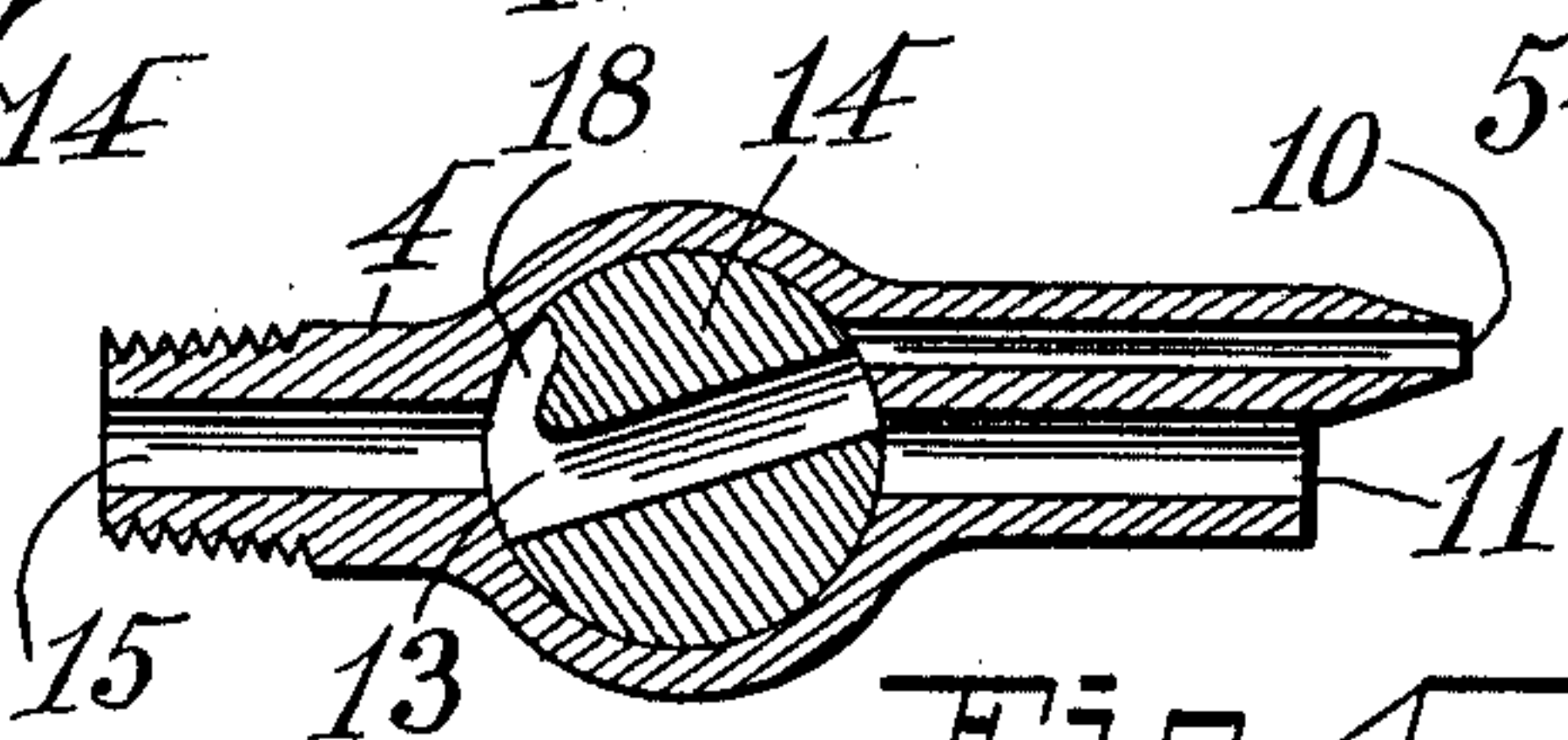
