D. K. HATFIELD.

Toy-Automatons.

No. 160,187 Patented Feb. 23, 1875.

Fig. 1.

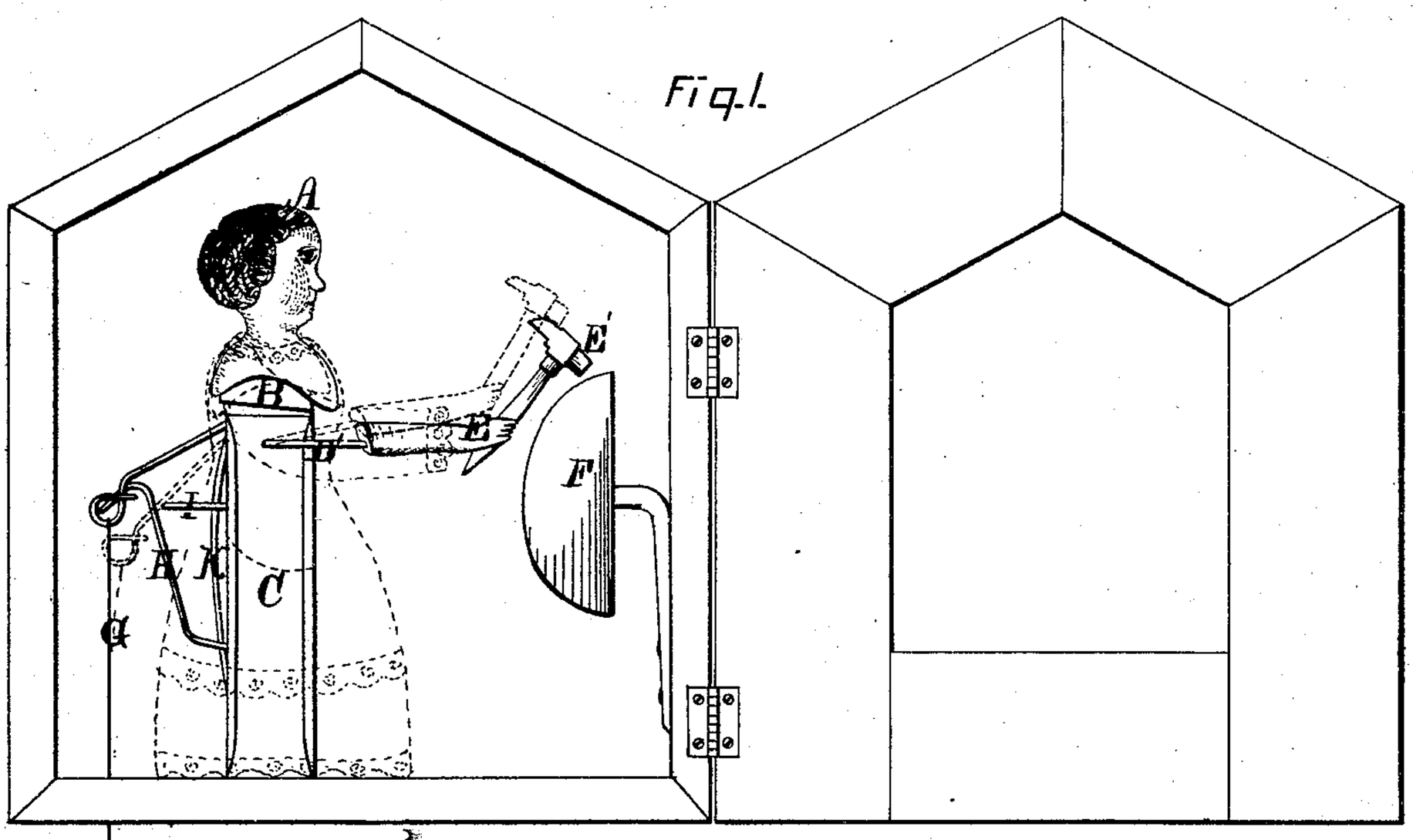


Fig. 2.

