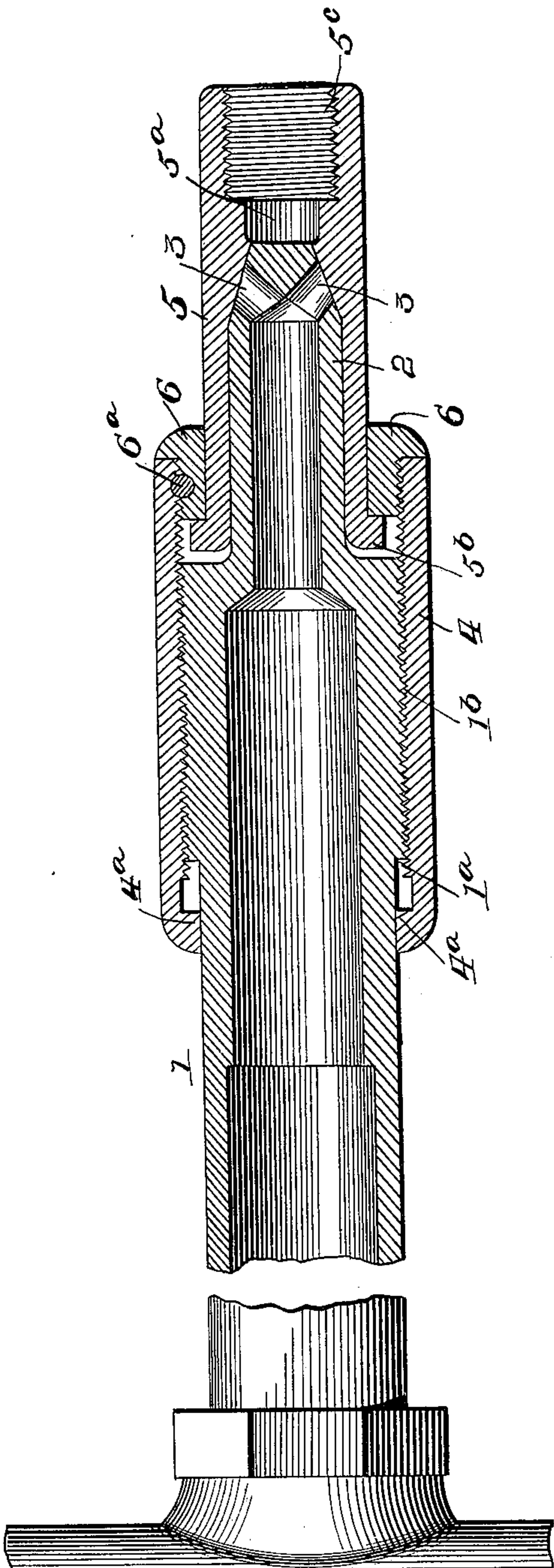


No. 656,195.

Patented Aug. 21, 1900.

C. H. JOHNSON.  
THROTTLE VALVE FOR MOTIVE FLUID TOOLS.  
(Application filed Jan. 31, 1900.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## THROTTLE-VALVE FOR MOTIVE-FLUID TOOLS.

SPECIFICATION forming part of Letters Patent No. 656,195, dated August 21, 1900.

Application filed January 31, 1900. Serial No. 3,507. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES HARRIS JOHNSON, a citizen of the United States, residing at Chicago Heights, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Throttle-Valves for Motive-Fluid Tools; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which shows in longitudinal central section a construction embodying my invention.

My invention relates generally to throttle-valves for motive-fluid-operated tools, but especially to the class which may be termed "hand-tools"—such, for instance, as pneumatic drills, hammers, &c.—and has for its object the production of a simple and efficient throttle adapted, if desired, to be used as a handle for manipulating the tool and at all times enabling the operator to regulate or cut off the motive fluid without losing control of the tool.

In carrying out my invention I arrange in the same plane or axial line two sections of the induction-pipe whereby the motive fluid is admitted to the tool, one provided with a valve-seat and the other with a valve, and combine the same by sleeve or other suitable means, causing the approach and permitting the recession of the sections of the induction-pipe, so that the valve may be opened or closed partially or entirely at the will of the operator, and such a construction or its equivalent embodies the main feature of my invention.

