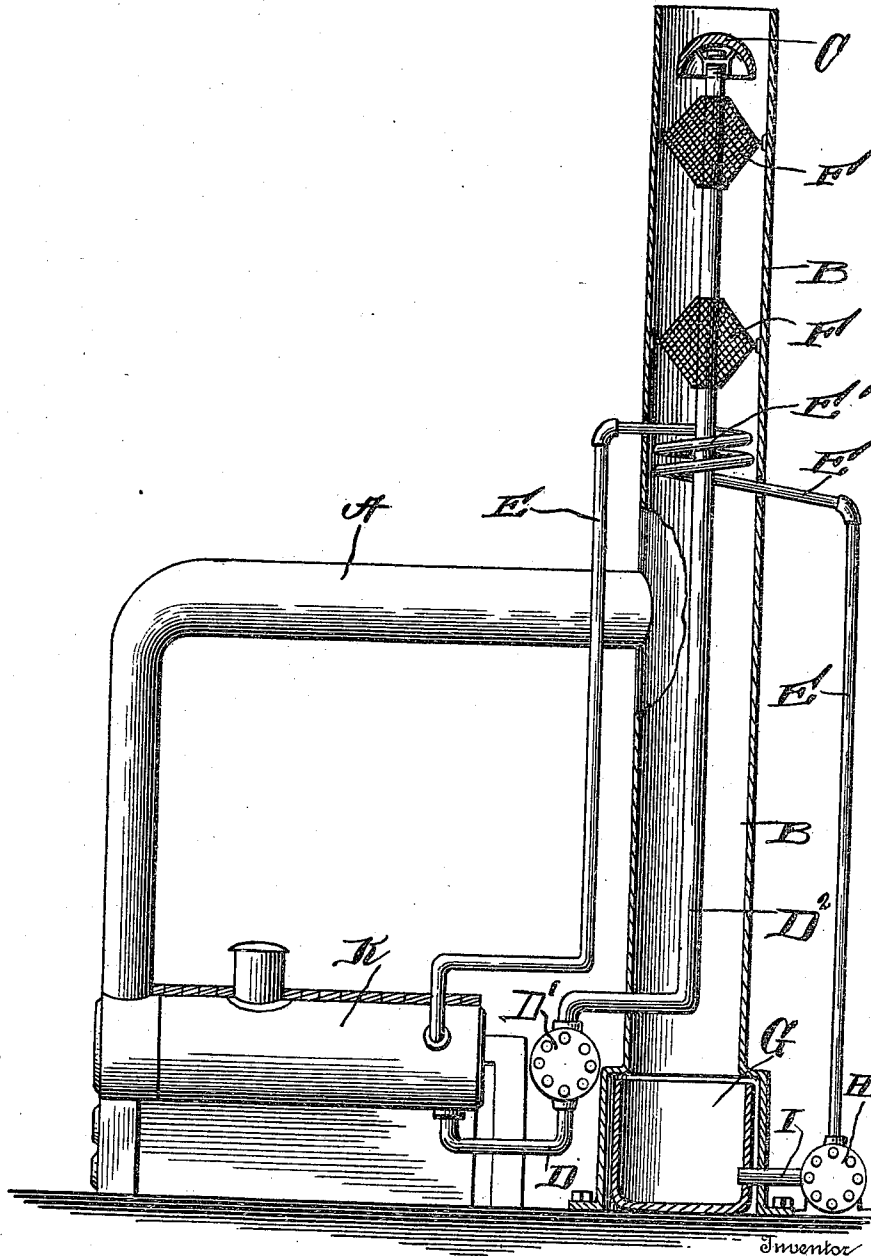


E. T. JENKINS, DEC'D.
A. R. CLARK, EXECUTRIX.
SMOKE STACK.

APPLICATION FILED NOV. 18, 1908. RENEWED NOV. 10, 1909.

963,208.

Patented July 5, 1910.



Witnesses

R. H. Brownell
A. L. Hough

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UNITED STATES PATENT OFFICE.

