

No. 713,509.

Patented Nov. 11, 1902.

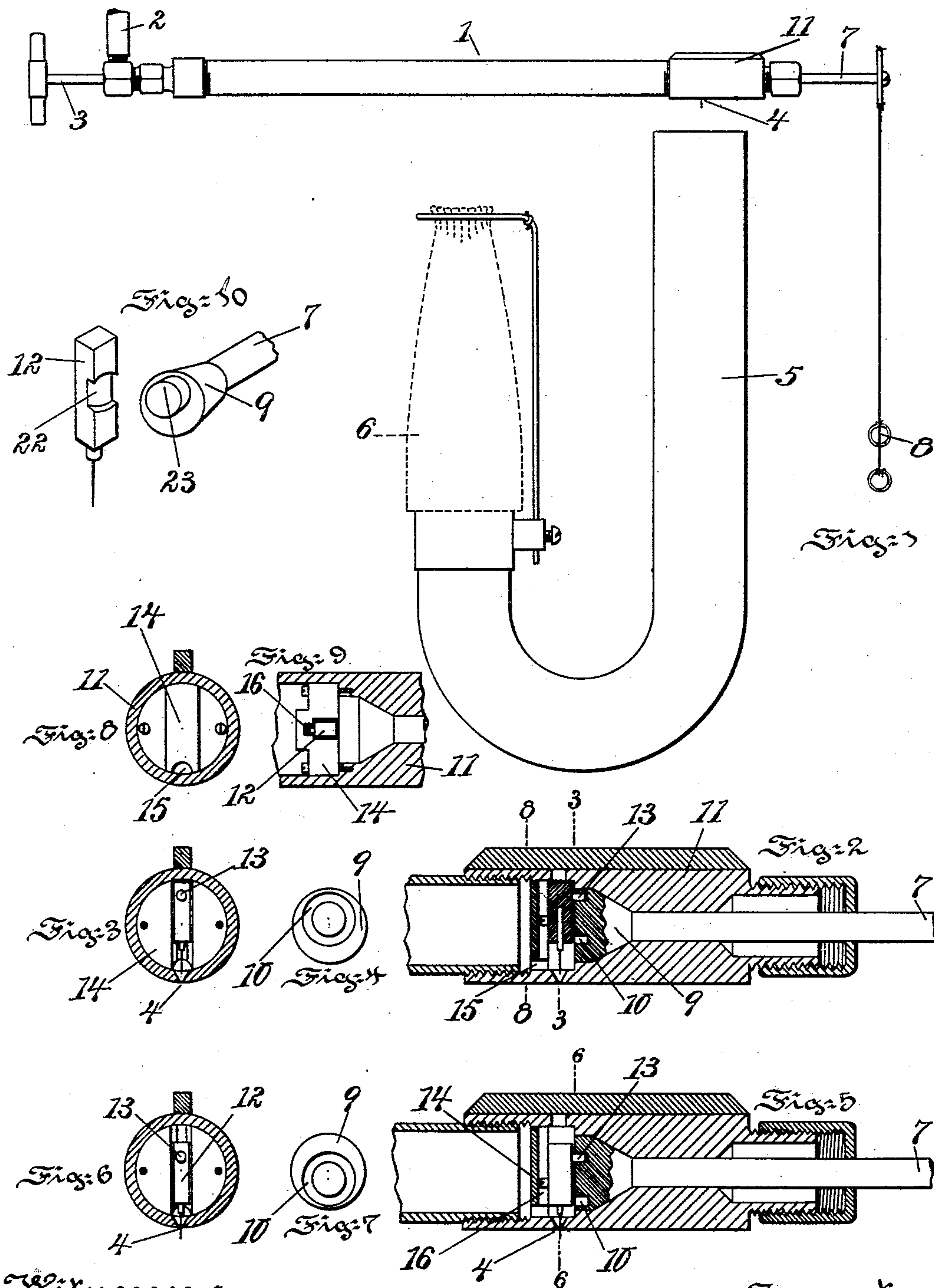
G. D. SCOTT.

VAPORIZER FOR HYDROCARBON BURNERS.

