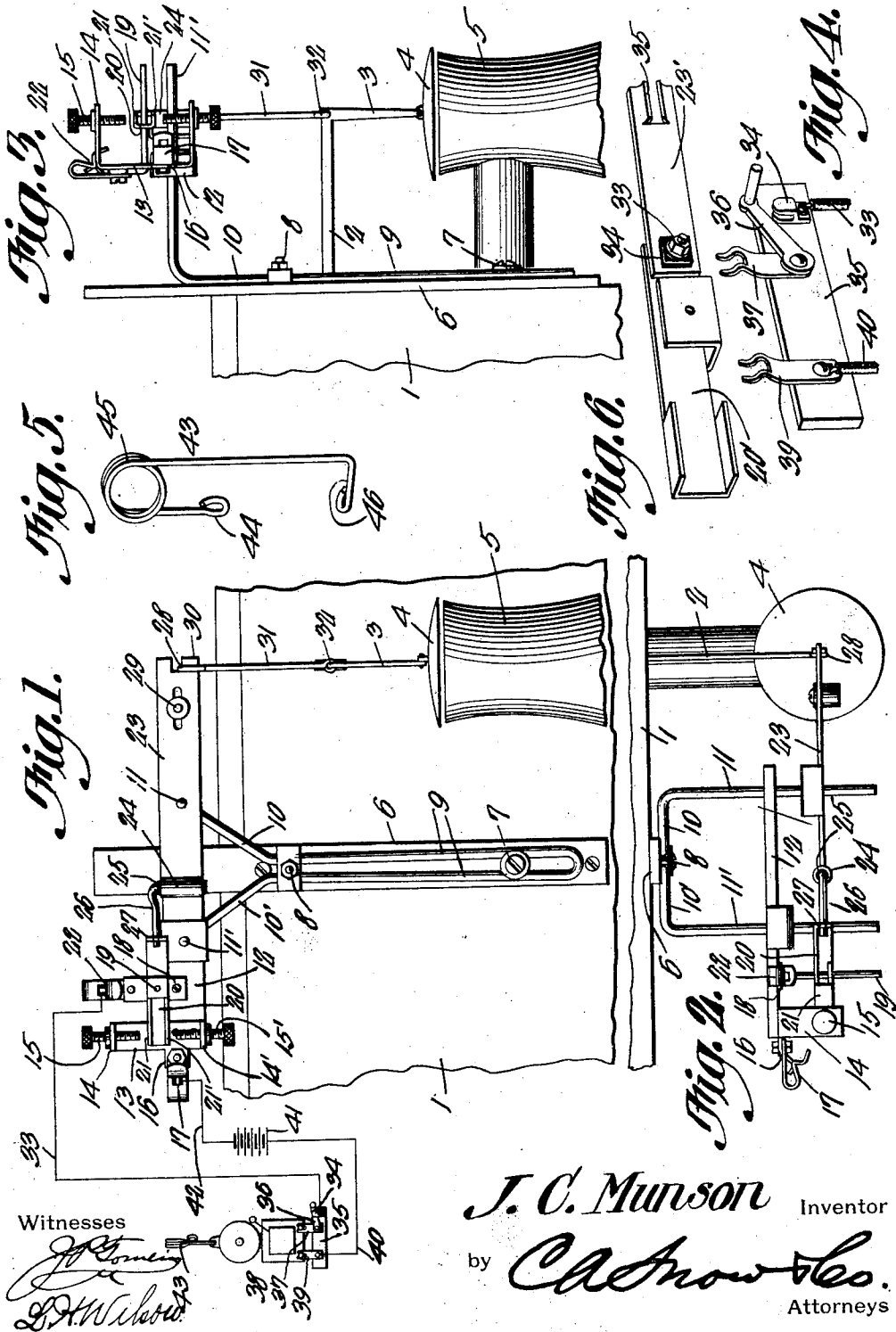


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 ALARM ATTACHMENT FOR INCUBATORS.
 APPLICATION FILED JUNE 17, 1912.

1,046,630.

Patented Dec. 10, 1912.



UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JACOB C. MUNSON, a citizen of the United States, residing at Pontiac, in the county of Livingston and State of Illinois, have invented a new and useful Alarm Attachment for Incubators, of which the following is a specification.

The present invention relates to improvements in alarm attachments for incubators, the primary object of the invention being the provision of an attachment adapted to be connected to and supported by the casing of an incubator and provided with means for attachment to the thermostatically controlled mechanism thereof, whereby the maximum rise or fall, or any point therebetween of the thermostatically controlled mechanism will close an electric circuit and ring an alarm.

A further object of the present invention is the provision of a novel form of lever mechanism adapted to be attached to the casing of an incubator and provided with means for adjustably connecting the same to the thermostatically controlled lever of an incubator, whereby said thermostatically controlled lever will actuate the alarm lever mechanism to actuate the alarm due to the abnormal rise or fall of the thermostatically controlled lever, the attachment being so constructed as to be readily adjusted with relation to the thermostatically controlled lever.