ANNAH ROCKHILL CLARK, OF SPOKANE, WASHINGTON, EXECUTRIX OF EDWARD
THOMAS JENKINS, DECEASED.

SMOKE-STACK.

963,208.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed November 18, 1908, Serial No. 463,331. Renewed November 10, 1909. Serial No. 527,308.

To all whom it may concern:

Be it known that EDWARD T. JENKINS, deceased, during his lifetime a citizen of the United States, residing at Spokane, in the
5 county of Spokane and State of Washington, did invent certain new and useful Improvements in Smoke-Stacks; and I, ANNAH ROCKHILL CLARK, executrix of EDWARD T. JENKINS, deceased, do hereby declare the fol-
10 lowing to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to
15 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in smoke consuming apparatus and the object in view is to produce a
20 simple and efficient apparatus of this nature so arranged that dense soot and smoke may be separated by causing water to be sprayed in the smoke pipe to absorb the particles of
25 smoke and cause the same to be precipitated within the smoke stack.

The invention is illustrated in the accompanying drawings in which I have shown a
30 side elevation of the apparatus.

Reference now being had to the details of the drawings by letter, A designates a flue adapted to communicate with the fire chamber of a furnace boiler and opens into the
35 smoke stack B.

K is a boiler and D a pipe communicating with the boiler and extending to and connected with a pump D' which in turn is connected with a pipe D² leading into the
40 smoke stack at any suitable height. At the upper end of the pipe D² is an inverted saucer shaped member C adapted to spray the water as it is forced up through the pipe D². Positioned at any suitable location or
45 locations within the smoke stack are cubical shaped members, designated by letter F, each of which has its outer corners fastened to the interior of the pipe at positions diametrically opposite and an opening is made in diametrically opposite corners through
50 which the pipe D² passes as shown. Posi-

tioned at the lower end of the smoke stack is a tank G in which the water, as it falls from the member C accumulates and a pipe I leads from said receptacle to a pump H
55 through which the water is elevated through the pipe E which enters the smoke stack at any suitable location and is turned into a coil E' where the water may be heated by the waste heat of the pipe and returned to the boiler K.

In operation, the smoke heavily laden
60 with soot passing into the smoke stack will come in contact with the water which is forced through the pipe D², which water trickling down over the wire mesh work
65 of the members F will cause the soot to be absorbed by the water and fall to the tank or reservoir in the bottom of the pipe, thus preventing soot from escaping to the atmosphere. The heavy particles of soot be-
70 ing precipitated from the water will settle in the bottom of the pipe and the water will be pumped back through the pipe E and be reheated by the waste heat, be returned to the boiler and used again.

What I claim to be new is:—

An apparatus for spraying water within a stack for removing cinders, etc., from the products of combustion, comprising, in combination with a furnace and boiler, a smoke
80 stack with a flue forming communication between the latter and said boiler, the lower portion of said smoke stack having an enlarged chambered portion, the lower end of which terminates in flanges and adapted
85 to be held stationary, a tank positioned within said enlarged portion of the stack and underneath a shoulder formed at the upper end of said enlarged portion of the stack, a pump, a pipe communicating with
90 the latter and extending through the wall of the enlarged chambered portion of the stack and said tank, a second pipe leading from said pump, extending upward and passing through the wall of the stack above
95 its point of communication with said flue, said second pipe turned into a coil within the stack, again passing through the wall thereof and communicating with said boiler, a second pump communicating with the
100

boiler, a pipe connected to said second pump
and passing through the stack and extend-
ing upwardly therein through said coil, an
inverted cup fastened over the upper end of
5 said pipe which extends through the coil,
and open mesh work cages mounted upon
the pipe carrying said inverted cup and
above said coil, as set forth.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses. 10

ANNAH ROCKHILL CLARK,
Executrix of the estate of Edward T. Jenk-
ins, deceased.

Witnesses:

E. F. WAGGONER,
H. E. COUGHLIN.