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R. H. MILLER.

METHOD OF CLEANING GAS PRODUCER CONNECTIONS.

APPLICATION FILED OCT. 24, 1905.

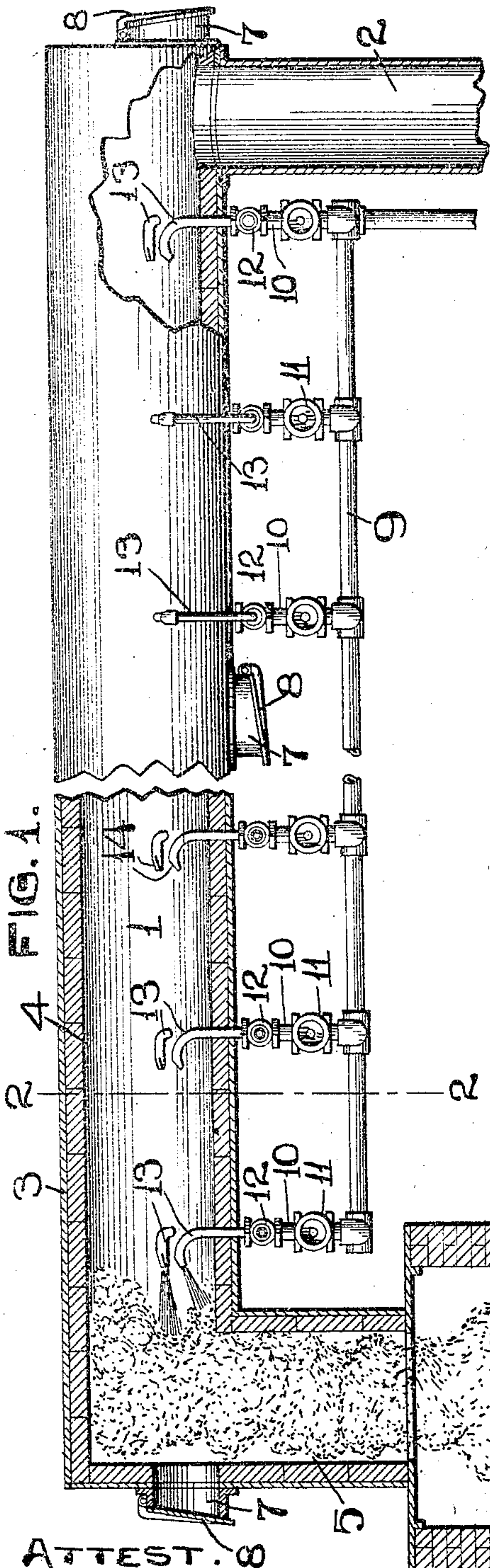


FIG. 1.

