

No. 752,982.

PATENTED FEB. 23, 1904.

J. KELLER.
HANDLE FOR PNEUMATIC TOOLS.
APPLICATION FILED SEPT. 9, 1902.

NO MODEL.

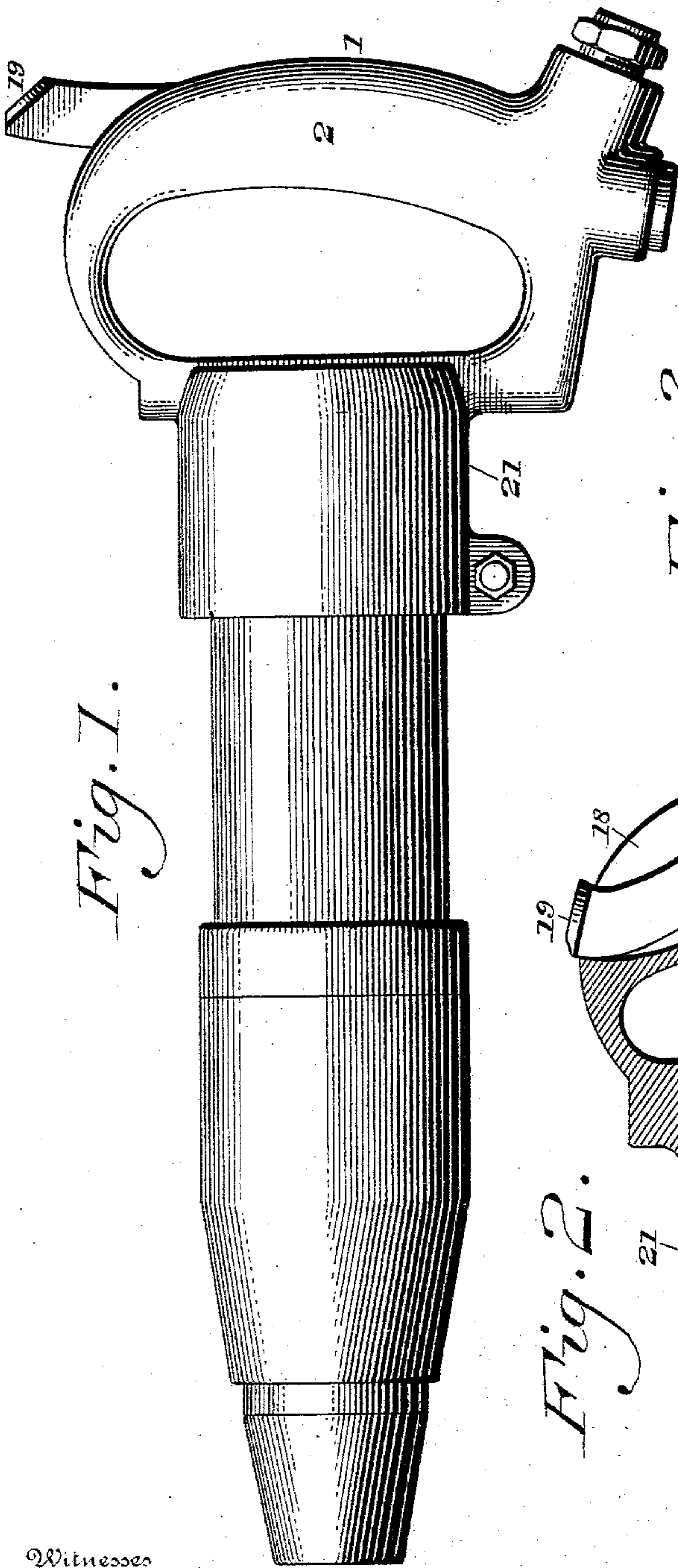


Fig. 1.

