

No. 693,521.

Patented Feb. 18, 1902.

F. ISHÖY.

SEPARABLE AND REVERSIBLE CYCLE.

(Application filed Feb. 13, 1901.)

(No Model.)

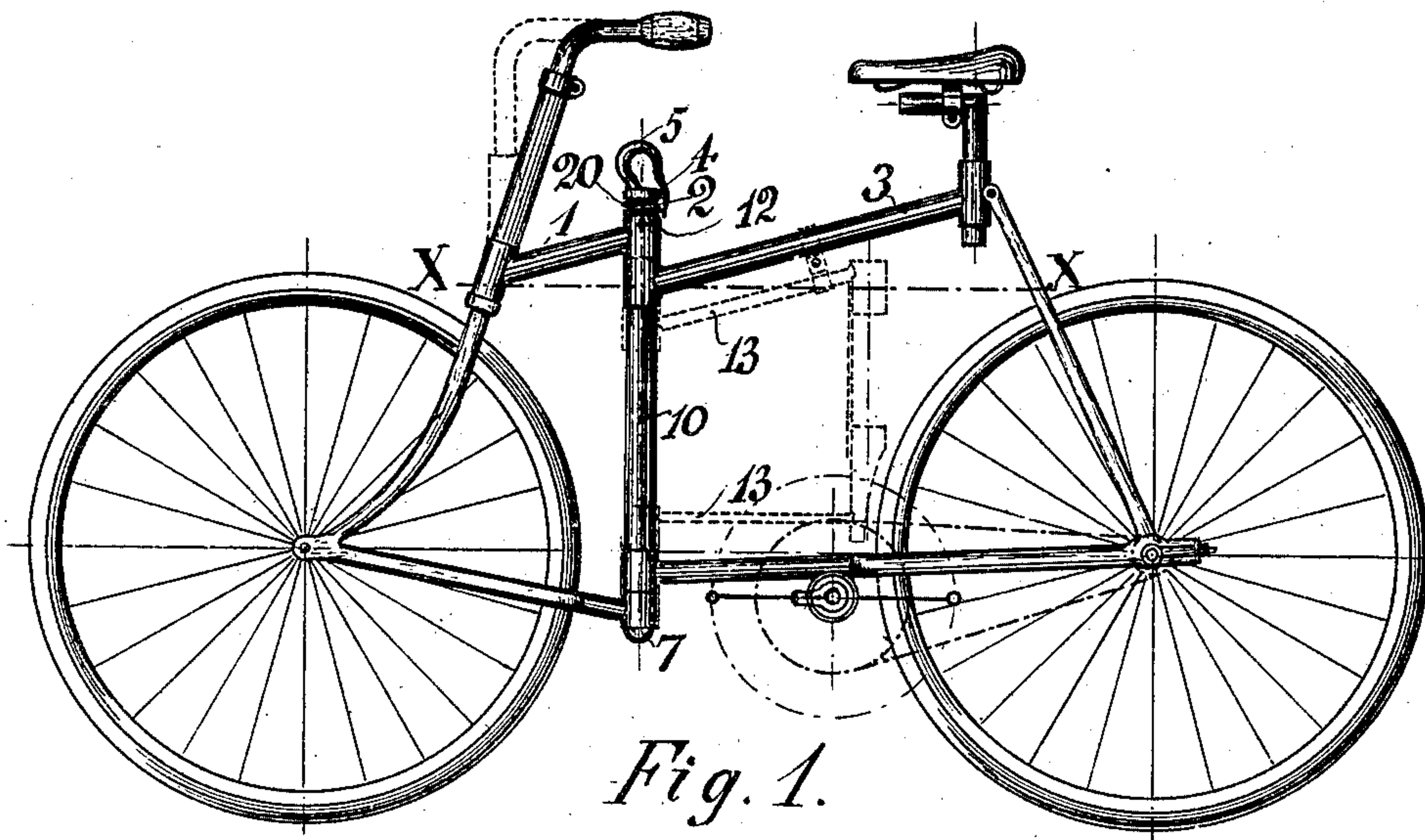


Fig. 1.

