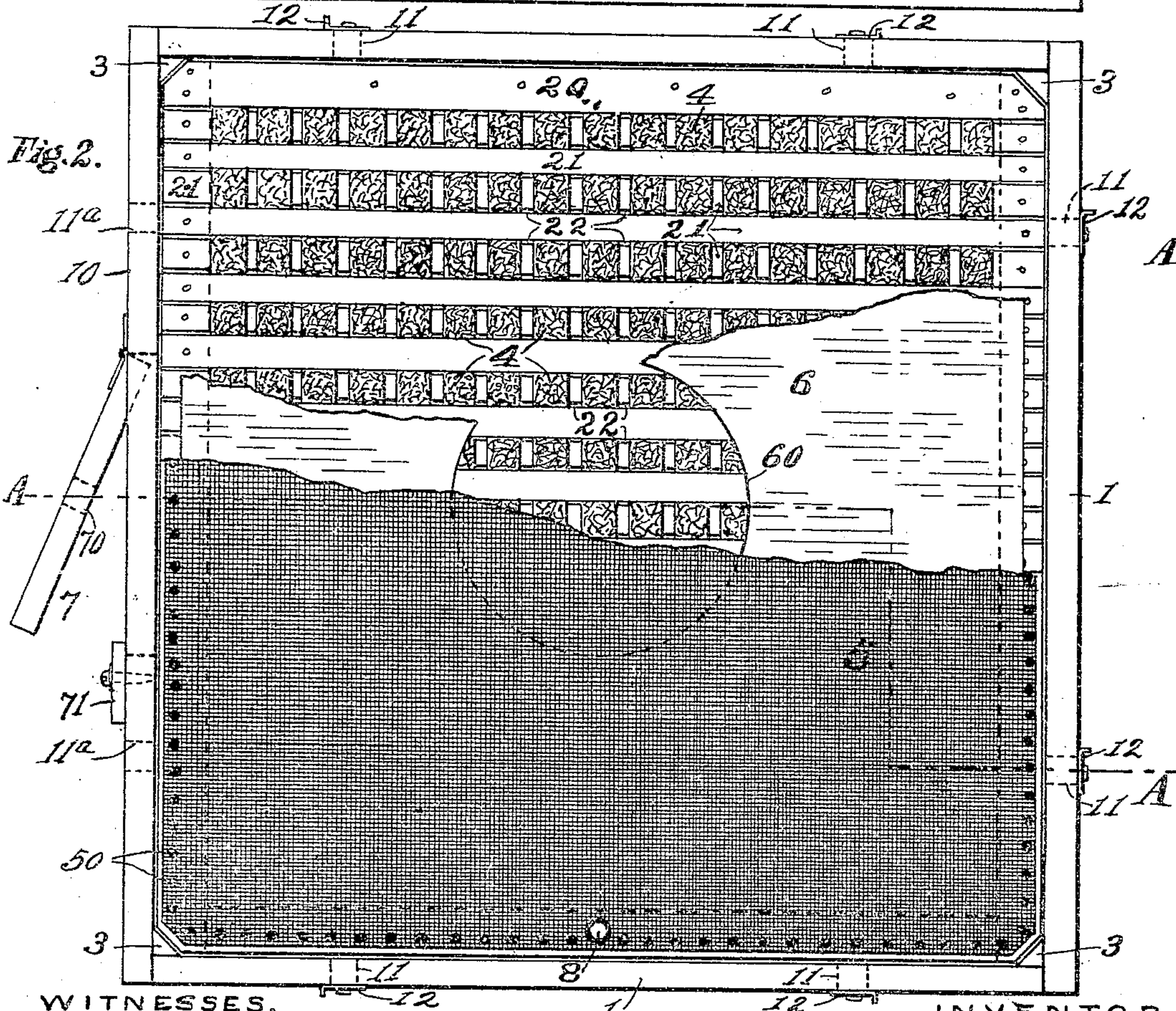
