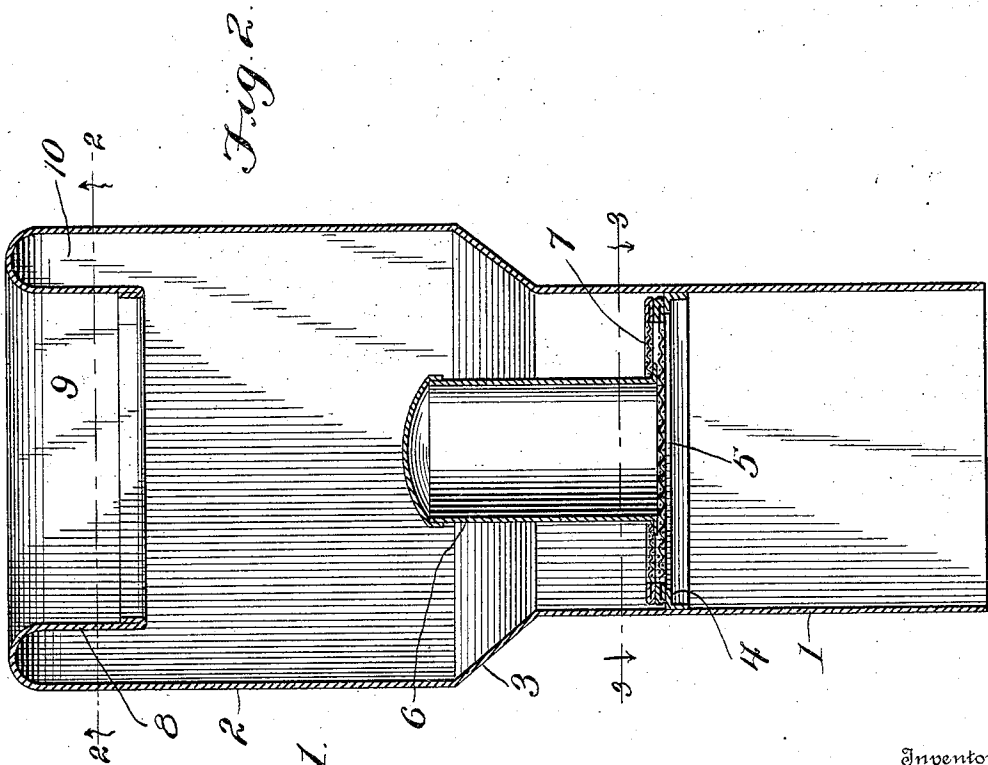
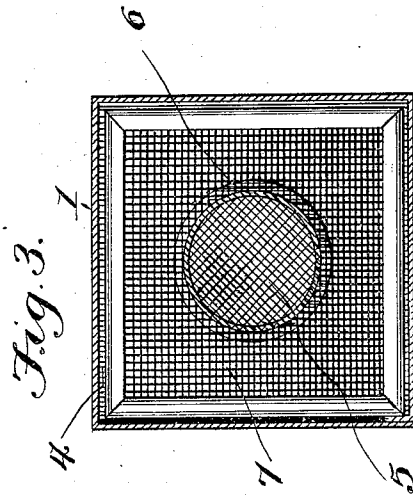
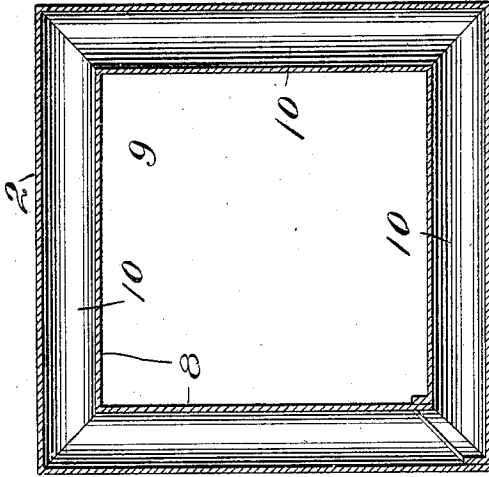


A. KOHN.
SMOKE CONSUMER.
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944,196.

Patented Dec. 21, 1909.



Witnesses

J. T. L. Wright,
C. C. Hines.

Fig. 1.

