

A. C. CALKINS.

BURNER.

APPLICATION FILED APR. 25, 1904.

929,076.

Patented July 27, 1909.

2 SHEETS—SHEET 1.

Fig. 1

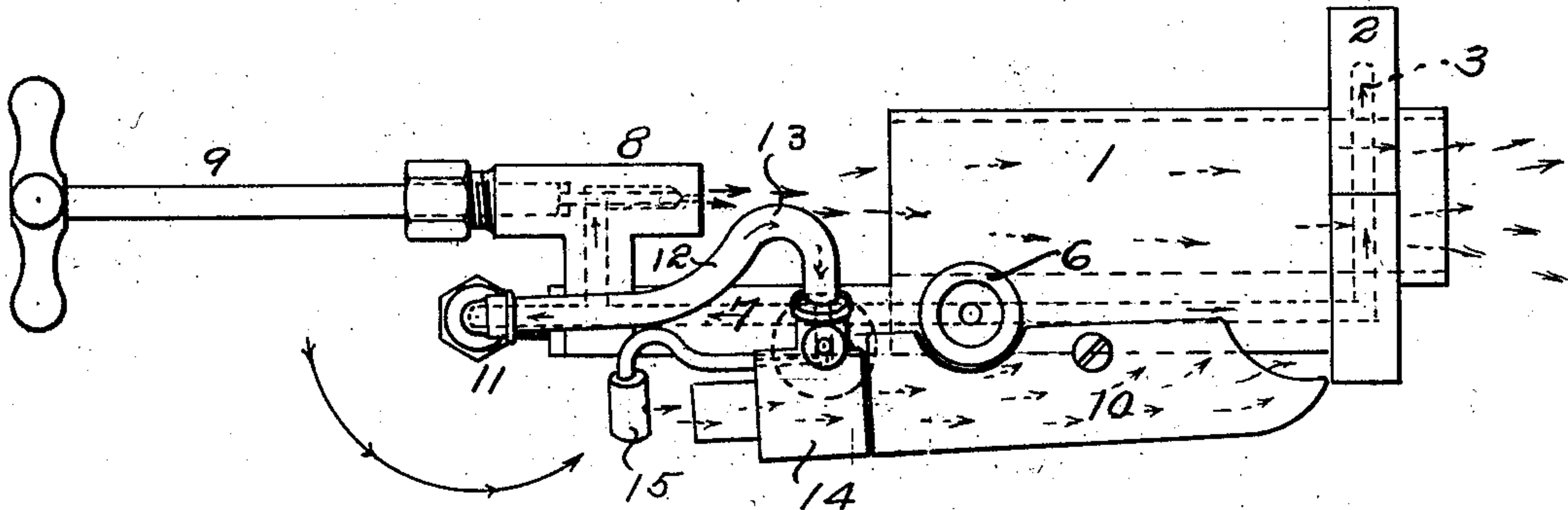


Fig. 2

