

No. 693,502.

Patented Feb. 18, 1902.

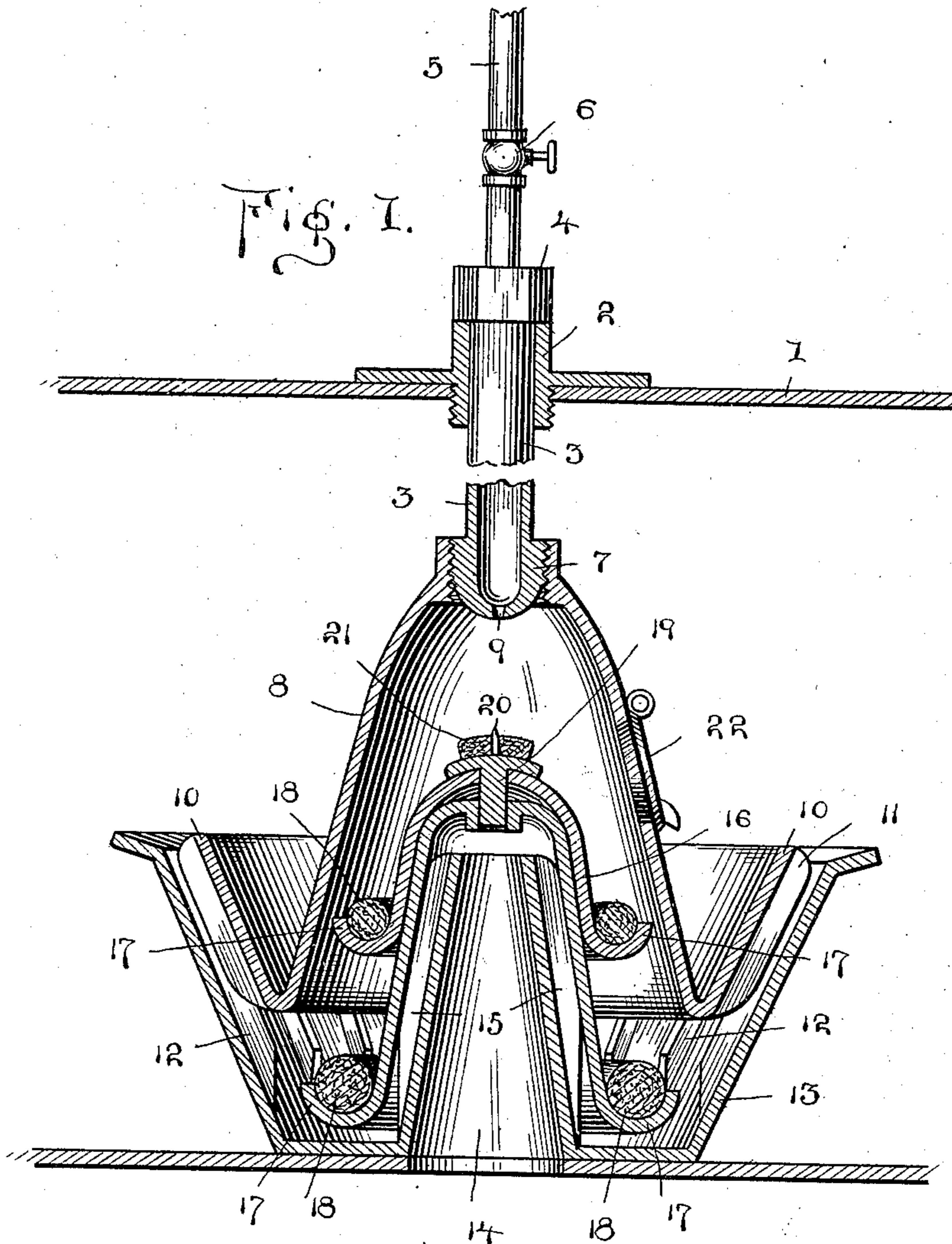
B. G. DEVOE & C. W. DAILEY.