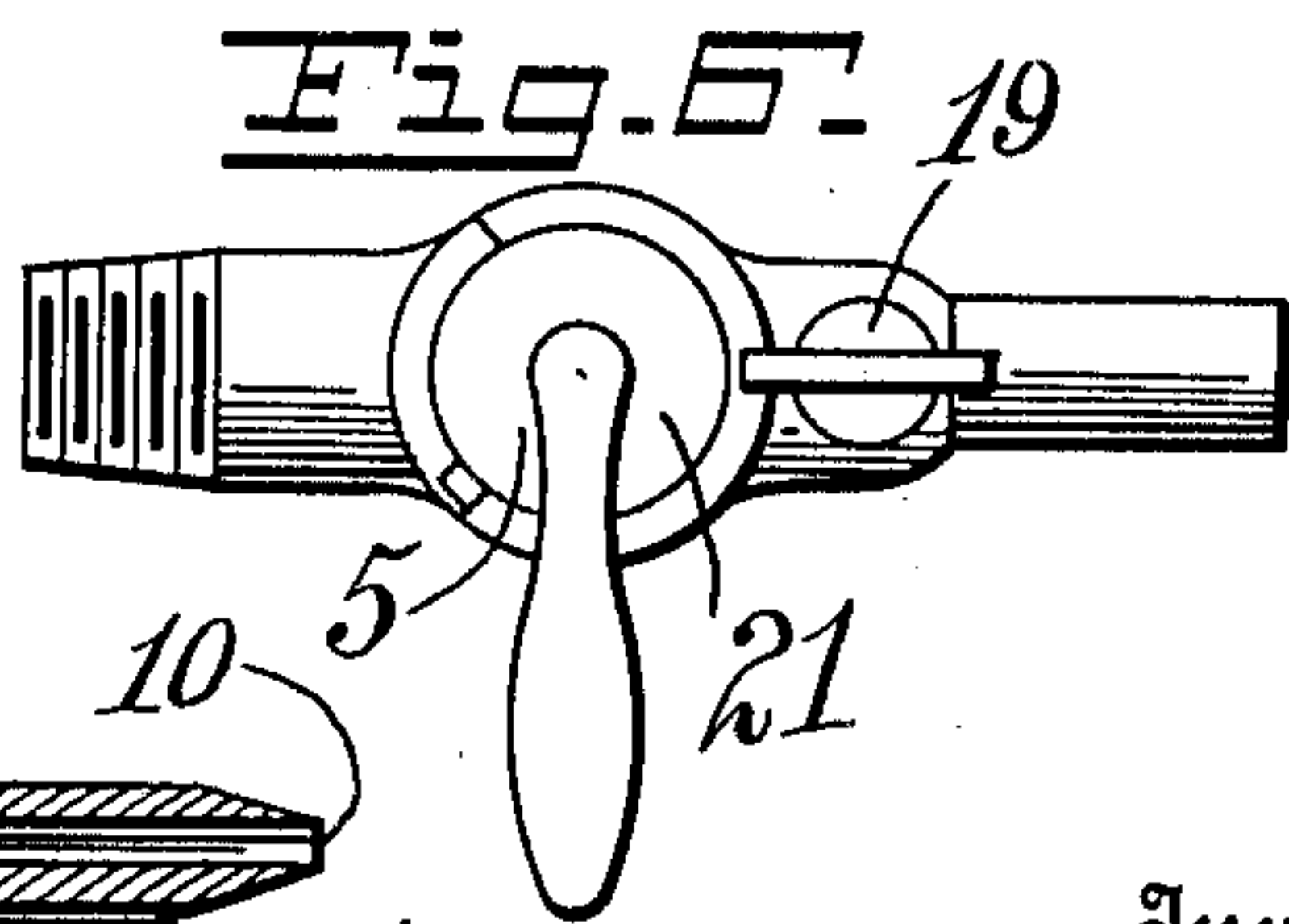
