J. H. Davis,

Alarm Clock.

No. 110,016. Patented Dec. 13. 1870.

Fig: 1.

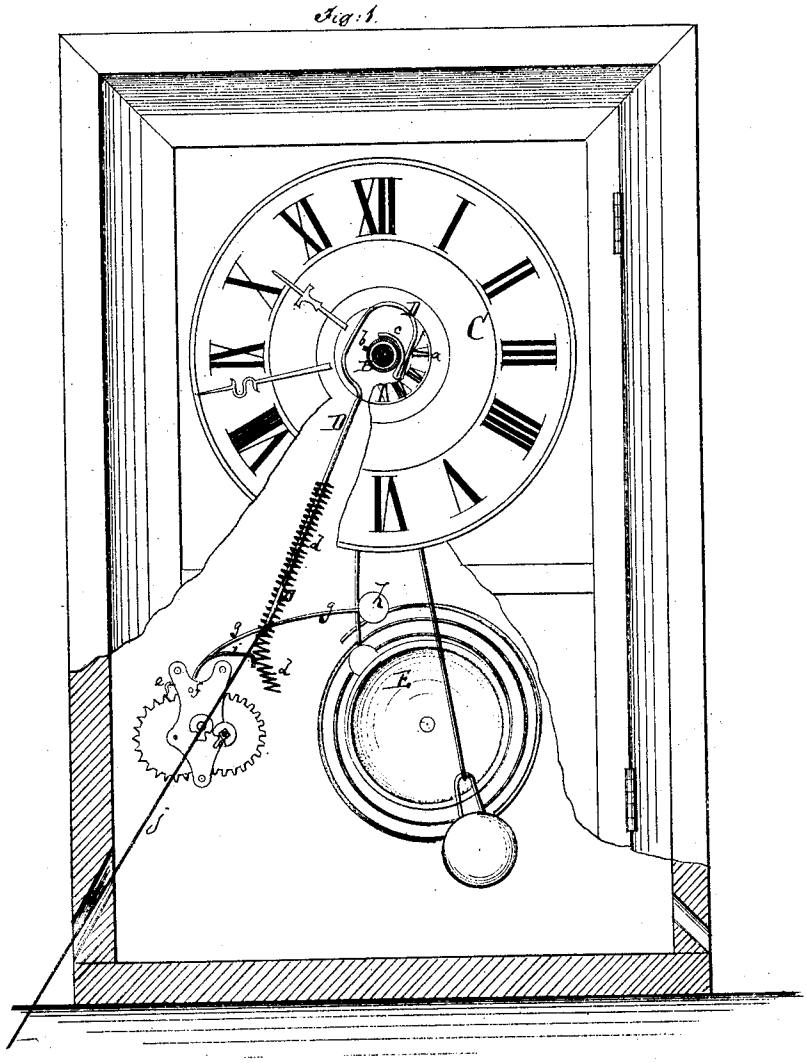


Fig: 2.

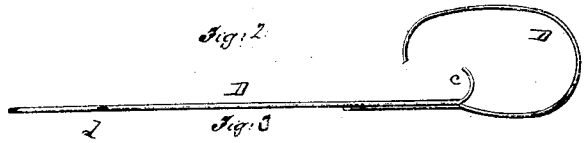
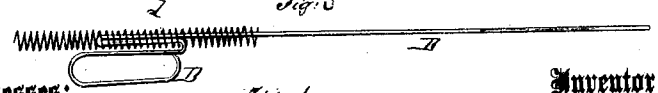


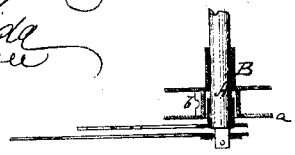
Fig: 3



Witnesses:

Chas. Hida
D. C. Walker

Fig: 4.



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UNITED STATES PATENT OFFICE.

JOSEPH H. DAVIS, OF CHILLICOTHE, MISSOURI.

IMPROVEMENT IN ALARM ATTACHMENTS FOR CLOCKS.

Specification forming part of Letters Patent No. **110,016**, dated December 13, 1870.

To all whom it may concern:

Be it known that I, JOSEPH H. DAVIS, of Chillicothe, in the county of Livingston and State of Missouri, have invented a new and Improved Clock-Alarm; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

Figure 1 represents a front elevation, partly in section, of a clock provided with my improved alarm attachment. Fig. 2 is a detail face view of the operating arm or lever. Fig. 3 is a detail side view of the same. Fig. 4 is a detail horizontal section of the operating-spindle and cam.

Similar letters of reference indicate corresponding parts.

This invention has for its object to provide means whereby alarm attachments can, whenever desired, be secured to or connected with clocks of suitable construction.

At present some clocks are provided with alarm attachments and others not. Those that have no attachments can at present not be readily changed into alarm-clocks. By the aid of my invention clocks of all kinds can be readily converted into alarm-clocks without the aid of experts.

A in the drawing represents the tubular hour-hand spindle of a suitable clock-work. Upon the same is secured a tube, B, which carries an index-plate, *a*—that is to say, a flange—the face of which is divided into twelve parts to indicate the divisions of the clock-dial C. The tube B and index-plate *a* are similar to the same parts used on all alarm-clocks, a projecting rib or stop, *b*, being formed on the side of the tube B, as shown in Figs. 1 and 4. D is a lever, made of wire or other suitable material, with a loop-shaped upper end. Within the loop, which is formed at the upper end of the lever D, is secured a small hook, *c*, which may either be attached to the outer part of said loop, as in Fig. 1, or to the main shank of the same, as in Fig. 2. The lower end of the lever D is, by means of a spiral spring, *d*, connected with the alarm apparatus. When the alarm is to be used the hook *c* is brought upon the tube B, so as to rest on the same, the plate *a* having previously been set in the ordinary manner for the proper time. As soon as the figure 12 of the plate *a* arrives in line with the same or any other fixed figure of the dial, the stop *b* will strike the end of the arm or hook *c* and push the same off the tube B. The lever D will thereby be lowered and the alarm set in motion.

The alarm attachment consists of a spring which, when wound up, tends to rotate an arbor, *d*, the motion of which is retarded by an escapement-anchor, *e*. The spindle *f* of this anchor carries, on a projecting arm, *g*, the clapper *h*, which strikes the alarm-bell E. An arm, *i*, of the spindle *f*, is, by means of the spring *d*, connected with the lever D. The lever D, as long as it is supported by the tube B, holds the spring tense; but as soon as its arm *c* is pushed off the said tube the tension of the spring *d* will be released and the alarm liberated and set into action. The same invention is applicable to separate alarms, which are not secured to the clocks. In such case either the lever D or the spring *d* is, by a cord, *j*, connected with the alarm, wherever the same may be secured.

In order to guard against variations of the position of the alarm, the stop *b* may be made adjustable on the tube B.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The wire link D, provided with the hook-shaped arm *c*, which supports it on the tube B, for the purpose of connecting the clock mechanism with the alarm attachment, as set forth.

JOSEPH H. DAVIS.

Witnesses:
B. STEVENS,
W. DUNLAP.