(No Model.)

O. HANSON.

BICYCLE.

No. 459,003. Patented Sept. 8, 1891.

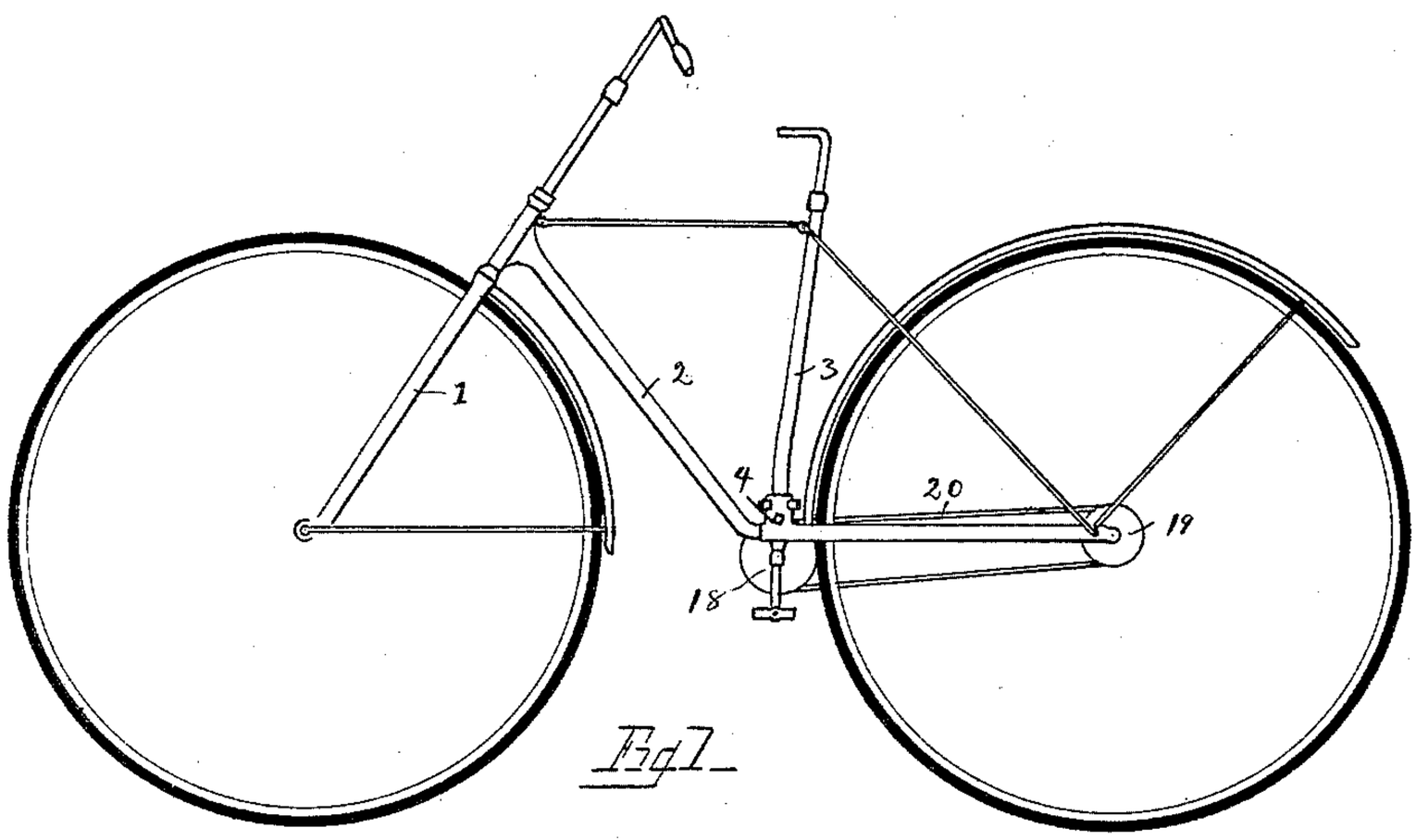

Fig. 1.

