Oct. 12, 1926. 1,603,113

J. JENKINS

BROODER

Filed July 18, 1924 2 Sheets-Sheet 1

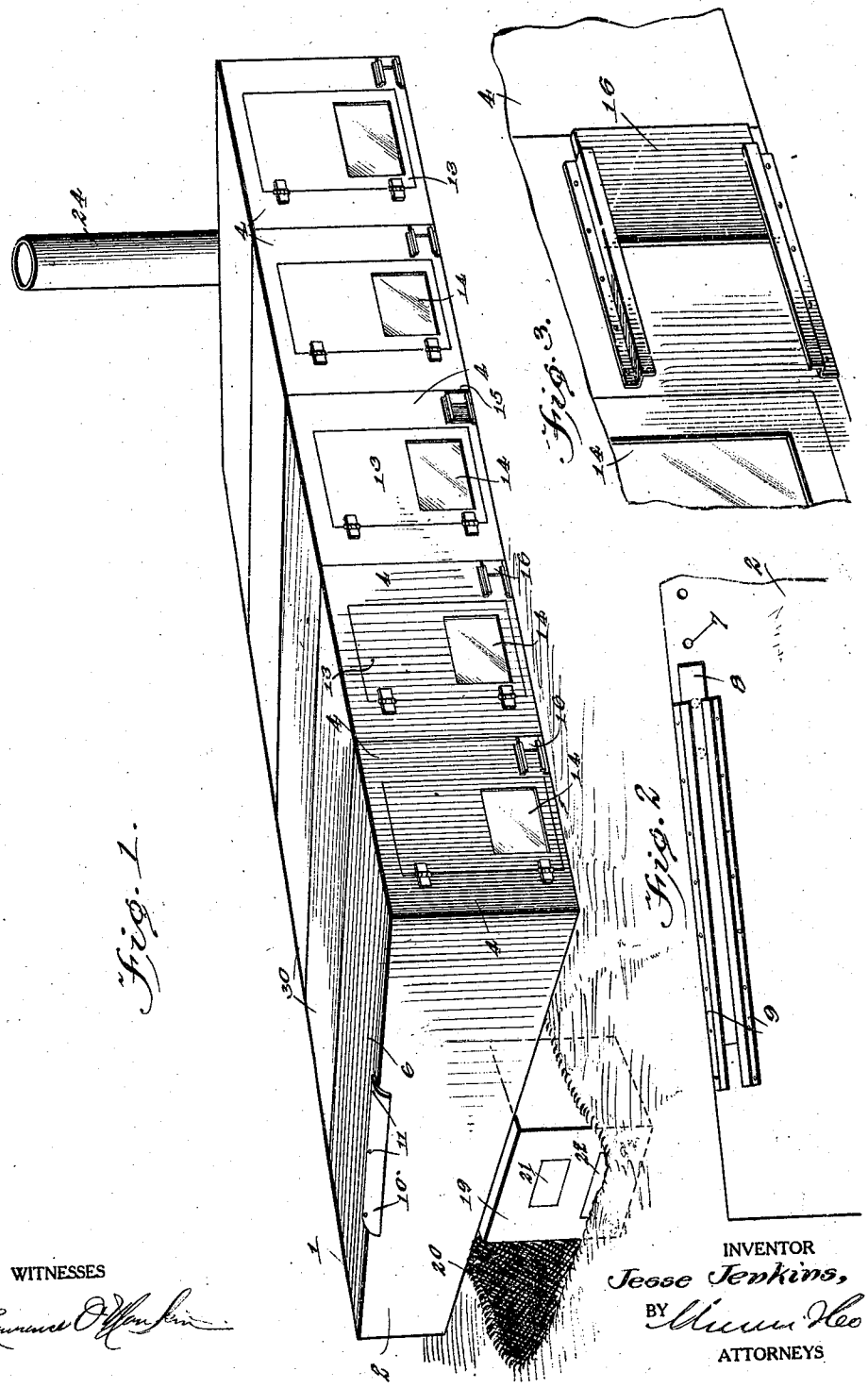


Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES

INVENTOR

Jesse Jenkins,

BY Munn & Co.

