V. G. BECKER.

FLUE CLEANER.

APPLICATION FILED FEB. 11, 1909.

956,668. Patented May 3, 1910.

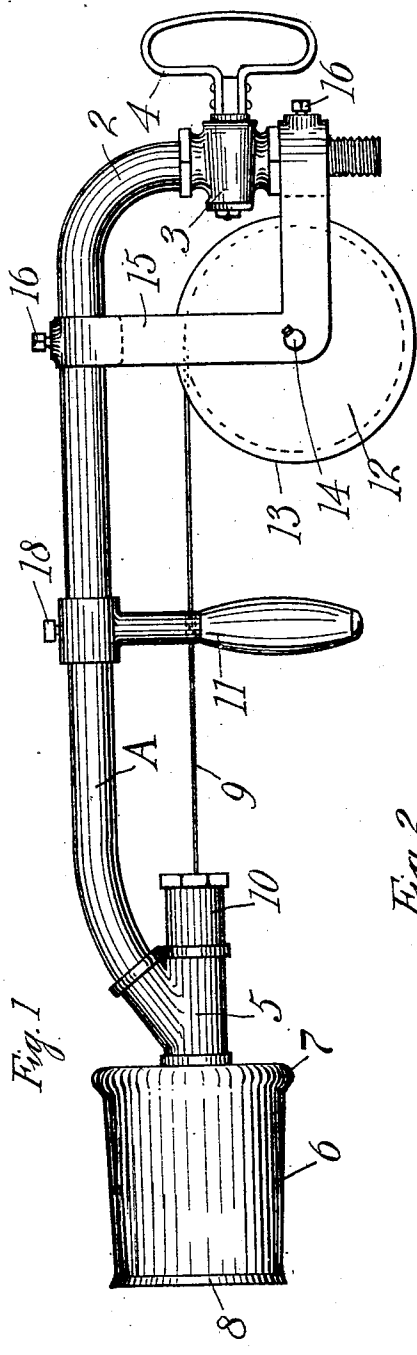

Fig. 1

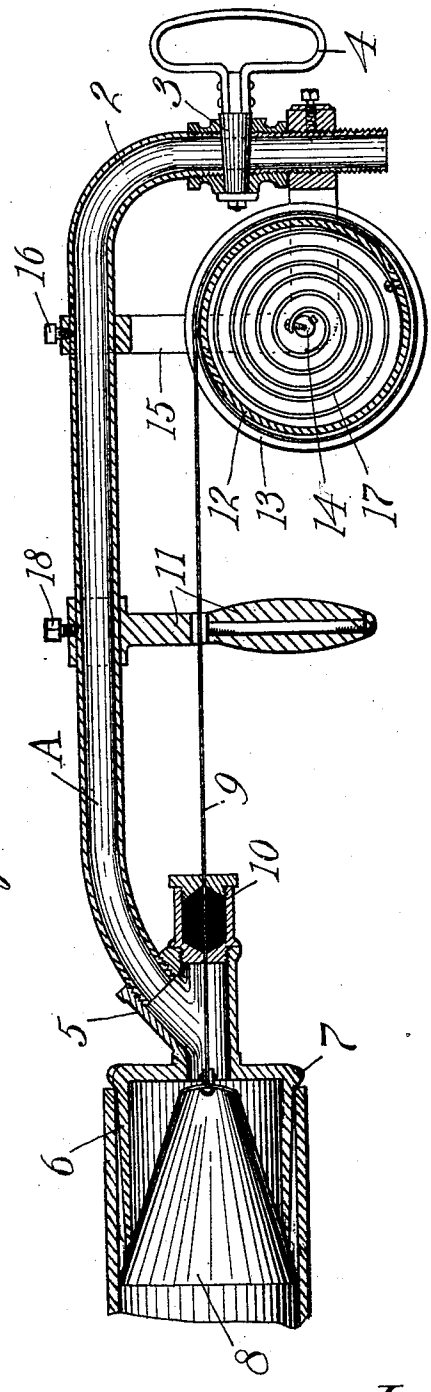

Fig. 2

Witnesses,
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UNITED STATES PATENT OFFICE.

