(No Model.)

P. H. VANDER WEYDE.

AUTOMATIC FIRE ALARM.

No. 253,133. Patented Jan. 31, 1882.

Fig. 1.

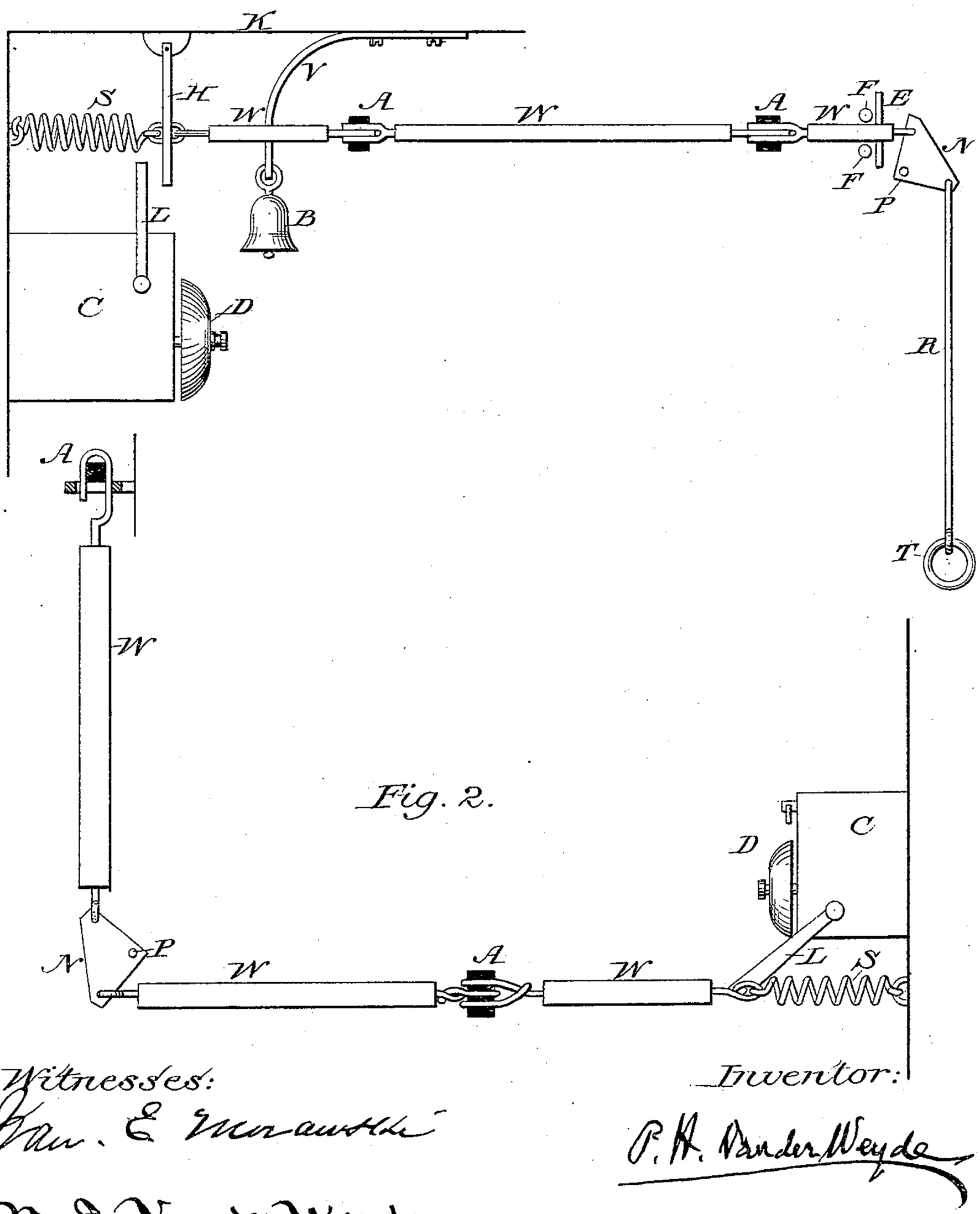

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

PETER H. VANDER WEYDE, OF BROOKLYN, ASSIGNOR TO CHARLES COLNE, OF NEW YORK, N. Y.

AUTOMATIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 253,133, dated January 31, 1882.

