

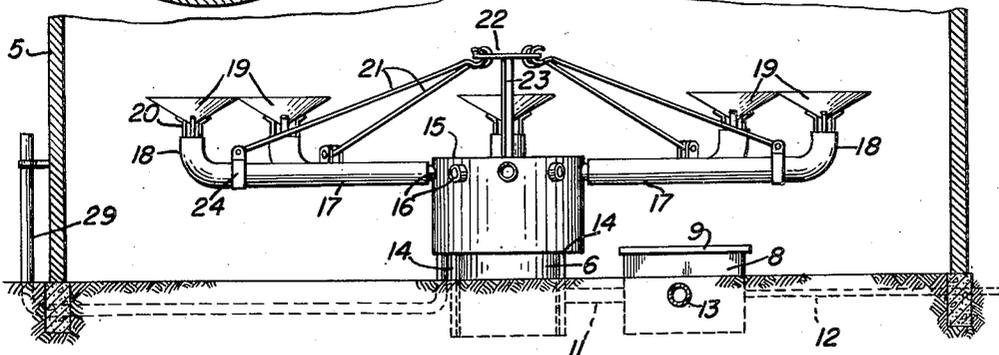
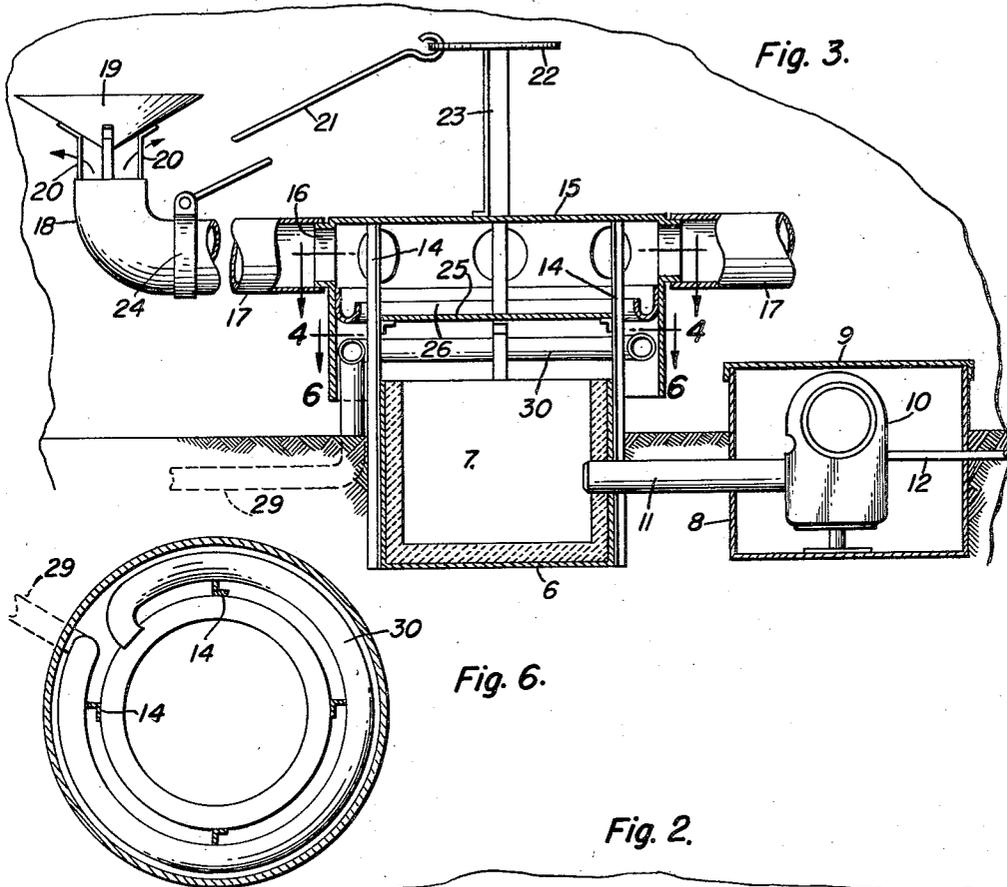
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TOBACCO CURING APPARATUS

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2 Sheets-Sheet 2



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TOBACCO CURING APPARATUS

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4 Claims. (Cl. 263—19)

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This invention relates to tobacco curing apparatus, and more particularly to improved means for heating the air in a tobacco barn and discharging the heated air at spaced points within the lower portion of the barn so as to evenly distribute the heated air therein.