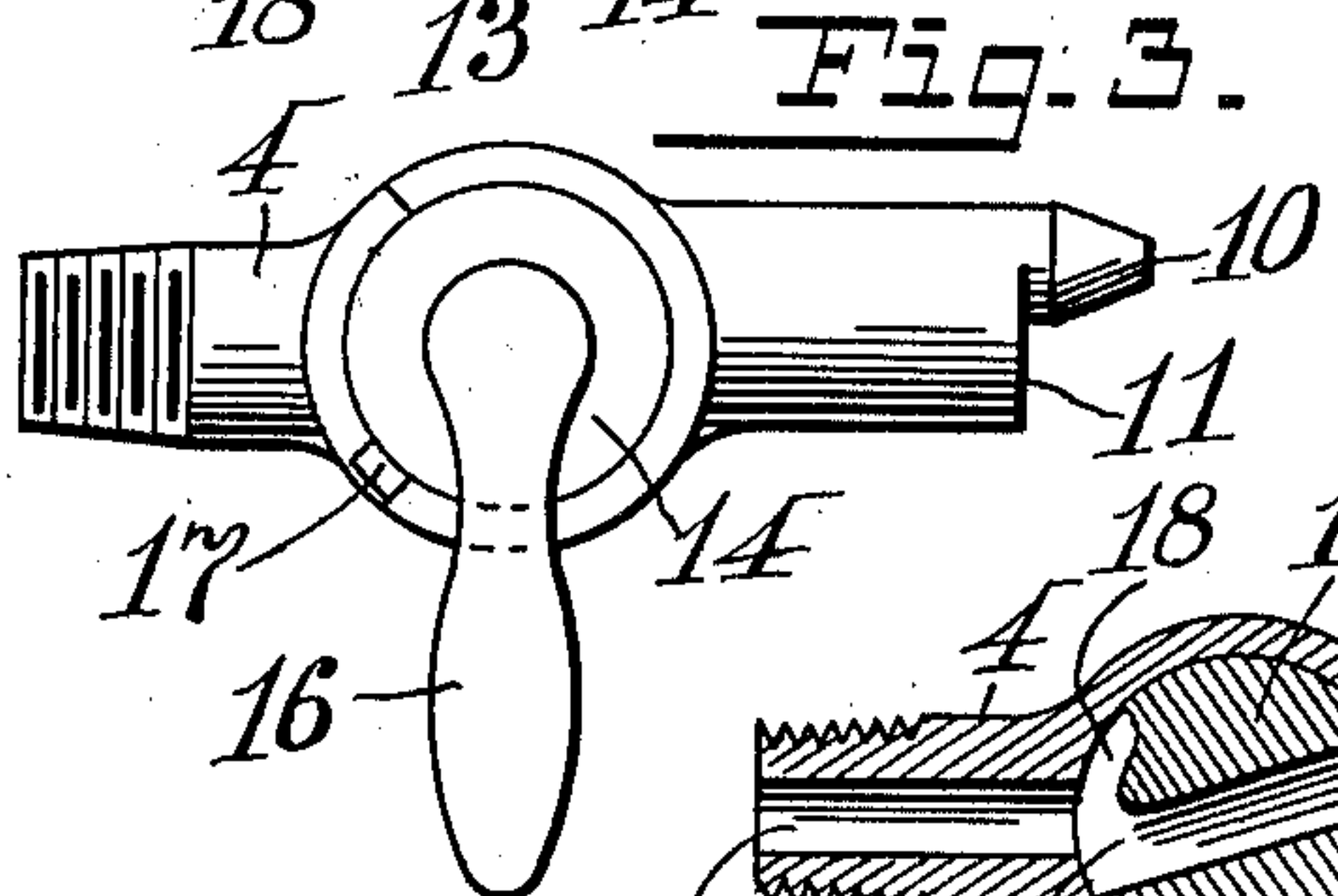
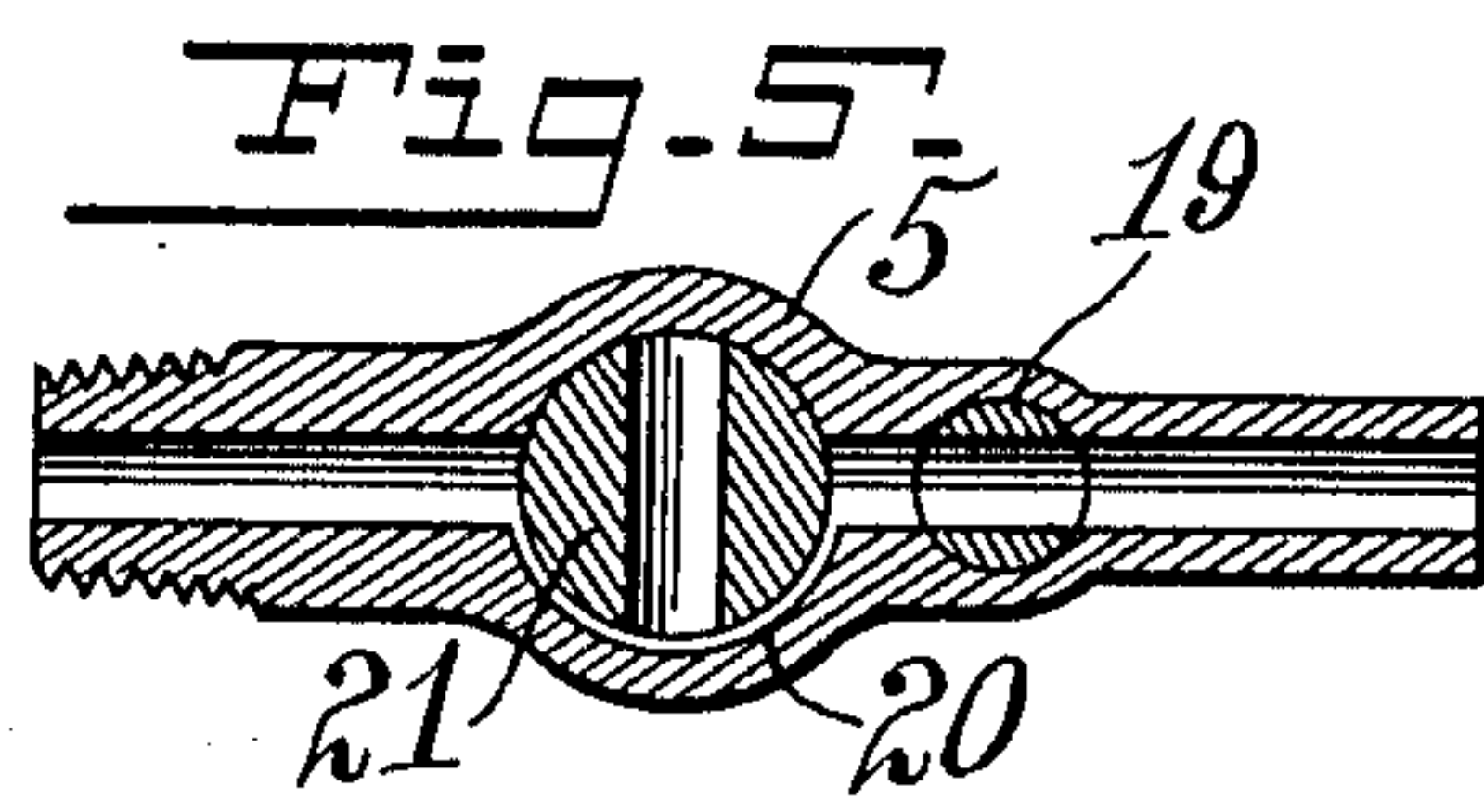
