May 22, 1928. 1,670,872

A. ZACHARIAS

VENTILATING SYSTEM FOR STOCK BUILDINGS

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Fig. 1

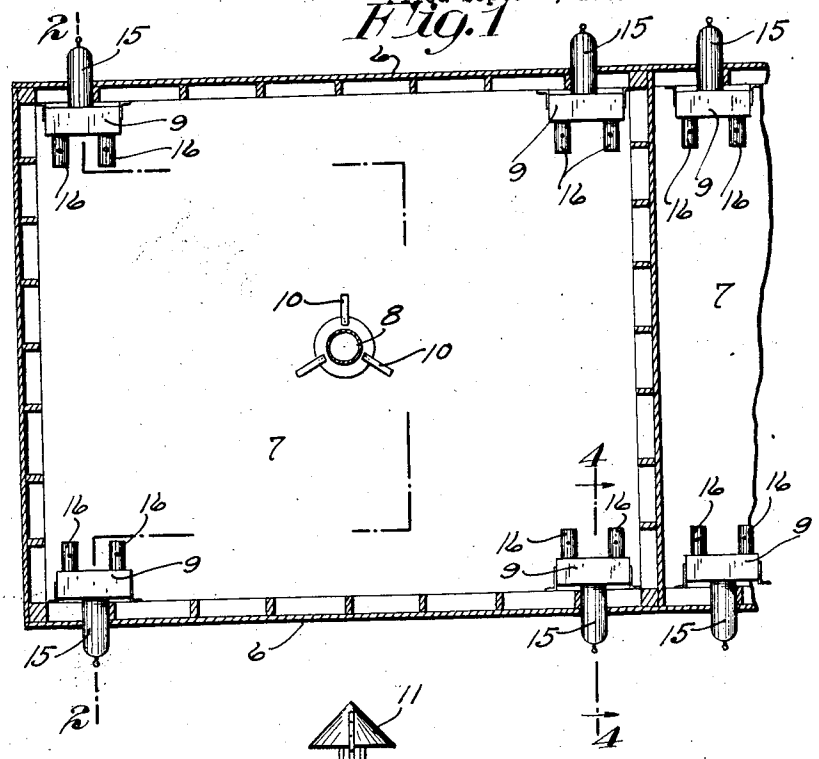
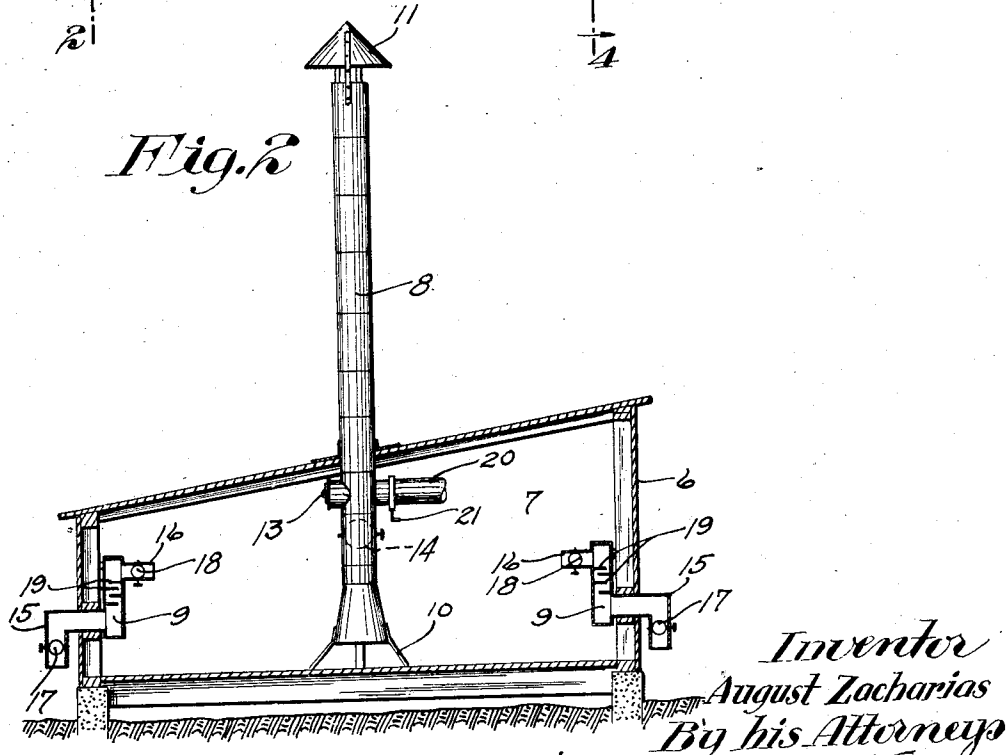


