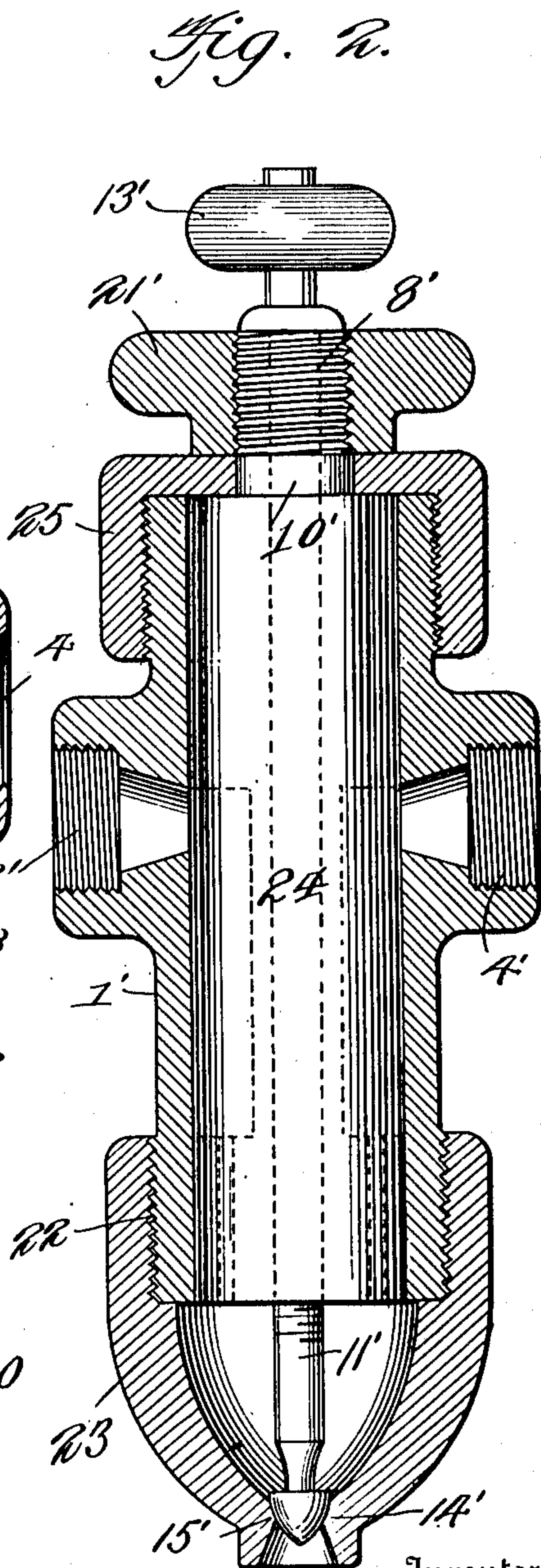
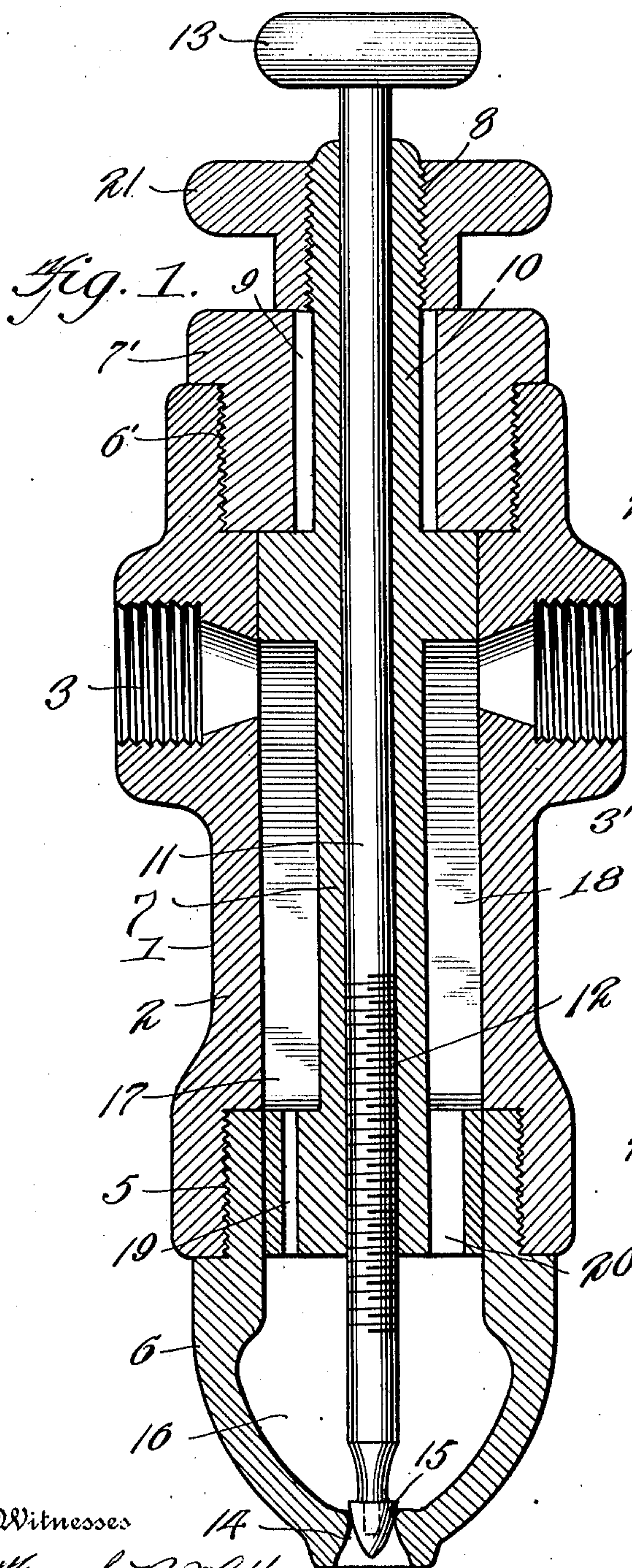