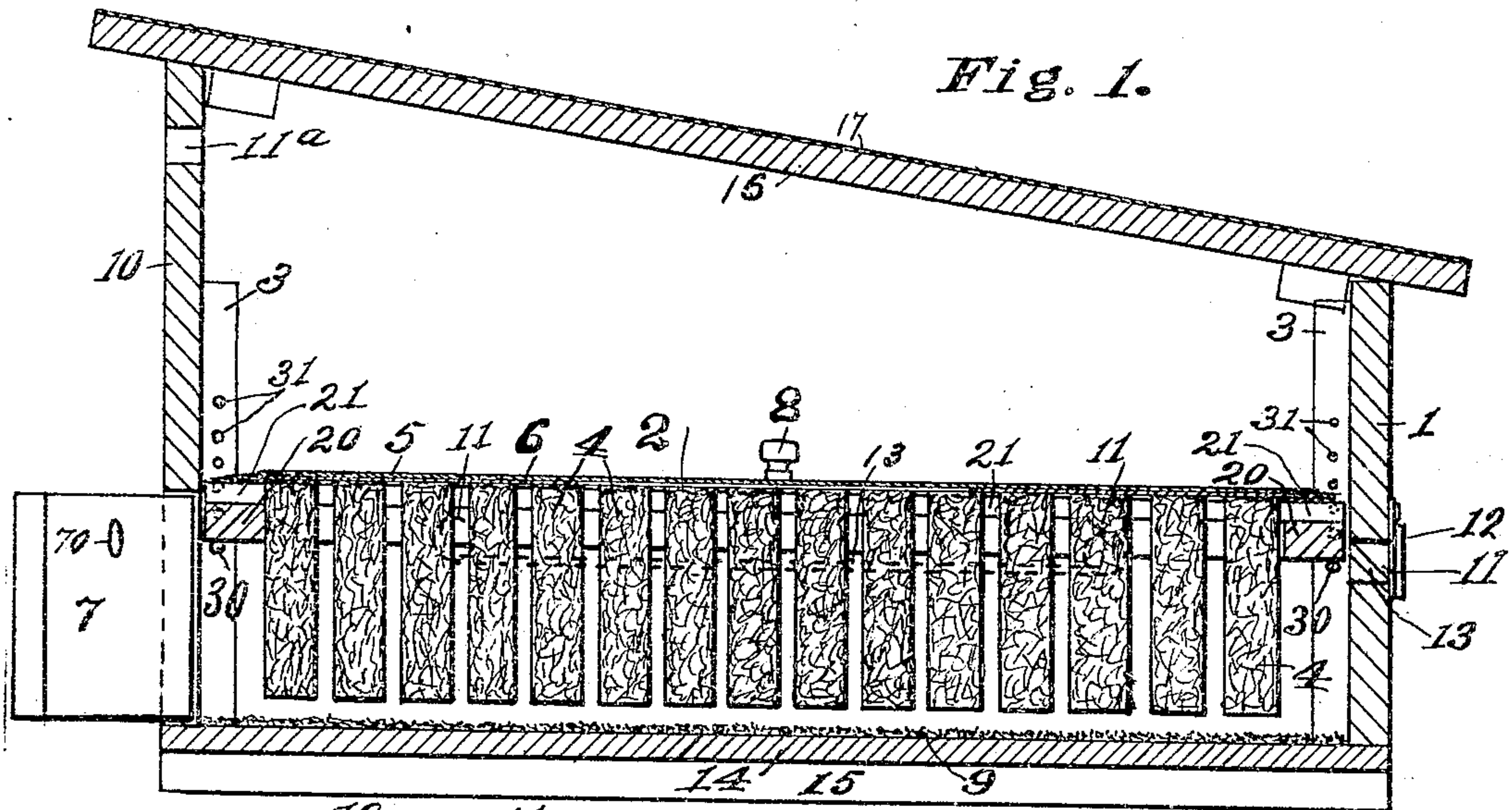


