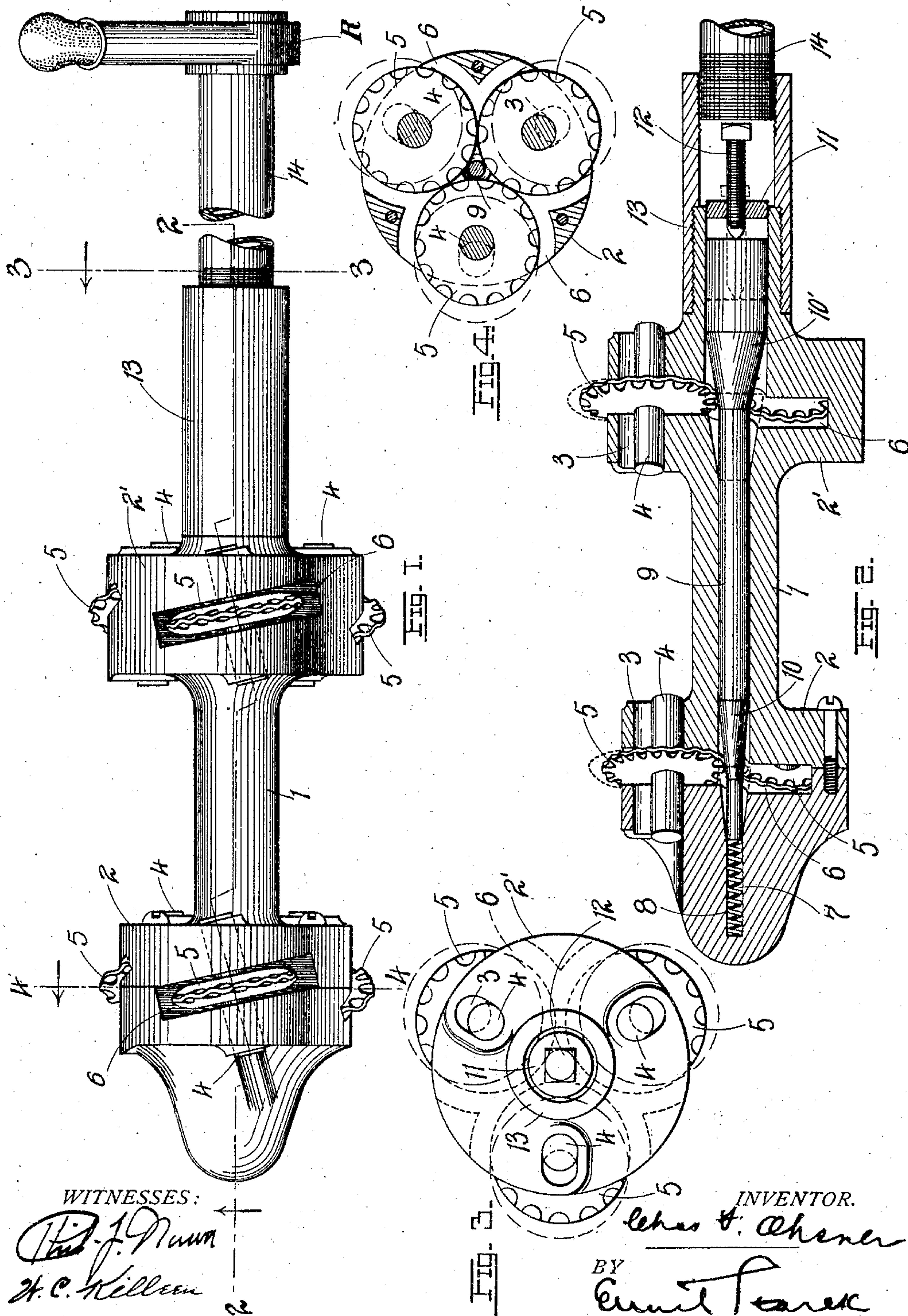


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PATENTED JAN. 24, 1905.

C. F. OHSNER.
FLUE CLEANER.

APPLICATION FILED MAY 18, 1904.