ATTORNEYS

Oct. 12, 1926. 1,603,113

J. JENKINS

BROODER

Filed July 18, 1924 2 Sheets-Sheet 2

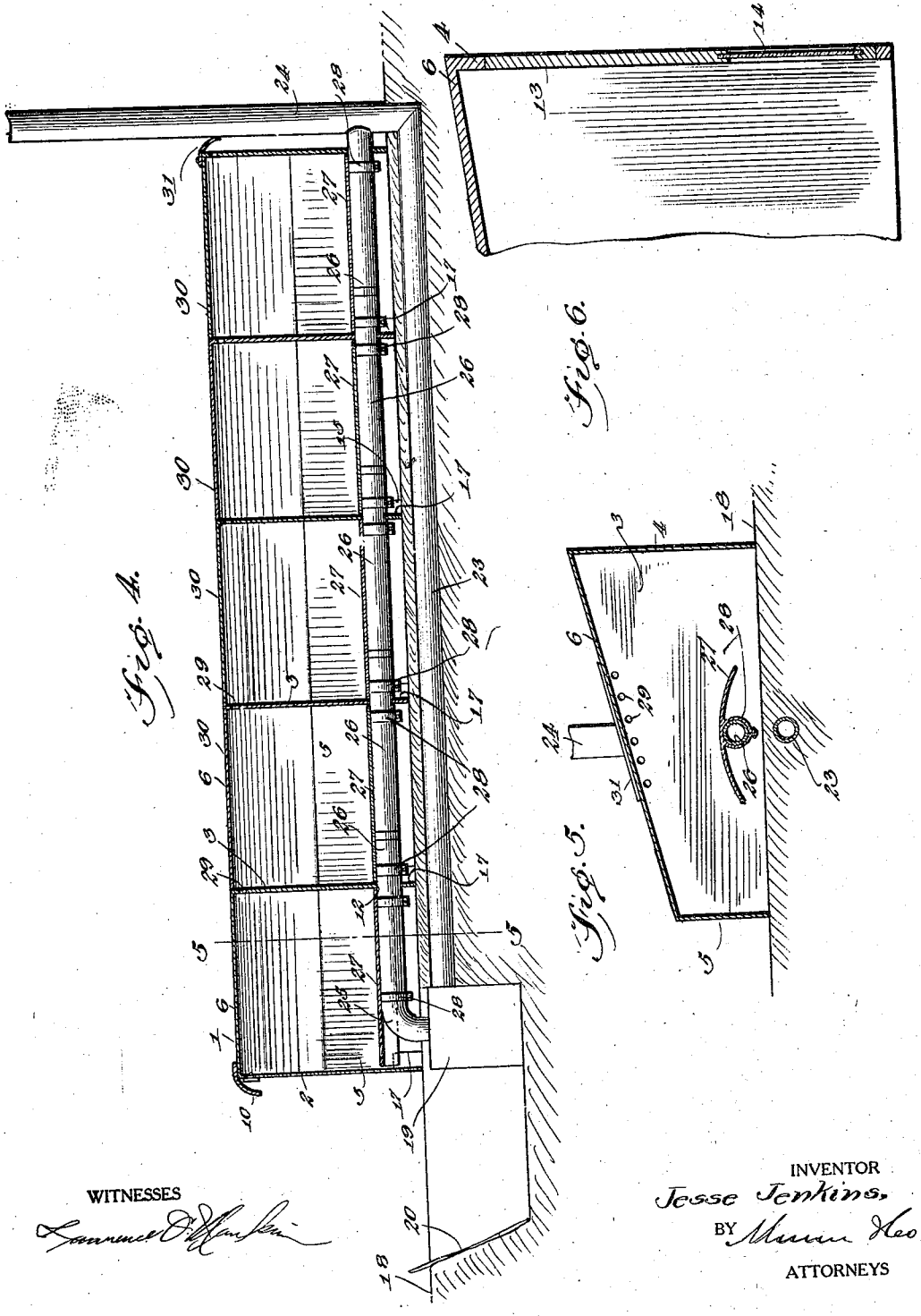


Fig. 4.

Fig. 6.

Fig. 5.

WITNESSES

INVENTOR

Jesse Jenkins,

BY Munn Geo.

ATTORNEYS

Patented Oct. 12, 1926. 1,603,113

UNITED STATES PATENT OFFICE.

JESSE JENKINS, OF HILLSDALE, INDIANA.

BROODER.

Application filed July 18, 1924. Serial No. 726,794.

My invention is an improvement in brooders, and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of the invention is to provide a brooder having a housing structure which may be made up of any desired number of cooperative sections so that a brooder adapted to house any given number of chicks can be provided according to the invention at a relatively low cost and the capacity of a brooder embodying the invention can be increased or decreased at will by increasing or decreasing the number of sections in the housing of the brooder.

A further object of the invention is to provide a brooder of the character described which affords facilities for heating to a desirable temperature both the ground surface within the housing of the brooder and the space within the brooder housing proximate to the ground surface irrespective of the size of the brooder housing.

