

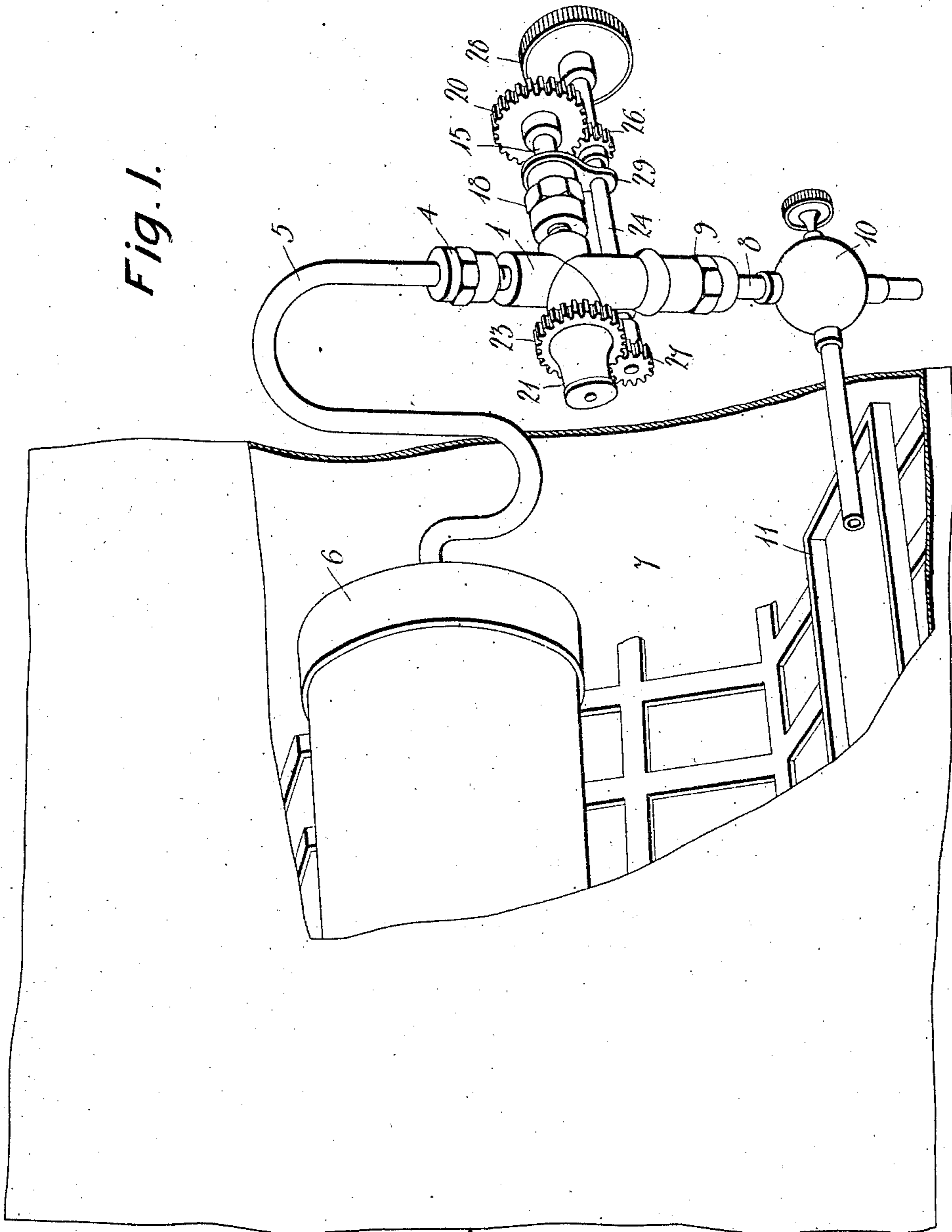
No. 840,448.

PATENTED JAN. 1, 1907.

M. A. FESLER.
CRUDE OIL BURNER.
APPLICATION FILED AUG. 31, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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2 SHEETS—SHEET 2.

