

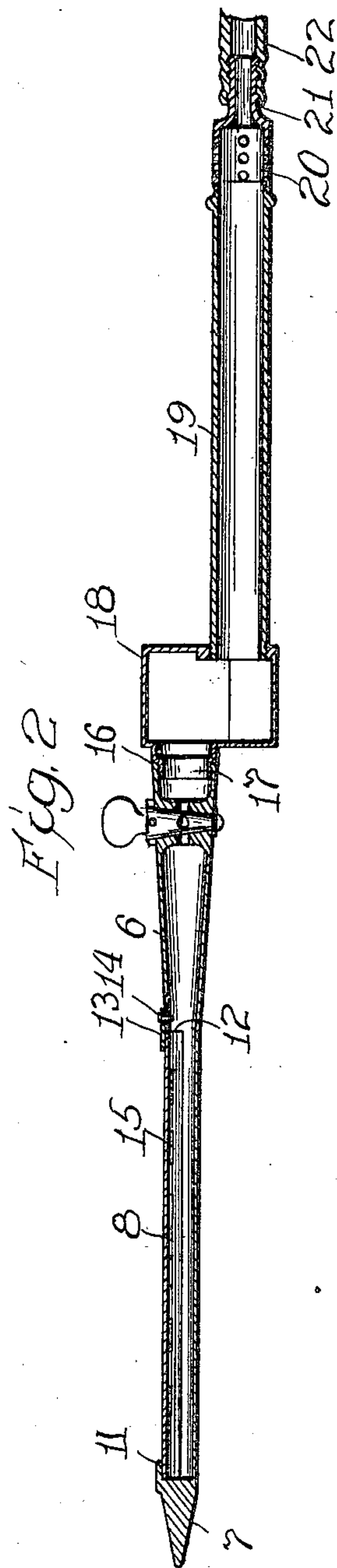
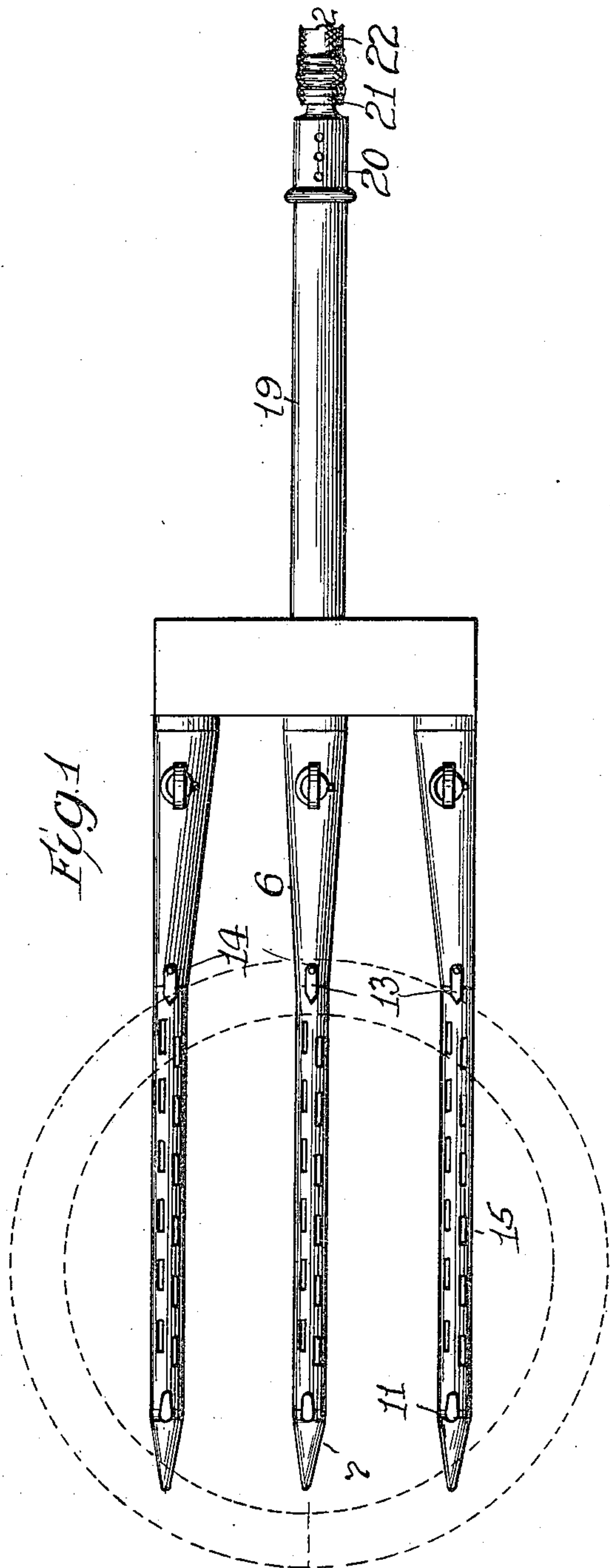
H. HENSEL.  
FIRE KINDLER.

