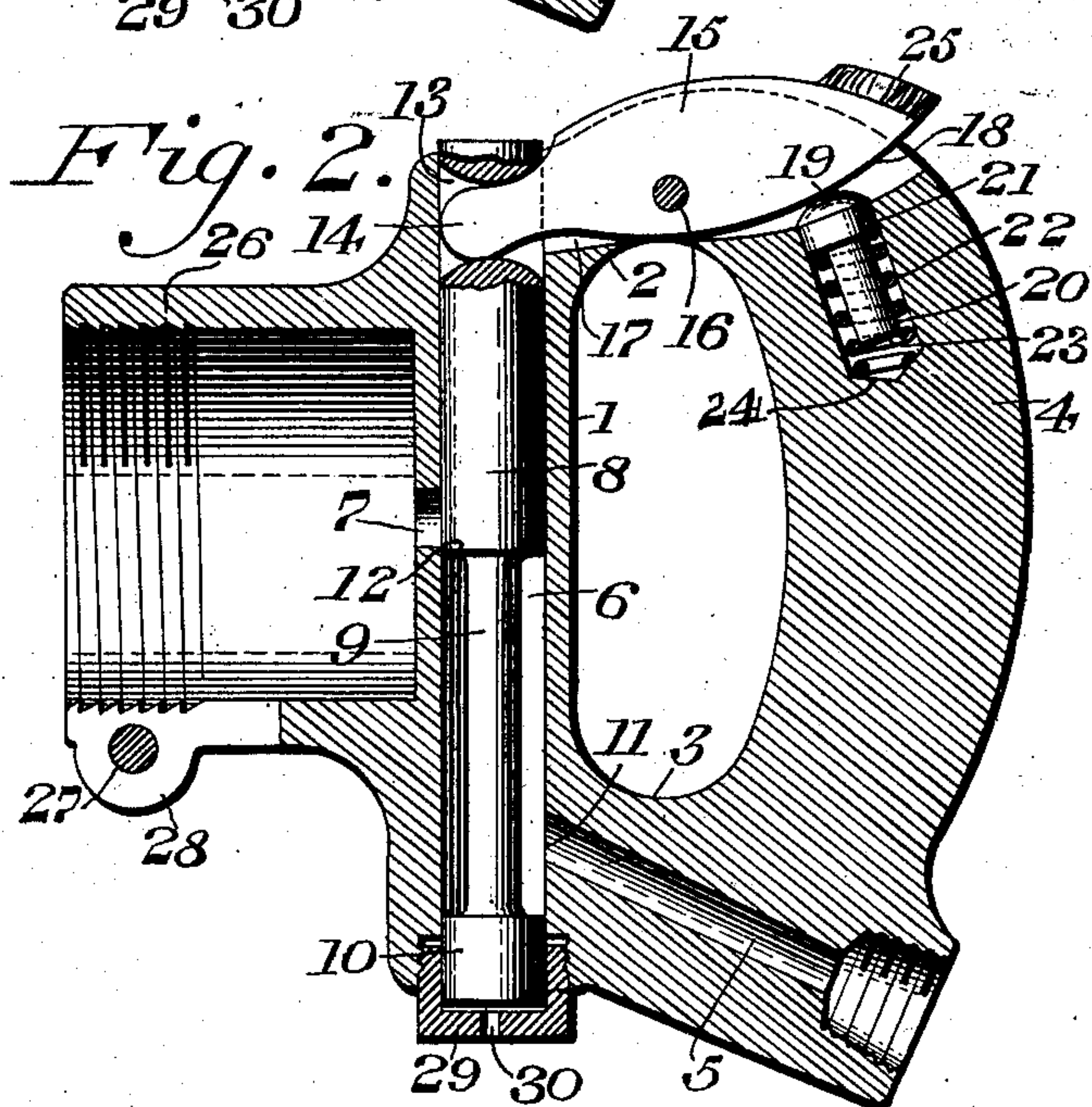