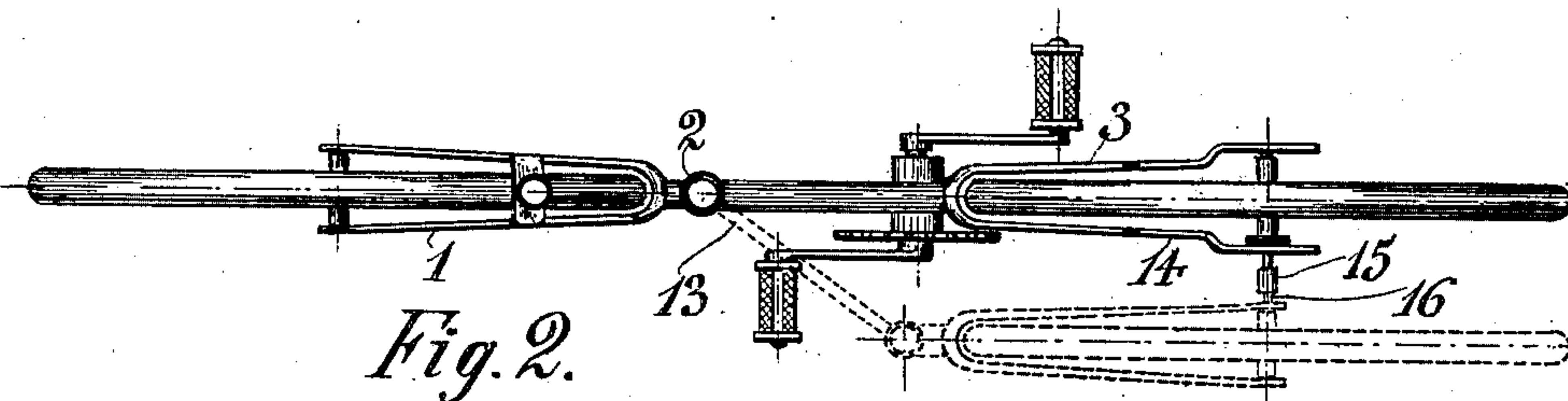


Fig. 2.

