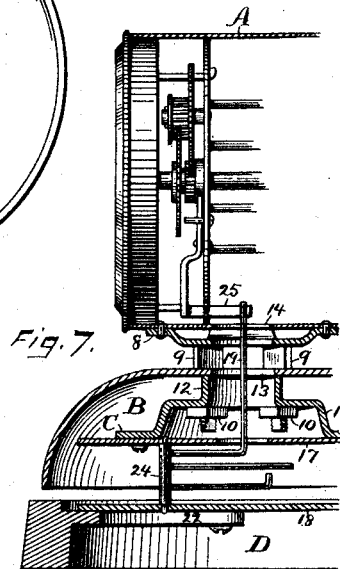
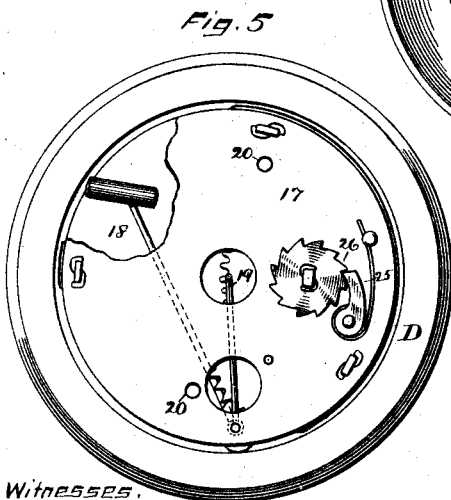
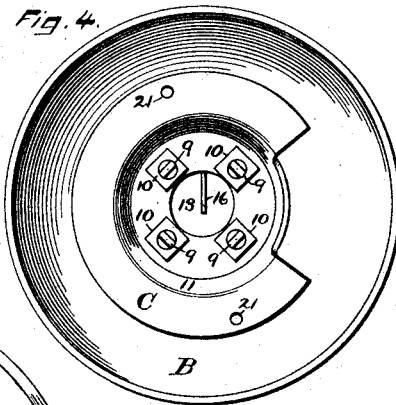
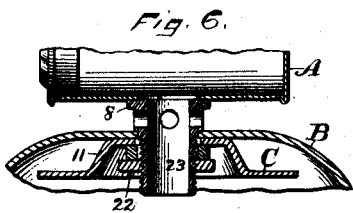
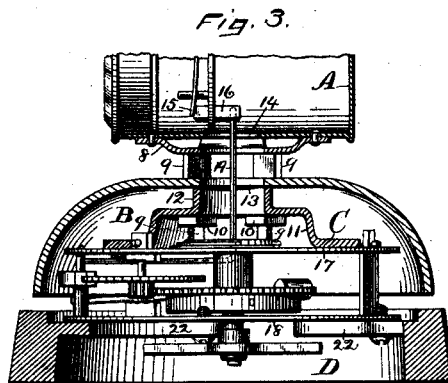
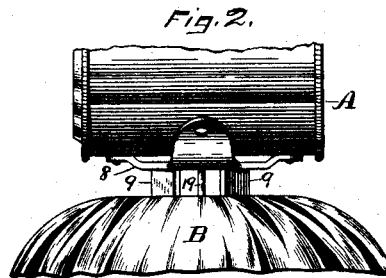
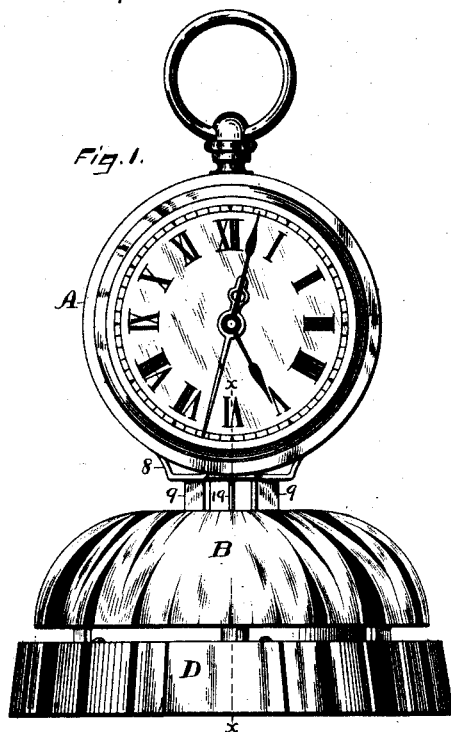


(No Model.)