Fig. 2



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Fig. 3

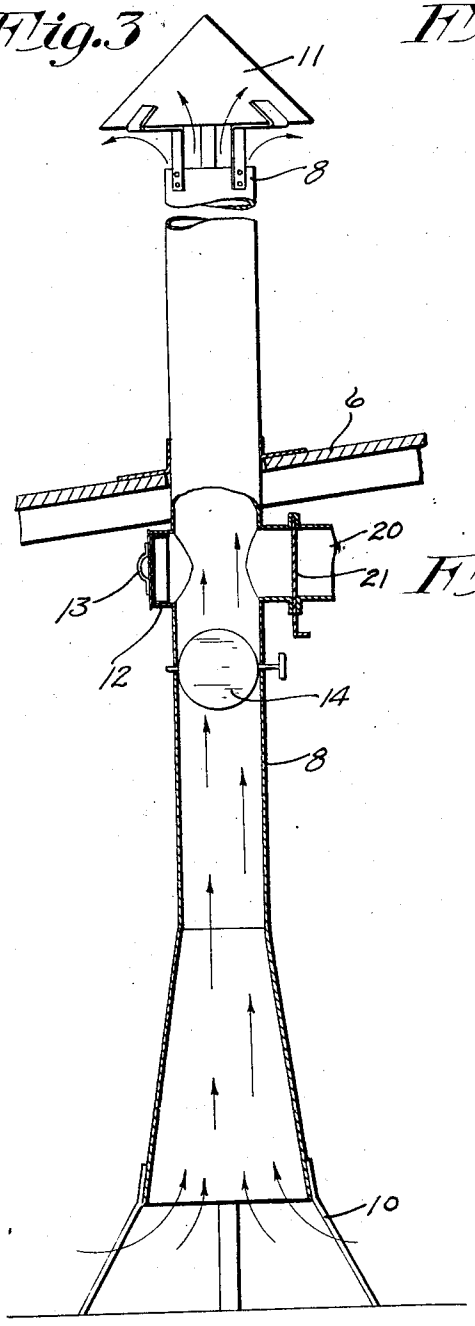


Fig. 5

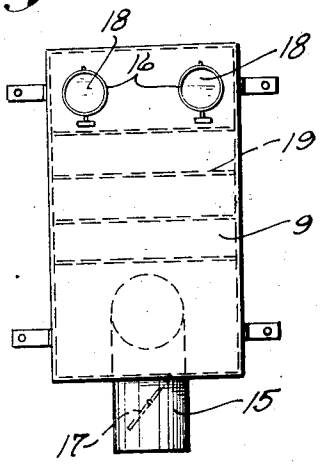
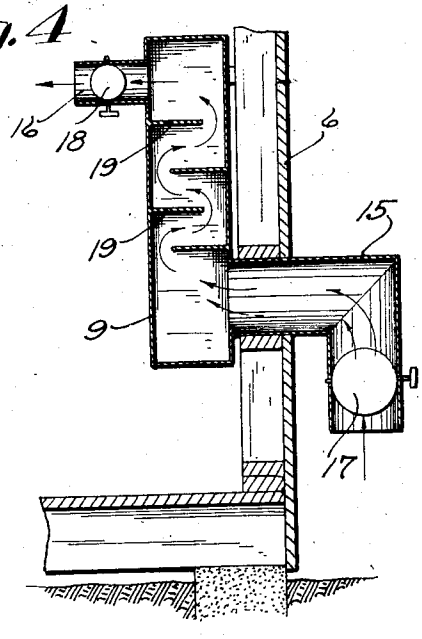


Fig. 4



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UNITED STATES PATENT OFFICE.

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VENTILATING SYSTEM FOR STOCK BUILDINGS.

Application filed September 27, 1926. Serial No. 137,944.