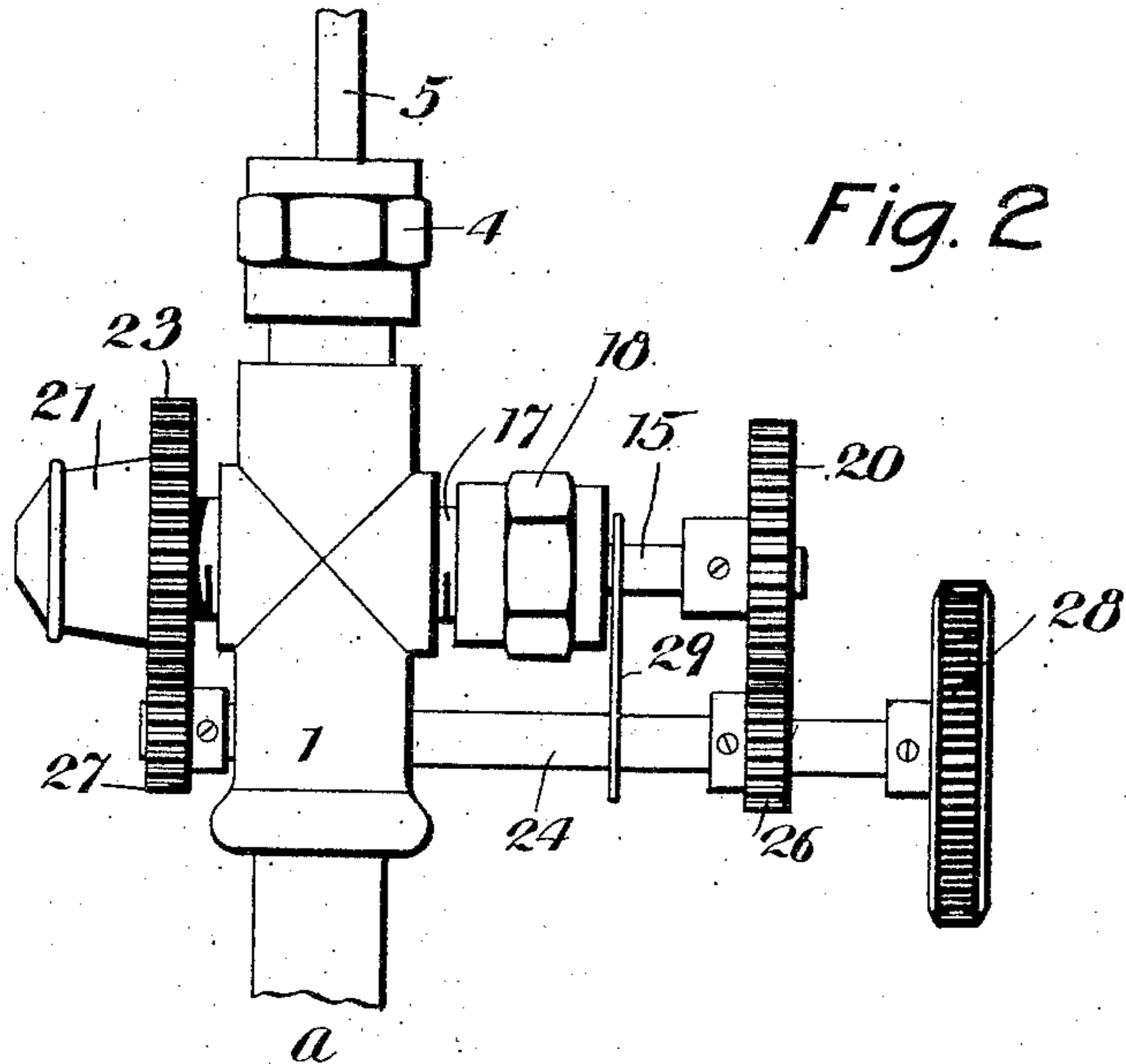


Fig. 2

