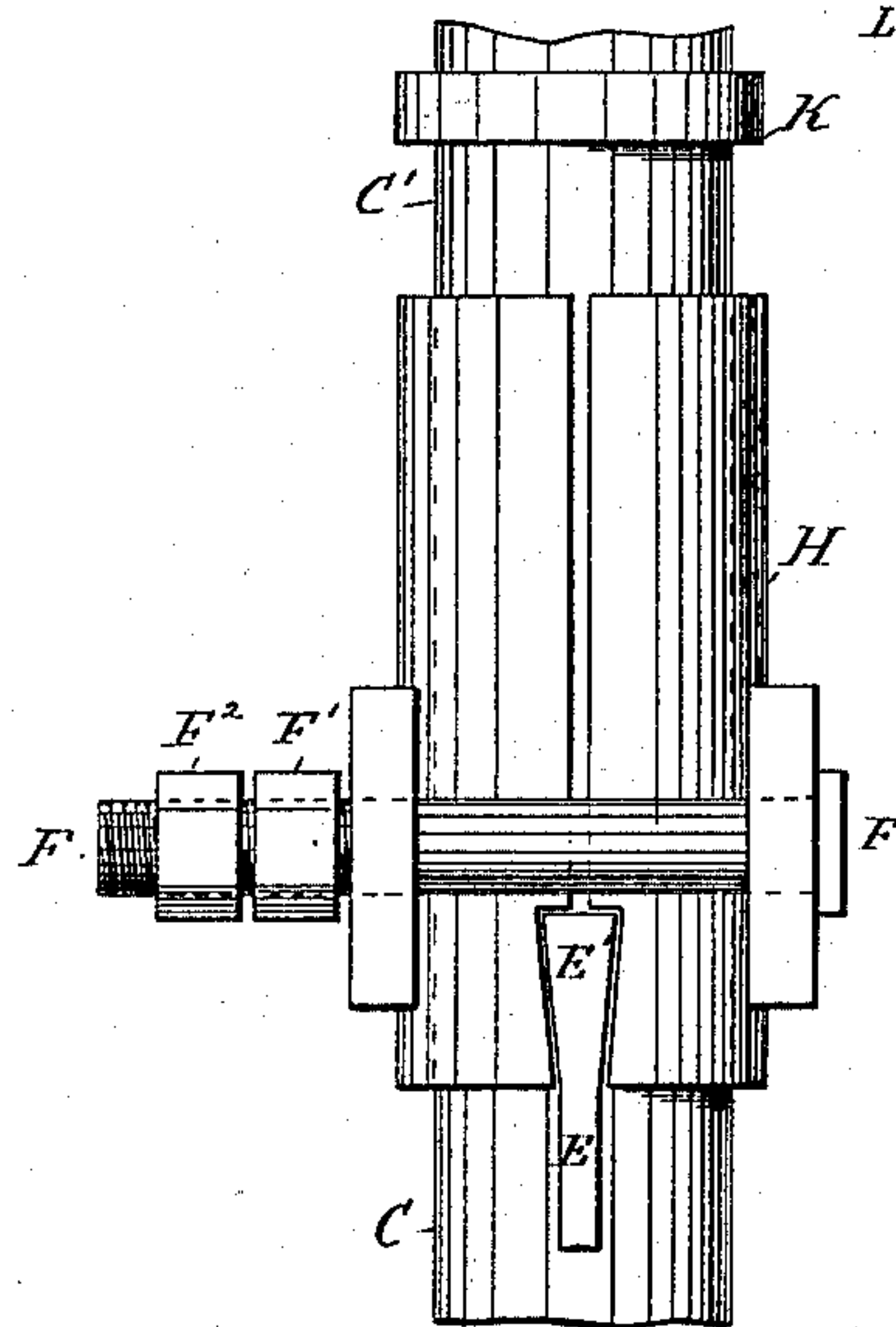
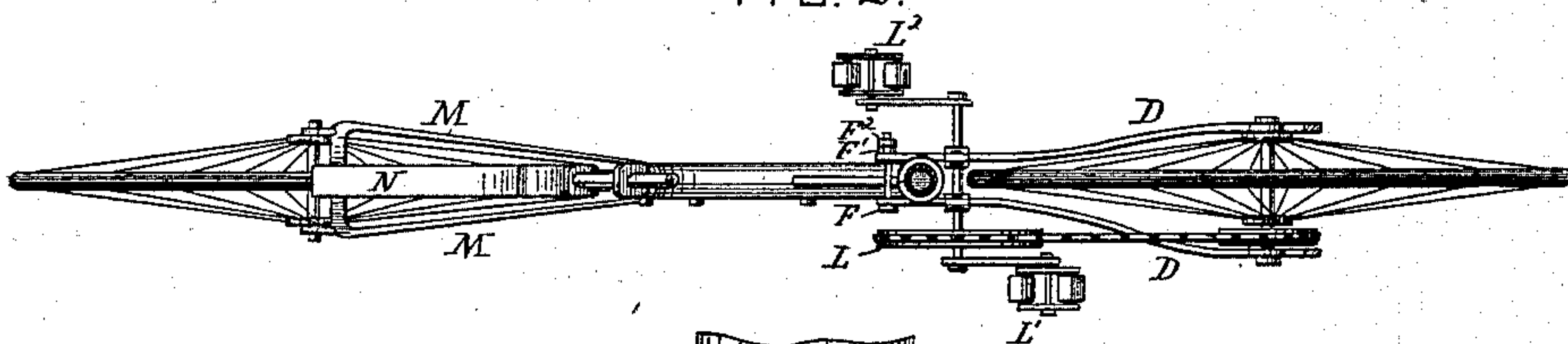


