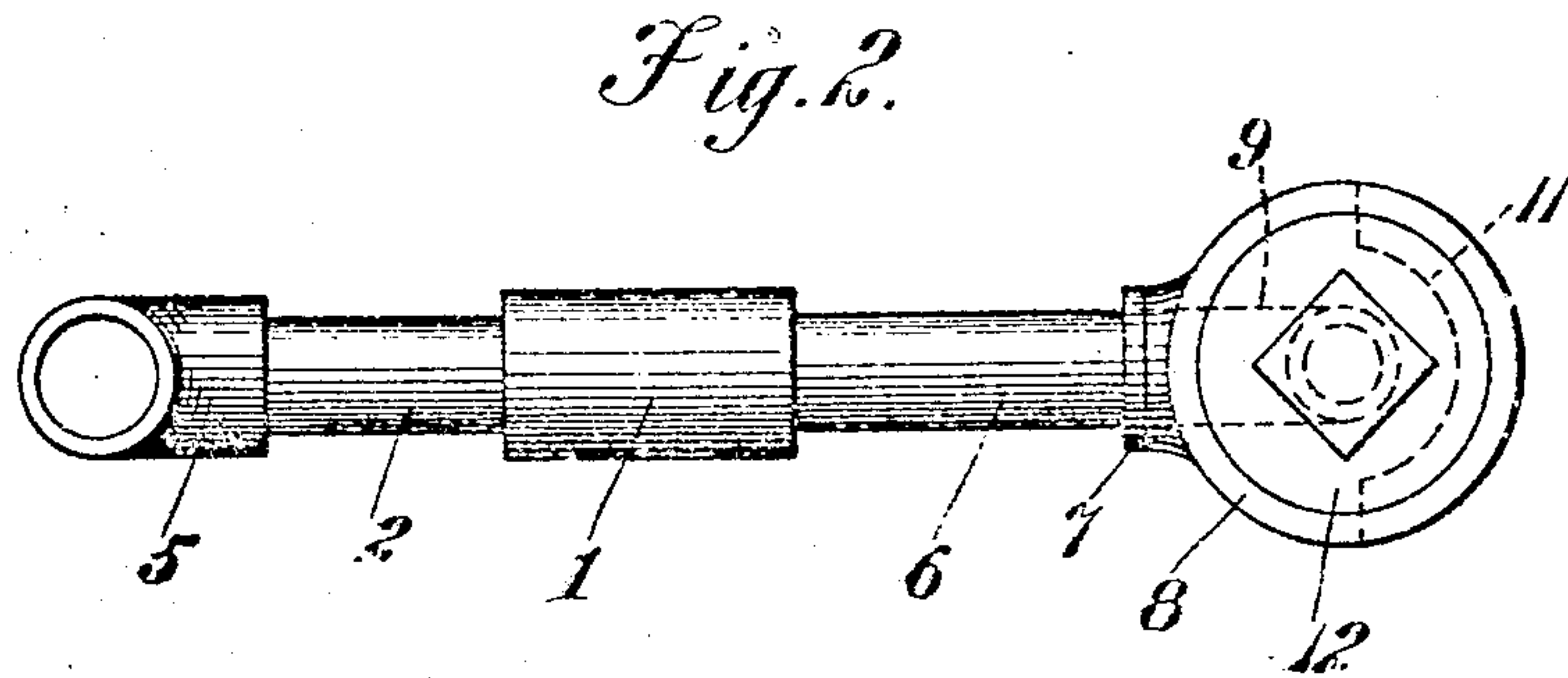
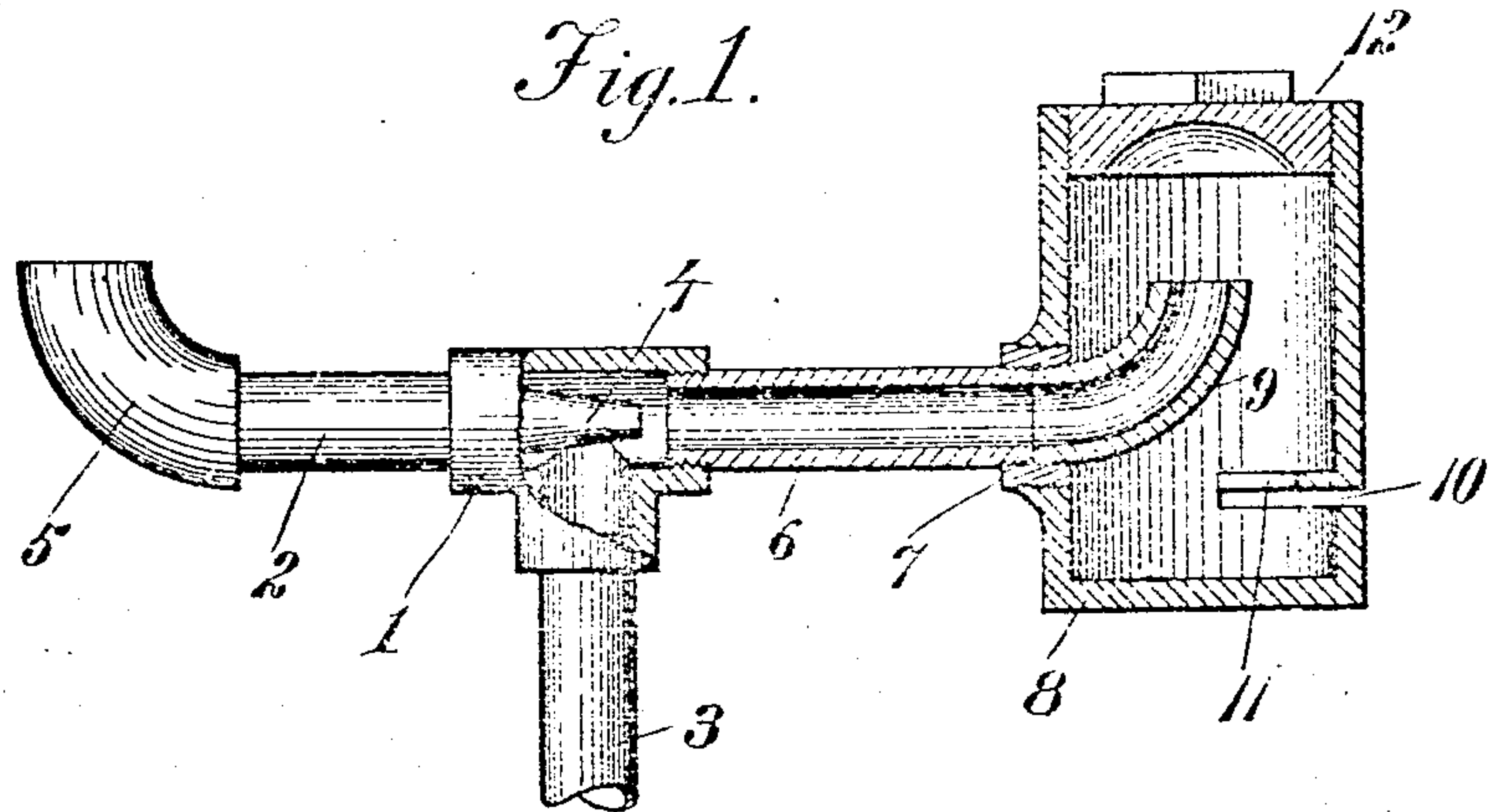