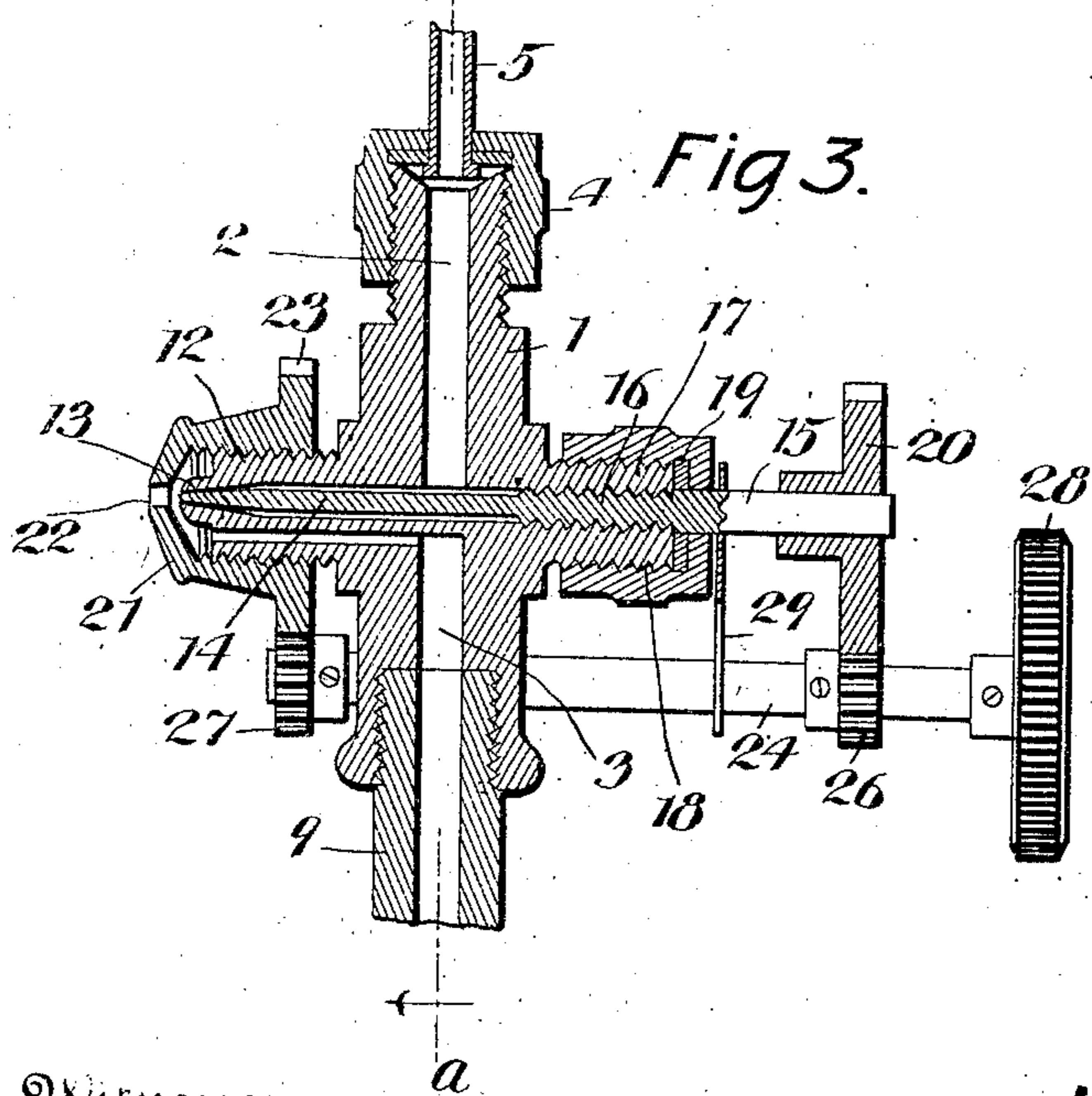


Fig. 3.

