April 8, 1930. W. C. STOLLBERG 1,754,061

OIL WELL CONTROL

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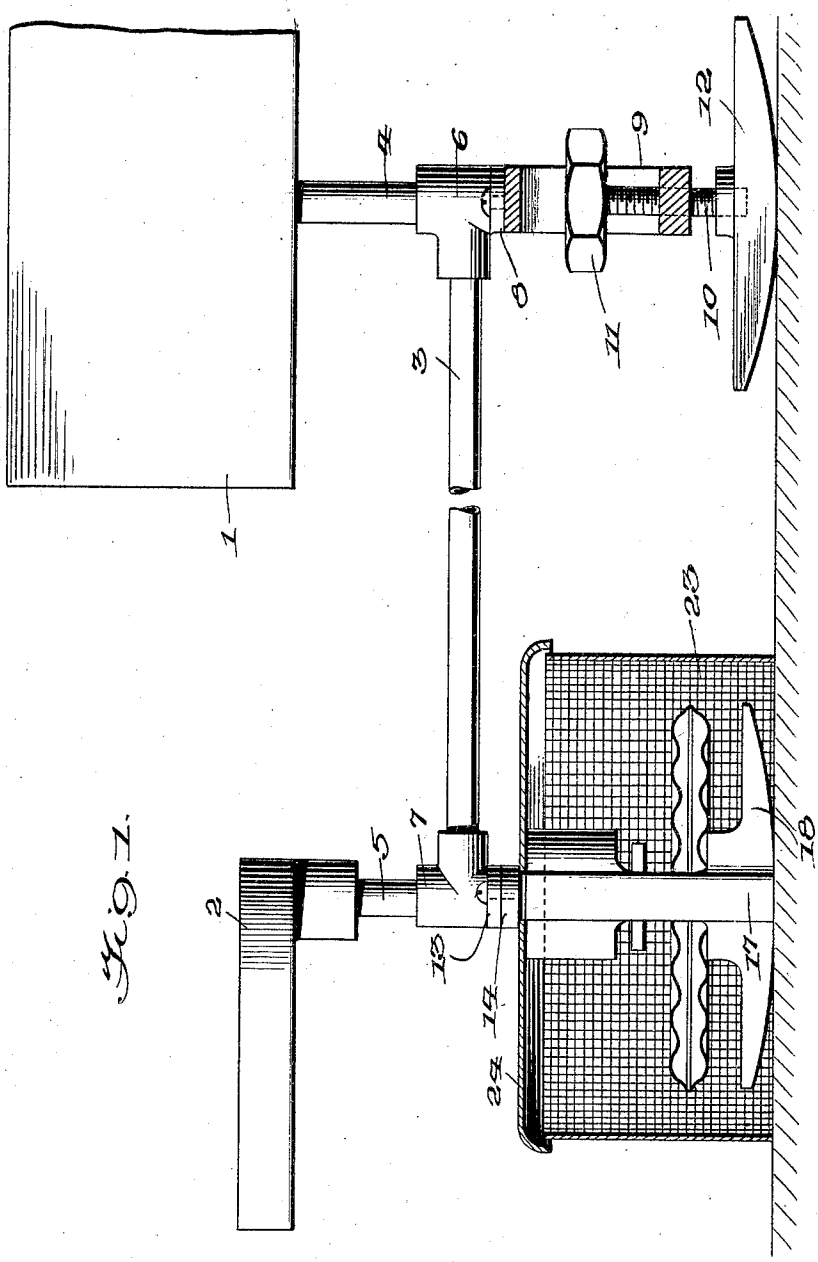


Fig. 1.

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Fig. 2.