A. W. ANDORFER.
OIL OR GAS BURNER.
APPLICATION FILED NOV. 3, 1909.

970,363.

Patented Sept. 13, 1910.



Witnesses

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Specification of Letters Patent. Patented Sept. 13, 1910.

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To all whom it may concern:

Be it known that I, ANTONE W. ANDORFER, a citizen of the United States, residing at Shinglehouse, in the county of Potter and State of Pennsylvania, have invented new and useful Improvements in Oil or Gas Burner, of which the following is a specification.

This invention relates to a combined oil and gas burner, and the object of the invention is to improve and simplify the existing art by providing a device of this character constructed of interchangeable parts and in which the inlet of the gas or oil as well as the steam may be readily regulated before entering the mixing chamber and whereby the outlet of the fluid is also regulated to provide the size and intensity of the flame desired.

With the above and other objects in view which will appear as the description progresses, the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the accompanying drawing there has been illustrated simple and approved forms of my improved burner, and in said drawing, Figure 1 is a vertical sectional view of the burner constructed in accordance with the present invention. Fig. 2 is a similar view of a slightly modified form of the device.

In the accompanying drawing, and referring particularly to Fig. 1 thereof, the numeral 1 designates the improved burner. This burner 1 includes an outer casing 2 provided with oppositely disposed threaded inlet openings 3 and 4. The opening 3 is designed to receive the oil or gas tube, while the opening 4 is adapted for the reception of the steam pipe. The lower extremity of the casing 2 is provided with interior threads 5 which are adapted for the reception of exterior threads provided upon a nozzle 6. The upper portion of the casing 2 is also provided with interior threads 6', the said threads adapted to receive exterior threads provided upon a nut member 7'. Positioned within the casing 2 is a cylindrical member 7 which has its upper portion reduced to provide a shoulder adapted to contact with the lower portion of the nut member 7', and the reduced portion is extended a distance above the top of the nut 7' and is provided with external threads 8, it being understood that the nut member 7' is pro-

vided with a central opening 9 through which the reduced extension 10 projects. The member 7 is provided with a central bore or opening extending its entire length, the lower portion of which is threaded and the said bore being adapted for the reception of a suitable stem 11, the stem being provided with suitable threads 12 engaging with the threads of the bore. The stem 11 projects a suitable distance above the reduced portion 10 of the member 7 and is provided with a suitable handle 13, whereby the spindle may be rotated. The nozzle 6 is provided with a reduced opening 14 at its lower extremity and the said opening is adapted to serve as a seat for a cone-shaped member 15 provided upon the lower extremity of the stem 11. The nozzle 6 is, of course, hollow and is adapted to serve as a mixing chamber designated by the numeral 16. The member 7 is provided with longitudinally extending pockets or chambers 17 and 18, each arranged adjacent the openings 3 and 4, and the pocket 17 is provided with a reduced opening or port 19 communicating with the mixing chamber 16, while the pocket 18 is provided with a larger port 20 also communicating with the mixing chamber. The threaded portion of the reduced extension 10 is provided with an interiorly threaded pulley member 21 which is adapted to lock the members 7 and 7' together.

