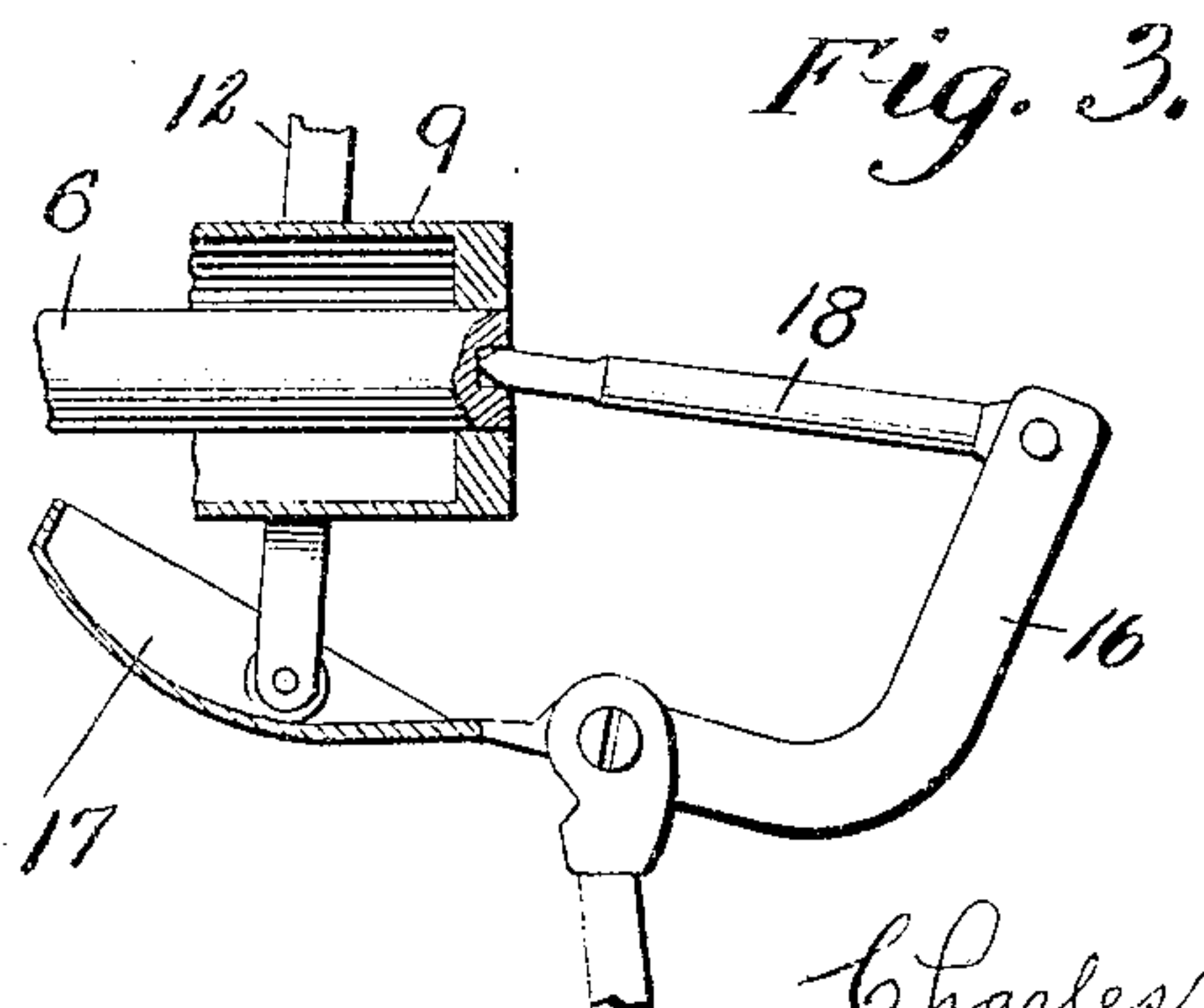
