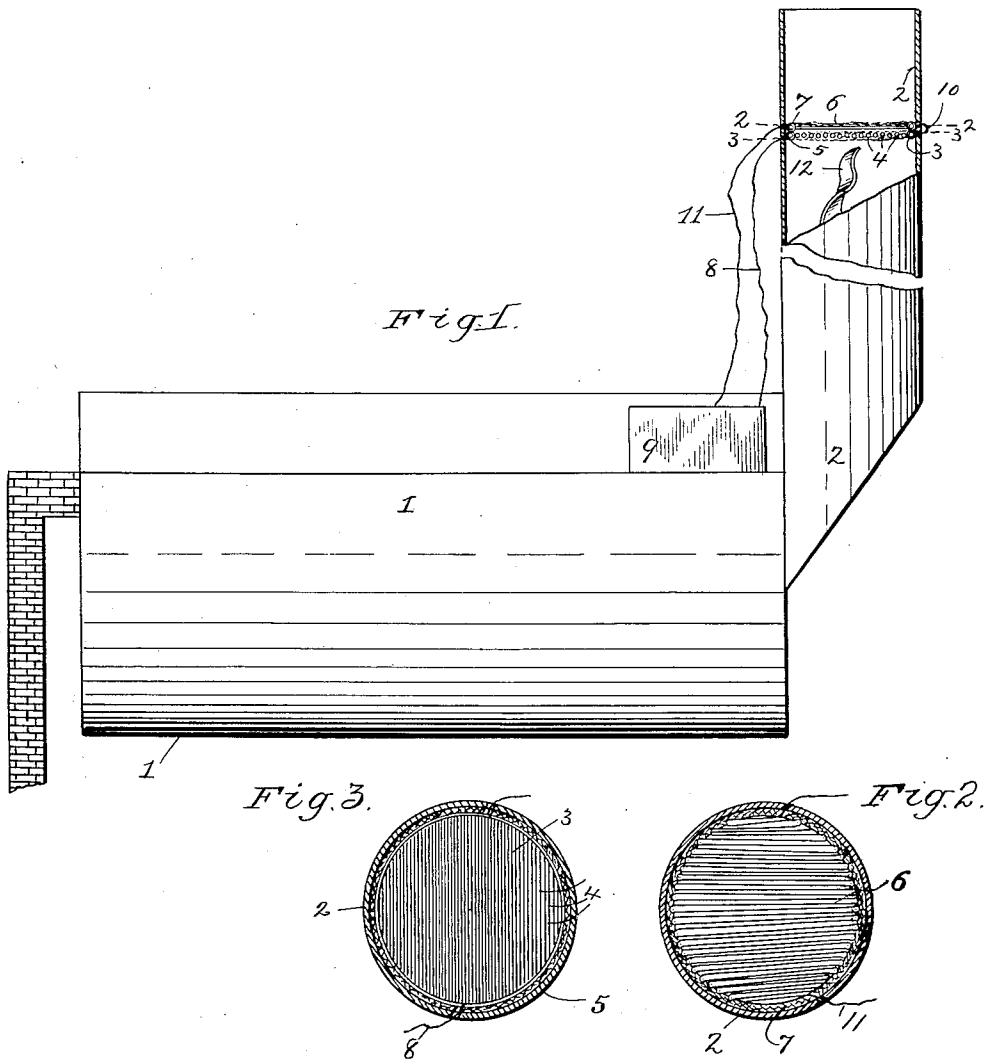


No. 839,797.

PATENTED DEC. 25, 1906.

J. T. WOOD.
SMOKE CONSUMER.
APPLICATION FILED APR. 19, 1906.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN T. WOOD, OF VANWINKLE, MISSISSIPPI.

SMOKE-CONSUMER.

No. 839,797.

Specification of Letters Patent.

Patented Dec. 25, 1906.

Application filed April 19, 1906. Serial No. 312,599.

To all whom it may concern:

Be it known that I, JOHN T. WOOD, a citizen of the United States, residing at Vanwinkle, in the county of Hinds and State of Mississippi, have invented certain new and useful Improvements in Smoke-Consumers, of which the following is a specification.

This invention relates to new and useful improvements in smoke-consumers, and especially contemplates a construction in which electricity is employed as an agent for reducing or consuming the products of combustion passing through the stack from a furnace.

The invention aims, primarily, to provide an apparatus for this purpose which shall be simple in construction, inexpensive to manufacture, and readily applied to any type of furnace and which shall at the same time perform its function with a maximum degree of effectiveness. Thus it is the general consideration of the invention to promote an advance in the art by the elimination of specially-constructed furnaces and complicated mechanical devices which have heretofore been employed for the same purpose, but not with marked success.

The detailed construction will appear in the course of the following description, reference being had to the accompanying drawings, forming a part of this specification, like numerals designating like parts throughout the several views, wherein—

Figure 1 is a side elevation showing a furnace equipped with a smoke-consuming device constructed in accordance with my invention. Fig. 2 is a section on the line 2 2 of Fig. 1, and Fig. 3 is a section on the line 3 3 of Fig. 1.

In the practical embodiment of my invention, 1 designates a furnace of conventional form which is provided at one end with a smoke-stack 2, through which the unconsumed products of combustion egress from the furnace. Disposed within the stack 2 is a foraminous plate 3, comprising a plurality of fine platinum wires 4, severally having electrical connection with one another and supported from an asbestos insulating-ring 5 adjacent to inner circumference of the stack 2. A second foraminous plate 6 is mounted in the stack 2 in superposed relation to the plate 3 and comprises a flat coil of fine

platinum wire having a tortuous arrangement. The plate 6 is insulated from the stack 2 by a supporting asbestos ring 7, similar in construction to the ring 5. A wire 8 leads from batteries 9 to the plate 3 and the current passing through said plate next passes into the tortuous wires of the plate 6 through wire 10. From the plate 6 the current returns to the battery by wire 11. It is of course understood that the stack 2 is pierced adjacent the plates 3 and 6 to permit the passage of the several wires therethrough.

The plates 3 and 6 being of fine platinum wire are designed to be heated to a white heat. Ordinarily the products of combustion will be consumed by the plate 3; but any products escaping the plate 3 will impinge upon the plate 6, and this plate is arranged to offer greater resistance to the current, so that a greater heat will be generated therein to consume the most refractory particles of combustion.

For the purpose of assuring the impingement of the unconsumed products upon the foraminous resistance-plates a series of curved or spiral wings 12 are arranged within the stack 2 beneath the plates 3 and 6. These wings serve to give the unconsumed products a circuitous direction of travel in order that they may strike the plates 3 and 6 at an angle and be more effectually consumed thereby.

Having fully described my invention, I claim—

1. In a smoke-consumer the combination with the smoke-stack of a furnace, of a foraminous resistance-plate disposed therein and insulated therefrom, and means for electrically heating said resistance-plate.

2. In a smoke-consumer, a foraminous resistance-plate disposed within the smoke-stack of a furnace and insulated therefrom, means for electrically heating said plate, and means for imparting to the products of combustion a circuitous direction of travel toward said plate.

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

JOHN T. WOOD.

Witnesses:

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