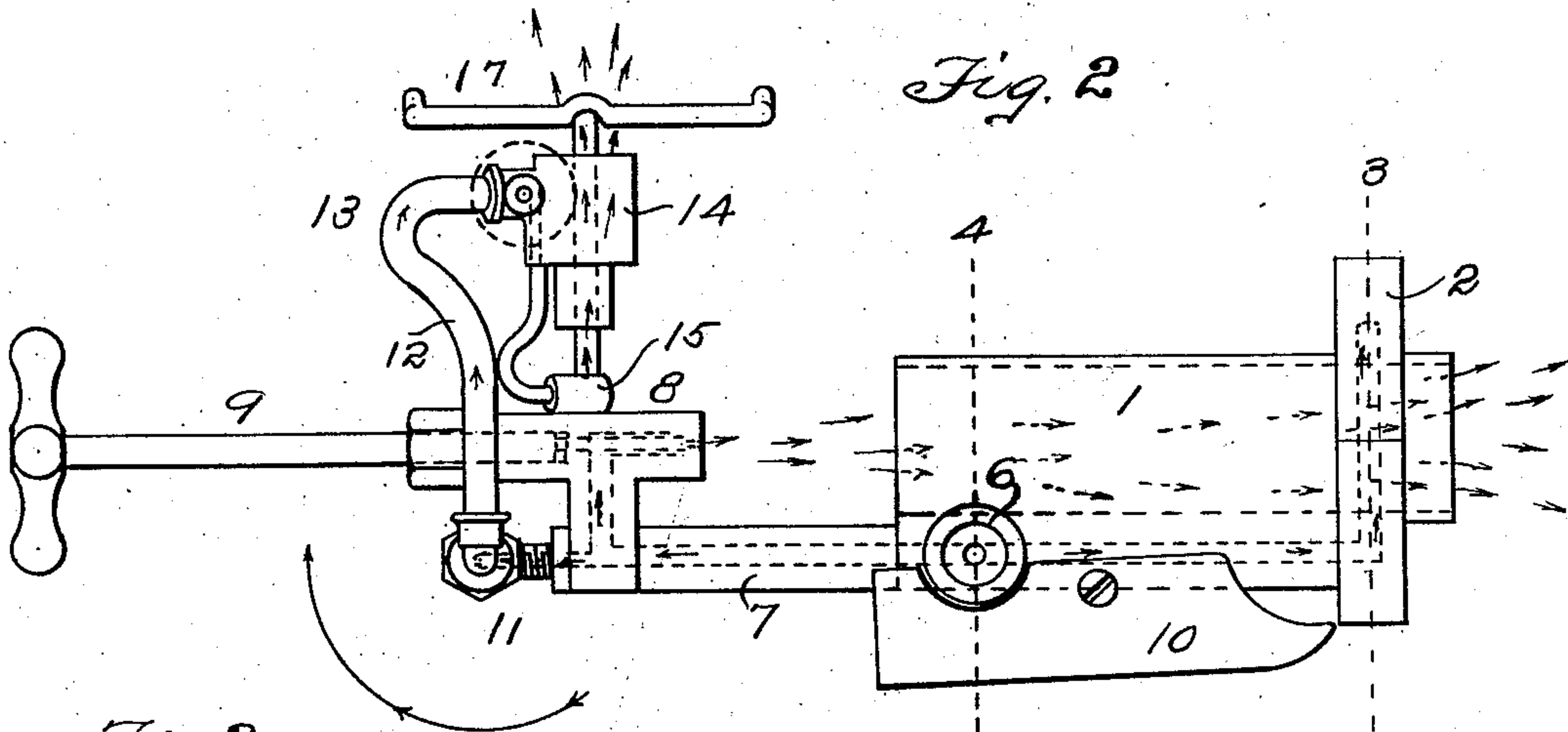


Fig. 3

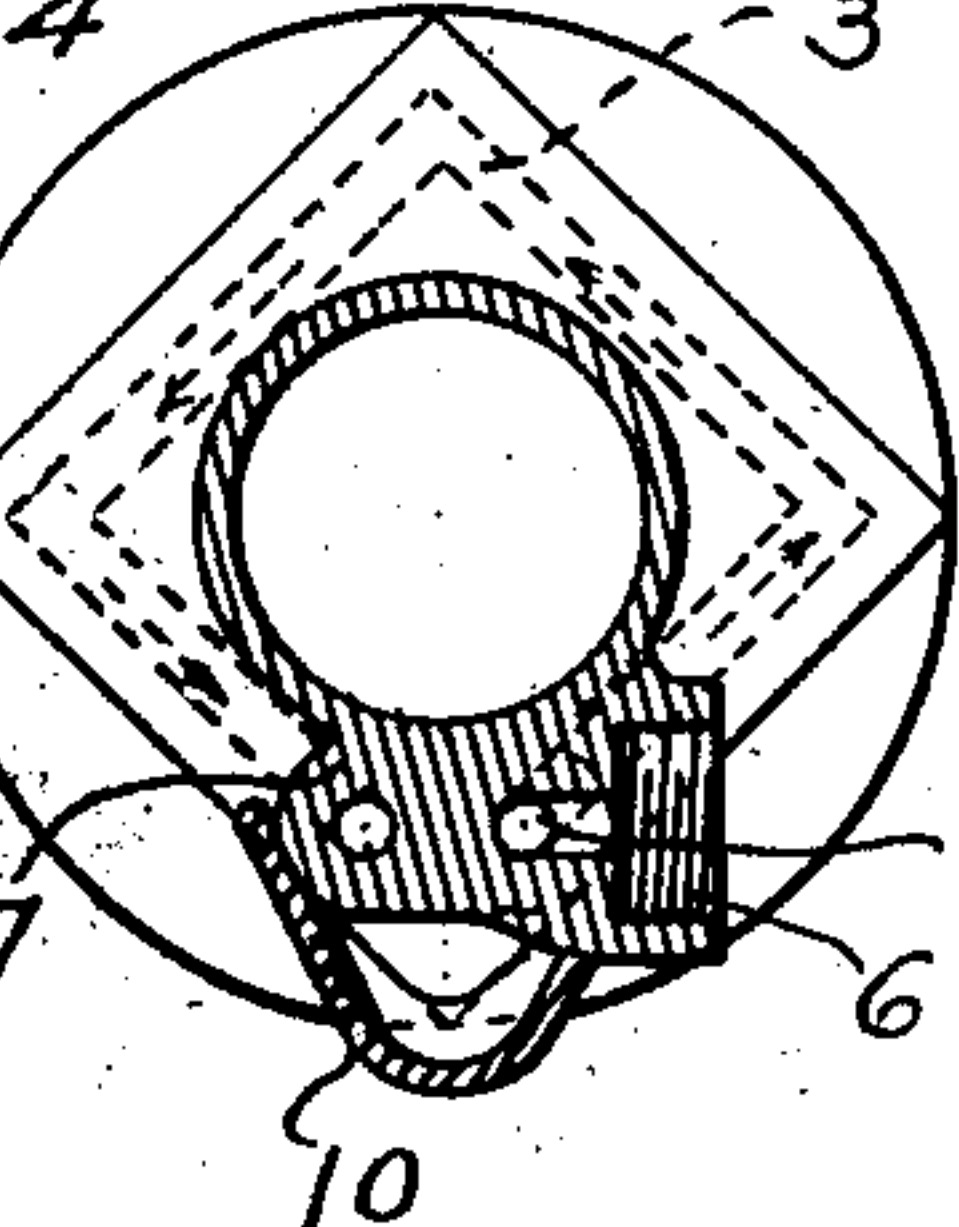
