

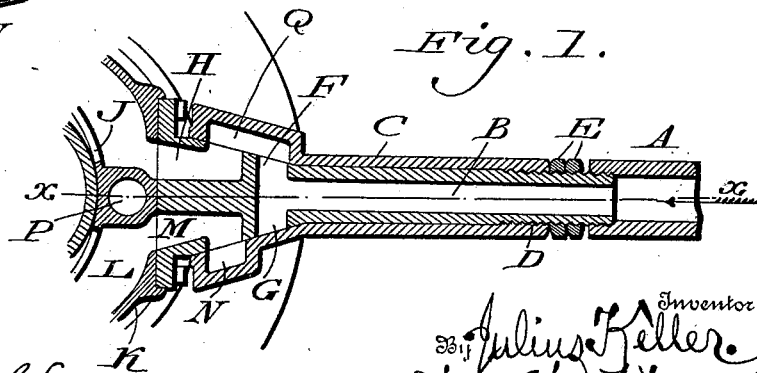
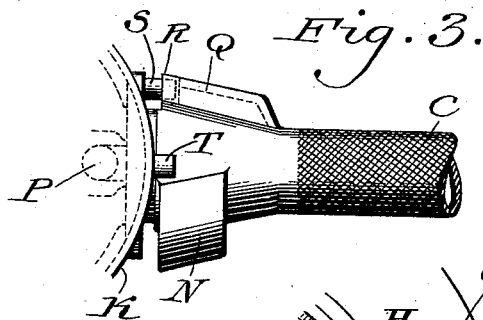
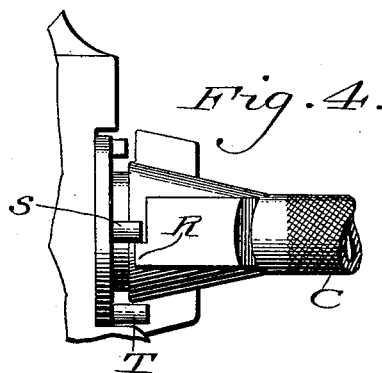
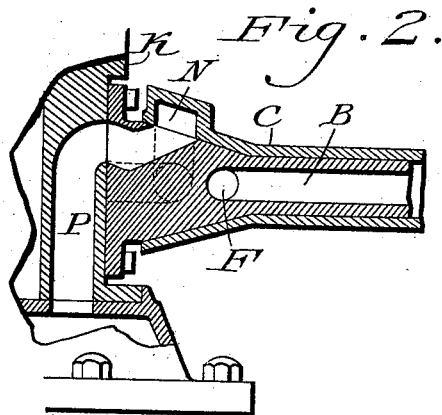
No. 646,703.

Patented Apr. 3, 1900.

J. KELLER.
REVERSING VALVE.

(Application filed Oct. 25, 1899.)

(No Model.)



Witnesses

P. F. Tagle.
L. Bouville.

Inventor
Julius Keller.
Dieckmann & Harbancz.
Attorneys

UNITED STATES PATENT OFFICE.

JULIUS KELLER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
KELLER TOOL COMPANY, OF PENNSYLVANIA.

REVERSING-VALVE.

SPECIFICATION forming part of Letters Patent No. 646,703, dated April 3, 1900.

Application filed October 25, 1899. Serial No. 734,712. (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 Reversing-Valves, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of an improved construction of reversing-valve in which provision is made for readily reversing the direction of flow of the motive fluid to the motor in a simple and effective manner through the operation of a rotatable sleeve or member which engages the inlet-chamber of the valve, the motive fluid passing through the reversing valve or sleeve in its passage to and from the motor in both the normal and reversed positions thereof.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figure 1 represents a longitudinal sectional view of a reversing-valve embodying my invention, showing also a portion of the motor to which the same is applicable. Fig. 2 represents a section on line *xx*, Fig. 1. Fig. 3 represents a plan view of Fig. 2, showing the valve in a different position from that seen in Fig. 2. Fig. 4 represents a side elevation of Fig. 3.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates an inlet-pipe for the motive fluid, said pipe communicating with the inlet-chamber B, whose outer surface is engaged or inclosed by the rotatable member sleeve or valve C, which latter is preferably threaded at D and adapted to be locked in the desired position by means of the lock-nuts E. The inlet-chamber B is provided with the ports F and G, the former of which leads through the passage H to the inlet-chamber J of any suitable motor, as K, the exhaust from said motor taking place through the passage L and passing thence through the passage M to the passage N, contained in the sleeve or valve, and thence through the exhaust-passage P to the atmosphere in any suitable manner, it being