By constructing a burner as above described, it will be readily noted that the inlet of the oil or gas and of the steam may be easily and quickly regulated and that after the fluids have been mixed within the mixing chamber 16 their outlet is effectively regulated through the medium of the stem 11 and the cone-shaped valve 15 carried thereby.

In Fig. 2 I have illustrated a slightly modified form of the device. In this figure the casing 1' is provided with the threaded inlets 3' and 4' but its lower extremity is provided with exterior threads 22 adapted to engage interior threads provided upon the nozzle 23. The cylindrical member 24 is shown in elevation but is of a substantially similar structure to that heretofore set forth, being provided with the pockets which are indicated by the dotted lines and which are adapted for the reception of the oil or gas and the steam and being also provided with a central bore, partly threaded and adapted for the reception of the stem

11', the lower extremity of the stem having a cone-shaped valve member 15' adapted to be seated upon the shoulder provided by the reduced opening 14' of the nozzle 23. The upper extremity of the casing 1' is provided with exterior threads, the same being adapted for the reception of interior threads provided upon a collar member 25, and the said collar has its upper wall provided with an opening adapted for the reception of the reduced extension 10' of the member 24. The upper portion of this extension 10' is threaded as at 8' and the said threads are adapted for engagement with interior threads provided upon a wheel member 21'. The projecting extremity of the stem 11' is also provided with a suitable handle 13' whereby the valve 15' may be regulated in relation to its seat 14'.

The adjustment of the oil and steam supplies can be carried out in either of the following ways: by locking the parts 7, 7' and 21 rigidly together by means of the part 21, and then rotating the part 7' which will cause the part 7 to rotate, at the same time giving it a slight longitudinal movement; or the part 21 may be loosened and the part 7 may then be turned.

From the above description, taken in connection with the accompanying drawings, it will be noted that all of the members comprising the improved burner are interchangeable so that if one part wears or becomes mutilated it can be readily replaced without the necessity of obtaining an entire new burner. It will be further noted that the device is extremely simple as well as thoroughly effective, and while I have illustrated and described the preferred embodiment of the invention, as it now appears to me, minor details of construction within the scope of the following claims, may be resorted to if desired.

Having thus described the invention, what I claim as new is:—

1. In a burner of the class described, a casing provided with oppositely spaced inlet openings, a nozzle comprising a mixing chamber connected with the casing, said nozzle being provided with a reduced opening comprising a valve seat, a stem provided with a cone-shaped valve for the seat, a rotatable member within the casing, said member being provided with fluid receiving pockets adjacent the inlet openings, and said member being also provided with reduced ports communicating with the pockets and the mixing chamber.

2. In a burner of the class described, a casing provided with diametrically opposite inlet openings, a nozzle provided with a mixing chamber connected with the casing, said nozzle having a reduced opening, a stem having a cone-shaped extension to control the

opening, a movable member within the casing, said member being provided with pockets alining with the openings in the casing, and said member being also provided with reduced ports communicating with the pockets and the mixing chamber.

3. In a burner of the class described, a casing provided with oppositely disposed inlet openings, a mixing chamber provided with a reduced outlet opening, a valve for the opening; a member within the casing provided with pockets communicating with the inlet openings of the casing, said member being further provided with ports between the pockets and the mixing chamber, and means for locking the member against rotation within the casing.

4. In a burner of the class described, a casing, said casing being provided with oppositely arranged inlet openings, a detachable nozzle comprising a mixing chamber for the casing, said nozzle being provided with a reduced outlet opening, a rotatable member within the casing, said member being provided with ports communicating between the mixing chamber and the inlet openings of the casing, said member being also provided with a reduced threaded extension, a nut member upon the casing, a wheel member provided with interior threads engaging the threads of the reduced extension and bearing upon the nut member, and a stem provided with a cone-shaped extension adapted to engage the wall provided by the reduced outlet of the mixing chamber.

5. In a burner of the class described, a casing provided with a pair of inlet openings, said casing being also provided with a mixing chamber having a reduced opening, a rotatable member within the casing, said member being provided with pockets alining with the openings of the casing, the member being also provided with reduced ports communicating with the pockets and the mixing chamber, the member having a reduced threaded extension, a nut member upon the casing contacting with the shoulder of the member provided by the reduced extension, a wheel member having a threaded opening engaging the threads of the extension, the member within the casing being provided with a central bore partly provided with threads, a stem also partly provided with threads within the said bore, and said stem having its lower portion provided with a cone-shaped valve member adapted to engage the wall surrounding the reduced opening of the mixing chamber.

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

ANTONE W. ANDORFER.

Witnesses:

DE G. VAN DE BOE,
EDWARD W. ANDORFER.