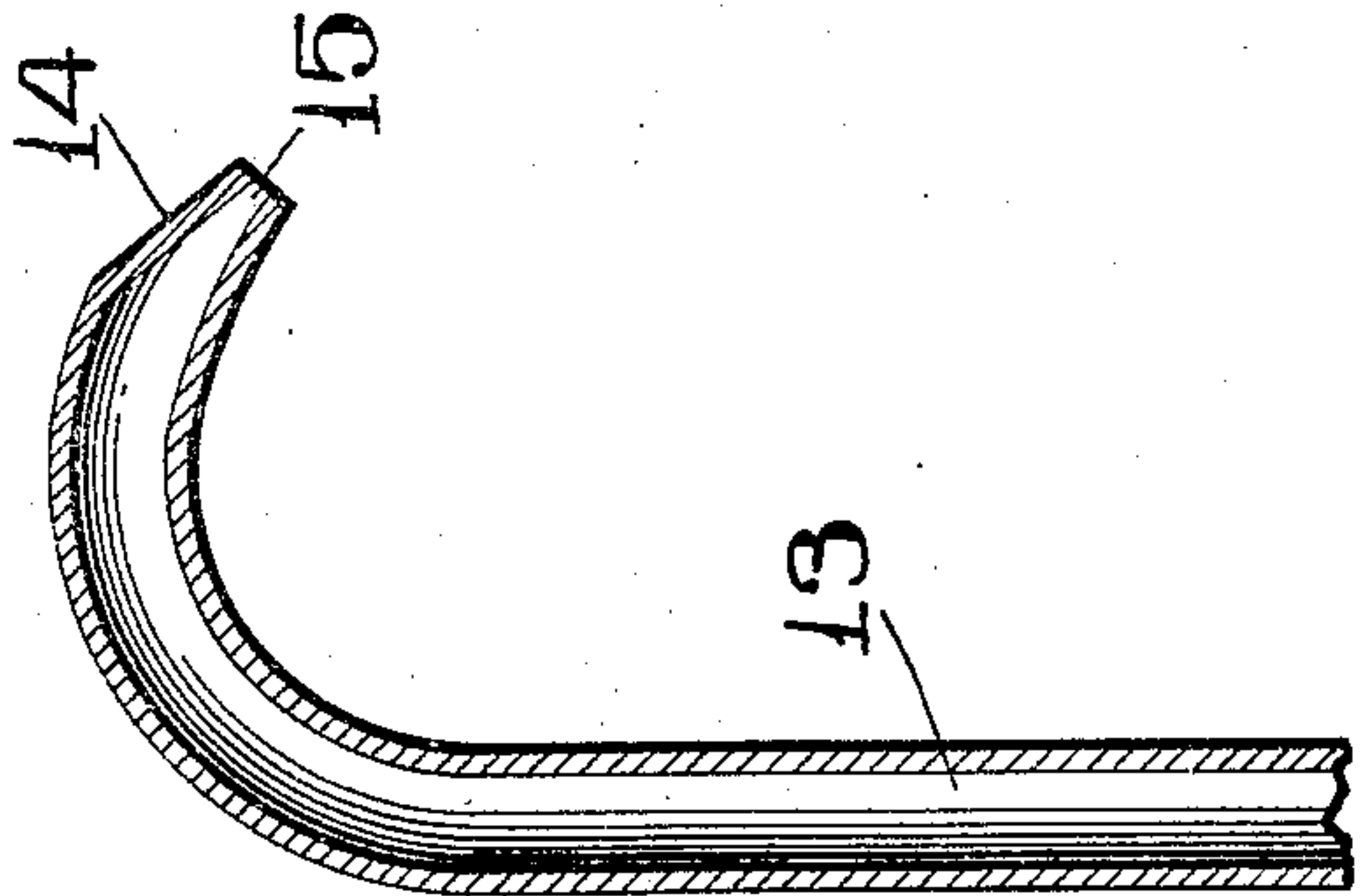
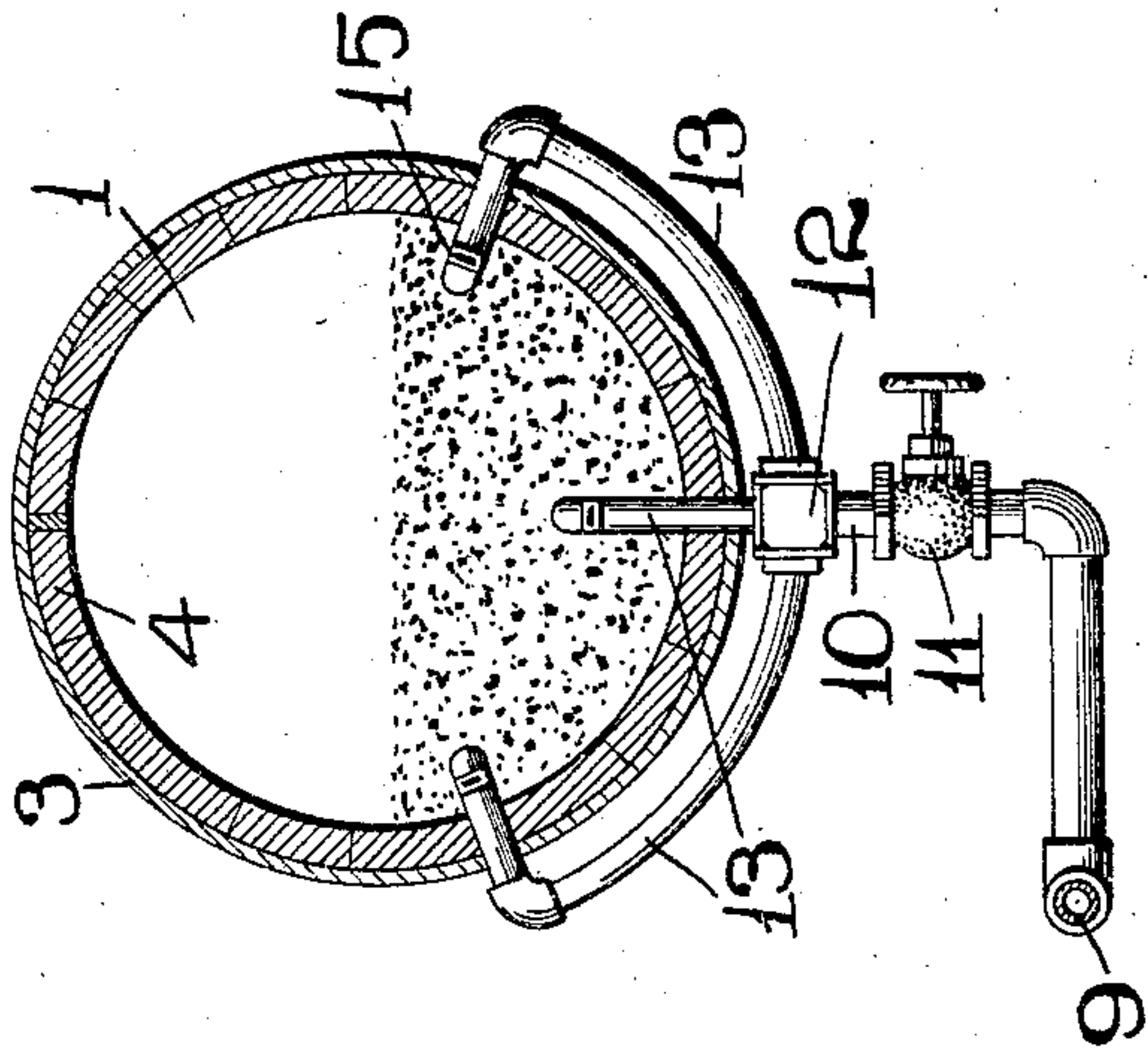


FIG. 2.



