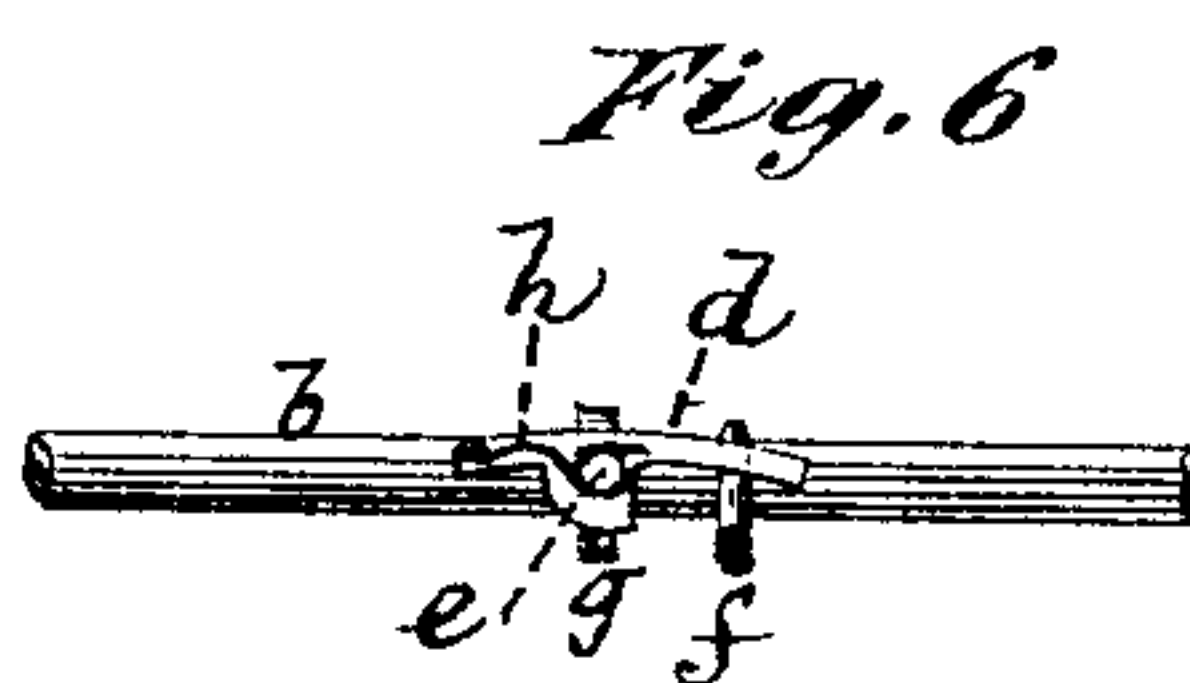