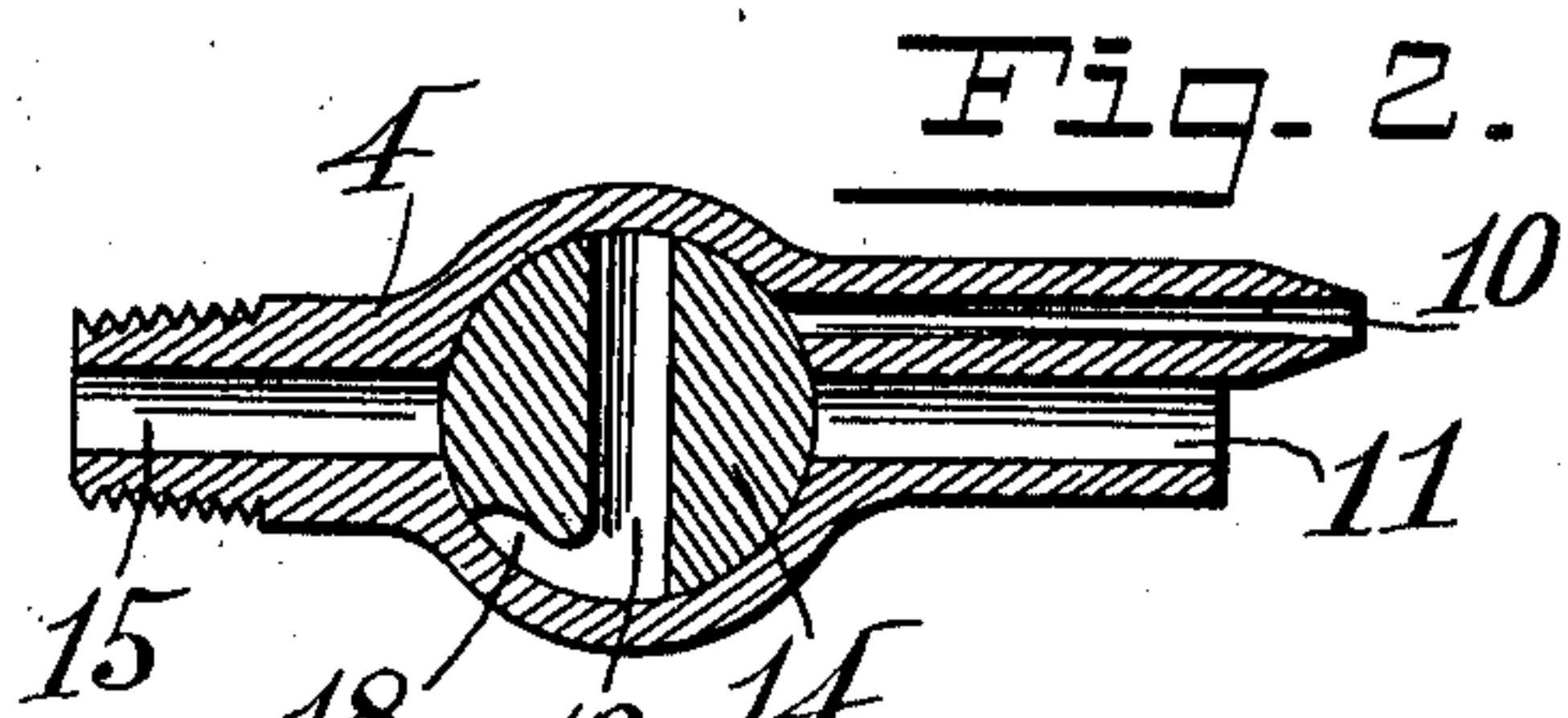