An object of the invention is to provide a very simple and highly efficient heating means of the above kind which is economical to construct and operate, and which employs an oil burner for heating the air which may be thermostatically controlled to uniformly heat the air in the barn to a predetermined temperature.

A heating means embodying the present invention includes an open-top combustion chamber in which a heating flame is produced by a "gun type" oil burner having its burner nozzle extended through one side of said chamber, a hood supported over said chamber and having a circular series of uniformly spaced lateral outlets at the top, the lower portion of said hood being disposed in spaced surrounding relation to the upper portion of said chamber to admit the air to be heated by the burner, similar horizontal flues radiating from and having their inner ends connected to the outlets of the hood and having upturned outer discharge ends, deflectors supported by and disposed over the discharge ends of said flues, and a horizontal baffle supported within the hood between the combustion chamber and said outlets to direct the flame and products of combustion from said chamber outwardly in the hood to the incoming air for effectively heating the latter.

Other objects and features of the invention will be apparent from the following description when considered with the accompanying drawings, in which:

Figure 1 is a horizontal section taken through a barn equipped with a heating means embodying the present invention, said heating means being shown in top plan.

Figure 2 is a vertical section through the lower portion of the barn, showing the heating means in elevation and with certain flues removed.

Figure 3 is an enlarged fragmentary vertical section, partly broken away, taken substantially on the line 3—3 of Figure 1.

Figure 4 is a horizontal section through the hood, taken on the line 4—4 of Figure 3.

Figure 5 is an enlarged fragmentary vertical section, taken on the line 5—5 of Figure 4.

Figure 6 is a horizontal section taken on the line 6—6 of Figure 3.

Referring in detail to the drawings, 5 indi-

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cates a tobacco barn within which tobacco is adapted to be suspended in the usual manner. An open top combustion chamber 6, having a refractory lining 7, is disposed centrally of and within the lower portion of the barn and is preferably set in a recess provided in the barn floor as shown. A housing 8 having a removable cover 9 is disposed near and at one side of the chamber 6 and is also preferably set in a recess provided in the barn floor. Mounted within the housing 8 is the motor-driven blower 10 of a "gun type" oil burner whose burner nozzle 11 extends through a side of the housing 8 and projects into the chamber 6 through the adjacent side of the latter. Fuel oil is supplied to the burner through a pipe 12 from a tank (not shown) located outside the barn, and air for the burner is supplied to the housing 8 through a pipe 13 that extends to a point outside the barn. Posts 14 are mounted about the chamber 6 and support a cylindrical hood 15 above the latter with the lower portion of said hood disposed in spaced surrounding relation to the upper portion of said chamber to admit air to be heated by the burner. The hood has a circular series of uniformly spaced radial or lateral outlet nipples 16 at the top, and the inner ends of similar horizontal or radial flues 17 are connected to these nipples. The flues have upwardly extending outer discharge ends 18, and inverted conical deflectors 19 are supported over these ends of the flues by brackets 20 to spread the heated air discharged from the flues. The flues are held in place by outwardly inclined guy members or rods 21 having their inner ends connected to a plate 22 mounted on the upper end of a post 23 fixed to and extending upwardly from the top of the hood 15, and having their outer ends connected to bands 24 clamped about the flues near their outer ends. A horizontal baffle 25 is supported by the posts 14 centrally of and within the hood between the top of the combustion chamber 6 and the outlet nipples 16 to direct the flame and products of combustion from the burner outwardly in the hood to the incoming air for effectively heating the latter. In practice, it will be apparent that the air in the barn will be circulated so as to pass into the hood for being heated and to then be discharged upwardly from the flues at spaced points within the barn while being spread laterally to evenly heat the tobacco. As the air cools, it returns to the lower portion of the barn and passes into the hood for being reheated. By thermostatically controlling the burner in a conventional way, the desired tem-

perature may be attained and maintained within the barn.