(Application filed Mar. 3, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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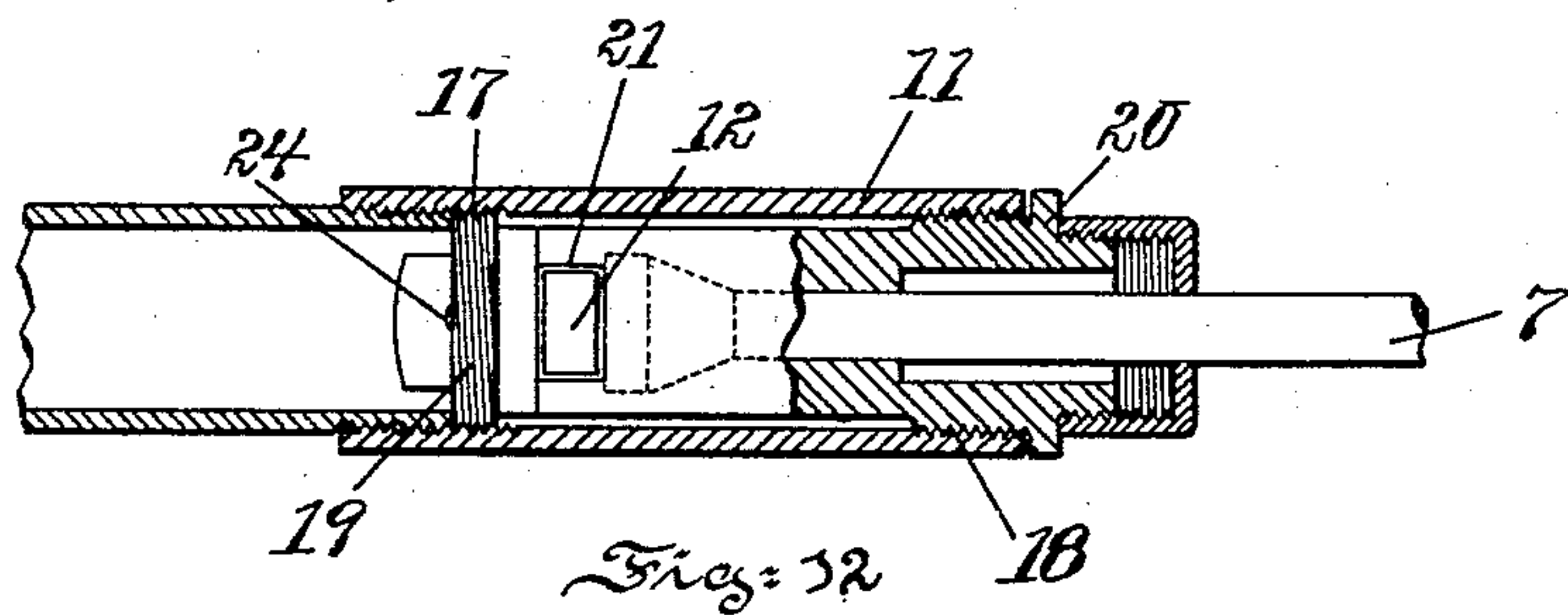
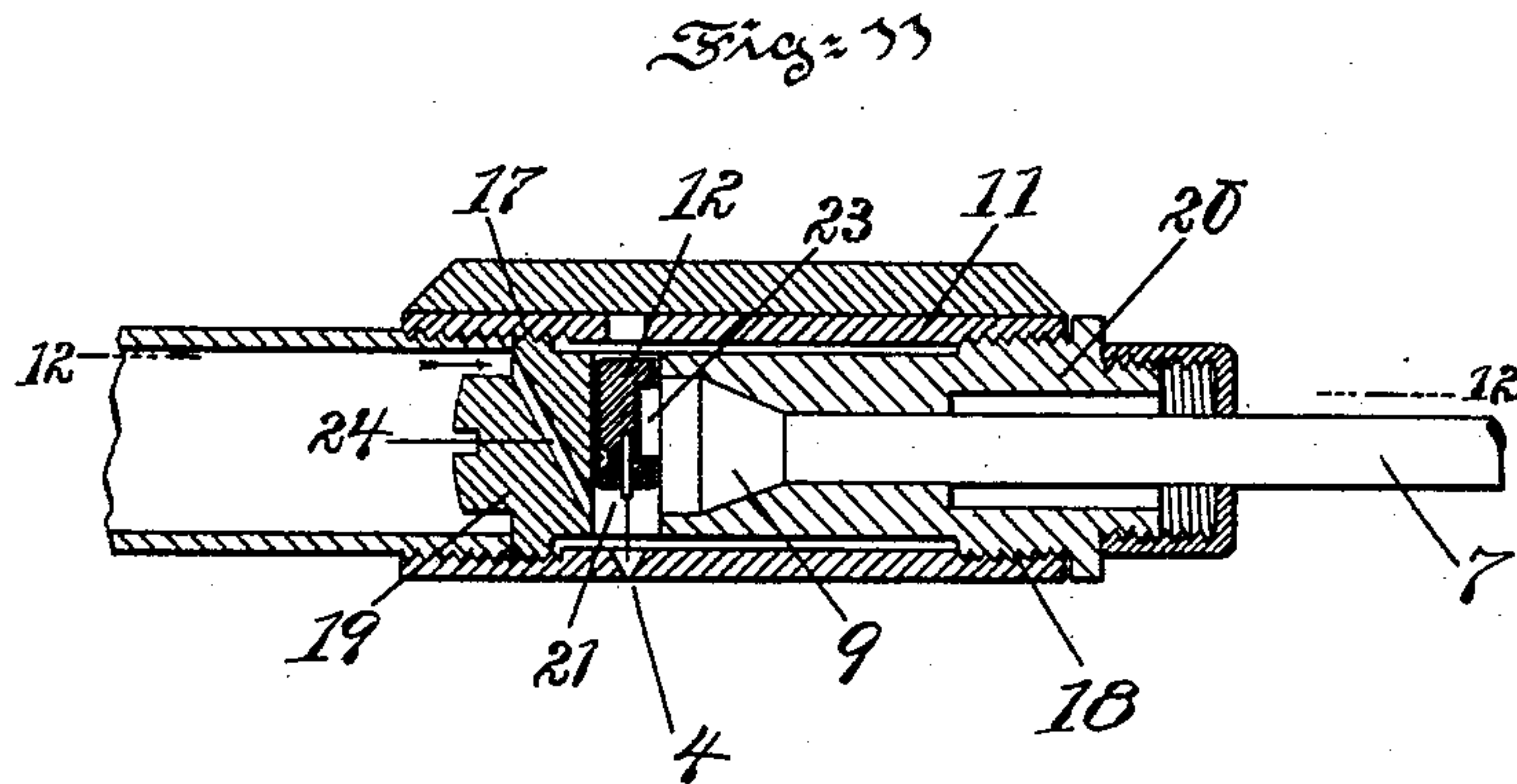
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

