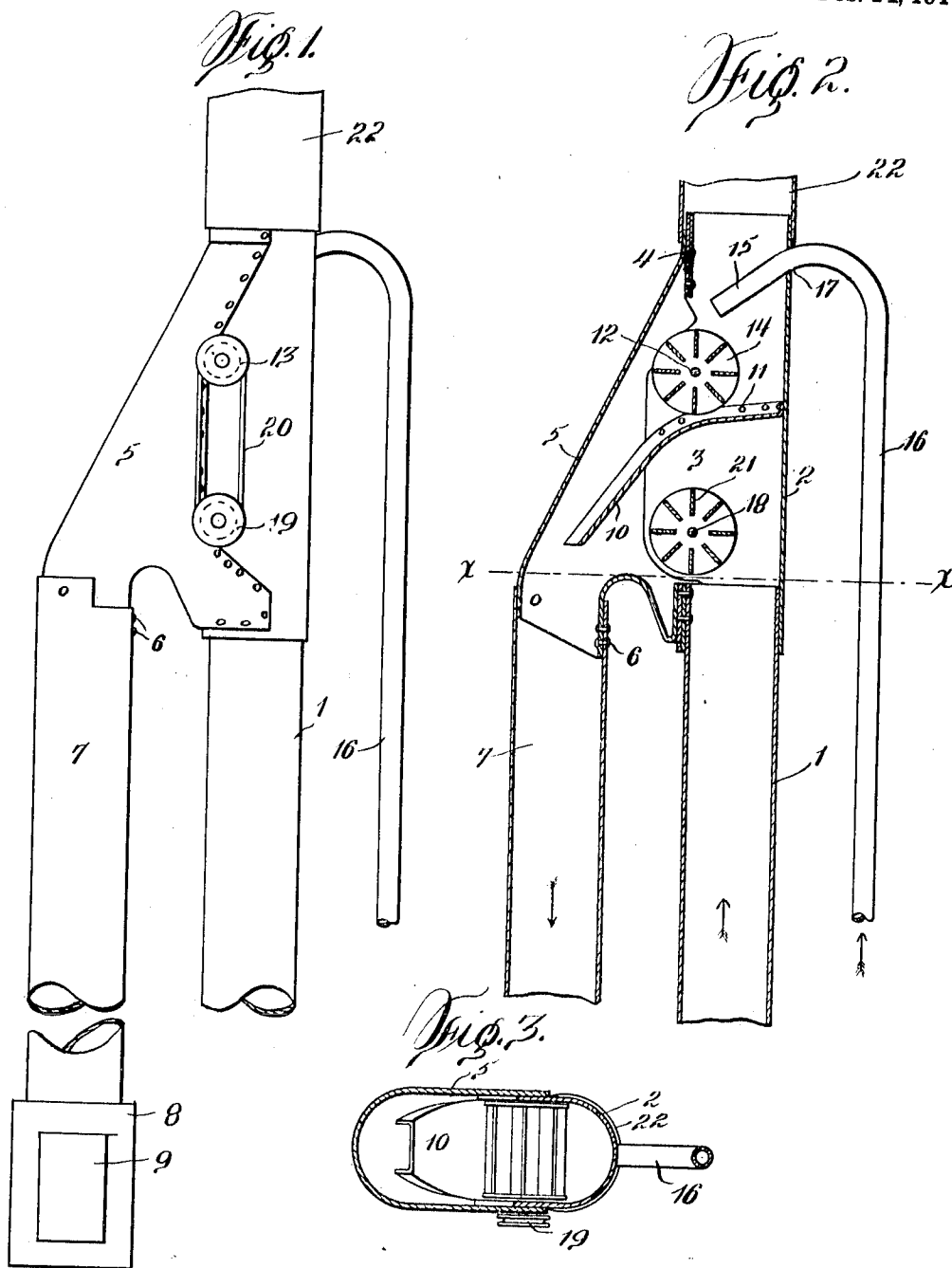


A. F. DIVOK.
SMOKE CONSUMER FOR FURNACES.
APPLICATION FILED SEPT. 23, 1910.

984,360.

Patented Feb. 14, 1911.



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SMOKE-CONSUMER FOR FURNACES.

984,360.

Specification of Letters Patent. Patented Feb. 14, 1911.

Application filed September 23, 1910. Serial No. 583,370.

