

No. 735,305.

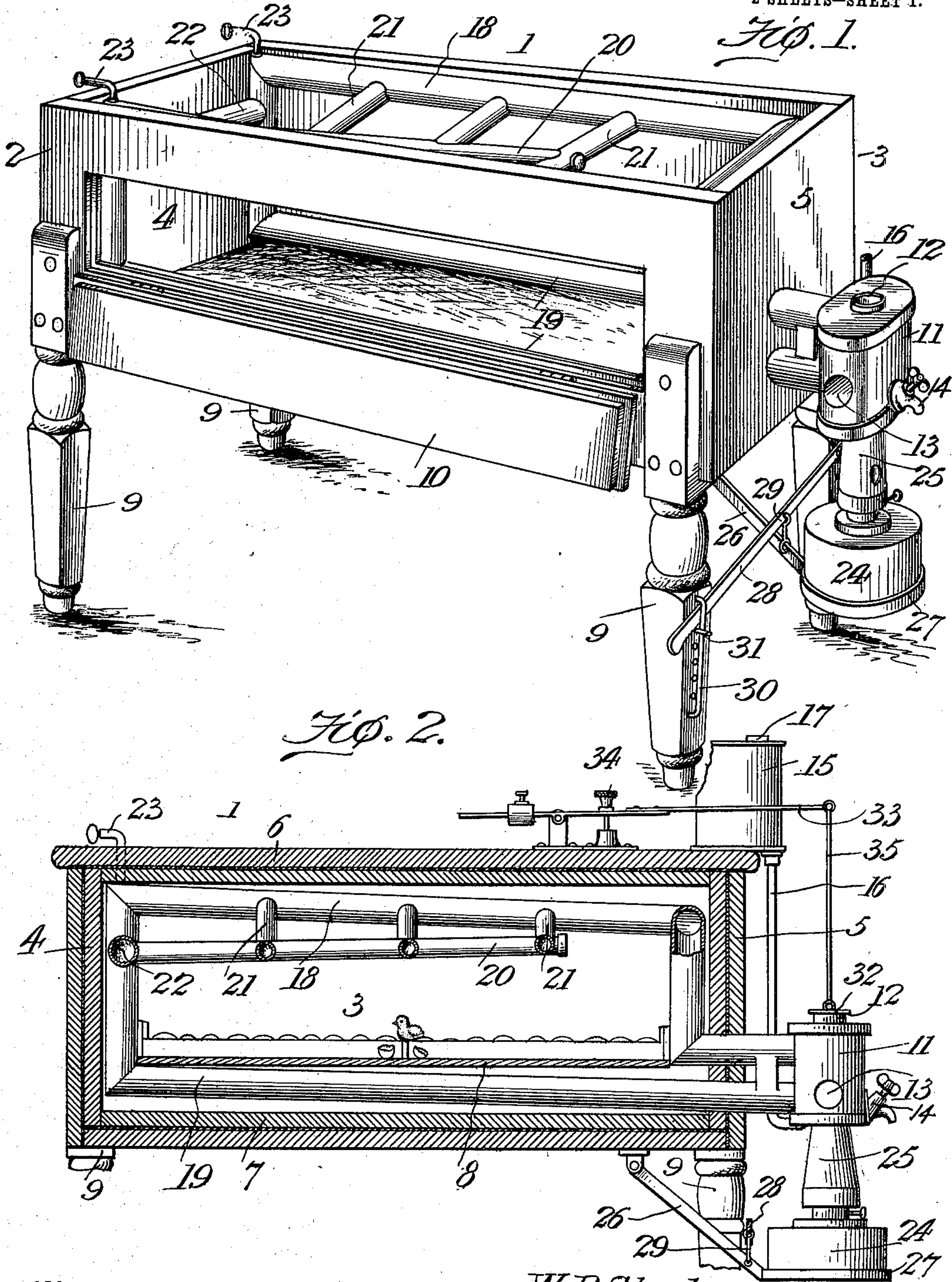
PATENTED AUG. 4, 1903.

W. P. SHEETS.
INCUBATOR.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
E. J. Stewart
G. J. Olmstead

W. P. Sheets
by *C. A. Snow & Co.*
Attorneys

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2 SHEETS—SHEET 2.

Fig. 3.

