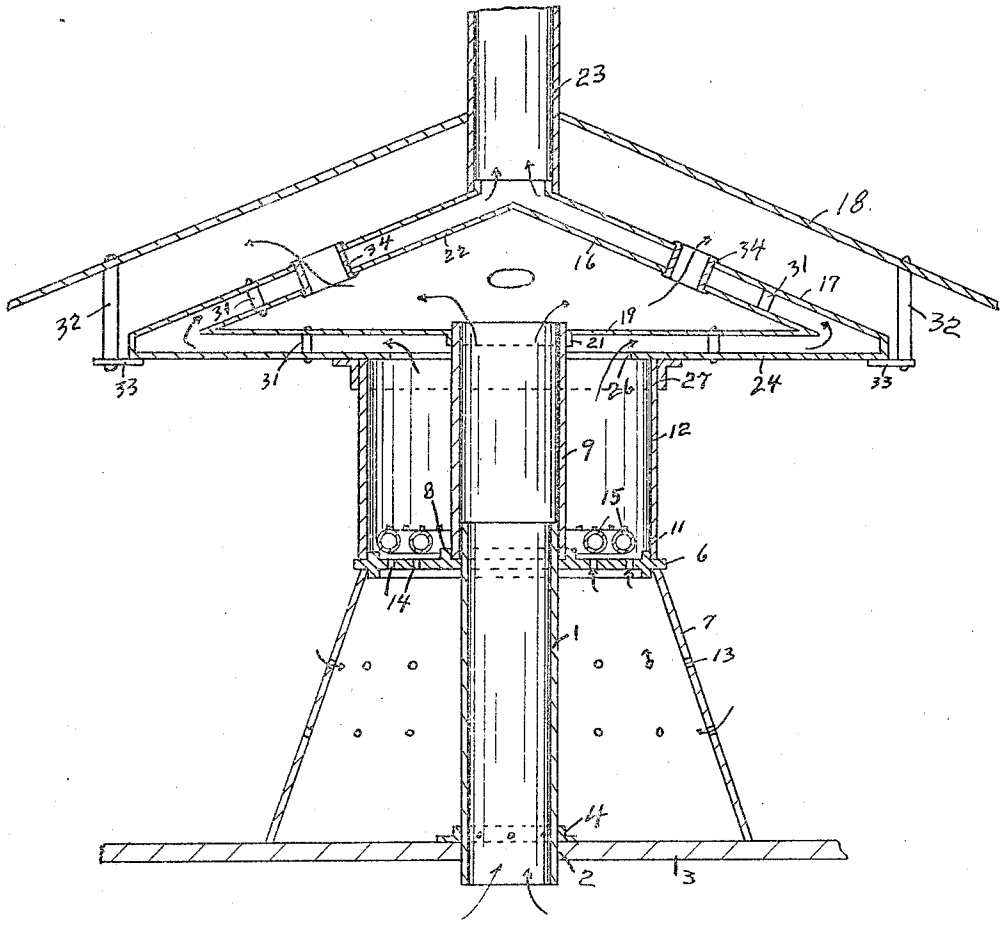
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BROODER STOVE

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BROODER STOVE.

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The present invention relates to improvement in brooder stoves and its particular object is to provide a stove of simple construction in which a large heating surface is produced through direct contact with the products of combustion and in which fresh air comes in contact with the other side of the heating surface and is discharged into the space provided for the growing chicks without coming in contact with the products of combustion. A further object of the invention is to insure perfect circulation of air whereby fresh air is continually drawn into the heating chamber and discharged into the space toward the burners to provide a charge that is preheated and insures rapid and smokeless combustion.

It is further proposed in the present invention to provide a stove which may be readily taken apart and reassembled due to structural features of the same.

Further objects and advantages of my device will appear as the specification proceeds.

The preferred form of my invention is illustrated in the accompanying drawing which shows a vertical central section through my stove.

While I have shown only the preferred form of my device, it should be understood that changes or modifications may be made within the scope of the claims without departing from the spirit of the invention.

Referring to the drawing in detail it will be noted that a tube 1 is inserted in a hole 2 in the floor 3 and held in place by means of a flanged collar 4. A plate 6 is telescoped over the upper end of the tube which plate is supported by means of a frusto-conical wall 7 in spaced relation to the floor 3 and so as to allow the tube 1 to project above the same. A flange 8 on the plate leaves a space between the flange and the upper end of the tube in which is accommodated a second tube 9 in axial alignment with the first tube while a flange 11 disposed near the rim of the plate 6 allows a cylindrical wall 12 to be centered relative to the plate and to be held in concentric relation relative to the tube 9. The frusto-conical wall 7 is perforated as shown at 13 so as to allow air to pass therethrough from the outside and the plate 6 is also perforated as shown at 14 to allow the said air to rise toward the burners 15 which are supported above the plate 6 and may be of any conventional form.