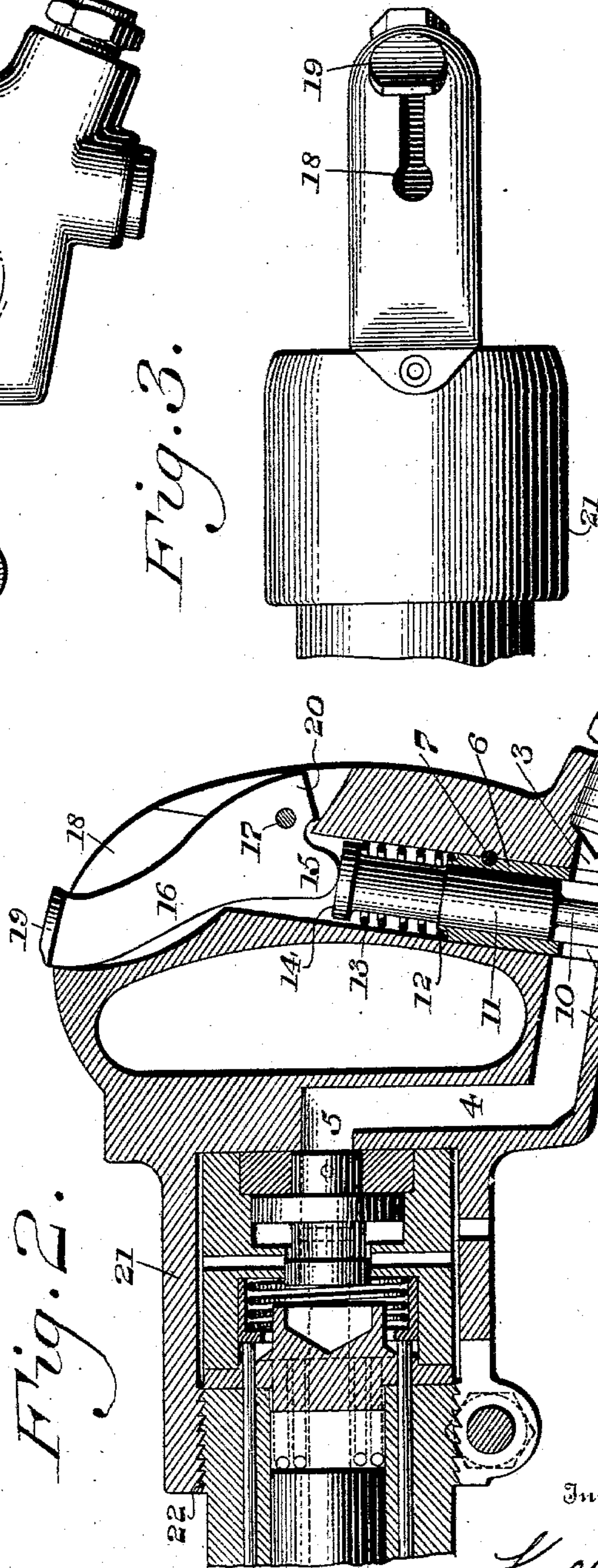


Fig. 2.

