J. BARTON.

Door Bell.

No. 20,538. Patented June 15, 1858.

Fig. 1.

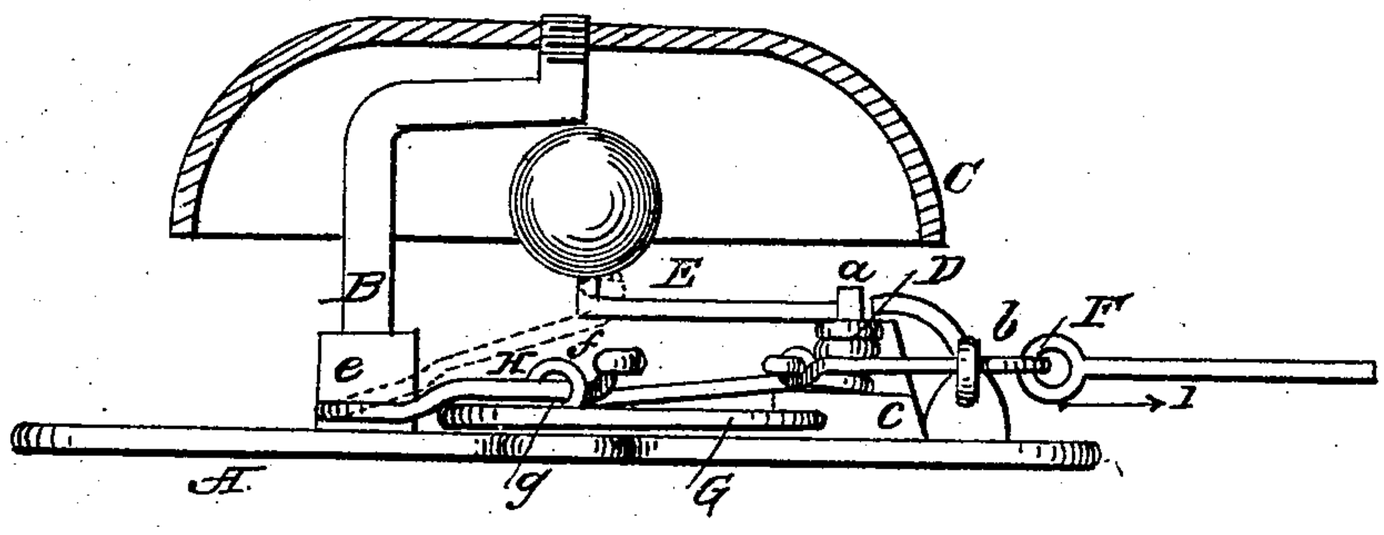
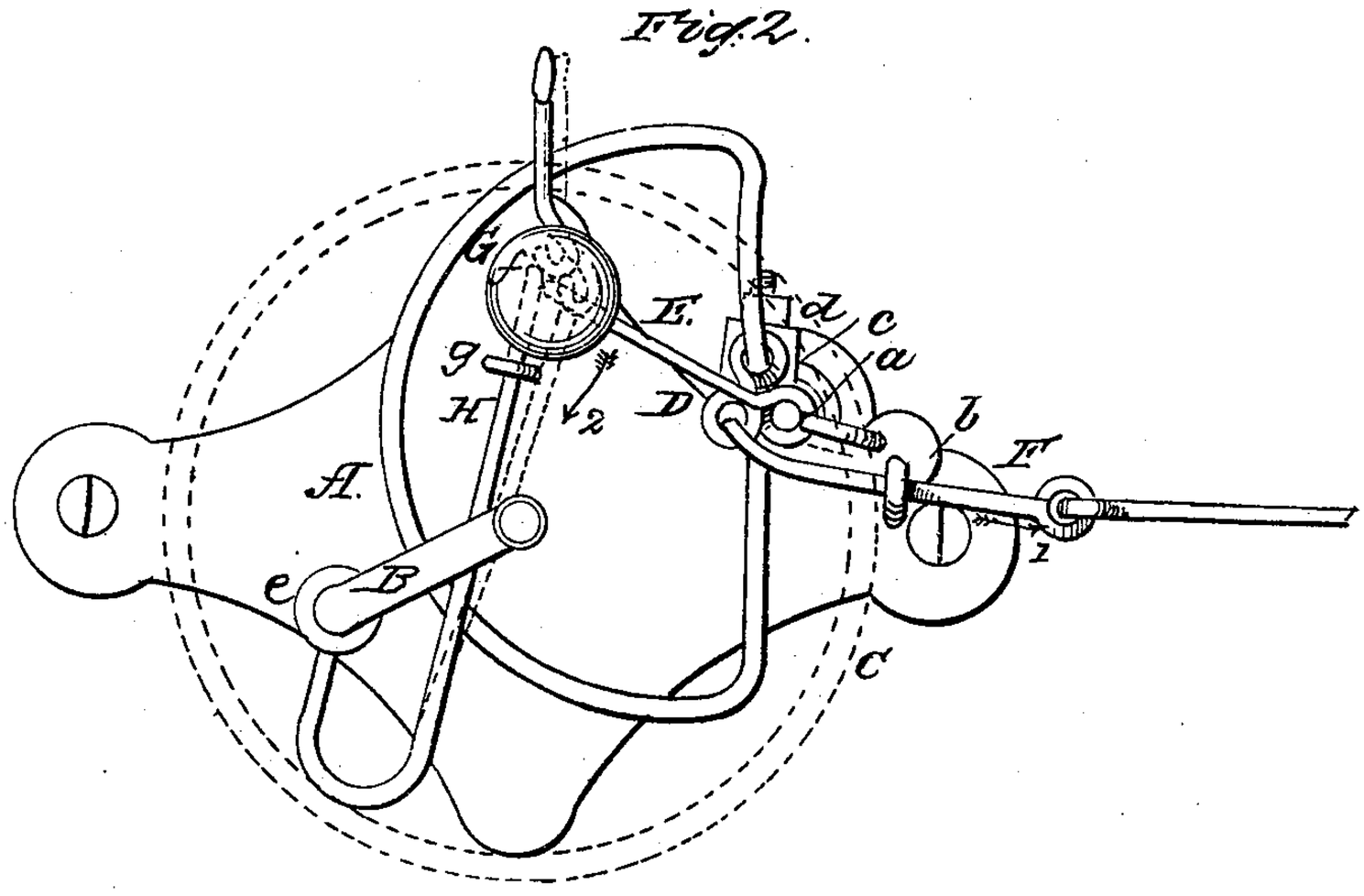


Fig. 2.