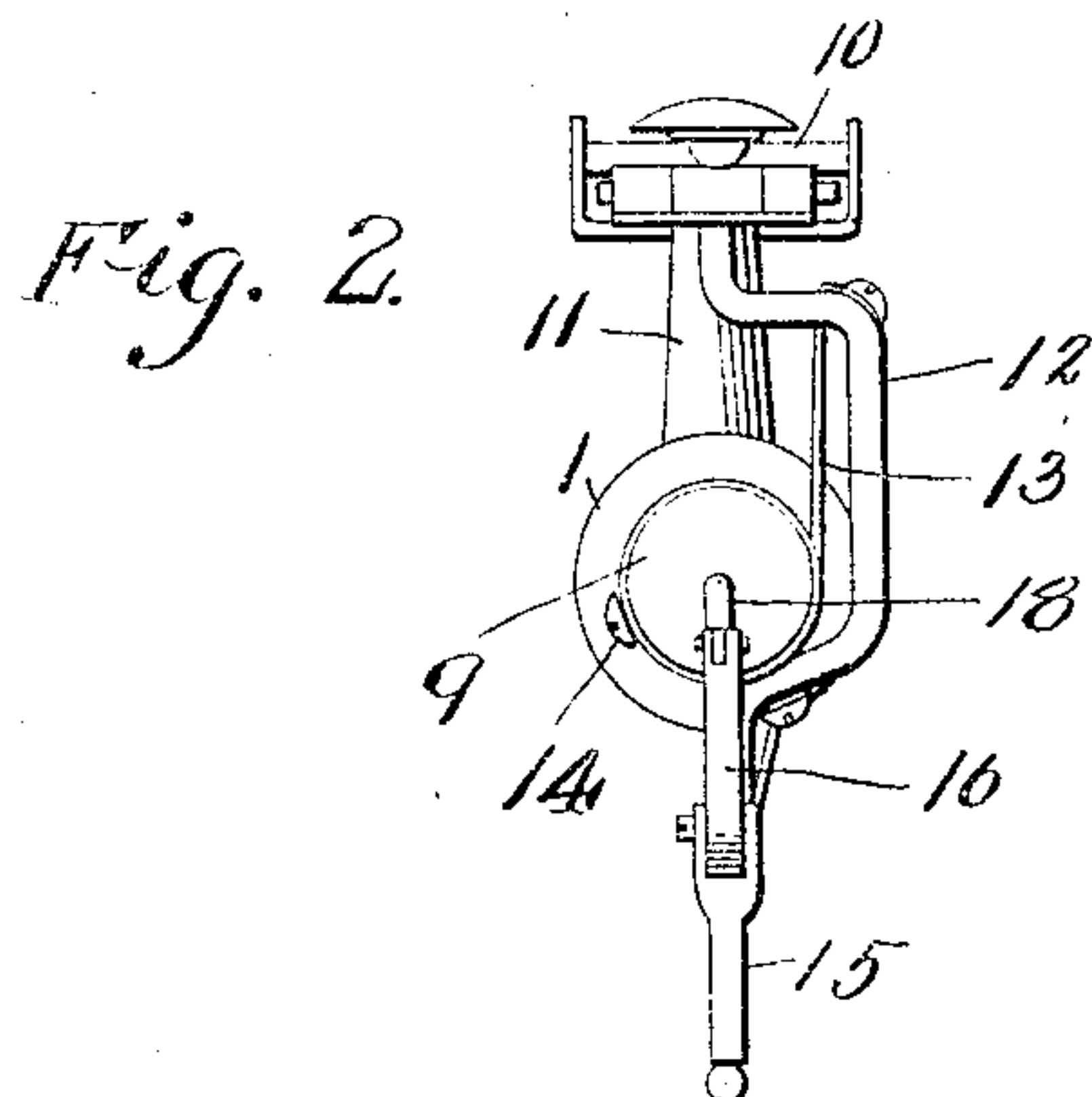
