

No. 685,688.

Patented Oct. 29, 1901.

L. P. MEISTER.  
INCUBATOR.

(Application filed Nov. 28, 1900.)

(No Model.)

Fig. 1.

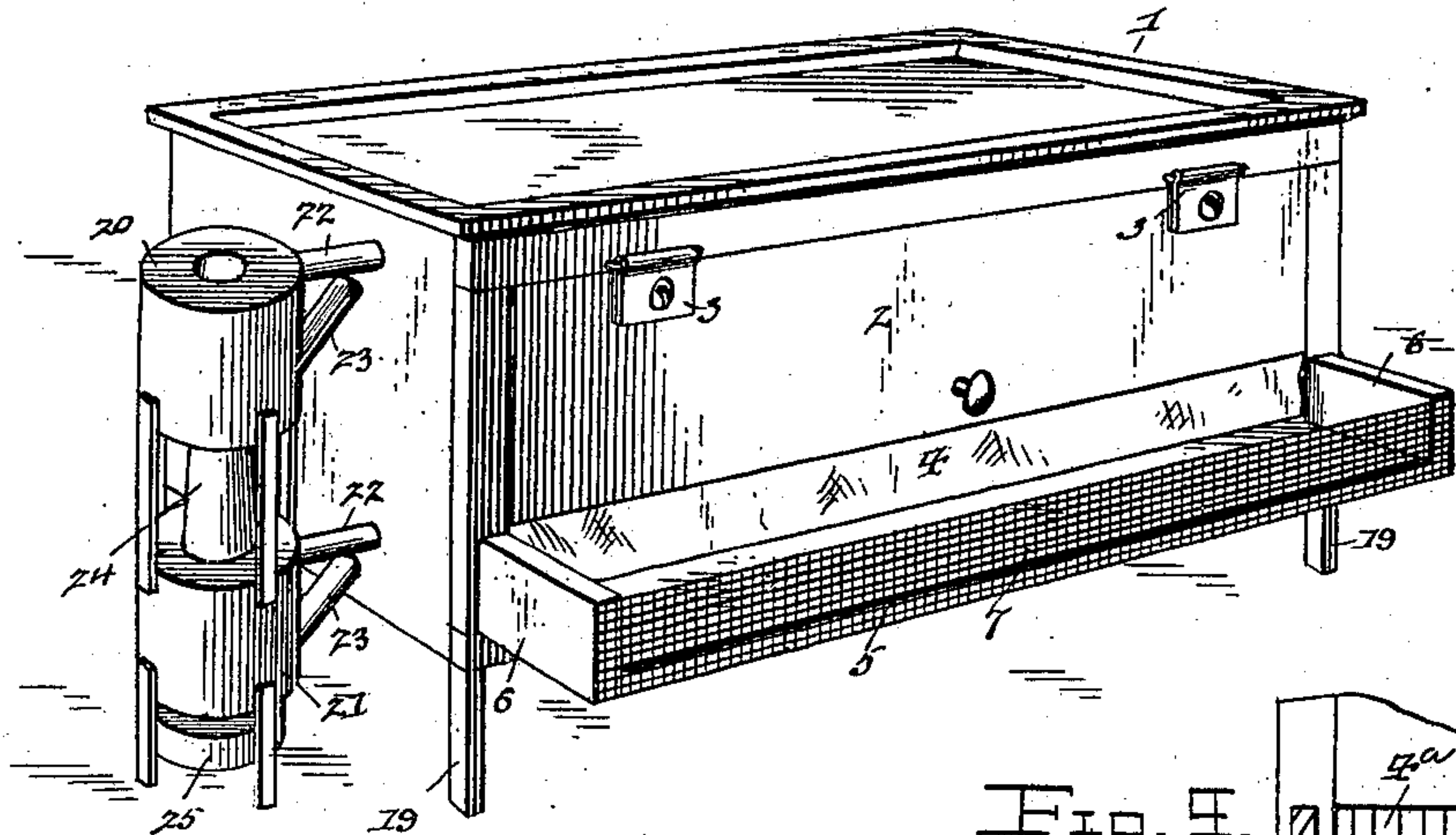


Fig. 2.