Application filed December 1, 1880. (No model.)

To all whom it may concern:

Be it known that I, PETER H. VANDER WEYDE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Automatic Fire-Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention consists in an attachment to the common bells as used in hotels, and serves the purpose to convert them into automatic fire-alarms without interfering with their ordinary use. In order to accomplish this I substitute for the ordinary joints with which the wires are connected joints kept in place by a proper-shaped piece, A, of the easily-fusible alloy consisting of four parts bismuth, two lead, one tin, and one cadmium, described in the patent granted to me March 25, 1879, No. 213,536, melting at a temperature of 140° or 150°, or even below this in case certain other metals are added, as described in my patent for a pneumatic fire-alarm.

In Figure 1 of the adjoined drawings, which is an elevation of my device, T is an ordinary bell-handle attached by the cord R to the crank N, hung on the pivot P, by which the wires or rods W W act on the bell B.

A A are the plugs, of easily-fusible alloy, by which the links of the wires W W are connected. These wires may have any requisite length, and are kept on the stretch by the spring S, while the cross-piece E, retained by the pins F F, prevents the spring from pulling the wires to the left.

H is a lever hinged to the ceiling K, to which the bell B is also attached by the spring V.

L is a lever attached to the wound-up alarm-box C, with alarm-bell D, and which is released when the lever H touches the lever L. This now will happen when by the melting of the alloys A A the spring S is allowed to pull the lever H to the left. In this case the bell B will also ring as if it were pulled by the handle T, and thus indicate the room where the heat has melted the alloy, only the pull will be in the opposite direction, and for this reason also ring the alarm C D, which the pull of the handle T will not do.

In Fig. 2 the same letters indicate the same parts, which are similar in their operation to those represented in Fig. 1, the difference being the absence of the bell B, lever H, cross-piece E, and stops F.

The bell-wire W W, Fig. 1, is kept stretched by the spring S keeping it in tension for its whole length between this spring and the pin E, with the stops F F, at the other end, near the bell-rope R. The pulling of this rope by the handle T will ring the bell B in the usual way. Between the bell and the spring S a lever, H, is attached, which will not act upon another lever, L, projecting from the wound-up alarm-box C as long as the bell is used in the ordinary way, as this will pull the lever H from the lever L. When, however, by the heat of an incipient fire the fusible alloy of one of the joints, A A, melts and causes the wires W W to become disconnected, the spring S will be allowed to pull the lever H backward, and this then acting upon the other lever, L, the wound-up clock-work will be released and will ring the alarm-bell D, attached to the same, or may be made to give any other audible or visible alarm-sign. At the same time the ringing of the bell B will indicate in which room the alarm originated. This bell B will ring whether the occupant of the room calls by pulling the bell-rope R or when in his absence the heat of an incipient fire disconnects the wires. In the first case the hand pulls the bell to the right. In the second case the spring pulls it to the left; but this also starts the alarm C.

It is evident that this identical arrangement may be attached to the modern hotel-annunciators by making the connections of them in such a way that they will indicate the room by a pull in either direction. In this case while the alarm will be given in case of fire the annunciator will indicate the room where the alarm originates.

As wires have a tendency to twist, curl, and

stretch, I find it better to dispense with their use altogether, especially if the distance between the room and alarm-box is great. I find in that case the narrow wooden strips as used by organ-builders for the connections between the keys and the valves in the wind-case the most available, as they are always straight and do not elongate by heat, as is the case with metallic wires, nor shorten by moisture, as is the case with ropes and strings, both of which elongations or contractions interfere with the proper adjustment. I find also that a small crank for a bell-pull is preferable in this case, as with this the wires or their equivalents are not subject to such sudden strain and consequent damage as is often inflicted upon them by the rough pulling of the ordinary bell-rope.

Fig. 2 represents essentially the same arrangement with the omission of the bell and bell-pull, applicable in cases where the same automatic protection against fire is desired in localities where there are no call-bells.

What I wish to secure by Letters Patent is—

1. The combination, with the bell-wire and bell operated by a pull of the wire in the usual manner, of a piece of easily-fusible alloy and a separate signal-alarm, which is operated by the release or breakage of the bell-wire by heat, in the manner set forth.

2. The combination of wooden strips connected by an easily-fusible alloy with the bell-pull spring and alarm, in the manner described.

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Witnesses:

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