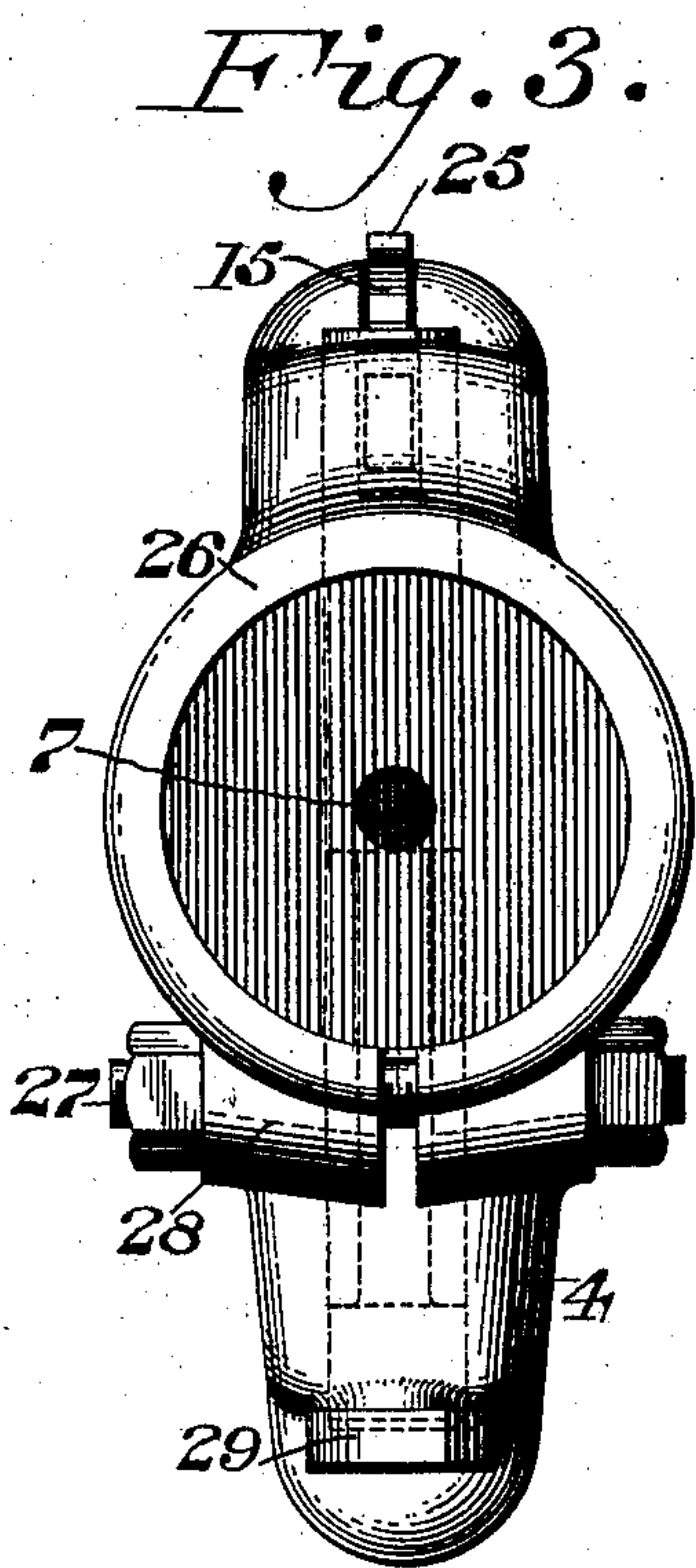
