

(No Model.)

J. S. SEMON.

HYDROCARBON OIL VAPORIZER AND BURNER.

No. 408,198.

Patented July 30, 1889.

Fig.1.

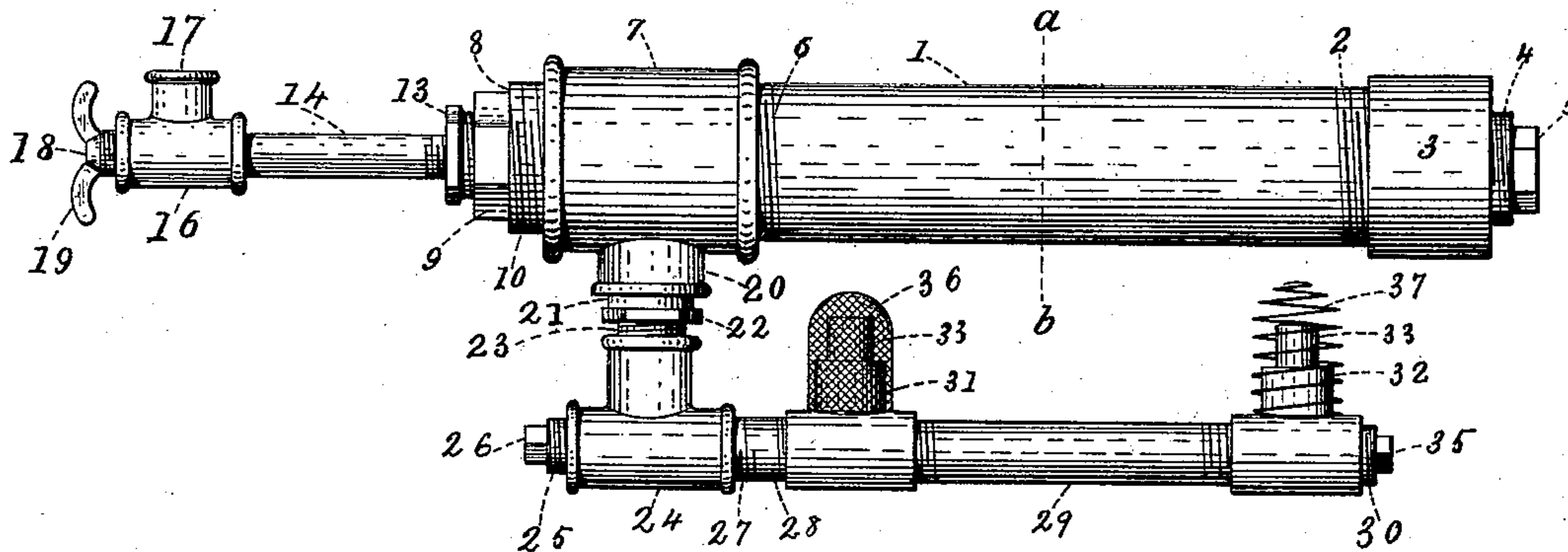


Fig.2.

