W. E. SPARKS.

Bell-Striking Mechanism.

No. 223,073. Patented Dec. 30, 1879.

Fig. 1.

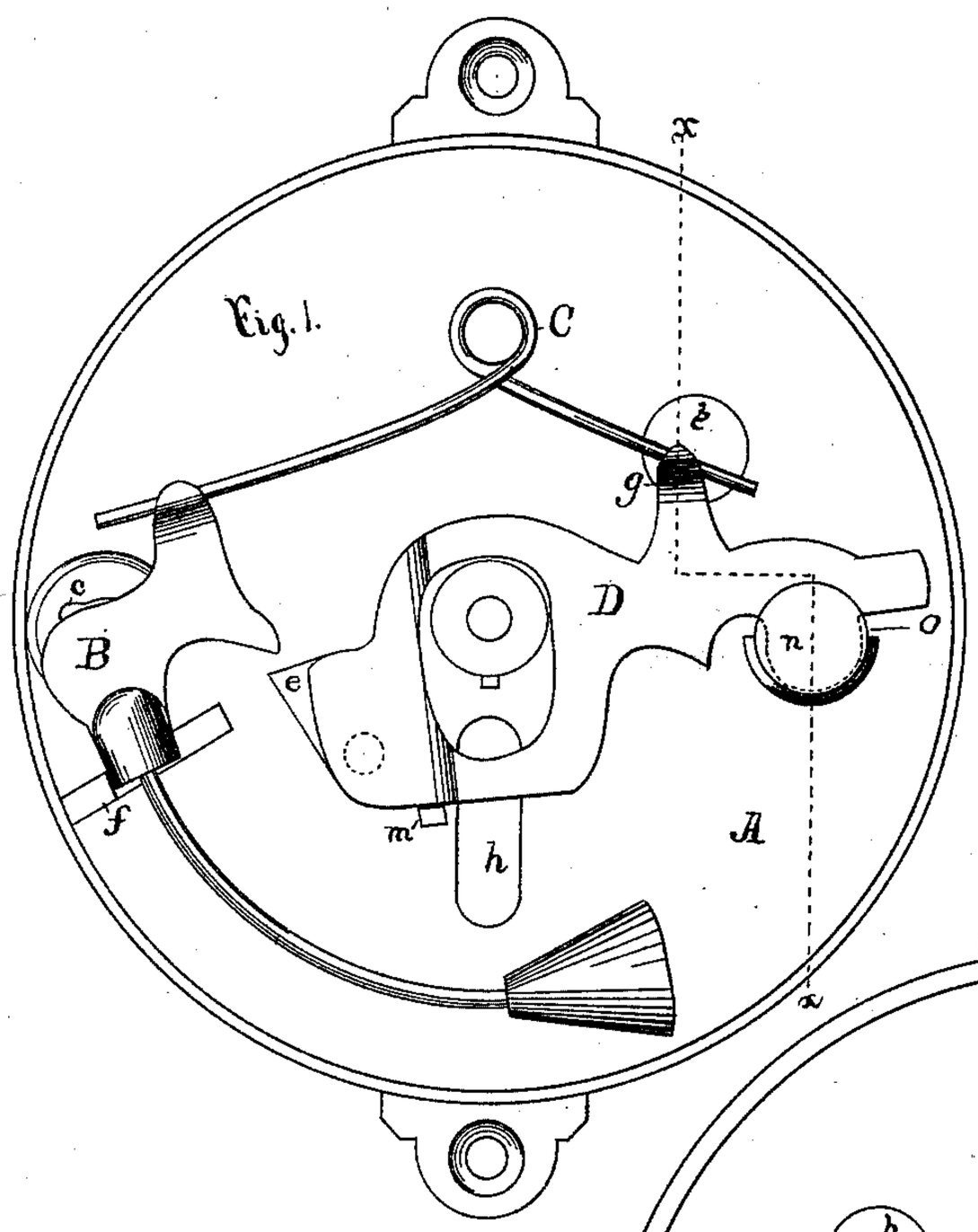

Fig. 4.