Secured on the inner surface of the hood between the baffle 25 and the nipples 16 is an annular water trough 26 having a filling spout 27 located outside the hood and provided with a hinged lid 28. Water supplied to this trough will desirably moisten the heated air in its passage to the flues. Excess heated air and smoke may be conducted from the hood to the exterior of the barn through a damper-controlled conduit 29 having an end portion 30 opening within and extended about the inner surface of the hood between the top of chamber 6 and the baffle 25. The portion 30 acts as a radiator for heating the air passing upwardly to the outlet nipples 16.

From the foregoing description, the construction, operation and advantages of the invention will be apparent to those skilled in the art.

Having described the invention, what is claimed as new is:

1. A tobacco barn heater comprising an open-top combustion chamber adapted to be positioned centrally of and within the lower portion of the barn, an oil burner having a burner nozzle extending into said combustion chamber through one side thereof, a hood supported over said chamber and having a circular series of uniformly spaced radial outlets at the top, the lower portion of said hood being disposed in spaced surrounding relation to the upper portion of said combustion chamber, horizontal flues radiating from and having their inner ends connected to the outlets of said hood, said flues having upwardly directed outer ends, inverted conical deflectors supported on and disposed over the outer ends of said flues, and a horizontal baffle centrally disposed and supported within the hood below said outlets and above the combustion chamber.

2. A tobacco barn heater comprising an open-top combustion chamber adapted to be positioned centrally of and within the lower portion of the barn, an oil burner having a burner nozzle extending into said combustion chamber through one side thereof, a hood supported over said chamber and having a circular series of uniformly spaced radial outlets at the top, the lower portion of said hood being disposed in spaced surrounding relation to the upper portion of said combustion chamber, horizontal flues radiating from and having their inner ends connected to the outlets of said hood, said flues having upwardly directed outer ends, deflectors supported on and disposed over the outer ends of said flues, and a horizontal baffle centrally disposed and supported within the hood below said outlets and above the combustion chamber, a post fixed on the top of said hood and outwardly inclined guy members connected to and extending between

the upper end of said post and the outer portions of said flues.

3. A tobacco barn heater comprising an open-top combustion chamber adapted to be positioned centrally of and within the lower portion of the barn, an oil burner having a burner nozzle extending into said combustion chamber through one side thereof, a hood supported over said chamber and having a circular series of uniformly spaced radial outlets at the top, the lower portion of said hood being disposed in spaced surrounding relation to the upper portion of said combustion chamber, horizontal flues radiating from and having their inner ends connected to the outlets of said hood, said flues having upwardly directed outer ends, inverted conical deflectors supported on and disposed over the outer ends of said flues, and a horizontal baffle centrally disposed and supported within the hood below said outlets and above the combustion chamber, and a water trough on the inside of the hood between said outlets and the top of said combustion chamber, said trough having a filling spout extending outside the hood.

4. A tobacco barn heater comprising an open-top combustion chamber adapted to be positioned centrally of and within the lower portion of the barn, an oil burner having a burner nozzle extending into said combustion chamber through one side thereof, a hood supported over said chamber and having a circular series of uniformly spaced radial outlets at the top, the lower portion of said hood being disposed in spaced surrounding relation to the upper portion of said combustion chamber, horizontal flues radiating from and having their inner ends connected to the outlets of said hood, said flues having upwardly directed outer ends, inverted conical deflectors supported on and disposed over the outer ends of said flues, a horizontal baffle centrally disposed and supported within the hood below said outlets and above the combustion chamber, and a smoke pipe adapted to have its outer end extend outside the barn and having an inner end portion extending about the inside surface of the hood at a point between said outlets and the top of the combustion chamber.

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