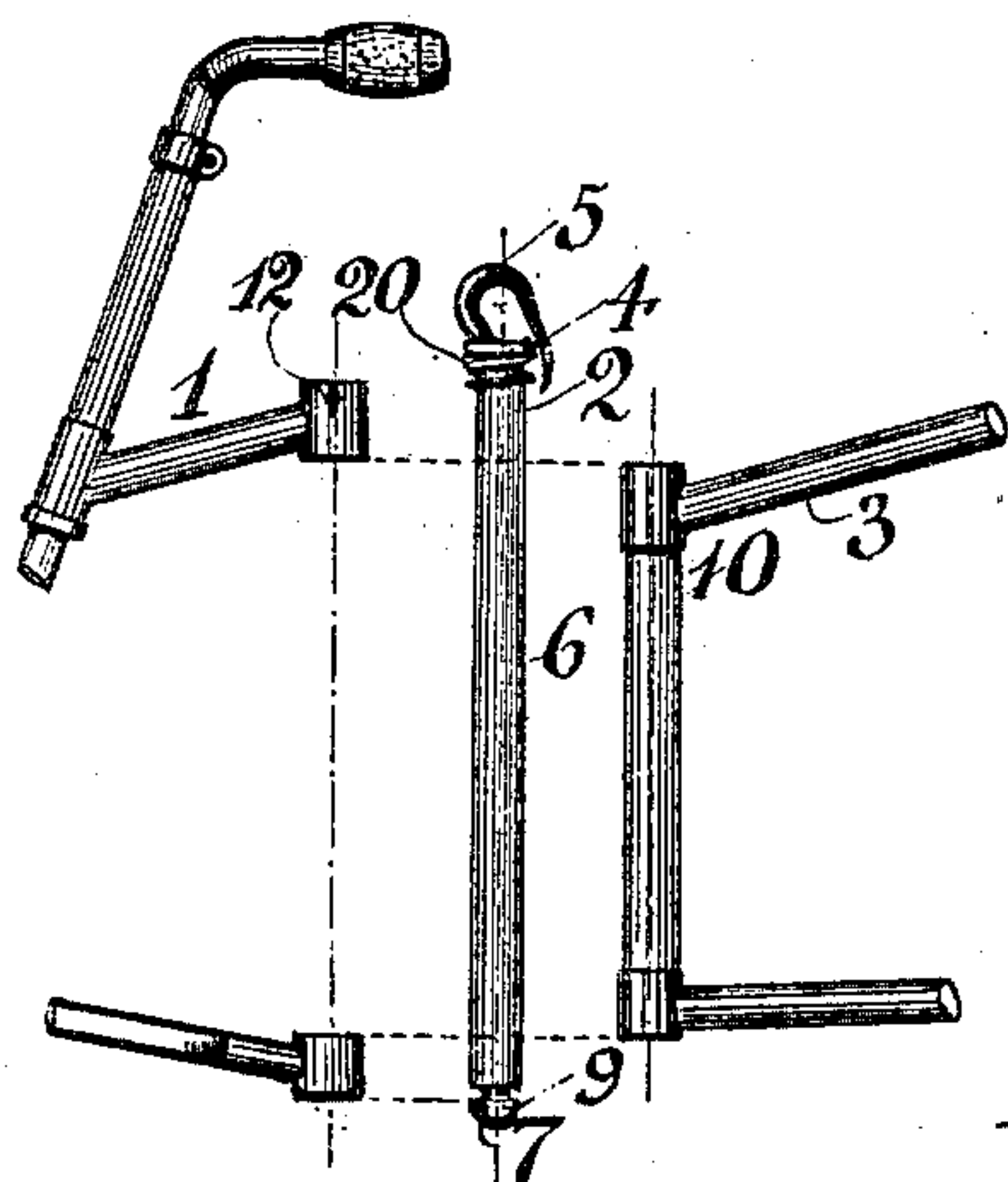


Fig. 5.