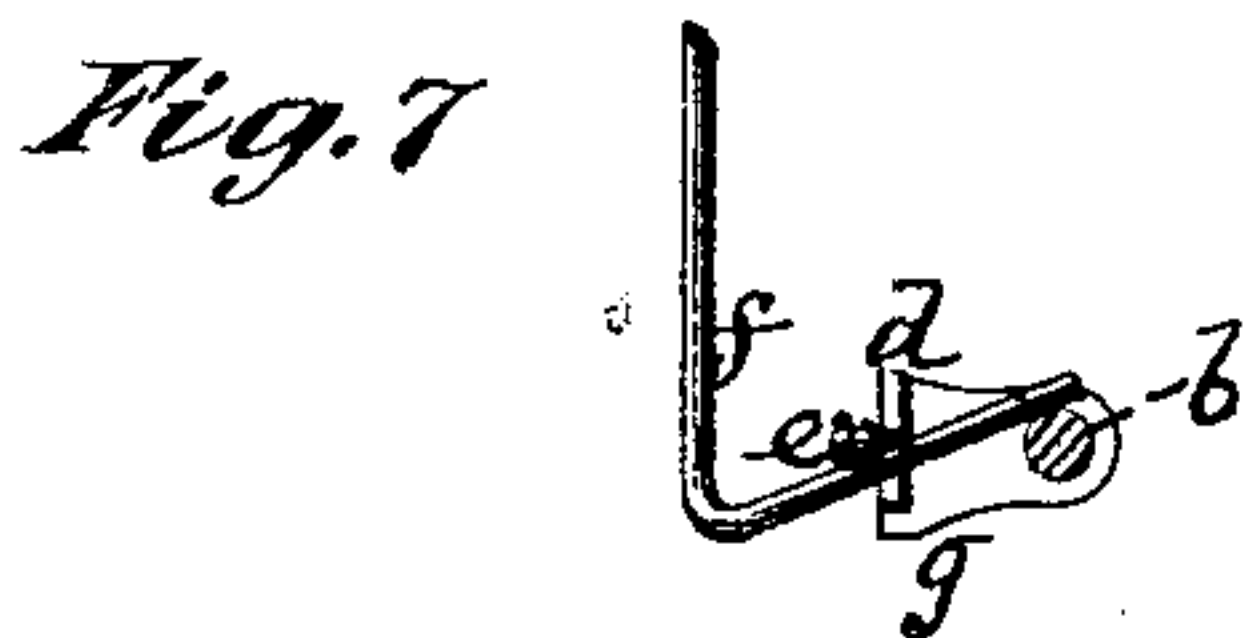
