

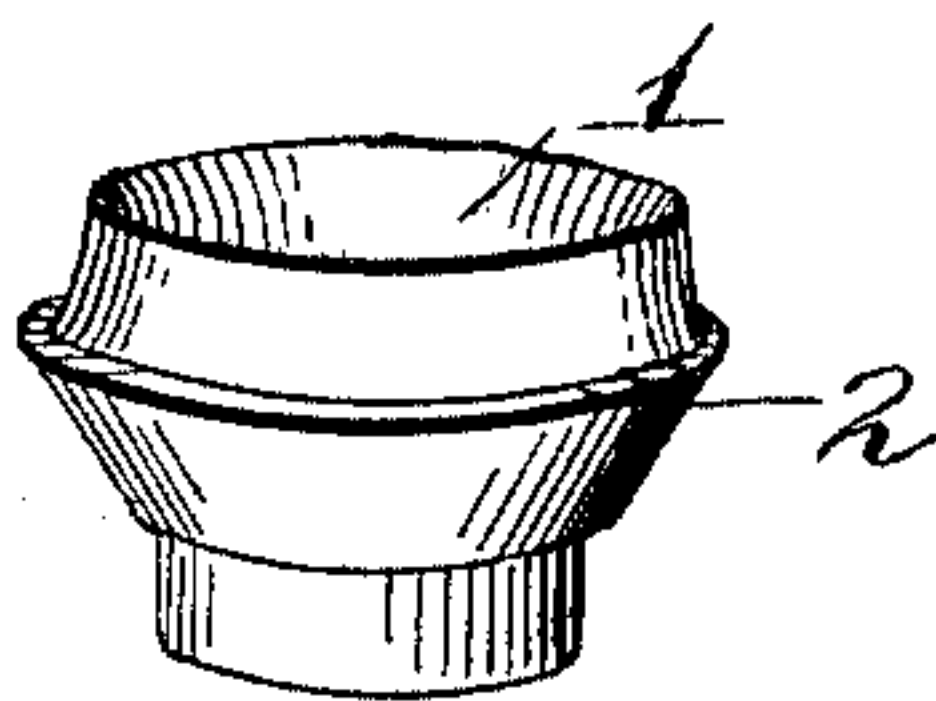
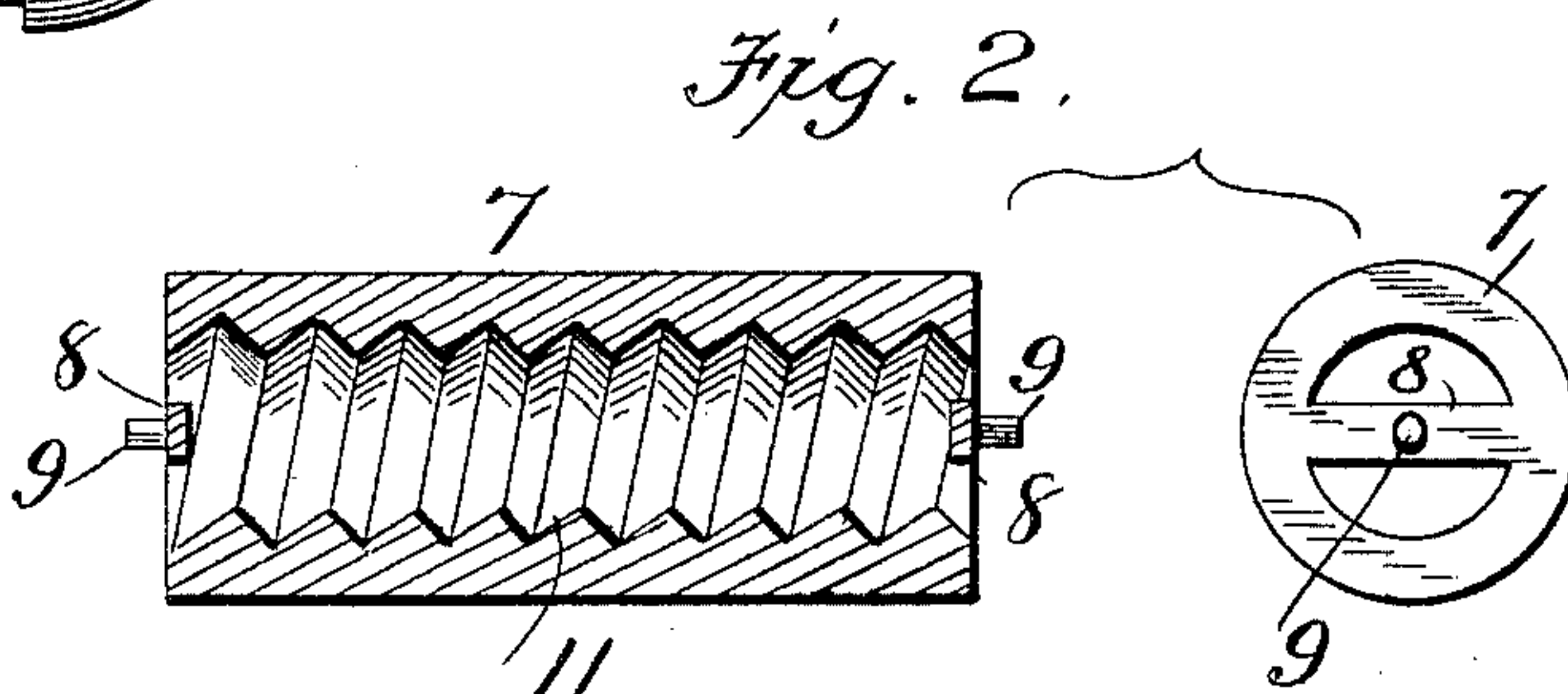
