

June 28, 1932.

V. R. ROSTEK

1,864,555

VENTILATOR

Filed Oct. 26, 1931

2 Sheets-Sheet 1

Fig. 1.

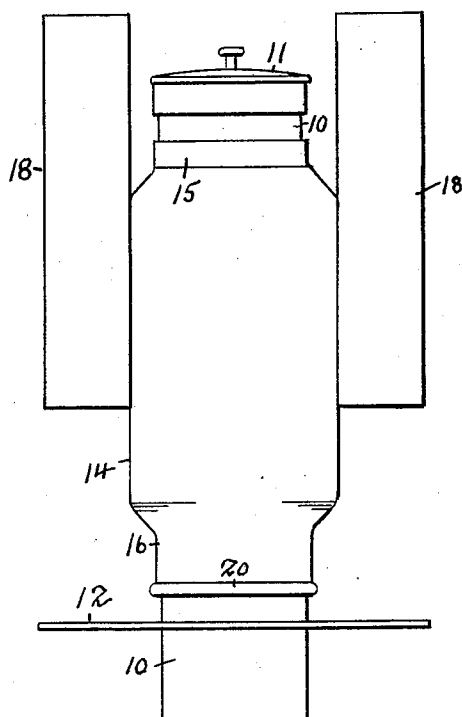


Fig. 3.

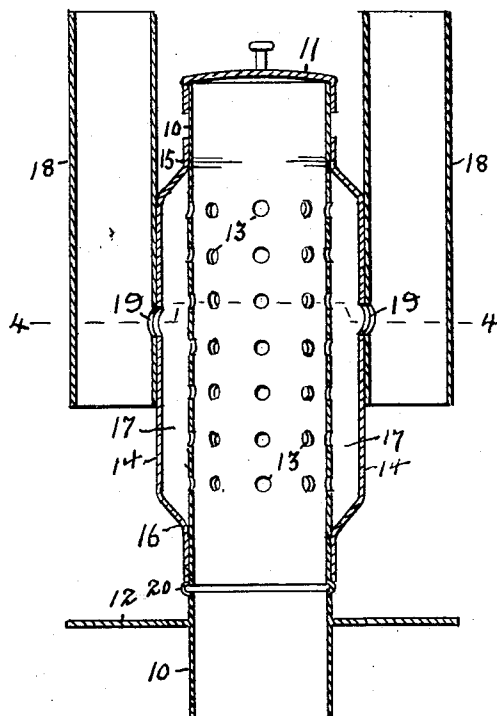


Fig. 2.

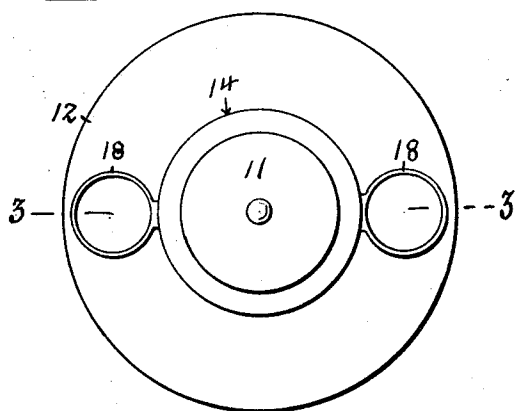
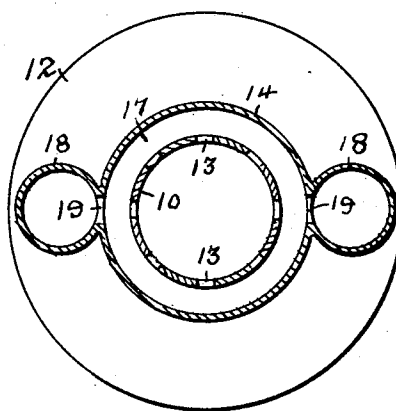


Fig. 4.



