W. M. BRALY.

INCUBATOR ALARM.

APPLICATION FILED AUG. 24, 1909.

974,638. Patented Nov. 1, 1910.

2 SHEETS—SHEET 1.

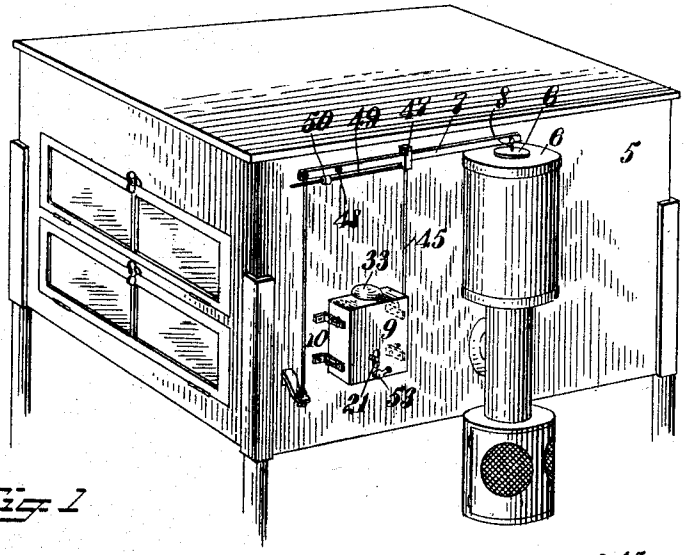

Fig. 1

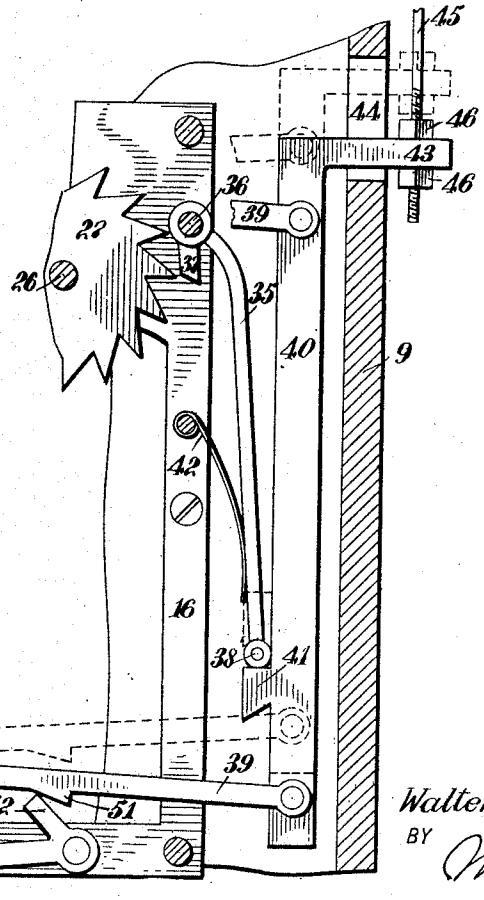

Fig. 5

WITNESSES

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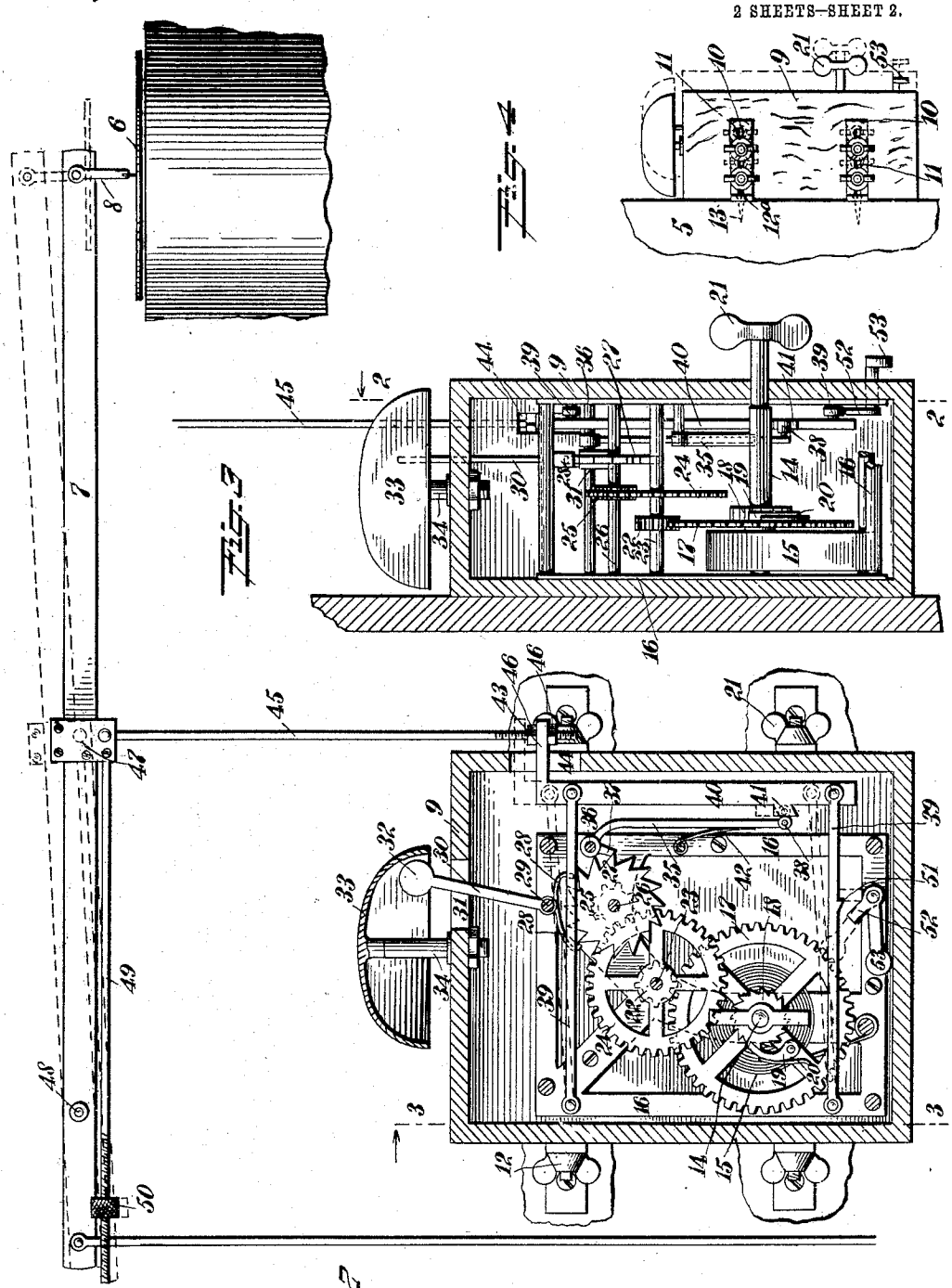