VALENTINE G. BECKER, OF ST. PAUL, MINNESOTA.

FLUE-CLEANER.

956,668. Specification of Letters Patent. Patented May 3, 1910.

Application filed February 11, 1909. Serial No. 477,372.

To all whom it may concern:

Be it known that I, VALENTINE G. BECKER, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Flue-Cleaners, of which the following is a specification.

My invention relates to improvements in devices for cleaning boiler flues and consists in a device for cleaning or scraping and blowing out the interior of the flue with the expenditure of less steam and lower steam pressure than is possible with the ordinary constructions of flue cleaners.

To this end my invention consists in the features of construction and combination hereinafter particularly described and claimed.

In the accompanying drawings forming part of this specification, Figure 1 is a side elevation of my improved device, and Fig. 2 is a longitudinal vertical section of the same.

In the drawings A represents a steam or compressed air supply pipe provided at its rear downwardly bent end 2 with a stop cock 3. The stop cock carries a suitable handle portion 4. The opposite end of the supply pipe is threaded in an elbow 5 extending rearwardly from the cup shaped nozzle 6. The nozzle 6 is fitted loosely to the flue to be cleaned and is formed with a circumferential flange 7 to bear against the outer end of the flue. Slidable within the nozzle 6 is a cone 8 the outer end of the cone being slightly larger than the nozzle but smaller than the inner diameter of the flue. A steel wire or similar connection 9 is secured at one end to the cone, extending slidably through the stuffing box 10 and the handle 11 and being secured at its other end to the spool between the flanges 13. The spool has rotatable support 14 in the bracket 15 removably supported upon the rear end of the supply pipe and being secured thereto by suitable bolts 16. Within the spool is a coil spring 17 connected at one end to the spool and at the other end to the fixed shaft 14 upon which the spool revolves. The spool 12 under the tension of its spring 17 normally holds the wire 9 and cone withdrawn. The handle 11 is slidably supported upon the supply pipe as shown and is held in adjusted positions by means of the bolt 18.

In operation, the nozzle is inserted in the flue to be cleaned with the end of the flue in contact with the flanged end of the nozzle to maintain a steam tight joint, the free end of the nozzle and cone being so proportioned as to leave a slight space between them and the inner wall of the flue. The cock 3 then being opened the steam will pass through the supply pipe forcing the cone through the flue and loosening the soot. At the same time the steam will pass around the cone blowing out the soot, a cone acting as a spreader for the steam to increase the efficiency of the device. The closed joint between the rear end of the nozzle and tube will prevent cold air being drawn in and also prevent the steam and soot from being blown back.

I claim as my invention:

1. A flue cleaner of the class described comprising a nozzle adapted to be fitted to the outer end of a flue, a pressure fluid supply pipe tapped into said nozzle, a spreader for the pressure fluid slidable within said nozzle, said spreader being smaller than the diameter of the flue to leave an intermediate passage, and means for retracting said spreader.

2. A flue cleaner of the class described comprising a nozzle adapted to be fitted to the outer end of a flue, a source of steam supply, a cone slidably fitted within said nozzle and slightly smaller at its outer end than the inner diameter of said flue whereby to spread the steam and allow it to pass between the cone and flue, and spring retracted means for said cone.

3. A flue cleaner of the class described comprising a nozzle adapted to be fitted to the outer end of a flue, a pressure fluid supply pipe tapped into said nozzle, a handle for said supply pipe, a cone slidably supported within said nozzle and smaller at its outer end than the flue whereby to spread the pressure fluid and allow it to pass between the cone and flue, a spring retracted spool having rotatable support upon said supply pipe and a flexible connection between said cone and spool for the purpose set forth.

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

VALENTINE G. BECKER.

Witnesses:

H. S. JOHNSON,

H. SMITH.