On top of the frame work thus far described I provide a super-structure including a spreader 16, a shell 17 for the same and a roof 18. The spreader 16 has a flat bottom 19 with a central perforation and a flange 21 fitting on the tube 9 and is formed with a conical top 22. The shell 17 surrounds the spreader and is similar in form but somewhat larger in dimensions so as to be spaced from the spreader and to allow products of combustion to pass along the bottom of the spreader outwardly to turn around the edge and move centerwise along the wall toward the top and to be discharged into the stack 23. The bottom 24 of the shell is formed with a central hole 26 somewhat smaller than the wall 12 so as to allow the bottom 24 to rest on the latter while a concentric ring 27 allows the shell to be centered relative to the cylinder 12. The spreader and the shell are held in properly spaced relation by means of spacing elements 31.

The whole device is surmounted by the conical roof 18 supported in spaced relation relative to the shell by means of spacing elements 32 resting on small lugs 33 projecting outwardly from the bottom plate 24 of the shell.

Short pieces of pipe 34 connect the inside of the spreader with the outside of the shell so as to allow heated air to escape from the interior of the spreader toward the roof 18 without coming in contact with the products of combustion passing between the spreader and the shell.

The operation of my stove may be readily understood from the foregoing description.

When the burners 15 are lit air is drawn through the perforations 13 of the frusto-conical wall 7 and the perforations 14 of the plate 6 to support combustion. The products of combustion rise between the tube 9 and the cylinder 12 until they strike the bottom of the spreader 16. They are then deflected to assume radial direction while in intimate contact with the spreader until they reach the edge of the bottom plate whereupon they again move centerwise in intimate contact with the spreader and finally escape through the chimney 23.

The heating of the spreader causes air to

rise therein and new air to be drawn in from below the floor 3 through the tubes 1 and 9. This new air is heated while rising through the two tubes and absorbs additional units while within the spreader 16 whereupon it is discharged through the pipes 34 into the space below the roof 18 whence it is deflected downwardly and discharged into the space immediately surrounding the stove and occupied by the chicks. This heated air again is drawn upon by the burner in the manner previously described so that constant circulation is kept up and the chicks are provided with a continuous supply of fresh and heated air.

Having described my invention what I claim is:—

1. In a brooder stove, a vertical tube, a spreader having a flat bottom and a conical top communicating with the upper end of the tube, a burner surrounding the latter, means surrounding the burner and the spreader allowing air to enter below the burner and guiding the products of combustion around the spreader in intimate contact therewith for discharge above the spreader and means allowing air entering through the tube into the spreader to escape through the top thereof without coming in contact with the products of combustion.

2. In a brooder stove, a vertical tube, a spreader having a flat bottom and a conical top communicating with the upper end of the tube, a burner surrounding the latter, means surrounding the burner and the spreader allowing air to enter below the burner and guiding the products of combustion around the spreader in intimate contact therewith for discharge above the spreader and means allowing air entering through the tube into the spreader to escape through the top thereof without coming in contact with the products of combustion, in combination with a roof guiding the heated atmospheric air downwardly.

3. In a brooder stove, a vertical tube, a spreader having a flat bottom and a conical top communicating with the upper end of the tube, a burner surrounding the latter, a shell surrounding the burner and the spreader allowing air to enter below the burner and guiding the products of combustion around the spreader in intimate contact therewith for discharge above the spreader and pipes passing through the wall of the spreader and the shell allowing air entering through the tube into the spreader to escape there-through without coming in contact with the products of combustion.

4. In a brooder stove, a vertical tube, a spreader having a flat bottom and a conical top communicating with the upper end of the tube, a burner surrounding the latter, a shell surrounding the burner and the spreader allowing air to enter below the burner and guiding the products of combustion around the spreader in intimate contact therewith for discharging above the spreader and pipes passing through the wall of the spreader and the shell allowing air entering through the tube into the spreader to escape there-through without coming in contact with the products of combustion in combination with a roof guiding the heated air downwardly.

5. In a brooder stove, a raised floor, a vertical tube extending thereinto and fastened relative thereto, a perforated plate surrounding the tube, a frusto-conical perforated wall supporting the plate in spaced relation to the tube, a second tube telescoped on the first tube and resting on the plate, a cylindrical element resting on the rim of the plate in spaced relation to the second tube and a burner above the plate between the second tube and the cylindrical element.

6. In a brooder stove, a raised floor, a vertical tube extending thereinto and fastened relative thereto, a perforated plate surrounding the tube, means engaging the rim of the plate for supporting the same, a second tube resting on the plate and telescoped on the first tube and a cylindrical element resting on the rim in concentric relation with the second tube the plate being provided with annular collars for centering both the second tube and the cylindrical element.

7. In a brooder stove, a vertical tube a spreader communicating with the upper end thereof, a burner surrounding the tube, means surrounding the burner and the spreader allowing air to enter below the burner and guiding the products of combustion around the spreader in intimate contact therewith for discharge above the spreader and means allowing air entering through the tube into the spreader to escape through the top thereof without coming in contact with the products of combustion.

In testimony whereof I affix my signature.

FREDERICK FRENGLE.