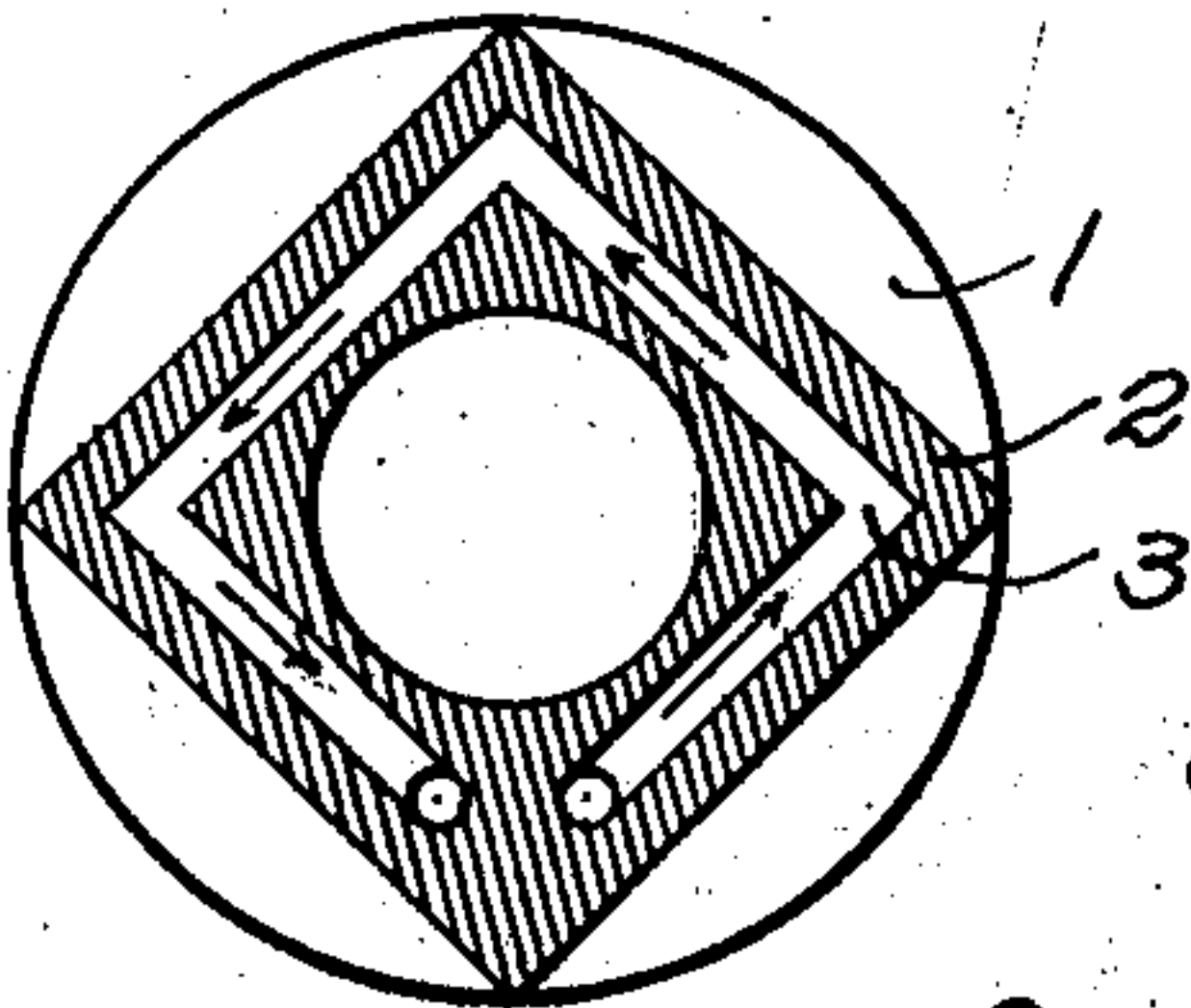
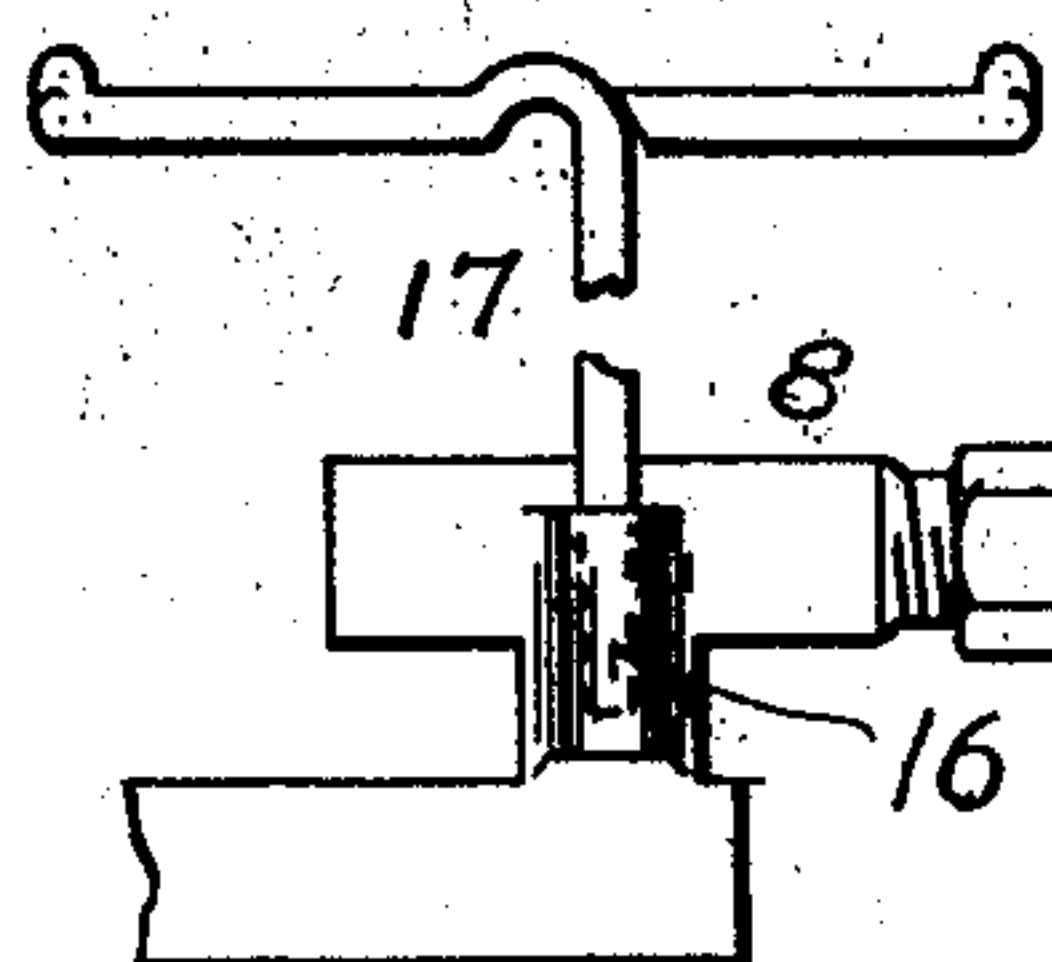