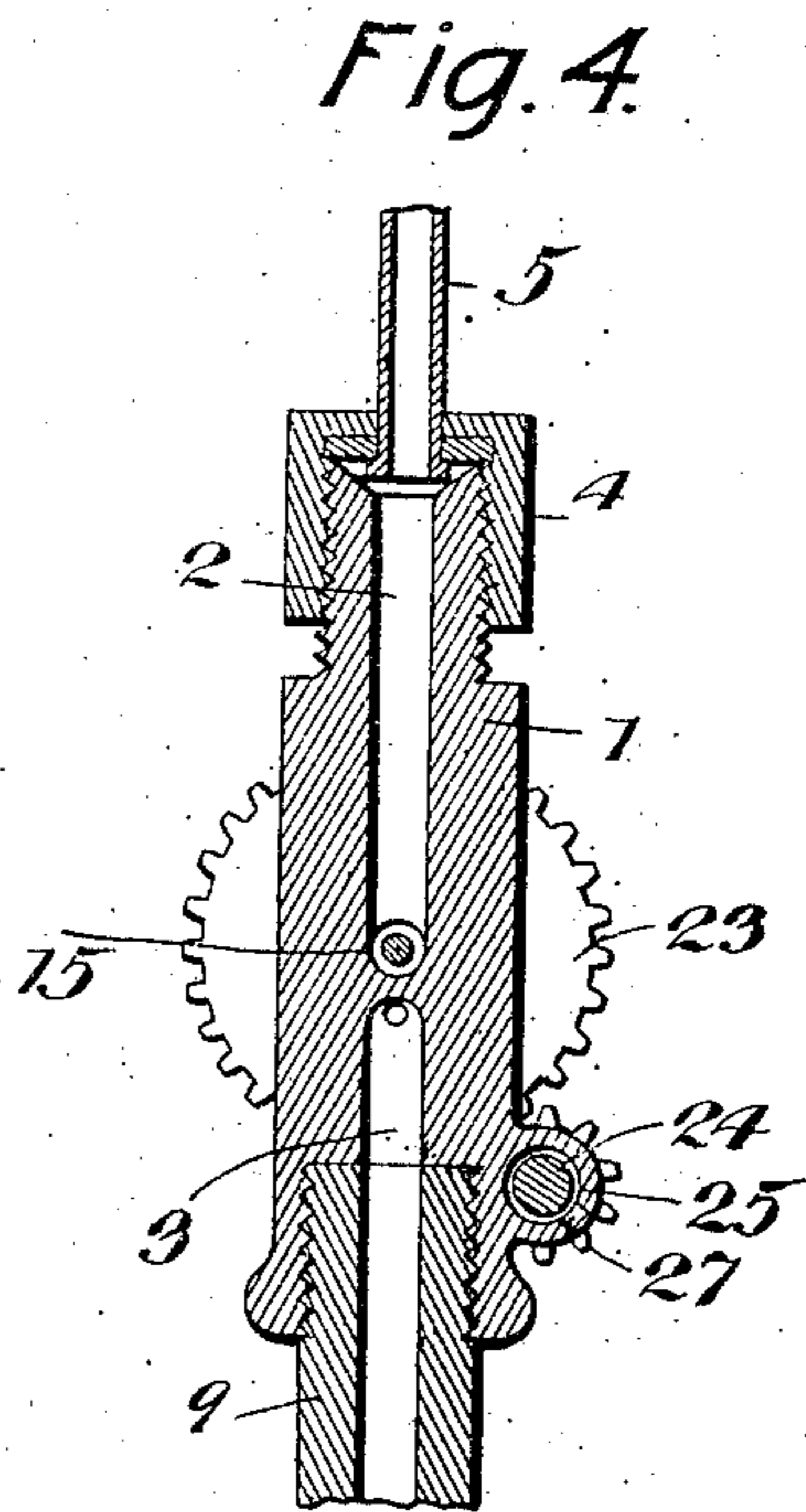


Fig. 4.

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UNITED STATES PATENT OFFICE.

MILTON ASHTON FESLER, OF VISALIA, CALIFORNIA.

CRUDE-OIL BURNER.

No. 840,448.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed August 31, 1905. Serial No. 276,663.