A. M. LANE.
COMBINED CLOCK AND BELL.

No. 419,686.

Patented Jan. 21, 1890.



Witnesses.
John Edwards Jr.
A. H. Champlin

Inventor,
Alma M. Lane.
By James Shepard. J.H.H.

UNITED STATES PATENT OFFICE.

ALMERON M. LANE, OF MERIDEN, CONNECTICUT.

COMBINED CLOCK AND BELL.

SPECIFICATION forming part of Letters Patent No. 419,686, dated January 21, 1890.

Application filed August 17, 1889. Serial No. 321,080. (No model.)

To all whom it may concern.

Be it known that I, ALMERON M. LANE, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in a Combined Clock and Bell, of which the following is a specification.

My invention relates to improvements in clocks having a bell for the ringing mechanism to strike; and the main objects of my improvement are to provide a better and simple connection of a bell and bell-ringing mechanism with a time-piece, and to produce a clock of this class in a compact and attractive form.

In the accompanying drawings, Figure 1 is a front elevation of my combined clock and bell. Fig. 2 is a side elevation of a portion thereof. Fig. 3 is a vertical section of a part thereof, partly in elevation, the plane of section being indicated by the line *xx* of Fig. 1. Fig. 4 is a view showing the under side of the clock and bell with the bell-ringing mechanism removed. Fig. 5 is a plan view of the parts that have been removed from Fig. 4. Fig. 6 is a vertical section of detached parts, showing a slight modification in securing the parts together; and Fig. 7 is a vertical section, partly in elevation, showing parts of a clock for striking the hour instead of ringing an alarm.

A designates a case for containing a time-piece of any ordinary construction, the two forming what I term the "clock." To the under side of this case I secure a plate 8, from which depend four posts 9, the lower ends of said posts being provided with a shouldered and threaded tenon upon which to place fastening-nuts 10. These tenons pass through holes in the bell B and attaching-plate C, and the nuts are screwed up against the under side of said plate, so as to firmly clamp the bell between the shoulders of the posts and the central portion of said plate. In the preferred form I make said attaching-plate with a central hub 12, in the form of a tubular boss, and a larger swaged or struck-up portion 11, the inside of which forms a chamber or recess for the reception of the nuts 10, while the base of the plate is in the form of a flange.

There is a central opening 13 in the bell B, and immediately above the same a like opening 14 in the bottom of the case A. The attaching-posts and their plate are also so formed as to leave an unobstructed opening up through the bell and case. I provide the time-movement with a holding and releasing lever 15, the foot 16 of which extends rearwardly in the lower part of the case to the central portion thereof. The time-movement and alarm-setting mechanism are so arranged as to move this lever forward when the hour arrives on which the alarm is set. This lever and the mechanism for moving it are not peculiar to my present invention, and may be of any known construction, and therefore I consider it unnecessary to illustrate and describe them. Examples of such mechanisms may be found in my Patent No. 390,786, October 9, 1888, and in Patent No. 403,274, May 14, 1889.

17 and 18 designate, respectively, the upper and lower plates of a bell-ringing mechanism for an alarm, the main parts of said mechanism being of ordinary construction, and therefore they require no specific description. The upper plate 17 is provided with a central orifice through which the holding arm or wire projects upwardly. The plate 17 is secured, preferably, by means of screws which pass through the holes 20, Fig. 5, into the threaded screw-holes 21, Fig. 4, of the attaching-plate C, so as to hold the plate 17 and connected bell-ringing mechanism and the attaching-plate firmly together. A portion of the attaching-plate C at its edge is cut away, as shown in Fig. 4, in order to make room for the ratchet 26 and pawl 25, Fig. 5, that are secured on the upper side of the plate 17. I then surmount the whole upon the foot or base D, preferably by means of screws that pass through flanges 22, Fig. 3, into the lower plate 18 of the bell-ringing mechanism. Holes or openings should be left in the lower plate 18 to permit the passage of a screw-driver when attaching or detaching the plate 17 and bell-ringing mechanism to and from the attaching-plate.

