No. 809,645. PATENTED JAN. 9, 1906.

C. H. TREAT.

VENTILATING APPARATUS.

APPLICATION FILED JULY 5, 1904.

2 SHEETS—SHEET 1.

Fig. 3.

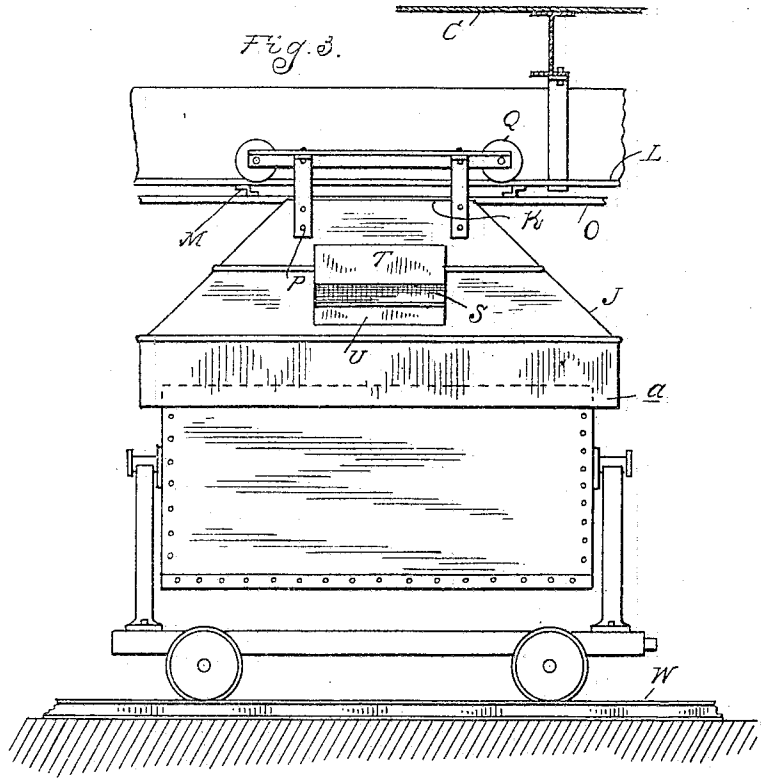
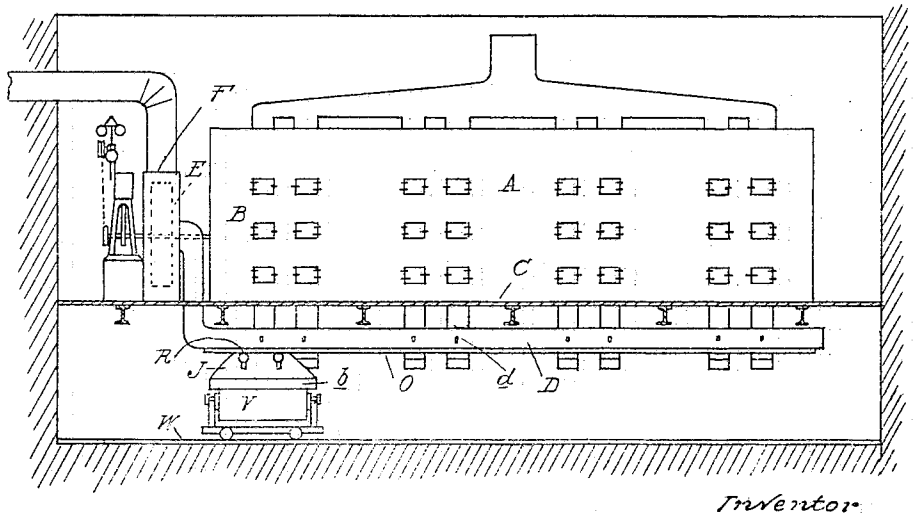