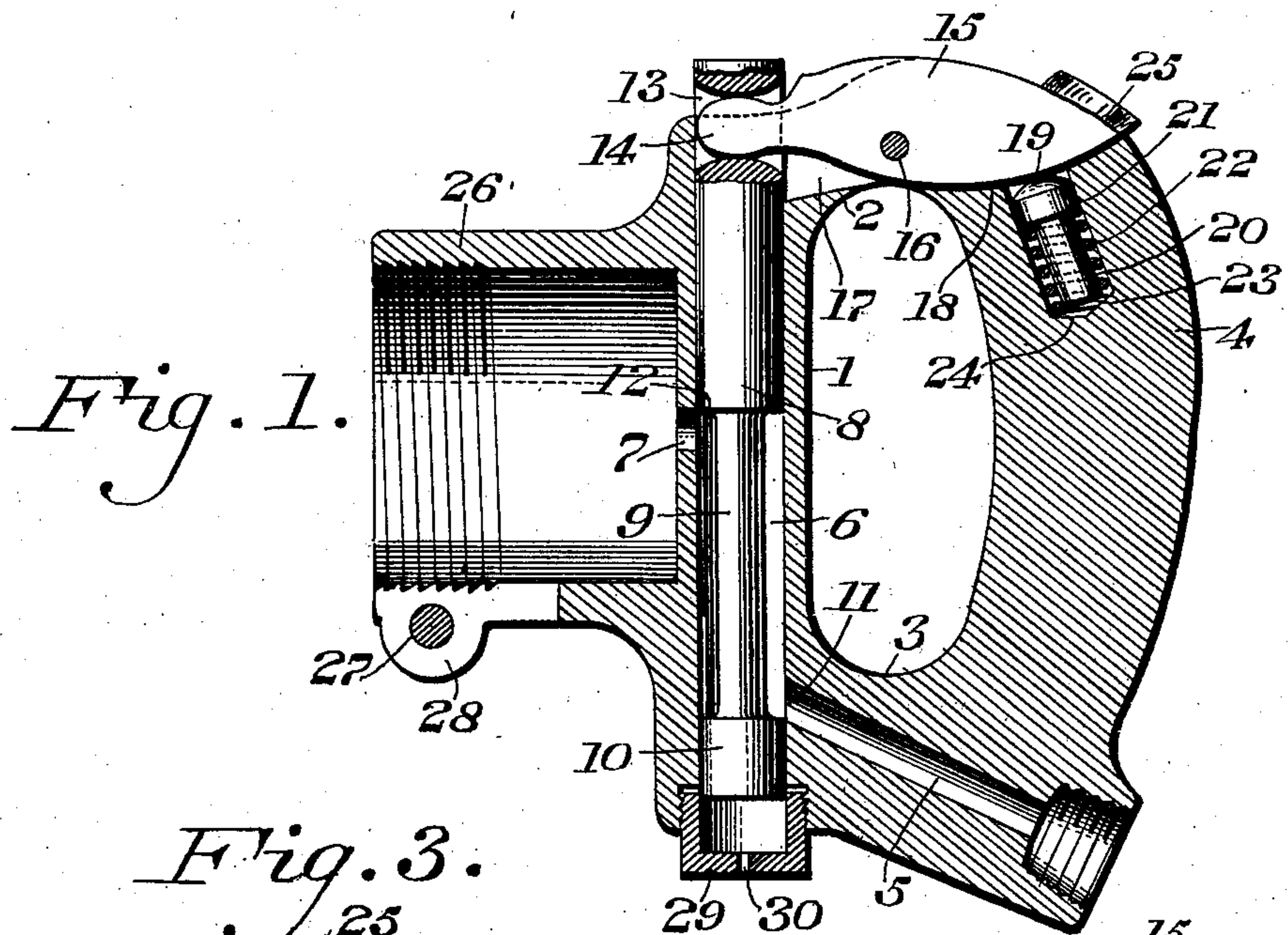