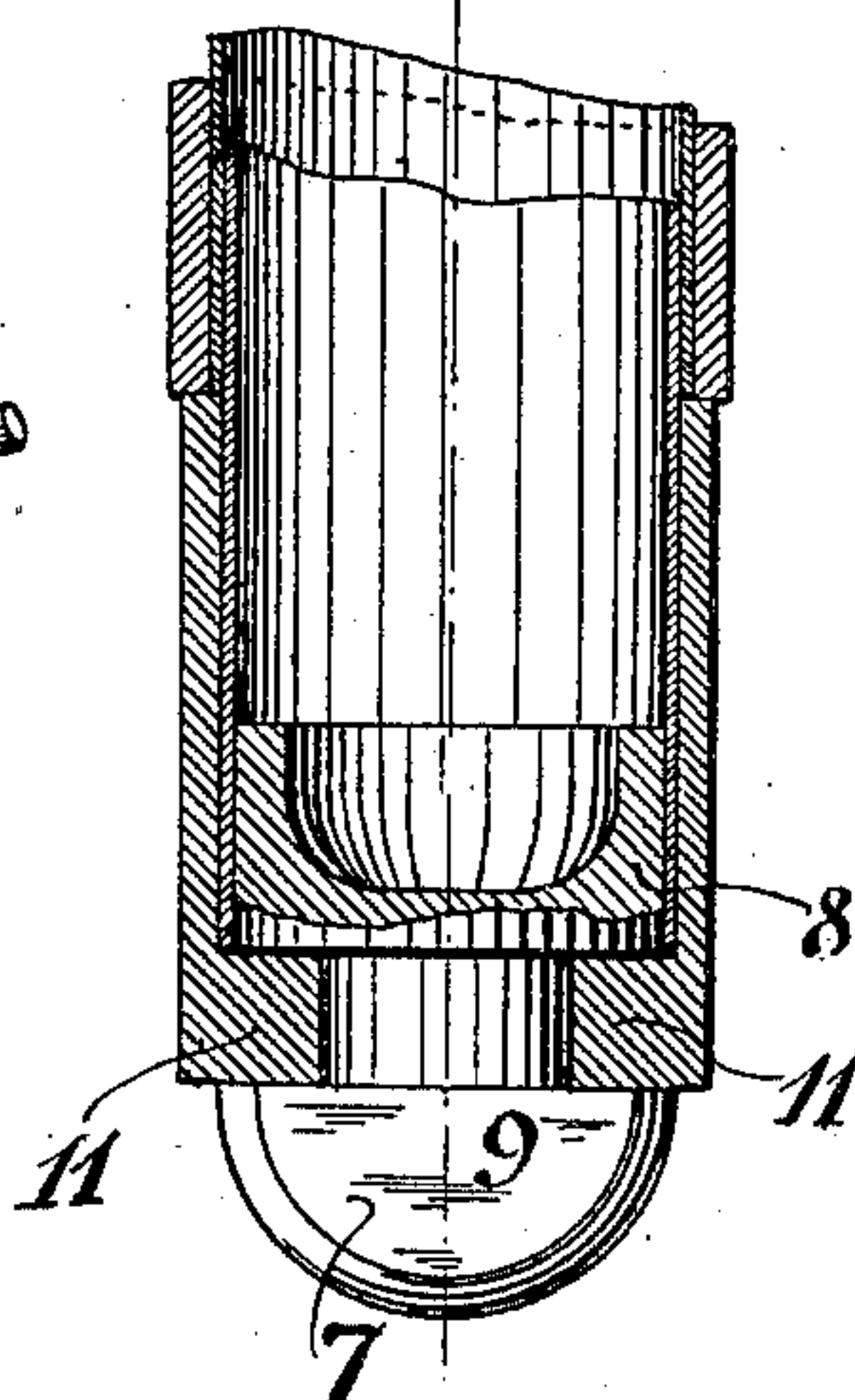


Fig. 3.