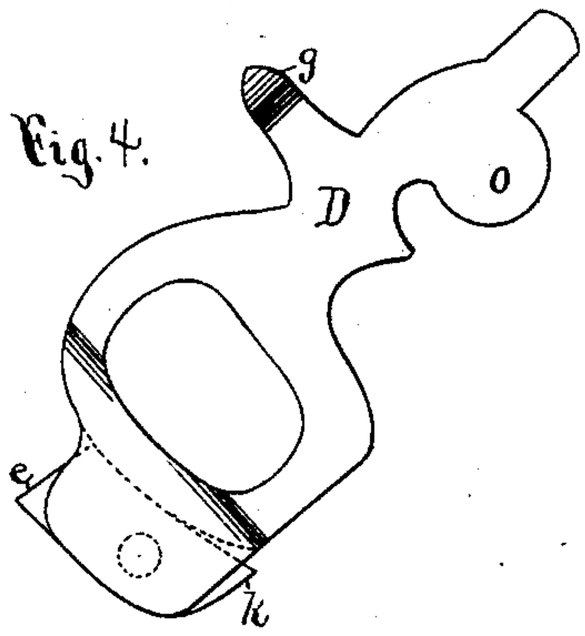

Fig. 2

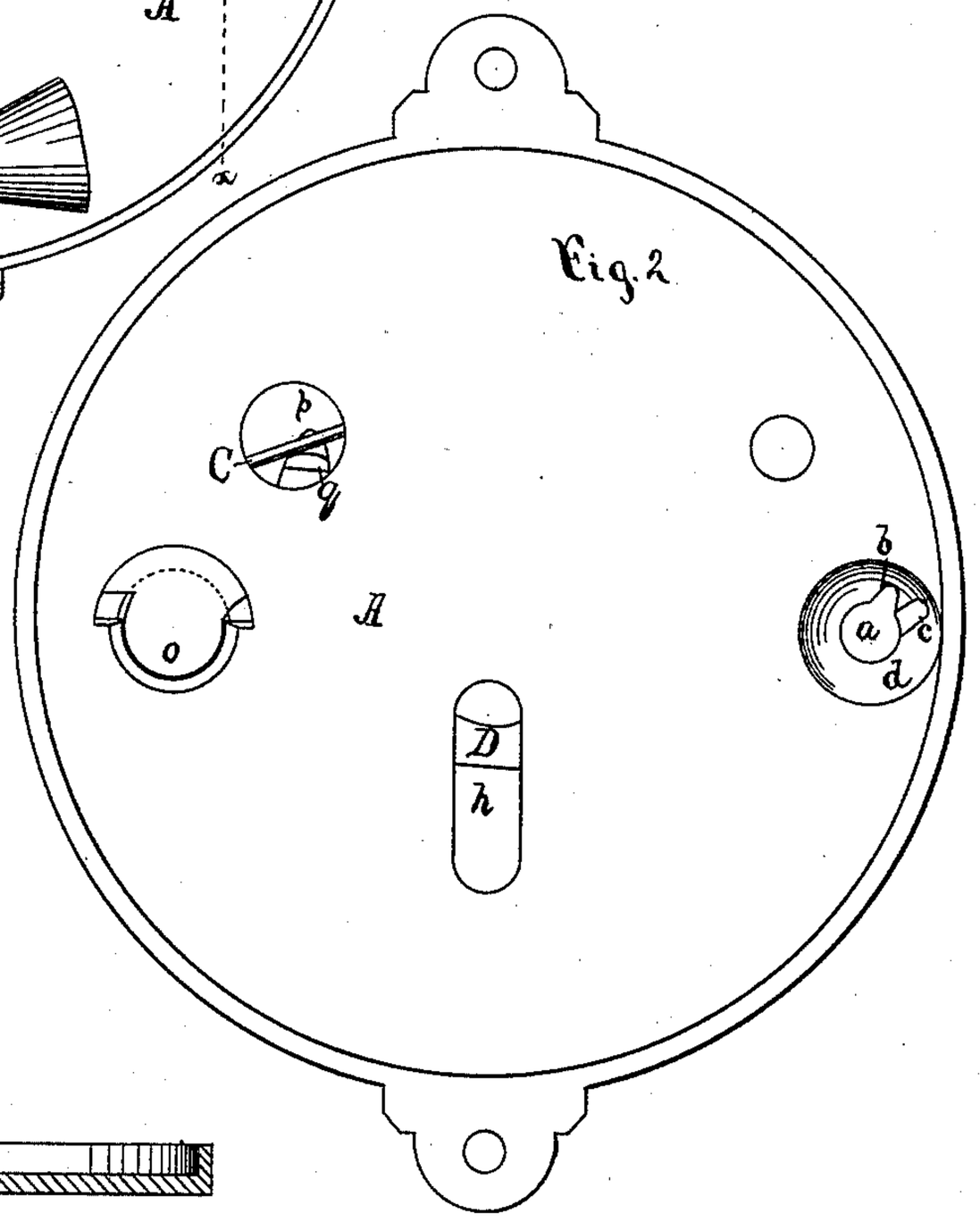

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM E. SPARKS, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO P. & F. CORBIN, OF SAME PLACE.

IMPROVEMENT IN BELL-STRIKING MECHANISMS.

Specification forming part of Letters Patent No. **223,073**, dated December 30, 1879; application filed July 29, 1879.

To all whom it may concern:

Be it known that I, WILLIAM E. SPARKS, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bell-Striking Mechanisms, of which the following is a specification.

The invention has for its object cheapness of production by so forming the parts that after the castings are obtained they may be readily put together with but little or no fitting, and without any drilling or riveting; and the invention consists in the peculiar construction of certain parts and in their combination, as hereinafter more fully described.

In the accompanying drawings, Figure 1 is a front elevation of a bell-striking mechanism which embodies my invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a sectional view of the same on line *x x* of Fig. 1; and Fig. 4 is a detached view of parts thereof.

A designates the base-plate, having a central post for the bell, and in its general form being substantially the same as those in ordinary door-bells; but instead of securing the parts to said base-plate by riveting, the plate is specially adapted to receive and hold said parts as soon as they are merely put into place.