OIL BURNER.

(Application filed July 26, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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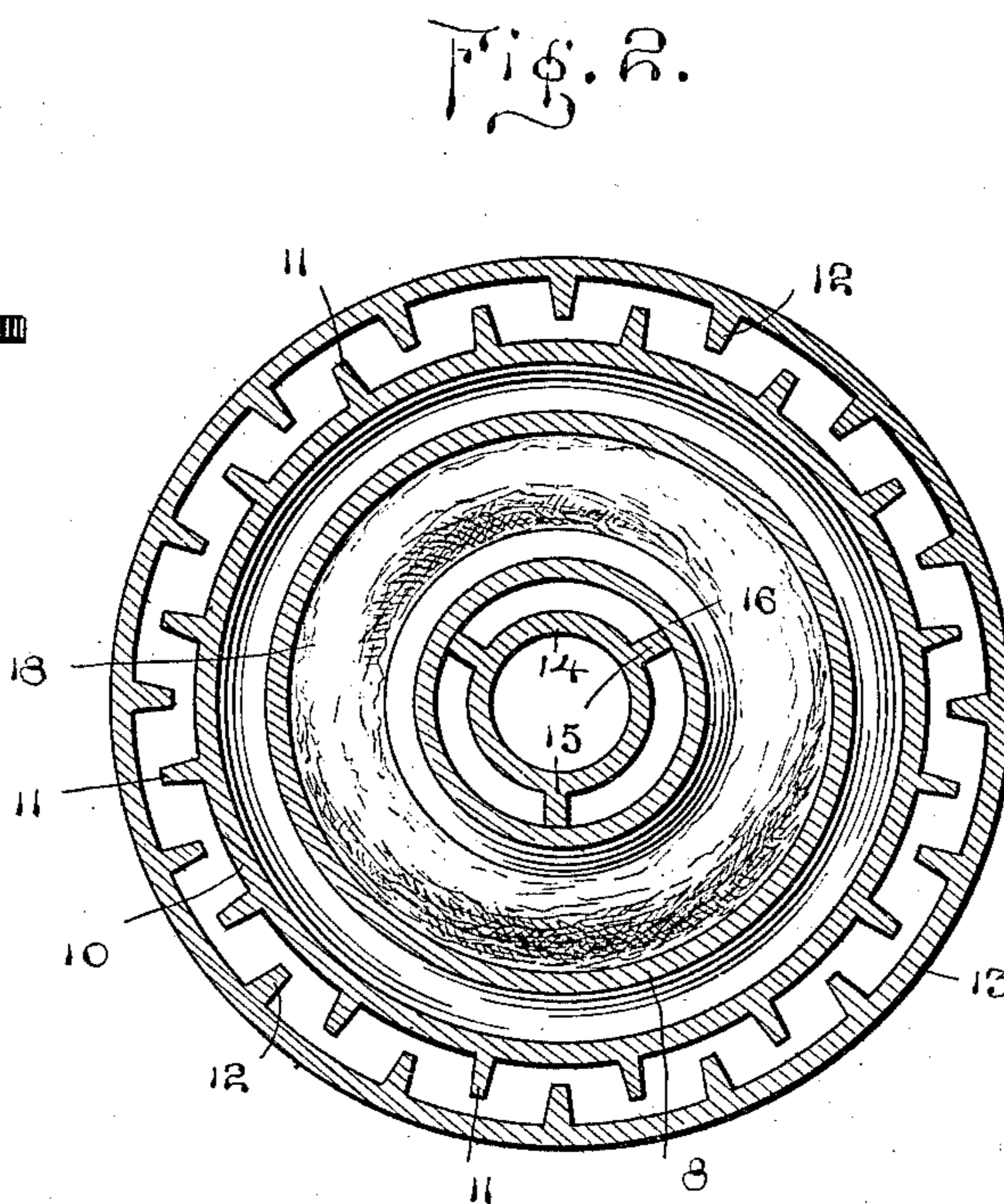
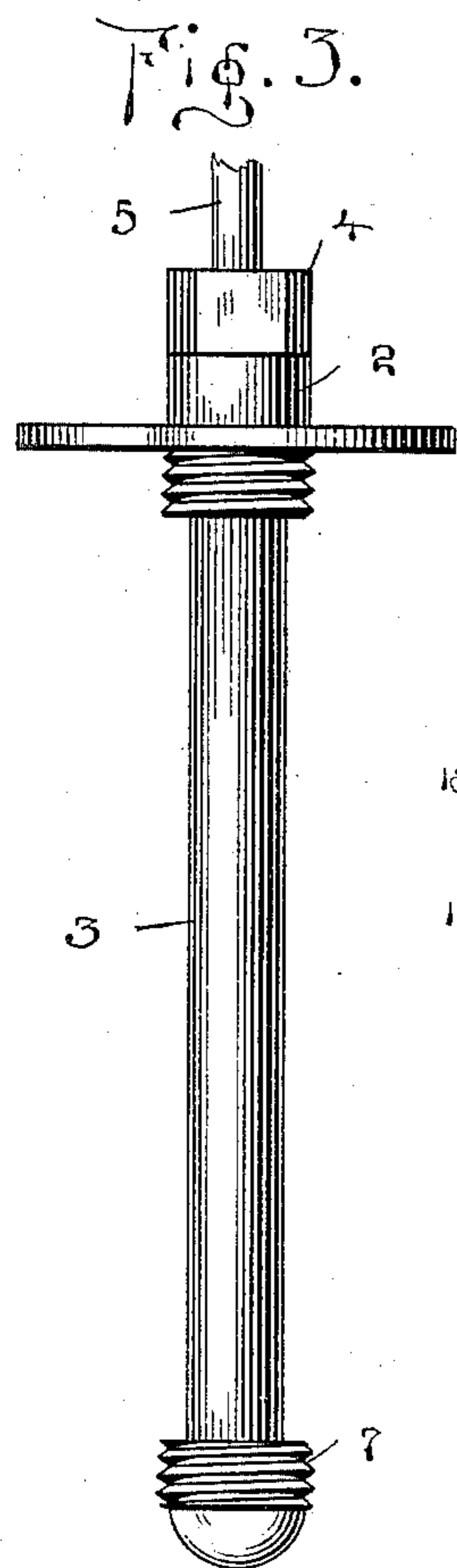
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