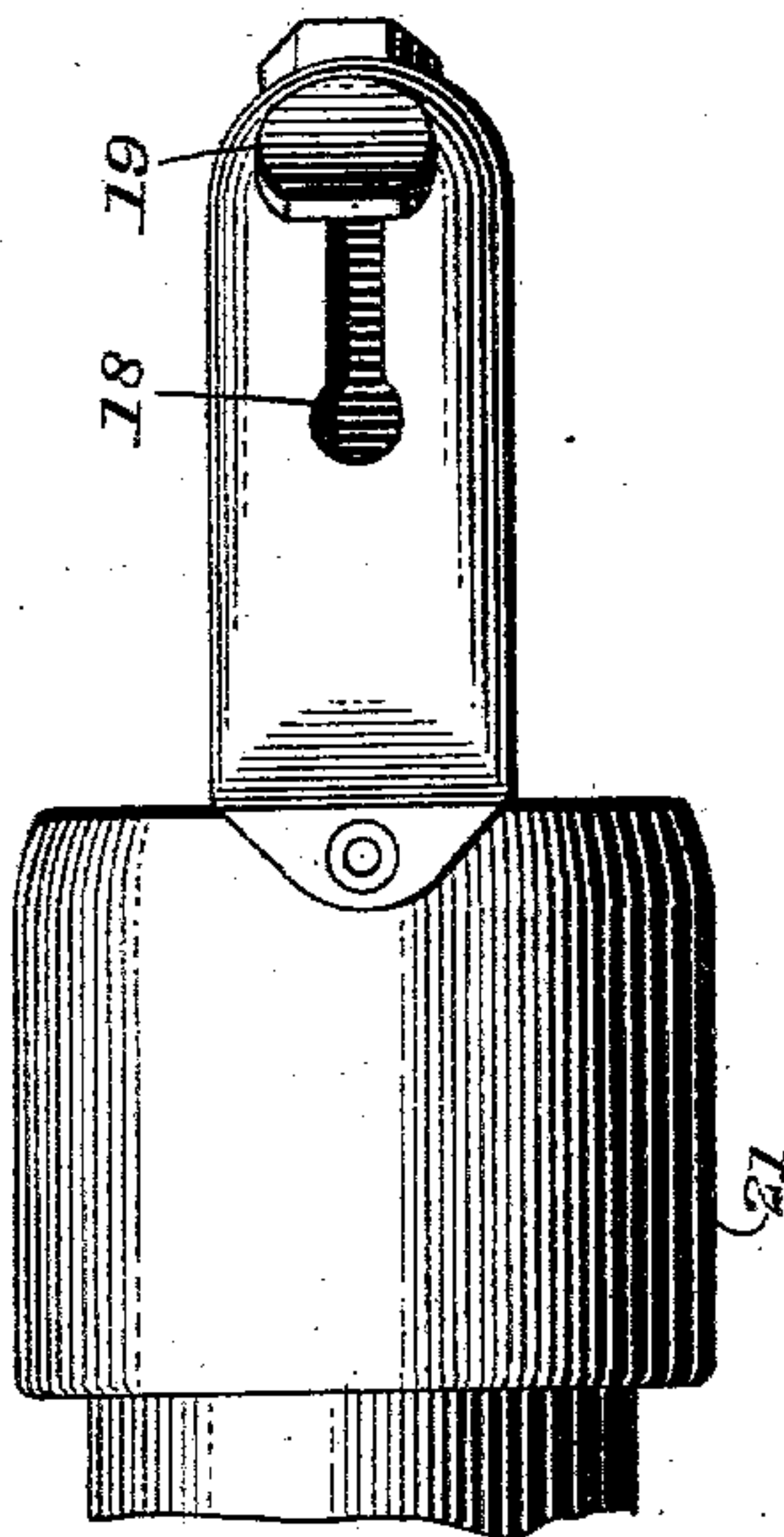


Fig. 3.

Witnesses
P. F. Chas. W.
L. Bouville.

By

Inventor
Julius Keller.
Wiedersheim & Fairbanks,
Attorneys

UNITED STATES PATENT OFFICE.

JULIUS KELLER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
PHILADELPHIA PNEUMATIC TOOL COMPANY, A CORPORATION OF
NEW JERSEY.

HANDLE FOR PNEUMATIC TOOLS.

SPECIFICATION forming part of Letters Patent No. 752,982, dated February 23, 1904.

Application filed September 9, 1902. Serial No. 122,673. (No model.)

To all whom it may concern:

Be it known that I, JULIUS 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 that class of pneumatic tools which are provided with a grasping-handle at the rear extremity thereof, whereby the tool can be readily manipulated and applied to the work as desired, provision being made for conducting the compressed air or other motive fluid to the cylinder or body of the tool by a compressed-air duct or passage through the handle located wholly outside of the grasping portion thereof, said passage discharging into another passage extending at substantially a right angle thereto, provision being made for confining a spring-actuated throttle-valve lever within the grasping portion of said handle, the throttle-valve itself being wholly outside of said grasping portion, and means being provided for effecting the operation of said throttle-valve by said operating-lever, which is pivoted in a narrow slit or cut in the upper part of the handle, which projects slightly out of said slit at its upper end and is provided with a thumb-piece or pressure-piece arranged to underlie the thumb or finger of the workman's hand as he grasps the handle of the tool.

To the above ends my invention consists of a novel construction of a grasping-handle having its throttle-valve proper wholly outside of the grasping portion of said handle, the salient features of which will be hereinafter fully set forth, and pointed out in the claims.