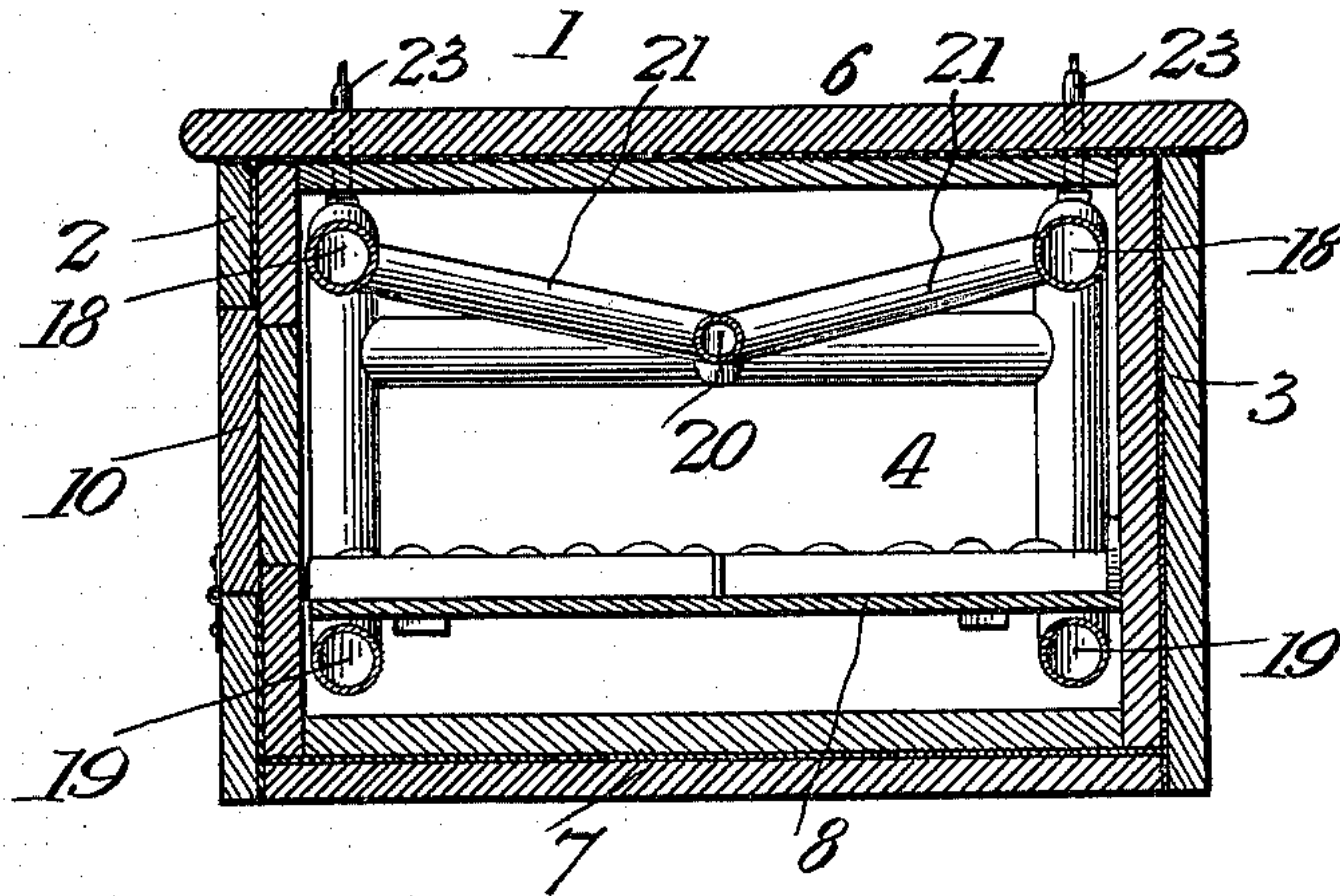
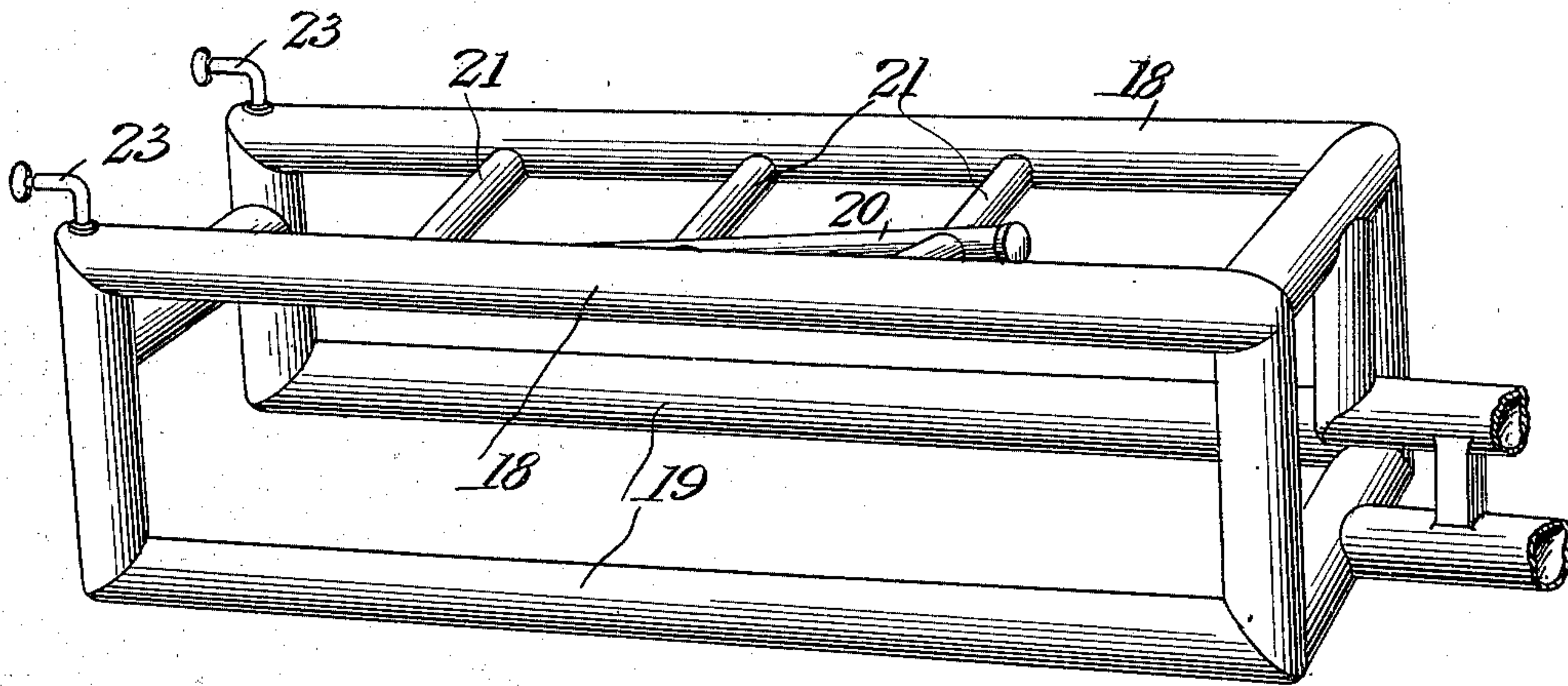