B designates the hammer, of substantially the usual form, but instead of being riveted to the base-plate it turns on a stud, *a*, cast on one and the same piece with the hammer-tail, and extending through the base-plate, as shown in Fig. 2. On the rear end of this stud there is a laterally-projecting arm, *b*. The hole or bearing in the base-plate for the stud *a* has a notch, *c*, on one side, corresponding in form to that of the arm *b*, and on the back of the base-plate there is a recess, *d*, surrounding the stud *a*, in which recess the arm *b* is received and allowed to play.

The arm *b* and the opening *c* are so located relatively that when the hammer B is swung in toward the central post to nearly its full extent, and nearly into contact with the post, they will coincide, and in which position the stud may be inserted and withdrawn. When thus inserted in the base-plate and the hammer swung outward away from the post into the ordinary working position, the arm *b* in the recess *d* will be on the back side of the metal in the plate which surrounds the hole or bearing for the stud *a*, and thus hold the hammer in place, so that it can only be detached by forcing it inward beyond the extent of its ordinary working movements.

The outward movement of the hammer is limited by means of the stop *f* on the base-plate. One arm of the spring C continually bears upon the hammer-tail to throw the hammer outward away from the post, so that said spring holds the hammer in its ordinary working position, and prevents the hammer from being accidentally brought into the position which will admit of detaching it from the plate.

I am aware that the particular manner of hanging the hammer to the base-plate is not new, when broadly considered, as a mechanism for hinging or hanging a swinging object, the same being quite common in stoves and other articles, but, so far as I have observed, without any spring or other mechanism which continually bears upon said swinging part to force it into any particular position.

A swinging lever, D, with a trip or latch, *e*, on its swinging end is pivoted to the base-plate at a point opposite the stud or pivot of the hammer. Said lever has an arm, *g*, against which one arm of the spring C bears to force the parts into the position represented in Fig. 1. The swinging end of this lever is offset toward the front to allow the latch *e* to work behind it, and a stud, indicated by a broken circle in Fig. 1, is cast upon its back side, and a corresponding hole is cast in the latch to receive said stud. But so far as some parts of my invention are concerned this latch might as well be pivoted to the swinging lever by riveting or otherwise. The latch is also so formed that when in the position shown in Fig. 1, the inside edge below its pivot bears against the shoulder caused by the offset in the back of the swinging lever, and indicated by broken lines in Fig. 4, so that the outer end of the latch, which projects so far as to engage the hammer-tail, cannot be thrown outward beyond the point represented in Fig. 1.

This swinging lever is raised by means of an ordinary lever passed through the slot *h* of the base-plate when the latch engages the ham-

mer-tail, and the two swing together on the arc of a circle, and thereby gradually move away from each other in their upward movement until they disengage, when the spring instantly returns the hammer to its former position. The swinging lever is then released and returned by the spring C, when the latch *e* strikes the hammer-tail, and is swung back out of the way. Just about the time it passes the hammer-tail, and when it is in the position represented in Fig. 4, its lower projecting corner, *k*, Fig. 4, strikes the stop *m* on the base-plate, whereby the continued downward movement of the swinging lever necessitates an outward movement of the upper engaging-corner of the latch ready for another engagement, as before described.

Instead of riveting the swinging lever D to the base-plate, the latter has a bridged socket, *n*, to receive the rounded arm *o* of said lever, said socket being open at its upper edge to receive said arm.

There is an opening, *p*, in the base-plate back of the end of the arm *g*, and on the back of said arm there is a rearward-projecting stud, *q*, the length of which is as long as it can be and readily allow of the rounded arm *o* being crowded into its socket, whereby the lever is prevented from rising so far as to disengage the rounded arm *o* from its socket.

When the spring C is put in place, as shown in Fig. 1, the lever is held in place so as to oscillate in the bridged socket as on a fixed fulcrum.

Although I have described the projecting arm *b* as on the stud of the hammer-tail, and the notch *c* as in the base-plate, it is evident that the same result would be accomplished by making the stud and projecting arm on the base-plate and the pivot bearing and notch in the hub of the hammer, the same being otherwise located and combined with a spring and stop, as hereinbefore described.

I claim as my invention—

1. In a bell-striking mechanism, the hammer and base-plate, formed with a pivotal stud and projecting arm on one part, and a corresponding pivot-bearing and notch on the other part, in combination with a suitable stop, *f*, and the spring C, all combined and operating together substantially as described, and for the purpose specified.

2. In a bell-striking mechanism, the combination of the following elements—viz., first, the hammer; second, the swinging lever; third, the latch, pivoted to said swinging lever, and provided with the lower projecting corner, *k*; fourth, the stop *m*, located under the latch, and performing the double function of limiting the motion of the swinging lever, and obstructing the corner of the latch to return it as said lever is brought downward; and, fifth, a suitable spring for returning said swinging lever, all operating together substantially as described, and for the purpose specified.

3. In a bell-striking mechanism, the base-plate, having the bridged socket *n* and opening *p*, in combination with the swinging lever, having rounded arm *o* and stud *q*, for engaging said socket and the side of said opening, respectively, substantially as described, and for the purpose specified.

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Witnesses:

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