

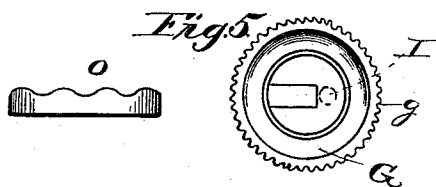
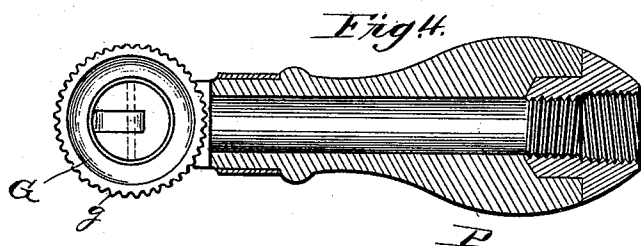
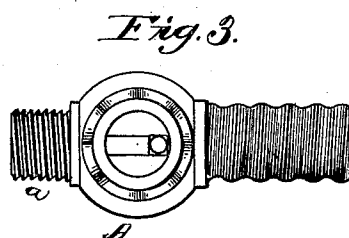
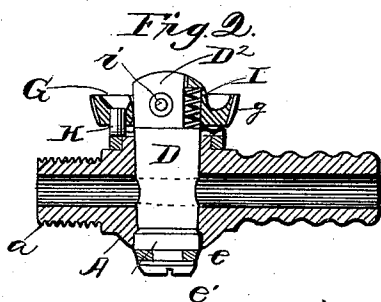
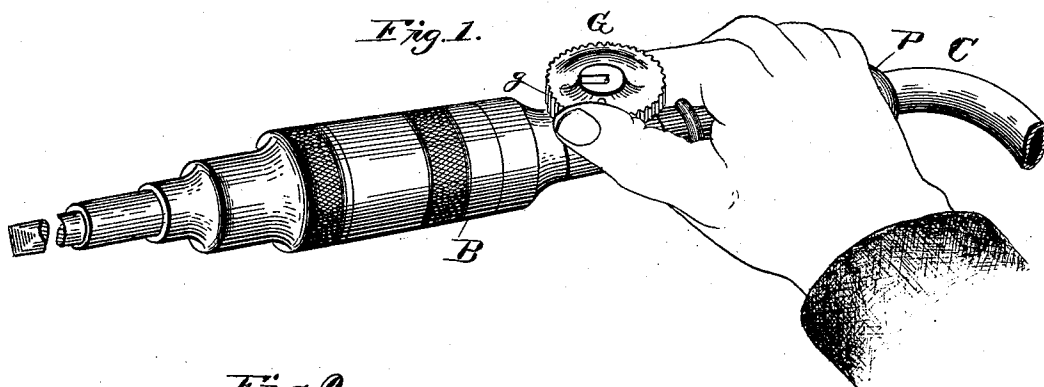
(No Model.)

2 Sheets—Sheet 1.

D. DRAWBAUGH.
GRADUATED COCK FOR PNEUMATIC TOOLS.

No. 479,061.

Patented July 19, 1892.



Witnesses:
J. M. Fowler Jr.
Aly Stewart.

Inventor
By Daniel Drawbaugh,
Church & Church
his Attorneys.

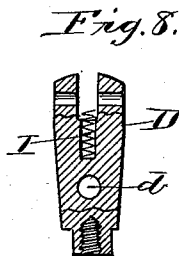
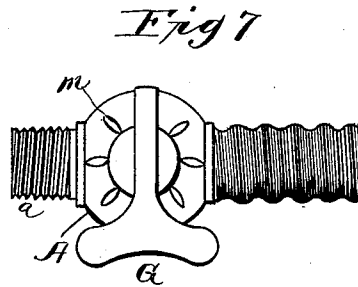
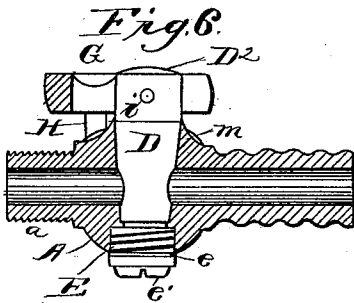
(No Model.)

2 Sheets—Sheet 2.

D. DRAWBAUGH.
GRADUATED COCK FOR PNEUMATIC TOOLS.

No. 479,061.

Patented July 19, 1892.



Witnesses

J. M. Fowler Jr.
Aly. Stewart

Inventor
Daniel Drawbaugh.
By Church & Church
his Attorneys.

UNITED STATES PATENT OFFICE.

DANIEL DRAWBAUGH, OF EBERLY'S MILL, PENNSYLVANIA, ASSIGNOR TO
THE PNEUMATIC AND ELECTRIC TOOL COMPANY, OF NEW YORK, N. Y.

GRADUATED COCK FOR PNEUMATIC TOOLS.

SPECIFICATION forming part of Letters Patent No. 479,061, dated July 19, 1892.

Application filed April 13, 1892. Serial No. 429,026. (No model.)

