

No. 780,354.

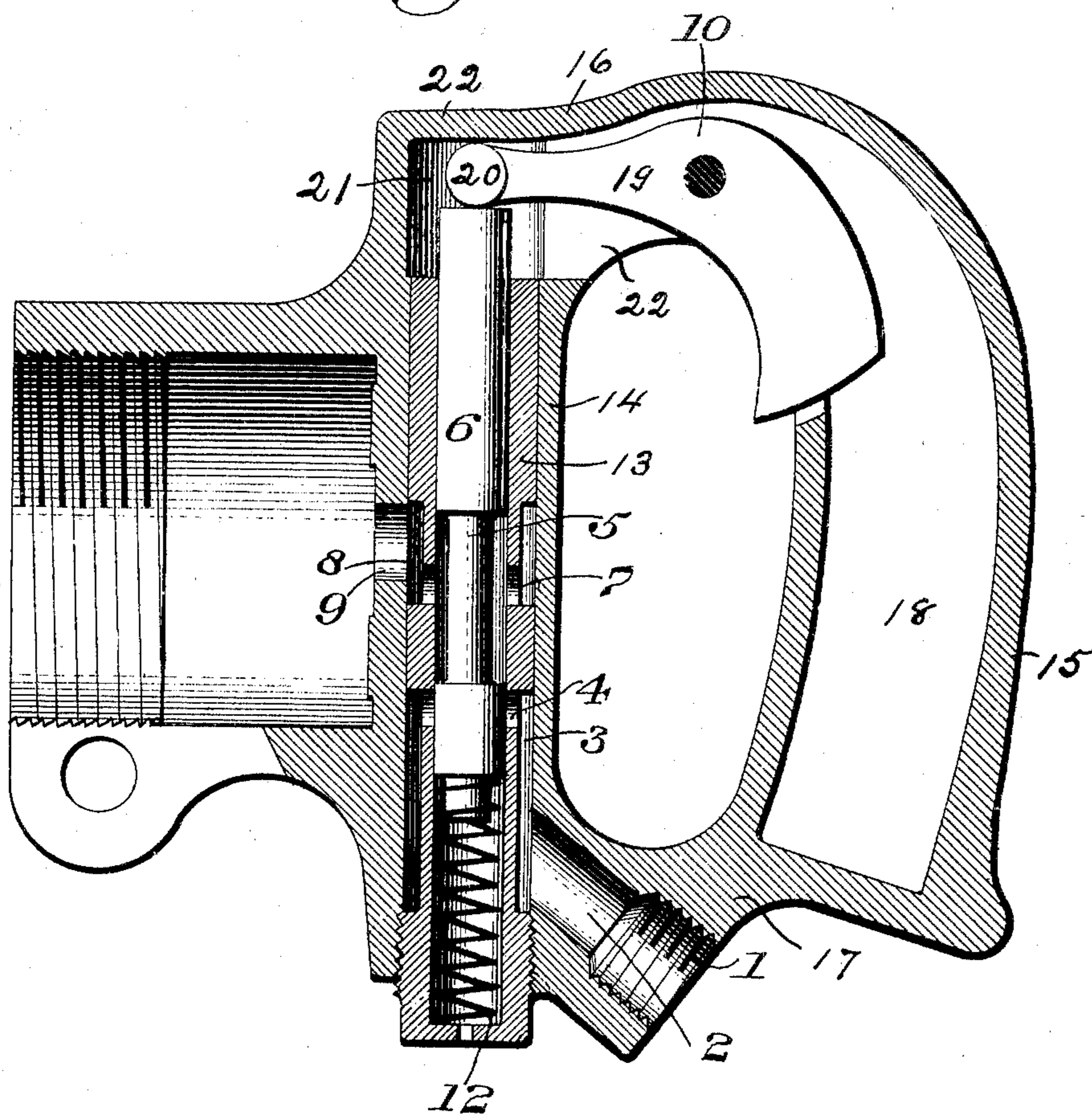
PATENTED JAN. 17, 1905.