No. 762,860.

PATENTED JUNE 14, 1904.

W. H. KELLER.
HANDLE FOR PNEUMATIC TOOLS.
APPLICATION FILED FEB. 26, 1904.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM H. KELLER, OF PHILADELPHIA, PENNSYLVANIA.

HANDLE FOR PNEUMATIC TOOLS.

SPECIFICATION forming part of Letters Patent No. 762,860, dated June 14, 1904.

Application filed February 26, 1904. Serial No. 195,386. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. KELLER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Handles for Pneumatic Tools, of which the following is a specification.

My invention relates to a novel construction of a handle for a pneumatic tool; and it consists more particularly in the novel construction and location of the throttle-valve and its adjuncts, said throttle-valve being located wholly outside of the handle proper, and particularly outside of the grasping portion thereof, and adapted to be operated by means of a conveniently-located lever, which is provided with a thumb-piece or pressure-piece adapted to underlie the thumb or finger of the workman's hand in the position the same naturally assumes when the handle is grasped.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a sectional view, partly in elevation, of a handle for a pneumatic tool embodying my invention, showing the throttle-valve open and the valve-lever in the position it assumes when depressed by the workman. Fig. 2 represents a sectional view similar to Fig. 1, but showing the throttle-valve in closed position. Fig. 3 represents an end view showing the locking device for securing the handle upon the tool proper.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a body, the same having attached thereto by the necks 2 and 3 the handle 4, which is provided with a grasping portion, below which and entirely outside of said grasping portion is located the pressure-supply duct 5, whereby the motive fluid is led to the duct 6, which is located wholly outside of both the handle and its grasping portion.

From the duct 6 leads the port 7, whereby the motive fluid is conducted to the tool proper, which may be of any of the desired or approved constructions, although in practice I prefer to employ my novel handle in con-

junction with pneumatic tools constructed after the Keller patents, as I have found tools constructed in accordance with these patents give the best results in practice.

8 designates a throttle-valve proper, the same consisting of a cylindrical portion having a neck 9 extending therefrom, while at the lower extremity of said neck is located the head 10, which is normally always below the port 11 of the inlet-passage 5, said throttle-valve being thereby balanced and provided with the shoulder 12, which when the valve is closed is located normally as seen in Fig. 2 and which when said valve is open normally assumes the position seen in Fig. 1. In the upper portion of the throttle-valve body 8 is located the slot or opening 13, which is adapted to be engaged by the free end 14 of the manually-operated lever 15, which is fulcrumed at the point 16 in the slot 17, said lever having the under rounded edge 18, which is adapted to contact with the head 19 of the plunger 20, which is provided with the shoulder 21, against which abuts one end of the spring 22, the opposite end of the latter contacting with the lower walls 23 of the recess 24.

25 designates the thumb-piece or pressure-piece on the lever 15, which is adapted to normally underlie the workman's thumb as he grasps the handle in the act of applying the tool to its work.

26 designates a coupling-sleeve which is attached to the body 1 and in the present instance is shown as being integral therewith; but it is apparent that said coupling-sleeve may be made separate therefrom, if desired. The sleeve 26 is preferably in threaded engagement with the cylinder of the tool proper and is securely clamped in the desired position by means of the bolt 27 and the lugs 28.

The operation is as follows: When the parts are in the position seen in Fig. 2, it will be apparent that the flow of the motive fluid through the port 7 is controlled by the throttle-valve 8 and that no motive fluid can pass beyond the shoulder 12 of said throttle-valve. When it is desired to admit the motive fluid to the tool-cylinder, the operator depresses the thumb-piece 25, whereupon the parts appear as seen in Fig. 1, the throttle-valve 8 be-

ing now elevated, so that the motive fluid can flow through the ducts 5 and 6 and port 7 to the desired point. Upon the removal of the thumb or finger of the operator from the thumb or finger piece 25 the lever 15 will move from the position seen in Fig. 1 to the position seen in Fig. 2 by reason of the tension of the spring 22, whereupon the port 7 will be automatically closed without requiring attention on the part of the operator.

It will be apparent that the throttle-valve 8 is balanced by reason of the equilibrium of pressure upon the shoulder 12 and the juxtaposed shoulder of the head 10 and that the same can be readily actuated by a slight pressure of the operator's thumb or finger upon the thumb-piece 25.

In practice I close the lower portion of the duct 6 by means of a cap 29, having a port 30 therein; but it is apparent that the precise manner of assembling these parts may be varied without departing from the spirit of my invention.

It will also be apparent that the construction and manner of operation of the throttle-valve may be varied and that, if desired, I may locate the throttle-valve within the throttle-valve bushing (not shown) contained within the duct 6, as will be apparent to those skilled in the art.

The construction and precise location of the lever 15 may be varied from and the manner of forming the mechanical connection between the free end of said lever and the upper end of the throttle-valve 8 may be varied without departing from my invention. I have, however, found in practice that the construction shown is cheap to manufacture and effective in operation.

