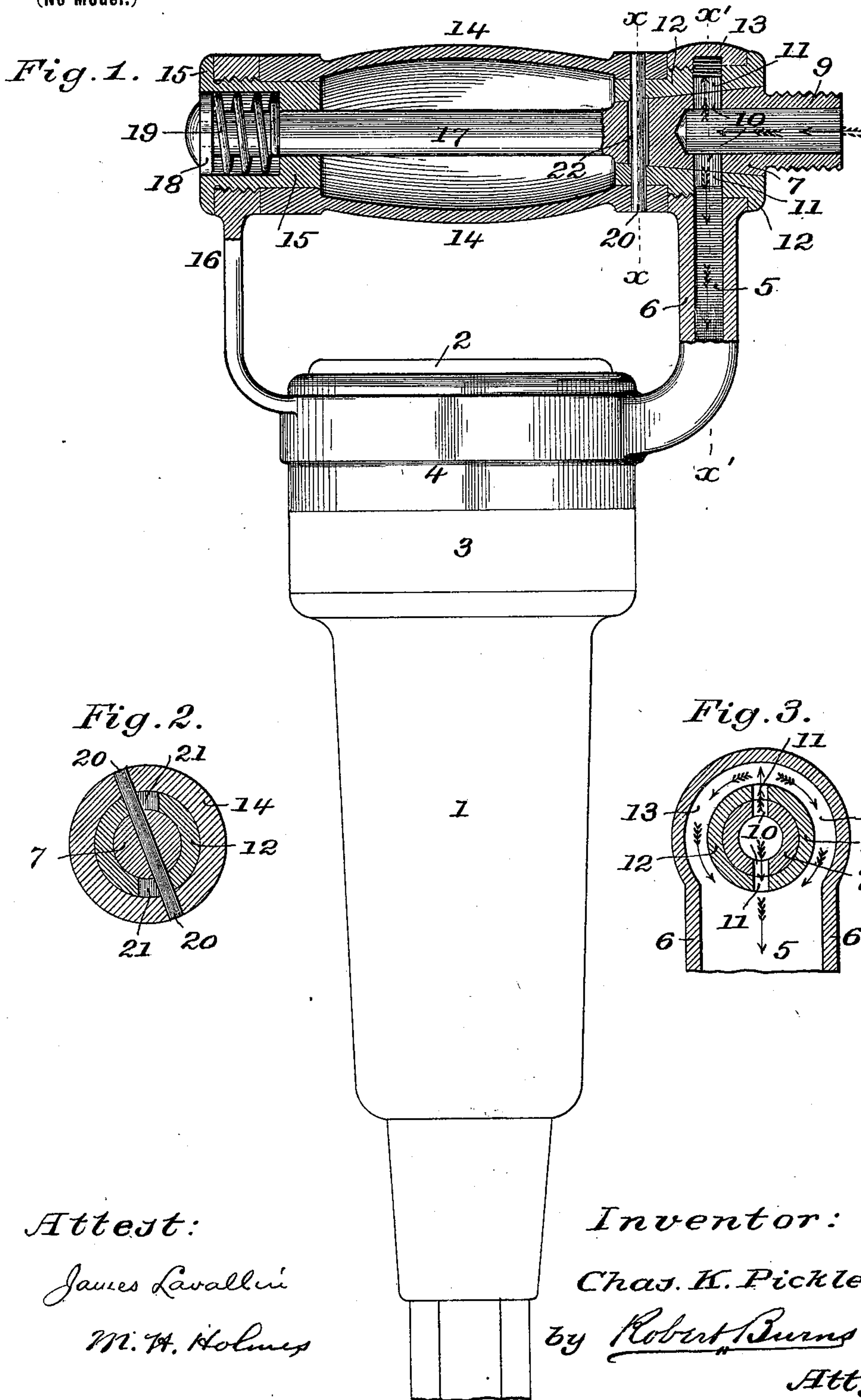


**No. 631,435.**

**Patented Aug. 22, 1899.**

**C. K. PICKLES.**  
**PNEUMATIC HAMMER.**  
(Application filed July 12, 1898.)

(No Model.)



*Attest:*

James Lavallin  
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Chas. K. Pickles,  
by Robert Burns  
Att'y.



# UNITED STATES PATENT OFFICE.

CHARLES K. PICKLES, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WALTER L. FLOWER, OF SAME PLACE.

## PNEUMATIC HAMMER.

SPECIFICATION forming part of Letters Patent No. 631,435, dated August 22, 1899.

Application filed July 12, 1898. Serial No. 685,787. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES K. PICKLES, a citizen of the United States, and a resident of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Pneumatic Hammers; 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.

The present invention relates more especially to that type of pneumatic hammers in which the valve mechanism has fluid connection with a reciprocating piston which is adapted to deliver rapidly succeeding blows to a cutting or other tool movably held within one end of the main piston-housing and in the path of said piston.

