

SHAWK, MORLEY & CUSHMAN.

Fire-Alarm Telegraph.

No. 57,981.

Patented Sept. 11, 1866.

Fig. 1.

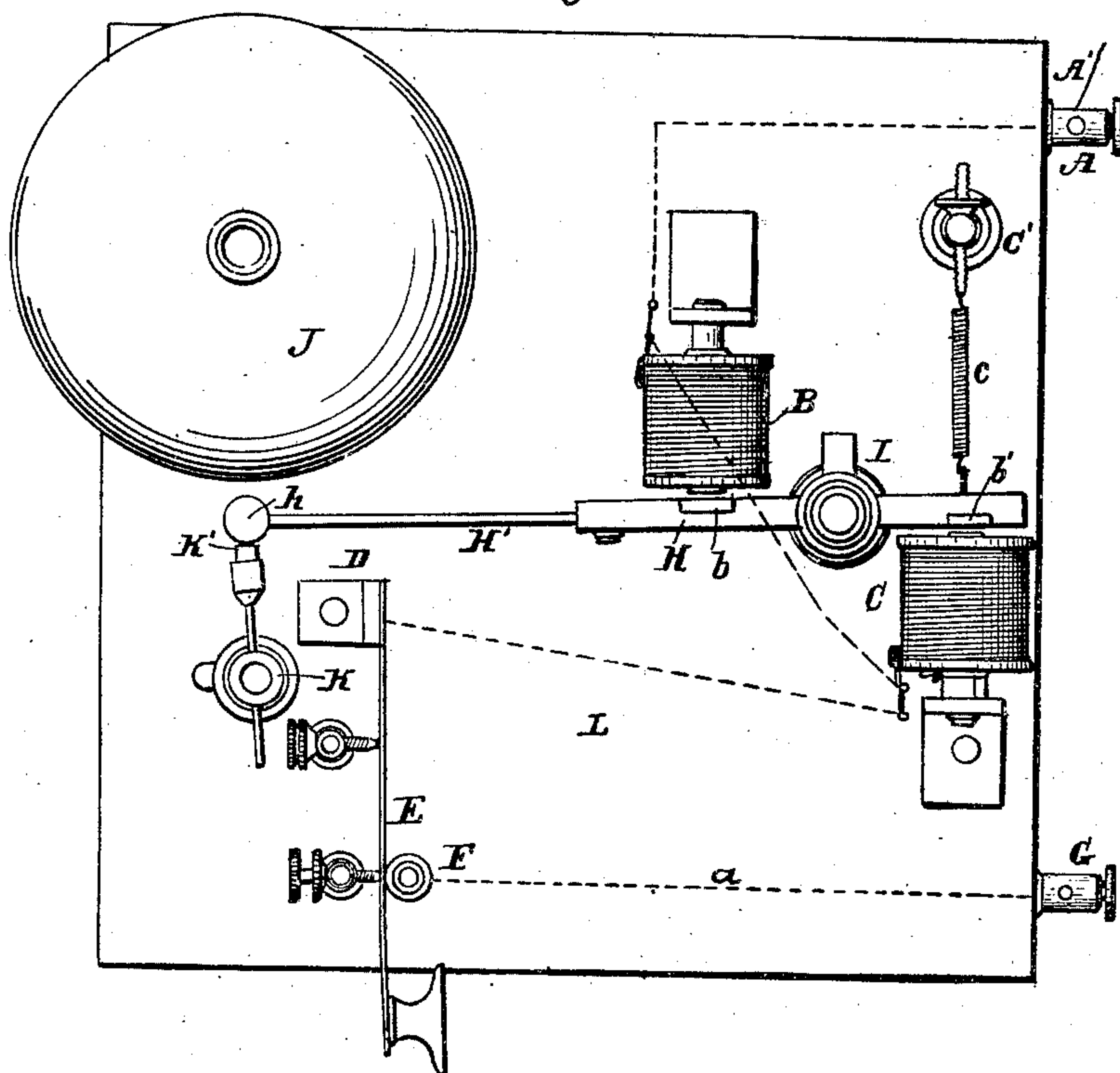
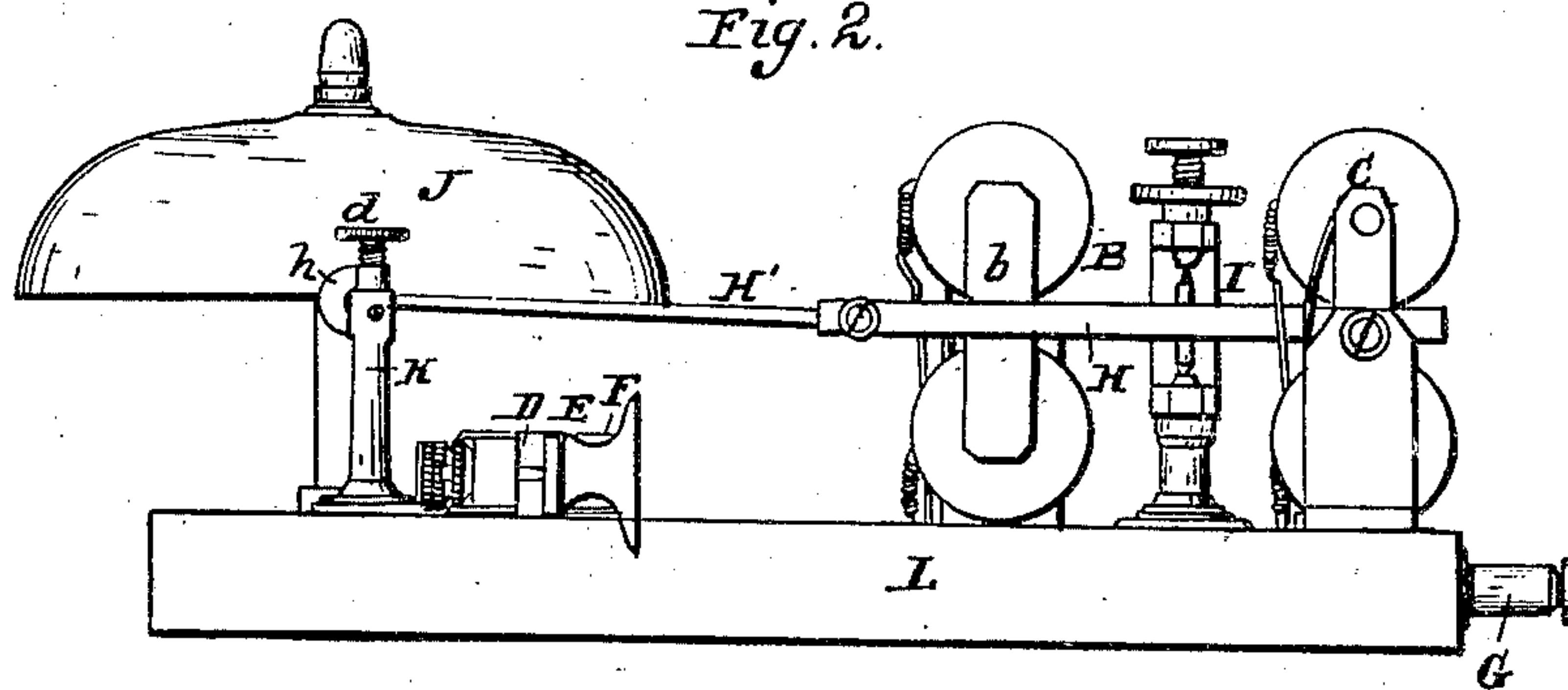