Other objects and advantages of the invention will be apparent from the following description, considered in conjunction with the accompanying drawings, in which—

Figure 1 is a perspective view of a brooder embodying the invention,

Figure 2 is a fragmentary face view of a side wall of the primary section of the brooder housing, showing ventilating openings therein and a slide for covering the openings, a hood which normally overhangs the ventilating openings being omitted,

Figure 3 is a fragmentary perspective view of a front wall of one of the housing sections, showing a sliding door which is carried thereby for closing an opening in the front wall for the passage of chicks,

Figure 4 is a longitudinal vertical section through the brooder,

Figure 5 is a transverse vertical section, the view being taken substantially along the line 5—5 of Figure 4,

Figure 6 is a relatively enlarged fragmentary vertical sectional view of the front part of one of the sections of the brooder housing.

A brooder embodying the invention comprises a housing which may include or consist only of a box-like section 1. The section 1 comprises a pair of vertical side walls 2 and 3 respectively, a front wall 4, a rear wall 5 which is of less height than the front wall and a sloping roof or top wall 6. The walls of the section 1 preferably are made of a light gauge metal, such as galvanized iron but may be made of any suitable material, adjacent walls of the section being secured together at contiguous edges thereof in any suitable known manner and being suitably reinforced or braced at their juncture with one another, if desired. The side walls 2 are formed with the upper edges thereof inclined suitably to contact with and be joined to the edges of the top wall or roof 6. The side wall 2 is provided adjacent to its upper edge with a series of spaced apart ventilating openings 7 which may be closed by a sliding shutter 8. The latter works in guides 9 which are secured to the side wall 2 against the outer face of the latter. A hood or canopy 10 is secured, as at 11, to the top wall 6 at one end of the latter and in position to overhang the space at the outer ends of the ventilating openings 7 so that entrance of rain, dust and the like into the interior of the section 1 through the openings 7 is prevented.

The side wall 3 is provided adjacent to the lower edge thereof and intermediate its length with an opening indicated at 12 in Figure 4 for a purpose to be hereinafter described. The front wall 4 is provided with a relatively large opening which is normally closed by a hinged door 13 having a window 14 in the lower part thereof. The front wall 4 also is provided adjacent to its lower end and adjacent to its juncture with the side wall 3 with a relatively small opening which may be closed by a horizontally slidable door or shutter 16. The back wall 5 is provided adjacent to its lower edge and adjacent to its juncture with the side wall 2 with an opening 17 which is similar to the opening 15 and may be closed by a sliding door or shutter similar to the door or shutter 16. The openings 16 and 17 are provided for the passage of chicks into and from the section 1.

As previously stated, the housing may consist only of the section 1. The latter is positioned upon the ground surface 18 so that a heater 19 which is disposed within a cavity or depression 20 in the ground will be disposed beneath the section 1 intermediate the ends of the latter and in such position that the front wall of the heater will be substantially flush with the side wall 2 of the section. The front wall of the heater is provided with a fuel feed opening normally closed by a door 21 and with a lower open-

ing through which ashes may be removed, the last named opening normally being closed by a door 22. An underground conduit 23 extends horizontally from the back wall of the heater 19 transversely beneath the section 1 and laterally of the section 1 to the lower end of a chimney or flue 24 into which it discharges. The conduit 23 is located but a slight distance beneath the surface of the ground and is adapted to conduct smoke and heated gases of combustion from the heater to the chimney. The ground surface above and adjacent to the conduit 23 thus will be heated by heat from the products of combustion passing through the conduit 23 to the chimney 24.

A second conduit for conducting products of combustion from the heater 19 to the chimney 24 comprises an elbow section 25 which is fitted at one end in an opening in the upper part of the heater and extends above the heater into the interior of the section 1, and a plurality of straight tubular sections 26 together with unions or other suitable means for connecting the sections of the last named conduit together detachably so that the second named conduit will also conduct heated gases of combustion from the heater 19 to the chimney 24 to which it is joined. The portion of the second named conduit which comprises the straight length of tubes 26 is horizontal and is located about 6" above the ground surface and in position to extend through the opening 12 in the side wall 3 of the housing section 1. A hover plate 27 which is convexo-concave in cross sectional contour extends transversely of the housing section 1 and is supported upon the portion of the second named conduit that extends through the housing section 1, being disposed upon said conduit with the convexly curved side of the hover plate up and being secured to said conduit by suitable clamping means, such as indicated at 28.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. The chicks may rest beneath the hover plate and will be kept warm since the air within the lower part of the brooder will be warmed by heat from the upper conduit, the hover plate tending to deflect the heat downward while the ground beneath the hover plate will be warmed by heat from the lower conduit. The heat within the section 1 may be regulated through the use of dampers in the conduit and of course by regulating the heat which is permitted to pass from the heater in any suitable known manner, as well as by manipulation of the shutter 8 which controls the ventilating openings 7. The side wall 3 also is provided with ventilating openings adjacent to the upper edge thereof as indicated at 29.