To all whom it may concern:

Be it known that I, ALEXANDER F. DIVOK, a subject of the Emperor of Austria-Hungary, residing at N. S. Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Smoke-Consumers for Furnaces, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to smoke consumers for furnaces and the object of the invention is the provision of novel means for condensing smoke into solid matter that can be easily removed, thereby preventing property within the vicinity of a smoke stack from being injured by dust, cinders, or other matter.

Another object of the invention is the provision of novel means for exhausting smoke from the stack or chimney and delivering the same in a down pipe into which is sprayed water adapted to condense the gases and moisten small particles of matter, as dust or cinders, that are carried with the smoke.

With these and such other objects in view as may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings wherein there is shown a preferred embodiment of the invention, but it is to be understood that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claim.

In the drawing: Figure 1 is a side elevation of the smoke consumer. Fig. 2 is a vertical sectional view of the same, and Fig. 3 is a horizontal sectional view taken on the line $x-x$ of Fig. 2.

In the drawing, the reference numeral 1 denotes a stack, chimney, or exhaust pipe for smoke and mounted upon the upper end thereof is a cylindrical casing 2 having one side thereof open, as at 3.

Riveted or otherwise connected, as at 4, to the casing 2 and closing the open side 3 is a hood 5, and connected to said hood, as at 6, is a down pipe 7, said down pipe being of a suitable length and communicating with a housing 8 having a door 9. Arranged in the casing 2 and extending into the hood 5 is a curved deflector 10, said deflector hav-

ing the side walls connected, as at 11, to the side walls of the casing 2 and the hood 5.

Revolubly mounted transversely of the casing 2 above the deflector 10 is a shaft 12, said shaft having one end thereof protruding from the casing 2 and provided with a grooved pulley wheel 13. Upon the shaft within the casing 2 is mounted a paddle or bladed wheel 14 constituting a water motor, and water is adapted to be projected against said motor by the angularly disposed spout 15 of a water supply pipe 16, said pipe extending upwardly beside the casing 2 and through an opening 17 provided therefor adjacent to the upper end of the casing 2.

Revolubly mounted in the casing 2 beneath the deflector 10 is a shaft 18 having one end thereof protruding through the casing 2 and provided with a grooved pulley wheel 19. Under this wheel and over the wheel 13 passes an endless belt 20 adapted to impart a rotary movement to the shaft 18 from the motor shaft 12. Upon the shaft 18 within the casing 2 is mounted a suction fan 21 adapted to create a vacuum in the exhaust pipe 1 to convey the contents thereof to the hood 5 and the down pipe 7.

The top of the casing 2 is provided with an exhaust pipe 22 for such gases that might escape from said casing.

In operation, the fan 21 and the deflector 10 convey the smoke and other matter from the exhaust pipe 1 to a point beneath the lower end of the deflector 10 and above the down pipe 7. The water from the motor wheel is carried by the deflector 10 and discharged upon the smoke and matter, condensing the gaseous matter of the smoke and moistening the solid matter, the water conveying the matter to the housing 8, from where it can be removed from time to time by opening the door 9.

What I claim, is:

In a smoke consumer, in combination, a vertically disposed smoke conducting pipe, a vertically disposed smoke and water exhaust pipe, a vertically disposed casing carried by the upper end of said smoke conducting pipe and having an open side, a hood mounted upon the upper end of the smoke and water exhaust pipe and closing the open side of said casing, a receptacle at the lower end of said smoke and water exhaust pipe, an outwardly curved deflector mounted in said casing and extending in said

hood and adapted to deflect water in the
smoke and water exhaust pipe, a suction fan
revolvably mounted on a horizontal axis in
said casing and hood and arranged above
5 and partly over the upper end of said
smoke conducting pipe, said fan positioned
below said deflector, a water motor mounted
on a horizontal axis and arranged in said
casing and hood and positioned above said
10 deflector, a water supply pipe extending in
said casing at the top thereof and having a
downwardly extending inclined spout for
discharging water against said motor to op-

erate it, the shafts of said fans and motors
arranged in vertical alinement and project- 15
ing at one end exteriorly of said casing, and
means mounted upon the projecting ends of
said shafts and exteriorly of the casing for
operatively connecting the shafts together
whereby the fan is driven from the motor. 20

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

ALEXANDER F. DIVOK.

Witnesses:

KARL H. BUTLER,
VICTOR RICHTMANN.