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BROODER.

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959,975.

Patented May 31, 1910.



WITNESSES.

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ANTHON WALDWICK, OF OAK HEIGHTS POULTRY FARM, WASHINGTON.

BROODER.

959,975.

Specification of Letters Patent.

Patented May 31, 1910.

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To all whom it may concern:

Be it known that I, ANTHON WALDWICK, a citizen of the United States, and a resident of Oak Heights Poultry Farm, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Brooders, of which the following is a specification.

My invention relates to improvements in brooders, or devices for hovering and caring for chicks which have been artificially hatched.

The object of my invention is, in general, to improve and simplify the construction of such devices, and in particular, to adapt them for use without lamps or other artificial means for heating them. It therefore belongs to that class of brooders known as fireless brooders.

My invention comprises the novel parts and combinations of parts which will be hereinafter described and particularly pointed out in the claims.

In the accompanying drawings I have shown my invention embodied in the form which is now preferred by me.

Figure 1 is a sectional elevation upon the lines A, A, of Fig. 2. Fig. 2 is a plan, the roof being removed and parts of the hover torn away to show its construction.

In the use of brooders there are many objections to the use of lamps for the heating thereof, among the most apparent being the trouble of caring for them and the expense this involves. While this is a serious trouble and objection, a more serious one is the danger of fire when lamps are used. Another serious difficulty is the strong likelihood of overheating the chicks, vitiating the air they breathe, and as a result of these conditions, weakening their vitality.

With a knowledge of these facts acquired through long practical experience, I have sought to produce a brooder which would hover the chicks satisfactorily without using any artificial heat, and would utilize the animal heat of the chicks to produce a regulated flow of air, thereby avoiding all danger of fire and overheating and providing pure fresh air at all times.

My invention is susceptible of many minor variations of structure. That shown in the drawings is the one which is now most preferred by me, which will now be described.

The inclosing case of my brooder is composed of the sides 1 and the bottom 14. If

the brooder is to be used exclusively indoors no cover is necessary. In such case the sides of the box would naturally all be of the same height. Where, however, the brooder is to be used outdoors, a cover should be provided, in which case the front side 10, would be higher than the rear wall and the adjacent sides inclined, as is shown in the drawing, and a cover 16 would be provided. This cover as shown, consists of boards covered by building paper 17.

The hover 2 is constructed upon a square frame formed by the four bars 20, said frame being of a size to fit rather loosely within the outer casing or box, so that it may be removed readily. Upon the upper side of this frame are nailed a series of wood strips or bars 21, very slightly spaced apart and covering the entire area of the frame. From the bars 21 depend strips 4, of hovering material, the same being of such character as will retain the natural heat of the chicks. While various materials are well adapted for this purpose I have selected as preferable, felt. I have made these strips of such length that they may be looped over the bars 21 and have each end depending. These may be placed upon each of the strips 21, but if they are placed over each alternate bar and slightly spaced apart upon the bars, there will be a sufficiency of them. The wood strips or bars 21 will be spaced apart about right if they are brought snugly against the felt strips, the felt acting as spacers for the bars 21 and being more or less held thereby. Over the top of the hover as thus made is placed a layer of paper 6, which has a central hole, as 60, through which the foul air of the brooder is discharged. Should the outside temperature be very low or the chicks be very small, this opening may be wholly or partially closed, as by a paper or board, thus regulating the escape of air and heat. This will be controlled by the necessities of ventilating and maintaining the proper temperature. Over the paper is tacked a layer of cloth 5, such as burlap or other loose textured fabric, such that there is a diffused passage of air therethrough.

The spacing of the felt strips 4 leaves a large number of small openings 22, through which air may filter. The paper cover 6, if imperforate, blocks any circulation through these openings. If an opening, as 60, exist in the paper, then there will be a

certain amount of circulation through the openings 22, the hole 60 and the mesh of the cloth 5. Such circulation would cause air to flow from the cool sides toward the center and then up and out, thus providing pure air in sufficient but not excessive amounts to the chicks.

At the corners the hover frame is cut and triangular posts 3 are placed in the corners of the box to serve as supports for the hover. These posts 3 are provided with series of holes 31 at different levels and adapted to receive nails or pins 30 upon which the hover rests. For newly hatched chicks and for the first few days of their life, the lower hole should be used, this supporting the hover so that the strips 4 are but little above the floor. As the chicks get older the hover is raised by transferring the pins to successively higher sets of holes. It may thus be easily and quickly adjusted so as to properly fit the chicks at all stages of their growth.

