

J. COLLINS.
Bell-Pulls.

No. 151,356.

Patented May 26, 1874.

Fig. 1.

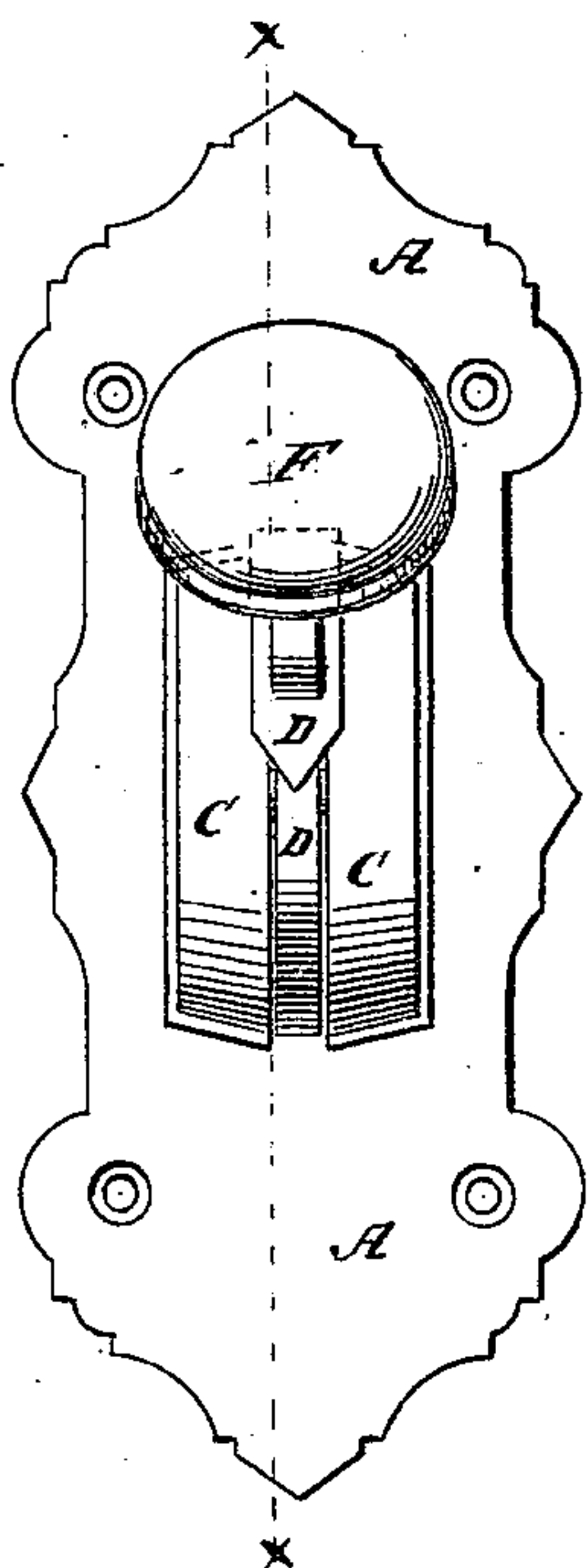


Fig. 2.