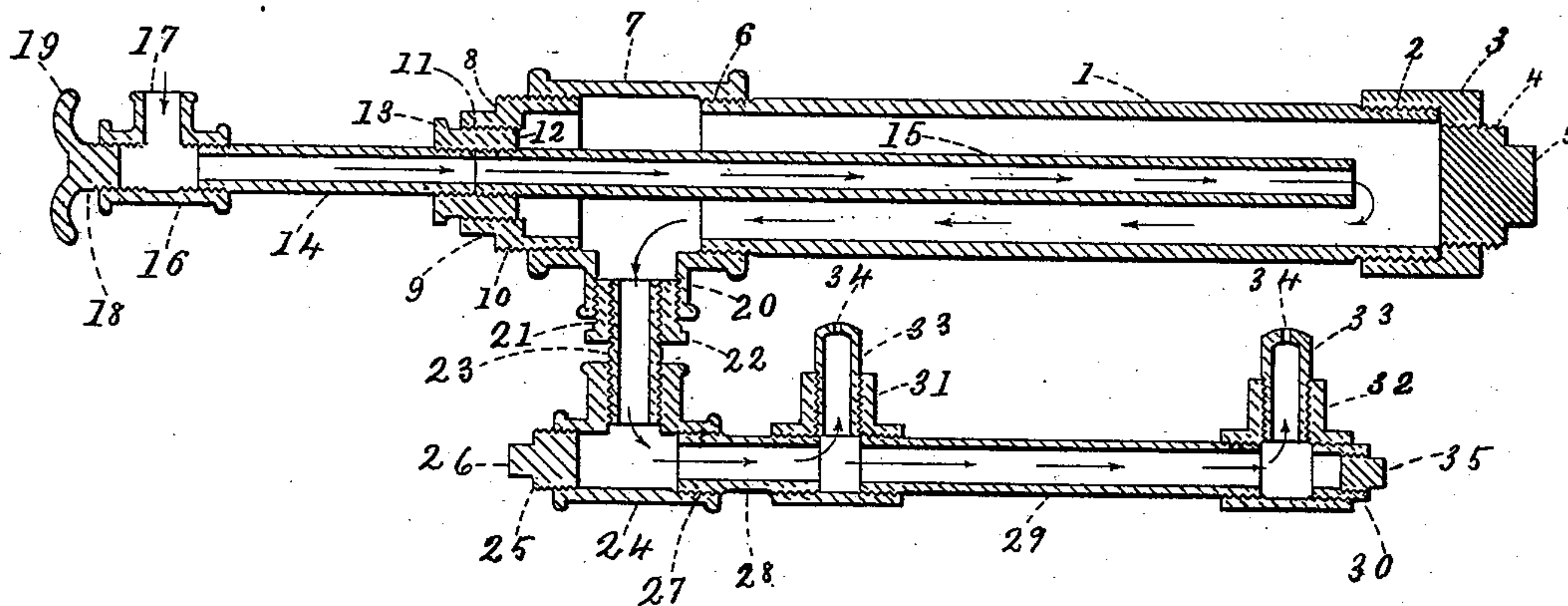


Fig.3.

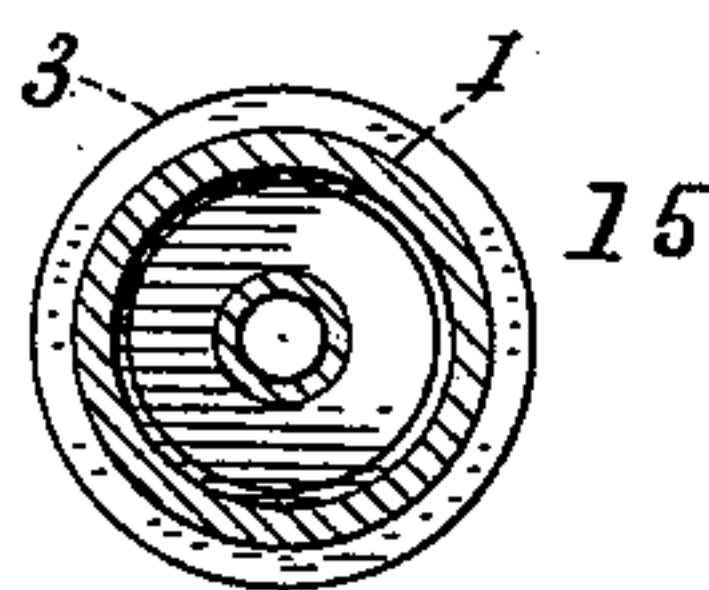
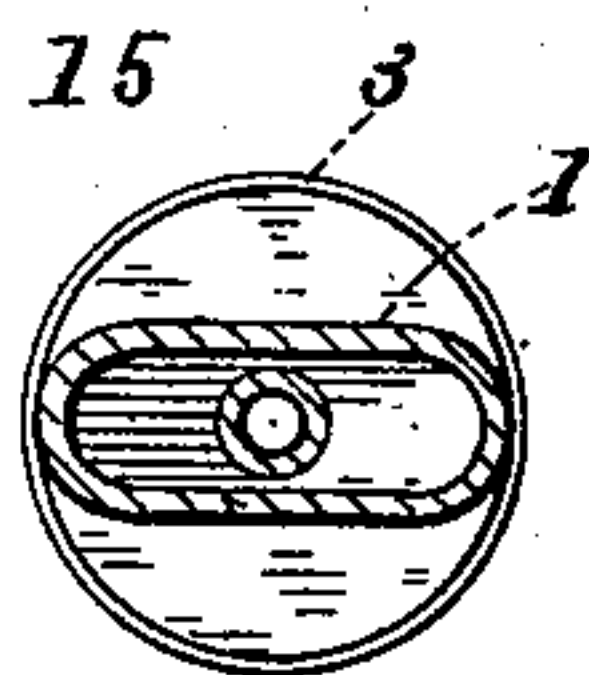


Fig.4.



Witnesses.

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HYDROCARBON-OIL VAPORIZER AND BURNER.

