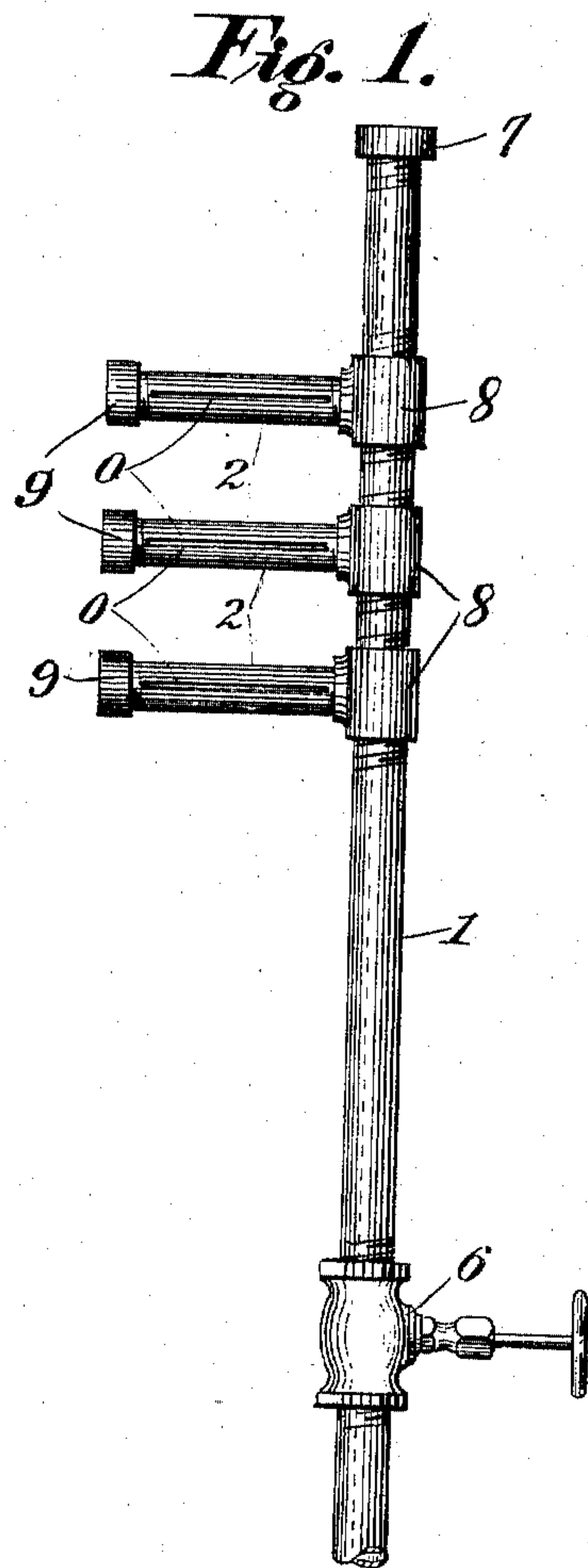