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

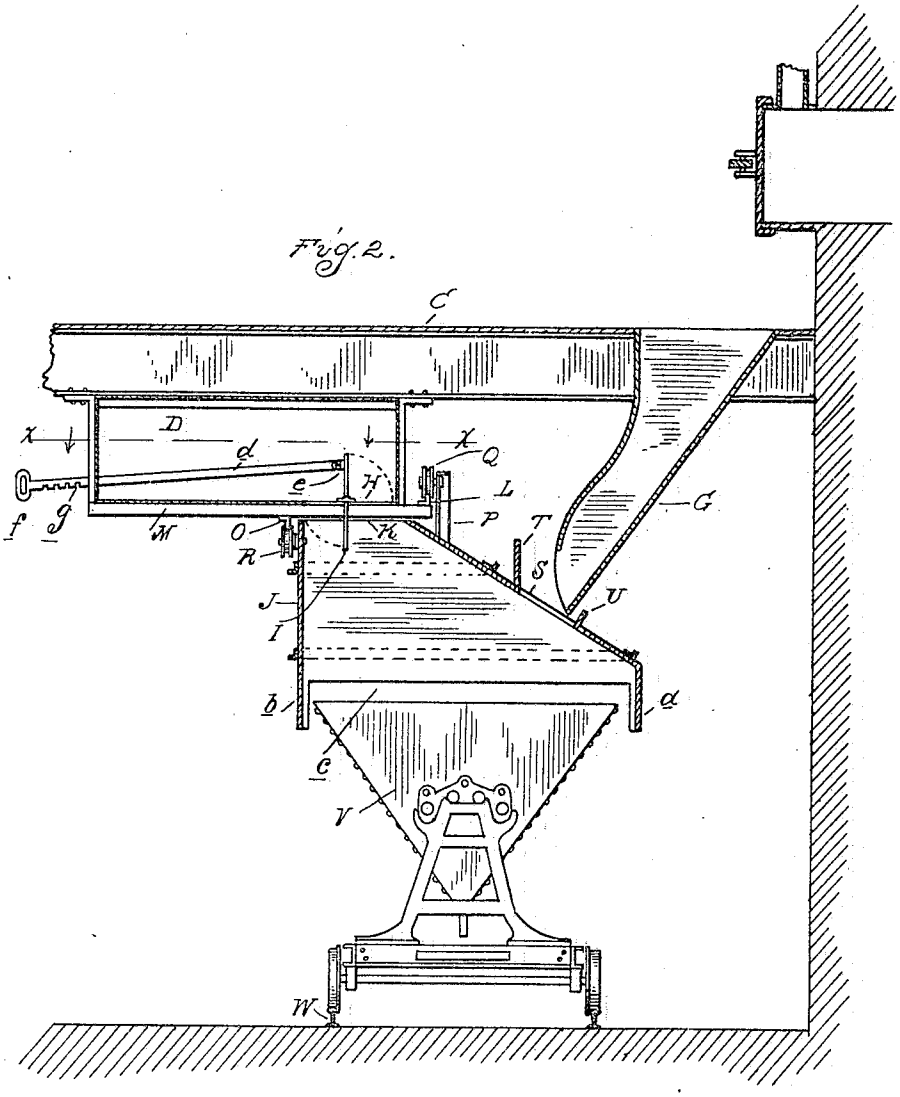
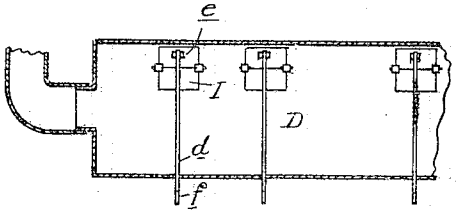


Fig. 4.



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UNITED STATES PATENT OFFICE.

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VENTILATING APPARATUS.

No. 809,645. Specification of Letters Patent. Patented Jan. 9, 1906.

Application filed July 5, 1904. Serial No. 215,269.

To all whom it may concern:

Be it known that I, CHARLES H. TREAT, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Ventilating Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to an apparatus for ventilating factories or similar places where in the course of manufacture obnoxious vapors and gases are necessarily developed; and the invention consists in the peculiar construction of the ventilating means, as will be more fully hereinafter set forth.