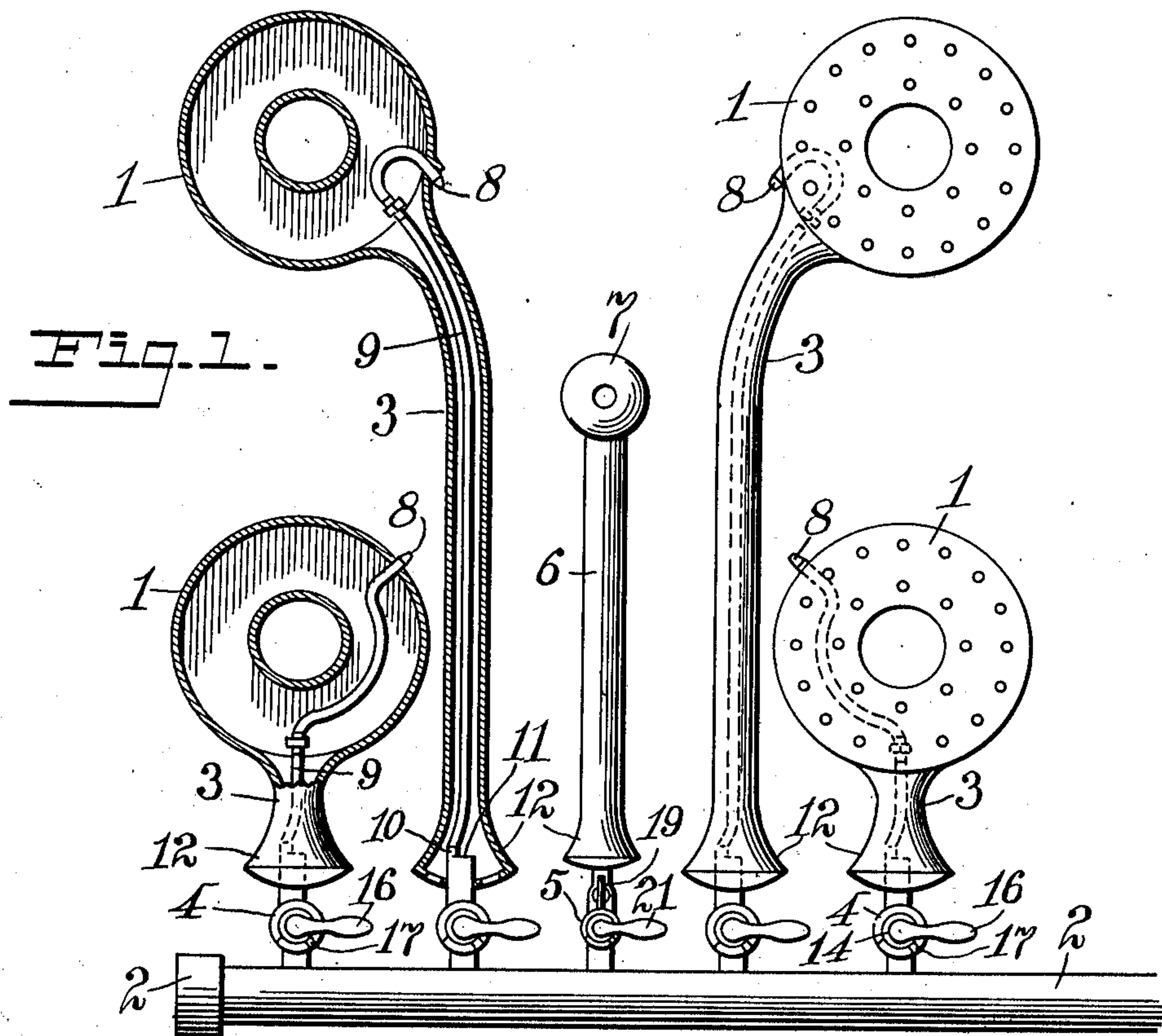


