(No Model.) 2 Sheets—Sheet 1.

W. H. HUNT.

PNEUMATIC ANNUNCIATOR.

No. 456,824. Patented July 28, 1891.

Fig. 1.

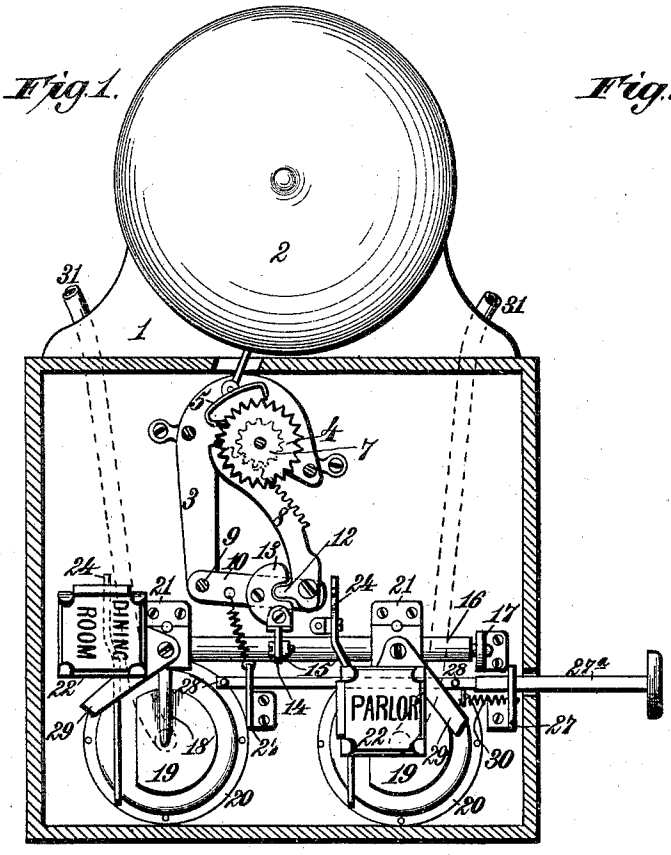


Fig. 2.

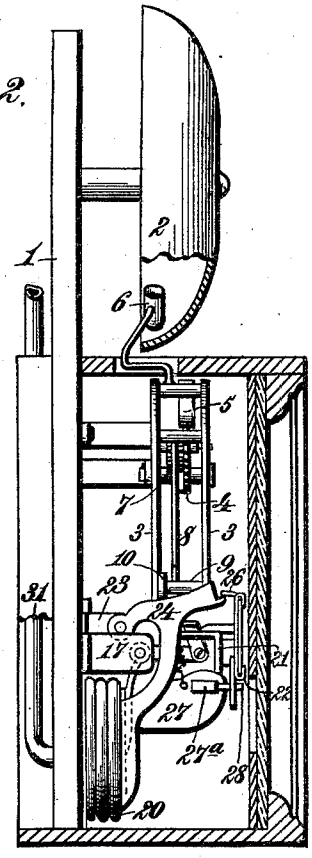


Fig. 3.

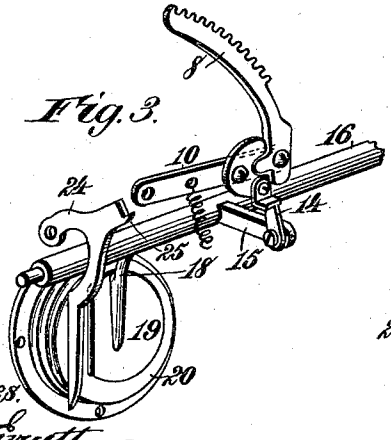
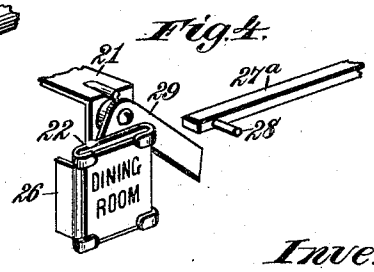


Fig. 4.



Witnesses.
Robt. Gnett.
J. A. Rutherford

Inventor:
William H. Hunt.
By James L. Norris.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

W. H. HUNT.

PNEUMATIC ANNUNCIATOR.

No. 456,824. Patented July 28, 1891.

Fig. 5.