A still further object of the invention is the provision of a novel form of an audible alarm connecting means, whereby the audible alarm may be readily removed and positioned at the desired point.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a front elevation of the complete attachment showing a portion of an incubator casing and the thermostatically controlled mechanism. Fig. 2 is a top plan view thereof. Fig. 3 is an end elevation thereof taken from the switch side of the mechanism. Fig. 4 is a

detailed perspective view of the electrical contact and support used in connection with the electric alarm. Fig. 5 is a detailed perspective view of the spring used for maintaining the electric alarm in position. Fig. 6 is a perspective view of a modified form of combined switch and connecting lever.

Referring to the drawings, the numeral 1 designates the incubator casing, 2 the thermostatically controlled lever having the outer end 3 depending and carrying the damper 4 disposed above the chimney or flue 5, and is of usual construction.

The signal alarm attachment consists primarily of a vertical support 6 which is adapted to be connected in any well known manner to one side of the casing 1 of the incubator and by means of the adjusting clamps or screws 7 and 8, the wire bail 9 is connected for vertical adjustment upon the strip 6. The wire 9 is provided with the diverging arms 10, each one of which is provided with its respective outwardly projecting and parallel terminal 11 or 11' respectively. Slidably mounted upon the terminals 11 and 11' so that the same may be adjusted to and from the casing of the incubator with relation to the flue 5, is a bar 12 of wood or insulating material and upon whose free end is mounted the casting or metal plate 13 having the two vertically disposed terminals 14 and 14' respectively, each one of which is provided with its respective conductor connecting clamping screw 15 or 15'. The short terminal 16 carries the conductor receiving clamp 17.

The plate 18 is connected to the bar 12 intermediate of the terminal 11' and the arms 14 and 14', and has a pivoting pin 19 projecting outwardly to receive the switch lever 20 which is provided with the parallel lugs 21—21', disposed to be projected between the respective contact screws 15—15' and held normally out of contact therewith. Upon the upper end of the plate 18 is carried the conductor fastening clip 22 similar to the clip 17.

The main actuating lever 23 is pivoted upon the terminal 11 and upon its inner end is provided with the vertical sleeve 24 for the reception of the bushing 25 of insulation which receives one end of the horizontally pivoted trigger 26, whose terminal is projected through the eyed lug 27. By this means the depression of the trigger 26 will

cause the contact plate 21 of the switch lever 20 to engage the binding screw 15, while the elevation thereof will cause the contact plate 21' to engage the binding screw 15'. In order to properly connect the lever 23 to the thermostatically controlled lever 2, an adjustable binding screw 29 is mounted at the outer end of the bar 23, or a slot 28 is provided, either one of which may be used to receive the eye 30 of the connecting rod 31, whose lower eye 32 is connected to the thermostatically controlled lever 2. By this means the rise and fall of the thermostatically controlled lever 2 will produce a consequent action in the outer end of the lever 23, and consequently actuate the switch lever 20 to cause at the maximum rise and fall of the lever 2 a circuit to be closed by the contact plates 21—21' and binding screws 15—15'.

In Fig. 1, the electrical alarm circuit is shown in diagram and comprises a conductor 33 which is connected to the clamping post 22 while the other end is connected to the clip 34 carried by the bar 35 of insulation which is connected at any desired point and carries the pivoted switch lever 35 pivoted to the lower end of the terminal plate 37. The terminal plate 37 provides a ready means for the removable attachment of one of the terminals of the audible alarm 38, said bar 35 carrying another similarly shaped terminal plate 39 for engagement with the other terminal plate of the audible alarm 39. Leading from the terminal 39 is a conductor 40 which is connected at one side of the battery 41, while the conductor 42 is connected at the other side of the battery and has its other end connected to the clamp 17. By this means of support for the audible alarm 38, the alarm may be readily attached or detached as desired, and in order to hold the upper end thereof properly seated and to assist in the supporting of the alarm in position, the spring clamp 43 is provided. This is formed of a single piece of wire, the attaching terminal being provided with the eye 44 for attaching to a wall or other support, while the coil 45 is formed intermediate of the terminals, the long terminal being bent inwardly and provided with the eye 46 which is adapted to be passed through an eye 47 carried by the support of the alarm 38. By this means the normal tension of the terminal carrying the eye 46 is toward the wall or support, so as to hold the upper end of the audible alarm 38 with its terminal posts seated within the terminal plates 37 and 39. In this way several of the terminals may be connected in a circuit so that the bell may be positioned at various points of the building the same in the day time being connected nearer to the incubator, while at night time, the same will be connected so as to readily notify a sleeper

that the thermostatic lever 32 has moved to either maximum position due to too much flame or not enough.