Fig. 4.



Witnesses
E. J. Stewart
J. D. Elmore

W. P. Sheets Inventor
by *C. A. Snow & Co.* Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM P. SHEETS, OF PRINCETON, MISSOURI.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 735,305, dated August 4, 1903.

Application filed April 13, 1903. Serial No. 152,466. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. SHEETS, a citizen of the United States, residing at Princeton, in the county of Mercer and State of Missouri, have invented a new and useful Improvement in Incubators, of which the following is a specification.

My invention relates to incubators, and especially to that class in which hot water is employed as the heating medium, and has for its objects to produce a device of this character which will be simple of construction, efficient in operation, one in which liability of water failing in the boiler and causing overheating of the latter is reduced to a minimum, one in which the heating-water will be circulated above and below the eggs and into the corners of the incubator-case, thus maintaining a uniform temperature, and one in which the liability of cold air becoming confined in the boiler or water-circulating pipes is minimized.

A further object of the invention is to provide a simple and efficient lamp-supporting bracket which may be readily manipulated to permit the removal of the lamp.

To these ends the invention comprises the novel details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of an incubator having my improvements supplied thereto, the cover being removed to expose the interior mechanism to view. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a vertical transverse section. Fig. 4 is a perspective view of the heating system removed from the casing.

Referring to the drawings, 1 indicates the incubator box or chamber, which consists of a front side 2, a rear side 3, ends 4 and 5, a cover 6, a main bottom 7, and a supplemental bottom 8. This box or chamber is sustained by legs 9 and is provided in its front wall 2 with a door 10. These parts may all be of any suitable or desired construction and material, inasmuch as they, with the exception of the supplemental bottom, constitute no part of my invention.

My invention resides, primarily, in the water heating and circulating system now to be described,

11 indicates the boiler, which is preferably of elliptical form in cross-section and is provided with a central vertical smoke-flue 12 and with a horizontal tube 13, which serves to increase the heating-surface, and with a suitable discharge-cock 14.

15 is a supply-tank which rests normally upon the cover of the incubator-chamber and communicates with the boiler through the medium of a supply-conduit 16, the function of this reservoir being to keep the boiler constantly supplied with water to prevent overheating of the latter and at the same time to obviate liability of the water becoming exhausted from the circulating-pipes with attendant deleterious results. The reservoir 15 is provided at its top with an opening 17, which permits escape of steam and obviates liability of the reservoir bursting.