FIG. 3.

WITNESSES

*Wm. A. Lowe*  
*Thomas J. Hart*

INVENTOR

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# UNITED STATES PATENT OFFICE.

THOMAS O'BRIEN, OF NEW YORK, N. Y.

## BICYCLE.

SPECIFICATION forming part of Letters Patent No. 413,415, dated October 22, 1889.

Application filed August 20, 1889. Serial No. 321,431. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS O'BRIEN, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Bicycles, of which the following is a specification.

My invention relates to the construction of the connecting frame or spine of a velocipede on which a lady can ride.

Figure 1 of the accompanying drawings is a side elevation with the saddle removed. Fig. 2 is a plan thereof below the dotted lines *x x*; and Fig. 3, in full size, is a front or rear view of the locking device when said device is in front or rear of the vertical tube *C'*.

The wheels *A B*, their axles and bearings, the chain and chain-wheels, and the cranks and pedals may be of any desired construction. The spine *C C'* is preferably made of one piece of tubing, or the vertical part *C'* of tubing and the curved part *C* of sheet-steel either single or in two pieces, and when the latter they are united and received within the bottom of the tube *C'* and riveted thereto. They are spread apart in the middle, and are again united at the upper end and forged to the pin *G'*, forming a solid necking. In either form of the spine *C C'* the piece *E* of sheet-steel is forged thereon to strengthen the part, and a dovetail *E'* is formed thereon and is received between the split parts of the split clamping-sleeve *H*, (see Fig. 3,) and to the said split sleeve *H* the lower ends of the forks *D D* are forged, and these ends project sufficiently forward to allow the bolt *F* to pass clear of said sleeve, and the said bolt *F* has a screw-thread cut thereon, to which is fitted the nuts *F' F²*, and when said nuts are screwed up the split sleeve *H* is pressed tightly against the dovetail *E'*, and so held rigidly.

When it is desired to fold the machine, the nuts *F' F²* are turned backwardly, and the split sleeve *H*, being freed of the pressure, opens sufficiently to allow the dovetail *E'* and tube *C'* to drop below the sleeve *H* until the fast ring *K* rests on top of said split sleeve, and the nut of the clamping-ring *K'* is also

turned backwardly, and the machine is ready to be folded to the right-hand side. The forks *M* of the steering-wheel *A* are made of or in one piece of sheet-steel, and the forks *D* of the wheel *B* are made of or in two pieces, and may be of sheet-steel or steel of a crescent or angle section.

When the dovetail is on the rear of the spine *C C'*, the split in the clamping-sleeve *H* is also in the rear, and the bolt *F*, which carries the brake, is made tubular, and an inner bolt passes through *F*, on which the chain-wheel *L* and pedals *L' L²* are mounted.

The dotted line *G* is an adjustable brace, which is put in for a heavy male rider.

The handle-bar *R* and the saddle-rod *P* are adjustable in the usual manner.

The mud-guard *N*, which carries the steering-standard and to which the neck of the spine *C* is connected, has been claimed by me in Patent No. 394,287, dated December 11, 1888.

I claim as my invention—

1. The combination, in a bicycle, with wheels *A B*, of the backbone or spine *C C'*, the split clamping-sleeve *H*, formed to receive the dovetail *E'*, the strengthening-piece *E*, the dovetail *E'*, the forks *D D*, forged to the clamping-sleeve *H*, and the fast ring *K* as a stop, substantially as specified.

2. The combination, in a bicycle, with the wheels *A B*, of the tube *C'*, which is received within the clamping-sleeve *H*, the forks *D D*, the bolt *F*, the nuts *F' F²*, the dovetail *E'*, and curved spine *C*, substantially as specified.

3. The combination, in a bicycle, with the wheels *A B* and connecting-frame, of the forks *M*, made of or in one piece, to which the mud-guard *N* is secured, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 22d day of April, 1889.

THOMAS O'BRIEN.

Witnesses:

WM. A. LOWE,  
THOMAS J. HART.