

W. M. HOLDEN.
 THROTTLE HANDLE FOR PNEUMATIC TOOLS.
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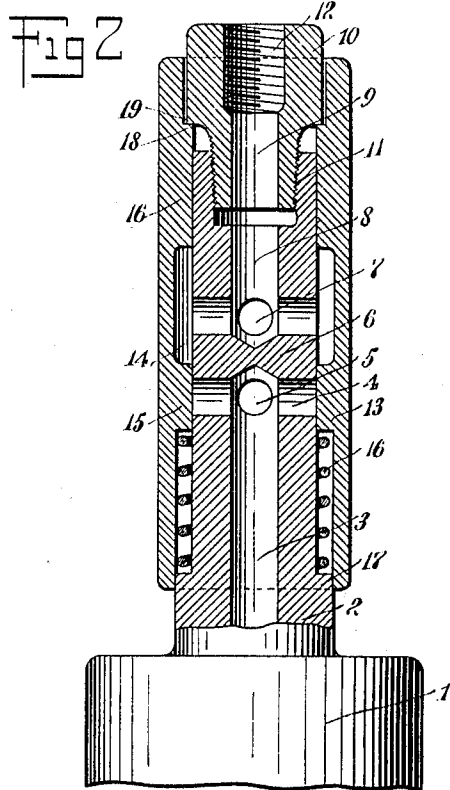
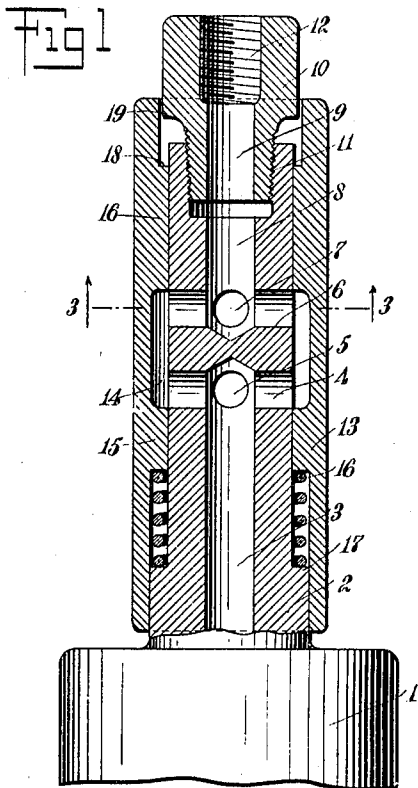
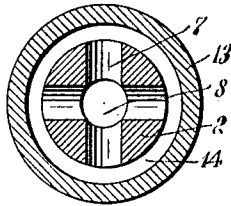


Fig 3



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THROTTLE-HANDLE FOR PNEUMATIC TOOLS.

970,225.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed November 11, 1909. Serial No. 527,449.

To all whom it may concern:

Be it known that I, WILLIAM M. HOLDEN, a citizen of the United States, and a resident of Barre, in the county of Washington and State of Vermont, have invented a new and Improved Throttle-Handle for Pneumatic Tools, of which the following is a full, clear, and exact description.

This invention relates to a vertical throttle handle for pneumatic tools, which will automatically shut off when the operator releases the pressure thereon.

An object of this invention is to provide a device which will be simple in construction, strong, durable, easily operated, inexpensive to manufacture, and quick and positive in its action.

A further object of this invention is to provide ports communicating with the pneumatic tool and with the supply, with means for connecting said ports when in operation, which will be automatically cut off when out of operation.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a view in elevation, partly in section, showing the parts in a position such that there is an uninterrupted connection between the source of supply and the pneumatic tool; Fig. 2 is a view similar to Fig. 1, showing the parts in their opposite position, with the communication between the source and the pneumatic tool cut off; and Fig. 3 is a horizontal transverse section on the line 3--3 of Fig. 1.

Referring more particularly to the separate parts of the device, 1 indicates a pneumatic tool, which has connected thereto a member 2, in which is provided a conduit 3 for supplying the compressed air or other operating fluid to the tool 1. The member 3 is provided with a port 4, which has a plurality of port openings 5 arranged in the manner of a cross, as indicated in Fig. 3.

Above the port 4 and separated therefrom by a partition 6, there is provided a similar port 7, which also has a plurality of port openings therein. The port 7 communicates

with a passage 8 in the member 2, which extends in alinement with a passage 9 in a nipple 10, which has a screw-threaded connection at 11 with the member 2. The nipple 10 has a screw-threaded portion 12, whereby it may be connected with any suitable source of compressed air or other operating fluid.

