

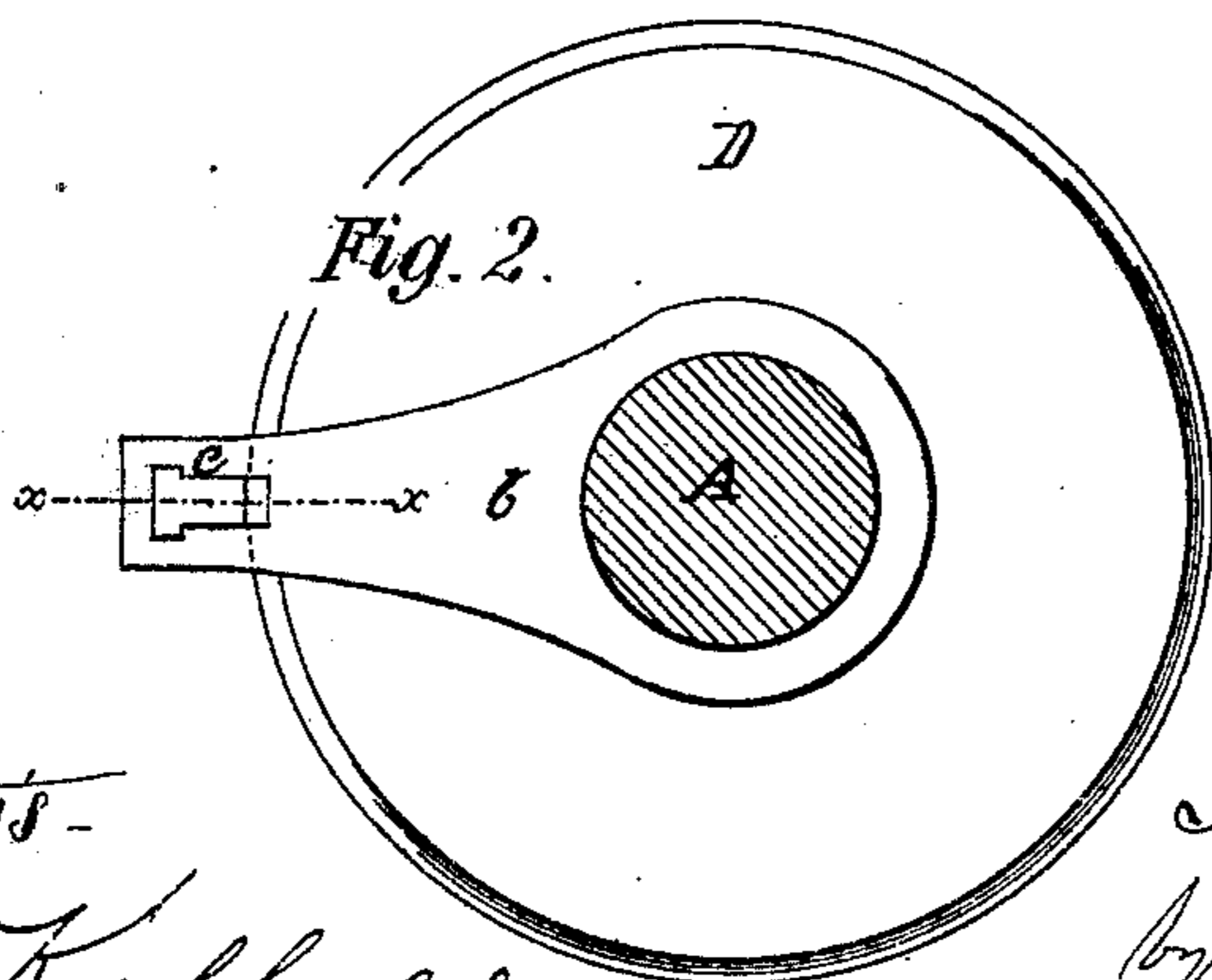
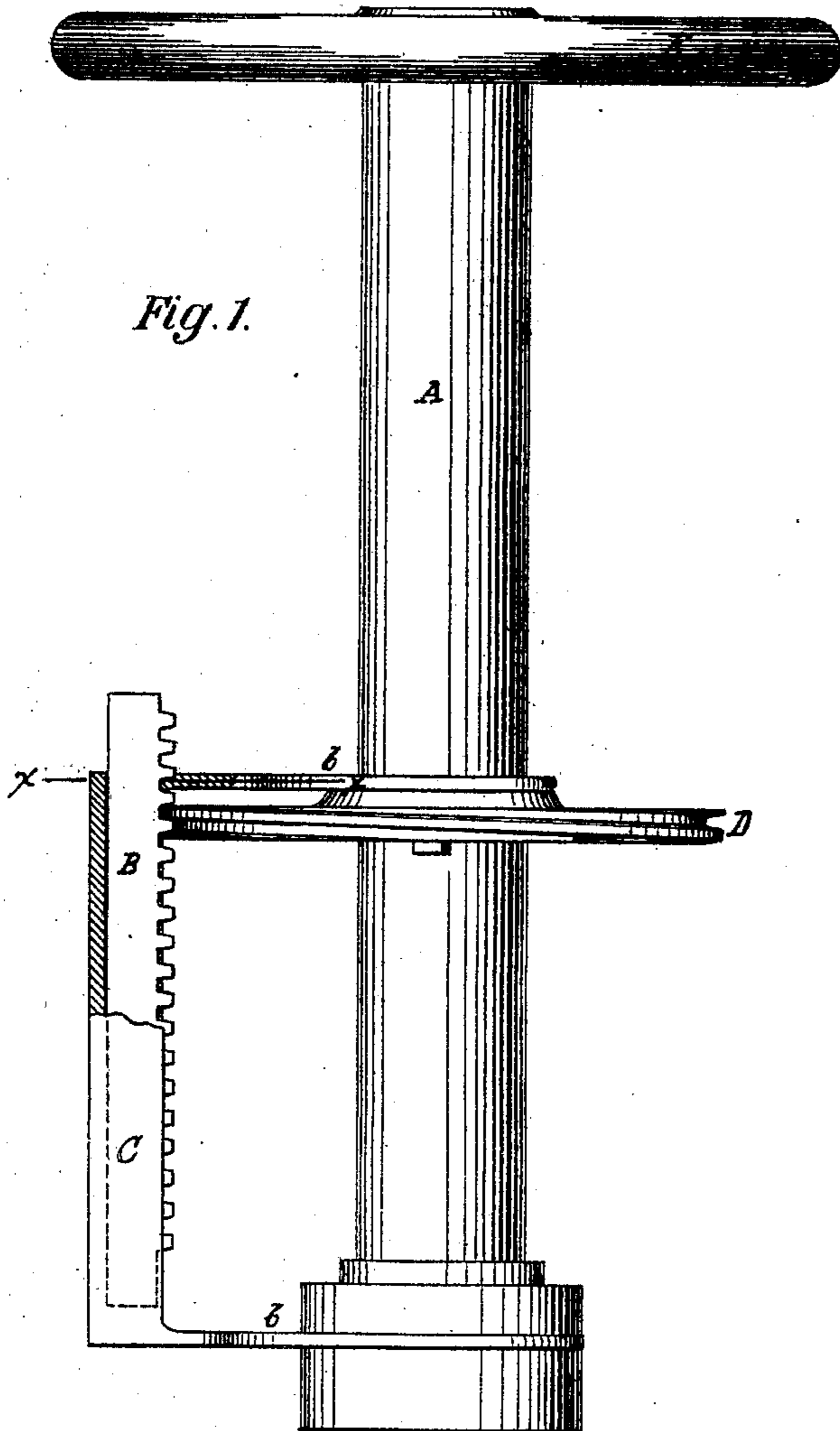
(167.)