GEORGE D. SCOTT, OF BIRMINGHAM, ALABAMA, ASSIGNOR TO THE KITSON HYDROCARBON HEATING & INCANDESCENT LIGHTING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF WEST VIRGINIA.

VAPORIZER FOR HYDROCARBON-BURNERS.

SPECIFICATION forming part of Letters Patent No. 713,509, dated November 11, 1902.

Application filed March 3, 1900. Serial No. 7,203. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. SCOTT, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Vaporizers for Hydrocarbon and other Burners, of which the following is a specification.

It is the object of this invention to provide a simple, efficient, and reliable means for rapidly cleaning the outlet-orifice of a vaporizer for hydrocarbon and other burners; and to this and other ends the invention consists of the improvements hereinafter described and claimed.

The nature, characteristic features, and scope of the invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a side elevational view of a vaporizer embodying features of my invention and showing it in application to one type of hydrocarbon-burner. Fig. 2 is a detail view, in central section, of the right-hand end of the vaporizer shown in Fig. 1, illustrating cleaning means of my invention. Fig. 3 is a sectional view taken on the line 3 3 of Fig. 2. Fig. 4 is a face view of the cam, showing it in the same position as in Figs. 2 and 3. Fig. 5 is a view similar to Fig. 2, but showing the cleaner in different position. Fig. 6 is a sectional view taken on the line 6 6 of Fig. 5. Fig. 7 is a face view of the cam, showing its position as in Figs. 5 and 6. Fig. 8 is a sectional view taken on the line 8 8 of Fig. 2, showing the passage for vapor and the like. Fig. 9 is a sectional view showing the ways in plan. Fig. 10 is a perspective view of a modification of my invention, showing the parts detached. Fig. 11 is a view in central section, showing the parts assembled; and Fig. 12 is a sectional view taken on the line 12 12 of Fig. 11.