WITNESSES:
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CHARLES F. OHSNER, OF ST. LOUIS, MISSOURI.

FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 780,965, dated January 24, 1905.

Application filed May 18, 1904. Serial No. 208,615.

To all whom it may concern:

Be it known that I, CHARLES F. OHSNER, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Flue-Cleaners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in flue-cleaners; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a plan of the flue-cleaner. Fig. 2 is a middle longitudinal section on line 2 2 of Fig. 1, showing the cutter-disks in their contracted position and the expanding plug retracted and showing also by dotted lines the expanded position of the cutter-disks and the inward position of the plug. Fig. 3 is a transverse section on line 3 3 of Fig. 1, and Fig. 4 is a transverse section on line 4 4 of Fig. 1.

The object of my invention is to construct a boiler-flue cleaner which can be carefully adjusted to the cross-sectional diameter of the flue to be cleaned, one which will clean the flue effectively, and one possessing further and other advantages better apparent from a detailed description of the invention, which is as follows:

Referring to the drawings, 1 represents a hollow casing having, preferably, two circular heads 2 2', the terminal head 2 being slightly smaller in diameter. Formed in each head, adjacent to the periphery thereof, are a series of tubular passages or openings 3, inclined to the axis of the casing for the loose reception of the spindles 4 of a series of cutter-disks 5, the latter being partially received and embedded in transverse pockets 6, formed in the periphery of each head and disposed at right angles to the openings 3. The outer head is made of two sections bolted together, the terminal section having a socket 7 for the reception of a spring 8 for a purpose presently to be referred to.

Designed to be received by the casing 1 is a reciprocating plug 9, having the conical for-

mations 10 10', each cone being adapted to bear against the edges of the cutter-disks 5, which revolve freely over said conical formations. The plug is inserted into the chamber of the casing, the inner end bearing against the spring 8, and when in place the opposite end of the chamber is closed by a disk 11, which receives a screw 12, adapted to bear against the adjacent end of the plug. By turning the screw 12 in proper direction the plug 9 may be forced inwardly any required degree, (see dotted position of parts in Fig. 2,) the cones 10 10' thereby spreading the cutter-disks apart, so as to force them against the walls of the flue to be cleaned. (See dotted positions of disks, Figs. 2, 3, 4.) The diameter of the sweep described by the cutters on the starting head 2 is somewhat less than that of the head 2'. When occasion arises to reduce the sweep of the cutting diameter of the disks, the screw 12 is unscrewed, allowing the spring 8 (previously compressed) to expand and force the plug outwardly, thus permitting the cutter-disks to drop closer to the axis of the tool. The inner end of the casing terminates in a screw-threaded coupling end over which a union 13 may be passed, the latter serving as a coupling for an operating bar or pipe 14, by means of which the cleaner as a whole may be rotated about its axis during the cleaning operation. The bar 14 may be operated from a suitable ratchet R, as shown. The purpose of mounting the spindles 4 diagonally to the axis of the casing is to enable the cutters to shear off the incrustation formed in the flue, as is obvious.

It is to be understood that I may depart from the details here shown without affecting the nature or spirit of my invention.

Having described my invention, what I claim is—

A flue-cleaner comprising a hollow casing having a series of circular heads, the latter having a series of diagonally-disposed openings or tubular passages formed adjacent to the peripheries thereof, peripheral pockets intersecting said passages, cutter-disks partially received by said pockets, spindles for the disks received by the openings aforesaid, the terminal head having a socket, a spring con-

5 fined in said socket, a reciprocating plug having conical formations adapted to be engaged by the edges of the cutter-disks, a screw carried by the end wall of the casing and bearing against the adjacent end of the plug whereby the latter can be forced inwardly thereby compressing the spring and simultaneously forcing the cutter-disks radially apart or away from the axis of the casing, and means for

coupling the casing to a suitable operating- 10
bar, substantially as set forth.

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

CHARLES F. OHSNER.

Witnesses:

EMIL STAREK,

WILLARD C. KILLEEN.