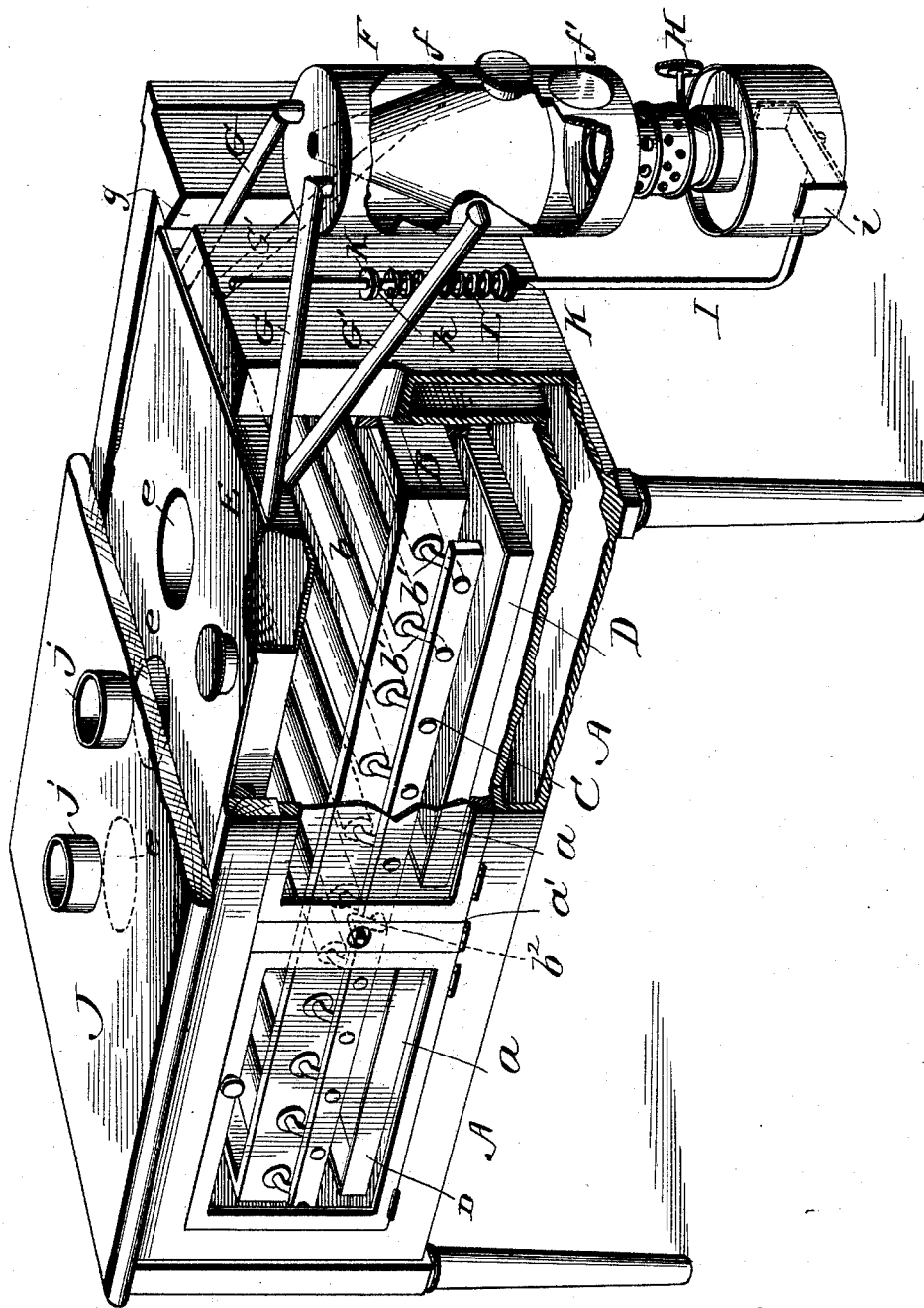


(No Model.)

J. S. RUBEL.
INCUBATOR.

No. 482,755.

Patented Sept. 20, 1892.



Witnesses

Wm. H. Hildner.
Lillie M. Hildyard

Inventor

Joseph S. Rubel,

By his Attorneys

R. H. Lacey.

UNITED STATES PATENT OFFICE.

JOSEPH SYLVESTER RUBEL, OF LE MARS, IOWA.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 482,755, dated September 20, 1892.

Application filed October 23, 1891. Serial No. 409,577. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SYLVESTER RUBEL, a citizen of the United States, residing at Le Mars, in the county of Plymouth and State of Iowa, have invented certain new and useful Improvements in Incubators; 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.