Fig. 4

Fig. 5



WITNESSES:

*Wm. G. Cates*  
*Mignon Ford*

INVENTOR

*Albert C. Calkins*

BY

*Charles S. Rogers*  
HIS ATTORNEY

A. C. CALKINS.

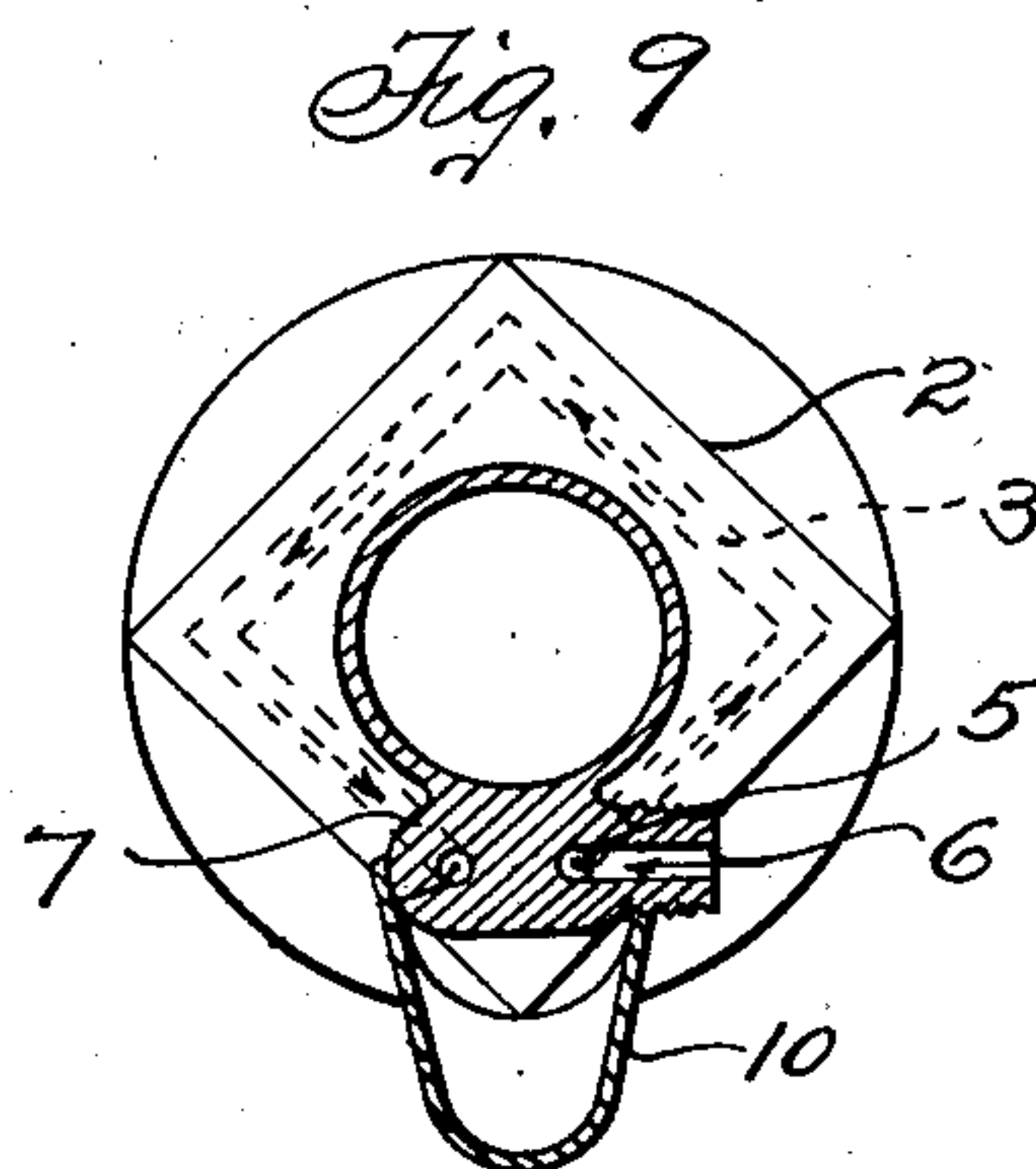
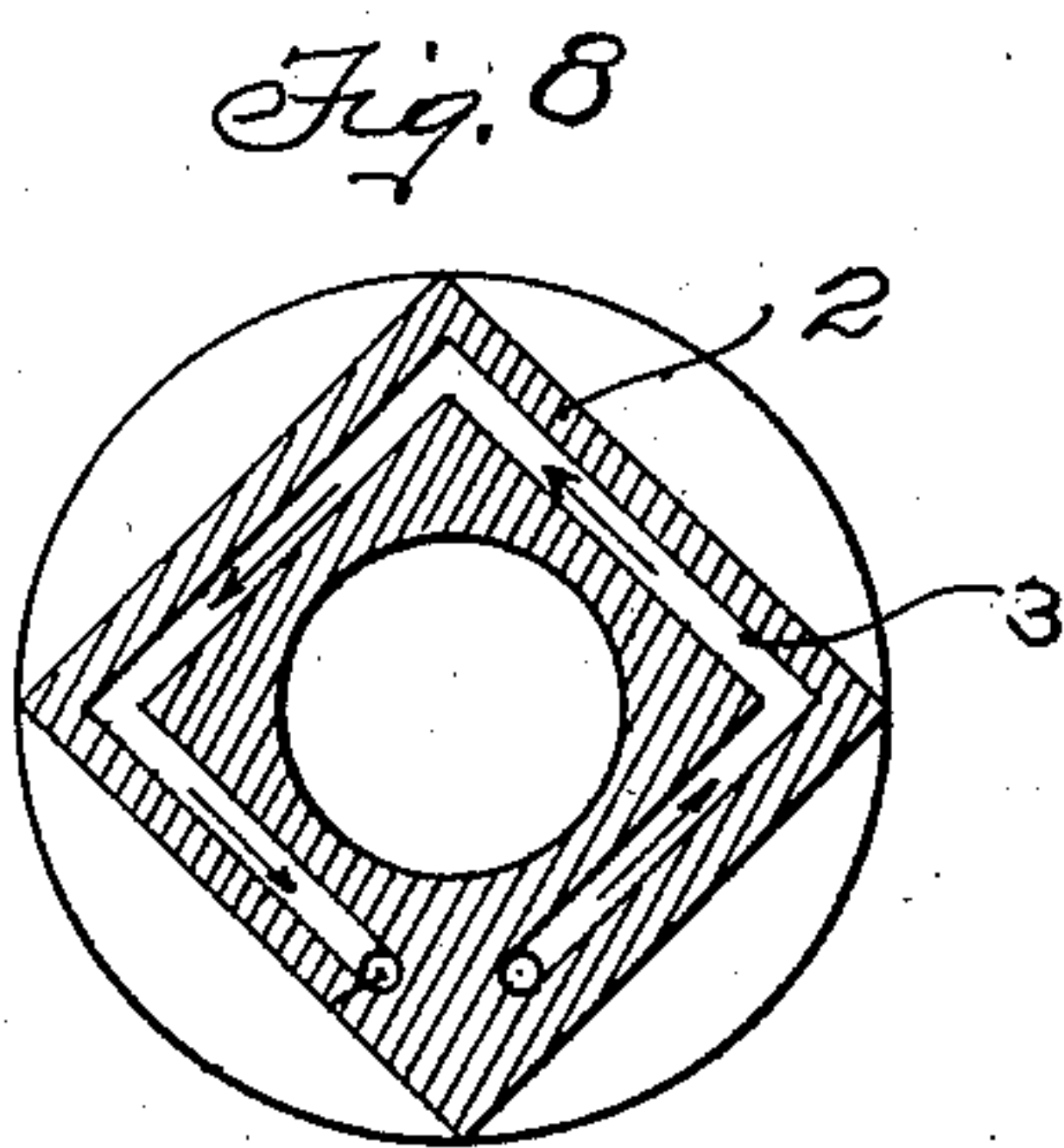
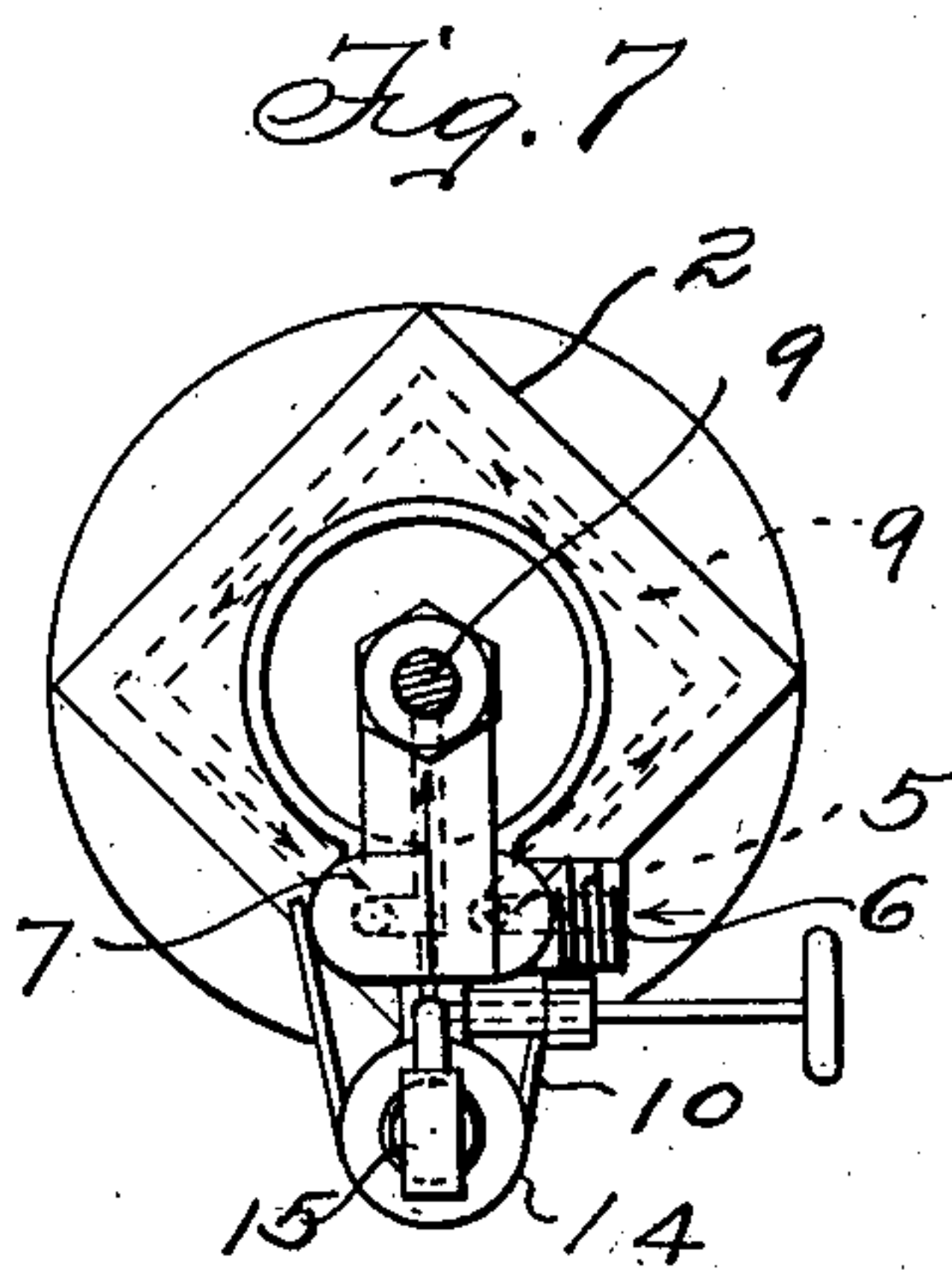