Fig. 2.



Witnesses:

W. H. Burridge
A. W. McLellan

Inventors:

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S. C. Morley

UNITED STATES PATENT OFFICE.

G. W. SHAWK AND S. C. MORLEY, OF CLEVELAND, AND S. D. CUSHMAN, OF
NEW LISBON, OHIO.

IMPROVEMENT IN TELEGRAPHIC FIRE-ALARMS.

Specification forming part of Letters Patent No. 57,981, dated September 11, 1866.

To all whom it may concern:

Be it known that we, G. W. SHAWK and S. C. MORLEY, of Cleveland, in the county of Cuyahoga and State of Ohio, and S. D. CUSHMAN, of New Lisbon, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Telegraph Fire-Alarms; and we do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view. Fig. 2 is a side view.

Like letters of reference refer to like parts in the views.

Our improvement relates to an apparatus for giving increased energy and sound in signaling fire-alarms.

B C are magnets constructed and arranged in the ordinary manner.

H is a lever pivoted to the standard I. From one end of this lever extends an arm, H', on the end of which is a ball, *h*, which, by the action of the lever, strikes the bell J. Near each end of the lever H is an armature, *b b'*.

To the standard D is connected the key E, that is for the purpose of making and breaking connections. When the connection is made the armatures *b b'* are brought in close contact with the magnets B C, thus moving the lever H, which turns on a pivot, as before stated, and causes the bell or hammer on the end of the arm H' to strike the bell, thus giving the alarm, the lever being turned on the pivot by the action of the magnets and spring *c*, connected to a post or standard, C'.

If it is desired to give more sound to the bell, or if the battery is weak, the arm H' can be lengthened by pulling it out farther from the lever, and the bell and standard K, with the cushion K', can be moved farther away by means of slots in the platform L, thus giving the lever more sweep, which causes it to hit the bell with more force.

The rod to which the cushion K' is attached can be shortened by means of the screw *d* being turned and the rod pushed farther through the post K from the bell.

The cushion is to prevent the ball from rebounding back against the bell, as it would do

if it came against anything hard instead of the cushion.

The wire A' connects with the battery, passing from there through post A; then along and is connected to the magnet B; thence from the magnet B to C; then to the standard D of the key E, through which the circuit passes to the post F, connecting with the wire *a*; thence to the post G, from which the wire may be connected with any number of instruments in a circuit.

There is more energy from two magnets embodying the same amount of wire than if the same wire were coiled onto one. Hence it takes a much less amount of battery to work a system of fire-alarms made in this way than in the ordinary manner.

The lever being pivoted so as to have a magnet at each end, rather than at one end only, renders the friction less on the pivot, the force being equal upon both sides, and the whole influence of the magnets is brought in direct contact with the armatures. As these armatures do not recede from the magnets as far as would be the case if only one magnet and corresponding connection were used, as in the latter case, the lever must recede from the magnet to obtain the proper stroke or momentum in striking the bell, and the influence of the magnets on the armatures it is found is lost in receding one-half an inch from the coils. Hence it will be observed how greatly the influence is lost on the armatures as they recede from the magnets. They must have an increased force of battery to compensate for the amount of influence lost in the receding of the lever and armatures in striking the bell, which is not required in the use of our improvement.

What we claim as our improvement, and desire to secure by Letters Patent, is—

The adjustable bell-extension arm H', adjustable post K, cushion K', in combination with lever H, magnets, and armatures, as and for the purpose set forth.

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Witnesses:

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