In the drawings, 1 is a vaporizer having an inlet 2 and valve 3 at one end and having at the other end a detachable casing provided

with a discharge-orifice 4 and with means for cleaning the same.

5 is a mixing-tube having a mantle 6 thereon.

7 is a rock-shaft having at one end means, as 8, for rocking it and having at its other end a cam 9, provided on its face with a groove 10. These parts may be located in a detachable casing 11, equipped with the discharge-orifice 4, which may be reamed out on its inside, as shown, so as to guide the needle. Also located in the casing 11 is a reciprocating cross-head or carrier 12, which is provided with a needle for penetrating the discharge-orifice 4 and with a pin 13, adapted to follow the groove 10 of the cam 9. This cross-head or carrier works in a guide piece or ways 14, at the base of which is a passage 15 for the passage of vaporized oil.

16 is a groove which accommodates the head of a set-screw that may be employed to hold the needle. It is apparent from the foregoing description and with reference to the drawings that in order to remove carbon or other matter clogging the aperture it is merely necessary to pull the cord or chain 8, which will, through the intervention of the shaft 7 and cam 9, bring the cross-head or carrier and needle into the position shown in Fig. 5, so that the needle will quickly and readily make an opening for the escape of the vaporized oil into the mixing-chamber 5, whereupon a pull of the opposite cord will bring the cross-head into its normal position, which is shown in Fig. 2. In the modification shown in Figs. 10 to 12 the detachable casing 11 is provided with internally-threaded extremities, as 17 and 18, for the reception, respectively, of a cap 19 and a guide-piece 20, slotted as at 21, which forms, as shown in Fig. 12, the ways for the reciprocating cross-head or carrier 12. In this instance the cross-head or carrier instead of being provided with a pin is cut away, as at 22, to accommodate a projection, as 23, on the rock-shaft 7. The cap 19 is provided with a passage 24 for the escape of vaporized oil, which may be,

as shown, in an inclined position—that is, said passage-way extends from the upper portion of the cap 19 downward to the discharge-orifice 4, which is located in the lower side of the detachable casing and which constitutes a vapor-jet orifice. Such a passage-way affords communication between the upper portion of the vaporizing-tube interior and the discharge-orifice, thus reducing the tendency of the discharge-orifice 4 to become clogged. Obviously the cap 19 constitutes what may be called a “filling.”

It will be obvious to those skilled in the art to which the invention appertains that modifications may be made in details without departing from the spirit thereof. Hence I do not limit myself to the precise construction and arrangement of parts hereinabove set forth and illustrated in the drawings; but,

Having thus described the nature and objects of the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a horizontal vaporizer having a vapor-discharge orifice in one of its side walls, of a needle located in and afforded a range of motion transversely of the vaporizer, means for reciprocating said needle, and a filling in such vaporizer having an inclined passage-way extending from the

upper portion of the vaporizer interior to such vapor-discharge orifice, substantially as described. 30

2. The combination with a horizontal vaporizer having a valved inlet for oil and a vapor-discharge orifice, of ways ranging transversely of said vaporizer and in proximity with the discharge-orifice, of a cross-head adapted to said ways and having a needle arranged to penetrate the discharge-orifice, when the cross-head is reciprocated, means for reciprocating the cross-head, and a filling located between the cross-head and the oil-inlet and having an inclined passage-way or duct extending from the upper portion of the vaporizer interior to said vapor-discharge orifice, substantially as described. 45

3. In a vapor-burner a horizontal vaporizing-tube having a vapor-jet orifice in its lower side, and a filling in such tube having an inclined passage-way extending from the upper portion of the tube interior to such vapor-jet orifice. 50

In testimony whereof I have hereunto signed my name.

GEO. D. SCOTT.

In presence of—

W. T. JACKSON,
K. M. GILLIGAN.