Fig. 3.

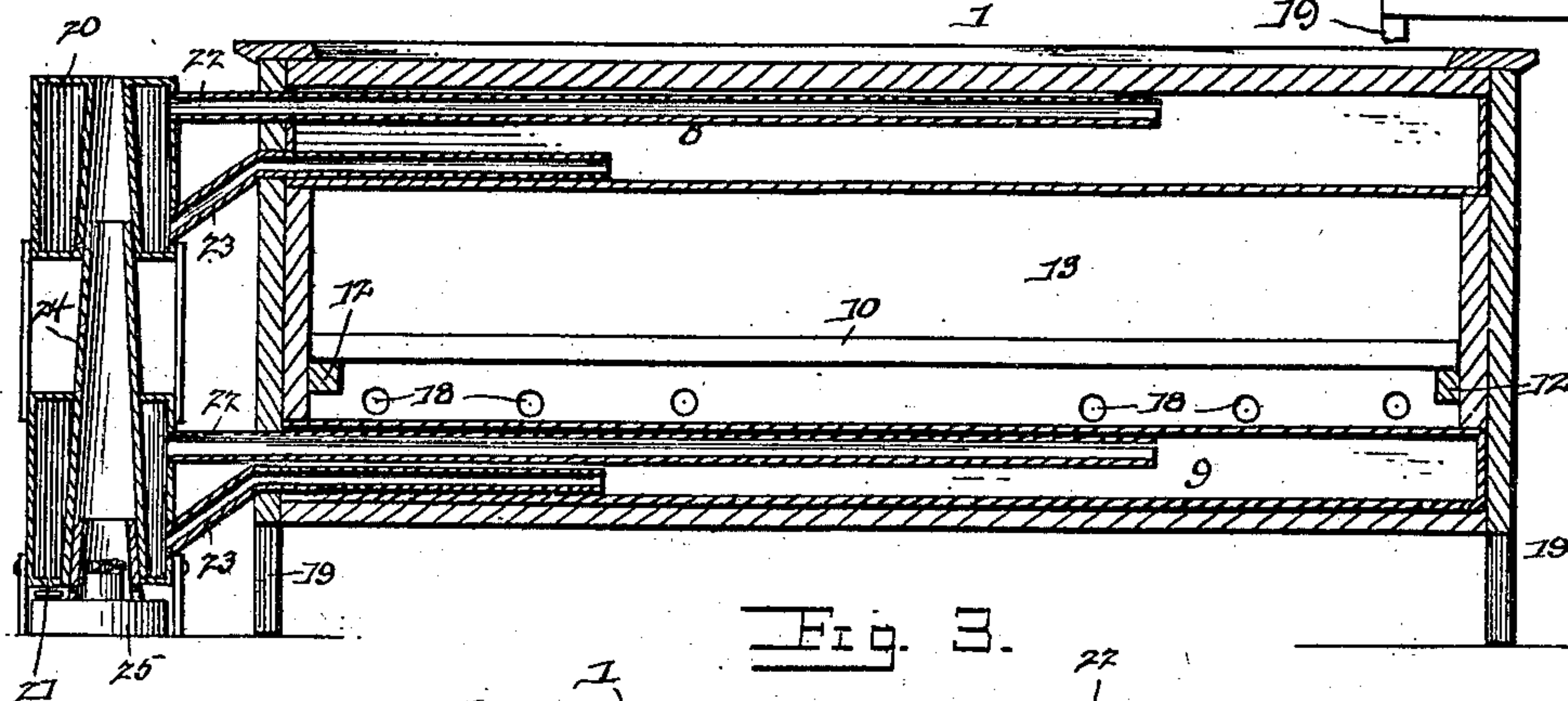
