

No. 666,801.

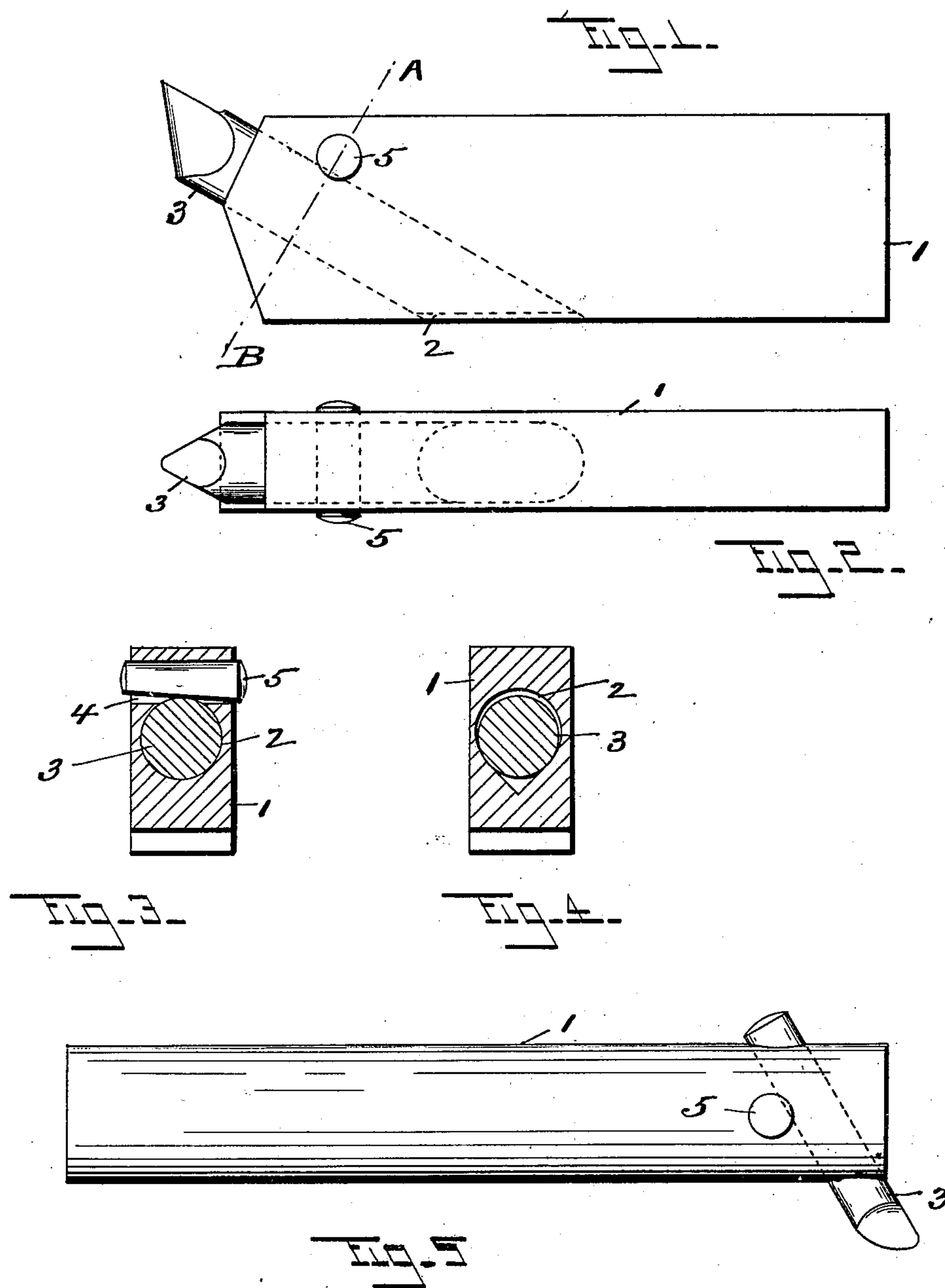
Patented Jan. 29, 1901.

H. M. DOOLITTLE & J. A. GRAHAM.

METAL WORKING TOOL.