C. A. KURZ, JR. & G. G. DEDEKIND.  
FUEL GAS BURNER.

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992,966.

Patented May 23, 1911.



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# UNITED STATES PATENT OFFICE.

CHRISTIAN A. KURZ, JR., AND GEORGE G. DEDEKIND, OF DAYTON, OHIO.

## FUEL-GAS BURNER.

992,966.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed January 25, 1911. Serial No. 604,538.

*To all whom it may concern:*

Be it known that we, CHRISTIAN A. KURZ, Jr., and GEORGE G. DEDEKIND, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Fuel-Gas Burners; and we 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to fuel gas burners, and comprises means for igniting the gas at the individual burners without necessitating the use of matches or other light to be carried by the hand to the burner or burners.

The object of the invention is to provide means such as is hereinafter described and claimed, whereby the gas becomes ignited at the burner when turned on or admitted through the usual supply cock.

Referring to the drawings, Figure 1 is a top plan view, partially in section, of a plurality of gas burners constructed according to our invention. Fig. 2 is a horizontal sectional plan view through one of the valves for the large burners. Fig. 3 is a top plan view of the same. Fig. 4 is a view similar to Fig. 2, showing the valve in a different position. Fig. 5 is a horizontal sectional view of the valve for the pilot light. And Fig. 6 is a top plan view of the same.

In the specification and drawings, similar reference characters indicate corresponding parts.

Referring to the details of said drawings, 1 designates a plurality of gas burners which are connected in manifold to a supply pipe 2. The burners are thus connected by tubular members 3 and valves 4. Also connected to the manifold pipe 2, by a valve 5 and tubular member 6, is a constant burner 7, which, owing to the construction of the valve 5, constantly emits a small flame from which the other burners are ignited. The pipes 3 are depressed a sufficient distance below the jets 8 nearer the pipe 2, to allow the gas issuing from said jets to pass above said pipes.

The main burners 1 are ignited by the flame of the constant burner 7 by the following means: Projecting from each of said