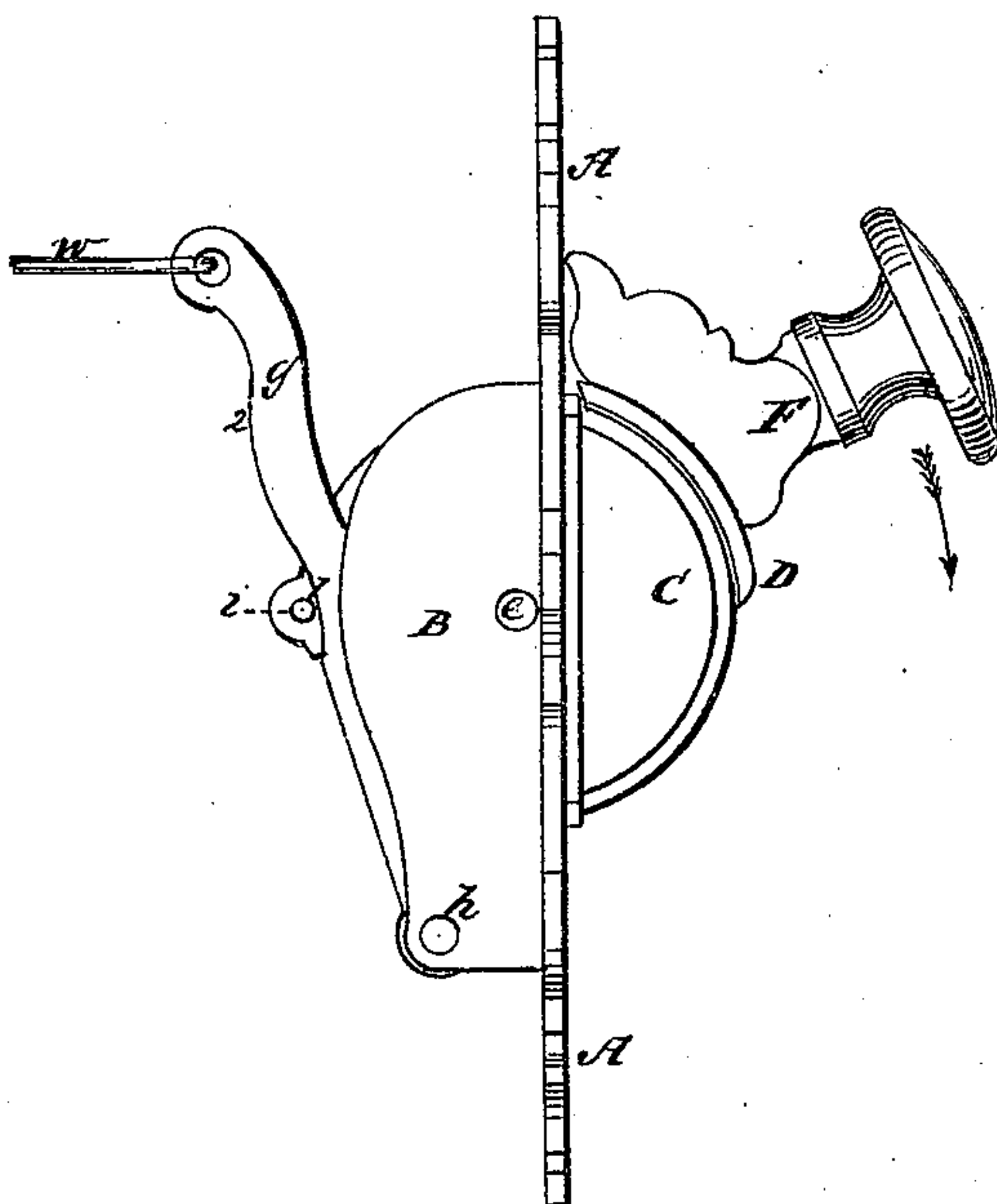


Fig. 3.