ATTEST.
H. G. Fletcher,
M. P. Smith

INVENTOR.
ROBERT H. MILLER.
BY Higdon & Longan,
ATTY'S.

UNITED STATES PATENT OFFICE.

ROBERT H. MILLER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE CHRISTY FIRE CLAY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

METHOD OF CLEANING GAS-PRODUCER CONNECTIONS.

No. 873,768.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed October 24, 1905. Serial No. 284,226.

To all whom it may concern:

Be it known that I, ROBERT H. MILLER, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Cleaning-Out Methods for Gas-Producer Connections, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a cleaning out method for gas producer connections, and the object of my invention is to provide means whereby the soot and like matter may be quickly and easily removed from gas producer connections and delivered into the stack, there to be drawn off by the natural draft through said stack.

Heretofore it has been the practice to open the manholes into gas producer connections, and pass suitable tools through said manholes to remove the soot from said connections. But this method requires much time and labor, and also allows air to pass into the interior of the connections, which results in a combustion of the soot that is being removed from said connections.

My improved method overcomes these objections, and stationary blowers are arranged which, when turned on, very quickly and efficiently remove the soot from the producer connections.

In the drawings,—Figure 1 is a side elevation partly in section of a gas main leading from the producers, and showing my attachment connected thereto; Fig. 2 is an enlarged vertical section taken on the line 2—2 of Fig. 1; Fig. 3 is an enlarged section of the discharge end of one of the blowout pipes.

Referring by numerals to the accompanying drawings,—1 indicates the gas main that leads from the producer connection 2, and which main is constructed of a heavy sheet metal cylinder 3 that is lined with fire brick 4, or analogous material. The end of this main 1, opposite from the end that leads from the producers, is provided with a tubular connection 5 that discharges into a conduit 6, that leads to and discharges into the stack.

Located at various points on the main 1 are manholes 7 normally closed by doors 8, by means of which access is had to the interior of the main. Extending along beneath the main 1 is a pipe 9 that leads from a suit-

able source of steam supply. Connected to and extending upwardly from this pipe 9 at suitable distances apart are short tubes 10, in which are located suitable cut-off valves 11.

Each pipe 10 is connected to a cross union 12, that is located immediately beneath the main 1 and leading upwardly from this union are three pipes 13 the ends of which are extended through suitably formed apertures in the lower portion of the main, and the ends of these three pipes within the main are curved toward the end that discharges into the stack; and said ends are flattened, as indicated by 14, to provide narrow discharge openings 15.

When it is desired to clean out the main 1, the first one of the valves 11 is opened, said first valve being the one nearest the producer connection 2, and upon opening said valve, steam from the pipe 9 passes upwardly through the pipe 10, through the branch pipes 13, and discharges from the flattened nozzles on the ends thereof, which are upon the interior of the main 1. These jets are deflected onto the body of the soot located in the end of the main 1 adjacent the connection 2, and said soot is forcibly driven toward the opposite end of the pipe. The operator now successively opens the cut-off valves 11 in the remaining pipes 10, and by so doing the soot is forced to the end of the main that discharges into the stack by means of the tubular connection 5; and thus all of the soot in the main is finally blown into said stack from whence it is removed by the natural draft thereof.

The steam discharging from the flattened ends of the pipes 13 supplies the volume which enables the stack to carry off the soot and like products, which said stack could not do otherwise, as a vacuum would be created unless the manholes were opened, or the producers kept under pressure.

My improved apparatus for blowing out the main does away with the necessity of opening the manholes in said main, and thus prevents the combustion of the soot, and like products, and reduces the possibility of the brick lining in the main from being heated to such a degree as to injuriously affect the shell, by reason of the expansion and contraction of the brick.

The blowing out operation can very easily be accomplished by opening in sequence the series of cut-off valves, and thus much time and labor is saved, and the operation is completed much more effectually than where

suitable instruments are inserted through the manholes to remove the soot.

I claim:

1. The herein described method of cleaning out gas producer connections, which consists in consecutively directing jets of fluid from a series of sets of jet pipes against the dust and other obstructions in said connections.

2. The herein described method of cleaning out gas producer connections, which consists in consecutively directing jets of fluid from a series of sets of jet pipes against the

dust and other obstructions in said connections, thereby moving the dust and obstructions step by step toward a discharge opening, and then consecutively discontinuing the flow of fluid from the jet pipes as the obstructions are moved away from the same.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

ROBERT H. MILLER.

Witnesses:

M. P. SMITH,
JOHN C. HIGDON.