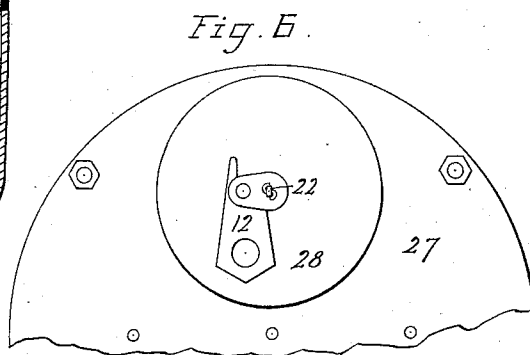
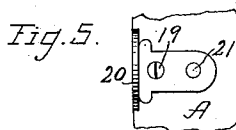
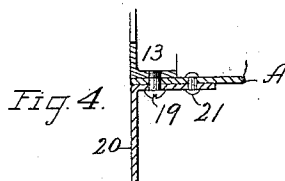
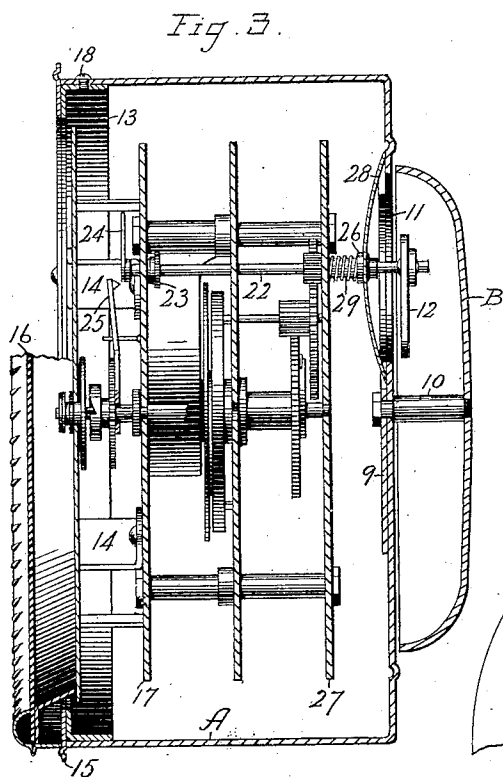
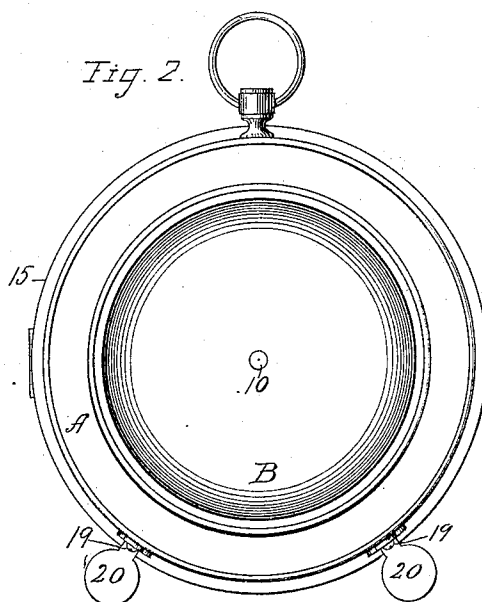
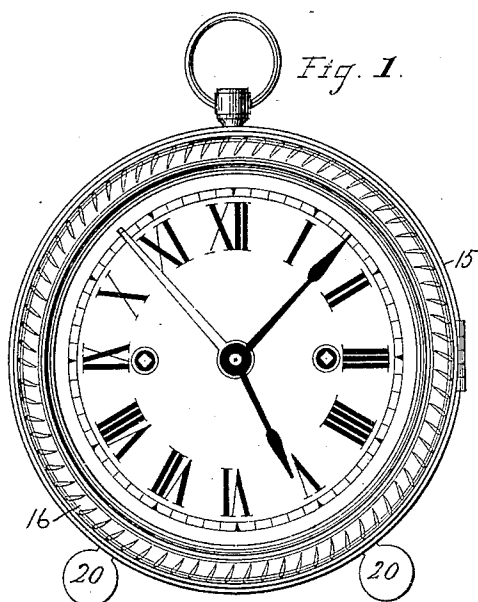


A. M. LANE.  
ALARM CLOCK.

No. 549,242.

Patented Nov. 5, 1895.