18 indicates a main circulating pipe or conduit, which communicates with the boiler 11 at its upper end and extends thence through the end wall 5 of the casing and along the upper inner face of the end wall 5, the upper inner faces of the sides 2 and 3, and vertically downward at the four inner corners of the casing at the juncture of the sides and ends and communicates with return pipes or conduits 19, which extend along the lower inner-faces of the side walls 2 and 3, between the main bottom 7 and supplemental bottom 8 of the casing, and across the lower inner face of end 5 and centrally outward through the latter to a point of communication with the boiler 11 near its bottom. The upper longitudinal sections of the main pipe 18 communicate with each other and with a secondary pipe 20 through the medium of supplemental connecting-tubes 21, which incline slightly downward from their points of communication with the pipe 18 to the points of communication with the pipe 20, which latter inclines downward from its inner to its outer end, at which latter point it communicates with a transverse pipe 22, which extends along the inner face of end wall 4 and connects the vertical sections of the pipe 18. In this connection it is to be especially noted that the hot-water conduits lie well up within the corners of the incubator-chamber and also extend above and below the egg-containing crates, thus heating the chamber

at all points and maintaining a uniform temperature within the same. It is further to be noted that the main circulating-conduit communicates with the side wall of the boiler close up to its top, whereby any air entering the boiler will escape therefrom to the conduit and will in turn escape from the latter through the valves 23, and that the supplemental bottom 8 of the casing is spaced a short distance from the front side wall 2 of the latter to permit the warm air to rise just within the door, thus counteracting any cold air which may creep in through the latter.

24 indicates a lamp of any suitable construction, which is provided with a heating tube or chimney 25, projecting upward into the smoke-flue 12 of the boiler for heating the latter. This lamp is supported by means of a bracket comprising an arm 26, pivoted at its inner end to the under face of the bottom 7, and a supporting head or base 27, formed integral or associated in any other suitable manner with the outer end of the bracket-arm. The bracket is sustained and controlled by means of an operating-lever 28, pivoted at one end to one of the legs 9 of the table and connected by a link 29 with the bracket-arm 26 at a point adjacent to the head 27. The free end of the lever 28 travels in a suitable guide 30, associated in any suitable manner with the outer supporting-leg of the table. The free end of the lever 27 is adapted for vertical movement in the guide 30 to lower the bracket and permit ready removal of the lamp 24 therefrom or to raise the bracket for sustaining the lamp in proper position relative to the boiler, and when in this latter position the movable end of the lever may be fixed by means of a pin or key 31 engaging any one of a series of suitable perforations in the table-leg, said pin when in position being disposed at the lower edge of the lever.

The heating of the boiler is regulated by means of a cap 32, seated over the upper end of the flue 12 and adapted to be raised or lowered, as circumstances require, for permitting escape of heat from the flue or confining the heat within the flue by means of a vertically-adjustable arm 33, associated by an adjusting-screw 34 with the cover 6 of the incubator and connected with the cap 32 by means of a wire or other suitable connecting means 35.

From the foregoing it will be seen that I produce a device which is admirably adapted for the attainment of the ends in view; but it is to be understood that I do not limit or confine myself to the precise details herein shown and described, inasmuch as minor

changes may be made therein without departing from the spirit or scope of my invention.

Having thus described my invention, what I claim is—

1. The combination with an incubator having a chamber, of a heat-generating device, a circulating pipe or conduit situated within the chamber and communicating with the generating device, and a return-conduit communicating with the circulating-pipe and with the generating device, said circulating-pipe being formed to extend along the sides and ends of the chamber and into the corners thereof.

2. The combination with an incubator having a chamber, of a heat-generating device, a circulating pipe or conduit situated within the chamber and communicating with the generating device, and a return-conduit also communicating with the generating device, said circulating-pipe comprising sections extending along the sides and ends of the chamber adjacent to its top and vertical sections disposed within the corners of the chamber and communicating with the return-pipe.

3. The combination with an incubator having a chamber, of a heat-generating device, a circulating pipe or conduit situated within the chamber and communicating with the generating device, a return-conduit extending along the sides and ends of the chamber at its bottom and communicating with the generating device, and a supplemental bottom for the casing overlying the return-conduit, said circulating-pipe comprising sections extending along the sides and ends of the chamber adjacent to its top and vertical sections disposed within the corners of the chamber and communicating with the return-pipe.

4. The combination with an incubator having a chamber, of a boiler, a pipe or conduit communicating with the boiler for circulating water through the chamber, a lamp for heating the boiler, and a lamp-supporting bracket comprising a bracket-arm pivoted to the incubator-casing and provided with a lamp-sustaining base or head, a pivoted lever for adjustably sustaining the bracket, and means for securing the lever.

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

WILLIAM P. SHEETS.

Witnesses:

J. M. HAYES,
T. M. BALLEU.