In the drawings illustrating my invention I have shown the apparatus as applied to a building designed and equipped for the manufacture of coke, the ventilating means being adapted in this instance to free the building from the gases arising from the bituminous coal when sprayed in the usual manner to check combustion after it attains the condition of coke.

In the drawings, Figure 1 is a view in front elevation of the apparatus. Fig. 2 is an enlarged sectional view. Fig. 3 is an enlarged view, in front elevation, of a portion of the draft-conduit, the hood, and the traveling receptacle; and Fig. 4 is a section taken on line *x x* of Fig 2 looking in the direction of the arrows.

The reference-letter A represents a number of retorts or coking-ovens arranged in the usual manner in gas-houses in a number of vertical series, as B, above a suitable flooring C. Beneath this flooring and connected thereto and extending longitudinally of the series of retorts is an air-conduit D, having means, in this instance in the form of a fan E, for inducing a draft through the conduit to carry away the obnoxious vapors and gases. I have here shown the air-conduit as communicating with the fan-casing F and continuing to and through the side of the building, as shown in Fig. 1, so that the vapors will be discharged outside of the building. Any means may be employed, however, for inducing a draft, and, if convenient, the fan and its casing may be dispensed with and the air-conduit connected directly to the stack, which will produce the necessary amount of draft.

Beneath each vertical series of retorts and extending through the flooring and at some distance below the latter is a coke-chute G, Fig. 2, the several chutes being of uniform length, as indicated. The air-conduit is provided also with a number of inlet-openings, as H, in its lower wall, one opposite each chute, as shown in Fig. 2, and dampers I are preferably employed for controlling these openings.

J represents a hood having an open top K, forming an exit-opening, mounted in this instance beneath the draft-conduit for longitudinal travel. Preferably the hood has traveling connections with the conduit itself, the parts being so arranged that the hood may be moved as desired beneath any of the several inlet-openings H and in operative relation to the corresponding chute G. The means for permitting the longitudinal travel of the hood comprises a track L, mounted upon cross-pieces M, attached to the draft-conduit, a corresponding inverted track O, secured to the lower face of the conduit to one side of the inlet-openings, a double hanger P upon the hood, the grooved rollers Q of which engage the track L, and similar wheels or rollers R upon the opposite side of the hood, two in number and bolted directly to the hood, as shown in Fig. 2, to engage the track O. The hood is further provided with an opening S in its side to admit the contents from the chutes G and is further provided at opposite sides of the opening with the guard-plates T and U to guide the contents from the chutes within the hood.

V represents a receptacle, preferably in the form of a car, mounted upon tracks W for longitudinal travel beneath the air-conduit and hood. The hood, as shown, is provided with the depending portions or sides *a* and *b* so proportioned as to project over the side edges of the car, while the ends *c* of the hood are cut away to allow the car to pass beneath the hood and into operative relation therewith.

The dampers controlling the inlet-openings in the draft-conduit are provided with means for positively actuating the same independently. The preferable operating mechanism is a series of levers *d*, connected, as at *e*, to the dampers, which are pivoted in the conduit midway of their edges. The greater portion of these levers, as shown, are within the air-conduit and project outwardly there-

from, terminating in handles *f* and having formed in their outwardly-projecting portions notches *g*, adapted to engage the wall of the air-conduit to lock the dampers in their open or closed positions.

In the operation of the ventilating mechanism when it is desired to discharge the contents of any of the retorts the car is moved on its track beneath the discharge-chute for the vertical series of retorts of which the contents are to be withdrawn. The traveling hood is then moved over the car in operative relation with the chute, and the damper controlling the inlet in the draft-conduit opposite said chute is opened, the remaining dampers of the series being normally closed. As the coke is discharged through the hood into the car the operator sprays the same in the usual manner to prevent further combustion of the coke, and the gases and vapors thus generated rise upwardly, passing through the exit in the hood into the draft-conduit through the damper-controlled opening H. The draft induced through the conduit either by the fan or stack, as previously set forth, carries the gases and vapors outside of the building, and thus properly ventilates the same.