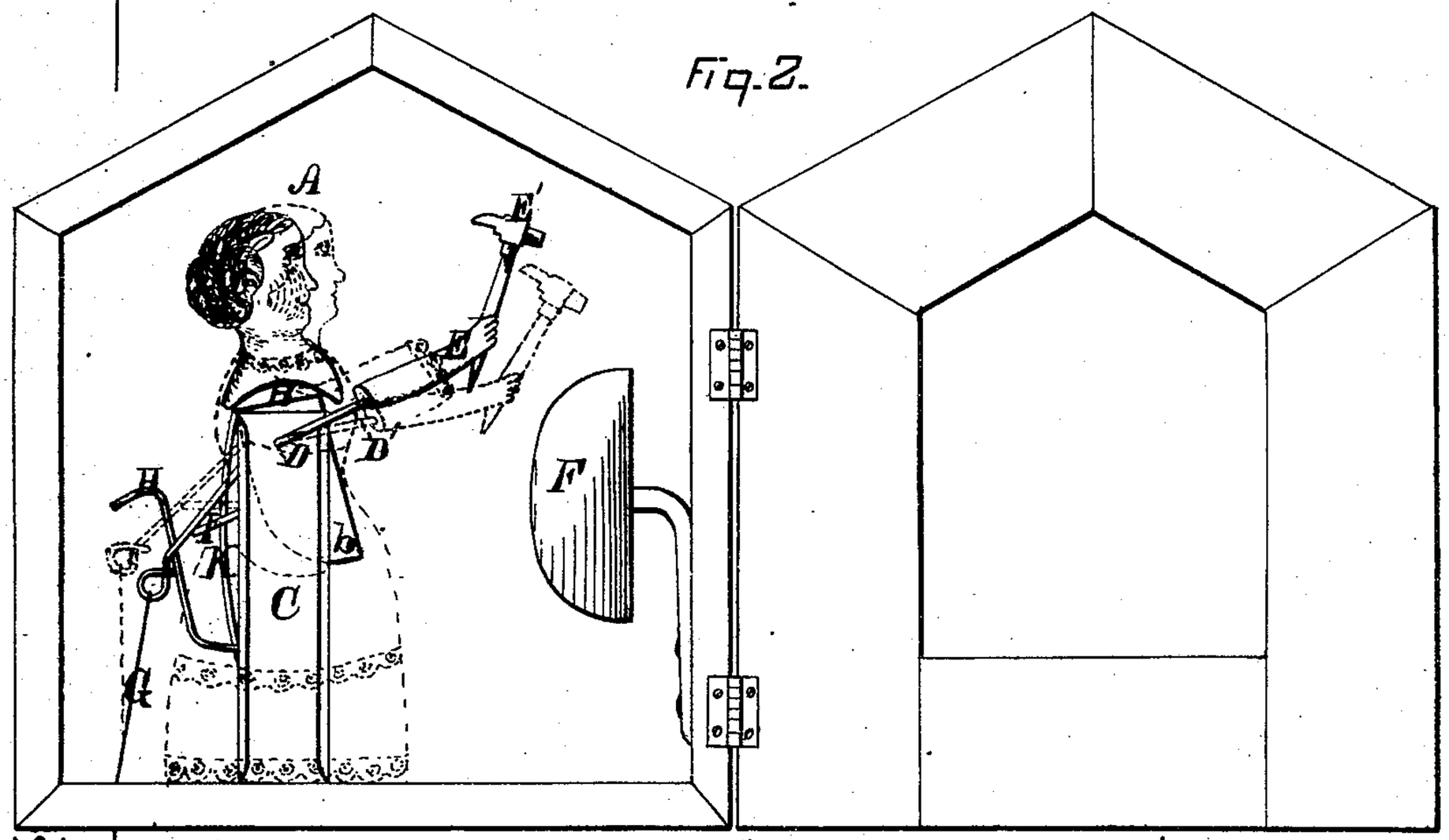
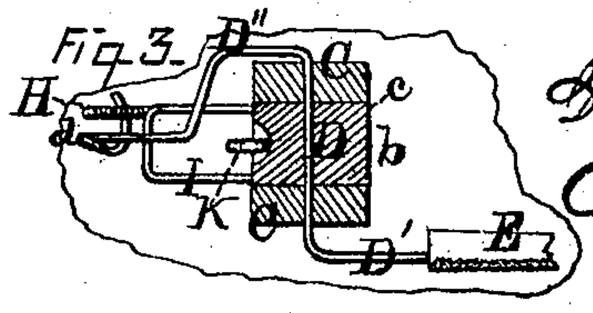


Fig. 3.