By mounting the trigger 27 to permit of the slight horizontal play, any lateral movement of the lever 23 is taken care of, and by reason of the bushing 25 of insulation, any short circuit that might occur, is prevented.

By the construction of the supporting arms 11—11', the lever 23 as well as the support 12 may be adjusted to accommodate the attachment to any incubator, wherein the screw 29 is positioned at varying distances from the side of the casing 1.

From the construction of the switch 20, constituting the lever 20 and the screws 15—15' herein shown, it is evident that the alarm 38 will be actuated by the closure of the circuit through the lever 20 and either screw 15 or 15', thus indicating to the operator that the temperature of the incubator is either too low or too high, the screws 15—15' being adjusted to close the circuit at any desired rise or fall of the temperature.

In Fig. 6, the switch lever 20', which is similar to the switch lever 20, is connected directly to an arm 23', which displaces the lever 23, by means of the binding screw 33, which is insulated at 34, and also between the adjacent ends of the switch lever 20' and arm 23'. The free end of the arm 23' is slotted at 34 for the reception of the eye 30 of the rod 31, this structure dispensing with the pivotal lever 23 and the trigger 26.

What is claimed is:

1. The combination with a thermostatically controlled mechanism, of an alarm attachment therefor, having a vertically adjustable support provided with two outwardly projecting and parallel arms, a switch carrying bar adjustably mounted upon both arms, a pivoted switch lever carried by the bar, opposed and spaced terminals carried by the bar and disposed to be engaged one at a time by the switch lever, and a lever for attachment to the thermostatically controlled mechanism operably connected to the switch.

2. The combination with a thermostatically controlled mechanism, of an alarm attachment therefor, having a vertically adjustable support provided with two outwardly projecting and parallel arms, a switch carrying bar adjustably mounted upon both arms, a pivoted switch lever carried by the bar, opposed and spaced terminals carried by the bar and disposed to be engaged one at a time by the switch lever, and a lever for attachment to the thermostatically controlled mechanism fulcrumed upon one of the arms and operably connected to the switch.

3. The combination with a thermostatically controlled mechanism, of an alarm at-

attachment therefor, having a vertically adjustable support provided with two outwardly projecting and parallel arms, a switch carrying bar adjustably mounted upon both arms, a pivoted switch lever carried by the bar, opposed and spaced terminals carried by the bar and disposed to be engaged one at a time by the switch lever, a lever for attachment to the thermostatically controlled mechanism fulcrumed upon one of the arms, and means connected at one end of the lever and opposed to the switch lever, for operably connecting the operating lever to the switch lever.

4. The combination with an incubator casing and a thermostatically controlled lever thereof, of an alarm attachment for signaling the rise or fall of said lever, comprising a vertically adjustable supporting member attachable to the casing of the incubator, a pair of spaced parallel arms carried thereby, a bar connected to both of said arms, a pair of oppositely disposed adjustable terminal posts carried in one extreme end of said bar, a switch lever pivotally connected intermediate of its ends to said bar with one end projected between the terminal posts thereof, and a lever for actuating the switch lever pivoted to one of the spaced arms, said actuating lever having one end operably connected to the thermostatically controlled lever of the incubator and the other end operably connected to the switch lever.

5. The combination with an incubator casing and a thermostatically controlled lever thereof, of an alarm attachment for signaling the rise or fall of said lever, comprising a vertically adjustable supporting member attachable to the casing of the incubator, a pair of spaced parallel arms carried thereby, a bar connected to both of said arms, a pair of oppositely disposed adjustable terminal posts carried in one extreme

end of said bar, a switch lever pivotally connected intermediate of its ends to said bar with one end projected between the terminal posts thereof, a lever pivoted intermediate of its ends to one of the arms, a horizontally swinging trigger mounted in the inner end of said lever and having its free end operably connected to one end of the switch lever, and a rod adjustably connected to the other end of the trigger carrying lever and to the thermostatically controlled lever.

6. The combination with an incubator casing and a thermostatically controlled lever thereof, of an alarm attachment for signaling the rise or fall of said lever, comprising a vertically adjustable supporting member attachable to the casing of the incubator, a pair of spaced parallel arms carried thereby, a bar connected to both of said arms, a pair of oppositely disposed adjustable terminal posts carried in one extreme end of said bar, a switch lever pivotally connected to said bar with one end projected between the terminal posts thereof, an actuating lever for the switch lever pivoted intermediate its ends upon one of the arms, said actuating lever being provided with a sleeve in the end adjacent the switch lever, a bushing of insulation mounted in said sleeve, a switch lever engaging trigger having one terminal pivoted in said bushing and the other terminal operably connected to one end of the switch lever, and a rod detachably connected to the other end of the actuating lever and to the thermostatically controlled lever of the incubator.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JACOB C. MUNSON.

Witnesses:

E. A. SIMMONS,
P. H. FOLEY.