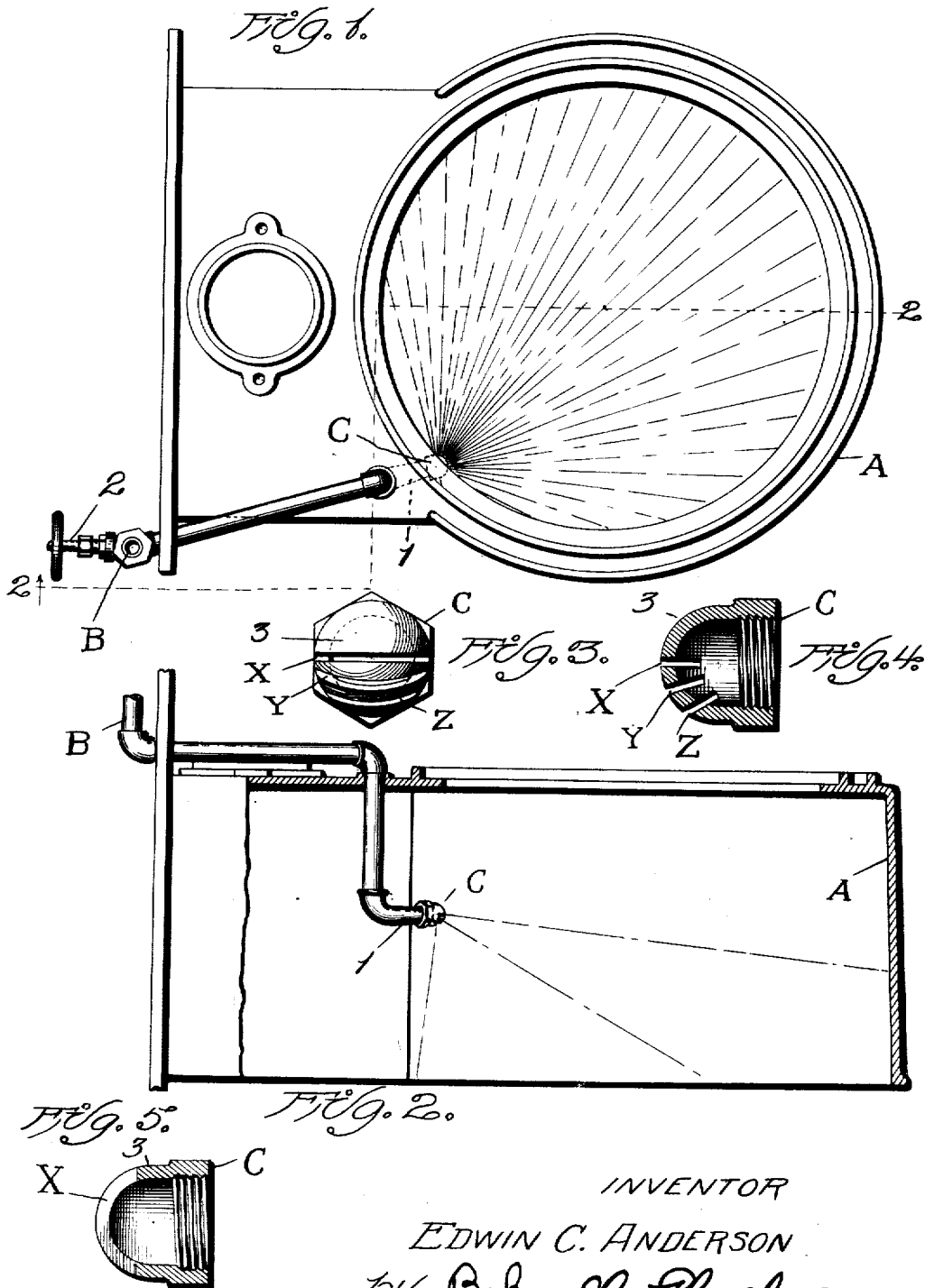


E. C. ANDERSON.
ASH SPRAYING DEVICE FOR FURNACES AND BOILERS.
APPLICATION FILED AUG. 19, 1918.

1,308,613.

Patented July 1, 1919.



INVENTOR

EDWIN C. ANDERSON

by Bakewell & Church ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWIN C. ANDERSON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE BUCK'S STOVE & RANGE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

ASH-SPRAYING DEVICE FOR FURNACES AND BOILERS.

