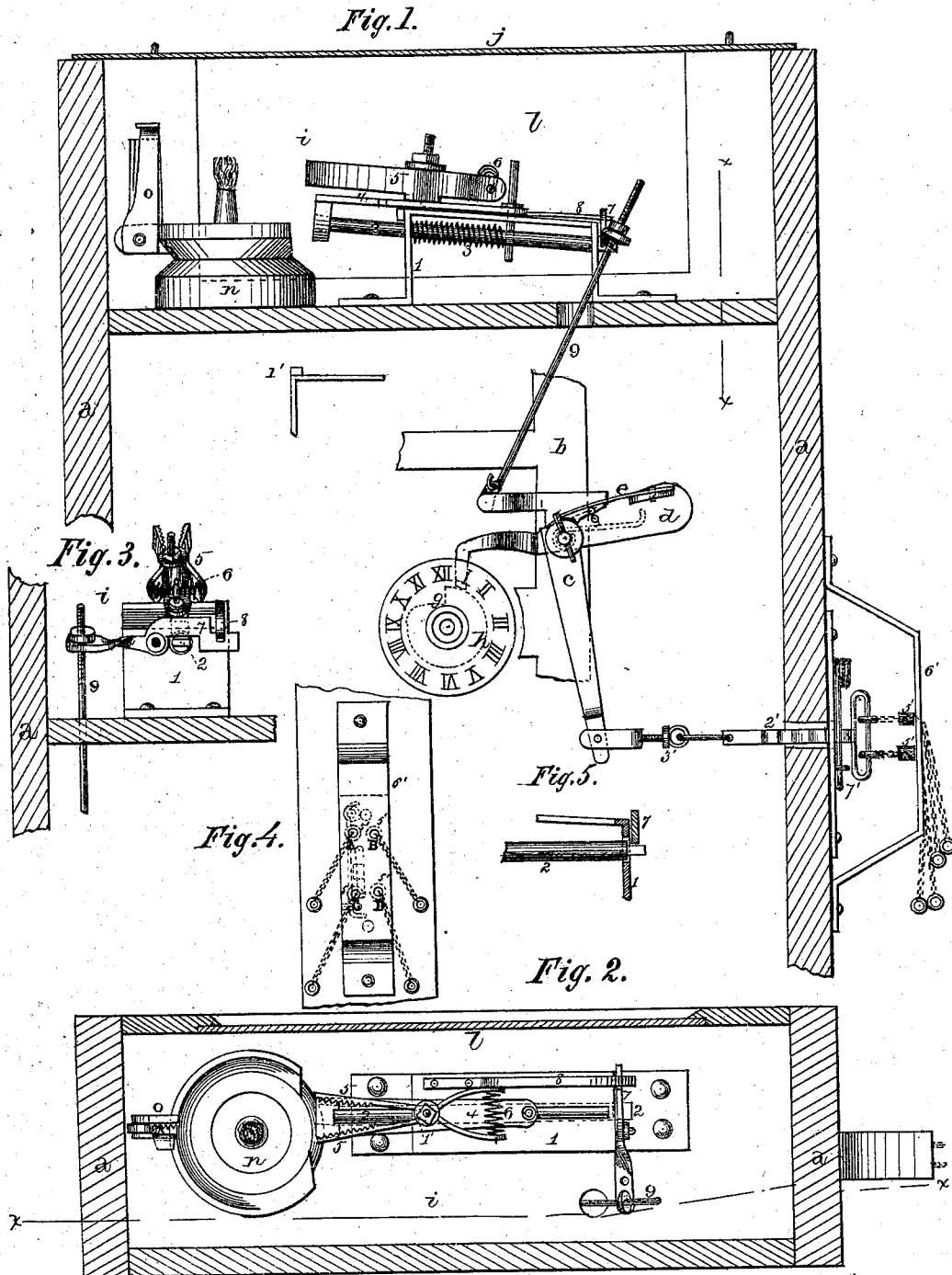


D. M. CHARTERS.
Alarm Clocks.

No. 143,881.

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Witnesses:
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UNITED STATES PATENT OFFICE.

DAVID M. CHARTERS, OF XENIA, OHIO.

IMPROVEMENT IN ALARM-CLOCKS.

Specification forming part of Letters Patent No. **143,881**, dated October 21, 1873; application filed August 29, 1873.