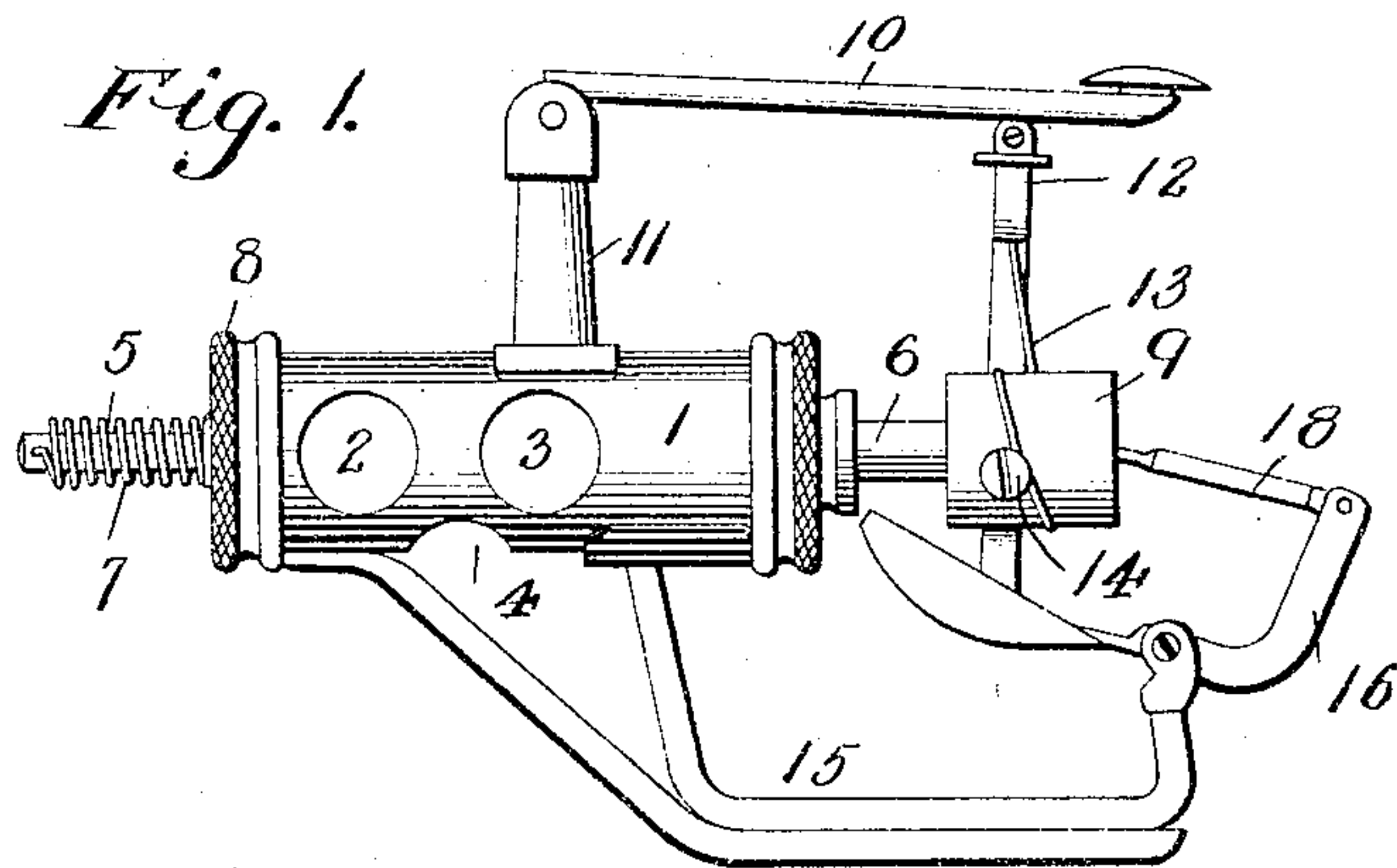


