D. O. LAGER.

MOISTURE SUPPLYING DEVICE FOR INCUBATORS.

APPLICATION FILED JUNE 22, 1914.

1,227,542.

Patented May 22, 1917.

Fig. 1.

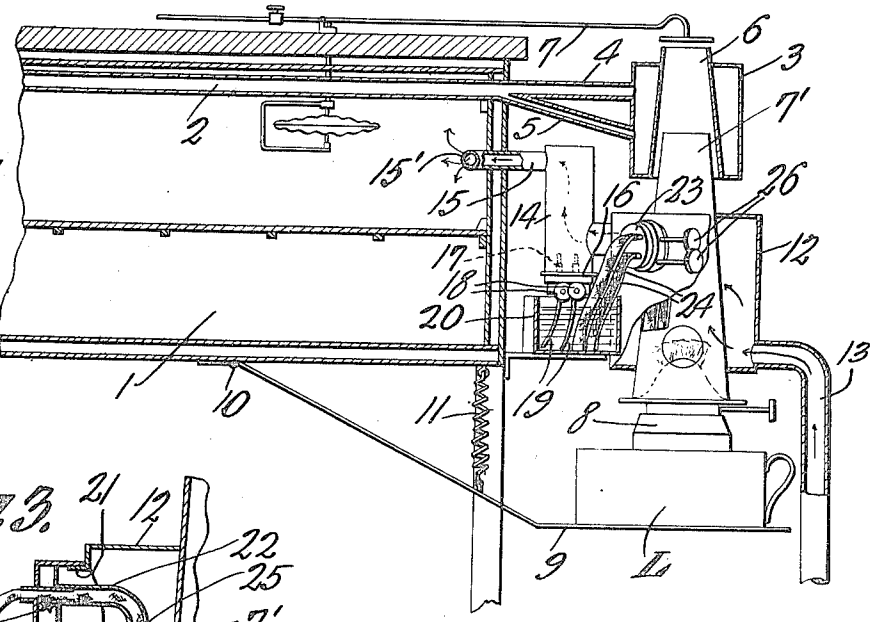
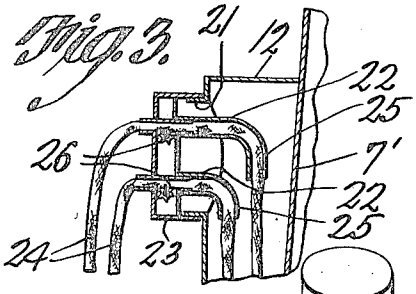


Fig. 3.



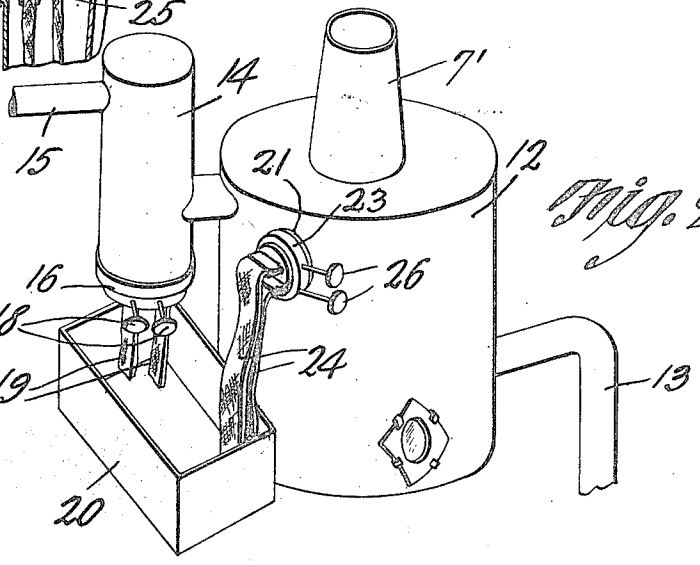


Fig. 2.

Witnesses

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DAVE O. LAGER, OF HELENA, MONTANA.

MOISTURE-SUPPLYING DEVICE FOR INCUBATORS.

1,227,542. Specification of Letters Patent. Patented May 22, 1917.

Application filed June 22, 1914. Serial No. 846,653.

To all whom it may concern:

Be it known that I, DAVE O. LAGER, a citizen of the United States, residing at Helena, in the county of Lewis and Clarke and State of Montana, have invented a new and useful Moisture-Supplying Device for Incubators, of which the following is a specification.

The present invention relates to improvements in moisture supplying devices for incubators, the particular structure herein illustrated being an improvement upon the structure illustrated in my U. S. Letters Patent No. 1,118,783, dated November 24, 1914, one object of the present invention, being the provision of a water supplying means adapted to be inserted directly into the heating drum of the apparatus without or in conjunction with the moisture supplying device, as shown in the above mentioned application, both moisture supplying devices being supplied from the same moisture receptacle or tank.

A further object of the present invention, is the provision of a moistened air supplying means mounted to surround the chimney of the lamp and have disposed therein two adjustably controlled means for supplying moisture to the air in transit, one of said means being disposed nearer to the chimney than the other and being provided with a novel wick supporting means whereby the wick is suspended away from the chimney to prevent the burning thereof should the moisture be thoroughly dried therefrom.

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 longitudinal sectional view through one end of an incubator showing the present invention applied thereto, parts of the same being shown in section to clearly illustrate the position of such parts.

Fig. 2 is a perspective view of the air supplying and humidifying device.