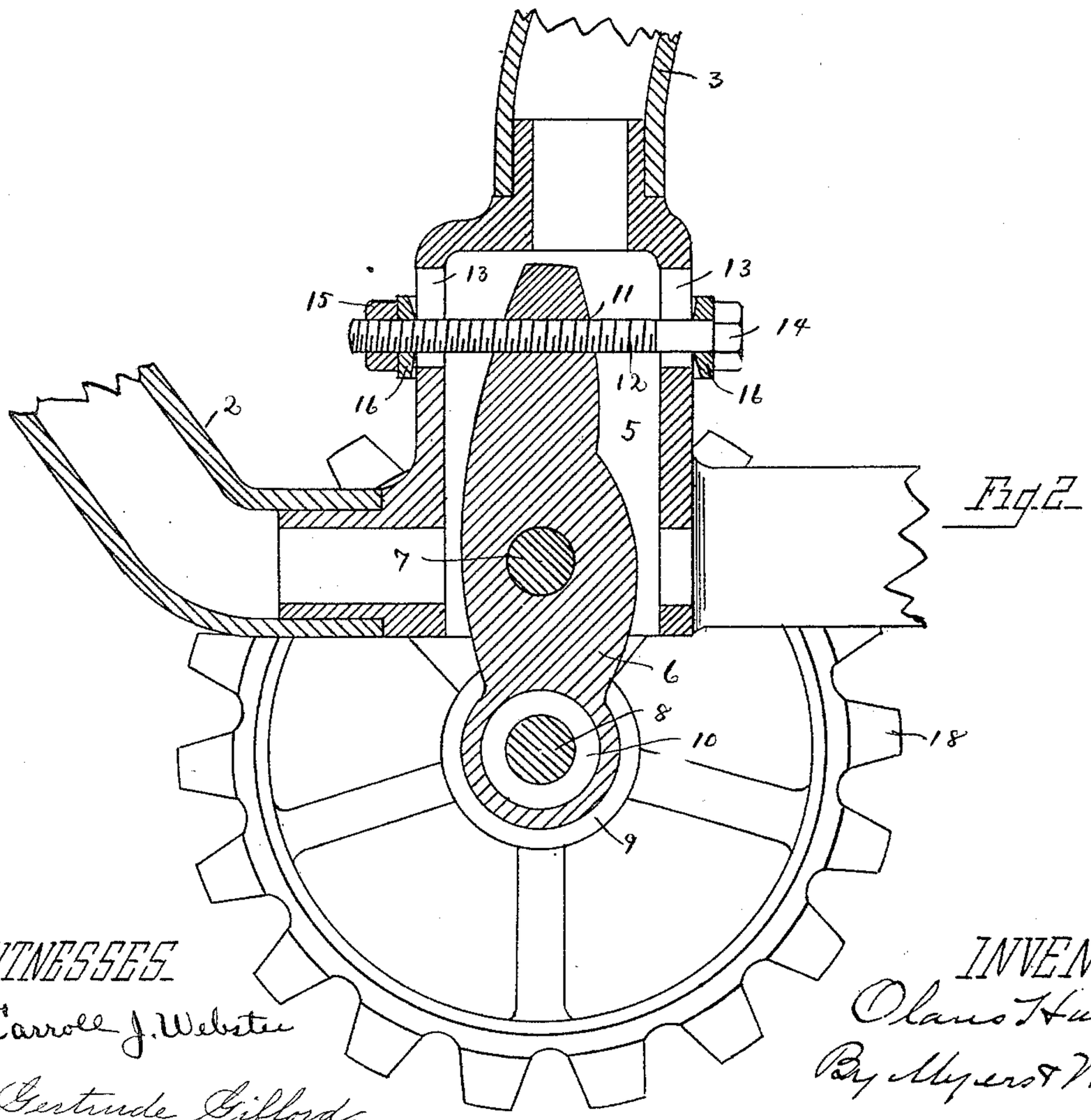

Fig. 2.

WITNESSES.

Carroll J. Webster

Gertrude Gifford.

INVENTOR.

Olaus Hanson

By Myers & Webster

Attys

UNITED STATES PATENT OFFICE.

OLAUS HANSON, OF TOLEDO, OHIO, ASSIGNOR OF PART TO JOSEPH L. YOST, OF SAME PLACE, AND HARRY A. LOZIER, OF CLEVELAND, OHIO.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 459,003, dated September 8, 1891.

Application filed December 8, 1890. Serial No. 373,937. (No model.)

To all whom it may concern:

Be it known that I, OLAUS HANSON, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Chain Adjustments for Bicycles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 figures of reference marked thereon, which form part of this specification.

My invention relates to a chain adjustment for bicycles, having especial reference to that class of bicycles in which the propulsion is effected through the medium of a chain.

The object of the invention is to provide simple and efficient means for adjusting the tension of the chain.

A further object is to provide an adjusting mechanism that shall be inexpensive of construction, positive in its adjustment, noiseless in operation, and so located and concealed that it will not affect the appearance of the bicycle.

The invention consists in the parts and combination of parts hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a Safety bicycle constructed in accordance with my invention. Fig. 2 is a sectional detail of a sufficient portion of the frame to illustrate my invention.