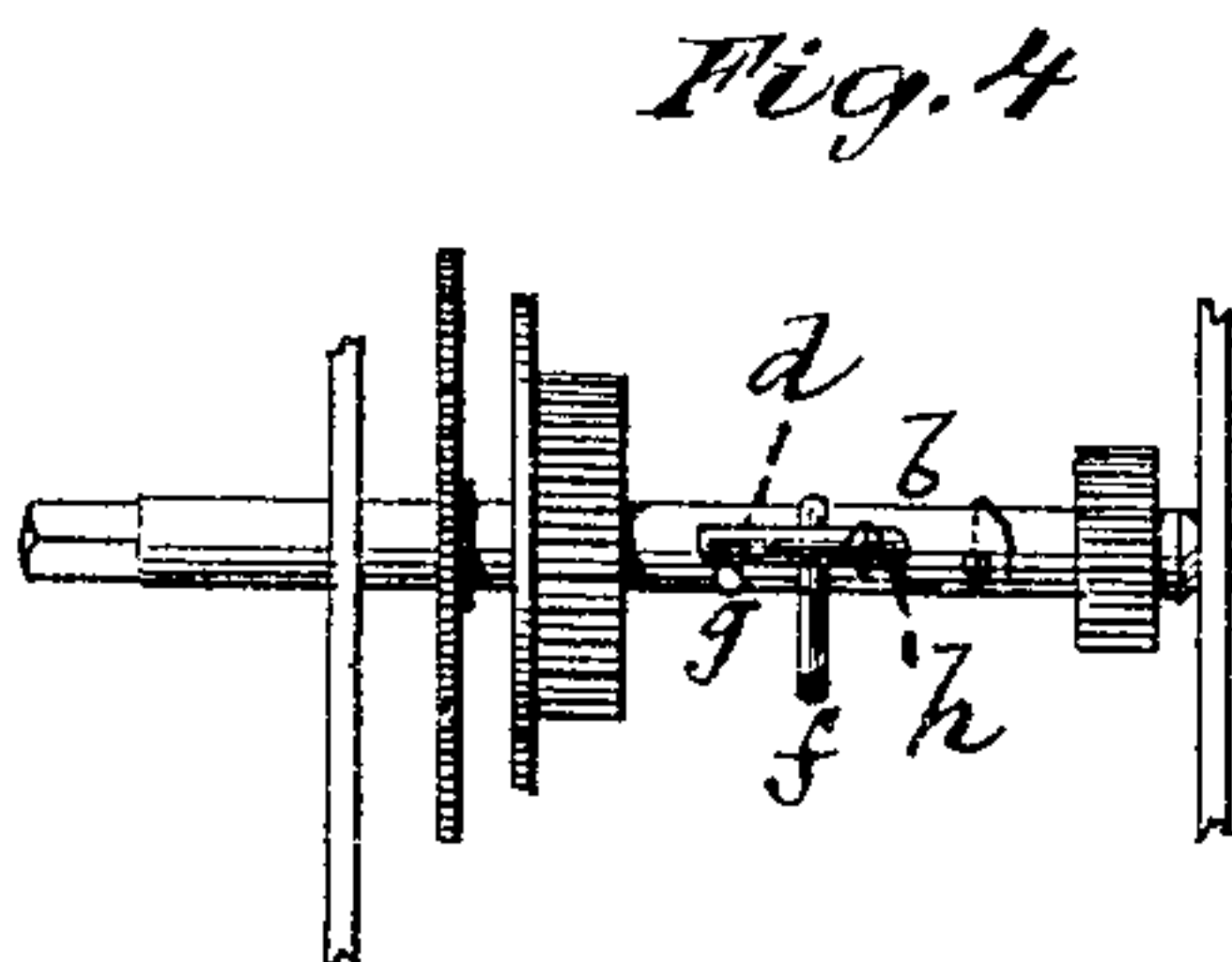
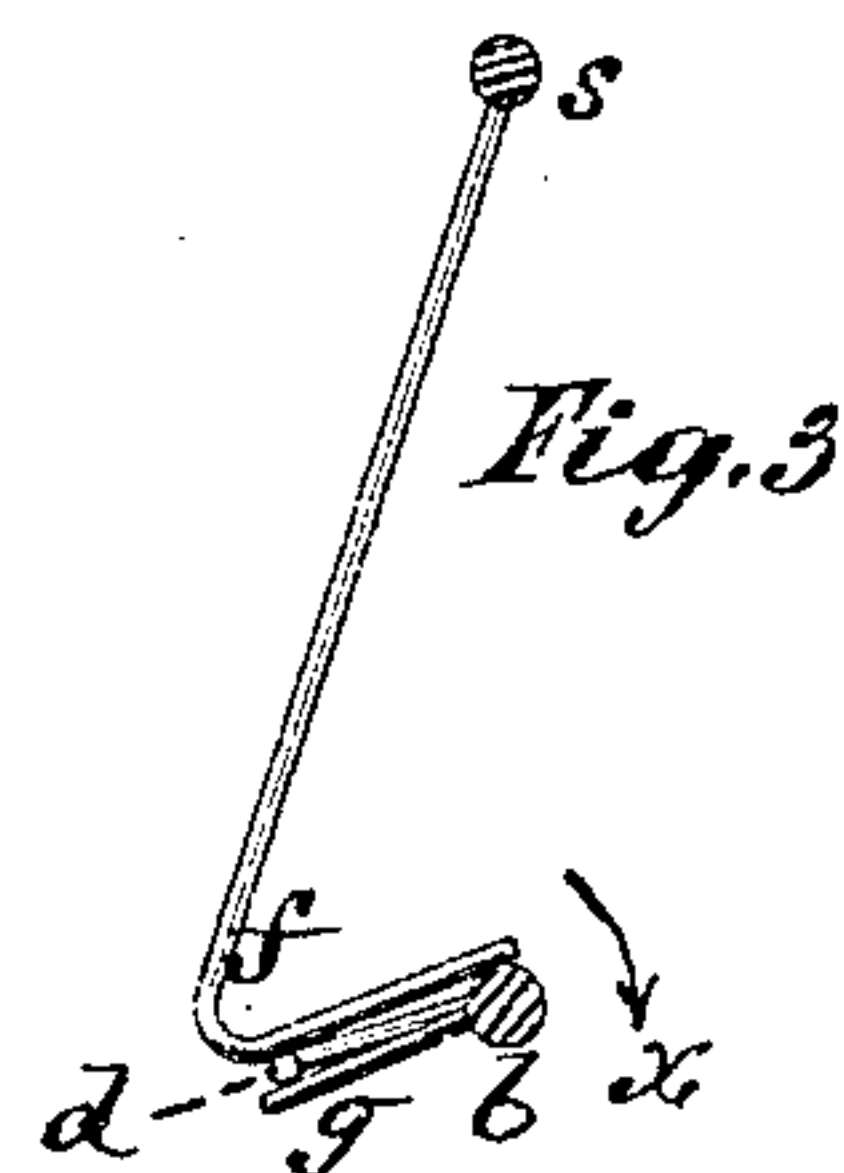