Figure 1 represents a side elevation of a grasping-handle for pneumatic tools embodying my invention. Fig. 2 represents a longitudinal sectional view of Fig. 1. Fig. 3 represents a top view of Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a handle having a grasping portion 2, while through the lower portion of said handle

wholly outside of said grasping portion extends a preferably substantially rectilinear passage or compressed-air duct 3, into which the motive fluid is conducted, said motive fluid passing through said passage 3 upwardly into the passage or duct 4 and being conducted therethrough to the port 5 to the working parts of the tool.

It will be understood that the handle, throttle-valve, and its adjuncts which form the subject-matter of the present application are applicable to any construction of pneumatic tools—such as chipping-hammers, stone-working tools, and the like—and I have therefore not deemed it necessary to describe the construction of the piston, valve, and coacting parts in detail, since the same *per se* form no part of the present invention.

6 designates a rotatable throttle-valve bushing which is secured in position in a passage in the handle 2 by a pin or other device 7 and is provided with the ports 8, which register with the passage 3.

9 designates the throttle-valve, from which extends the neck 10, which joins the stem or plunger 11, it being seen that against the upper end or shoulder 12 of the bushing 6 abuts one end of the spring 13, the upper extremity of which latter contacts with the head 14, against which bears the cam-face 15 of the operating-lever 16, which is pivoted at the point 17 in the narrow slit or cut 18 in the upper portion of said handle, said lever being provided with a thumb-piece or pressure-piece 19, arranged to underlie the thumb or finger of the workman's hand as he grasps the handle of the tool.

The operation will be apparent to those skilled in the art, since it will be seen that when the parts are in the position seen in Fig. 2 the passage 3 will be open—that is, when the operating-lever 16 is depressed the neck 10 will be opposite said passage 3—and the flow of the motive fluid to the working part of the tool will be permitted. Upon releasing or removing the pressure of the thumb or finger from the operating-lever 16 the passage 3 will be closed and the flow of the motive

fluid stopped, so that the tool will be at all times under the prompt and ready control of the operator, it being apparent that any improper movement of the lever 16 is prevented by the contact of the projection 20 with the contiguous shoulder.

In a contemporaneously-pending application filed by me September 20, 1901, bearing Serial No. 75,764, I have shown and described, but have made no claim therein to, a grasping-handle provided with a throttle-valve and its adjuncts of the same general character as the handle shown and described herein, and to the general construction of pneumatic tools described in said prior application I herein make no claim.

I am aware that it has been heretofore proposed and is a common right to conduct the motive fluid through the grasping portion of a pneumatic-tool handle, as in the United States Patent to Drawbaugh, No. 479,061, granted July 19, 1892, and also in the British Patent to Lowe of 1865, No. 1,778, and also in the several patents to Boyer; but I do not consider this a good construction, since it frequently happens in using these tools in cold weather that the cool compressed air benumbs the hand of the workman where it passes directly through the grasping part of the handle, which objectionable feature cannot occur in handles constructed like mine, where the motive fluid is conducted to the tool through a duct entirely outside of said grasping portion of the handle.

I desire to call especial attention to the fact that in my invention the part 9, which is the throttle-valve proper, since it is the element which controls the flow of motive fluid through the passage 3, is located wholly outside of the grasping portion of the handle 2. I am aware that it is a common right to locate a throttle-valve in the grasping portion of a handle, since such construction is shown in the Drawbaugh and Lowe patents above referred to, the throttle-valve in said Lowe patent particularly being located in the handle and in the portion thereof naturally grasped between the thumb and trigger-finger of the operator in the manual application of the tool to its work. My present invention is also differentiated from the construction seen in Boyer patent, No. 537,629, since in that structure the throttle-valve is located in the grasping portion of the handle, whereas in my device, as above explained, the throttle-valve or part 9 is wholly outside of the grasping portion of the handle. My invention is therefore differentiated from the prior art structures in the particulars above specified and is characterized by a novel assemblage of devices whereby the concrete unitary structure is produced which is simple in its operation, durable in construction, and can be cheaply manufactured.

