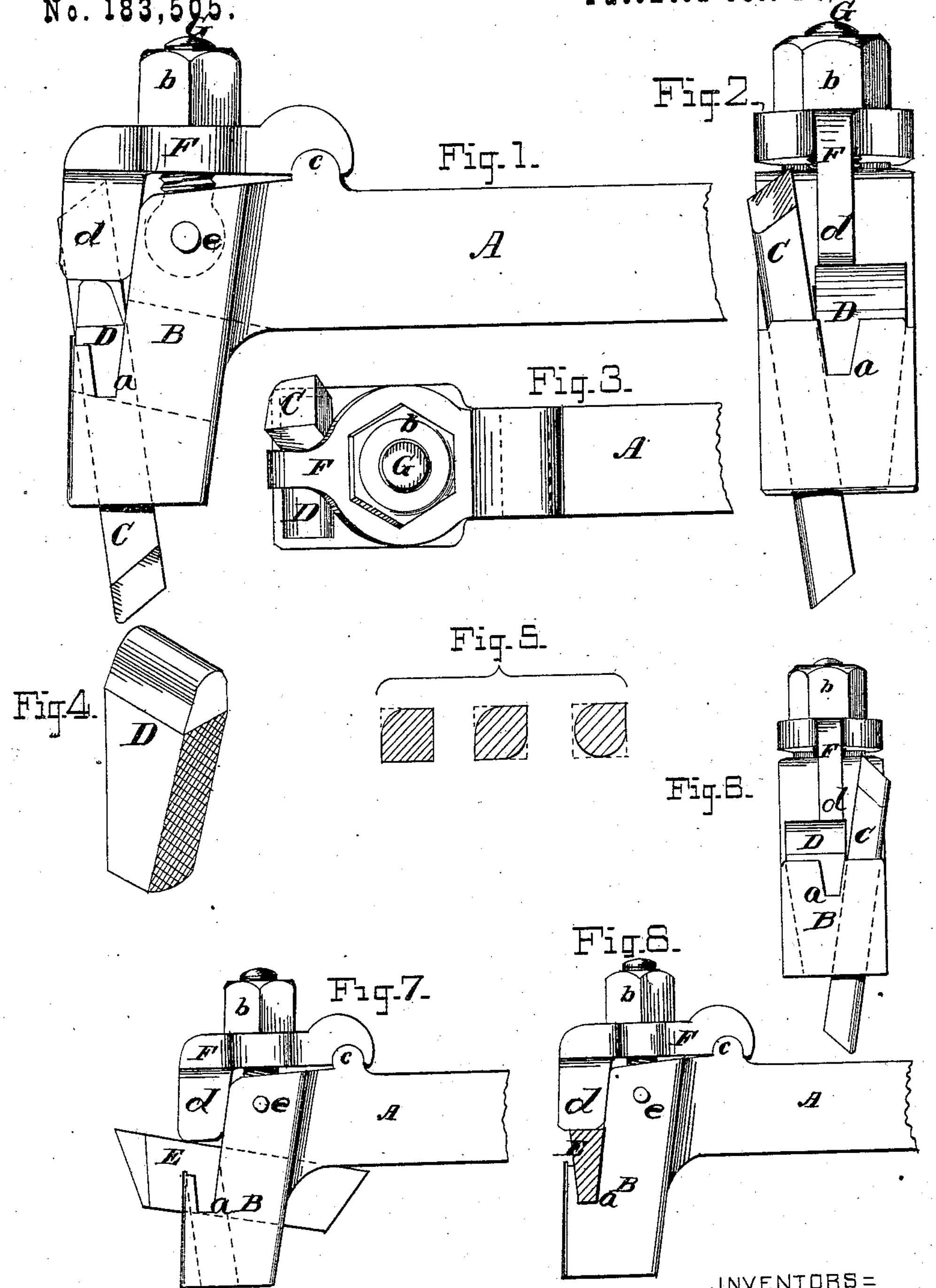
A. J. NEW, R. A. MATTHEWS & W. H. BERRY.

TOOL-HOLDER.

No. 183,505. Patented Oct. 24, 1876.