To all whom it may concern:

Be it known that I, DANIEL DRAWBAUGH, of Eberly's Mill, in the county of Cumberland and State of Pennsylvania, have invented certain new and useful Improvements in Graduated Cocks for Pneumatic Tools; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention has for its object to provide a cock adapted for controlling the supply of air to pneumatic tools, either to regulate the stroke of the same or to stop the supply thereto entirely. Tools of the kind mentioned, as shown, for instance, in my patent, No. 472,495, dated April 5, 1892, as is well known, are usually adapted to be held in the workman's hand when in use, the workman frequently finding it necessary to use both hands to properly guide and handle the device, particularly in doing heavy, intricate, and nice work, and it has been customary to provide some means for regulating the strength or rapidity of the stroke, such as cut-off or throttling devices; but in practically all of such devices, while it was possible to set the same to cause the tool to run at a predetermined speed or with a predetermined power, difficulty has been experienced in changing the speed or power of the tool without removing the tool from the work or at least releasing the firm grip so essential to the successful and proper handling of the tool. This has led the workmen in handling these tools to dispense with the use of mechanical devices and to control the tool by placing a finger or thumb over the exhaust-opening, thereby throttling the exhaust, and by varying the size of the opening by simply moving the one finger or thumb, as the case may be, control the tool effectually without removing it from the work or releasing his grip on the tool. This method of controlling the tool is manifestly imperfect and objectionable for many reasons, the inconvenience to the workman for one, and the danger of stopping up the exhaust-opening for another, to say nothing of the almost impossibility of making the tool

work exactly the same at different times, and I design to overcome these objections and to provide a mechanical device which shall accomplish the desired ends perfectly.

In the accompanying drawings, Figure 1 is a perspective view showing the manner of using the graduated cock. Fig. 2 is a longitudinal section through the cock. Fig. 3 is a top plan view. Fig. 4 is a similar view with the handle attached. Fig. 5 is a detail top plan and side elevation of the finger-piece and retaining-ring, respectively. Fig. 6 is a longitudinal section showing a slightly-different finger-piece. Fig. 7 is a top plan of the same. Figs. 8, 9, and 10 are details of construction.

Like letters of reference in the several figures indicate the same parts.

The fixture or body A of the cock is formed with a passage extending through it, and at one end is provided with a screw-thread *a* or other means for attachment to the tool B, Fig. 1, while at the opposite end it is adapted for connection with the supply-pipe, as the rubber tubing C, leading from an air-compressor or other suitable pressure-supply. At the center the body A has a transverse conical opening formed therein for the reception of the similarly-formed key or turning plug D, having a passage or opening *d* therethrough in line with the longitudinal opening in the body A. The lower portion of the conical opening in the body A is recessed or cored out for the reception of a spring E, which, bearing against the bottom of the recess and the washer *e* on the end of the key, serves to hold the key firmly to its seat under all conditions. The washer *e* and screw *e'*, it will be understood, are of ordinary construction and are applied in the ordinary manner. At the upper end the key is provided with a finger-piece G, preferably of a form particularly adapted to be operated upon by the workman's thumb, as shown in Fig. 1. Figs. 1 to 5 show this finger-piece in the form of a disk or wheel having a roughened or fluted edge *g* and pivotally connected to the angular upwardly-projecting end D² of the key, so as to permit of a slight oscillatory movement. At one side the finger-piece is provided with a

projection H, adapted to co-operate with a retaining-ring on the body of the cock to retain the key in adjusted position. To secure this result more effectually by holding the parts in operative engagement, the upwardly-extending portion of the key is cut off or chambered for the reception of a spring I, which presses against the under side of the finger-piece on the side of its pivot *i* opposite the projection H and elevates the rear side of the finger-piece, throwing the projection and retaining-ring into engagement with a yielding pressure.

The part which I designate a "retaining-ring" it is obvious may be no ring at all in a strict sense, but simply a roughened surface or a series of depressions, as *m*, formed in the top of the body A, as in Figs. 6 and 7, or it may be a ring having an undulatory surface, as O in Figs. 1 to 5, the essentials being simply that there shall be a projection located on one member and a roughened surface with which it may co-operate located on the other section.

Instead of a circular finger-piece, it may be T-shaped, as in Figs. 6 and 7, and while it is not essential that a regular handle be used, as the pipe and projecting end of the body may be grasped with facility, still I preferably attach or form a handle P on the rear end of the body of the cock, with means for attaching the pipe to the rear end of the handle, as shown in Fig. 4.

In operation the workman grasps the tool at any convenient point with one hand and with the other grasps the handle or cock, with his thumb resting on the finger-piece, as shown in Fig. 1. He may now rotate the key to control the air-passage without changing the position of either hand in the least. Usually the retaining-ring and projection H are so constructed that the key may be turned with a moderate pressure on the finger-piece; but if it does not move easily the workman by simply pushing upward slightly may disengage the projection and ring and turn the key to the desired adjustment without difficulty.

The device puts the tool under perfect con-

trol, for the operator, while left free to position and hold the tool properly, may at the same time perfectly control the air-supply and through it the speed and strength of the strokes delivered.

Having thus described my invention, what I claim as new is—

1. In a graduated cock for pneumatic tools, adapted to be held in the hand, the combination, with the body having longitudinal and transverse passages therethrough and the key seated in the transverse passage, of the finger-piece pivotally connected to the top of the key and the retaining projection and ring, substantially as described.

2. In a graduated cock for pneumatic tools, the combination, with the body and key, of the finger-piece pivoted to the upper end of the key, the projection and co-operating retaining-ring, and the spring engaging the finger-piece to keep the ring and projection in engagement, substantially as described.

3. In a graduated cock for pneumatic tools, the combination, with the body and key having the upper end recessed, of the finger-piece pivoted to the upper end of the key, the spring seated in the recess and engaging the under side of the finger-piece, and the projection and co-operating retaining-ring held in engagement by the spring, substantially as described.

4. In a cock for pneumatic tools, adapted to be held in the hand, the combination, with the body having the handle projecting at one end, of the key and the finger-piece mounted on the upper end of the key, substantially as described.

5. In a cock for pneumatic tools, adapted to be held in the hand, the combination, with the body having one end formed for attachment to the tool and the handle on the opposite end, with means for attaching the supply pipe thereto, of the key and the finger-piece mounted on the upper end of the key, substantially as described.

DANIEL DRAWBAUGH.

Witnesses:

W. M. HAIN,
ERNEST MARX.