Heretofore the mechanism employed for adjusting the chain has not only been expensive, but inconvenient of access, thereby rendering it difficult to adjust the same. I have overcome these objections by journaling the crank-shaft in a pivoted adjusting-lever, actuated by a transverse screw, by which the lever is moved to increase or diminish the tension of the chain by the forward or backward movement of the crank-shaft and sprocket-wheel thereon.

1 designates the fork, 2 the backbone, and 3 the saddle-post, which may be of the usual or any preferred form of construction.

4 designates a coupling for securing the rear fork, backbone, and saddle-post rigidly together, the coupling being formed with a rectangular chamber 5 of a width and height to accommodate an adjusting-lever 6, pivotally secured to the frame at 7, the lower end extending sufficiently below the main frame to receive the crank-shaft 8, which is journaled in a sleeve-bearing 9, secured in an opening 10 in lever 6. The upper end of lever 6 projects some distance above the pivot and is formed with a screw-threaded perforation 11, extending through the lever at right angles to the pivot, there being a screw-threaded bolt 12 passed through elongated openings 13, formed in the coupling, and also passing through the screw-threaded perforation 11 of the adjusting-lever 6. Bolt 12 is formed with a head 14, adapted to receive a wrench or other means for turning the bolt, the opposite end having a nut 15 run thereon, there being a washer 16 interposed between the head 14 and the outer side of the coupling, this arrangement not only allowing the bolt to turn in the washers without affecting the position of the nut, but also permitting the bolt to move in the openings 13 as the upper end of the lever 6 moves in the arc of the circle, when moved to increase or diminish the tension upon the chain.

18 designates the front sprocket or chain wheel secured upon shaft 8, there being a sprocket 19 upon the rear axle, the two being connected by the endless chain 20 in the usual manner.

From the foregoing description the operation will be apparent. When it is desired to cause greater tension upon chain 20, the bolt is turned to cause the upper end of lever 6 to move toward the head of the bolt. This throws the lower end, and consequently the crank-shaft and sprocket-wheel 18, in the opposite direction, thereby increasing the tension upon the chain. By turning bolt 12 in an opposite direction a reverse movement of lever 6 is effected and the tension upon the chain is relaxed. By the arrangement described the adjustment is positive and without the possibility of disarrangement, jar, or rattling of the parts.

While I have described preferred means of moving the crank-shaft and sprocket wheel to effect the tension of the chain, I wish it

understood that I may vary the means herein described without departing from the spirit of my invention.

As an illustration of one modification, I may dispense with the threaded perforation 11 in lever 6 and the threaded bolt 12 and substitute therefor set-screws upon each side of lever 6. In this arrangement the openings 13 would be circular and screw-threaded to receive the screw-threaded set-screws, and in some constructions I may use but one set-screw tapped through the front side of the coupling and bearing upon the front edge of the lever, thereby normally causing tension when urged against the lever and relaxing tension when being withdrawn.

What I claim is—

1. In a bicycle, a chambered coupling, to which are secured the backbone, rear fork, and saddle-post, in combination with a lever pivoted within the chamber, a crank-shaft journaled in the lever, and means for rocking the lever on its pivot.

2. In a bicycle, a chambered coupling, to which are secured the backbone, rear fork, and saddle-post, in combination with a lever pivoted within the chamber, a crank-shaft journaled in the lever, a sprocket-wheel on the shaft, and a threaded bolt engaging the said lever to rock it upon its pivot.

3. In a bicycle, a chambered coupling, to which are secured the backbone, rear fork, and saddle-post, in combination with a lever pivoted within the chamber, a crank-shaft journaled in the lever, a sprocket-wheel on the shaft, a threaded bolt extending through the lever and the coupling, a nut engaging the threaded end of the bolt, and washers interposed between the head of the bolt and the nut and bearing against the outer surface of the ends of the coupling.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

OLAUS HANSON.

Witnesses:

WILLIAM WEBSTER,

CHARLES J. MOORE.

Correction in Letters Patent No. 459,003.

It is hereby certified that Letters Patent No. 459,003, granted September 8, 1891, for an improvement in "Bicycles," was erroneously issued to the inventor Olaus Hanson, and Joseph L. Yost and Harry A. Lozier, as joint owners of said invention; whereas the patent should have been granted to said *Joseph L. Yost and Harry A. Lozier* as owners of the entire interest as shown by the assignments of record in the Patent Office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 13th day of October, A. D. 1891.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

W. E. SIMONDS,
Commissioner of Patents.