1,308,613.

Specification of Letters Patent.

Patented July 1, 1919.

Application filed August 19, 1918. Serial No. 250,540.

To all whom it may concern:

Be it known that I, EDWIN C. ANDERSON, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Ash-Spraying Devices for Furnaces and Boilers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to devices of the character that are used for spraying or dampening the ashes in the ash box of a furnace or boiler so as to prevent dust from rising when the furnace is being shaken down or when the ashes are being removed from the ash box.

The main object of my invention is to provide an efficient ash spraying device of simple design that will not clog up quickly and which will deliver a spray that extends over substantially the entire area of the ash box of the furnace or boiler on which the device is used.

Figure 1 of the drawings is a top plan view of a furnace ash box equipped with my improved ash spraying device.

Fig. 2 is a vertical sectional view, taken on the line 2—2 of Fig. 1.

Fig. 3 is a front elevational view of the nozzle of said spraying device.

Fig. 4 is a vertical sectional view of said nozzle; and

Fig. 5 is a horizontal sectional view of said nozzle.

Referring to the drawings which illustrate the preferred form of my invention, A designates the ash box of a furnace, B designates a water supply pipe and C designates a nozzle on said pipe that introduces a spray of water into the ash box A so as to dampen the ashes that collect in said ash box. The water supply pipe B can enter the ash box at any desired point, but said pipe is preferably provided with a horizontally-disposed portion 1 located at the front side of the fire box and having the nozzle C mounted on the end of same. In the form of my invention herein illustrated the horizontal portion 1 of the water supply pipe is located at approximately the horizontal center of the ash box, as shown in Fig. 2, and the water supply pipe B is provided with a valve 2 for regulating the flow of water through said pipe.

The nozzle C is so constructed that it delivers a spray over substantially the entire area of the ash box, as indicated by the broken lines in Figs. 1 and 2. Said nozzle is provided with an end wall 3, preferably of substantially semi-spherical shape in outline or form, and one or more slots that extend transversely across the end wall 3. I prefer to provide the nozzle C with a horizontally-disposed slot *x* that extends transversely across the end wall of the nozzle at approximately the horizontal center of same and have said slot extend rearwardly far enough so as to produce a substantially arc-shaped slot, thereby causing the water that is discharged from said slot to spread laterally and form a substantially flat, fan shaped spray which covers approximately the entire area of the ash box. A second slot *y* is formed in the convexed end wall of the nozzle below the slot *x* and this second slot *y* is preferably inclined downwardly slightly, as shown in Fig. 4, so that the spray which emerges from same will be discharged downwardly at a slight angle, instead of horizontally. If desired, the end wall of the nozzle can be provided with a third slot *z* which extends in the same general direction as the slots *x* and *y*, but which is disposed at a sharper angle than the slot *y*. Due to the fact that the slots above referred to are formed in the lower half of the convexed end wall of the nozzle, the upper slot *x* will be of the greatest length, the second slot *y* a trifle shorter and the third slot *z* still shorter.

When the device is in use the three sprays or sheets of water that emerge from the nozzle produce a shower whose effective area covers the entire bottom of the ash box and extends from the front to the rear wall of the ash box and from one side wall to the other, thus causing all of the ashes in the ash box to be thoroughly wet down or dampened. Furthermore, such a nozzle will not clog quickly, due to the fact that the water openings in same consist of one or more slots. In addition to the desirable features above pointed out my improved ash spraying device is inexpensive to manufacture, as the nozzle C of same consists of a single casting in which saw kerfs are formed to produce the water discharge openings. While I prefer to make the end wall of the nozzle substantially semi-spherical-shaped in general outline, this is not essential, so long as said

end wall is of such shape that one or more of the water slots that are formed in same can extend rearwardly far enough to cause the spray to spread out laterally from the sides
5 of the nozzle.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

An ash spraying device for the ash pits or
10 boxes of furnaces and boilers, comprising a

water supply pipe provided with a nozzle having an end wall equipped with a plurality of transversely disposed slots arranged at such angles that a plurality of substantially fan-shaped sprays of water will be discharged forwardly and downwardly, the spray from the upper slot extending substantially horizontally and extending substantially over the entire area of the ash-pit. 15

EDWIN C. ANDERSON.