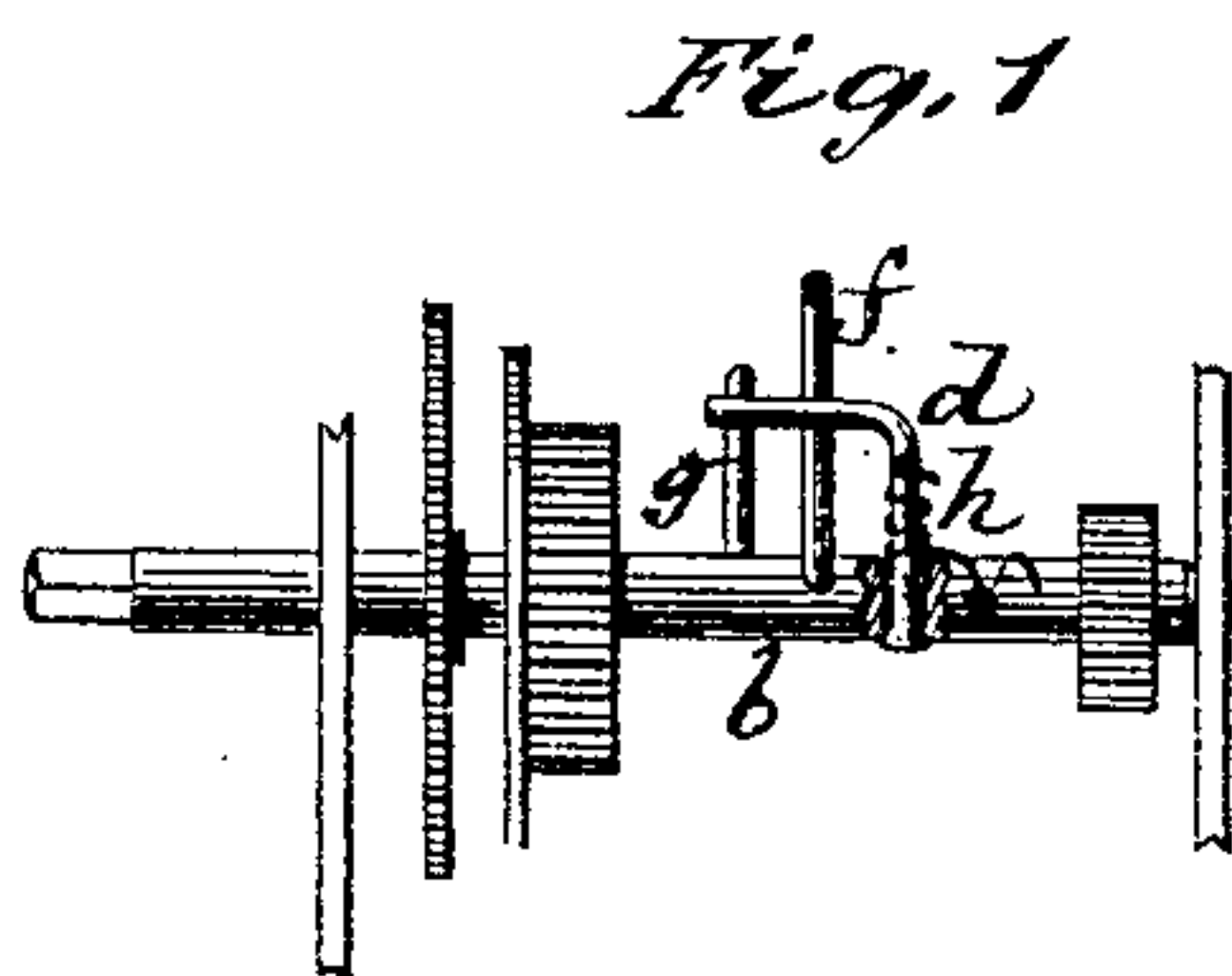