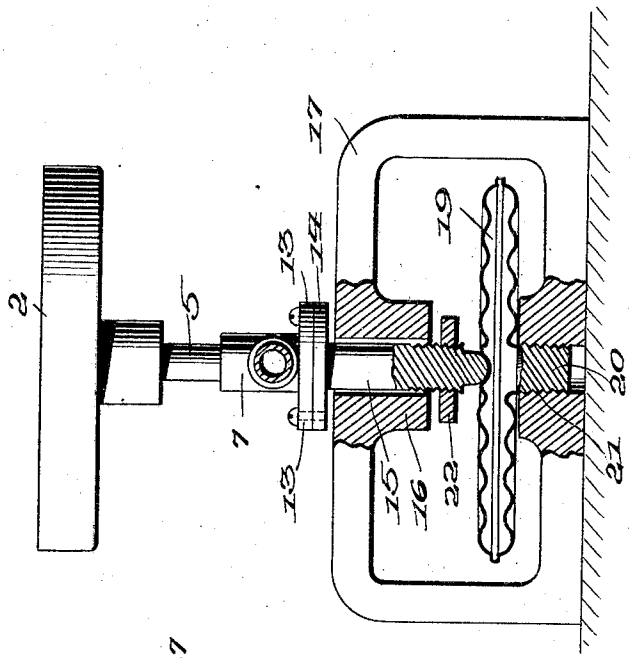
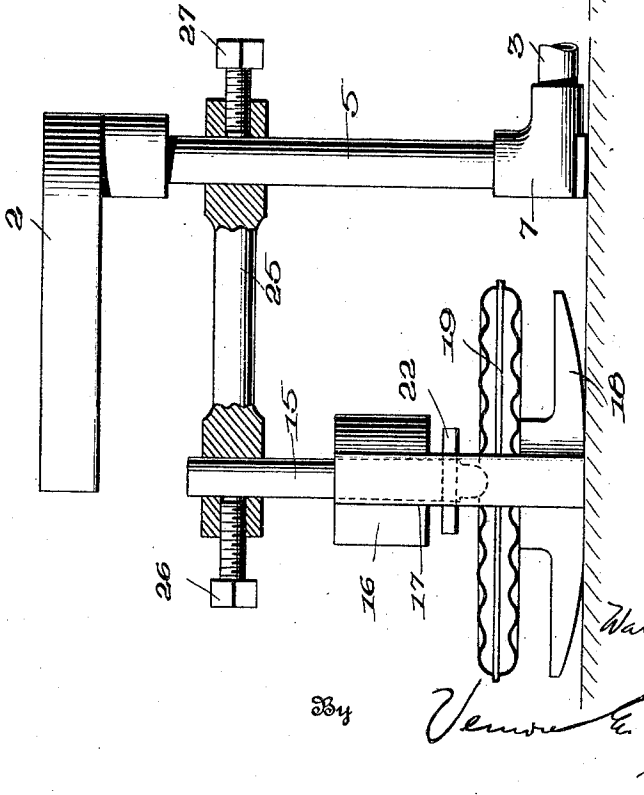



Fig. 3.

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# UNITED STATES PATENT OFFICE

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## OIL-WELL CONTROL

Application filed April 14, 1927. Serial No. 183,807.

This invention relates to an improvement in oil well controls.

The object of the invention is to provide an automatic and thermostatic raising and lowering of an oil burner used for heating a brooder or similar device in which a thermostat is used to automatically regulate the flow of oil to the burner by raising or lowering the latter to a point above or below the oil level in the reservoir. Since the flame in the oil burner is directly responsive to the relation of the burner to the oil level in the reservoir or tank, it is necessary that means be provided for raising and lowering either the tank or the burner, and heretofore it has only been possible to do this by means of manually adjustable features. If the burner should be adjusted too low relative to the oil level, the oil will flood the burner and is liable to cause the burning of the brooder house. On the other hand, if the burner is adjusted too high, there is the possibility that it will not sufficiently heat the brooder.

To obviate these objections, this invention provides for supporting the burner directly upon the thermostat which is responsive to the condition of heat in the brooder, and if the temperature rises too high the thermostat will respond to elevate the burner, lowering the oil level therein in order to decrease the amount of flame, with a corresponding decrease in heat generated. The converse is also true that if the temperature falls too low, the support of the burner on the thermostat causes a lowering of the burner, which raises the oil level therein and increases the flame, which likewise increases the amount of heat produced.

Therefore there is an automatically regulated, constant and even temperature maintained within the brooder. This also responds to variations in atmospheric conditions as well as within the brooder itself, because the latter would be affected by the former.

The thermostat is arranged immediately beneath the burner and, both, it and the reservoir is supported upon suitable rockers in order to secure and maintain a positive and even support for both of them. Suitable adjusting means are provided for regulating the relative heights of the reservoir as well as the burner and thermostat, and a screen and guard are arranged about and over the thermostat in order to keep the small chicks away from contact with it which might tend to interfere with its actuation.

In the accompanying drawings:—

Fig. 1 is a side elevation, partly in section, of the complete control system;

Fig. 2 is a transverse section therethrough; and

Fig. 3 is a detail side elevation, partly in section, of a modified form of the invention.

The numeral 1 indicates the main supply tank for supplying oil to the burner 2, through the connecting pipe 3 which communicates with the tank 1 at one end, through the pipe 4 and at its opposite end, with the burner 2 through the pipe 5 and suitable elbows 6 and 7. The elbow 6 is provided with flanges 8 on the opposite sides thereof, which are secured upon an adjusting frame 9, as shown in Fig. 1. The bottom of this frame 9 has an opening therein through which a screw 10 is threaded and provided with a head 11 for adjusting the same in the frame 9. The lower end of the screw 10 extends into a rocker 12, which supports the oil tank 1, and the latter is adjustable upon the rocker by means of the screw 10.