To all whom it may concern:

Be it known that I, D. M. CHARTERS, of Xenia, in the county of Greene and State of Ohio, have invented certain new and useful Improvements in Alarm-Clocks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention relates to an improvement in alarm-clocks; and it consists in placing a lamp in the top of the clock, and connecting with it a match-holder and a device for igniting the match which is connected to the alarm mechanism, so that when the alarm goes off the lamp will be lit. It also consists in the arrangement and combination of parts, which will be more fully described hereafter.

Figure 1 is a vertical section of my invention taken on the line *x x*, Fig. 2. Fig. 2 is a horizontal section taken through the top of Fig. 1, so as to show a plan view of the lamp and the device for igniting the match. Fig. 3 is a vertical cross-section taken on the line *x x*, Fig. 1. Fig. 4 is a part side view of the outside of the frame. Fig. 5 is a detail view.

a represents the frame of a common clock, in which are placed the usual clock-work for indicating the time and an ordinary alarm mechanism. Pivoted to the front of the metal frame *b*, in which the clock-work is placed, are two levers, *c d*, the rear one of which, *d*, being the one generally used in setting off the alarm. The second lever *c*, made in the form of a bell-crank, is held in position by a spring, *e*, which is secured to the lever *d*, and which bears down upon a small stud projecting from the side of the lever *c* with sufficient force to throw the short end of the lever downward when the end of the lever *d* falls into the notch *g* in the alarm-index *h*. Thus, when one lever moves to set off the alarm the other moves also. The top of the clock-frame forms a box or chamber, *i*, provided with a hinged top, *j*, and a removable part or door, *l*, in the back. In this box or chamber is placed a lamp, *n*, of any suitable kind, to which is attached a spring-clamp, *o*, which will hold a match just over the top of the wick, so that when the match is lit it will light the lamp. Secured to the bottom of the

chamber, close to the lamp, is a frame, *1*, through which passes the rod *2*, around which is placed a coiled spring, *3*. To the front end of this rod is secured a slotted slide or carriage, *4*, which moves back and forth on the top of the frame, carrying the spring-clamp *5*, which lights the match. This clamp consists of two jaws pivoted together, having a coiled spring, *6*, placed between their rear ends for bringing the two front ones together, the front ends being serrated upon their inner sides, so as to light the match by frictional contact. Upon the rear end of the rod is formed a shoulder, as seen in Fig. 5, behind which a catch, *7*, is forced downward by a spring, *8*, so that when the rod is forced forward, compressing the spring *3* by a stud projecting from its side, this catch will hold it in this position, as shown in Fig. 1, the jaws of the clamp being pressed apart ready to spring shut and light the match. The outer end of the catch *7* is attached to the lever *c* by a connecting-rod, *9*, so that when the lever *c* is thrown downward by the alarm going off, this rod will jerk the catch out from behind the shoulder on the bar, when the spring *3* will instantly throw it backward, carrying the spring-clamp with it. Upon the front end of the frame is a small projection or stud, *1'*, which not only holds the jaws open, but regulates their closing, so that they cannot shut with a sudden snap upon the match. To the lower and longer end of the lever *c* is attached a notched rod, *2'*, by means of an adjustable screw-connection, *3'*, the rod extending out through the side of the frame, and having a number of chains secured to it. These chains are all numbered or lettered, and have a small movable collar, *5'*, passed over them, so that when one or more of them are pulled, so as to draw the catch from behind the bar, this collar, coming in contact with the inner side of the guard *6'*, through which they all pass, will be forced backward, and thus indicate which ones were pulled. Upon the outside of the frame is placed a spring, *7'*, which catches in the last notch in the side of the rod *2'*, and prevents it from being moved.

Having thus described my invention, I claim—

1. The levers *c d*, spring *e*, and rods *9 2*, actuated directly by cam *g* and arm of lever *d*,

arranged in connection with an alarm mechanism, substantially as and for the purpose set forth.

2. The slotted slide or carriage 4, in combination with the serrated clamp 5, springs 3 and 6, rod 2, and frame 1, constructed and arranged as and for the purpose specified.

3. The lamp *n* and clamp *o*, in combination with the slide or carriage 4, clamp 5, springs 3 and 6, and connecting-rod 9, as and for the purpose herein set forth.

4. The catch 7, in combination with the spring 8, frame 1, rods 2 and 9, when constructed and arranged for operation as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

DAVID M. CHARTERS.

Witnesses:

JACOB HORNER,
FRANCIS HARRIS.