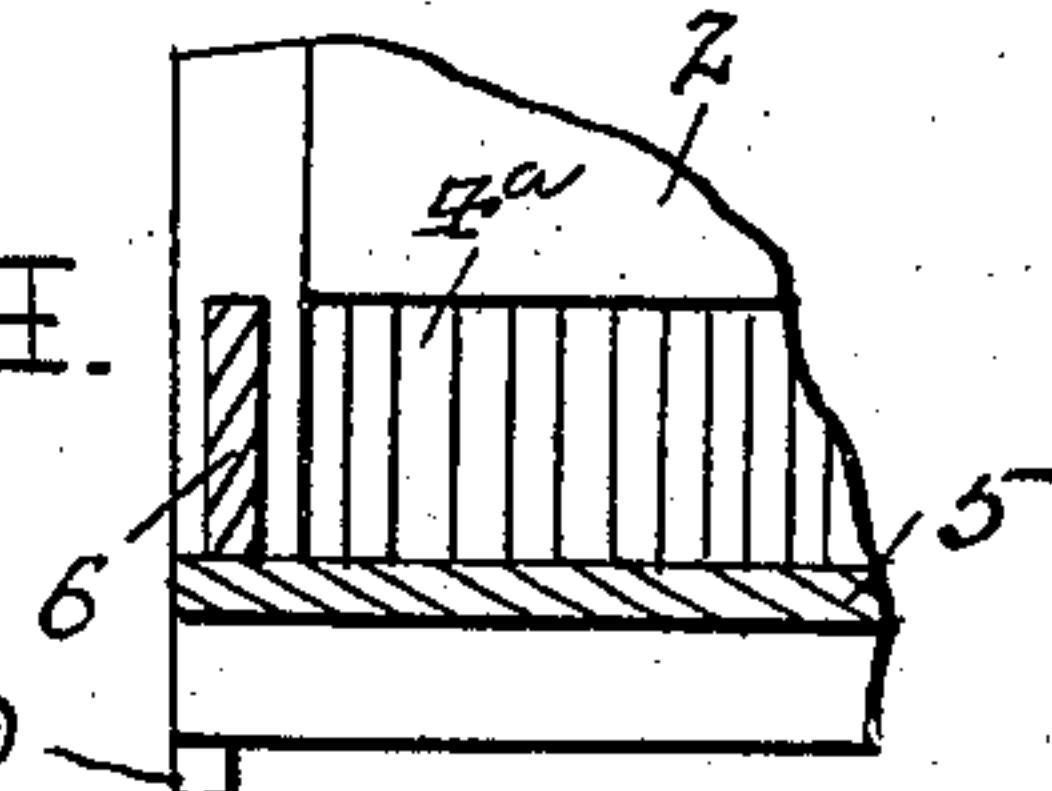
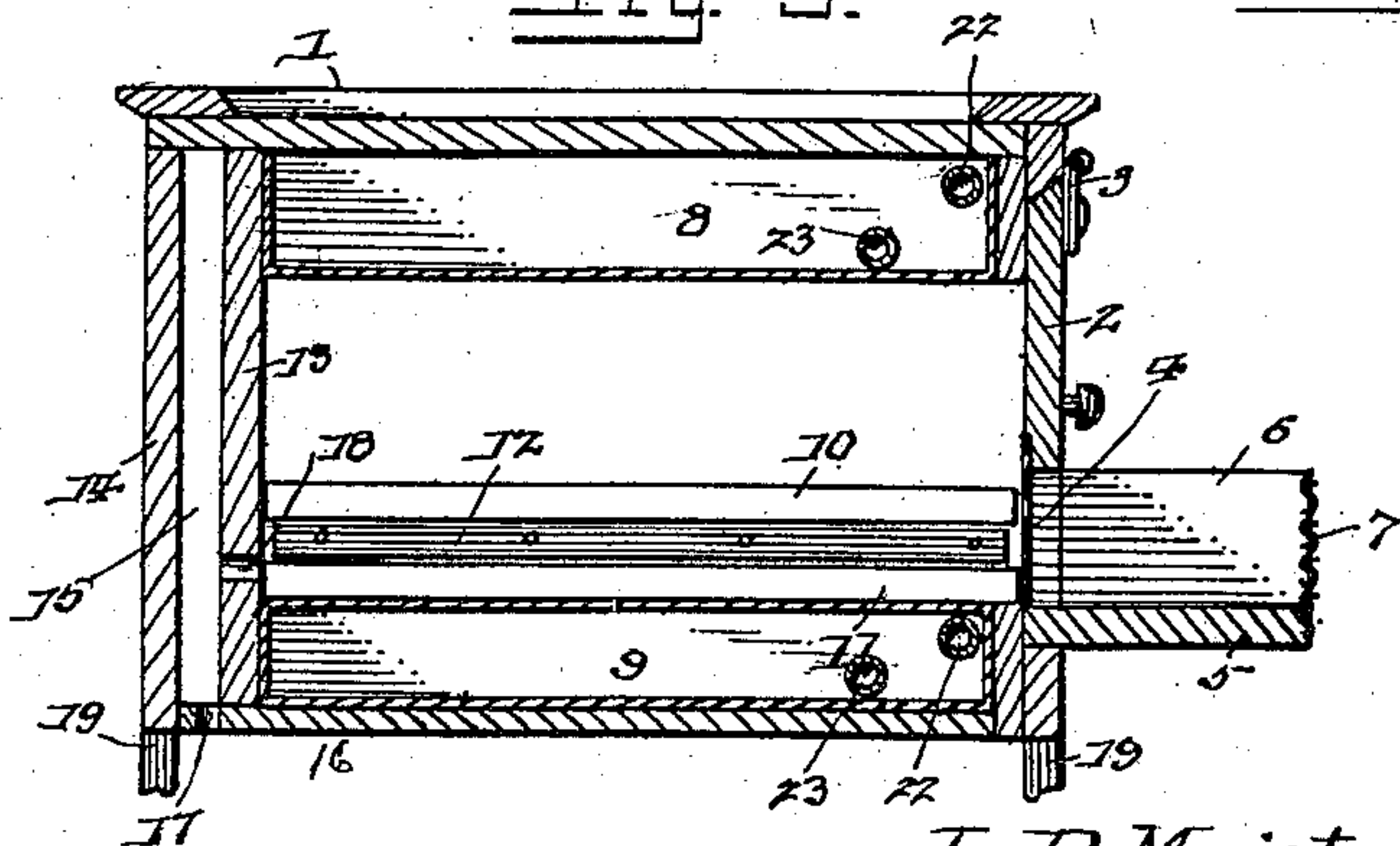