No. 877,178.

PATENTED JAN. 21, 1908.

J. P. DONOVAN.
CRUDE OIL BURNER.
APPLICATION FILED JUNE 18, 1907.



WITNESSES

Alex Currie.
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JOHN P. DONOVAN, OF SAN FRANCISCO, CALIFORNIA.

CRUDE-OIL BURNER.

No. 877,178.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed June 18, 1907. Serial No. 379,676.

To all whom it may concern:

Be it known that I, JOHN P. DONOVAN, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have made certain new and useful Improvements in Crude-Oil Burners, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

This invention relates to oil burners in which steam is used to atomize the oil, the oil being supplied to the burner either by means of a pump, by gravity pressure or by the suction caused by the blast of steam passing through a pipe which leads to the oil supply, the common injector principle being used.

An object of this invention is to make more simple the burners used in the burning of crude oil, and to make it possible to install such a plant for the consumption of oil as a fuel at a cost much below that of most of the similar plants now in operation.

A further object of the invention is to make a burner that will be easily taken apart when it is necessary to clean it, and to produce a burner that has practically nothing to get out of order about it, all the oil passages being of such size as to permit the passage of things that would completely stop up the small passages of the common types of burners.

A further object of this burner is to produce a burner that will require but a single special casting to make the complete burner, all the remainder of the burner being made of common pipe and common pipe fittings.

In the drawings, in which like numerals of reference are applied to like parts throughout, Figure 1 is a side elevation of the burner with a part broken away to show the internal arrangement, and Fig. 2 is a plan with certain of the parts shown in dotted lines.

The numeral 1 represents a common T into which the steam pipe 2 and the oil supply pipe 3 are threaded, said steam pipe 2 being provided with a steam nozzle 4 which terminates near the pipe 6, which latter is also screwed into the T 1.

The pipe 2 is led to any suitable steam supply as through the elbow 5. The pipe 6 is screwed into a sleeve which is threaded on the inside and the outside, and which also has screwed into it the elbow 9, said elbow

having threads on the outside and being commonly called a "street L". On the outside of this sleeve 7 is then screwed the burner nozzle 8, said elbow 9 being small enough to turn around inside the nozzle to its proper position.

In the top of the burner is placed a common threaded plug 12 against which the elbow 9 discharges, thus breaking up the mass of oil and steam into very fine particles, when it may escape from the slit near the bottom of the nozzle. This slit 10 extends around the nozzle for a considerable distance, as indicated in dotted lines in Fig. 2, and just over it is placed the flange 11 which is for the purpose of assisting in the breaking up of the oil particles and causing the stream of oil and steam to escape straight in front of the nozzle in a flat fan like stream.

Having thus described my invention in such full and clear terms as will enable those skilled in the art to construct and use the same, what I claim as new and desire to protect by Letters Patent of the United States, reserving modifications within the scope of the appended claims, is as follows:

1. In an oil burner, the combination of an oil supply pipe, a steam nozzle adapted to discharge near the oil pipe, a third pipe into which the nozzle discharges, an elbow carried by the latter pipe, a cylindrical member closed at one end completely surrounding the elbow and having a slot near its closed end, and a plug in the open end of the cylindrical member and against which the elbow discharges the oil and steam.

2. In an oil burner, the combination of an oil supply pipe, a pipe carrying a steam nozzle adapted to discharge near the oil supply pipe, a third pipe into which the steam nozzle discharges, an elbow carried by said third pipe, a cylindrical member open at one end completely surrounding the elbow and having a slot near its closed end and a curved lip over the slot, and a plug in the open end of the cylindrical member and against which the steam and oil are discharged by the elbow.

In testimony whereof I have hereunto set my hand this 13th day of June A. D. 1907, in the presence of two subscribed witnesses.

JOHN P. DONOVAN.

Witnesses:

CHARLES FRANCEE,
EDWARD ACKLEY.