WITNESSES

*A. V. Steyer*  
*A. D. Loomis Jr*

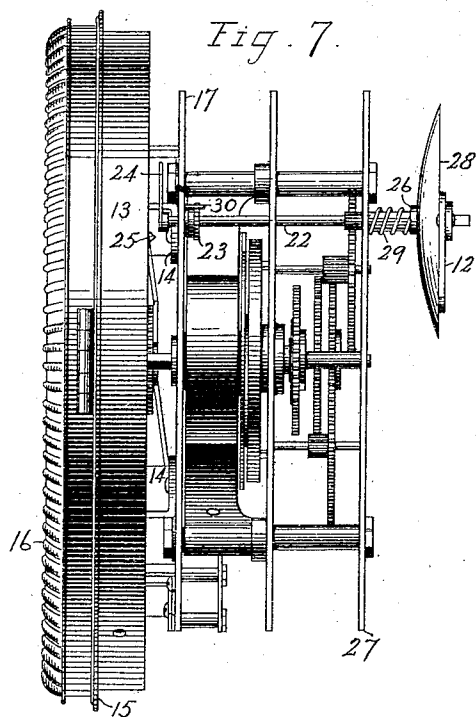
INVENTOR

*Almeron M. Lane.*  
By *James Shephard* Atty.

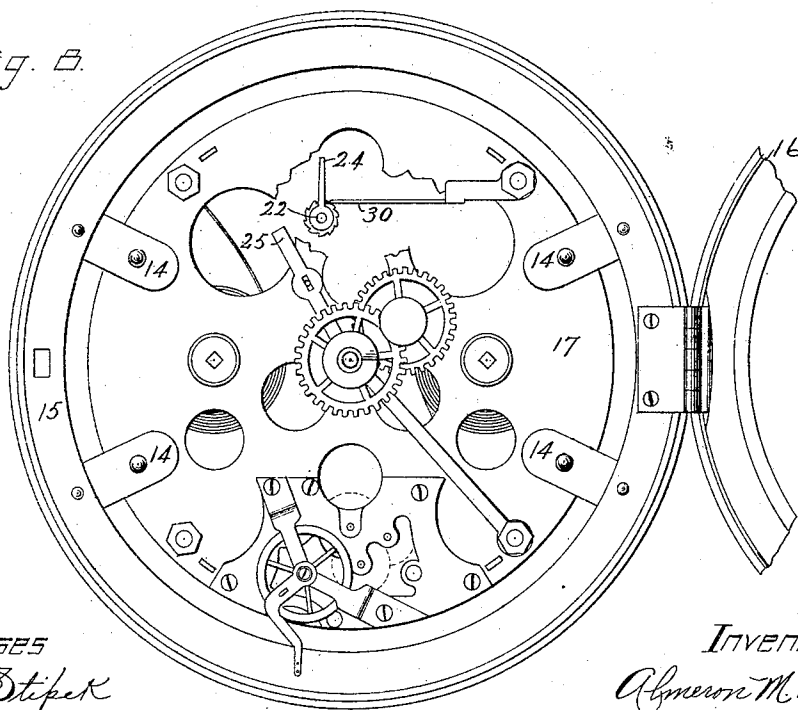
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*Fig. 8.*



Witnesses

*A. W. Stipek*

*S. J. Loomis*

Inventor

*Almeron M. Lane*

*By James Shepard*  
*Atty*

# UNITED STATES PATENT OFFICE.

ALMERON M. LANE, OF MERIDEN, CONNECTICUT.

## ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 549,242, dated November 5, 1895.

Application filed April 26, 1895. Serial No. 547,213. (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 Clocks, of which the following is a specification.

My invention relates to improvements in clocks having bell-ringing mechanism, and the main object of my improvement is to more conveniently arrange the movement and its bell-ringing mechanism for removal from the case for the purpose of repairs, and also to arrange the bell on the back of the case at the outside, whereby the appearance of the clock is improved and a better-sounding bell may be employed.

This application is a substitute for one formerly filed by me as Serial No. 513,201, filed June 1, 1894, which is withdrawn and abandoned in favor of this application.

In the accompanying drawings, Figure 1 is a front elevation of my clock. Fig. 2 is a rear elevation of the same. Fig. 3 is a central vertical section of the same with some of the central parts in elevation and the upper portion of the sash broken away in order to better show the holding-ring. Fig. 4 is a sectional view of a portion of the case and one of the feet, the holding-screw and rivet being shown in elevation, although they come within the plane of section. Fig. 5 is a view of the under side of one of the feet and a portion of the case. Fig. 6 is a rear view of a portion of the movement, showing mainly the hammer and the dust-cap. Fig. 7 is a detached side elevation of the movement and connected parts as removed from the case. Fig. 8 is a front view of the same with the pointers and dial removed, the sash being represented as open and broken off. A portion of the front plate adjacent to the revolving-hammer shaft is also broken out. The parts in the extreme distance at the back part of the clock are not shown.

The clock shown in the drawings is designed particularly as an alarm-clock; but my improvement is equally as applicable to clocks having a bell-ringing mechanism for ringing the several hours of the day as it is to a clock for striking the bell at some particular hour for which it may be set.

A designates the case, which I prefer to form of sheet metal and of a cylindrical form. Its back on the inside is provided with a reinforcing-plate 9, and in the center of the back at the outside is the bell-post 10, to which the bell B is secured so as to stand concentric to the case and on the outside thereof at its back. This back is also provided with a circular hole 11, Fig. 3, through which the revolving hammer 12 of the bell-ringing mechanism may readily pass, even when said hammer is in the act of revolving.