W. H. KELLER.
PNEUMATIC TOOL.

APPLICATION FILED OCT. 15, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

P. H. Bagley.

L. Rouville

Inventor

William H. Keller.

By Wiedersheim & Fairbanks.

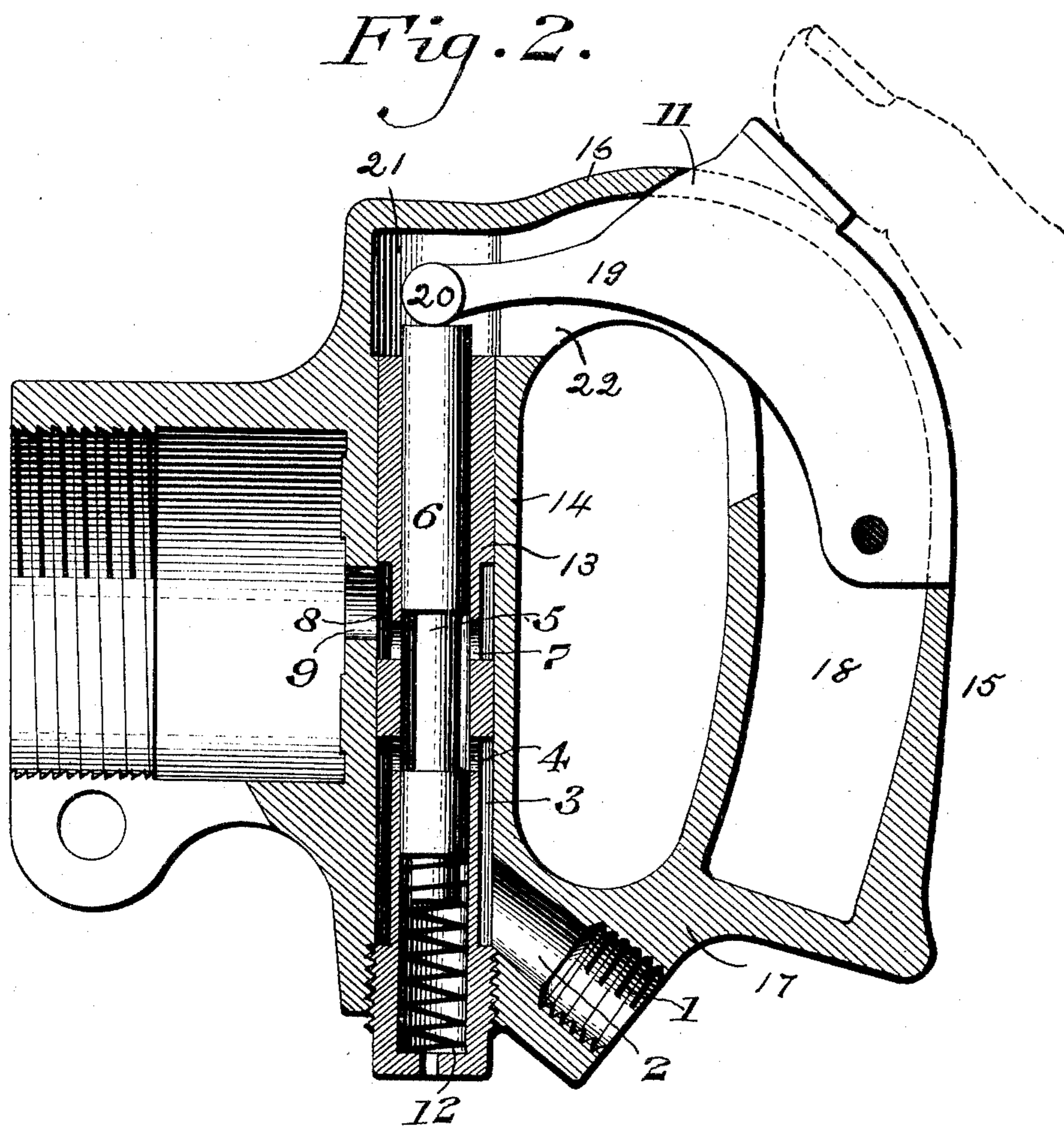
Attorneys

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2 SHEETS—SHEET 2.