By the arrangement of the compressed-air

ducts or passages 3 and 4, which are preferably rectilinear at substantially right lines to each other, it will be apparent that said ducts can be readily drilled through the handle, which makes the same much cheaper to construct than handles wherein a curved passage conforming to the grasping or other portion thereof has to be cored or otherwise constructed.

The handle can be secured to the cylinder in any suitable manner, and in the drawings I have shown a coupling portion or device 21, which is split and the split ends of which are suitably secured together to hold the cylinder and the handle together when in position. The outer portion of the interior of the coupling device is threaded at 22 to engage with suitable threads on the cylinder.

It will be apparent that the spring 13 may be located in other positions than that shown and that other changes may be made by those skilled in this art which will come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction I have herein shown and described.

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

1. A handle for a pneumatic tool, having a pressure-supply duct located exterior to its grasping portion, a duct or passage leading therefrom to the interior of said tool, a passage located in the grasping portion of said handle, a bushing located in said passage, a throttle-valve stem in said bushing, a throttle-valve attached to said stem by a neck, said valve being outside the grasping portion of said handle, a slit in the upper portion of said handle, a lever pivoted in said slit and projecting from the upper portion of said handle, and a pressure-piece upon said lever adapted to underlie the workman's thumb or finger as he grasps said handle.

2. In a pneumatic tool, a handle, a pressure-supply duct located exterior to the grasping portion thereof and leading to said tool, a passage in the grasping portion of said handle, a rotatable, ported throttle-valve bushing in said passage, means for locking said bushing in position, a throttle-valve located in the lower portion of said bushing and outside of the grasping portion of said handle, means intermediate the upper end of said bushing and valve for holding the latter normally closed, a slit or cut in the upper portion of said handle, an operating-lever for said throttle-valve pivotally mounted in said slit and projecting slightly therefrom at its upper end, and a thumb-piece arranged to underlie the thumb or finger of the workman's hand as he grasps the handle of the tool.

3. A grasping-handle for a pneumatic tool, having a rectilinear passage through its lower portion outside of said grasping portion, a

second rectilinear passage therein located at substantially a right angle to said first-mentioned passage and discharging into said tool, a throttle-valve bushing located in said grasping portion, a throttle-valve located in the lower portion of said bushing and outside of the grasping portion of said handle, a stem projecting upwardly from said valve, a head on said stem, a spring interposed between the upper portion of said bushing and said head, a slit or cut in the upper portion of said handle, an operating-lever pivoted in said slit and projecting therefrom, and a thumb-piece on said lever adapted to underlie the workman's thumb or finger during the grasping of said handle.

4. A handle for a pneumatic tool, having a pressure-supply duct, located exterior to its grasping portion, a duct or passage leading therefrom to the interior of said tool, a passage located in the grasping portion of said handle, a throttle-valve bushing having ports therein and located in said passage, means for permitting the rotation and preventing the longitudinal movement of said bushing, a throttle-valve in said bushing, a stem projecting upwardly from said valve, a head on said stem, a spring interposed between the end of said bushing and head, a slit in the upper portion of said handle, an operating-lever pivoted in said slit, and a thumb-piece on said lever adapted to underlie the workman's thumb or finger during the grasping of said handle.

5. In a pneumatic tool, a handle, a pressure-supply duct extending therethrough exteriorly to the grasping portion, a passage leading therefrom to the interior of said tool, a throttle-valve bushing having ports therein and located in the lower portion of said passage, a throttle-valve in said bushing, a stem projecting upwardly from said valve and having a head thereon, a spring interposed between the end of said bushing and head, a slit in the upper portion of said handle, an operating-lever pivoted in said slit, a cam on said lever engaging the head of said valve, a projection on said lever adapted to engage a suitable portion of said handle, and a thumb-piece on said lever adapted to underlie the workman's thumb or finger during the grasping of said handle.

6. In a pneumatic tool, a handle, a pressure-supply duct extending through said handle exteriorly to the grasping portion thereof, a throttle-valve bushing located in the grasping portion of said handle, a throttle-valve in said bushing, provided with a stem projecting upwardly from said valve and having a head thereon, a spring interposed between the upper end of said bushing and said head and means for operating said valve.

JULIUS KELLER.

Witnesses:

WM. CANER WIEDERSHEIM,
C. D. McVAY.