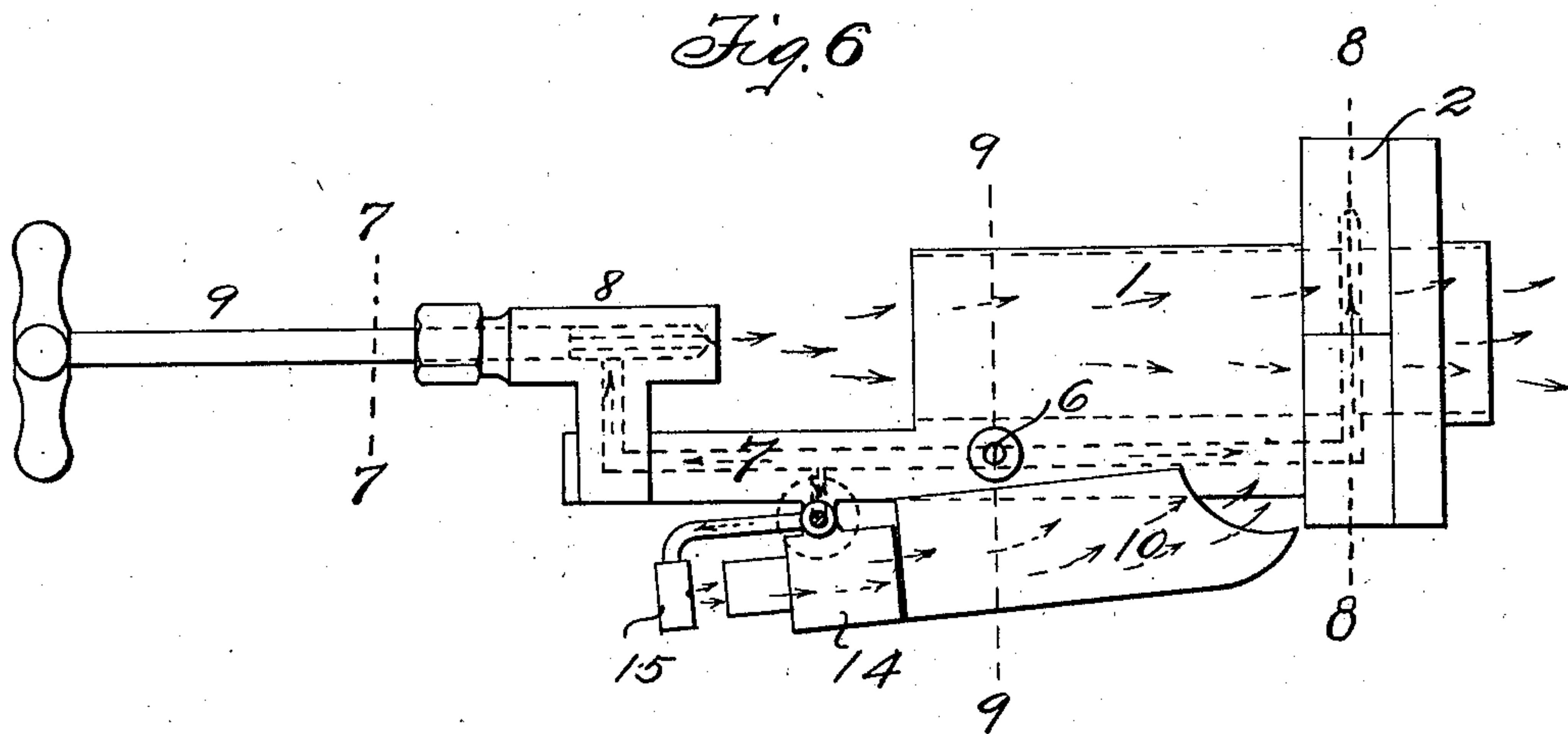
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2 SHEETS—SHEET 2.