This invention relates to incubators and aims to provide a simple and efficient means for maintaining the proper degree of temperature, moving the eggs to prevent settling of the yolks, and at the same time secure a proper ventilation and humid degree of the atmosphere to secure the best results.

The improvement consists of the novel features and the peculiar construction and combination of the parts, which will be hereinafter more fully described and claimed, and which are shown in the accompanying drawing, which is a perspective view of an incubator constructed in accordance with and embodying my invention, parts being broken away to show more clearly the interior structural arrangement of the parts.

The incubator shown is portable, being supported on legs to elevate it a proper distance from the floor or ground. The body portion has a double wall, having an air-space between the inner and outer wall. The egg-supporting frame B is adapted to slide through the open front of the incubator and is supported a proper distance above the floor thereof. The rollers *b*, on which the eggs are placed, are journaled at their ends in the side bars of the said frame B and are provided at their outer ends with cranks *b'*, which are connected to the bar C, by means of which all of the said rollers are caused to rotate simultaneously and in the same direction. One of the cranks, as *b*², is extended through the front of the incubator and is adapted to have a suitable handle fitted thereon to operate it and move the bar C when it is desired to rotate the rollers *b* to change the position of the eggs. The evaporating-pans D, two in number, are placed on the floor of the incubator directly beneath the frame B and are adapted to be removed through the open front of the incubator for purposes of cleaning and supplying

water thereto. The open front of the incubator A is closed by glass doors *a* and by the intermediate hinged piece *a'*, through which latter the crank *b*² extends.

When it is desired to move the frame B, the doors *a* and the intermediate piece *a'* are turned down, as will be readily understood.

The heater is composed, essentially, of a shallow boiler or radiator E, which extends over the entire top of the incubator and is located directly over the frame B, the tank F, which is connected with the pan E by suitable pipes G and G', and the lamp H, which is located below the tank F and is held in position by the support I.

The end wall of the incubator is provided with slots *g*, which coincide with and are adapted to receive the pipes G and G'. These slots extend through the top edge of said end wall to permit the free passage of the said pipes when removing and replacing the boiler or radiator E.

The boiler or radiator E is provided with ventilating-passages *e*, which correspond in number and position with the ventilating-tubes *j* on the cover J.

The tank F is composed of an inner and outer shell, between which a water-space is formed, which space is connected at its upper end with the upper portion of the pan E by the diverging pipes G and at its lower end with the lower portion of the said pan E by the pipes G'. The pipes G are approximately in a horizontal plane, whereas the pipes G' incline rapidly to the tank F to return the cool water thereto, the heated water being supplied to the pan through the pipes G. The inner shell of the tank tapers gradually from the lower end to the top, where it terminates in a small opening to permit the escape of the heated air. The outer shell *f* extends below the inner shell a considerable distance and receives the upper end of the lamp H, which is fitted thereto. The sight-opening *f'*, closed by mica, permits one to view the flame and ascertain when the proper adjustment of the wick has been reached. The tank and lamp are wholly exterior to the incubator, being located at one end thereof.

The lamp-support I is composed of a rod having its lower end bent at right angles and provided with a rest *i*, on which the lamp is

placed, the ends of the rest being bent up to retain the lamp in proper position. The vertical portion of the said rod passes through keepers K, which are provided on the incubator, and is guided in its movements thereby. The spring L, mounted on the vertical portions of the support I, is confined between the lower keepers K and a stop k on the said support. This spring is sufficiently strong to sustain the lamp when filled. To remove the lamp for refilling or trimming, the support is pressed down to permit the disengagement of the said lamp from the tank F.

The cover J is removable, and the part E, having the tank F connected therewith, is adapted to be placed in position or removed from the incubator through the opened top.

The eggs are placed on the rollers b and the incubator is closed. Water having been supplied to the part E and the tank F, the same is raised to the proper temperature by means of the lamp H. The water being heated in the tank passes through pipes G to part E, and the cooler water from the said part passes back to the tank F, thereby maintaining a constant circulation.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. The combination, in an incubator having an open front, of doors *a* and the intermediate piece *a'*, closing said open front, the evaporating-pans, and the roller-frame adapted to be inserted and removed through the said open front, one of the cranks *b*² of the rollers extending through the piece *a'* and adapted to have a suitable handle applied thereto, substantially as and for the purpose described.

2. The combination, in an incubator having its top closed by a cover and having slots in one end wall, which extend through the top edge of said wall, of a shallow boiler or radiator removably inserted through the said top and a heater and tank exterior to the said incubator, the tank being permanently connected to and movable with the said pan by the pipes G and G', substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH SYLVESTER RUBEL.

Witnesses:

G. H. SPRING,
J. R. MAYHER.