There are other minor features of invention, all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawing, 1 indicates a motive-fluid-supply pipe leading to or connected with a pneumatic drill or like tool to be operated, and, if desired, the same may constitute the handle or one of the handles thereof. Said pipe 1 at its outer end is reduced in diameter, as at 2, to form a valve closed at its extremity and perforated adjacent thereto, as at 3, with a suitable port or ports. The exterior diameter of pipe or tube 1 just back of the reduced portion or valve-section 2 is somewhat greater

than at other points, so as to form an annular shoulder or collar 1<sup>a</sup> to retain a coupling-sleeve 4, and is threaded, as at 1<sup>b</sup>, for the reception of a thread on the interior of said coupling-sleeve 4.

5 is a second section of the motive-fluid-induction pipe, whose inner diameter corresponds with the external diameter of the reduced portion or valve-section 2 of induction-pipe 1, except at the point where it is contracted to form a valve-seat 5<sup>a</sup> for the closed end of valve-section 2. The inner end of section 5 of the induction-pipe is provided with a collar 5<sup>b</sup> for engaging the coupling-sleeve 4 and at its outer end may be threaded, as at 5<sup>a</sup>, or provided with other suitable means for connection with the motive-fluid supply.

The pipe-sections 1 and 5 are arranged in axial line, so that when brought into contact the valve-section 2 will enter the section 5 and close the opening of valve-seat 5<sup>a</sup> and may be combined by means of a coupling-sleeve 4, as before noted.

4 indicates a coupling-sleeve by means of which the pipe-sections 1 and 5 are combined and caused to approach each other when the throttle is to be closed. This coupling-sleeve is provided at one end with an interior annular shoulder or flange 4<sup>a</sup>, which engages the shoulder or collar 1<sup>a</sup> of pipe-section 1 and is threaded on its interior to engage the thread 1<sup>b</sup> of said pipe-section, and said thread on the interior of the coupling-sleeve 4 is extended so as to receive a threaded annulus or cap 6, which surrounds the pipe-section 5 and engages the collar 5<sup>b</sup> thereof.

6<sup>a</sup> indicates a lock-pin to prevent the rotation of annular cap 6 when it has been screwed home in the end of coupling-sleeve 4.

The construction being substantially such as hereinbefore pointed out, the parts will be combined by threading the coupling-sleeve 4 on the threaded end of pipe-section 1 until the shoulders 4<sup>a</sup> 1<sup>a</sup> are in substantial engagement, then passing the annular cap 6 over pipe-section 5 until the same engages collar 5<sup>b</sup>, after which the pipe-section 5 is passed over the reduced or valve end 2 of pipe 1, and the annular cap 6 screwed home in the end of coupling-sleeve 4 and secured against rotation by the locking-pin 6<sup>a</sup> or equivalent means.



The coupling-sleeve 4 being sufficiently long between collar 4<sup>a</sup> and cap 6, by rotating the same the pipe-sections 1 and 5 are made to axially approach to close or recede to open the valve.

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

1. In a throttle-valve for motive-fluid-operated tools, the combination of a plurality of axially-arranged pipe-sections comprising a valve and a valve-seat, and a coupling-sleeve adapted to cause the axial approach and permit the recession of said sections, substantially as and for the purposes specified.

2. In a throttle-valve for motive-fluid-operated tools, the combination of a plurality of axially-arranged pipe-sections comprising a valve and a valve-seat, one of said sections being threaded on its exterior, and an internally-threaded coupling-sleeve for adjustably connecting said valve and valve-seat sec-

tions, substantially as and for the purposes specified.

3. In a throttle-valve for motive-fluid-operated tools, the combination with a pipe-section threaded on its exterior and having its end of reduced diameter and constituting a valve, of a second pipe-section whose inner diameter corresponds with the external diameter of the reduced portion of the first-named section the bore of the second section reduced to constitute a valve-seat, and an internally-threaded coupling-sleeve for adjustably connecting said valve and valve-seat sections, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 27th day of January, 1900.

CHARLES HARRIS JOHNSON.

Witnesses:

H. H. VAUGHAN,

GEO. I. McELDOWNEY.