It will be observed that the bell is mounted upon the alarm-movement with its lower edge slightly above the foot-piece D and has the appearance of forming a part of the base of

the clock. It also covers the bell-ringing mechanism, and in effect constitutes its case. The bell-ringing mechanism being secured to the foot-piece and attaching-plate, and the
5 bell and clock being mounted upon said attaching-plate, the frame of said bell-ringing mechanism constitutes the support or standard on which the time-piece is mounted. The holding arm or wire 19, which has a vibratory
10 motion, as in other alarm-clocks, extends up through the orifice in the central portion of the bell to the foot 16 of the holding and releasing lever 15, so that when said lever is thrown forward at the proper time the bell-
15 ringing mechanism may act in the ordinary manner.

While I have described specifically the plate 8, posts 9, and nuts 10, by which the attaching-plate C is secured to the clock and
20 bell, I do not wish to confine myself to such specific construction, as other devices may be used as an equivalent therefor, provided they permit of a central opening in the bell and the passage of the holding arm or wire up
25 through the bell to the clock. In Fig. 6 I have illustrated a substitute for such connection, in which a plate 8, that is secured to the clock-frame, is provided with a tubular shouldered portion 23, threaded externally and
30 passed through a central hole in the bell and attaching-plate C, said bell and plate being firmly secured together by means of the nut 22 on the exterior of the shouldered and threaded tube 23. Instead of providing the
35 attaching-plate with a small central hub, I allow the bell B to rest directly upon the larger swaged or struck-up part 11. The bell-ringing mechanism and its mode of attachment may be the same as before described.

40 While I have described my clock and bell as used in connection with an alarm-movement, it may be also used in connection with a bell-ringing mechanism for striking the hour. Such change requires only that the holding
45 and releasing mechanism shall be operated hourly or half-hourly by the time-piece, and that the holding arm or wire 19 shall extend upwardly through the center of the bell, &c., from the lock-work post 24 of the bell-ringing
50 mechanism of the striking-clock, substantially as illustrated in Fig. 7, in which 25 designates the holding and releasing lever. The

bell-ringing mechanism for a striking-clock and its connections with the holding and releasing lever 25 and their operating mechanism are not new with my present invention,
55 excepting as they are mounted, as before described. An example of such mechanisms in a striking-clock may be seen in my Patent No. 403,275, dated May 14, 1889.

I am aware that Patent No. 327,919 shows a watch-stand and electric alarm-bell arranged so as to ring the bell whenever the watch is removed from its stand, and I hereby disclaim
60 the same.

I claim as my invention—

1. A combined clock and bell with the clock containing a tripping device and mounted on the summit of the bell, the bell mounted over and inclosing the ringing mechanism, and devices intermediate said tripping device and ringing mechanism for releasing said bell-
70 ringing mechanism at the predetermined time, substantially as described, and for the purpose specified.

2. A combined clock and bell connected together, having the bell-ringing mechanism inclosed by the bell, and the holding arm or wire passing through an opening at the central portion of the bell, substantially as described,
80 and for the purpose specified.

3. A combined clock and bell, the bell portion consisting of the bell proper B, an attaching-plate secured within said bell proper, and a separately-formed bell-ringing mechanism
85 secured to said attaching-plate, substantially as described, and for the purpose specified.

4. A combined clock and bell consisting of the foot-piece D, bell-ringing mechanism mounted upon said foot-piece, the attaching-
90 plate C, mounted upon said bell-ringing mechanism, and the bell and clock surmounting said attaching-plate, substantially as described, and for the purpose specified.

5. A combined clock and bell-ringing mechanism in which the frame of the bell-ringing mechanism constitutes the standard that supports the clock, substantially as described,
95 and for the purpose specified.

ALMERON M. LANE.

Witnesses:

JAMES SHEPARD,
JOHN EDWARDS, Jr.