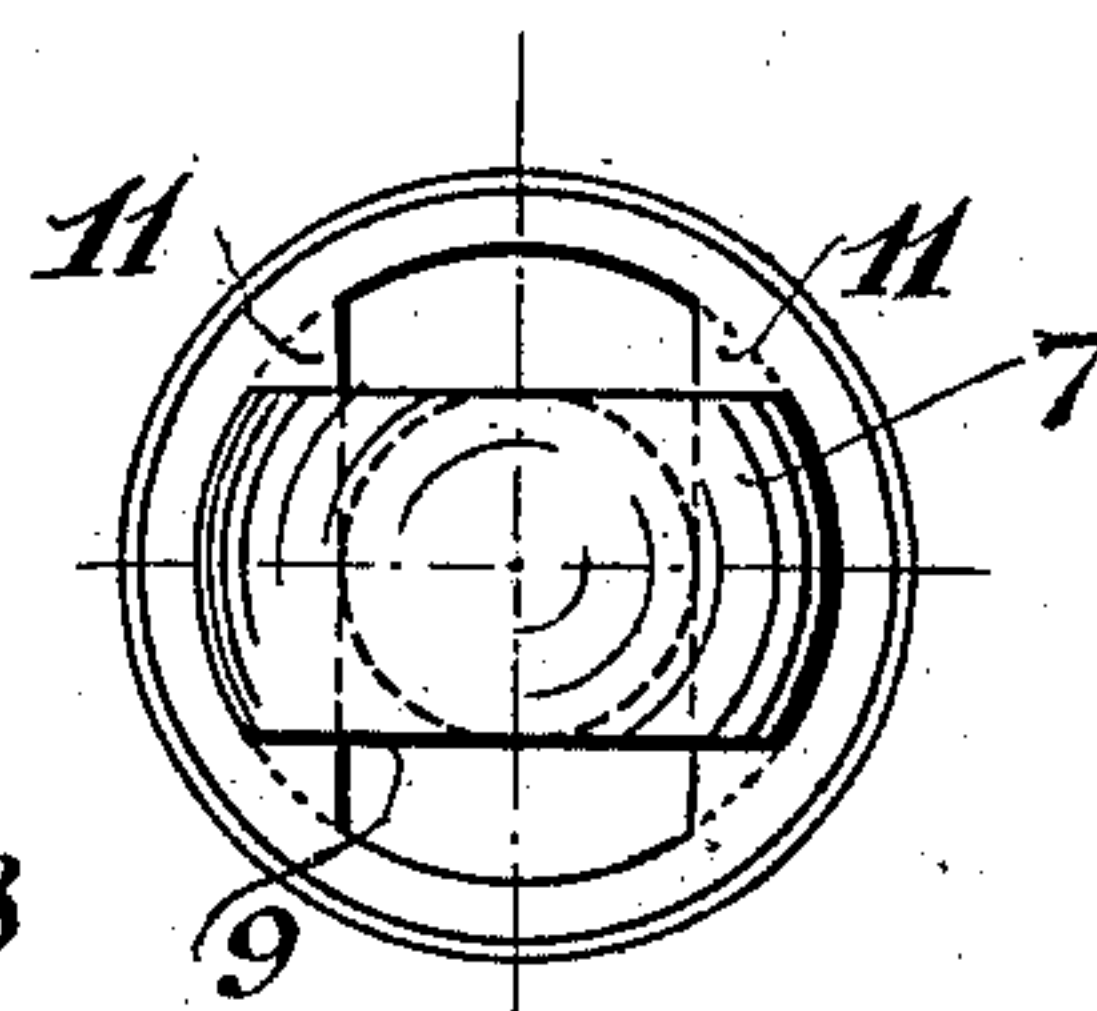


Fig. 4.

Witnesses.
Catherine J. Babcock
Fred L. Llorius

Inventor
Frederick Ishöy
by W. H. Babcock
Attorney

UNITED STATES PATENT OFFICE.

FREDERIK ISHÖY, OF COPENHAGEN, DENMARK.

SEPARABLE AND REVERSIBLE CYCLE.

SPECIFICATION forming part of Letters Patent No. 693,521, dated February 18, 1902.

Application filed February 13, 1901. Serial No. 47,160. (No model.)

To all whom it may concern:

Be it known that I, FREDERIK ISHÖY, of the city of Copenhagen, in the Kingdom of Denmark, have invented certain Improvements in Separable and Reversible Cycles, of which the following is a specification.

The invention has reference to a cycle, principally designed for military purposes, which can be divided into two parts, that separately or together can be carried by two men, or only, if desired, by one man, and which has also this characteristic feature that it can be ridden with the driving-wheel either before or behind. The separation is effected by the cycle-frame being made so as to form two compartments revolving around a tube which can be drawn out, whereby the frame is divided into two pieces, which, either together or separately, can be carried on the backs of the men when the cycle is not required for riding. The steering-fork cannot be turned in its tube, but the steering is effected by turning the whole front frame around the connecting-tube.

The object of the invention is represented in the inclosed drawings, in which—

Figure 1 shows the cycle from the side put together. Fig. 2 shows the cycle from above in a section after the line X X in Fig. 1. Fig. 3 shows a longitudinal section of the lower part of the extractable tube. Fig. 4 is the same from below. Fig. 5 shows the central part of the cycle with the parts separated.