For ventilation I provide two round holes 11, 11, upon each side except that containing the door. These holes are placed toward each corner and are round because such shape may be readily made by an auger. I provide means whereby the effective area of these holes for ventilation may be controlled, the means shown and preferred being to pivot a small piece of sheet metal 12 close to the opening so that it may be turned to cover or uncover the opening.

As an additional and a permanent ventilation I connect the holes in any side with a slit 13, the same, as constructed, being simply a saw cut, and preferably being inclined so as to slope downwardly toward the exterior, whereby the entrance of rain is prevented when the brooder is used outdoors. The ventilating holes 11 are preferably placed at such a level that when the hover frame is supported upon the pins in the lowermost holes 31, the center of the holes 11 is on a level with the bottom edge of the hover frame. In this position the slits 13 are closed, except for such circulation as may take place between the edge of the hover frame and the side of the box or casing. This frame in reality never fits so close as to prevent a little circulation at this point. There is also a little circulation taking place directly up between the hover frame and the sides of the box.

In the front side of the box or casing is placed the door 7 which is provided with a hole 70 which serves as a ventilating opening and a convenient means for getting hold of the door to open it. The door is held closed by a button 71 pivoted to the box at one end of the door opening. In the outdoor brooders ventilating holes 11^a are provided through the front side of the casing just under the roof 16. These are perma-

nently open. The outdoor brooders are also provided with strips 15 under the floor, designed to raise them slightly from the ground. Upon the floor within the brooder I have shown a layer 9 of material designed to protect the floor from fouling. This may be of any material preferred or available. While the chicks are quite small I prefer to use a cloth or paper, but later sand is as good as anything.

I provide two knobs or handles 8, whereby the hover may be easily lifted out whenever access to the interior is desired. The brooder is thus easily cleaned.

The air inlets are about the exterior of the brooder, and part at least, of the air exits are at the center, thus producing a circulation from the outer toward the inner parts. The numerous depending felt strips enable the chicks to get in among them where they are kept warm, while at the same time these strips are separated sufficiently to permit free circulation of air for the use of the chicks. There is no tendency toward smothering at the center.

In actual use I have found this brooder to be very successful in raising healthy and strong chicks, both when used indoors and outdoors. The chicks are given no artificial heat and appear robust and lively, giving no appearance of chilling or bowel troubles. The ventilating means provided are so distributed and may be so thoroughly regulated that an abundance of air may be provided without producing an objectionable draft.

One strong feature of advantage in my brooder is that it is so constructed that all the air inlets and exits are of small size and dispersed so that no strong draft is produced at any point, and also that the circulation is from the sides toward the center, from which point it is discharged through the numerous small openings in the hover frame and through the central opening in the paper cover. The diffusion of this air is further assured by discharging through the meshes of the burlap. For its open-mesh character, durability, cheapness and general adaptability for the purpose, burlap is the best material with which to cover the hover frame.

What I claim as my invention is:

1. A hover for brooders comprising a frame work having a series of spaced bars extending in the same direction across the frame, fabric strips looped over and depending from said bars, and a series of binding bars inserted between the other bars and engaging the fabric strips to bind them in place.

2. A hover for brooders comprising a frame, a series of spaced bars extending in the same direction across said frame, a series of fabric strips looped over and depending

from said bars and being spaced apart upon the bars, and a set of binding bars inserted between the other bars and engaging the fabric strips to bind them in place.

5 3. A hover for brooders comprising a frame, a series of spaced bars extending in the same direction across said frame, fabric strips looped over and depending from said bars and spaced slightly apart upon the bars,
10 a set of binding strips inserted between the other strips and engaging the fabric strips to bind them in place, and an air-pervious fabric covering the upper surface of said frame.

15 4. A hover for brooders comprising a frame having a series of spaced bars extend-

ing across said frame in the same direction, fabric strips looped over said bars and depending therefrom, a set of binding strips inserted between said other strips and en- 20 gaging the fabric strips to bind them in place, and an impervious layer of material covering said frame except for a space at the center.

In testimony whereof I have hereunto 25 affixed my signature at Seattle, Washington, this 21st day of May, 1909.

ANTHON WALDWICK.

Witnesses:

CHAS. R. JENSEN,
HENRY L. REYNOLDS.