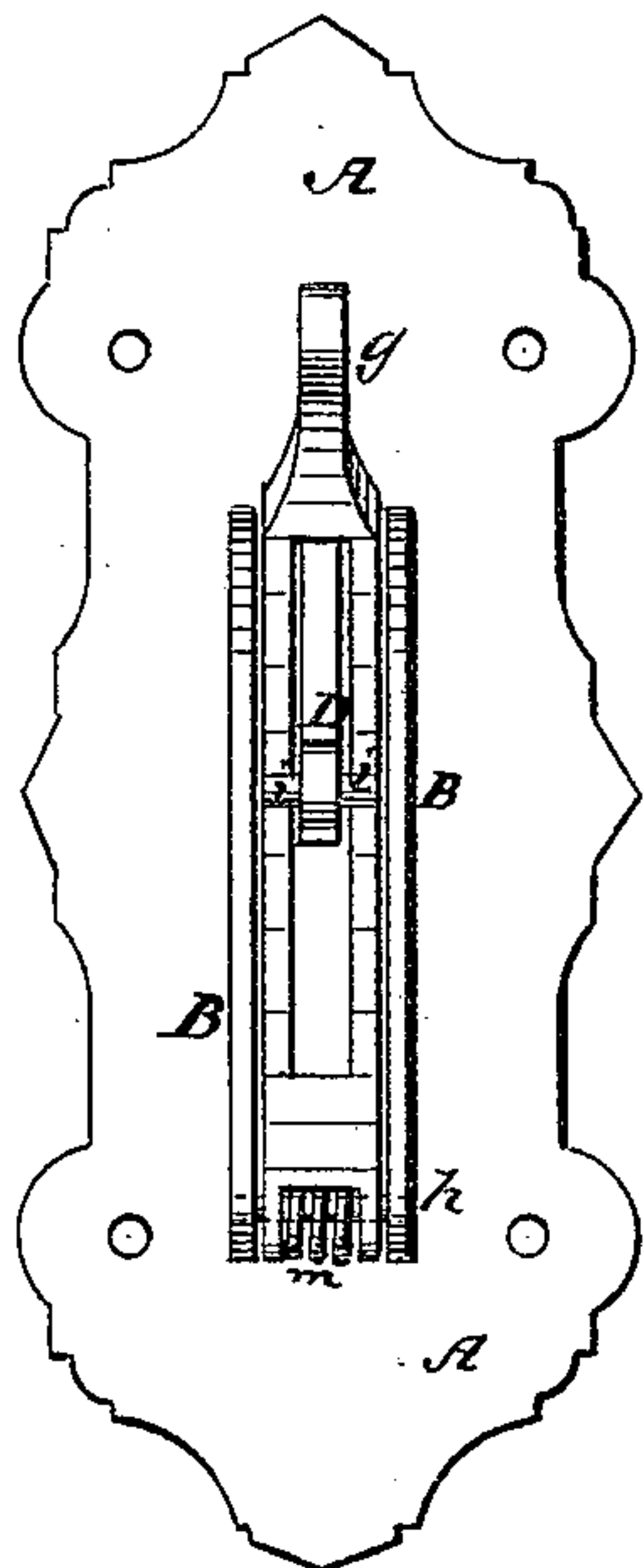
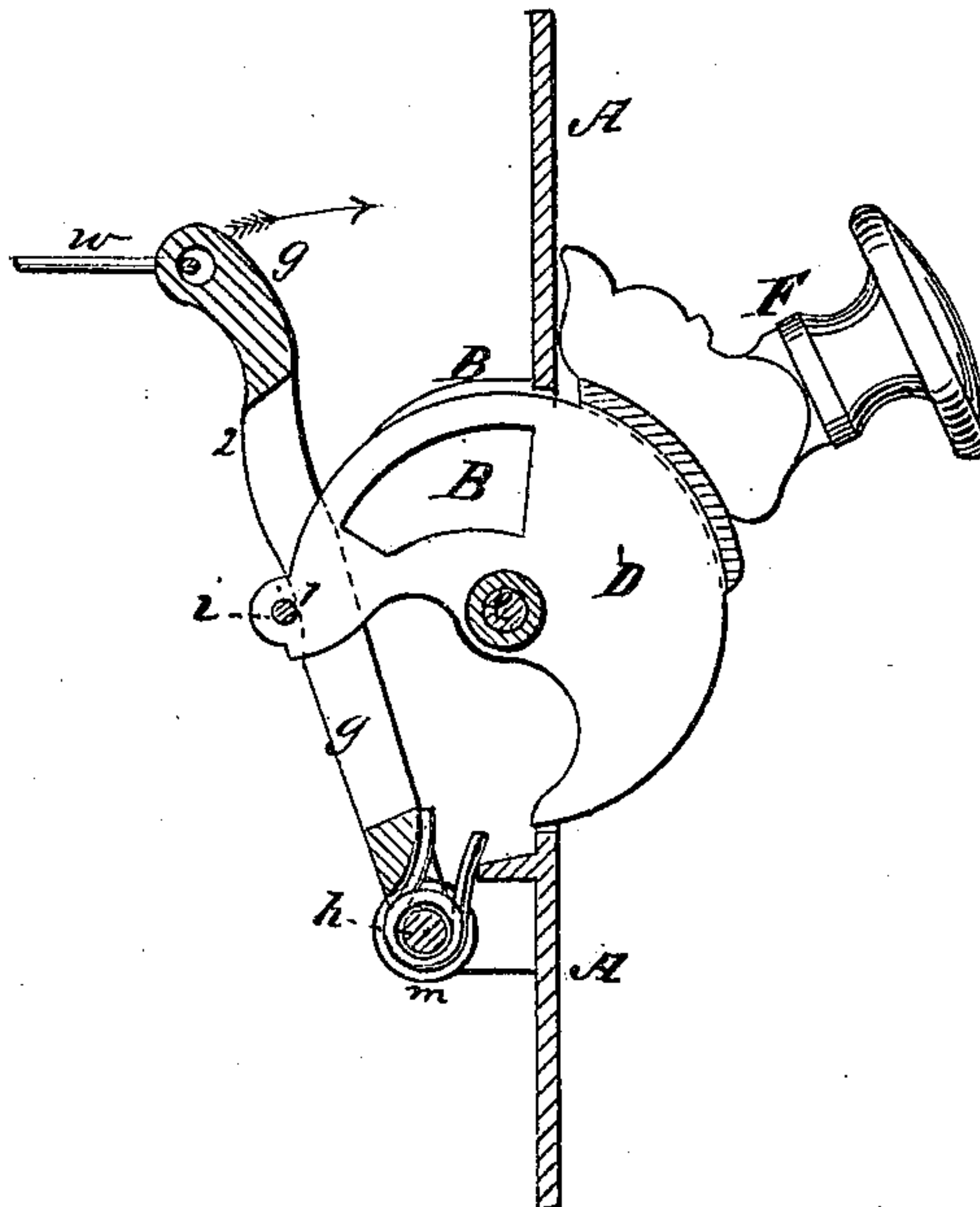


Fig. 4.