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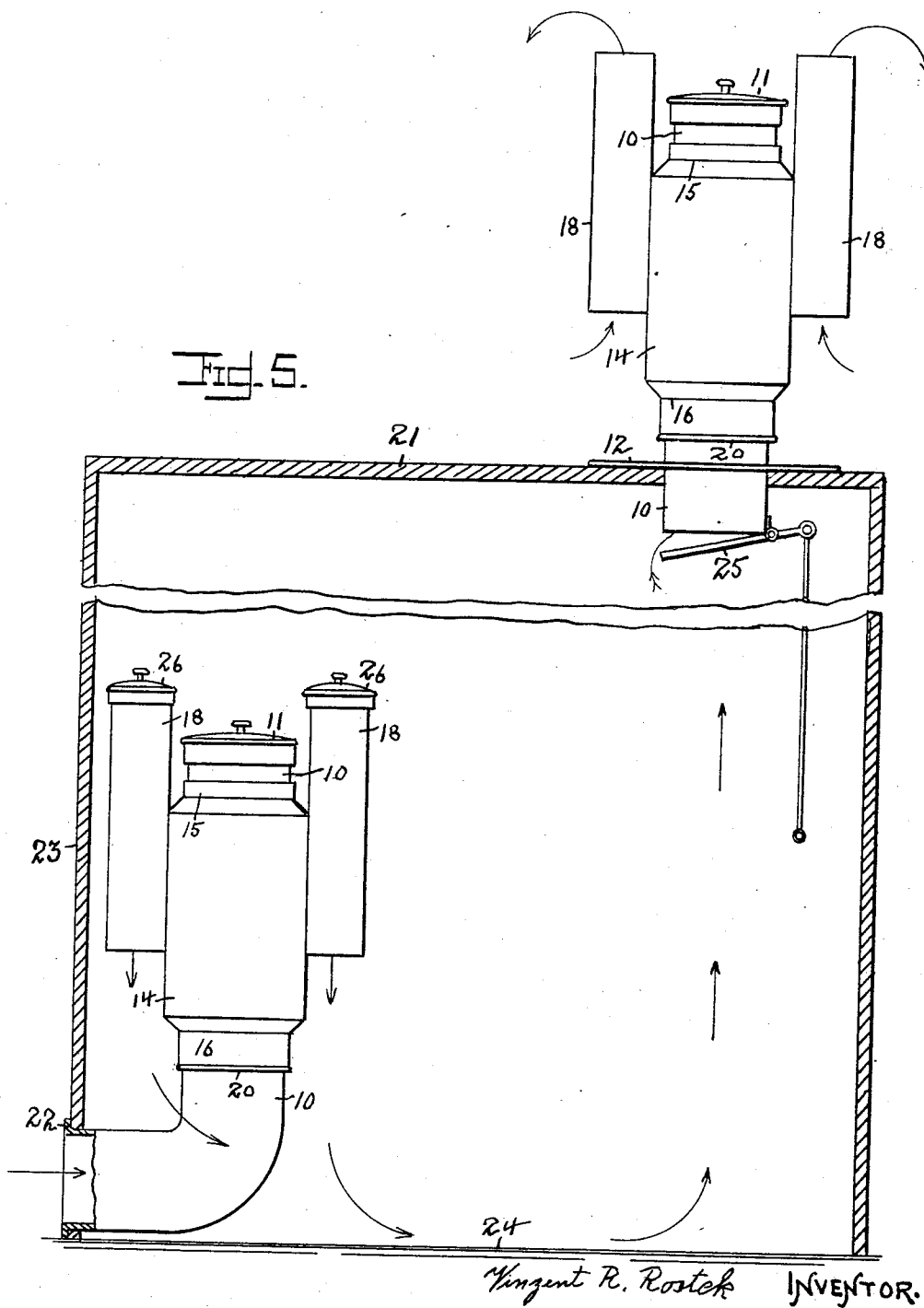
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FIG. 5.



UNITED STATES PATENT OFFICE

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This invention relates to ventilating apparatus, more particularly to apparatus of this character for preventing the escape of sparks, cinders and other foreign matter from buildings in which heating plants are installed, and has for one of its objects to provide an apparatus of this character adapted to be associated with poultry brooder houses or incubators, and other low farm buildings, in which the fuel for heating is generally wood, straw and the like, and from which sparks, burning soot, and the like are usually driven into and through the chimney, and wherein such foreign matter is eliminated and prevented from escaping into the air.

Another object of the invention is to provide a device of this character which may be adapted to buildings of various kinds and to buildings for various purposes, without material structural change either in the apparatus or in the building.