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

LOUIS P. MEISTER, OF TROY, MISSOURI.

## INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 685,688, dated October 29, 1901.

Application filed November 28, 1900. Serial No. 38,024. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS P. MEISTER, a citizen of the United States, residing at Troy, in the county of Lincoln and State of Missouri, have invented a new and useful Incubator, of which the following is a specification.

The invention relates to improvements in incubators.

The object of the present invention is to improve the construction of incubators and to provide an exceedingly simple and inexpensive one which as the chickens become hatched will permit them to expose themselves partially or fully to the open air without opening the incubator or permitting the moist air to escape at a time when it is essential to the completion of the hatching operation.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of an incubator constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view. Fig. 4 is a detail view showing another form of curtain.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates an approximately rectangular casing constructed of any suitable material and provided at its front with a door 2, hinged at the top at 3 and terminating short of the bottom of the casing and provided at its lower edge with a fabric curtain 4, which is adapted to permit the chickens as they are hatched to expose themselves to a greater or less extent to the open air with the same facility that is afforded when the chickens are hatched by a hen. The fabric curtain, which may consist of a continuous strip or be composed of numerous small pieces, is also adapted to prevent the moist air of the incubator from escaping when the chickens expose themselves, and the hatching of the eggs remaining in the trays is not interfered with or affected by the hatched chickens exposing themselves to the air, as above explained. In Fig. 4 of the accompanying drawings is illustrated a portion

of a curtain 4<sup>a</sup>; composed of small strips or pieces, as above explained. This construction also enables the chickens to be moved as they are hatched without opening the incubator and allowing the moist air to escape.