Fig. 2

Fig. 4

Fig. 3

WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER M. BRALY, OF BLACKWELL, OKLAHOMA.

INCUBATOR-ALARM.

974,638. Specification of Letters Patent. Patented Nov. 1, 1910.

Application filed August 24, 1909. Serial No. 514,337.

To all whom it may concern:

Be it known that I, WALTER M. BRALY, a citizen of the United States, and a resident of Blackwell, in the county of Kay and State of Oklahoma, have invented a new and Improved Incubator-Alarm, of which the following is a full, clear, and exact description.

My invention relates to incubator alarms, and it has for its object to provide one with a bar having an uneven surface, which is connected with the damper lever of the incubator and is adapted to be operated thereby, there being a lever which is pressed against the said surface of the bar by a spring to be operated by the uneven surface when the bar is moved. To the lever is secured a tooth, which is adapted to engage the teeth of a wheel in a train of wheels, which is adapted to operate the alarm.

Another object of my invention is to provide an escapement lever with a hammer thereon adapted to sound the alarm.

Another object is to provide a train of wheels with means by which the spring may be conveniently wound.

Still another object of my invention is to provide additional means by which the tooth may be temporarily held in engagement with the wheel in the train of wheels.

Still other objects of the invention will appear in the following complete description.

In this specification I will describe the preferred form of my invention, it being understood that the scope of the invention is defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of an incubator to which my alarm is attached; Fig. 2 is a sectional view on the line 2—2 of Fig. 3; Fig. 3 is a sectional view on the line 3—3 of Fig. 2; Fig. 4 is a view showing the slotted angle irons by which the alarm is secured to the side of an incubator; and Fig. 5 is an enlarged view showing a portion of the escapement wheel and the means by which its teeth are engaged to prevent the sounding of the alarm.

By referring to the drawings it will be seen that the incubator 5 is of the usual type with the damper 6 and the damper lever 7, to which the damper 6 is connected by a link 8. My alarm has a casing 9, which is secured to the incubator 5 by means of angle irons 10, these angle irons 10 having slots 11 in which are disposed wing screws 12, which screw into the side of the casing 9, by which means the casing is held in position, the other arms 12^a of the angle irons having orifices in which are disposed screws 13 by which the angle irons are connected with the incubator 5. Journaled in a frame 16 in the casing 9 there is a shaft 14 on which is wound a spring 15, one terminal of the spring 15 being secured to the shaft 14, and the other terminal being secured to the frame 16.

Mounted loosely on the shaft 14 there is a gear wheel 17, a ratchet wheel 18 being secured to the shaft 14 in close proximity to the gear wheel 17. Mounted on the gear wheel 17 there is a pawl 19 adapted to engage the ratchet wheel 18, a spring 20 being adapted to press the pawl against the teeth in the ratchet wheel 18. The shaft 14 projects through the casing 9 and has a key 21 secured to its outer terminal, by which the shaft 14 may be rotated and the spring 15 be wound thereon. The gear wheel 17 meshes with a gear wheel 22, lesser in diameter, secured to the shaft 23, there being also a gear wheel 24, which is secured to the shaft 23, the gear wheel 24 being greater in diameter than the gear wheel 22. The gear wheel 24 meshes with the gear wheel 25 secured to a shaft 26, there being also an escapement wheel 27, which is secured to the shaft 26. Pallet arms 28 are secured together, and are pivoted to the frame at 29, there being an arm 30 which is secured to the pallet arms 28, this arm 30 projecting through an opening 31 in the casing 9, and having a hammer 32 at its terminal, the hammer 32 being disposed within a bell member 33 and being adapted to strike the side thereof. This bell member 33 is secured to the casing 9 by a bolt 34. A lever 35 is pivoted to the frame at 36, this lever having a tooth 37, which is adapted to engage the teeth of the ratchet wheel 27. The lever 35 is elongated and it has a roller 38 at its terminal.