SPECIFICATION forming part of Letters Patent No. 408,198, dated July 30, 1889.

Application filed September 1, 1888. Serial No. 284,378. (No model.)

To all whom it may concern:

Be it known that I, JACOB S. SEMON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Hydrocarbon-Oil Vaporizers and Burners, of which the following is a specification.

My invention relates to certain new and useful improvements in hydrocarbon-oil vaporizers and burners; and it consists in certain new and useful improvements whereby the body, or that portion of the retort most liable to burn out, is made easily removable and movable, so that when one side has been used up by the heat the other side may be turned to the fire, thereby increasing the durability of the retort, and so that when the retort is burned so as to be unfit for use it may be easily removed and another put in its place without in any way injuring the rest of the apparatus.

Figure 1 is a side elevation of the device complete. Fig. 2 is a vertical longitudinal central section through the same. Fig. 3 is a cross-section through line *a b*, Fig. 1; and Fig. 4 represents a similar cross-section through a modified form of the body of the retort.

In said drawings, 1 represents the body of the retort. It may be made of ordinary iron gas-pipe; but copper is preferable, because it takes heat more quickly. At one end is a screw-thread 2, by which a screw-cap 3 is removably secured to it. In the end of the cap 3 is a removable screw-plug 4, having a wrench-section 5, by which it is removed or put in place. The opposite end of the retort 1 is provided with a screw-thread 6, adapted to screw into the large T portion 7, from which it may be easily removed in the usual way. At the opposite end of the T 7 is a reducer 8, provided with a nut-section 9, and a screw portion 10, adapted to screw into the T. The reducer 8 is also provided with an internal screw-thread 11, adapted to receive the portion 12, which is provided with a nut-section 13, to receive a wrench for turning it. In the portion 12 is secured the ends of the pipes 14 15, and at the opposite end of the pipe 14 is secured a T portion 16, having the

inlet 17, and a screw-plug 18, provided with the thumb-piece 19, for convenience in turning it in or out, and for giving ready access to the pipes 14 and 15, so that by taking out the plug 4 of the retort 1 a clear opening through is left to get at these tubes to clean them and also to clean out the retort 1 without the necessity of separating the other parts.

At the lower side of the T 7 is the portion 20, provided with a reducer 21, adapted to screw into it, and having a nut-section 22, into which is secured a connecting-pipe 23, the opposite end of which screws into the T portion 24. In this T portion 24 is a screw-plug 25, having a nut portion 26, by which it is screwed in or out, and to the opposite end of the T portion 24 is secured one end of the burner-tube by the usual screw portions 27.

The burner-tube is made up of the tubes 28, 29, and 30, secured together by the T portions 31 32, and into said T portions is secured the two burners 33, each having openings 34, through which the gas issues. In the tube 30 is a screw-plug having a nut-section 35.

To prevent the noise caused by the gas as it issues from the burners, I place a small covering of finely-woven wire 36, or its equivalent, a spiral cover 37. (Shown in Fig. 1.)

The operation of the device is as follows: When oil—kerosene, for instance—is admitted at the inlet 17, it passes in the direction of the arrows through the tube 15, and then into the retort back again to the tube 23, down which it passes into the burner-tube, and from thence through the burner-openings, when it is lighted and burns, and communicates sufficient heat to the retort to convert it to a red heat and a large portion of the oil within it into a permanent gas, which issues from the burners with considerable force, producing a very complete combustion and great heat at comparatively little expense. The object of the long tube 15 within the retort is to cause the oil to flow into the retort at a comparatively low temperature, but sufficiently high to be converted into vapor before entering the retort proper, where it is converted into a permanent gas. By this means the disadvantage resulting from the oil suddenly coming in contact with a red-hot surface is avoided.

The object in making the several parts easily removable, particularly the retort-body 1, which is not expected to last a great while, is to provide the means for the easy removal 5 of the retort-body, so as to substitute a new one when it is worn out by the great heat to which it is subjected. This can be done at very little trouble or cost, because of its simple construction.

10 I claim as my invention—

In a hydrocarbon-oil vaporizer and burner, a removable retort portion 1, having an inlet-tube consisting of the tubes 14 and 15, secured by a reducer to the retort, the portion

15 forming a straight tube projecting and opening into and extending lengthwise of the body of the retort without coming in contact with the sides of the same, in combination with a burner-tube extending parallel with it, consisting of the pipes 28 and 29, connected 20 together by T portions carrying gas-burners and by a T and connecting parts to the T portion 7, substantially as described.

JACOB S. SEMON.

Witnesses:

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HARRIET JOHNSON.