JOHN C. CHAPMAN.

Valve Indicator.

No. 121,587.

Patented Dec. 5, 1871.



Witnesses:

Fred. Artis.

A. G. Kellogg.

Inventor:

J. C. Chapman

by his attys.

A. H. & R. H. Evans

UNITED STATES PATENT OFFICE.

JOHN C. CHAPMAN, OF WALTHAM, MASSACHUSETTS.

IMPROVEMENT IN VALVE-INDICATORS.

Specification forming part of Letters Patent No. 121,587, dated December 5, 1871.

To all whom it may concern:

Be it known that I, JOHN C. CHAPMAN, of Waltham, in the State of Massachusetts, have invented an Indicator to show when a valve is open or closed, of which the following is a clear, full, and exact description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents a side elevation of a valve-shaft with my indicator attached and partially broken in section. Fig. 2 is a horizontal section through the line *x x*.

My invention relates to that class of valves which is opened and closed by means of a screw-shaft, as shown in Fig. 1; and it consists in the construction and arrangement of a bar or rack, which is caused to rise or fall as the valve-shaft is turned to open or close the valve.

To enable others skilled in the art to make and use my invention, I will proceed to state the exact manner in which I have carried it out.

A represents the upper portion of a valve-shaft turned by the hand-ring E to operate the screw which is to open and close the valve in the well-known manner of opening and closing valves. Attached to the shaft is the worm-gear D, the thread of which works into the teeth of the rack B secured in the casing C, which is held firmly in position by the bent arms *b b*, connected with the shaft A by means of rings, as shown in Fig.

2, which will allow the shaft to revolve freely within them. The upper and lower ends of the casing C I slot at *c*, as shown in Fig. 2, to allow the indicator to ascend or descend as the shaft is revolved.

It is evident that as the shaft A is turned the worm-gear D, revolving with it and working into the teeth of rack or indicator, must raise or lower the indicator just in the same proportion that the valve is opened or closed.

The great advantage of my invention will be manifest to all concerned in the working of valves, and particularly valves in gas-machines, where a neglect or mistake in opening and closing the valves is liable to result in serious accident. By the use of my indicator the true position of the valve is evident to the eye, and in the night-time the person in charge can readily determine it by simply placing his finger on the indicator, and without interfering with the valve-screw.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

The rack B, in combination with the worm-gear D and valve-shaft A, substantially as and for the purpose set forth.

JOHN C. CHAPMAN.

Witnesses:

DANL. F. VILES,
E. P. STARBUCK.

(167)