No. 804,602. PATENTED NOV. 14, 1905.

C. P. HOWK.

DETACHABLE HEAD FOR BORING TOOLS.

APPLICATION FILED MAY 26, 1904.

Fig. 1.

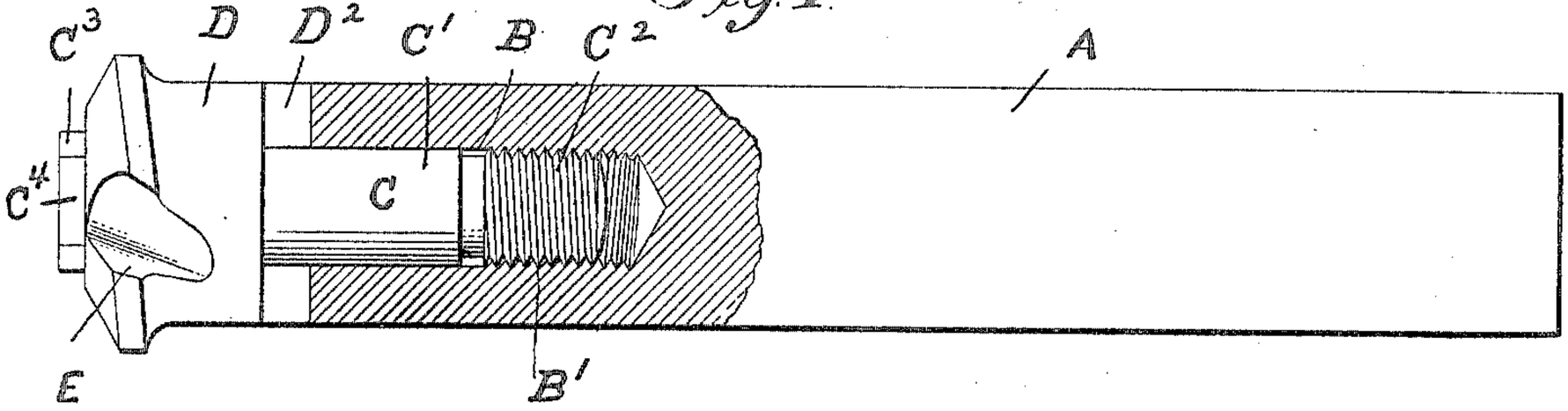


Fig. 4.

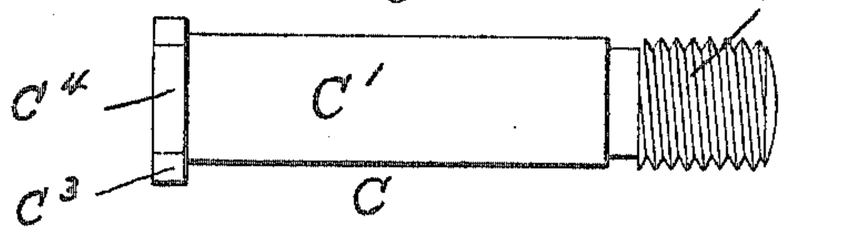


Fig. 2.

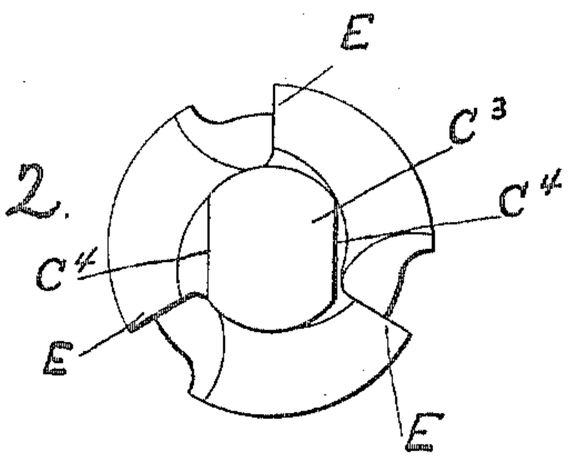
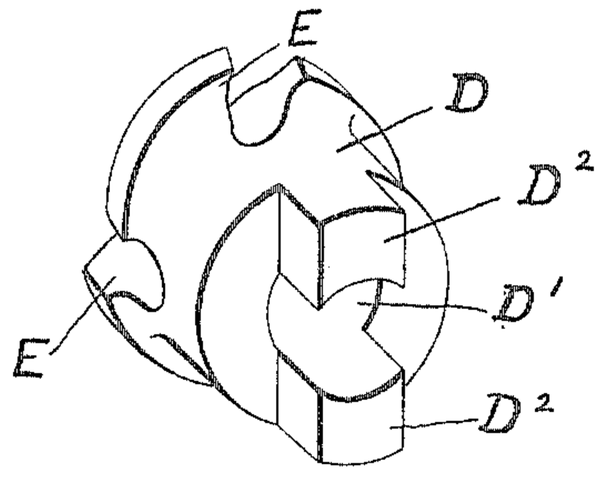