Witnesses
P. F. Nagle.
L. Bouville.

Inventor
William H. Keller.
By *Wiedersheim & Fairbank,*
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM H. KELLER, OF PHILADELPHIA, PENNSYLVANIA.

PNEUMATIC TOOL.

SPECIFICATION forming part of Letters Patent No. 780,354, dated January 17, 1905.

Application filed October 15, 1904. Serial No. 228,628.

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 Handle for Pneumatic Tools, of which the following is a specification.

My invention consists of a novel construction of a pneumatic-tool handle having a throttle mechanism located outside of the grasping portion of the handle and so formed that the throttle mechanism is self-contained and easily accessible.

It further consists of a throttle-valve and throttle-valve casing which are so constructed and arranged as to be capable of operation by a trigger which may be actuated by the finger of the operator or by a lever to be operated by the thumb or hand of the operator without any change being required in the character or location of the throttle-valve or its adjuncts, it being understood that the change from the trigger to the lever may be made without changing the operating parts of the handle.

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

Figure 1 represents a sectional view showing the throttle-valve mechanism in closed position and with a finger-operated trigger for actuating said valve mechanism. Fig. 2 represents a sectional view showing the throttle-valve in open position and with a thumb or hand operated lever in position in the tool-handle for operating said valve mechanism.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the threaded opening located wholly outside of the handle or its grasping portion, to which is connected a flexible rubber tubing or other means for conveying the air or motive fluid to the tool, which fluid passes through the duct 2 and enters the chamber 3, from which lead the ports 4, which ports 4 are shown closed in Fig. 1 and open in Fig. 2, so that the fluid when the valve is open can pass around the reduced neck 5 of the valve 6 and can pass through the ports 7 into the chamber 8, from

whence it can pass through the port 9 into the tool proper.

10 designates the trigger, which is suitably fulcrumed and has a suitable portion bearing against the valve 6, and 11 designates a lever which has a portion bearing against the valve, so that when either the trigger 10 or the lever 11 are actuated the throttle-valve 6 is depressed against the action of a spring 12, so that the ports 4 will be open and the motive fluid pass into the tool proper, as already described, it being understood that the throttle-valve mechanism is so constructed that it can be operated by either a trigger, such as 10, or a lever, such as 11, which are suitably mounted in order to operate said valve mechanism to control the motive fluid, it being understood that by the construction just described the valve mechanism is operated in one direction by constant pressure and is actuated in the other direction by an interchangeable finger-pressed trigger or a thumb or hand pressed lever.

It will be apparent that in each embodiment of my invention the throttle-valve, which in the present instance has a plurality of heads joined by a neck, is contained, preferably, within a bushing 13, which is contained within the head-block 14, which constitutes no part of the handle or the grasping portion 15, said handle and grasping portion being joined to said head-block at its upper portion by means of the neck 16 and at its lower portion by the neck 17.

18 designates a hollow chamber within the handle 15, which is employed partly for the purpose of lightness and partly for the purpose of providing a receptacle for the valve-operating device 10 or 11, as may be desired, it being apparent that each valve-operating device is provided with an extension 19, which terminates in the head 20, which latter has a sliding contact with the top of the valve 6, said extension and head being always located within the chamber 21, which forms the upper terminus of the chamber 18, said chamber 21 also serving to receive the upper portion of the throttle-valve 6. It will be apparent from the foregoing that by reason of the ex-

tremities 19 and 20 of the manually-operated devices 10 or 11 and the extremity of the throttle-valve 6 being always contained in the chamber 21 the same are to a great extent
 5 always protected from dirt and dust, which is very deleterious to tools of this character, the liability of the entrance of dirt, dust, or sand through the slot 22 being reduced to a minimum by reason of the location of said slot,
 10 which I have shown in the present instance as common to both types of handle, although, if desired, said slot may in some instances be omitted.