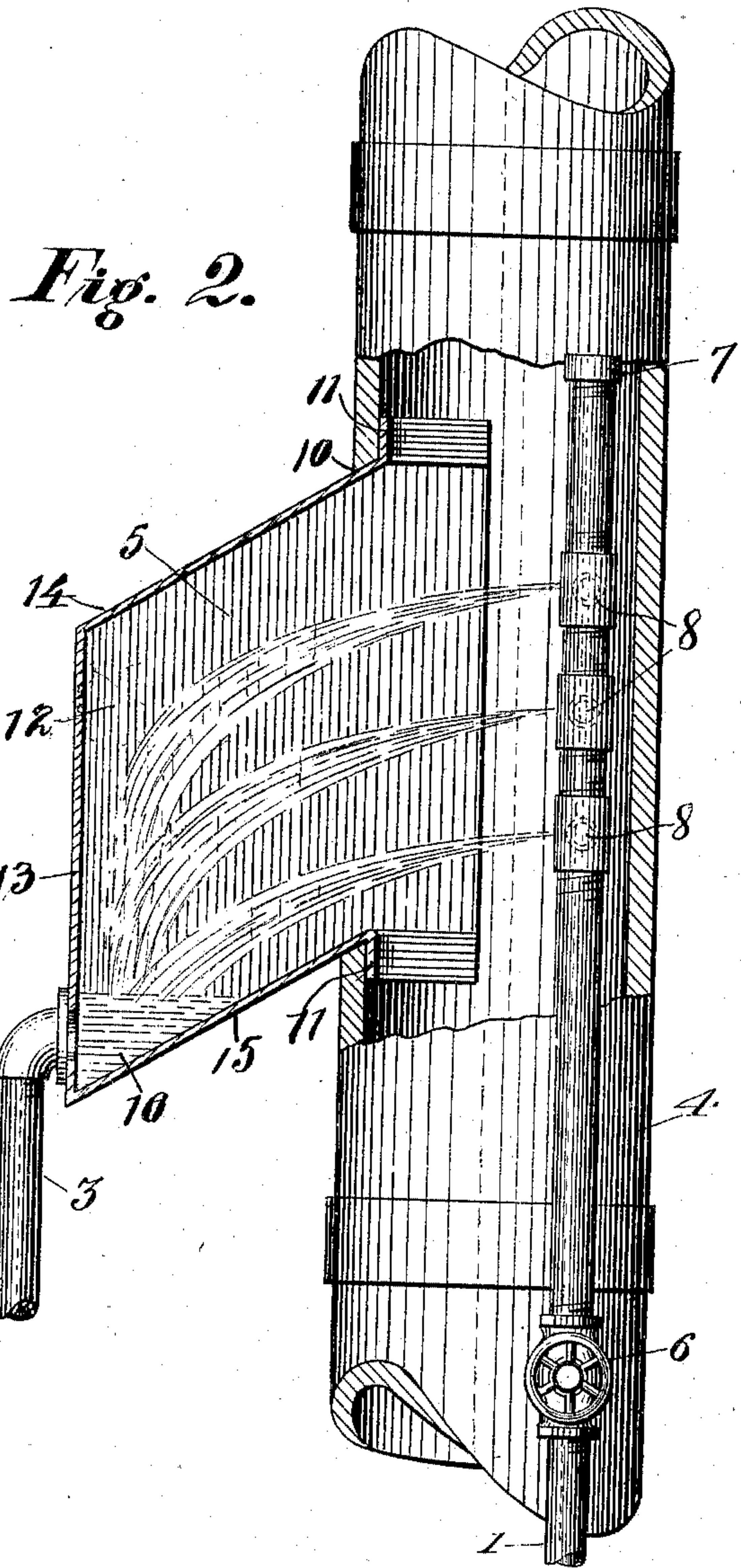