noted that communication is formed between the passages F and H by means of the passage or bridge Q in the valve or sleeve. The casing of the passage or bridge Q forms a projection on the valve or sleeve C, which is adapted to contact with one or the other of the pins S or T, whereby the movement of the valve is positively limited. It will thus be apparent that when the parts are in the position seen in Figs. 1 and 2 the motive fluid passes through the chamber B and passages F, Q, H, and J to the piston, the exhaust taking place through the passages L, M, N, and P.

When it is desired to reverse the direction of the rotation of the piston, the valve or sleeve C is rotated to the desired extent, whereupon it will be apparent that the direction of flow of the motive fluid will be immediately reversed, attention being called to the fact that the motive fluid passes through the sleeve or valve in its passage to and from the motor in both the normal and reversed positions thereof.

It will be understood that while my invention is capable of general application the same is especially adapted for use in conjunction with pneumatic appliances wherein the valve C constitutes a handle which is grasped by the hand of the workman. It will thus be seen that this handle or sleeve being always in the grasp of the workman affords a most convenient appliance for reversing, this result being attained by a slight movement of the hand, so that the workman is not compelled to release his hold of the tool in order to operate the valve, as is the case in prior constructions, where the valve consists of a plug operated by an external handle.

It will be apparent that various changes may be made in the art which may come within the scope of my invention, and I therefore do not desire to be limited in every instance to the exact form 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. In a reversing-valve, an inlet-chamber, a movable member mounted thereon, and passages in said member for permitting the inlet or exhaust of the motive fluid in either

direction, the motive fluid passing through said member in its passage to and from the motor in both the normal and reversed positions thereof.

- 5 2. In a reversing-valve, an inlet-chamber, a rotary sleeve mounted thereon, and passages in said sleeve for permitting the inlet or exhaust of the motive fluid in either direction, the motive fluid passing through said sleeve in its passage to and from the motor in both the normal and reversed positions thereof, in combination with stop devices for limiting the extent of movement of said sleeve.
- 15 3. In a reversing-valve, an inlet-chamber, a rotary sleeve mounted thereon, inlet and exhaust passages, ports in said sleeve for permitting the inlet and exhaust of the motive fluid in either direction, said fluid passing through said sleeve in each direction in both the normal and reversed positions thereof, and means for locking said sleeve in the desired position.
- 25 4. In a reversing-valve, an inlet-chamber, a communication therefrom to the interior of a motor, a movable sleeve mounted on said chamber, an exhaust-passage leading from said motor, a main exhaust from the latter, and passages in said sleeve for causing the
- 30 above ports and passages to serve as inlet or exhaust passages according to requirements, the motive fluid passing through said sleeve

in its passage to and from the motor, in both the normal and reversed positions of said sleeve.

5. In a reversing-valve, an inlet-chamber, ports leading therefrom, a sleeve mounted on said inlet-chamber, and having passages therein, whereby said ports are adapted to serve as inlet or exhaust passages for the motive fluid, the latter passing through said sleeve in its course to and from said motor in both the normal and reversed positions thereof.

6. The combination of an inlet-chamber, ports leading therefrom, a movable member mounted thereon and having passages therein whereby said ports are adapted to serve as inlet or exhaust passages for the motive fluid, the latter passing through said member in its course to and from the desired point in both the normal and reversed positions thereof.

7. In a reversing-valve, an inlet-chamber, a rotatable sleeve mounted thereon, ports and passages common to said chamber and sleeve, and means for enabling said ports and passages to serve as inlet or exhaust passages according to requirements, the motive fluid passing through said sleeve in both the normal and reversed positions thereof.

JULIUS KELLER.

Witnesses:

WM. CANER WIEDERSHEIM,
C. D. McVAY.