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UNITED STATES PATENT OFFICE.

ALFRED JAMES NEW, REUBEN ALEXANDER MATTHEWS, AND WILLIAM HENRY BERRY, OF NOTTINGHAM, ENGLAND.

IMPROVEMENT IN TOOL-HOLDERS.

Specification forming part of Letters Patent No. **183,505**, dated October 24, 1876; application filed September 5, 1876.

To all whom it may concern:

Be it known that we, ALFRED JAMES NEW, REUBEN ALEXANDER MATTHEWS, and WILLIAM HENRY BERRY, all of Nottingham, England, have invented certain Improvements in Tool-Holders and Tools, of which the following is a specification:

Our invention relates to holders for cutting-tools used on metal-work in lathes, planers, &c., and to special tool-steel, having sections adapted to various kinds of cutters, but all adapted to fit in our improved holder.

The invention consists, first, in the holder, constructed as will be hereinafter set forth; and, second, in the tool-steel made with a uniform sectional area throughout, and specially adapted to our holder.

In the drawings, Figure 1 is a side view, Fig. 2 a front, and Fig. 3 a plan, view of our improved holder, fitted with a right-hand cutting-tool.

A is the shank of the holder, and B the head, shown as forged from one piece. The head is slotted or mortised to receive a tool, C, and a tapered and serrated wedge, D. (Shown in detail, Fig. 4.) It will be seen by reference to Fig. 2 that this slot, in which the tool rests, is tapered downward, but in cross-section it is rectangular, and fits any of the sections of tool-steel shown in Fig. 5, these being all modifications of the square, and rolled so as to have a uniform cross-section throughout. By using rods and bars of this special steel no forging is necessary in shaping cutters; a piece is cut off of the proper length and ground to the proper bevel.

Fig. 6 is like Fig. 2, except that it shows the manner of fixing a left-hand cutting-tool. In this the wedge D and cutter or tool C have changed places.

In addition to the slot for holding the tool C, another one, arranged nearly at right angles to it, is shown in the various figures. This is adapted to bear a tool, E, as shown in Fig. 7. This tool may also be fixed crosswise, as shown in Fig. 8, its thinner edge resting in a correspondingly-shaped groove at *a* in the figures. The cross-section of the tool E is shown in Fig. 8, and the slot in the head to receive it should, of course, correspond therewith.

However arranged in the holder, the tools are held in place by means of a dog or clamp, F, swivel-bolt G, and nut *b*. The clamp pivots on a curved projection, *c*, has an oblong hole to receive the swivel-bolt, and a jaw, *d*, to impinge against the tool or its binding-wedge. The bolt G is swiveled at *e* in a slot in the head B.

The toothed face of the wedge D must be placed next to the tool C, and the jaw *d* of the clamp against the rear or upper end of the wedge. Then, by screwing up the nut *b*, the tool is held firmly in place. When the wedge is omitted, as in the case of the tool E, the jaw of the clamp bears directly against the tool itself, as shown in Figs. 7 and 8.

It will be understood that from the special forms or sections of tool-steel shown in Fig. 5, we can advantageously and expeditiously produce a variety of tools suitable for various cutting purposes. Further, the novel and uniform shape of these special forms, when placed in our holder, gives a positive and fixed angle for cutting.

This invention was patented in Great Britain December 9, 1875.

We claim—

1. The tool-holder consisting of the stock A, the head B, mortised or slotted, as shown, the clamp F, and the swivel-bolt G, with nut *b*, all combined and arranged substantially as herein set forth.

2. The combination of the head B, mortised or slotted, substantially as shown, the clamp F, constructed as specified, and the roughened wedge D and tool C, formed as described, all arranged to operate substantially as set forth.

3. In a tool-holder, the clamp F, pivoted or fulcrumed, as shown at *c*, and provided with a jaw, *d*, in combination with the swivel-bolt G and nut *b*, all arranged to hold the tool in place, as set forth.

4. The combination of the head B, having a socket or slot with a right and left taper, a tool, C, with parallel sides, and a wedge, D, having its opposite sides tapered precisely as the walls of the socket, all for the purpose of adjusting the tool either to the right or left, as shown and described.

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