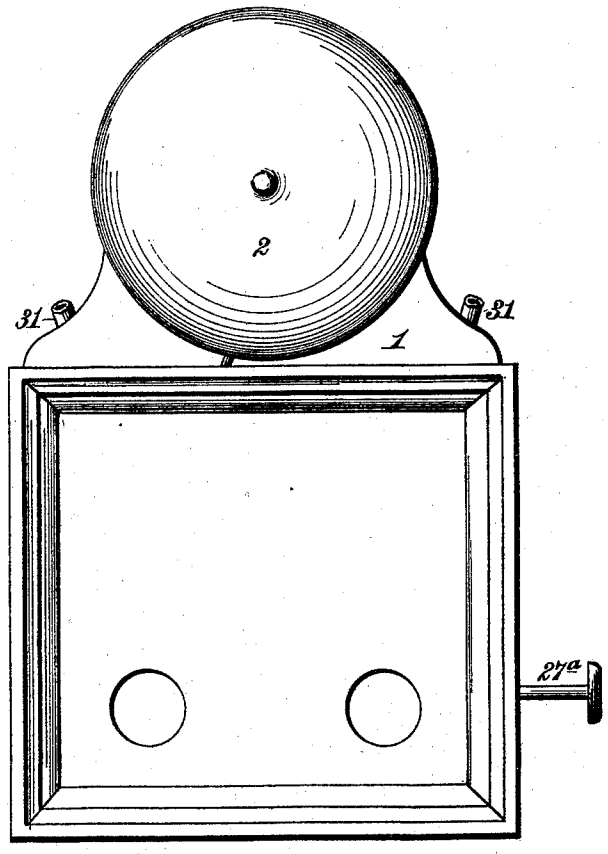
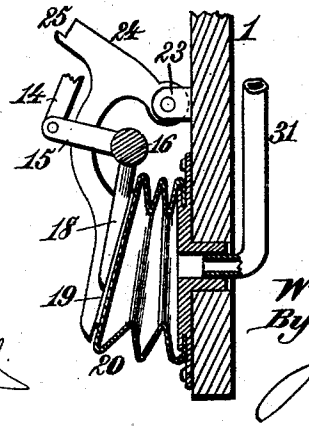


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM H. HUNT, OF JERSEY CITY, NEW JERSEY.

PNEUMATIC ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 456,824, dated July 28, 1891.

Application filed October 30, 1890. Serial No. 369,836. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HUNT, a citizen of Great Britain, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Pneumatic Annunciators, of which the following is a specification.

My invention relates to certain improvements in pneumatic annunciators, the purpose thereof being to simplify and improve the construction and operation of the parts, to avoid lost motion, to operate the audible signal with the minimum degree of power, to provide simple means for resetting the tablets, and to provide means for throwing the striker in and out of gear with the devices which operate the same.

My invention consists to these ends in the several novel features of construction and new combinations of parts, hereinafter fully set forth, and then definitely pointed out in the claims which follow this specification.

To enable others skilled in the art to make and use my said invention, I will proceed to describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal sectional view of an annunciator embodying my invention. Fig. 2 is a vertical transverse sectional view of the same. Fig. 3 is a perspective view of a portion of the rock-shaft, showing the rack-bar, the meshing and unmeshing device, and one of the bellows. Fig. 4 is a detail perspective of one of the tablets, with a portion of the restoring slide-bar. Fig. 5 is a front elevation of the annunciator inclosed. Fig. 6 is a vertical section taken centrally through one of the bellows.

In the said drawings, the reference-numeral 1 denotes a base-plate of wood, metal, or other material, upon which is mounted a gong 2 of any suitable kind; also, mounted upon this base-plate is a bracket 3, composed of two parallel plates, upon which is journaled an escapement-wheel 4, with which a pallet 5 engages, upon which is mounted a striker 6, which has contact with the gong 2. Upon the shaft of the escapement-wheel is mounted a pinion 7, with which engages a rack-bar 8, curved in the arc of a circle struck from an axis concentric with that of the pivotal point 9, upon which is mounted the end of a lever or bar 10, to the end whereof the rack-bar 8 is connected in such manner that it is movable upon said lever.

I have shown in the drawings the form of connection I regard as preferable, which consists in forming a tooth 12 upon said rack-bar to engage a notch in a link 13, having its lower end connected to a link bar or bracket 14, pivotally connected to an arm 15 upon a rock-shaft 16, which is journaled in bearings 17 upon the base-plate. Upon the rock-shaft 16 are rigidly mounted arms 18, having plates 19, which normally rest upon expansible bellows 20, by the inflation of which the rock-shaft is revolved. Bolted or otherwise fastened to the base-plate are brackets 21, extending over the rock-shaft, and upon the ends of which frames 22 are mounted, carried by V-shaped brackets, said frames being supported upon one arm of said brackets. Upon each of these frames is arranged a tablet containing the name of a room or other locality from which the signal is transmitted. Upon brackets 23 are pivoted levers 24, having forwardly-projecting arms provided with catches 25, adapted to engage lips or edges 26 upon the frames 22. The other ends of these levers rest upon the expansible bellows 20. In the ends of the brackets 27 is arranged a horizontal slide-bar 27^a, having outwardly-projecting pins 28, which may be caused to engage the edges 29 of the bars forming part of the V-shaped frame 22. The slide-bar 27^a is retracted by a spring 30; but as it is pushed against the tension thereof its pins 28 lift the frames and throw the tablets upward until they are locked by the engagement of their lips with the catches 25, by which they are sustained.