BENJAMIN G. DEVOE AND CHARLES W. DAILEY, OF LIMA, OHIO.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 693,502, dated February 18, 1902.

Application filed July 26, 1901. Serial No. 69,865. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN G. DEVOE and CHARLES W. DAILEY, citizens of the United States, residing at and whose post-office addresses are Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to oil-burners, and is particularly applicable for use in ranges or stoves, as well as furnaces.

The primary object of the invention is to provide a cheap, durable, and efficient burner for crude or similar oil which may be conveniently applied to an ordinary stove or furnace without materially changing the construction thereof.

A further object is to provide an efficient means for regulating the supply of air into the mixing-chamber, whereby the flame may be controlled.

Further objects, as well as the peculiar details of construction embodied in this device, will be clearly described hereinafter, illustrated in the accompanying drawings, and defined in the appended claims, in which—

Figure 1 represents a vertical longitudinal sectional view through a burner constructed in accordance with my invention, the supply-pipe being shown in elevation. Fig. 2 is a horizontal section through the device in alignment with the upper portion of the cone. Fig. 3 is a side elevation of the supply-pipe and the regulating-tube.

1 designates the top of a stove or furnace in which is secured a hollow thimble 2. A feed or adjusting tube 3 is loosely mounted in this thimble and has at its upper extremity a nut or head 4, the purpose of which will be described hereinafter.