The chicks may pass from the interior of the section 1 through the openings 15 and 17 or through either of these openings to runways or a runway. The opening which is normally closed by the door 13 permits the poultryman to have access to the interior of the section 1 for any purpose.

In the event that the capacity of the housing section 1 is not adequate for the accommodation of all the chicks, the housing may be enlarged by the addition of any desired number of auxiliary housing sections 30. Each section 30 differs from the section 1 only in that it is provided with only one side wall. The same reference numerals have been used to designate like parts of the housing section 1 and each auxiliary housing section 30. It will be observed that each housing section 30 has no side wall corresponding to the side wall 2 of the section 1.

In assembling a housing made up of the section 1 and a plurality of the auxiliary sections 30 as illustrated in Figures 1 and 4, the tubular sections of the upper conduit are detached from one another and the auxiliary sections are arranged in series with one another and with the prirmary section 1, the respective housing sections being disposed side by side so that the side wall 3 of each section will serve as a closure for the normally open side of the adjacent housing section, adjacent housing sections being secured together in any suitable known manner. With the arrangement just described, the openings 12 in the side walls 3 of the respective sections will be in alignment and the upper conduit can be assembled with the straight tubular sections thereof extending transversely across the spaces within the respective sections and through the openings 12 as shown in Figure 4. One of the hover plates 27 is provided for each of the auxiliary sections 30 and is secured upon the portion of the upper conduit that extends across the space within the latter. The underground conduit 23 extends transversely beneath all of said housing sections. A hood 31 similar to the hood 10 may be provided for the ventilating openings 29 in the side wall 3 of the auxiliary housing section which is remote from the main section 1. The operation of the brooder when the housing thereof comprises the main section 1 and one or more of the auxiliary sections 30 of course is identical in essential respects with the operation of the brooder when the housing thereof consists only of the section 1.

Obviously, my invention is susceptible of embodiment in forms other than that illustrated in the accompanying drawing and I therefore consider as my own all such modifications and adaptations of the form of the device herein described as fairly fall within the scope of the appended claims.

I claim:—

1. In a brooder, a housing comprising a box-like structure having a pair of side walls, a back wall, a front wall and a top and being adapted to rest at its lower end upon the ground, a heater disposed beneath said housing intermediate its ends and adjacent one side edge thereof, a heater pipe extending from said heater transversely therethrough adjacent to said ground surface, said housing having an opening in the side wall thereof remote from said heater through which said heater pipe extends, a hover plate clamped upon said heater pipe within said housing, said hover plate being arcuate in cross sectional contour and being disposed upon the heater pipe with the convexly curved surface thereof uppermost, and a second heater pipe extending from said heater transversely beneath said housing and beneath the surface of the ground, said second named heater pipe having the axis thereof disposed directly beneath the axis of the first named heater pipe, said heater pipes extending laterally of said housing structure, and an auxiliary housing structure having a top wall, one side wall and a back and front wall, said auxiliary housing structure being disposed alongside of said first named housing structure so that a side of the latter will serve as a closure for the normally open side of the auxiliary housing structure, said auxiliary housing structure having an opening in the side wall thereof through which said upper heating pipe may extend.

2. In a brooder, a box-like housing having a pair of vertical side walls, a sloping roof, a back wall, and a front wall, said back and front walls having normally closed openings at the lower edges thereof for the passage of chicks and said front wall having a relatively large opening and a hinged door for closing said opening, said side walls having ventilating openings formed therethrough adjacent the upper edge thereof, and a plurality of similar auxiliary housing sections, each including a side wall, a front wall, a back wall and a sloping roof, said auxiliary housing sections being disposed in juxtaposed relation at one side of said first named housing structure so that one side wall of the first named housing structure will close the normally open side of the adjacent auxiliary housing structure and the side wall of each auxiliary housing structure will close the normally open side of the auxiliary housing structure proximate thereto, a heater disposed beneath said first named housing structure, a flue disposed laterally of the auxiliary housing structure which is remote from the first named housing structure, an underground conduit extending from said heater to the lower end of said flue transversely beneath said housing structures, and an upper conduit extending from said heater to said flue transversely through said housing structures slightly above the ground surface.

3. In a brooder, a housing comprising a box-like structure open at its lower end and adapted to rest at its lower end upon the ground, a heater disposed within said housing adjacent to one edge of the housing, a heater pipe extending from said heater transversely of the housing adjacent to said ground surface, a hover plate secured upon said heater pipe within said housing, a second heater pipe extending from said heater transversely beneath the housing and beneath the surface of the ground, said second named heater pipe also being disposed directly beneath said first named heater pipe, a source of heat at one end of the housing with which the adjacent ends of both of said heater pipes communicate, and a flue at the opposite end of the housing with which both the heater pipes communicate.

JESSE JENKINS.