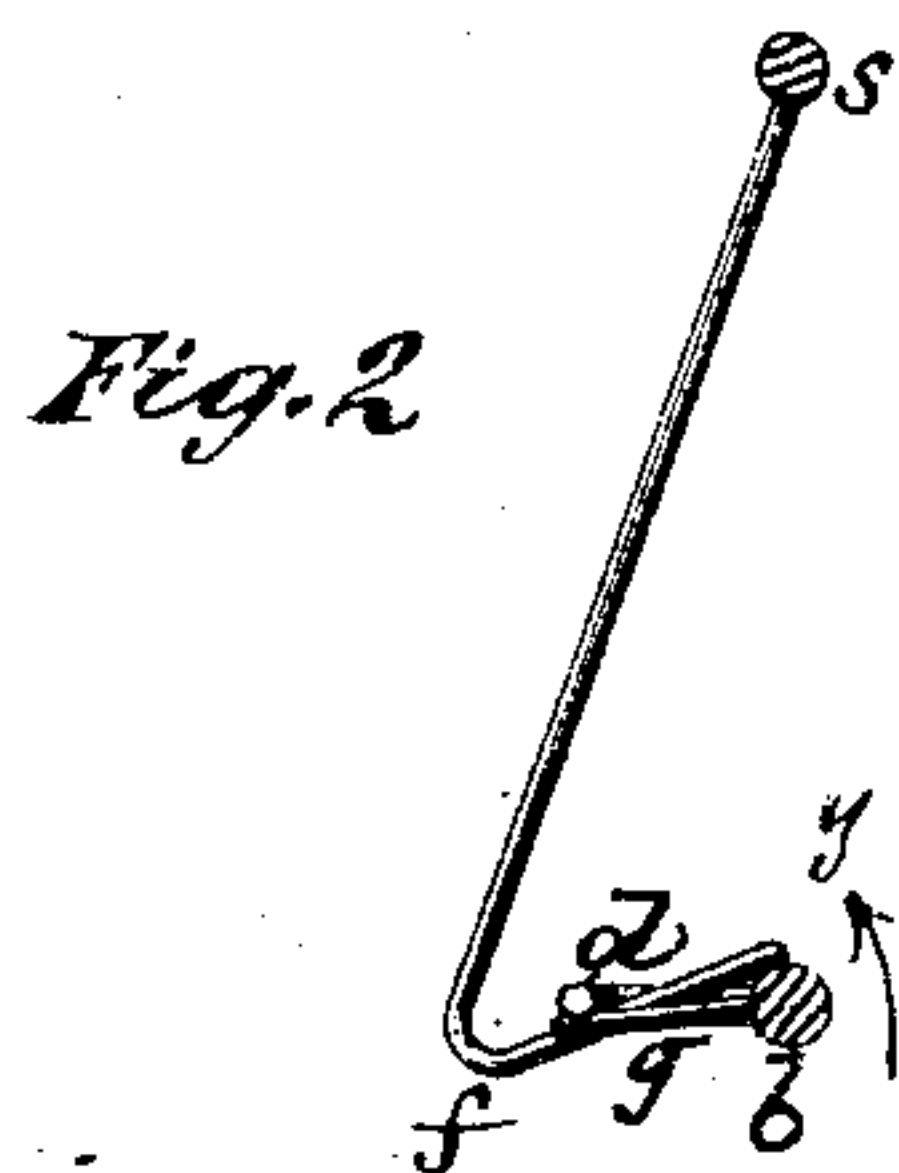