5 designates a supply-pipe through which the oil is admitted into the feed-tube, and the amount of oil dispensed may be controlled by means of a valve 6, positioned at any convenient point intermediate the pipe 5.

On the lower extremity of the feed-tube 3 is arranged a threaded bur or boss, which carries an adjustable dome or hood 8, surrounding an aperture 9 in the lower end of said feed-pipe 3. This hood has formed at its lower end an upwardly and flaring flange

10, on which is arranged a plurality of equidistant ribs or partitions 11, alternating with a plurality of inclined ribs 12, secured to the inner wall of the inner flaring walls of the oil-receiving chamber 13. This chamber 13 has a concentrically-arranged and upwardly-projecting flange in the form of a hollow truncated cone 14, around the outer wall of which is arranged a plurality of ribs 15, upon which rest the wick-retaining supports 16. These supports are in the shape of a bell and terminate at their lower extremities in trough-shaped flanges 17, which receive wicks 18, preferably cylindrical. These supports are arranged one within the other, and the upper one supports a wick of similar diameter to the lower one. In the drawings we have illustrated but two supports, although it is obvious that a greater number may be employed, if desired. A suitable fastening device 19 is designed to secure the supports rigidly together, and from its top is an upwardly-projecting pin 20, upon which a pad of absorbing material 21 is secured. This pad is immediately below the aperture 9 of the feed-tube 3, and as the oil drops upon the same it is distributed over the surface of the bell-shaped wick-supports, perfectly saturating the upper wick, the excess of oil being conveyed over the trough-shaped flange onto the next or succeeding wick until all of them are perfectly saturated. A door 22 is provided in the dome 8, whereby a taper or match may be inserted to ignite the oil. By turning the nut or head 4 of the tube 3 the bur 7 will turn within the threads of the dome 8 and raise or lower it, thus increasing or diminishing the distance between the ribs thereof and those upon the oil-pan, whereby the flame may be regulated. The air is admitted through the concentric conically-arranged flange 14, secured to the oil-pan, and passes between the ribs 15 into the dome, whereby it is mixed with the oil or gas before the same is ignited. As the oil flows from the pad 21 onto the bell-shaped supports the heat thereof will partially vaporize it, so that it will readily mix with the air admitted through the cone-shaped flange just described.

While we have illustrated but a single burner as applied to a stove, it is obvious

that a multiplicity may be used, if desired. This will particularly be true in the event that the burners be employed for furnaces.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination with an oil-chamber; of a plurality of wick-supports carried thereby, an adjustable dome or hood suspended over the supports, and a feed-tube communicating with and supporting the dome.

2. In a device of the character described, the combination with an oil-chamber having a hollow upwardly-projecting and concentrically-arranged tube for the admission of air, a plurality of wick-supports carried thereby, a dome arranged over said supports, and a feed-pipe communicating therewith and adapted to adjust the dome toward and away from the wick-supports.

3. In a device of the character described, the combination with an oil-chamber, provided with a concentrically-arranged air-inlet at its bottom, a wick-support provided with an upwardly and outwardly flaring flange arranged adjacent the walls of the oil-chamber, a dome suspended over the support, and a

feed-tube communicating with said dome and adapted to adjustably support the same.

4. In a device of the character described, the combination with an oil-chamber having a concentric air-inlet, a bell-shaped wick-support surrounding said inlet, a feed-tube arranged above the support and adapted to feed oil upon the same, and an adjustable hood carried by said pipe and surrounding the support.

5. In a device of the character described, the combination with an oil-chamber having an upwardly-projecting and concentrically-arranged tubular flange projecting from its bottom to form an air-inlet, ribs arranged on the outer walls of said flange, a bell-shaped wick-support carried thereby and resting on the ribs, means for supplying oil to the wicks, and an adjustable hood arranged above the support and surrounding the same.

In testimony whereof we affix our signatures in presence of two witnesses.

BENJAMIN G. DEVOE.
CHARLES W. DAILEY.

Witnesses:

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