In the front of the case I fit the flanged holding-ring 13, the cylindrical portion of said ring being fitted within the inside of the cylindrical case loosely enough so that it may readily be slid into and out of the case by hand, and yet snugly enough so that the sides of the case may in part control its position therein. The front flange of this ring—that is, the flange which stands at a right angle to its cylindrical portion—has the front ends of the arms or brackets 14 permanently secured to it, while the other ends of said brackets have the front movement-plate permanently secured to them. On the front of this flange I also secure the finishing ring or scalp 15, which is of a larger diameter than the ring 13, and consequently is as large or larger than the diameter of the case, so that it forms a shoulder for the front edge of the case to abut against and govern the depth that the ring shall be slid into the case. To this finishing and holding ring one hinge-leaf of the sash 16 is secured.

The particular construction of the movement herein shown is made the subject of another application of even date herewith, and consequently need not be herein particularly described. It is, however, all firmly connected with and carried by the front movement-plate 17, which in turn is permanently mounted on the holding-ring 13, the movement-plates being of less diameter than the cylindrical portion of said ring and not bearing on the case, so that the entire support of the entire movement and its bell-ringing mechanism is through said holding-ring. Any known movement carrying rearwardly-projecting striking devices adapted to strike a concentric bell on the outside of the case at the back when thus wholly supported on

the removable holding-ring I consider the full equivalent of my improvement for the purpose of this invention.

I secure the cylindrical portion of the removable holding-ring directly to the side of the case by a screw 18, Fig. 3, at the top of the case and screws 19 at the bottom of the case. The feet 20 are of sheet metal bent at a right angle with one member riveted to the case, as at 21, Figs. 4 and 5, the holding-screws 19 also passing through this member of the feet, thereby making the screws which hold the holding-ring and movement also assist in more rigidly holding the feet.

The revolving hammer is mounted on the shaft 22, suitably connected with the driving-train and carrying at one point a ratchet-wheel 23 and at its forward end a revolving arm 24. An ordinary trip 25, operated through the dial-wheels and ordinary alarm setting and releasing devices, of which it forms a part, is forced into the path of this arm 24 to prevent the hammer-shaft from revolving and at the proper time for which the alarm may be set withdrawn therefrom in the usual manner to permit the hammer to operate. A spring 30 bears upon the ratchet-wheel 23 of the hammer-shaft in order to prevent the hammer from revolving backwardly when the alarm movement is being wound.

The hammer-shaft passes through the hole in the back of the case, but without any bearing contact therewith and substantially at the center of said hole.

Arranged to slide loosely on a hollow stud 31, Fig. 3, that projects from the rear movement-plate 27 and within which stud the hammer-shaft rotates, there is a sliding hub or collar 26, and on said hub is a dust-cap 28, large enough to cover the hole in the back of the case, against which back it is snugly pressed when the movement is within the case by means of the spiral spring 29.

By securing all of the internal parts to the removable holding-ring I can readily withdraw the movement from the case for the purpose of repairs without removing the sash or the pointers or dial, and I can even take out and put in the movement when the striking-hammer is moving. Even when the movement is taken wholly apart it is not necessary or even desirable to remove the holding-ring from the front plate. In fact I intend to rivet the brackets to said holding-ring and front plate, so that they cannot be separated without removing the rivet-heads.

By placing the bell upon the back of the case and extending the striker through a hole in the back of said case, the winding parts being at the front, I produce a clock in which there is practically no limit to the diameter of the bell inside the diameter of the case, so that a very large bell may be combined with the clock in a very compact and symmetrical form.

By the employment of a spring-pressed dust-cap connected with the striking movement and a large hole in the back of the case I can conveniently remove the striking or bell-ringing mechanism with the rest of the movement, and I effectually stop up the hole for excluding dust by the mere act of putting the movement into the case, and the entire movement may be removed without removing the bell.

I claim as my invention—

1. A clock comprising a cylindrical case, a holding ring having a cylindrical portion fitted to slide into and out of said case, an outwardly projecting or external shoulder at the front of said holding ring for abutting against the front edge of the case, the sash hinged to the outwardly projecting portion of said holding ring, the movement secured through its front plate to said holding ring, the movement plates being of less diameter than the cylindrical portion of said ring, and devices for fastening said ring to the sides of said case, substantially as described and for the purpose specified.

2. A clock comprising a case with a large hole in its back, a movement mainly within said case but having a hammer projected through said hole to a position without the case at the back and a yielding dust cap mounted on the movement for covering said hole, substantially as described and for the purpose specified.

3. A clock comprising a case, a dial at the front of said case, a movement mainly within said case but having a hammer projected therefrom to the outside of the case at the back, and a bell concentrically mounted outside of the case on a post which stands at right angles to the plane of said back and dial, the hammer being in proper position within said bell for ringing it, substantially as described and for the purpose specified.

ALMERON M. LANE.

Witnesses:

JAMES SHEPARD,  
A. W. STIPEK.