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

ADOLPH KOHN, OF OMAHA, NEBRASKA.

SMOKE-CONSUMER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ADOLPH KOHN, a citizen of the United States, by first papers only, residing at Omaha, in the county of Douglas and State of Nebraska, have invented new and useful Improvements in Smoke-Consumers, of which the following is a specification.

This invention relates to a smoke consumer, the object of the invention being to provide a simple, reliable, effective and comparatively inexpensive construction of device by which the products of combustion passing through a chimney may be properly retarded and consumed, thus preventing the discharge of smoke and reducing the escape and loss of unconsumed gases to a material extent.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a central vertical section through a smoke consumer embodying my invention. Fig. 2 is a horizontal transverse section through the upper portion of the crown chamber thereof on line 2—2 of Fig. 1. Fig. 3 is a horizontal section on the line 3—3 of Fig. 1.

The smoke consumer comprises a base chamber 1 adapted for connection in any suitable manner with a flue or chimney, and which is preferably square or rectangular in form, as shown. Supported by this base chamber is an upper or crown chamber 2, which is of relatively greater height and diameter than said base chamber. The two chambers are connected by an oblique or angularly arranged neck portion 3, by which the chamber 2 is supported from the chamber 1.

The chamber 1 is provided in its upper portion with an angularly projecting flange or ledge 4 extending around all of its sides, and upon which rests a removable screen diaphragm 5. Secured to and supported by this screen diaphragm, which may be of any desired mesh, is a dome 6 which projects upwardly into the lower portion of the chamber 2 and is open at its lower end for communication through the screen with the lower portion of the chamber 1, but is closed at its upper end against communication with the chamber 2. An annular supplemental screen 7 may be provided to rest upon the

screen 5 and inclose the base of the dome 6, to form a more effective barrier to the upward passage of sparks and other unconsumed articles of fuel, and this supplemental screen may be of relatively smaller mesh than the screen diaphragm 5.

The smoke, gases and other unconsumed products of combustion from the stove or furnace discharge from the chimney or stack into the base chamber 1, a portion of such products passing upwardly through the center of the screen into the dome 6, in which they are retarded and consumed, while another portion passes upward through both screens into the crown chamber 2. As the portion of the products passing into the chamber 2 through both screens are retarded by the screens, a proportion of the same is consumed by the incandescent gases passing outward therewith, while that portion of the products which finally escapes into the crown chamber 2 is also partially consumed therein in a similar manner.

In order to retard the products within the chamber 2 from immediate escape to the atmosphere and to insure the consumption of the smoke and other unconsumed heavy particles, the said crown chamber is provided at its upper end with an inwardly and downwardly extending flange 8 projecting a determined distance within the chamber to provide a contracted discharge opening 9 and a circulating channel 10 between the same and wall of the chamber. A portion of the products entering the chamber 2, and which remains unconsumed, passes to the top of said chamber, where the gases and other lighter elements discharge through the outlet 9, while the heavier particles enter the channel 10 and circulate around the chamber until they are consumed. Through this process of retarding the products a number of times on their passage through the device, practically all of the heavier combustible elements are consumed, allowing only the light gases to escape through the outlet, while that portion of the heavier particles which remains unconsumed is prevented from discharging by the screens, dome and depending flange of the crown chamber. The flow of the products is further retarded in such manner as to cause a certain portion thereof to return to the stove or furnace and to be consumed therein.

From the foregoing description, taken in

connection with the drawing, the construction and mode of operation of my improved smoke consuming device will be readily understood and it will be seen that a simple, effective and inexpensive type of device of this character is provided.

The screens and dome may be removed through the outlet 9, thus allowing the device to be conveniently cleaned at desired intervals.

Having thus fully described the invention, what is claimed as new, is:—

A smoke consuming device embodying upper and lower chambers, one of greater diameter than the other; the upper chamber being provided with smoke retarding means,

an annular supporting ledge within the lower chamber, a removable screen resting thereon and extending across said lower chamber, a dome having a flanged lower end resting on said screen and of less diameter than the same and extending into the upper chamber, and an annular auxiliary screen resting upon the first named screen and surrounding the flanged base of the dome.

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

ADOLPH KOHN.

Witnesses:

SAM NEUMAN,
ARCHIE COHEN.