My present invention has for its object to provide a highly efficient ventilating system for stock buildings and to this end it consists of the novel construction and arrangement of parts hereinafter described and defined in the claims.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a fragmentary view in horizontal section, showing the invention installed in a chicken coop;

Fig. 2 is a view principally in vertical section, taken on the irregular line 2—2 of Fig. 1;

Fig. 3 is a view of the ventilating stack, partly in longitudinal central section and partly in side elevation;

Fig. 4 is a view in vertical section taken on the irregular line 4—4 of Fig. 1, on an enlarged scale; and

Fig. 5 is an elevation of the air intake box as shown in Fig. 4.

The numeral 6 indicates a building divided into chicken coops 7, only one of which is shown in full. The ventilation of each coop 7 is independent of the other and each system includes a stack 8, located in the center of the coop 7, and, as shown, four fresh air intake boxes 9, located, one in each corner of said coop. The lower end of the stack 8 is open and supported just above the floor of the coop 7 on legs 10. Said stack 8 extends through the roof of the coop 7 to a considerable distance thereabove in order to produce the necessary draft to draw the foul and damp air out of said coop.

The lower or intake end portion of the stack 8 has a much larger air conducting capacity than the balance of the stack 8, so that the foul and damp air is slowly taken into said stack without creating any noticeable draft. A cap 11 is attached to the stack 8 and supported above the discharge end thereof to prevent rain and snow from entering said stack and also to prevent wind from blowing down into the stack 8.

Formed in the stack 8 just under the roof of the coop 7 is a short lateral hot air intake pipe 12 having a displaceable closure cap 13. A damper 14 is mounted in the stack 8 below the hot air intake pipe 12.

Each fresh air intake box 9, as shown, is secured to the inside wall of the coop 7 and is provided with a fresh air intake pipe 15 and two fresh air discharge pipes 16, located above said intake pipe. The air intake pipe 15 extends outward through the wall of the coop 7 and has a downturned receiving end to prevent rain or snow from entering the same. A damper 17 is mounted in intake pipe 15, and a damper 18 is mounted in each discharge pipe 16.

The two discharge pipes 16, which open directly into the coop 7, are laterally spaced, the one from the other, and have substantially the same air conducting capacity as the intake pipe 15. Mounted in each air intake box 9, is a plurality of staggered baffle plates 19, arranged to cause the air passing through said box into the coop, same to travel a zigzag course. The air capacity of each box 9 is relatively large in respect to the intake pipe 15. Obviously the damper 17 is operable from the outside of the building 6 and the dampers 18 are operable from the inside of the coop 7.

The stack 8 is also provided with a short radial pipe extension 20 having a slide damper 21 and to which extension may be attached an exhaust fan, not shown. Said extension is located substantially diametrically opposite the hot air intake opening 12. The use of an exhaust fan for the stack 8 would preferably be used only when the building is provided with a cupola.

When a building in which the ventilating system is installed has double walls, the fresh air boxes 9 may be placed between said walls. By the use of the damper 14 the discharge of the foul, damp air from the coop 7 may be controlled. The dampers 17 and 18 may be operated to control the supply of fresh air taken into the coop 7. In summer time the cap 13 may be removed to draw off the hot air at the top of the coop 7 to lower the temperature in said coop.

The ventilating system is designed to keep the coop 7 supplied with an abundance of fresh air and remove the foul, damp air therefrom without creating any draft in the coop 7. The baffle plates 19 will cause the fresh air to travel slowly thru the boxes 9 and quietly enter the coop 7.

By the use of the improved ventilating system the heat in the coop 7 is conserved, and as is well known, when a coop is properly heated and ventilated, less feed is required for the chickens and they are kept in better health.

What I claim is:

1. The combination with a building, of a fresh air box having an intake passage leading from the outside of the building and two discharge passages leading into the building above the intake passage and baffle plates in the box between the intake passage and discharge passages and arranged to cause the air to travel a zigzag course through the box, each of said passages having an air conducting capacity materially less than that of the box.

2. The structure defined in claim 1 in further combination with a damper for each of said passages.

3. The structure defined in claim 1 in further combination with a damper for each of said passages, the damper for the intake passage being operable from the outside of the building and the dampers for the discharge passages being independently operable from the inside of the building.

In testimony whereof I affix my signature.

AUGUST ZACHARIAS.