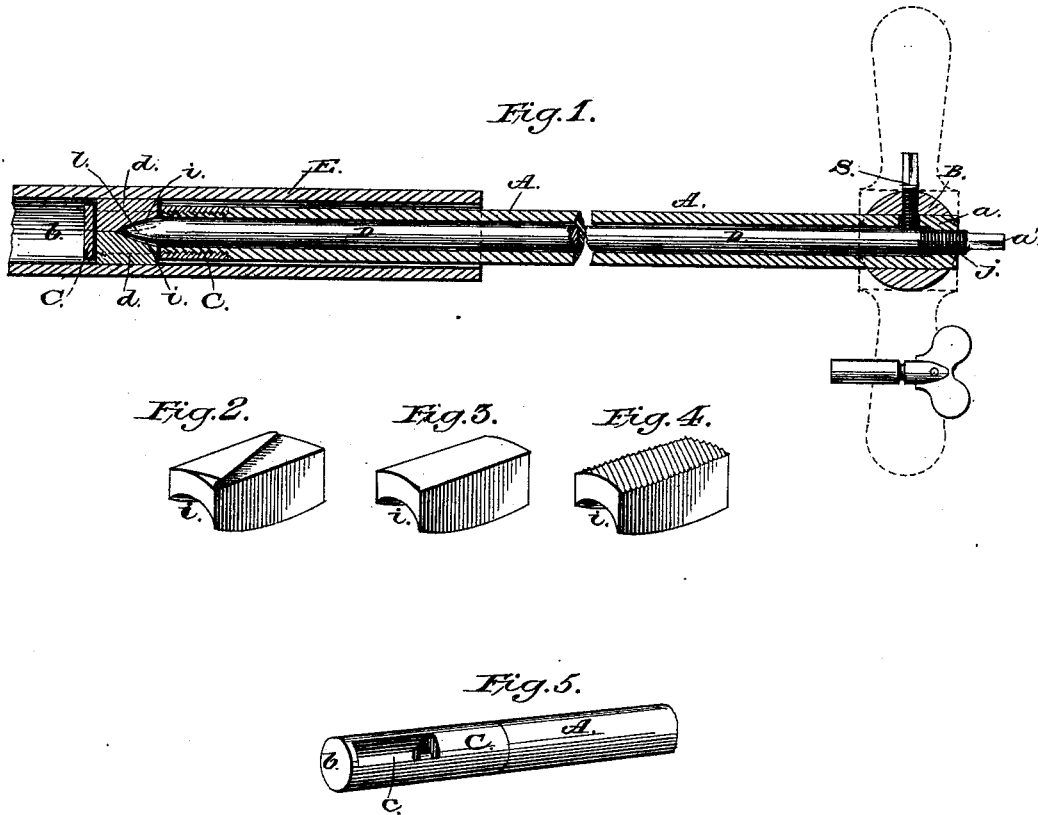


C. S. CHASE.  
Choke-Bore Instrument.

No. 218,230.

Patented Aug. 5, 1879.



WITNESSES  
*John Allen*  
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# UNITED STATES PATENT OFFICE.

CHRISTIE S. CHASE, OF JOHNSTOWN, OHIO.

## IMPROVEMENT IN CHOKE-BORE INSTRUMENTS.

Specification forming part of Letters Patent No. **218,230**, dated August 5, 1879; application filed December 21, 1878.

*To all whom it may concern:*

Be it known that I, CHRISTIE S. CHASE, of Johnstown, in the county of Licking and State of Ohio, have invented a new and valuable Improvement in Choke-Bore Instruments; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal central section. Figs. 2, 3, and 4 are different forms of bits, and Fig. 5 is a perspective view of the bit head and holder.

This invention relates to improvements in means for finishing the inside of gun-barrels; and the nature of the invention consists in the construction and novel arrangement of a tube having on its lower end a slotted removable head to receive the cutters, and affixed to a suitable handle by a set-screw passing through the tube-wall, in combination with an expanding rod working in a screw-seat in said tube, extending into the same between the cutters, as will be hereinafter more fully set forth.

The object of the invention is mainly to devise means for cutting, boring, or finishing the entire length of the barrel without removing the breech-pins; to increase the cutting or working capacity of the bits without removing the instrument from the barrel, and, finally, to improve such devices generally.

In the annexed drawings, the letter A designates a strong metallic tube, fixed usually to a cross-handle, B, and provided at its outer end with a screw-threaded seat, *a*. This tube extends through the handle, and the seat *a* is at its extreme end.

C represents a cylindrical head of slightly less diameter than the bore of the barrel E, and removably secured, usually by means of screw-threads, to the inner or boring end of the

tube. The end of this head is closed, as shown at *b*, and in it are formed oblong slots *c* in the line of the axis of rotation of the tube. These slots open into the hollow interior of the head, of which the bore is a continuation of that of tube A, and are designed to receive the cutting-bits *d*. These are of various elongated forms, according to their special functions, and have upon their contiguous faces recesses *i*, forming together a conical socket, designed to receive the tapering end *l* of an adjusting-rod, D. This rod fits snugly in the bore of tube A, and its outer screw-threaded end, *j*, engages the seat *a* aforesaid, so that when it is turned it is either projected and caused to penetrate between the cutters or bits *d*, causing them to expand against the sides of the gun-barrel, or retracted, thereby allowing the said bits to recede into the head away from the barrel, as the case may be.

The rod D has on its end a wrench-seat, *a'*, and is actuated by a key, wrench, or other equivalent device. Being adjusted, the rod D is secured against endwise displacement by means of a set-screw, S, extending through registering screw-threaded perforations in the handle B and tube A, and bearing against the rod D aforesaid.

The tube A and handle B may be denominated the stock of this device, and a head of any desired diameter may be screwed thereon, according to the diameter or caliber of the gun-barrel. Three or four heads of different diameters will usually be sufficient to finish gun-barrels of the calibers usually employed.

As aforesaid, the bits are of different elongated shapes, according to their peculiar functions.

In Figs. 2, 4, and 3 are illustrated different forms of bits, designed, respectively, for choke-boring, draw-boring, and finishing up, the first being provided with a diagonal-cutting lip, the second with oblique parallel corrugations, and the emery or finishing bit being simply smooth. These bits are always used

with oil, and may be expanded or contracted at pleasure without removing the instrument from the gun-barrel.

What I claim as new, and desire to secure by Letters Patent, is—

In an improved choke-bore instrument, the combination, with the tube A and cone-rod D, of the removable and interchangeable head C, by means of which it is adapted to receive

cutters differing in size and character, substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHRISTIE S. CHASE.

Witnesses:

HORTON J. BUXTON,

MAUDE BUXTON.