Witnesses:
E. Wolff
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By his attorney
J. N. McEltre

UNITED STATES PATENT OFFICE.

JOHN COLLINS, OF HOHOKUS TOWNSHIP, BERGEN COUNTY, NEW JERSEY,
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IMPROVEMENT IN BELL-PULLS.

Specification forming part of Letters Patent No. **151,356**, dated May 26, 1874; application filed
May 2, 1874.

To all whom it may concern:

Be it known that I, JOHN COLLINS, of Hohokus township, Bergen county, in the State of New Jersey, have invented an Improved Door-Bell Handle; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Previous to my invention it has been suggested to employ as a bell-pull handle a vibratory lever having a knob or other suitably-shaped hand-piece formed on or attached to its projecting end; but such a device, so far as my knowledge extends, has always been combined with a chain or some other flexible connection arranged between it and the end of the bell-wire. In all such mechanisms the liability to derangement of the flexible connections, the rapid wear of the parts, and their uncertainty of action have been serious objections.

I propose by my invention to overcome these difficulties, and provide a swinging or vibratory bell-handle which shall embody a positive cam and lever motion, and in which there shall be no sort of flexible connections between the hand-lever and the bell-wire; and to these ends and objects my invention consists in the combination, with a hand-lever suitably mounted in a plate or housing, and provided at its inner end with a bearing-pin or projecting lugs, of a secondary lever or vibratory arm, mounted to swing on a pivot at its lower end, formed with a cam-like bearing-surface, and provided with a spring, the whole being so constructed and arranged together that vibratory motion up and down of the hand-lever shall effect a vibration back and forth of the upper end of the secondary lever, so that a bell-wire attached thereto shall be properly pulled, as will be hereinafter more fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to more fully describe its construction and operation,

referring by letters to the accompanying drawings, in which I have shown one of my improved machines in front elevation at Figure 1, side elevation at Fig. 2, back elevation at Fig. 3, and at Fig. 4 in vertical section on the line *x x* of Fig. 1.

In the several figures the same part will be found designated by the same letter of reference.

A B C is the cast-metal plate and housing, in which are mounted and secured all the working parts; the portion marked A constituting, as seen, the face-plate, and the portions marked B the inwardly-projecting ear-pieces, in which are pivoted the levers D and *g*, as will be presently explained. The hand-lever D is hung on a pivot, *e*, and is provided or formed with a knob or hand-piece, F, as shown, while the secondary lever or spring-arm *g* is mounted at its lower end on a pin, *h*, arranged in the ears B, and is made with a central longitudinal mortise or slot, through which passes, and in which freely plays up and down, the rear end of the hand-lever D, which latter is provided at its inner end with a pin, *i*, which bears against the rear surface of and supports the lever *g*. The lever *g* is formed with a curved cam-like bearing-surface from 1 to 2, over which the pin *i* rides, as will be presently explained; and said lever is provided with a coiled spring, *m*, arranged about the pivot *h*, so as to exert a constant tendency to throw the upper end of lever *g* backward, or so as to keep it against the pin *i* of lever D. The upper end of lever *g* has an eye or hole, in which is supposed to be fastened the wire *w*, which leads to the bell.

The operation of my improved bell-handle will be understood to be as follows, viz: The parts being represented in the drawings in their normal positions, in order to ring the bell it is only necessary to pull down or vibrate handle F in the direction indicated by the arrow at Fig. 2. This motion of said handle causes the pin *i* of the lever D to move upward in the arc of a circle, the center of which

is at *c*, and to ride over the surface from 1 toward 2 of the lever *g*, and force the upper end of said lever outward, as per arrow, (seen at Fig. 4,) thus effectually pulling the bell-wire *w*. When the handle *F* is released, it is automatically returned to its normal position by the return to its place of the lever *g*, the spring *m* insuring the passage back to their proper places of both of these levers.

It will be seen that in a mechanism such as shown and described—there being no flexible connections or chain-like parts, nor pulley-like motions, but simply two levers, one actuating the other by a positive cam motion—there will be little or no liability of derangement, and the machine will be exceedingly durable and efficient. It is also economic of manufacture,

easily applied, and can be made ornamental in appearance.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, with a suitable supporting-frame and housing, of the pivoted hand-lever *D* and auxiliary vibrating arm *g*, the latter adapted to be secured at one end to the bell-wire, the whole arranged to operate together substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal this 29th day of April, 1874.

JOHN COLLINS. [L. S.]

In presence of—

HENRY R. WANMAKER,
JOHN N. BLAKELEY.