UNITED STATES PATENT OFFICE.

J. BARTON, OF EAST HAMPTON, CONNECTICUT.

HOUSE-BELL.

Specification of Letters Patent No. 20,538, dated June 15, 1858.

To all whom it may concern:

Be it known that I, JASON BARTON, of East Hampton, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in House-Bells; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a central section of a bell, the tongue or hammer and parts that actuate the same not being bisected. Fig. 2, is a view of the working parts the bell being removed or shown in outline.

Similar letters of reference indicate corresponding parts in the two figures.

The nature of my invention consists in the arrangement of parts in a house bell as hereinafter specified whereby the speed of the tongue or hammer is accelerated near the completion of its stroke, the tongue allowed to give one or two blows at each operation, and the force of the spring actuating the hammer regulated as occasion may require.

The invention also consists in a peculiar means employed for graduating the strength of the spring and also in a peculiar stop or device whereby the hammer may be made to strike a single or double blow as may be desired.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a plate which may be screwed to a wall or secured permanently at any desired point, and B, represents a bent rod which is attached to said plate and to the outer end of which the bell C, is attached, as shown clearly in Fig. 1. The bell may be of semi-spherical or semi-spheroidal form and constructed of any of the metals usually employed for such purpose.

D, is a lever which is of triangular or three sided form and fitted at one corner or angle on a pin *a*, attached to the plate A. The lever is allowed to work loosely on the pin *a*, and a tongue or hammer E, is attached to the lever D, at the angle or corner which is fitted on the pin *a*.

F, is a rod or handle which passes through an eye or guide *b*, attached to the plate A. The inner end of this rod or handle is attached to one of the opposite corners or angles of the lever D, and to the remaining corner or angle of said angle, one end of a spring G, is attached. This spring is formed of a wire and is bent in semi-circular shape and the opposite end of the spring passes through a projection *c*, formed on the plate A, and has a nut *d*, fitted on a screw thread on its end.

H, is a rod, one end of which is attached to a socket *e*, on the plate A, which socket receives the rod B. This rod H, extends across the plate A, and has a shoulder *f*, formed on it. To the plate A, a short hook *g'* is attached, the use of which will be presently shown.

I would remark that the lever D, may be formed of wire bent in the desired form as shown clearly in the drawings.

The operation is as follows: When the handle or rod F, is drawn in the direction indicated by arrow 1, the lever D, will be actuated or moved in the direction indicated by arrow 2, the tongue or hammer E, being in the same direction. The tongue or hammer at first is considerably resisted in its movement by the spring G, the power of the lever D, being small as the connection of the rod or handle F, to the lever is nearly in line with the pin *a*, or fulcrum of the lever and the handle F, but as the tongue or hammer moves in the direction indicated the power of the spring gradually decreases and when the hammer or tongue reaches a point about half the distance of its stroke or movement the spring becomes nearly spent or neutral. The lever D, by its movement gradually increases in power corresponding inversely with the decreasing strength of the spring, and consequently it will be seen that when the tongue or hammer E, reaches the center of its stroke it will be moved with a greatly accelerated speed, the power required to actuate the tongue or hammer at first being constant is sufficient to operate rapidly the tongue or hammer when so greatly assisted by the increased leverage of D, and the cessation of the resistance of spring G. When the hand is released from the rod or handle F, the spring G, gives the same accelerated backward movement to the tongue or hammer, so that the tongue or hammer strikes two blows at each movement of the rod or handle F. The double blow may be necessary in certain cases, as in factories, public halls, or large dwellings, but, in ordinary cases one blow is generally sufficient, and one blow only may be given provided the rod H, be released from the

hook g', so that its shoulder f, may lie in the path of the tongue or hammer o and arrest the tongue or hammer at its backward stroke, see red lines.

The strength of the spring G, may be graduated as desired by adjusting the nut d, by which the spring may be virtually lengthened or shortened and consequently made of the desired strength. This feature of the adjustability of the spring for graduating the power of the same is important, for the strength of the spring should vary according to the length of rod by which the lever D, is actuated, the longer the rod and the greater number of cranks required at angles or corners, the stronger the spring must be in order to overcome the friction attending the operation of the same.

By this improvement the tongue or hammer is made to strike the bell quickly or with a sudden decisive blow producing a loud, sharp sound. The parts can not be injured by an undue pulling of the cord or handle, and two blows of equal strength may if required be given the bell at each stroke or pull of the handle or rod F.

I am aware that springs and levers have been previously used and arranged in various ways to force a tongue or hammer from one point to another and back again so as to strike a bell, and hammers also have been forced across the mouth of a bell against two opposite points thereof, I therefore do not claim such devices, nor do I claim broadly such operation of the tongue or hammer, but, having thus described my invention,

What I claim as my invention and desire to secure by Letters Patent is—

The arrangement of the parts in a house bell as herein specified, for the purposes set forth.

JASON BARTON.

Witnesses:

NATHL. C. SMITH,

SARAH C. SMITH.