The object of the present improvement is to provide a simple and efficient throttle-valve mechanism for regulating the admission of motive fluid and controlling the speed of action of the pneumatic hammer, as will hereinafter more fully appear. I attain such object by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a pneumatic hammer, partly in section, illustrating the present improvement; Fig. 2, a detail transverse section at line  $x x$ , Fig. 1; and Fig. 3, a similar view at line  $x' x'$ , Fig. 1.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents the cylinder or barrel of a pneumatic hammer, and 2 a cap-nut closing the end of the piston-chamber of the cylinder 1 and also serving as a means for securing the valve-housing 3 and the attaching-ring 4 of the hammer-handle in place upon the main cylinder or barrel 1.

5 is the supply-duct for the compressed air or other motive fluid, formed in one of the branches 6 of the hammer-handle and communicating at one end with the annular chamber of the throttle-valve 7 and at the other end with an annular chamber in the handle-attaching ring 4.

The throttle-valve 7 of the present im-

provement comprises a tapering hollow plug having an outwardly-extending neck 9 for the attachment of the supply-hose from the source of pressure-supply and diametrically opposite ports 10 through its tapering portion that are adapted to register with correspondingly-formed ports 11 in the valve-casing 12. Said valve-casing in the construction shown is in the form of a bushing screwed or otherwise secured in an eye at the upper end of the handle branch 6, in which is formed the supply-duct 5, and such bushing will be formed with an annular chamber 13, that connects the ports 11 with the supply-duct 5, as illustrated in Figs. 1 and 3.

14 is the handle or grip proper of the pneumatic hammer, supported at one end by an inwardly-projecting neck on the bushing 12, heretofore described, and at the other end by a similarly inwardly projecting neck of a bushing 15, arranged in the opposite branch 16 of the hammer-handle. In the present improvement said grip or handle 14 is adapted to have a partial rotation on said necks for the purpose hereinafter stated.

17 is a transversely-projecting stem on the valve 7, that passes axially through the grip or handle 14 and into the bore of the bushing 15, as shown, its outer end being provided with a removable bearing-collar 18, beneath which a spring 19 has bearing, with a tendency to push said stem longitudinally of its axis and normally hold the valve 7 to its seat. In the construction shown in the drawings the spring 19 is arranged in a counter-bore of the bushing 15. Any other usual arrangement of said spring may, however, be used without departing from the spirit of this part of the present invention.

20 is a cross-pin fixedly secured at each end to a tubular end portion of the handle or grip 14 and having a movement limited by radial recesses 21 in the bushing 12 and also having operative engagement with the valve 7 by a longitudinally-elongated slot 22 in the said valve that is adapted to admit of a longitudinal adjustment of said valve and at the same time maintain operative connection between the valve and the cross-pin.



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

1. In a pneumatic hammer, the combination, of a piston-cylinder, a handle attached thereto by connecting branches, one of which is formed with a supply-duct, a tubular eye at the upper end of said branch, a throttle-valve seated in the path of the supply-duct, a semirotary handle supported independently of the throttle-valve, and having operative connection therewith, substantially as set forth.

2. In a pneumatic hammer, the combination; of a piston-cylinder, a handle attached thereto by connecting branches, one of which is formed with a supply-duct, a tubular eye at the upper end of said branch, a valve casing or bushing arranged in said eye, a throttle-valve seated in the path of the supply-duct, a semirotary handle supported independently of the throttle-valve and having operative connection therewith, substantially as set forth.

3. In a pneumatic hammer, the combination, of a piston-cylinder, a handle attached thereto by connecting branches, one of which is formed with a supply-duct, a tubular eye at the upper end of said branch, a valve casing or bushing arranged in said eye, a throttle-valve seated in the path of the supply-duct and formed with an axial inlet, and radial ports, that register with corresponding ports in the valve-casing, a semirotary handle supported

independently of the throttle-valve and having operative connection therewith, substantially as set forth.

4. In a pneumatic hammer, the combination, of a piston-cylinder, a handle attached thereto by connecting branches, one of which is formed with a supply-duct, a tubular eye at the upper end of said branch, a valve casing or bushing arranged in said eye and formed with an annular channel, a throttle-valve seated in the path of the supply-duct and formed with an axial inlet and radial ports that register with corresponding ports in the valve-casing, a semirotary handle supported independently of the throttle-valve and having operative connection therewith, substantially as set forth.

5. In a pneumatic hammer, the combination, of a piston-cylinder, a handle attached thereto by connecting branches, one of which is formed with a supply-duct, a tubular eye at the upper end of said branch, a throttle-valve seated in the path of the supply-duct, a semirotary handle supported independently of the throttle-valve and having operative connection therewith, a stem on said valve, and a spring holding said valve to its seat, substantially as set forth.

In testimony whereof witness my hand this 9th day of July, 1898.

CHARLES K. PICKLES.

In presence of—

ROBERT BURNS,  
S. F. PRYOR.