(Application filed Jan. 29, 1900.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY M. DOOLITTLE AND JOSEPH A. GRAHAM, OF MERIDEN, CONNECTICUT.

METAL-WORKING TOOL.

SPECIFICATION forming part of Letters Patent No. 666,801, dated January 29, 1901.

Application filed January 29, 1900. Serial No. 3,137. (No model.)

To all whom it may concern:

Be it known that we, HENRY M. DOOLITTLE and JOSEPH A. GRAHAM, citizens of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Metal-Working Tools, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to metal-working tools, and more especially to that class of tools having a separable cutting-bit.

It is the object of our invention, among other things, to construct a tool of this character that will hold the cutting-bit rigid by a key which can be readily removed without the use of wedges, &c., and also to so design the tool that it may be manufactured at the smallest possible cost.

To these ends our invention consists of the metal-working tool having certain details of construction and combination of parts, as will be hereinafter described, and more particularly pointed out in the claims.

Referring to the drawings, in which like numerals designate like parts in the several views, Figure 1 is a side elevation of the tool. Fig. 2 is a plan view thereof. Fig. 3 is a sectional view upon line A and B of Fig. 1. Fig. 4 is a sectional view showing a modified form of bit-socket, and Fig. 5 is a view of a boring-bar provided with the same form of cutting-bit and key.

In the drawings the numeral 1 designates the tool-bar, in the end of which is a hole or socket 2, extending from one end of the tool-bar obliquely and longitudinally only to the bottom thereof or in a plane at an angle to said bottom. We prefer that this socket or hole 2 be round in cross-section, as shown in Fig. 3, but it can be varied within our invention, a modification being shown in Fig. 4, in which the lower portion is V shape. Within said socket is inserted a cutting-bit 3, which is preferably round in cross-section.

Extending through the tool-body 1 from side to side and at substantially a right angle to the cutting-bit is a keyhole 4, of uniform diameter throughout, and one side of which opens into the socket 2, as shown in Fig. 3. A single circular key 5 is fitted into said key-

hole, one side of said key being flattened and slightly tapered longitudinally, as illustrated in Fig. 3.

It is apparent from the drawings that after the cutting-bit has been adjusted the key can be inserted into the keyhole from either side of the tool-body, with the flattened side against the cutting-bit, and then by a slight tap with a hammer or other convenient tool the key is forced in farther and the cutting-bit is held rigid in the tool-body. To remove the cutting-bit, it is only necessary to tap the key slightly upon the end, which loosens it, so that it may be taken out by the fingers, thus releasing the cutting-bit, which can now be moved within the socket at the pleasure of the operator.

In Fig. 5 we have illustrated the cutting-bit and key applied to a round tool-body, such as a boring-bar, and we desire it to be understood that our invention can be applied to still other forms of metal-working tools.

We are aware that cutting-bits have been held rigid within a tool-body by means of retaining devices, and therefore do not claim such a construction broadly, but limit ourselves to a construction in which a single key is used having a tapered side which engages with the cutting-bit at a right angle to its axis.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a metal-working tool, the combination with a tool-body 1 having an oblique tool-socket 2 extending therethrough longitudinally only, and a transverse circular keyhole 4 therein at right angles to and intercepting said tool-socket, said keyhole being of uniform diameter throughout, a cutting-bit 3 adapted to be inserted within said socket, and a single circular key 5 of uniform diameter throughout with a face flattened and tapered at an angle to the axis of said key, fitted into said keyhole and engaging said cutting-bit and projecting laterally from either side of said tool-body, substantially as described.

2. In a metal-working tool, the combination with a tool-body having an oblique tool-socket extending therethrough longitudinally only and of substantially circular shape in

cross-section and provided with a V-shaped
bottom, of a cutting-bit within said socket,
and a single circular key, of uniform diame-
5 ter throughout, having one side thereof flat-
tened and tapered at an angle to the axis
thereof, inserted within a circular transverse
keyhole at a right angle to the said cutting-
bit, the said flattened face having an engage-
ment with the said cutting-bit and adapted

to force it toward the V-shaped bottom of the
tool-socket, substantially as described.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

HENRY M. DOOLITTLE.

JOSEPH A. GRAHAM.

Witnesses:

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HENRY T. KING.