As better shown in Fig. 2, the burner 2 is supported upon the pipe 5 and elbow 7, and said elbow is provided with laterally extending flanges 13 fixed upon a plate 14 formed on the upper end of a bolt 15, slidably mounted in an enlarged opening formed in the abutment 16 formed on a rocker frame 17. The rocker frame is supported upon a rocker 18, as shown in Fig. 1. An enlarged wafer thermostat 19 is provided with a stud 20 threaded into an orifice 21, formed in the lower portion of the rocker frame 17 substantially at the middle of the rocker 18, and the upper side of the thermostat 19 abuts against and supports the bolt 15. A nut 22 screws onto the end of the bolt 15 for adjusting its upward movement through the abutment 16. The vertical adjustment of the thermostat 19 is regulated by the stud 20.

In this way, a manual adjustment for both the tank 1 and the burner 2 is provided in order to normally regulate the oil level in the burner, as corresponding with that in the tank, which is necessary in order to provide an even and smooth burning or flame at the burner.

As the oil level lowers in the tank to any appreciable degree, it is necessary to elevate the burner and lower the tank so as to maintain the same relative oil levels therein in order to provide an even flame at all times within the brooder, because as the oil level in the tank lowers it likewise lowers in the burner and there is a smaller flame produced with a corresponding decrease in temperature in the brooder.

The thermostat 19 automatically elevates the burner in accordance with such decrease in oil level, in order to maintain a constant oil level in the burner at all times, regardless of the variations which may take place in the tank and, in this way, a smooth and even flow of oil is obtained with a constant temperature in the brooder.

A screen guard 23 is placed about the thermostat 19 and rocker 18 in order to keep the chicks away from contact with the thermostat thereby eliminating any interference with the smooth actuation of the regulating mechanism for the burner. A shield 24 is mounted upon the rocker frame 17 between the abutment 16 and the plate 14 on the bolt 15 in order to cover the top of the guard 23.

In the modified form shown in Fig. 3, the thermostat is provided with suitable mechanism for attaching it directly to the usual supporting pipe for the burner 2 when the elbow 7 is normally seated upon the floor of the brooder house.

In this construction, the plate 14 is omitted and the bolt 15 is extended and secured in an eye in one end of a connecting arm 25 by means of a set screw 26, and the opposite end of this connecting arm 25 receives and has secured therein the supporting pipe 5 for the burner 2 by means of a set screw 27. In this way, the thermostat support for the burner may be applied thereto without changing the entire construction in use.

I claim:—

1. An oil control of the character described including a burner, a bolt connected with and for supporting the burner, a thermostat receiving the end of the bolt for supporting the burner and bolt, and a rocker upon which said thermostat is mounted.

2. An oil control of the character described including a rocker, a thermostat mounted upon said rocker, a rocker frame connected with the rocker, a bolt slidably mounted in the rocker frame and supported upon the thermostat, a burner, and means for connecting the bolt with the burner.

3. An oil control of the character described including a burner, a thermostat arranged beneath the burner, supporting means for supporting the burner upon the thermostat, a screen arranged about said thermostat, and a shield connected with the supporting means and extending over the screen.

4. An oil control of the character described including a tank for feeding fluid, an adjustable frame for supporting the tank, and a rocker tiltably supporting the frame, and means co-operating with the rocker to hold the frame and tank in proper positions.

5. An oil control of the character described including a tank for feeding fluid, a rocker, a frame connected with the tank, and a screw adjustably extending through the lower portion of the frame and engaging the rocker for adjustably supporting the tank, and means cooperating with the rocker to hold the frame and tank in proper positions.

6. An oil control of the character described including a frame, a thermostat carried by said frame, a burner supported by said thermostat, and supporting means for the frame for permitting of a tilting action thereof.

7. An oil control of the character described including a frame mounted for tilting movement, a thermostat carried by said frame and mounted thereon, a burner, and means for supporting said burner by said thermostat.

8. An oil control of the character described including a tiltable frame, a thermostat mounted on said frame, means for adjusting the position of the thermostat relative to the frame, a burner, and means for supporting said burner by the thermostat.

9. An oil control of the character described including a frame supporting means for permitting of a tilting action of the frame, a thermostat mounted thereon, a burner, and a bolt for supporting the burner by the thermostat.

10. An oil control of the character described including a frame, a thermostat adjustably mounted therein, a bolt having an end thereof supported on the thermostat, and slidably mounted in the frame, and a burner carried by the bolt.

11. An oil control of the character described including a burner, supporting means for the burner, a thermostat connected with and acting on said supporting means, a screen arranged about said thermostat, and a shield connected with the supporting means and extending over the screen.

12. An oil control of the character described including a burner, a tank for feeding fuel thereto, a frame for supporting the tank, and a rocker adjustably supporting the frame.

13. An oil control of the character described including a burner, a tank for feeding fuel thereto, a rocker, a frame connected with the tank, and a screw adjustably extending through the lower portion of the frame

and engaging the rocker for adjustably supporting the tank.

14. An oil control of the character described comprising a source of fuel supply, means for pivotally supporting said source of fuel supply, a burner, a thermostat supporting said burner, and means other than the first-mentioned pivotal means for pivotally supporting the thermostat and the burner.

In testimony whereof I affix my signature.

WALTER C. STOLLBERG.