J. J. MARCY & D. W. KISSAM.
LOCK WORK ATTACHMENT FOR CLOCKS.

No. 180,899.

Patented Aug. 8, 1876.



Witnesses:
Michael Ryan
Fred Haynes

John J. Marcy
Daniel W. Kissam
by their Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

JOHN J. MARCY AND DANIEL W. KISSAM, OF BRIDGEPORT, CONNECTICUT,
ASSIGNORS TO BRIDGEPORT BRASS COMPANY, OF SAME PLACE.

IMPROVEMENT IN LOCK-WORK ATTACHMENTS FOR CLOCKS.

Specification forming part of Letters Patent No. **180,899**, dated August 8, 1876; application filed July 20, 1876.

To all whom it may concern:

Be it known that we, JOHN J. MARCY and DANIEL W. KISSAM, both of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Striking-Movements for Clocks; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to means for operating the lifting-hook of striking-clocks, to permit of the hands of the clock being turned backward without interfering with the striking mechanism. The invention has for its object the accomplishment of this result without bending and pushing aside the lifting-hook, doing which repeatedly has the effect of loosening or permanently bending or setting the hook, so that it fails to come back to its proper position for operation by the lifting-pin.

This invention consists in a spring lifting-pin on the center shaft of the clock, constructed to swivel for the purpose of passing the lifting-hook when the hands are turned backward in setting the clock, but which, when the hands are moving forward, is restrained from swiveling to insure its action on the lifting-hook.

Figure 1 represents a top view of a clock striking-movement, in part, constructed in accordance with our invention. Fig. 2 is a transverse vertical section, in part, showing the lifting-hook of the striking mechanism and spring lifting-pin applied to the center shaft of the clock, when said shaft is supposed to be moving backward, for the purpose of setting the hands. Fig. 3 is a similar view of like devices when the center shaft is moving forward. Fig. 4 is a side view of said striking-movement, in part, with the center shaft in a state of rest, and Fig. 5 a like view of like devices, in part, when the center shaft is being moved in a back direction. Fig. 6 is a longitudinal or side view of the center shaft, with a modification of the swiveling spring lifting pin or device applied thereto, and Fig. 7 a vertical transverse section thereof, in connection with the lifting-hook of the striking-movement.

Referring, in the first instance, to Figs. 1, 2, 3, 4, and 5 of the drawing, *b* is the center shaft

of the clock, and *d* the lifting-pin of the striking-movement, carried by said shaft. This lifting-pin serves, when the shaft *b* is moving forward, as indicated by arrows *x* in Fig. 3, to operate the lifting-hook *f* of the striking-movement, to provide for the striking of the hour or time, as in other striking-clock movements. The fulcrum of the lifting-hook *f* is indicated by the letter *s*.

The lifting-pin *d* is constructed and attached to the shaft *b*, so as to permit of its oscillation about an axis which is perpendicular or radial to the latter, as shown in Fig. 1, and said pin bent at its outer end to bring its outer bent portion in contact with the lifting-hook *f* and with a driver, *g*, on the center shaft *b*. A spring, *h*, applied to the axial or other portion of the lifting-pin *d*, tends to keep the bent portion of said pin in contact with the driver *g*; and when the shaft *b* rotates in a forward direction, as indicated by arrow *x* in Fig. 3, said driver carries round with it the bent lifting-pin *d*, in order that the latter, in each revolution of the shaft *b*, may actuate or lift the lifting-hook *f* of the striking mechanism. When, however, the shaft *b* is rotated in a backward direction, as indicated by the arrow *y* in Fig. 2, then the outer bent portion of the lifting-pin *d*, as it comes in contact with the lifting-hook *f*, is swiveled on or by its axial connection with the shaft *b*, against the pressure of the spring *h*, as shown in Fig. 5, so that the lifting-pin readily passes or clears the lifting-hook *f* without springing or moving or objectionably straining the latter.

In Figs. 6 and 7 of the drawing the lifting pin or device *d* is in the form of a lever, capable of oscillation about an axis, *e*, which is perpendicular or radial to the shaft *b*, and which is on the outer end of a radial arm or stud on said shaft. This arm or stud *g* constitutes the driver of the lifting pin or lever *d* when the shaft *b* is moving in a forward direction, the lifting pin or lever *d* being constructed at its axial connection with the driver *g* to lock with or bear against the latter, with which it is held in contact by a spring, *h*, when the shaft *b* is rotating in a forward direction, in order that said lifting pin or lever will actuate or raise the lifting-hook *f* of the striking mechanism.

When, however, the shaft *b* is rotated in a backward direction, for the purpose of setting the hands of the clock, then the lifting pin or lever *d*, as it strikes or comes in contact with the lifting-hook *f*, is free to swivel on its axis *e*, against the pressure of the spring *h*, to allow of said pin or lever clearing the lifting-hook without straining on the latter, as in the modification shown in Figs. 1, 2, 3, 4, and 5 of the drawing.

We claim—

In a striking-clock, the spring lifting pin or device on the center shaft, constructed to swivel for the purpose of passing the lifting-hook when the hands of the clock are turned back, substantially as specified.

JOHN J. MARCY.
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Witnesses:

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