WITNESSES:

*Owen G. Cates*  
*Wigman Ford*

INVENTOR

*Albert C. Calkins*

BY

*Charles S. Rogers*  
HIS ATTORNEY



# UNITED STATES PATENT OFFICE.

ALBERT C. CALKINS, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO THE CALKINS COMPANY,  
OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

## BURNER.

No. 929,076.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed April 25, 1904. Serial No. 204,773.

*To all whom it may concern:*

Be it known that I, ALBERT C. CALKINS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Burners; and I do hereby 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.

This invention relates to burners, and particularly to attachments or primary generators therefor, and some of the objects of the invention are to provide a device of this character which will be simple and cheap in construction, and, at the same time, efficient in operation.

Another object of the invention is to provide an attachment which will perform the function of a primary generator, and also that of an auxiliary heater, while permitting of the unimpaired and complete operation of the burner proper.

With these, and other, objects in view, the invention consists essentially in the construction, combination and arrangement of parts substantially as more fully described in the following specification, and as illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a side elevational view of a burner equipped with one form of this invention; Fig. 2 is a similar view showing the attachment in use as an auxiliary heater; Fig. 3 is a sectional view taken on line 3—3 of Fig. 2; Fig. 4 is a sectional view taken on line 4—4 of Fig. 2; Fig. 5 is a fragmental, detail view illustrating the support and its connection with the burner; Fig. 6 is a view similar to Fig. 1 illustrating a modified form of construction; Fig. 7 is a transverse sectional view taken on lines 7—7—of Fig. 6; Fig. 8 is a sectional view taken on line 8—8 of Fig. 6; and Fig. 9 is a sectional view taken on line 9—9 of Fig. 6.

Similar characters of reference designate corresponding parts throughout the several views.

Referring to the drawings, and particularly to the construction illustrated in Figs. 1 to 5 inclusive, the reference character 1 designates a cylindrical or main portion of the burner, on which is formed or connected generating chamber 2, preferably provided

with a continuous passage or bore 3, Figs. 1 to 4, with which communicate a lateral opening or passage 5, terminating in a hollow interiorly threaded boss or tubular extension 6, constructed to be connected with the fuel supply, as will be readily understood. Formed on, or adjacent to, the cylindrical portion 1, is a tube or hollow extension 7, the bore whereof communicates with the bore in the mixing chamber 2, and formed on, or connected with, said tube is a burner jet 8, in communication with the bore of said tube and having a suitable valve and valve rod as shown at 9, Figs. 1 and 2. A shield or trough 10 may be removably or otherwise connected with the main or body portion of the burner, and may extend beneath the tube 7, and is constructed to receive and direct the heating medium against the main or body portion of the burner for the purpose of heating or volatilizing the liquid fuel therein, as will be understood by those skilled in the art to which this invention appertains. Suitably connected with the tube 7 is an elbow or other connection 11, of any preferred construction, to which is movably connected one end of a pipe 12, preferably curved substantially as shown at 13, and desirably terminating in a burner 14, and a burner tip 15, Figs. 1 and 2. Formed on or connected with the burner jet 8 is a socket or bracket 16, constructed to removably receive one end of a supporting bracket or skeleton frame 17, designed to support the article to be heated by the auxiliary burner or immediate generator, as subsequently more fully explained.

The operation of the invention hereinbefore described will be readily understood from the foregoing description, when taken in connection with the accompanying drawings and the following explanation thereof. The parts being in position illustrated in Fig. 1 the valve 9 is opened and a portion of the liquid fuel is allowed to enter the burner tip 15, whereupon a lighted match or other flame is applied to said tip, thereby heating the same and volatilizing the liquid fuel therein, which is readily accomplished by the use of one match or one application of flame; whereupon the volatilized medium passes from said tip into the main portion of the auxiliary burner and thence into the shield 10, which directs the heating medium against the main or body portion of the burner, thereby heating or volatilizing the fuel there-



in, which is then ignited from the flame escaping between the shield and body portion 1, in the usual manner. When it is desired to use the auxiliary burner as a separate heater, to warm or heat objects or articles while the burner is in use or otherwise, the auxiliary burner is swung up into the position illustrated in Fig. 2, the bracket or frame 17 having been placed in position shown in Figs. 2 and 5, and the auxiliary heater or immediate generator may then be lighted or ignited in the same way and used to heat articles placed upon the bracket 17.

Adverting to the construction illustrated in Figs. 6 to 9 of the drawing, there is illustrated a modification of a construction hereinbefore described and shown, wherein the auxiliary heater or primary generator is formed on or connected with the pipe 7, and is incapable of employment as an independent heater. This construction is cheaper to manufacture and simpler in construction than the construction first described.

It is not desired to limit or confine this invention to the specific construction, combi-

nation and arrangement of parts herein shown and described, and the right is reserved to make all such changes in and modifications of, the same, as come within the spirit and scope of this invention.

Claim—

In a burner, a main cylinder, a generating chamber formed in the same, a feed opening for the cylinder, a tubular extension connected to the cylinder, a burner jet connected to said extension, a socket formed in the burner jet, a bracket adapted to be supported in the socket, a valve to control the tubular extension, and a supplemental burner adapted to be swung up at an angle to the main cylinder, and beneath the bracket.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses at Los Angeles, in the county of Los Angeles, State of California this first day of April 1904.

ALBERT C. CALKINS.

Witnesses:

CHARLES S. ROGERS,  
MIGNON FORD.