With each of the expansible bellows 20 is connected an air-pipe 31, running from one of the rooms of the building and having a pneumatic device of any suitable kind, whereby a compression of air is produced in the bellows to which said pipe is connected. This device may be a push-button, and the air forced thereby into the bellows will expand the same, trip the lever sustaining the tablet, and rotate the rock-shaft sufficiently to sound the gong.

By the construction shown in Figs. 1 and 3, it will be seen that inasmuch as the arm or lever 10 is mounted upon a fixed pivot 9; while

the rack-bar 8 is connected pivotally to its free end, the movement of the arm 15 in an upward direction by the expansion of any one of the bellows will turn the link 13, and thereby swing the rack-bar toward the pinion 7, throwing it into mesh with the same. On the other hand, as the bellows collapse and the arm 15 is dropped the rack-bar 8 is swung slightly away from the pinion and unmeshed therefrom, enabling the arm to rise without any impediment and avoiding the necessity of using a pawl-and-ratchet connection for said pinion.

What I claim is—

1. In a pneumatic annunciator, the combination, with a pallet carrying a striker, of an escapement-wheel vibrating said pallet and causing the striker to operate upon a gong, a gear on the shaft of the wheel, a rack-bar meshing with said gear, a rock-shaft having an arm which is connected by a link with the pivotally-mounted rack-bar, a bell-crank lever pivoted at its angle, a bellows upon which one arm of said lever rests, and a bracket having two angular arms, one of which supports a tablet giving the location of the room, and a spring-retracted slide-bar having pins adapted to engage the other arm of said bracket and lift the same until it is engaged with the outwardly-projecting arm of the bell-crank lever, substantially as described.

2. In a pneumatic annunciator, the combination, with a series of expansible bellows, of a rock-shaft having a corresponding series of arms provided with plates resting upon said bellows, a rack-bar having an arm on the rock-shaft, a pinion with which said rack-bar meshes, an escapement-wheel upon the shaft of said pinion, a pallet vibrated by said wheel and having a striker, V-shaped brackets pivotally mounted and swinging in a plane parallel with said rock-shaft, a tablet being mounted on one arm, and levers having arms projecting forward and provided with depending arms engaging the bellows, and means for restoring the tablets to place, substantially as described.

3. In a pneumatic annunciator, the combination, with an arm pivoted at one end upon a suitable bracket or frame, of a curved rack-bar pivotally mounted upon the other end, a rock-shaft having an arm-link connected to the pivoted arm and provided also with a series of arms having plates, a corresponding series of bellows upon which said plates rest, a series of catch-levers pivoted upon suitable supports and having arms which rest upon the bellows, plates adapted to support tablets pivoted in front of the rock-shaft and having arms arranged at an angle with the tablet, and a spring-retracted slide-bar having pins which engage said arms, substantially as described.

4. In a pneumatic annunciator, the combination, with a gong, of a pallet having a striker, an escapement-wheel vibrating said pallet, a pinion on the shaft of said wheel, a rack-bar meshing with said escapement, a pivoted link actuating said rack-bar, a rock-shaft having a link pivoted to the actuating-link of the rack-bar, a series of bellows, a series of levers having arms resting thereon and provided also with arms carrying tablets showing the location from which the call is sent, a restoring slide-bar, and a series of pneumatic pipes having communication with the separate bellows, substantially as described.

5. In a pneumatic annunciator, the combination, with a pallet carrying a striker, of an escapement-wheel, a rack-bar pivotally mounted at one end upon a pivoted arm, a link connection engaging a tooth or point on the rack-bar between the two pivotal points, a rock-shaft having an arm connected with said link connection and provided also with arms having support upon one or more expansible bellows, substantially as described.

6. In a pneumatic annunciator, the combination, with a pinion actuating the striker of a gong, of a rack-bar operating said pinion, an arm pivoted at one end upon a rigid support, a rack-bar pivoted at the other end of said arm, a link pivotally mounted on said arm and connected with a tooth on the rack-bar, a rock-shaft having an arm connected to said link, and one or more expansible bellows actuating arms rigid on said rock-shaft, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM H. HUNT.

Witnesses:
PHILIP A. COOK,
SAMUEL D. HAINES.