Concentrically arranged on the member 2, there is provided a sleeve 13, which is adapted to slide on the member 2. The sleeve 13 has an annular chamber 14, which is formed between inwardly-extending annular flanges 15 and 16, and is adapted to connect the port 4 with the port 7, so that there will be a direct connection between the supply nipple 10 and the tool 1, as illustrated in Fig. 1. In order that the connection between the port 7 and the port 4 may be normally cut off, as indicated in Fig. 2, there is provided a spring 16, which surrounds the member 2 and abuts against a shoulder 17 formed thereon, at one end, and against a shoulder formed by the annular flange 15, at the other end. The annular flange 16 forms a shoulder at 18, which is adapted to abut against a shoulder at 19, formed on the nipple 10, so as to limit the upward or outward motion of the sleeve 13 relative to the member 2. This movement can be limited by adjusting the nipple 10 relative to the member 2 by means of its screw-threaded connection.

The operation of the device will be readily understood when taken in connection with the above description. When it is desired to operate the tool, the tool is pressed against the work by exerting a pressure on the sleeve 13, thereby moving the sleeve against the tension of the spring 16 relative to the member 2, so as to bring the chamber 14 into the position indicated in Fig. 1, where the port 7 is connected to the port 5, and thus forms a continuous conduit between the supply nipple 10 and the tool 1. When the pressure is released on the sleeve 13, the spring 16 will automatically force the sleeve upward relative to the member 2, thus cutting off the communication between the port 7 and the port 5.

It will thus be seen that an easily operated and inexpensive device is provided, which will automatically cut off the supply of motive fluid when the operator's grip is released thereon, either accidentally or on

purpose, so that there will be no danger of the tool kicking around and injuring the operator.

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

1. In a device of the class described, the combination with a tool, of a member connected to said tool, having a plurality of ports therein, one of said ports being connected to the source of motive fluid for operating said tool, the other of said ports being connected to said tool, and a sleeve slidingly mounted on said member, having a chamber therein adapted to connect said ports.

2. In a device of the class described, the combination with a tool, of a member connected to said tool, having a plurality of ports therein, one of said ports being connected to the source of motive fluid, another of said ports being connected to said tool, a sleeve slidingly mounted on said member and having a chamber therein adapted to connect said ports, and a spring adapted to co-act with said sleeve and said member to force said sleeve relative to said member.

3. In a device of the class described, the combination with a tool, of a member connected to said tool, a sleeve slidingly mounted on said member and adapted to connect the source of supply of motive fluid to said tool, means for limiting the motion of said sleeve, and means for actuating said sleeve.

4. In a device of the class described, the combination with a tool, of a member connected to said tool, a sleeve slidingly mounted on said member and adapted to connect the source of supply of motive fluid to said tool, and adjustable means for limiting the motion of said sleeve.

5. In a device of the class described, the combination with a tool, of a member connected to said tool, having passages therein connected with said tool and the source of a motive fluid supply and also having a plu-

rality of ports therein connected to said passages, a sleeve slidingly mounted on said member, inwardly-extending annular flanges on said sleeve forming a chamber between them, which is adapted to connect said ports, a spring engaging one of said flanges and adapted to force said sleeve so as to bring said chamber out of its connecting position with relation to said ports, and a supply nipple adjustably secured to said member and adapted to limit the motion of said sleeve.

6. In a device of the class described, the combination with a tool, of a member connected to said tool having a plurality of ports therein, one of said ports being connected to the source of motive fluid for operating said tool, the other of said ports being connected to said tool, a sleeve slidingly mounted on said member, having a chamber therein adapted to connect said ports in communicative relation, and a nipple adjustably connected to said member and adapted to limit the movement of said sleeve relative to said member.

7. In a device of the class described, the combination with a tool, of a member connected to said tool, said member having communication with the supply of operating fluid, at one end, and being connected to said tool at the other end, a sleeve slidingly mounted on said member adapted to complete the communication between the ends of said member, a flange on said member, a spring abutting against said flange, and a flange on said sleeve abutting against said spring, said sleeve entirely inclosing said spring.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM M. HOLDEN.

Witnesses:

JOHN W. GORDON,
JENNIE MARR.