C. G. CONN.
 ROTARY VALVE FOR WIND MUSICAL INSTRUMENTS.
 APPLICATION FILED JULY 7, 1908.

931,039.

Patented Aug. 17, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES G. CONN, OF ELKHART, INDIANA.

ROTARY VALVE FOR WIND MUSICAL INSTRUMENTS.

No. 931,039.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed July 7, 1908. Serial No. 442,321.

To all whom it may concern:

Be it known that I, CHARLES G. CONN, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Rotary Valves for Wind Musical Instruments, of which the following is a specification.

While I have, for purposes of illustrating my invention, shown it as applied to the valve of a cornet, it will, of course, be understood that it is equally as well adapted for use with other wind musical instruments.

The object of my invention is to provide means whereby I am enabled to rotate the valve during its depression and by such rotation cause one valve passage to serve in a dual capacity, thus eliminating one of the valve ports and correspondingly shortening the stroke of the valve piston, which results in a much quicker movement in the valve; and with these and minor objects in view my invention consists of the parts and combination of parts as will be hereinafter more fully set out.

In the drawing, Figure 1 is a side elevation of a valve embodying my invention; Fig. 2 is an end view of the same; and Fig. 3 is a detail sectional view.

1 represents the valve casing provided with the ports 2, 3 and 4. The valve piston is provided with stems 5 and 6 extending from opposite ends a suitable distance.

7 is a coiled spring secured around the stem 5 of the piston, one end of said spring being secured to the cap 8 of the valve casing, while the other end is secured to the stem.

9 is a drum keyed to the stem 6.

The finger key 10 is mounted with a hinge joint on the stud 11, which in turn is secured to the valve casing.

12 is an arm hinged to the finger key, the body of which is deflected around the drum 9, said drum being connected to said arm by means of the cord or band 13, the ends of which are connected to the arm 12, while the body of the cord is given one turn around said drum and fixed thereto by means of the set screw 14, whereby the valve is rotated.

15 is a bracket secured to the valve casing, to one end of which the bell-crank lever 16 is pivoted. One arm of the bell-crank lever is provided with a groove 17, in which the lower end of the arm 12 is positioned, said

arm having an anti-friction roller on its extreme lower end.

18 is a thrust arm or bar, one end of which is pivoted to the bell-crank lever, while the other end is swiveled in one end of the drum 9.

The operation is as follows: On depressing the finger key lever 10, the arm 12 is depressed, thereby shortening one end of the cord 13, thus revolving, by means of the drum, the valve piston. The lower end of the arm 12, being mounted in the groove 17 of the bell-crank lever, rocks the bell-crank lever on its pivot, which results in a thrust upon the thrust bar or arm 18, whereby the piston is moved axially of the valve casing. This axial movement of the piston puts tension upon the coiled spring 7, which, when pressure is released upon the finger key, immediately restores the piston to its normal position, thus leaving the valve for open tones.

I am aware that changes may be made in the details of construction without departing from the spirit of my invention, and hence I would have it understood that I do not wish to be limited to said details.

What I claim is:

1. In combination with a rotary piston valve for a wind musical instrument, a stem projecting from the valve piston, a drum on said stem, a bell-crank lever connected with the casing of said valve, a thrust bar pivotally connected to said bell-crank lever, and to the said drum, a finger key, and means operated by the finger key to operate said bell-crank lever and thrust bar and simultaneously revolve said drum.

2. In combination with a rotary piston valve for a wind musical instrument, a stem projecting from one end of the valve piston, a bell-crank lever hung from the casing of said valve, a thrust bar pivotally connected to said lever, and to said stem, a finger key and means operated by the finger key to actuate the bell-crank lever and thrust bar, and simultaneously revolve said piston valve.

3. In combination with a rotary piston valve for a wind musical instrument, a casing having a valve chamber, a thrust bar swiveled to the piston valve, a finger key, and means interposed between the finger key and said thrust bar, whereby on operation of the finger key the piston valve is simultaneously

revolved and moved axially of the valve chamber.

4. In a rotary piston valve for a wind musical instrument, the combination with the valve casing, of a piston mounted therein, a stem projecting from said piston, a drum mounted on said stem, a finger lever, an arm hinged to and depending from said finger lever, means connecting said arm to said

drum, a bell-crank hung from said valve casing, and a thrust bar swiveled in said drum and connected to said bell-crank; said bell-crank being operated by contact with the arm hung from the finger key lever.

CHARLES G. CONN.

In presence of two witnesses—

W. J. GROVERT,
GERTRUDE STREGO.