WITNESSES-

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UNITED STATES PATENT OFFICE.

DANIEL K. HATFIELD, OF POTTSTOWN, PENNSYLVANIA.

IMPROVEMENT IN TOY AUTOMATONS.

Specification forming part of Letters Patent No. **160,187**, dated February 23, 1875; application filed October 16, 1874.

To all whom it may concern:

Be it known that I, DANL. K. HATFIELD, of Pottstown, in the county of Montgomery and in the State of Pennsylvania, have invented certain new and useful Improvements in Toy Automatons; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a side elevation of my automaton, the full lines showing the operative parts at rest, and the dotted lines showing the position of said parts when the hammer is partly raised. Fig. 2 is a like view of the same, with the dotted lines showing the position of parts when the arm is partly raised, and the full lines said parts when ready for striking the bell; and Fig. 3 is a view, in cross-section, of said operative parts.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to produce, by mechanical appliances, a toy having the natural movements of a human being when striking upon a bell with a hammer; and it consists in the peculiar construction and combination of the operative parts, substantially as and for the purpose hereinafter specified.

In the annexed drawings, A represents the head and shoulders of my automaton, which are secured to or upon a block, B, that is provided with a tongue, *b*, which extends downward within a corresponding slot, *c*, formed within the upper end of a post, C. At a point corresponding to the positions of the arms a rod, D, passes horizontally and laterally through the post C and tongue *b*, and serves as a pivotal bearing for and upon which the head and shoulders may oscillate in a line from front to rear. One end, D′, of the rod D extends forward, and has secured thereto the fore-arm and hand E of my automaton, which hand grasps a hammer, E′, that, when sufficiently depressed, will impinge upon a bell, F, and cause the same to sound. The opposite portion D″ of the rod D extends horizontally rearward, inward, and again rearward, and at its end is provided with an eye, *d*, to which is attached the operating wire or cord G. A stop, H, arranged to engage with the upper side of said eye *d*, arrests the upward motion of said arm D″ just before the hammer E′ reaches the bell F.

If, now, the wire G is drawn downward to a sufficient distance, and then released, the weight of the hammer E′ will cause the same to fall with such momentum that, when the arm D″ is arrested by the stop H, the rod D′ will spring and permit said hammer to strike said bell, after which said rod will resume its normal position and lift said hammer from said bell, so as to offer no obstacle to the free vibration of the latter.

When striking upon a bell with a hammer, as described, the arm of a person would move upward a portion of the distance to be traversed before the head and shoulders would change positions, after which the latter would be thrown backward. Upon the downward stroke of said hammer, said head and shoulders would reach their normal position before the hammer impinged upon the bell.

In order that my automaton may have the motions described, the following-described connection is provided between the same and the operative mechanism: A wire loop, I, is secured to, and extends rearward from, the lower end of the tongue *b*, in such position, with relation to the arm D′, as to cause the latter to engage with and move said loop downward when it has completed a portion of its downward stroke. A spring, K, attached at its lower end to the post C, and at its upper end bearing against the rear side of the block B, holds the latter in its normal position, except when moved therefrom by the action of the arm D″.

It will now be found that the operation and motions of the arm, head, and shoulders of my automaton correspond to the movements of the upper portions of the human body when engaged in striking blows in the manner shown, and that it is only necessary to supply drapery to the figure to render the illusion complete.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

As an improvement in toy automatons, the head and shoulders A secured upon the block B and pivoted within the post C, the rod D provided with the arms D′ and D″, and the hammer E′, in combination with the operating-cord G, the stop H, the wire loop I, and the spring K, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of October, 1874.

DANIEL K. HATFIELD.

Witnesses:

HENRY F. YERGLY,

D. F. REINERT.