In order to enable the chickens as they are hatched to expose themselves as completely as desired to the outside air, the casing is provided at its front with an exterior ledge or balcony 5, arranged in the same plane as the bottom of the egg compartment or chamber of the incubator and provided with suitable walls 6 and 7 to prevent the chickens from escaping. The end walls 6 are preferably constructed of wood and the front wall 7 is preferably composed of screen material, as clearly illustrated in Fig. 1 of the accompanying drawings.

The incubator, which may be heated in any desired manner, is preferably provided at its top and bottom with upper and lower tanks 8 and 9, designed to contain warm water, hot air, or the like, and the heat may be supplied in any suitable manner to maintain a constant temperature of the desired degree. The lower tank, which forms the floor of the incubator, has its upper face in the same plane as the upper face of the ledge or balcony 5, and the trays 10 and 11 are preferably arranged as illustrated in Fig. 3 of the accompanying drawings, one of the trays resting upon the floor of the casing and the other tray being supported by suitable cleats 12. The upper tray 10 may be constructed in any suitable manner to permit the young chickens as they are hatched to drop from it onto the lower tray. The lower tank is supported upon the bottom of the casing, and the back of the latter is composed of inner and outer walls 13 and 14, spaced apart and forming an air-space 15. The bottom 16 of the casing extends beyond the inner wall 13 of the back and is located above the supporting-surface and is provided with a series of apertures 17, communicating with the air-space 15. The inner wall 13 of the back is provided with openings 18, communicating with the interior of the casing and permitting the air passing up the air-space 15 at the back of the casing to enter the latter. The air enters the casing at the back thereof through the openings 18, and it escapes at the front of the casing.



The curtain at the bottom of the front of the casing permits sufficient air to escape. The casing is provided with suitable legs 19 to support the bottom 16 above the supporting-surface to enable the air to pass upward through the bottom openings 17 to the openings 18 of the inner wall of the back of the casing, which openings 18 are clearly illustrated in Fig. 2 of the accompanying drawings, the lower tray in this figure being omitted for this purpose. The trays may be constructed in any suitable manner, and the door 2 will afford ready access to the interior to permit the trays to be placed in the casing and to be removed therefrom. The ledge or balcony may, if desired, be made detachable, and when so constructed it will be applied to the incubator only while the eggs are hatching.

The upper and lower tanks are preferably connected with upper and lower boilers 20 and 21 by means of suitable pipes 22 and 23, located near the front of the incubator and adapted to cause a greater circulation of water at the front than at the back, whereby more heat will be supplied to the front of the incubator than at any other point. Each boiler is composed of inner and outer shells, connected at their upper and lower edges, and the inner shell of the lower boiler is provided with an extension 24, forming a flue and fitting into the lower end of the central opening of the upper boiler to provide a continuous passage from the bottom of the lower boiler to the top of the upper boiler in order that both boilers may be heated by a lamp 25, placed beneath the lower boiler, as clearly illustrated in Fig. 2 of the accompanying drawings. The water is returned from the

tanks through the pipes 23 to the bottoms of the boilers, and as it becomes heated it rises to the top of the boilers and reenters the tanks through the pipes 22, and by this construction a constant circulation of water through the upper and lower tanks is effected. The lower boiler may be provided with suitable legs, and it may be connected with the upper boiler by any suitable means. The egg-supports of the upper tray are designed to be arranged a sufficient distance apart to permit the young chickens as they are hatched to drop through the tray to the lower tray.

It will be seen that the incubator is exceedingly simple and inexpensive in construction, that the chickens when hatched in the upper tray are adapted to drop therefrom into the lower tray and to stick their heads out under the curtain into the outside air with the same facility as when they are hatched under a hen, and that they may be removed from the casing without opening the latter or permitting the moist air therein to escape.

What I claim is—

An incubator comprising a casing provided at its front with a door terminating short of the bottom of the casing, a flexible curtain depending from the door, and an exterior ledge or balcony extending from the casing and located near the said curtain, substantially as described.

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

LOUIS P. MEISTER.

Witnesses:

MILLARD W. SITTON,  
JAMES M. MCLELLAN.