It will be apparent that in each embodiment
 15 of my invention the throttle-valve and its adjuncts may always remain the same, said valve in each instance having the constant pressure of the spring 12 or its equivalent forcing it upwardly and being opened or moved down-
 20 wardly in each case by the downward movement of the head 20 slidably contacting with the top of the valve 6. When the valve is closed, the parts appear, as already explained, as seen in Fig. 1, any improper movement or
 25 displacement of the valve being prevented by the contact of the head 20 with the top wall 22 of the chamber 21, as is evident.

It will be apparent from the foregoing that to equip the handle with a thumb or finger
 30 operated device or to change from one device to the other no change is necessary in the throttle-valve or its adjuncts nor in the handle proper other than the mere mechanical slitting of the handle-casing and the assembling
 35 of the various parts.

So far as I am aware I am the first in the art to construct a handle and its adjuncts so proportioned and chambered that either a
 40 finger or thumb operated device can be employed at will without necessitating any change in the construction or location or manner of operation of the throttle-valve or of the handle proper, and my claims to this feature are therefore to be interpreted with corre-
 45 sponding scope.

It will be evident that various changes may be made by those skilled in the art which will come within the scope of my invention, and I do not, therefore, desire to be limited
 50 in every instance to the exact construction herein shown and described.

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

55 1. In a device of the character named, a grasping-handle, a head-block to which said handle is secured, a chamber in one end of said head-block, a throttle-valve located in said head-block and extending transversely
 60 thereof and a manually-operated lever having one portion extending outside of said handle

and the other end extending into said head-block chamber and in sliding contact with said throttle-valve for actuating the same.

2. In a device of the character named, a 65 grasping-handle having a chamber therein, a head-block to which said handle is secured, a chamber in the upper portion of said head-block in communication with the chamber in said handle, a throttle-valve located in said 70 head-block, means for operating said throttle-valve in one direction by constant pressure and a manually-operated lever having an end contained in said head-block chamber and bearing on the extremity of said throttle- 75 valve for actuating the latter in an opposite direction.

3. The combination of a grasping-handle, a head-block having said handle secured thereto at its upper and lower portions, a throttle- 80 valve in said head-block and extending transversely thereof, a chamber in said handle and grasping portion, said chamber being continued through the upper portion of said handle and terminating in the upper portion of 85 said head-block, said throttle-valve having its upper extremity projecting into the head-block chamber, and a manually-operated device pivotally mounted and having an extension adapted to be in frictional contact with 90 the top of said throttle-valve, the latter being adapted to be actuated in one direction by constant pressure and in the other direction by said manually-operated device.

4. The combination of a handle, a head- 95 block, a motive-fluid inlet leading to said head-block wholly outside of said handle, a chamber in the upper portion of said head-block, a throttle-valve in said head-block extending transversely thereof, and having its 100 upper end projecting into said chamber, means for exerting pressure upon the opposite end of said valve and a manually-operated lever having a head bearing on an end of said valve and in sliding contact therewith, said 105 valve being adapted to be actuated by a thumb or finger of the operator.

5. In a device of the character named, a head-block, a throttle-valve extending transversely of said head-block, said valve having 110 constant pressure on one end thereof, the opposite end terminating in a chamber, a manually-operated device fulcrumed in proximity to said chamber and an extension on said device located in said chamber, said extension 115 being in sliding contact with said valve, and said valve being adapted to be actuated by a thumb or finger of the operator.

WILLIAM H. KELLER.

Witnesses:

JOHN A. WIEDERSHEIM,
 WM. CANER WIEDERSEIM.