APPLICATION FILED SEPT. 7, 1909.

Patented May 30, 1911.

993,369.

2 SHEETS—SHEET 1.



Witnesses:  
R. A. White.  
H. R. L. White

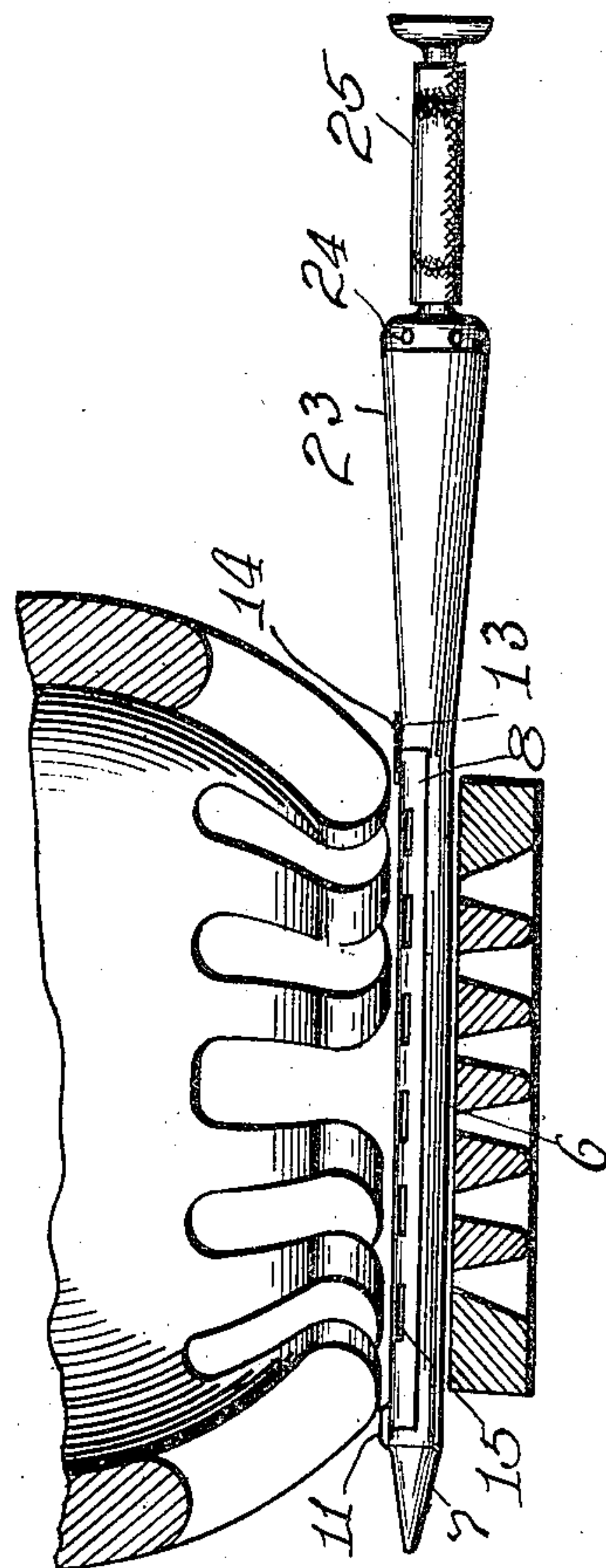