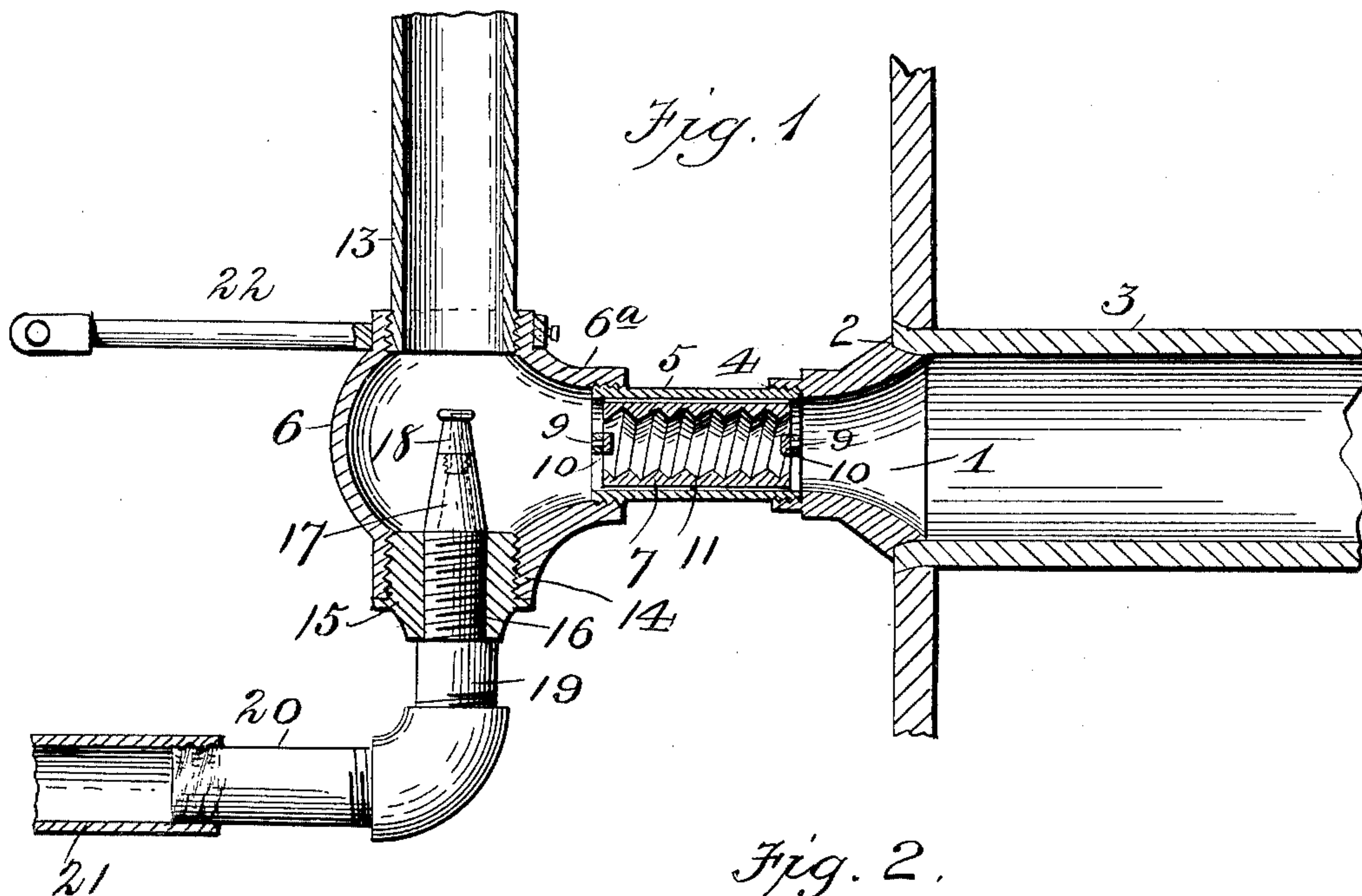
No. 675,673.