J. LACHANCE.  
SMOKE CLEANER.  
APPLICATION FILED JAN. 3, 1910.

967,135.

Patented Aug. 9, 1910.



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# UNITED STATES PATENT OFFICE.

JOSEPH LACHANCE, OF MORGAN HILL, CALIFORNIA.

SMOKE-CLEANER.

967,135.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed January 3, 1910. Serial No. 536,248.

*To all whom it may concern:*

Be it known that I, JOSEPH LACHANCE, a citizen of the United States, residing at Morgan Hill, county of Santa Clara, and State of California, have invented certain new and useful Improvements in Smoke-Cleaners, of which the following is a specification.

My invention relates to smoke cleaners, that is to devices for removing the obnoxious properties from smoke before it is discharged into the atmosphere.

The object of my invention is to provide a device of the class mentioned which shall effectually remove all hot cinders, sparks, soot and obnoxious gases from the smoke after it passes from the furnace and before being discharged into the atmosphere.

A further object of my invention is to provide a device of the class mentioned which may be readily applied to substantially any stack or chimney.

A further object of my invention is to provide a smoke cleaner as mentioned which shall be simple of construction, easy to operate, of low cost to install and maintain and which shall not readily get out of order.

Other objects will appear hereinafter.

With these objects in view my invention consists generally in a smoke conduit such as a chimney or stack, a valve water pipe arranged adjacent thereto but entirely without the same, and a plurality of short horizontally disposed branch pipes extending from the water pipe into the conduit and provided with longitudinal slots or apertures whereby several sheets of water, one above the other may be projected across the passage way in the conduit for the smoke. The branch pipes above mentioned are preferably arranged to one side of the passage way in the conduit and the opposite side of the conduit is provided with an opening in which is arranged a box into which the sheets of water above mentioned are directed. The bottom of the box is inclined outwardly and downwardly forming a trap at its outer end from which extends a drain pipe.

My invention further consists in various details of construction and arrangements of parts all as will be fully described hereinafter and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying

drawings forming a part of this specification and in which—

Figure 1 is an elevation of the water pipe and the branch slotted pipes, and Fig. 2 is an elevation of a smoke conduit equipped with a smoke cleaner embodying my invention in its preferred form, the box and adjacent portion of the conduit being shown in section.

Referring now to the drawings, 4 indicates a smoke conduit which may be of any desired form, usually a smoke stack or chimney. Extending upwardly upon the outside of the conduit 4, and preferably parallel therewith is a water pipe 1 closed at its upper end by a cap or plug 7 and provided with a valve 6. Arranged in the pipe 1 at any preferred location with relation to the conduit 4 are a series of tee joints 8 from each of which projects a short branch pipe 2 closed at its outer end by a plug or cap 9. Each pipe 2 is provided in one side with a longitudinally disposed narrow slot or aperture 0 which extends substantially the entire length of the pipes 2. The pipes 2 extend through the side wall of the conduit 4 and extend across the passage way therein and at one side thereof with the slots 0 facing the passage way, so that when the valve 6 is opened several sheets of water are projected across the passage way, one sheet above the other, in order that the smoke be compelled to pass through the several sheets of water successively.

The opposite side of the conduit 4 from the pipes 2 is provided with an aperture 10 of greater height than the distance between the upper and lower pipes 2 and of sufficient width to receive the streams of water issuing from the slots 0. 5 indicates a box projecting from the side of the conduit and having one end fitting snugly within the aperture 10 and provided with flanges 11 for maintaining the same in position and also making a smoke tight joint between the box and the conduit. The box comprises a pair of side walls 12, a vertical outer wall 13, a top 14 and bottom 15, the latter of which is inclined downwardly and outwardly forming with the end or outer wall 13 a pocket or trap 16 from the bottom of which extends a drain pipe 3. The top 14 is preferably parallel with the bottom.

The sheets of water projected from the pipes 2 are received by the box 5 and the



water collecting in the bottom, as shown in Fig. 2 forms a trap. The smoke by passing through the several sheets of water in succession is cooled and all cinders, sparks, soot and obnoxious gases are removed therefrom and carried with the water to the box 5 from whence they are drained off by the pipe 3.

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

1. A smoke conduit in combination with a water pipe arranged upon the outside thereof, branch pipes extending from said water pipe into said conduit and across the passage way therein at one side thereof, said pipes being arranged parallel one above the other and each provided with a longitudinally disposed slot extending substantially the entire length thereof, the side of said conduit opposite said branch pipes being provided with an aperture, a box fitting said aperture and extending outwardly and downwardly therefrom, and a drain pipe

extending from the bottom of said box, substantially as described.

2. A smoke conduit in combination with a plurality of horizontally disposed parallel pipes extending through said conduit one above the other and each provided with a longitudinally disposed slot extending substantially the width of the conduit and upon the same side of the pipes, said pipes being arranged at one side of said conduit, the side of said conduit opposite said pipes being provided with an aperture, a box fitting said aperture and having a closed bottom extending outwardly and downwardly therefrom, said aperture and said box being of greater height than the distance between the upper and lower pipes, and a drain pipe extending from the lower portion of said box, substantially as described.

JOSEPH LACHANCE.

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