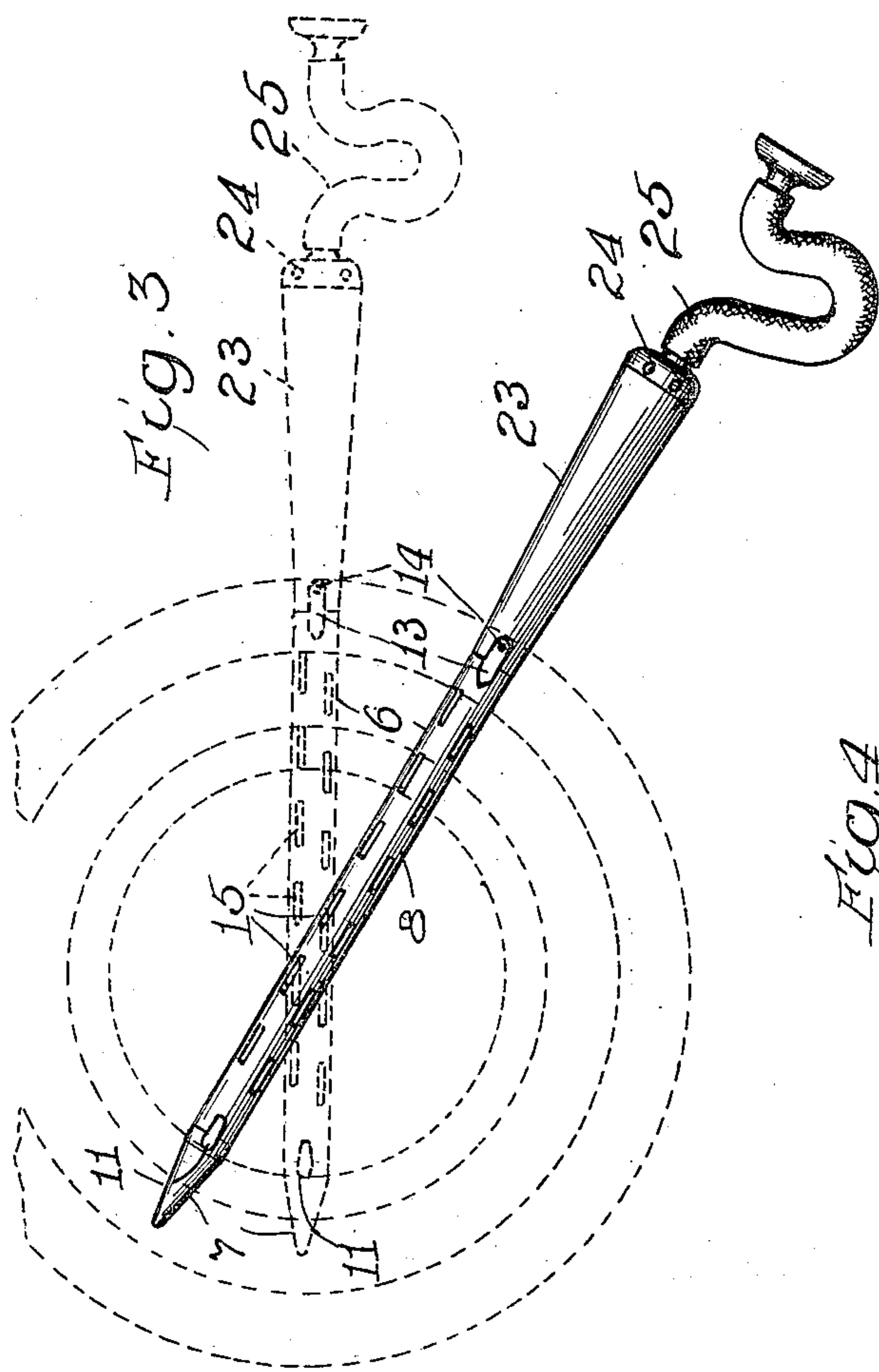
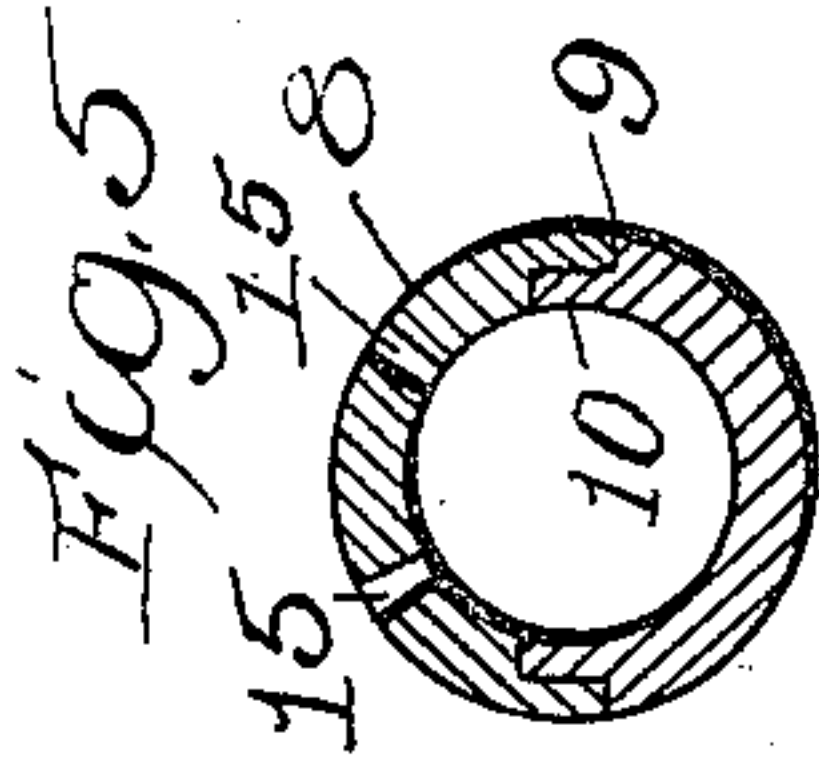
Inventor  
Henrietta Hensel  
By Jno. Y. Elliott Atty.