Fig. 3 is a cross section through that portion of the device adjacent the chimney showing the position of the wick carrying member attached to the drum.

Referring to the drawings, the numeral 1 designates an incubator, which is indicative of any form of incubator, that may be heated either by hot air, steam or water, the heating medium 2 being disposed in the upper end thereof and in the present instance, indicating a hot water supply conduit 4 leading to the tank 2 and with a return conduit 5, there being disposed concentrically of the chamber 3, the chimney 6, which is controlled, as is the usual practice, by means of the thermostatic means 7, thus providing a means for maintaining within the incubating chamber, the desired temperature.

The chimney 7′ of the lamp 8, is adapted to be centered in the lower end of the chimney 6, the same being supported upon the platform 9 which is hingedly connected to the under side of the incubator at 10, the spring 11 being connected to the support 9 and constituting for the lamp L, a resilient support.

It is essential that the chamber be properly ventilated, and also at different periods of incubation that a certain amount of moisture be supplied, and therefore to more readily accomplish this, a chamber 12 is constructed to surround the chimney 7′ of the lamp so that air entering the same through the supply or entrance conduit or pipe 13 will follow the direction of the arrows, being heated due to the heat from the chimney 7 and passing according to the law of gravitation through the upstanding flue 14 and through the horizontal flue 15 and branches 15′ into the interior of the incubating chamber. Any means for completing the circuit of the air within the chamber may be provided.

It will thus be seen that with this construction, the proper amount of air is permitted to enter the incubator, it being possible to provide a damper within the air conducting portions of the device to limit the flow therethrough as found necessary, it not being essential that such means be illustrated.

In order to supply moisture to produce the desired humidified air and before the introduction thereof within the incubating chamber of the incubator, a wick carrying member 16 detachably fits in the lower end

of the flue 14 as clearly illustrated, the wick tubes 17 being constructed similarly to the usual lamp burner tubes or sleeves, and provided with the adjusting members 18 for the two wicks 19. These wicks are disposed to have their lower ends submerged within the water contained in the tank 20, which is disposed below the wick carrying member 16 and is an open ended receptacle so that water may be readily introduced therein and so that the operator may readily see the position of the wicks therein. By this means, capillary attraction will cause the flow of the water from the tank upwardly into the lower end of the flue 15, where passing heated air will vaporize the same and thus carry with it a certain amount of moisture into the incubating chamber.

In order to provide an auxiliary means for supplying moisture to the air, a sleeve 21 is formed in one wall of the casing 12 providing an opening, through which the wick carrying tubes 22 of the wick carrying and sleeve sealing member 23 may be introduced. The wicks 24 are so disposed as to depend downwardly and enter the reservoir 20 so that water therein will be drawn upwardly by capillary attraction and introduced within the casing 12. As the inner ends 25 of the tubes 22 are bent downwardly, as illustrated in Fig. 3, the terminals of the wicks within the casing 12 will be held away from the chimney 7' so that there is no danger of a conflagration.

By this means, the air entering the pipe 13 and passing about the chimney 7 within the casing 12 will vaporize the water contained within the terminals of the wicks 24 below the downturned ends 25 of the tubes 22, and thus the air will be properly saturated with moisture, either one of the moisture supplying carrying members being operated singly or jointly according to supply the amount of moisture necessary at various incubating periods.

Adjusting devices or wick feeding members 26 are used in connection with the wick feeding mechanism 23, and when it is found necessary to eliminate either one of the present adjusting devices, the lower ends of the wicks are simply lifted from the tank 20.

When it is found necessary to eliminate either one of the present adjusting devices, they are so constructed that the wicks are readily and easily turned down to limit the distance of projection of the end of the wick beyond the tube as in a burner wick.

It is also to be understood that the wick carrying member 23 may be attached to any hot air heated incubator to supply moisture thereto, without departing from the spirit of the invention.

What is claimed is:

1. The combination with a lamp and a lamp chimney, of means for humidifying the heated air passing about the chimney, including a drum surrounding and carried by the chimney, said drum having a lower inlet port and an upper outlet port, said ports being disposed upon opposite sides of the drum, a pipe connected to the outlet port and extending radially from the drum, a water receptacle attached to the drum, said drum being further provided with a port in its wall adjacent the connection of the pipe at the outlet opening thereof, and a wick carrying member insertible in said port and carrying a wick for disposition within the water receptacle.

2. The combination with a lamp and a lamp chimney, of means for humidifying the heated air passing about the chimney, including a drum surrounding and carried by the chimney, said drum having a lower inlet port and an upper outlet port, said ports being disposed upon opposite sides of the drum, a pipe connected to the outlet port and extending radially from the drum, a water receptacle attached to the drum, said drum being further provided with a port in its wall adjacent the connection of the pipe at the outlet opening thereof, a rim surrounding said last port and projecting exteriorly of the drum, a cap fitting upon said rim and sealing the port, and a wick mounted in said cap for projection within the drum, the outer end of said wick being submerged within the water-receptacle.

3. The combination with a lamp and a lamp-chimney, of means for humidifying the heated air passing about the chimney, including a drum surrounding and carried by the chimney, said drum having a lower inlet port and an upper outlet port, a pipe connected to and leading from the outlet port of the drum, a water receptacle exteriorly of the drum, said drum being provided with another port in the wall thereof, and a wick carrying member insertible in the last port and carrying a wick for disposition within the water receptacle.

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

DAVE O. LAGER.

Witnesses:
J. H. BRASS,
A. P. HEYWOOD.