Patented June 4, 1901.

H. RASMUSSEN.  
FLUE CLEANER FOR STEAM BOILERS.

(Application filed Feb. 18, 1901.)

(No Model.)



*Fig. 3.*

Witnesses:  
Frank L. Ormand  
J. G. Radelfinger

Inventor:  
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Lawyer & Co.,  
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# UNITED STATES PATENT OFFICE.

HANS RASMUSSEN, OF CEDARFALLS, IOWA.

## FLUE-CLEANER FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 675,673, dated June 4, 1901.

Application filed February 16, 1901. Serial No. 47,630. (No model.)

*To all whom it may concern:*

Be it known that I, HANS RASMUSSEN, a citizen of the United States, residing at Cedar-falls, in the county of Blackhawk and State  
5 of Iowa, have invented new and useful Improvements in Flue-Cleaners for Steam-Boilers, of which the following is a specification.

My invention relates to flue-cleaners for steam-boilers; and the object of the same is  
10 to construct a device of this character by the use of which the soot and ashes are removed by suction alone, it being unnecessary to wet the inside of the pipe or introduce cold air into the same. With but a simple modifica-  
15 tion my device may also be used as an ordinary blower; but the preferred way of using it is as above mentioned. With this object in view I have designed the simple and novel construction fully described in this speci-  
20 fication and claimed, and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a longitudinal vertical section of my device, together with a fragment of a  
25 steam-boiler and one flue. Fig. 2 is a detail of the spirally-grooved tube and end view. Fig. 3 is a detail of the mouthpiece.

Like numerals of reference designate like parts in the different views of the drawings.

30 The numeral 1 designates a flaring or trumpet-shaped mouthpiece, which is exteriorly traversed by a circumferential groove, which forms an annular shoulder 2. This mouth-  
piece 1 is designed to fit into the end of a boiler-  
35 flue 3, with the shoulder 2 resting against the head, thus making a tight joint. Directly connected to the mouthpiece 1 by a screw-  
joint 4 is a pipe 5, which is oppositely con-  
40 nected to the stem branch 6<sup>a</sup> of a T-coupling 6. Mounted to revolve in the pipe 5 is a tube  
7, provided with cross-bars 8, which are piv-  
otally joined by pintles 9 to cross-bars 10, ex-  
tending transversely the pipe 5. The exte-  
45 rior of the tube 7 is smooth and loosely fits the pipe 5; but the interior is traversed by a  
deep beveled spiral groove 11. The effect  
of this spiral groove is to force the tube 7 to  
revolve on the pintles 9 when air courses  
50 through it, which action increases the suc-  
tion and tends to break up the coarse mate-  
rial that might otherwise clog up the pipe.  
The screw-like movement would also tend to

advance the material on its course through the pipe.

The upper branch 12 of the T 6 is connected  
55 to a pipe 13, a foot or more in length, which communicates with the chimney and serves to increase the draft or suction of the device. The lower branch 14 of the T is fitted with a  
60 plug 15, centrally pierced by an interiorly-threaded aperture 16. Screwed into the ap-  
erture 16 is an exteriorly-threaded nozzle 17, having a detachable point 18. The detach-  
65 ability of the point 18 makes it possible to substitute points of various sizes. The top of  
the point of the nozzle 17 is placed just above  
70 the center of the opening 6<sup>a</sup> of the T 6—that is, just high enough to prevent the conical jet  
of steam issuing from the nozzle from enter-  
ing and obstructing the pipe 5. The outer  
75 end 19 of the nozzle 17 is screw-threaded and has connected thereto an elbow, which is in  
turn connected to a pipe 20, which provides  
means for attaching a hose-pipe 21. This  
hose-pipe communicates with the boiler be-  
80 ing cleaned or with some other source of steam, (not shown,) and a supply of steam  
thereby provided for operating the cleaner.  
A handle 22 is clamped to the pipe 13.

In operation the mouthpiece 1 is inserted  
80 in the end of a flue 3 in the manner shown and steam is turned into the hose-pipe 21. This steam issues from the nozzle and causes  
a suction or outdraft, which draws the ac-  
cumulated dirt out of the flue via the mouth-  
85 piece 1 and pipe 5.

In using my device as a blower a plug is in-  
serted in the mouthpiece 1 and the end of  
pipe 13 inserted in the flue, or the plug may  
be omitted if the introduction of cold air is  
90 not deemed objectionable.

I do not wish to be limited as to details of construction, as these may be modified in  
many particulars without departing from the  
95 spirit of my invention.

Having thus described my invention, what  
I claim as new, and wish to secure by Letters  
Patent, is—

1. In a flue-cleaner, the combination, of a  
flaring mouthpiece adapted to fit into the end  
100 of a flue, a pipe connected to said mouth-  
piece, a tube spirally grooved interiorly and  
revolvably mounted in said pipe, a chamber  
connected to said pipe, a nozzle projecting

into said chamber, means for introducing steam into said nozzle and means for permitting the steam to escape from said chamber thereby causing an outdraft through said mouthpiece, substantially as described.

5 2. In a flue-cleaner, the combination, of a flaring mouthpiece constructed to fit the end of a flue, a pipe connected to said mouthpiece, a tube spirally grooved interiorly and  
10 rotatably mounted in said pipe, a chamber connected to said pipe, means for introducing steam into said chamber, and means

for permitting steam to rapidly escape from said chamber thereby causing an outdraft through said flue and pipe, substantially as 15 described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HANS RASMUSSEN.

Witnesses:

ANTON FRIIS,  
H. BLOOMBERG.