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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DETACHABLE HEAD FOR BORING-TOOLS.

No. 804,602. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed May 26, 1904. Serial No. 209,867.

To all whom it may concern:

Be it known that I, CHARLES P. HOWK, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Detachable Heads for Boring-Tools, of which the following is a specification accompanied by drawings forming a part of the same, in which—

Figure 1 represents a side view of my improved boring-tool with a part shown in section. Fig. 2 is an end view of the same. Fig. 3 is a perspective view of the detachable cutter-head, and Fig. 4 is a detached view of the attaching-bolt by which the cutter-head is attached to the stock.

Similar reference-letters refer to similar parts in the different views.

My present invention relates to a boring-tool having a detachable cutter-head; and it consists in the construction and arrangement of parts as hereinafter described, and pointed out in the annexed claim, by which I secure a cheaply-made and efficient boring-tool having a stock or shank and a detachable cutter-head which may be readily applied to the stock and removed therefrom and firmly held in place when applied to the operation of boring or reaming.

Referring to the accompanying drawings, A denotes a stock or shank having one end provided with a concentric cylindrical hole B, the bottom of which is provided for a short distance with a screw-thread B′ to receive an attaching-bolt C, which is made cylindrical throughout a portion of its length at C′ to fit the cylindrical hole B in the stock A, with the tip of the bolt provided with a screw-thread C^2 to engage the internal screw-thread B′.

D represents a cutter-head having a concentric cylindrical hole D′, fitting the cylindrical section C′ of the bolt. The cutter-head D is provided on the side next the stock or shank A with the projecting tenons D^2 D^2 on diametrically opposite sides of the central hole D′, adapted to fit in a diametrical slot across the end of the shank or stock A, thereby locking the cutter-head D and the stock A together and preventing the independent rotation of the cutter-head D around the bolt C. The bolt C is provided with a thin head C^3, which is cut away on opposite sides, as at C^4 C^4, to receive a wrench for the purpose of screwing the bolt into the stock A.

The cutter-head in the present instance is provided with the fluted cutting-teeth E; but the shape or number of the cutting-teeth may be varied to suit the character of the work.

In operation my improved boring-tool may be held stationary with its axis in alinement with the axis of the hole to be bored in a piece of rotating work held in a chuck upon the face-plate of a lathe or otherwise presented to the reaming-tool. If desired, however, the work may be held stationary and the stock A rotated.

I am aware that it is not new to form a cylindrical shank on the end of a mandrel and integral therewith to receive a removable cutter, said shank having a screw-threaded end to receive a nut in order to hold the removable cutter in place. This construction, however, requires that the shank of the mandrel project a considerable distance beyond the cutter to provide a sufficient number of screw-threads to hold the nut, which must also be left accessible to a wrench.

By my construction I make the bolt removable, as well as the cutter, which enables the cutter to be held in place by a thin head formed on the end of the bolt, which may be recessed into the end of the cutter, if desired, thereby enabling an "end cutter" to be used, if desired, and the bolt in such cases can be inserted or removed either by a socket-wrench applied to the slabbed sides of the bolt-head or by means of a screw-driver applied to a slot in the bolt-head.

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

In a boring-tool, the combination of a stock having at one end an axial cylindrical hole and a diametrical slot, a screw-thread at the bottom of said hole, a cylindrical removable bolt closely fitting said cylindrical hole and having a screw-thread at one end engaging the screw-thread in said stock and a thin retaining-head at its opposite end, and a removable cutter held on said bolt and having tenons engaging the slot in said stock.

Dated this 6th day of May, 1904.

CHARLES P. HOWK.

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