To the side of the frame opposite that near which the lever 35 is disposed are pivoted links 39, a bar 40 being disposed in close proximity to the lever 35 and being pivoted to these links 39. This bar 40 has a projection 41, a spring 42, which is secured

to the casing, being adapted to press the lever 35 against the projection 41, which is normally so disposed that the roller 38 contacts therewith.

One end 43 of the bar 40 is bent at an angle to the body of the bar and projects through an opening 44 in the casing 9. This end 43 of the bar 40 has an orifice therein in which is disposed a rod 45, the rod 45 being threaded and nuts 46 being provided, which are adapted to mesh with the thread on the rod and be disposed one against each side of the end 43 of the bar 40. By this means it will be seen that the rod 45 may be adjusted relatively to the end 43 of the bar 40. The other end of the rod 45 is secured to a plate 47, which in turn is secured to the damper lever 7, which is pivoted at 48.

A rod 49 is secured to the plate 47 and projects beyond the fulcrum of the lever 7, this rod 49 having a threaded terminal on which is screwed a nut 50, the nut 50 being adjustable on the rod 49 by turning it on the thread of the rod, its purpose being to counterbalance the plate 47 and the rod 45. The lower link 39 is provided with a depending tooth 51, a finger 52 being pivoted to the frame and being adapted to engage the link 39 at the side of the said tooth 51. A weighted arm 53 is secured to the pivoted finger 52.

When the several parts have been constructed and have been adjusted as has been described, any movement of the damper lever upwardly or downwardly will move the bar 40 upwardly or downwardly, and when the bar 40 is moved vertically relative to the terminal of the lever 35, the roller 38 will move off the projection 41 on the bar 40 and against the bar 40, thereby moving the tooth 37 out of engagement with the teeth of the escapement wheel 27. There is a vertical slot in the projection 41 in which the lever 35 may be disposed when the bar 40 is moved upwardy, the roller 38 being wider than the slot so that it may be disposed against the sides of the slot when the projection is in alinement therewith. When the tooth 37 has been removed from engagement with the teeth of the escapement wheel 27, the train of gear wheels is permitted to be rotated by the spring 15, and as the escapement wheel 27 is rotated the pallet arms 28 cause the arm 30 to rock, by which means the hammer 32 is caused to move, rapidly striking the bell 33 repeatedly, thereby sounding the alarm.

When the operator has been warned by the sounding of the alarm that the temperature has fallen in the incubator, he lifts the weighted arm 53, which is disposed at the outer side of the casing 9, thereby moving the finger 52 so that it supports the link 39, thereby raising the bar 40 so that the projection 41 thereon will engage the roller 38. When this is done the tooth 37 is brought into communication with the teeth of the escapement wheel 27, thereby discontinuing sounding of the alarm. The operator then adjusts his heating apparatus so that the proper temperature in the incubator will be obtained. When the proper temperature is obtained the bar 40 will be raised slightly, which will free the finger 52 from the depending tooth 51, the weighted arm 53 causing the finger 52 to move downwardly. Should the alarm be sounded by the rising temperature in the incubator, the operator opens the door of the incubator permitting it to cool to normal, when the bar 40 is moved automatically so that the projection 41 will be in alinement with the roller 38, thereby moving the tooth 37 into engagement with the teeth of the ratchet wheel 27 and preventing further sounding of the alarm.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In an incubator alarm, a frame, means for sounding an alarm, a wheel having a projection adapted to drive the said means, a bar having an uneven surface adapted to be moved relatively to the frame, a pivoted lever having a tooth for engaging the projection on the wheel, means for pressing the lever against the uneven surface of the bar, a damper lever, and means connecting the damper lever with the bar.

2. In an incubator alarm, a bar having an uneven surface, links pivoted to the bar, a wheel having a projection, means for sounding an alarm adapted to be actuated by the wheel, and a pivoted lever having a tooth for engaging the projection on the wheel, the lever also contacting with the bar to be operated by the uneven surface thereof.

3. In an incubator alarm, a bar having an uneven surface, links pivoted to the bar, a wheel, means for sounding an alarm operable by the wheel, a lever having a tooth for engaging the wheel, the lever contacting with the uneven surface of the bar, to be operated thereby, a pivoted finger adapted for engaging one of the links for raising the links and the bar to operate the lever and cause its tooth to engage the wheel, and an arm secured to the finger for moving the finger out of engagement with the links.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER M. BRALY.

Witnesses:
B. G. JONES,
JOHN R. MAY.