burners 1, and in the direction of the constant flame emitted from burner 7, is a jet 8 attached to a small tube 9 which extends through the tubular members or main burner inlets 3, where it is, in turn, attached to a tubular portion 10 at the valve 4. The jets 8 are each projected through the casings of the burners 1 in a manner which causes the gas to be directed to the flame of the constant burner 7. Lying parallel with each tubular portion 10 is a jet 11 which, in connection with the flared end 12 of the tubular member 3, forms a mixer for a respective burner 1. Adapted to communicate in turn with the tubular portion 10 and the jet 11, is a passage-way 13 in the turning member 14 of each valve 4. This passage-way 13 also communicates with a passage-way 15 which leads directly to the manifold pipe 2. Each valve plug or turning member 14 is provided with a recess 18 which communicates with the port 13 and allows said passage-way 15 to communicate with the passage-way 13 before the passage-way 15 is in alinement with said passage 13. The turning member 14 is provided with a handle 16 and a stop pin 17 which limits the movement of the member 14 to one quarter of a revolution. When it is desired to ignite any one of the burners 1, the turning member 14 of a respective valve is given approximately a quarter turn. Owing to the presence of the recess 18, the gas from the manifold pipe 2 is initially directed to the jet 8 through the passage-ways 13 and 10 and the tube 9. The gas escaping from the jet 8 will be directed to the burner 7 and will be ignited. The flame thus created extends to the live jet 8, and will ignite that particular burner 1. It will be understood that after the flame is created at the jet 8, and the valve 14 is opened, the gas issuing from the burner 1 will be diffused and will ignite. The valve 14 is operated to reduce the pressure at the jet 8 to cause the flame to burn vertically and to thus cause the gas at the burner to instantly ignite. The continued movement of the rotating valve member 14 will discharge the gas into said burner through the jet 11 and the tube 3. This result takes place before the gas is cut off from the passage-way 10 by the member 14, as is shown in Fig. 4. The burner 1 will thus be ignited. The further continued movement of the turning member 14 will shut off the gas from the



jet 8 and will cause all of the gas to be discharged to the burner 1, at which time the passage-way 13 will be in full communication with the jet 11. The stop pin 17 compels the member 14 to be reversed when shutting off the gas from a burner 1. Each valve will therefore be in a position to initially discharge gas to a jet 8 when it is in a closed position.

10 The valve 5 of the constant burner 7 is provided with an auxiliary turning member or valve 19 by means of which the pilot light at said burner may be extinguished. This pilot light may also be used for heating purposes when a greater amount of heat is required. This greater supply of gas may be regulated by the turning valve member 21. A bypass 20 is provided around the valve member 21 to supply the pilot burner 7 with gas for igniting purposes when the valve member 21 is closed.

In the drawings we have shown four burners 1 arranged around the pilot burner 7, with each jet 8 pointing in the direction of said pilot burner. It will, however, be readily seen that less than such number of main burners may be assembled in proximity to said pilot burner. In either case the ignition jet 8 is fed by a separate pipe nested in the pipe for the main burner and fed by a separate passage in the inlet valve.

Having described our invention, we claim:

1. The combination with a supplemental ignition burner and a valve for supplying a small proportion of gas thereto for a constant ignition flame, of a main burner, an inlet pipe for said burner, a supplemental inlet pipe within the inlet pipe for the main burner, said supplemental pipe having a jet projected through the wall of the main burner in the direction of the ignition burner and adapted to ignite the main burner from said ignition burner, and a valve having a two-way passage adapted to simultaneously supply the main burner and the pipe through

which the main burner is ignited from the supplemental ignition burner, substantially as specified.

2. The combination with an ignition burner, and a valve normally open to supply a sufficient quantity of gas to maintain a constant ignition flame at said burner, of a main burner having a pipe extended therefrom, a pipe inclosed in the main burner pipe having a jet extended through the main burner wall and adapted to direct a jet of gas to the ignition burner, and a valve having a single inlet passage and parallel outlet passages, one of which feeds the pipe to the main burner and the other of which feeds the pipe which directs a jet to the ignition burner, substantially as specified.

3. The combination with a main supply pipe, of a pilot burner, a feed pipe between the main supply pipe and the pilot burner, a main valve in said feed pipe providing a main passage through the axis of said valve, and a passage around one side of said valve for supplying a minimum quantity of gas to maintain a constant flame at the pilot burner, a main burner, a feed pipe between said main burner and the main supply pipe, an auxiliary feed pipe within the feed pipe of the main burner, said auxiliary feed pipe being projected through a wall of the main burner and adapted to direct a jet of gas to the pilot burner, and a valve having two outlets and adapted to simultaneously supply the feed pipe of the main burner and the auxiliary feed pipe until the main burner is ignited, and to thereafter continue the supply to the main burner alone, substantially as specified.

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

CHRISTIAN A. KURZ, JR.  
GEORGE G. DEDEKIND.

Witnesses:

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