Still another object of the invention is to provide two separate and distinct devices, one to purify the air entering the building and the other to purify the air discharged from the building.

With these and other objects in view, the invention consists substantially in the construction herein described and claimed, and as illustrated in the accompanying drawings in which:

Figure 1 is a side elevation of the apparatus.

Figure 2 is a plan view thereof.

Figure 3 is a vertical section on the line 3-3 of Fig. 2.

Figure 4 is a transverse section on the line 4-4 of Fig. 3.

Figure 5 is a sectional elevation of a conventional building with one of the devices arranged to receive the incoming air and another of the devices arranged to receive the outflowing air.

The improved device includes a main flue 10 having a detachable cap 11 and an intermediate roof engaging flange 12, and formed with a plurality of lateral perforations 13. Surrounding the flue 10 above the flange 12 is a shell 14 connected at the ends 15 and 16 to the flue above and below the perforations

13, thereby forming an annular chamber 17 with which the perforations 13 communicate, as shown in Figs. 3 and 4. Attached to the shell 14 are smaller discharge flues 18, two being shown for illustration, but any number may be employed dependent on the size or capacity of the apparatus. One or more perforations 19 provide communication between the chamber 17 and the smaller flues 18.

The main flue 10 is formed with an annular stop bead 20 on which the terminal 16 of the shell 14 rests, as shown; the bead operating to detachably support the shell 14 and the attached flues 18, so that these portions may be removed by drawing them upwardly when the cap 11 is detached. By this means the shell 14 and flues 18 may be easily removed when required to relieve the chamber 14 from any cinders or ashes which may have settled therein.

The improved device thus described serves as a chimney or smoke flue to the building. By this arrangement it will be obvious that the products of the combustion passing into the main flue 10 will be checked or retarded and caused to pass laterally through the apertures 13 into the chamber 14, and thence through the apertures 19 into the smaller flues 18, and thence upwardly through the latter. This retarding of the smoke, cinders and other foreign matter causes the latter to settle into the bottom of the chamber 14, and to fall through the open lower ends of the flues 18, thus cleansing the air from such impurities, and preventing live sparks from escaping through the smaller flues 18, but causing them to settle in the chamber 14 or upon the metal flange 12. The smaller flues 18 being open at both ends, a rapid and free circulation of the air occurs and insures the free upward passage of air and thus accelerates the circulation.

In certain classes of buildings, two of the devices may be employed as shown in Fig. 5; one in the roof indicated at 21, and the other connected at 22 through one of the side walls 23 of the building near the bottom 24. By this arrangement the air inflowing at 23 is purified by passing through the lower device, the impurities separated thereby settling on

the floor 24 while the cleansed air rises toward the roof and passes through the upper device and is further purified by passing therethrough.

5 In this modified arrangement of the apparatus, a controlling damper 25 may be attached to the main flue 10 of the upper device. When employed as shown in Fig. 5, the flues 18 of the lower device will be provided
10 with closure caps 26, so that all the air entering the flues 18 will be directed downwardly as shown by the arrows.

Having now described my invention, that which I claim to be new and desire to secure
15 by Letters Patent is:

1. A ventilating apparatus comprising a main flue having a closure at the upper end and a plurality of lateral apertures, a shell surrounding the main flue and providing a
20 chamber externally thereof and enclosing said apertures, and discharge flues connected to the shell and communicating therewith.

2. A ventilating apparatus comprising a main flue having a removable closure and
25 with lateral apertures, a shell member surrounding the main flue and detachably supported thereon and enclosing the apertures, and discharge flues carried by the shell and open at the ends and communicating with
30 the shell.

3. A ventilating apparatus comprising a main flue having a closure at the upper end and provided with lateral apertures, a shell surrounding the main flue and providing a
35 chamber externally thereof and enclosing said apertures, discharge flues connected to the shell and communicating therewith, and a damper connected to the main flue.

4. A ventilating system including main
40 conductor flues adapted to be connected into the upper and lower portions of a building, and closed at the upper ends and provided with lateral apertures, a shell enclosing each of said main flues and communicating there-
45 with, and discharge flues connected to said shell and communicating therewith.

In testimony whereof I affix my signature.

VINZENT R. ROSTEK.