

I. P. RICHARDS.
Tool-Holders for Lathes.

No. 134,219. Patented Dec. 24, 1872.

Fig. 1.

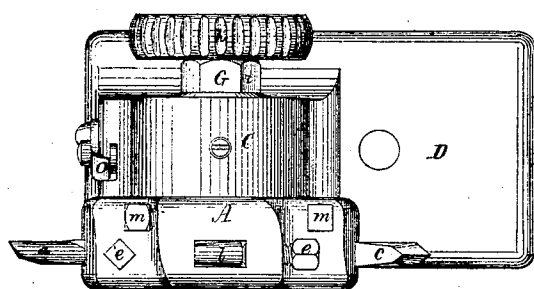


Fig. 3.

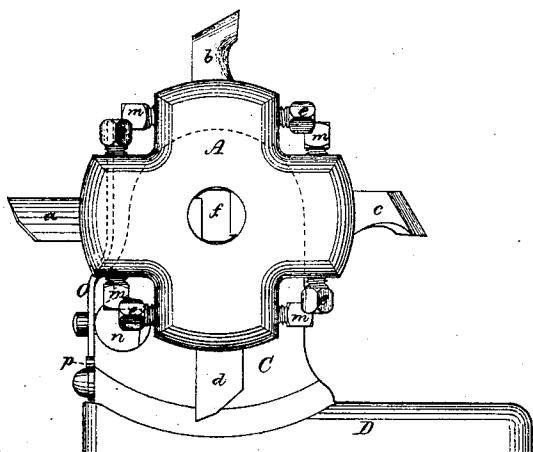


Fig. 4.

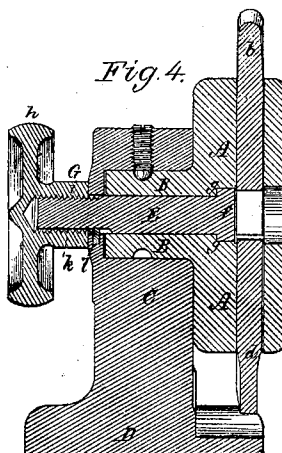


Fig. 2.

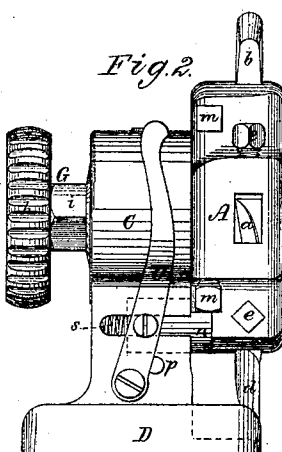


Fig. 5.



Fig. 6.



Fig. 9.

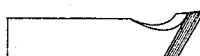


Fig. 10.



Fig. 7.



Fig. 8.



Fig. 11.

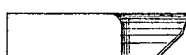


Fig. 12.



Witnesses.
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UNITED STATES PATENT OFFICE.

ISAAC P. RICHARDS, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN TOOL-HOLDERS FOR LATHES.

Specification forming part of Letters Patent No. 134,219, dated December 24, 1872.

To all whom it may concern:

Be it known that I, ISAAC P. RICHARDS, of the city and county of Providence, of the State of Rhode Island, have invented a new and useful Improvement in Turning-Lathes or Rotary Tool-Carriers therefor; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view; Fig. 2, a front elevation; Fig. 3, a side elevation; and Fig. 4, a transverse section of a rotary tool carrier or head containing my invention.

In said drawing, A denotes a cutter head or stock, formed like an equal-armed cross, and provided with four lathe-cutters, *a b c d*, arranged in sockets in the several arms of the cross and projecting therefrom, each cutter being held in place by one of four set-screws, *e*, as shown. This cutter-head is provided with a journal, B, supported in a bearing in a standard, C, erected on a bed-plate, D, all being as represented. A clamp-screw, E, having its head *f* arranged in a chamber, *g*, in the cutter head or cross extends axially through the journal and receives a nut, G, formed for being revolved by hand applied to its milled head *h*, or by a wrench applied to a prismatic portion *i*, all being as shown. In order to prevent the screw from revolving there should be a groove, *k*, made lengthwise in it to receive a stud, *l*, extended from the end of the journal-bearing, in manner as represented. Each arm of the cutter cross or head A is provided with a screw, *m*, arranged in it, as shown, and to operate with a movable stop or slider, *n*, arranged within the standard and pivoted to a lever, *o*, pivoted to said standard, and disposed as seen in Figs. 1 and 2. A helical spring, *s*, arranged within the socket for holding the slide-stop, serves to impel such stop forward until the lever may bring up against a stud, *p*, projecting from the front of the standard.

One object of the clamp-screw and nut, arranged with the tool-carrier journal and its supporting-standard, in manner as shown and described, is to prevent the tool-carrier from being accidentally turned backward while either of its tools may be in operation. Another object is to hold the carrier firmly in position. The purpose of the screws *m* and the slide-stop *n*, operated by a lever and spring,

as specified, is to effect the proper adjustment of the cutting-edge of each tool relatively to the axis of an article to be turned, in order that as each or either tool may be brought into action it shall come into the right position when the head of its adjustable stop-screw may be moved down upon the upper edge of the slide-stop. As the tools wear or may be ground down, readjustment of them becomes necessary in order to bring the cutting-edge of each to its level with the axis of the article to be turned.

On taking hold of the lever and moving it away from the cutter-head the stop-slide will be retracted so as to admit of the cutter-head being revolved to the necessary extent, to bring either cutter into a correct position for use, as occasion may require. The several cutters are to be such as turners employ for reducing metal in a lathe, side and end views of them, respectively, being given in Figs. 5 and 6, 7 and 8, 9 and 10, 11 and 12.

The tool-carrier, as above described, when used in a lathe, is to be fixed upon the tool-carriage, and to take the place of the common single tool-post. It will save all the usual labor and trouble of setting different tools in the tool-post, as it enables a turner, after having once adjusted his tools to their proper places, to bring either expeditiously into place for cutting.

I claim as my invention, as follows, viz:

1. The rotary tool head or cross A, its supporting-standard C, clamp-screw E, and nut G, constructed and arranged together, substantially as specified.

2. The movable slide-stop *n* and the series of adjustable screw-stops *m*, combined and arranged with the rotary tool head or cross A and its supporting-standard C, all being substantially as set forth.

3. The movable slide-stop *n*, the series of adjustable screw-stops *m*, the rotary tool head or cross A, the supporting-standard C, and the clamp-screw E and nut G, arranged, constructed, and combined substantially as hereinbefore explained, and as represented.

I. P. RICHARDS.

Witnesses:

R. H. EDDY,
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