J. CONNOR.

Lock-Work Attachment for Clocks.

No. 210,755. Patented Dec. 10, 1878.

Fig: 1

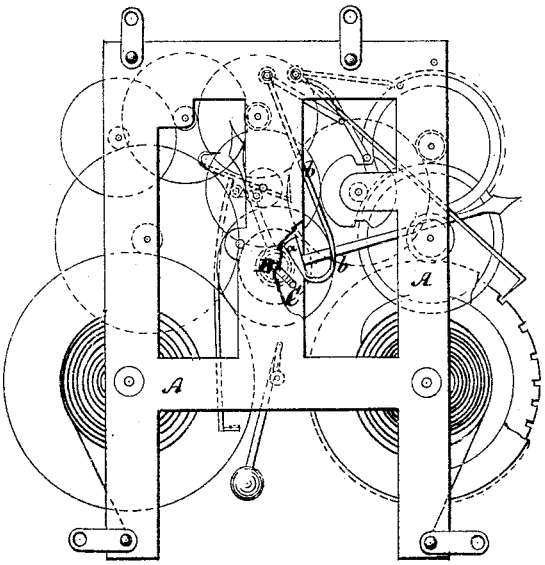

Fig: 2

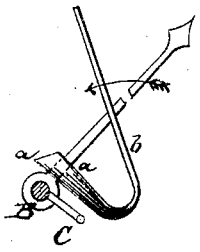

Fig: 3

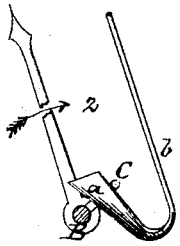

Fig: 4

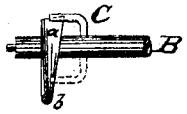

Fig: 5

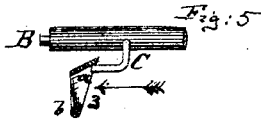

Fig: 6

Witnesses
John G. Tunbridge
D. V. Briesen

Inventor:
John Connor
by his attorney
A. V. Briesen

UNITED STATES PATENT OFFICE.

JOHN CONNOR, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN LOCK-WORK ATTACHMENTS FOR CLOCKS.

Specification forming part of Letters Patent No. **210,755,** dated December 10, 1878; application filed March 13, 1877.

To all whom it may concern:

Be it known that I, JOHN CONNOR, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Striking-Clock, of which the following is a specification:

Figure 1 is a back view of a clock mechanism provided with my improvement. Figs. 2 and 3 are detail back views, showing the lifting-hook and the lift-wire in different positions. Figs. 4, 5, and 6 are detail side views, showing said parts also in different positions.

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

The object of this invention is to provide striking-clocks of all kinds with mechanism that will allow the hands to be turned back without interfering with the striking mechanism, and without causing injury to any of the parts of the clocks.

The invention seeks to attain this end without adding anything to the mechanism of ordinary clocks; and consists, solely, in a new form of lifting-wire, whereby the lifting-hook on the arbor of the minute-hand is enabled to pass said wire of the lock-work without affecting the striking mechanism whenever the hands are turned back, while when the hands are turned forward the hook will lift the wire in the usual manner, and cause the clock to strike.

In the drawing, the letter A represents the frame of a suitable striking-clock. B is the spindle carrying the minute-hand, and rotated by connection with the mainspring, in the usual manner. This spindle carries, as usual, a projecting lifting-hook, C, for actuating the lock-work—that is, the striking mechanism—once every hour, or at other suitable intervals. *b* is that wire of the lock-work which extends toward the spindle B, and is to be directly actuated by the lifting-hook, and which I term the "lifting-wire." The lower end of the wire *b* is always near to the body of the spindle, as indicated; and when the spindle B is turned in the direction of the arrow shown in Fig. 2, the lifting-hook will enter beneath the wire *b* and lift said wire from contact with the spindle B, and thus affect the striking mechanism in the requisite manner.

The peculiarity of my lifting-wire *b* is, that its lower part or beak, *a*—that is to say, the part which is turned toward the hook C—is flattened and inclined toward the spindle B. The angle of inclination may be about thirty-five degrees, more or less, where heretofore the same part of the lifting-wire was always round. The same part *a*, besides being inclined to the spindle, is also tapering or inclined along its lower edge, as shown. Thus the part *a* is doubly inclined. The effect of this shape is, that if the hook C is turned in the direction of the arrow 2, (shown in Fig. 3,)—that is to say, if the minute-hand is set back—the lifting-hook, on reaching the wire *b*, will not lift said wire off the spindle, nor will it bend or break the wire, or be bent or broken itself; but it will come in contact with the inclined face of the part *a* of the wire *b*, and slightly push the said wire in line with the axis of the spindle, in the direction indicated by the arrow 3 in Fig. 5. This very slight motion is permitted to the wire *b* by its spring, and after the hook C has passed it the wire *b* will resume its former position by virtue of the same springing property. When, however, the spindle B is turned to the right in setting the hands forward, as already stated, the hook C will come under the wire *b*, as in Figs. 2 and 6, and will lift it off the spindle and cause the clock to strike.

One additional advantage of my improved lifting-hook is, that the pendent striking-wire, which is appended to many clocks for causing them to strike whenever desired, can be dispensed with, because I can make a clock having my improved lifting-wire strike as often as desired by merely drawing the minute-hand backward and forward over the figure 12 of the dial.

I claim as my invention—

In a striking-clock, the lifting-wire *b*, made with the flattened and doubly-inclined beak or part *a*, for operation substantially as herein shown and described.

JOHN CONNOR.

Witnesses:
ERNEST C. WEBB,
A. V. BRIESEN.