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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

HENRIETTA HENSEL, OF CHICAGO, ILLINOIS.

## FIRE-KINDLER.

993,369.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed September 7, 1909. Serial No. 516,591.

*To all whom it may concern:*

Be it known that I, HENRIETTA HENSEL, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Kindlers, of which the following is a full, clear, and exact specification.

This invention relates to improvements in fire kindlers, adapted both for furnaces and stoves, and particularly those in which coal is employed for heating purposes, and the igniting medium for the kindler is gas from the house supply for other purposes.

The prime object of this invention is a fire kindler which may be conveniently and easily inserted between the lower edge of the fire pot or grate bars, and entirely across, if need be, the coal resting upon the bottom grate bar of a stove or furnace for igniting such coal, and as entirely and conveniently withdrawn therefrom and from the stove or furnace when not in use.

A further object of this invention is to have stem like jet burners of the fire kindler so constructed as to provide quick and complete access to every portion thereof for the removal therefrom and from the jet orifices of ashes and other solid particles deposited therein from time to time when in use.

Another object of this invention is to simultaneously furnish a number of stem like jet burners with air and gas combined in a mixing chamber adjacent thereto and common to all of said jet burners, and thereby have said burners operate with a Bunsen burner effect on the fuel to be kindled.

A further object is a means by which any number of burners, less than the whole number provided for, may receive the entire contents of the mixing chamber, either before or after the removal of burners therefrom, and particularly the latter.

With these ends in view, my invention finds embodiment in certain features of novelty in the construction, combination and arrangement of parts by which the said objects and certain other objects are hereinafter attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In said drawings:—Figure 1 illustrates a top plan view of a fire kindler embodying my invention, with dotted lines indicating the operative position of the same relative

to the fire pot of a stove or furnace. Fig. 2 is a central longitudinal section thereof on the line 2—2 of Fig. 1. Fig. 3 illustrates a top plan view of a single stem like burner, provided with a flexible hose connection therefor for connecting it either with a gas and air mixing chamber or directly with the illuminating burner of a house supply, with dotted lines indicating one of a number of positions to which the burner may be shifted when igniting coal in a fire pot. Fig. 4 is a side elevation of the same, with a sectional view of a fire pot and the bottom grate bars thereof for illustrating the position that may be occupied by one or more stem like burners for igniting the coal fuel in the fire pot; and Fig. 5 is an enlarged transverse section through one of the stem like burners illustrating the means employed providing access thereto for the removal of ashes and other solid particles.

Similar characters of reference indicate the same parts in the several figures of the drawings.

6 indicates any one of a number of nozzles or stem like burners, in which my invention finds embodiment, which burners may be angular or circular in cross section, but preferably the latter, with their tips solid and pointed for the purpose of facilitating their introduction and preventing their injury when forcing them through the coal in the fire pot of a stove or furnace to the operative position of the burners for igniting the same. The jet part 8 of these burners is preferably in a separate piece from the main body of the burner for its removal therefrom in order to have access for extracting ashes and other solid particles deposited therein through the jet orifices when the burners are in operation. To these ends the body of the burner 6 is cut away to a distance corresponding with the length of the part 8, the body portion being recessed longitudinally of its edge to form a shoulder 9 and tongue 10, the part 8 being correspondingly recessed so that when joined together, as shown in Fig. 5, there can be no lateral movement of the part 8 upon the body of the stem.

When the part 8 is in its operative position and forms a part of the burner, its forward end projects against the inner end of the tip 7, and is prevented from rising by a lug 11 (see Fig. 2) with the rear end of the part 8 abutting against the end wall 12 of



the burner, with the surface of the part 8 preferably in the same plane with that of the burner, and in which position the part 8 is locked by means of a latch piece 13 pivoted to the shank of the burner 6 by a pivot or other means 14.