While a special form of the apparatus has been shown, attention is directed to the fact that various modifications may be made without in any manner departing from the spirit of my invention, and I do not, therefore, wish to be limited to the exact construction illustrated. As a sample of a slight modification where the proper draft is provided the dampers controlling the inlet-openings in the draft-conduit may be entirely dispensed with, the draft being of sufficient strength to prevent the gases from discharging into the building. The hood also under certain conditions may be dispensed with, in which instance the car or other receptacle would be placed more directly beneath the inlet-openings in the conduit. The detachment of the hood may be readily effected by reason of its peculiar and simple connections with the conduit.

What I claim as my invention is—

1. In a ventilating apparatus, the combination with a member having discharge-openings longitudinally thereof, of a draft-conduit having a series of separated inlet-openings extending longitudinally thereof in line with said discharge-openings, a series of dampers controlling the inlet-openings, means for independently operating the dampers, a traveling receptacle movable in operative relation with any one of said conduit-openings and its corresponding discharge-opening, and a hood for the receptacle having openings, one for filling the receptacle from the chute and the other for communicating with the inlet-openings.

2. In a ventilating apparatus, the combination with a draft-conduit provided with a damper-controlled inlet-opening, of a chute adjoining the conduit, and a movable hood adapted to fit over a receptacle to be filled from the chute, the hood having an opening to register with the chute and another affording communication with the conduit through said inlet.

3. In a ventilating apparatus, the combination with a draft-conduit provided with an inlet-opening, of a chute adjoining the conduit, an open-bottom hood having an auxiliary opening in its side registering with the end of said chute to admit the chute contents and an open top registering with the inlet-opening in the conduit, and a receptacle arranged below the open bottom of the hood.

4. In a ventilating apparatus, the combination with a member having discharge-openings, of an air-conduit provided with a corresponding series of inlet-openings, means for inducing a draft through said conduit, and a hood mounted for travel longitudinally of the discharge-openings and conduit and having an exit-opening adapted to be brought in registration with any of the inlets in said conduit.

5. In a ventilating apparatus, the combination of a member having discharge-openings, a substantially horizontal draft-conduit having a series of damper-controlled inlet-openings extending lengthwise thereof, and a hood mounted upon the conduit for longitudinal travel and having an exit-opening adapted to register with any of the conduit-inlets.

6. In a ventilating apparatus, the combination with a series of ovens or retorts, of a series of chutes arranged to receive the retort contents, a draft-conduit having a plurality of damper-controlled inlet-openings corresponding in number to and arranged in line with the chutes, and a traveling hood adapted to be moved into operative relation with any one of the chutes and the corresponding conduit-inlet.

7. In a ventilating apparatus, the combination with a horizontally-extending draft-conduit having a series of damper-controlled inlets formed in its lower wall, of a discharging member having a series of outlets, a receptacle arranged beneath the discharging member and conduit for relative longitudinal travel, and a hood for said receptacle mounted for travel longitudinally of the latter and the conduit, the said hood having openings, one for filling the receptacle from the chute and the other for communicating with the inlets.

8. In a ventilating apparatus, the combination with a discharging member having a series of discharge-openings, of a draft-conduit having a series of inlets corresponding in number to and arranged in line with said discharge-openings, and a traveling hood adapted to fit over a receptacle to be filled from the discharging member, the hood having an

opening to register with the discharge-opening and an opening affording communication with the conduit through said inlets.

9. In a ventilating apparatus, the combination with a series of ovens or retorts, of a series of chutes arranged to receive the retort contents, a draft-conduit having a plurality of inlet-openings corresponding in number to and arranged in line with the chutes, and a traveling hood adapted to be moved into operative relation with any one of the chutes and the corresponding conduit-inlet.

10. In a ventilating apparatus, the combination with a member having discharge-openings, of an air-conduit provided with a corresponding series of inlet-openings, means for inducing a draft through said conduit, a hood mounted for travel longitudinally of the discharge-openings and conduit and having an exit-opening adapted to be brought in registration with any of the inlets in said conduit, and a traveling receptacle movable in operative relation with any one of said conduit-openings and the corresponding discharge-opening.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. TREAT.

Witnesses:
FRANK M. MURDIE,
HARRY M. THOMPSON.