It will be apparent to those skilled in the art that the closing device, consisting of the spring-actuated plunger 20, may be located in other positions than that shown and that the spring may be arranged to operate directly upon the throttle-valve 8 or upon another portion of the operating-lever 15 without departing from my invention.

I desire to call especial attention to the fact that the throttle-valve 8 is located in no portion of the handle and that the same is wholly outside not only the grasping part of the handle, but is removed from the handle altogether. In like manner the pressure-supply duct 5 is wholly outside of the handle and its grasping portion.

I am aware that it is a common right to locate a pressure-supply duct or a throttle-valve in a pneumatic-tool handle instead of outside of its grasping portion; but so far as I am aware I am the first to produce in a single structure the combination of elements hereinbefore described and hereinafter claimed.

It will be apparent that various changes other than those above enumerated may be made by those skilled in the art in the man-

ner of assembling and constructing the throttle-valve, its operating-lever, and its adjuncts, and I do not, therefore, desire to be limited in every instance to the exact construction I have hereinbefore shown and described. For example, it will be apparent that instead of the closed or spade handle shown I may employ a pistol-grip or other form of handle, and I may, if desired, omit the neck 3 or its equivalent, or I may, if desired, take the pressure-supply duct through the grasping portion of the handle and by a suitable connection lead the motive fluid to the duct 6.

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

1. In a device of the character named, a body, a grasping portion, a neck joining said grasping portion to said body, a pressure-supply duct outside of said grasping portion and leading through said neck and said body, a port discharging from said body, a throttle-valve located normally in the upper portion of said body outside of the handle and its grasping portion, extending transversely to said body and adapted to control said port, a neck depending from said throttle-valve, a head attached to said neck and normally always below said pressure-supply duct and a manually-operated lever for actuating said throttle-valve.

2. In a device of the character named, a body, a grasping portion, necks joining said grasping portion to said body, a pressure-supply duct outside of said grasping portion and leading through one of said necks and said body, a port discharging from said body, a throttle-valve located normally in the upper portion of said body and adapted to control said port, a neck depending from said throttle-valve, a head attached to said neck and normally always below said pressure-supply duct and a manually-operated lever for actuating said throttle-valve, in combination with a spring-pressed plunger adapted to coact with said lever and retain said valve normally in closed position.

3. In a device of the character named, a body, an opening extending transversely of said body through its entire length, a throttle-valve in said opening, a grasping portion, a neck connecting said grasping portion to said body, a pressure-supply duct outside of said grasping portion and leading through said neck and said body, a port discharging from said body, a throttle-valve, a neck depending from said throttle-valve, a head attached to said neck and normally always below said duct, an opening in said throttle-valve, a throttle-valve lever suitably fulcrumed and having its free end engaging the opening in said throttle-valve and a spring adapted to coact with said lever and retain said throttle-valve normally in closed position.

4. In a device of the character named, a

body, an opening extending transversely of said body, a throttle-valve in said opening, a grasping portion, a neck connecting said grasping portion to said body, a pressure-supply duct leading through said neck and body, a port discharging from said body, a throttle-valve, a neck depending from said throttle-valve, a head attached to said neck and always below said pressure-supply duct, an opening in said throttle-valve, a throttle-valve lever suitably fulcrumed and having its free end engaging said throttle-valve and a spring adapted to coact with said lever and retain said throttle-valve normally in closed position, in combination with a sleeve attached to said body, lugs projecting from said sleeve, an opening between said lugs, and a clamping device for the latter.

5. In a device of the character named, a body, a sleeve thereon, lugs projecting from

said sleeve, a space between said lugs, a clamping device for said lugs, a port discharging into said sleeve, a grasping portion connected to said body, a pressure-supply duct leading into the neck connecting said grasping portion to said body, a throttle-valve in said body, means for balancing said throttle-valve, an opening in the upper portion of said valve, a lever suitably fulcrumed and having its free end adapted to engage said opening, a thumb-piece on said lever and adapted to underlie the workman's thumb, and a spring-pressed plunger for normally holding said throttle-valve in closed position with respect to said port.

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Witnesses:

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