When access is desired to the burner for cleansing purposes, the part 8 is quickly removed by swinging the latch 13 away from contact therewith, leaving the adjacent end of the part 8, and pulling it rearwardly until it is disengaged from the lug 11.

The jet orifices 15 of the burners may be of any form and in any numbers that may be found desirable and necessary, but, as shown in the drawings, as consisting of a number of elongated rectangular like openings.

The jet burners 6 are internally screw threaded, as indicated at 16, whereby they are adapted to be attached to screw threaded nipples 17 secured to or forming a part of a mixing chamber 18, and for which purposes the mixing chamber may be provided with nipples corresponding with the greatest number of jet burners that it may be at any time desirable to use, the capacity of the mixing chamber being of sufficiently greater diameter than the burners for simultaneously supplying the greatest number of burners employed in connection therewith.

When, for any reason, it is necessary or desirable to use a less number of burners than is provided for or originally attached to the mixing chamber, the screw threading of the burners thereto provides for their removal and the substitution of an ordinary screw plug or cap for any burners so removed. If preferred, however, each burner may be provided with a stop cock cutting off the supply of gas thereto, and thereby avoiding the necessity of its removal, but, in this connection, it is proper to add that, in some instances, it may be necessary to remove one or more of the burners in order to permit the introduction of those remaining through the grate openings into the fuel to be ignited.

Secured to the mixing chamber 18 is a gas supply pipe 19 in which, toward its opposite end, are a series of perforations 20, forming inlets for air into the gas flowing through the pipe 19, and subsequently mixed together in the mixing chamber, the pipe 19 being also provided with a nipple 21 for securing thereto a hose 22 forming a connection of the kindler with the house supply gas, and which may be by attaching the hose to an illuminating gas jet at a point nearest convenient to the stove or furnace. Supply pipe 19 opens into the mixing chamber 18 in a plane below the outlets thereof to the burners with the result that the incoming gas and air are completely mixed and dif-

fused throughout the mixing chamber before passing thence to the burners whereby combustion is correspondingly promoted and perfected.

My invention also finds embodiment in the single stem like burner 23, illustrated in Figs. 3, 4 and 5 and wherein the same, or substantially the same means are provided for access thereto for the removal of ashes and other solid particles before described. In the use of a single burner it is provided with air inlets 24 at its rear end and with a nipple, corresponding with that shown at 21 in Fig. 2, for securing to the burner a hose 25 directly connecting the burner with the house supply as before described. A single burner, such as is shown in Fig. 2, is particularly adapted for use in connection with stoves wherein the grate area and space between the grate bars is too small for introducing more than a single burner to the fuel, and in other cases wherein the area of fuel to be ignited, or the character of the fuel, is such that a single burner will subserve its intended purposes.

In conclusion it should be remarked that my invention is not limited to the particular details of parts and their arrangements hereinbefore described and shown in the drawings, for obviously the burners may be of any form in cross section that will best adapt them for insertion through and for igniting coal supported by grate bars, the openings between which vary both in form and dimensions, and that in so far as there is a coöperation between the burners and the mixing chamber, it is not essential that any of the burners should be removably screwed thereto.

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

1. A fire kindler comprising in combination a stem like burner, a separate jet portion provided with a plurality of jet openings, and means for securing said jet portion in its operative position against accidental detachment, substantially as described.

2. A fire kindler comprising in combination a stem like jet burner, having a jet portion separate from the body of the burner, means for preventing their lateral movement, a lug upon the body portion projecting over the jet portion, and a latch pivoted to the body portion and in connection with the lug maintaining the jet portion against a movement outwardly from the body portion, substantially as described.

3. A fire kindler comprising in combination a plurality of stem like jet burners, a single mixing chamber extending entirely across and common to all of said burners, the supply and discharge openings of which are in a plane one above the other, and gas



and air inlets at a point substantially removed from the mixing chamber, whereby gas and air are united before entering the mixing chamber, substantially as described.

5 4. A fire kindler comprising in combination a plurality of stem like jet burners, a mixing chamber common to all of said burners, and of greater diameter than any of said burners, a gas and air supply inlet  
10 for said mixing chamber at a point removed therefrom and discharging into said chamber in a plane below the discharging

openings thereof, and means for disconnecting one or more of said burners from the mixing chamber, substantially as and for 15 the purpose specified.

In witness whereof, I have hereunto set my hand and affixed my seal, this 31st day of August, A. D. 1909.

HENRIETTA HENSEL. [L. s.]

Witnesses:

F. E. BROM,  
JNO. G. ELLIOTT.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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