The cycle consists of three principal parts—namely, the front frame-piece 1, which is in rigid connection with the front fork, the rod 2, that unites the parts, and the rear frame-piece 3. The extractable rod that unites the parts consists of a massive head 4 with a crook or handle 5 in Fig. 5, a tube 6, and a massive head at bottom 7, above which a narrow constriction or reduction of diameter is made. The head 8 is not quite round, but cut to the same thickness as the constriction by two parallel axial cuts, by which two surfaces 9 are formed. The head has thus a circular cross-section with flattened sides. In the bottom of the tube 10, which is connected with the part of the frame marked 3, are fastened two half-moon-shaped plates 11, so that between these an opening is formed the same shape as the cross-section of the head 7 and so that

the head 7 can be pushed down through this opening. If this be done and the tube 6 be thereafter turned ninety degrees, the frame will be united without danger of it falling apart of itself. To be able to convince oneself at any time that the tube 6 is in the right position, one or more marks 12 can be made on the farthest-up socket on the front frame 1, and the lower point of the crook 5 will serve as indicator. Partly to prevent the rod being too easily turned and partly to press the sockets on the frame compactly together a strong spring 20 can be fixed under the ring 4.

When the cycle has been taken apart by turning the tube ninety degrees and thereafter drawing it out, then, if the single parts 1 and 3 are to be carried by different men, the tube 6 can be put through the sockets of the front part. On the other hand, if the cycle is to be carried by one man alone it can be folded together in the following manner: At the tube 10 are placed one or more light links 13, which are made to revolve on the said tube. These links, which also may be connected with each other, serve, so to speak, to extend the cycle-frame and make it triple. The length of the link or links 13 is arranged so that the axle of the front wheel after the front frame 1 is turned so that it lies alongside the rear frame 3 forms a continuation of the axle of the back wheel. When in this case a tenon with a turnable nut 15 is fixed on the fork of the back wheel 14 and on the fork of the front wheel a bolt 16 with thread which fits the nut, both parts of the frame can thus be fixed together in the middle of the wheels. Should it prove necessary, the inner pedal-treadle can be arranged so that it can be turned upward or easily taken off and fixed to a suitable part of the frame.

The cycle in question has besides being separable the advantage that it can eventually be turned around, so that the front wheel becomes the back wheel, or the reverse. If, now, we place the fork-tube as marked in dotted lines in Fig. 1 in the same angle with a horizontal line as the saddle-tube, and if we bend the tube that carries the saddle (seen from the side) so that it has the same, or about the same, angle as the steering-tube, also viewed from the side, if the two tubes are of the same thickness, then the saddle

can be exchanged for the steering-bar. Many cyclists, however, prefer to ride with the driving-wheel in front, as this gives a more natural method of steering, and for people who
5 are inclined to ride with bent back it is more advantageous to tread forward than downward.

The separability of the cycle not only makes its transport an easier matter in time of war or
10 in military operations, but also in a room or in transport the cycle will occupy but little space, which will considerably cheapen the packing.

What I claim is—

15 1. In combination with two cycle-frame sections having tubular parts adapted to be arranged in line with each other, a pin adapted to pass through the said parts for uniting the said sections and having at its lower end a
20 head or knob which is flattened at the sides, one of the frame-sections being provided with an opening of similar shape, in order that the

said head or knob after passing down through the said opening may be used to lock or unlock the frame at will by turning the said pin 25 substantially as set forth.

2. In a folding cycle-frame, the combination of an axle and shaft having a nut formed on its end, with the wheel on said axle, the frame-section which carries them; the other 30 wheel and axle, the other frame-section in which they are mounted and which is provided with a screw-threaded part engaging the said nut when the two frame-sections are folded together and a connecting pin or rod 35 on which the two frame-sections are united for folding, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FREDERIK ISHÖY.

Witnesses:

J. WESTENGAAR,

C. L. KENGELBERG.