To all whom it may concern:

Be it known that I, MILTON ASHTON FESLER, a citizen of the United States, residing at Visalia, in the county of Tulare and State of California, have invented certain new and useful Improvements in Crude-Oil Burners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in crude-oil burners of that class in which the oil is atomized by means of a jet of steam which commingles therewith to produce a highly-combustible vapor; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

The object of the invention is to provide a burner of this class with simultaneously-operating means for regulating the discharge of both the oil and the steam and for appropriately proportioning them so that the vapor produced by the burner will under all conditions consist of steam and oil commingled in the proper proportions to give the best result.

In the accompanying drawings, Figure 1 is a perspective view of a crude-oil burner embodying my improvements, showing the same in connection with a stove. Fig. 2 is a detail elevation showing my simultaneously-operating means for controlling the discharge of oil and steam. Fig. 3 is a sectional view of the same, and Fig. 4 is a similar view taken on the plane indicated by the line *a-a* of Fig. 3.

The burner-body 1 has a steam-passage 2 and an oil-passage 3. The former is provided with a suitable coupling, here shown as a sleeve 4, screwed to the outer end thereof to connect a steam-pipe 5 thereto. In Fig. 1 of the drawings the steam-pipe is shown as leading from a boiler 6, which is disposed in the fire-box 7 of a stove. The oil-supply pipe 8 is coupled, as at 9, to the oil-passage 3 and includes in the form of my invention shown in Fig. 1 a valve 10 for the discharge of oil into a drip-pan 11, which is also disposed in the fire-box of the stove and the office of which is to produce initial heat for the purpose of generating steam into the boiler. The valve 10 may be connected to any suitable reservoir or other source of oil.

The body 1 is formed with a nozzle 12, the

bore of which communicates at its inner end with the oil-passage 2 and has its outer end tapered, as at 13, and reduced in diameter. In the bore is a needle-valve 14, the stem 15 of which is screw-threaded for a suitable distance, as at 16, and passes through and engages the threaded bore of an arm 17, which projects from one side of the burner-body. Said arm is screw-threaded, as shown, and on the same is screwed a sleeve-gland 18, through which the needle-valve stem extends. The said sleeve-gland also serves to compress suitable packing 19 to prevent leakage around the valve-stem. The latter is provided at its outer end with a spur-gear 20.

The nozzle 12 is screw-threaded, and on the same is screwed a regulating and mixing nozzle 21, the discharge-orifice 22 of which is opposite the contracted orifice of the nozzle 12. The said regulating and mixing nozzle 21 is provided with a spur-gear 23, which is here shown as of the same diameter as the gear 20, with which the needle-valve is provided.

An operating-shaft 24 is journaled in a bearing 25, formed at one side of the burner-body, is provided with a pinion 26, which engages the spur-gear 20, has a pinion 27, which engages the spur-gear 23, and is provided at its outer end with a hand-wheel or other suitable device 28, whereby it may be readily rotated. The said shaft also has a bearing in a link 29, which has a bearing also for the stem of the needle-valve.

It will be understood that by turning the shaft 24 the needle-valve and the regulating and mixing nozzle will be caused to rotate simultaneously therewith by means of the gears which connect them thereto and that said nozzle and needle-valve will be also moved longitudinally, owing to the screw-threads with which they are provided, hence causing them to vary the effective areas of the jet-openings as may be required.

It will be understood that my improved burner may be used in connection with any source of steam and of oil and that it may be used for other purposes than producing combustion in a stove, as here shown.

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

A burner of the class described having a threaded needle-valve to regulate the discharge of steam, said valve being provided with an operating-screw, a threaded revolu-

ble regulating and mixing nozzle to govern
the discharge of oil, said nozzle and needle-
valve each provided with a gear-wheel and
an operating-shaft having gears engaging
5 those of said valve and nozzle, whereby said
valve and nozzle are simultaneously rotated
and adjusted, substantially as described.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

MILTON ASHTON FESLER.

Witnesses:

B. B. DUDLEY,
F. GUY WATERMAN.