

B. M. W. HANSON.  
 TOOL HOLDER.  
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963,144.

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Fig. 1.

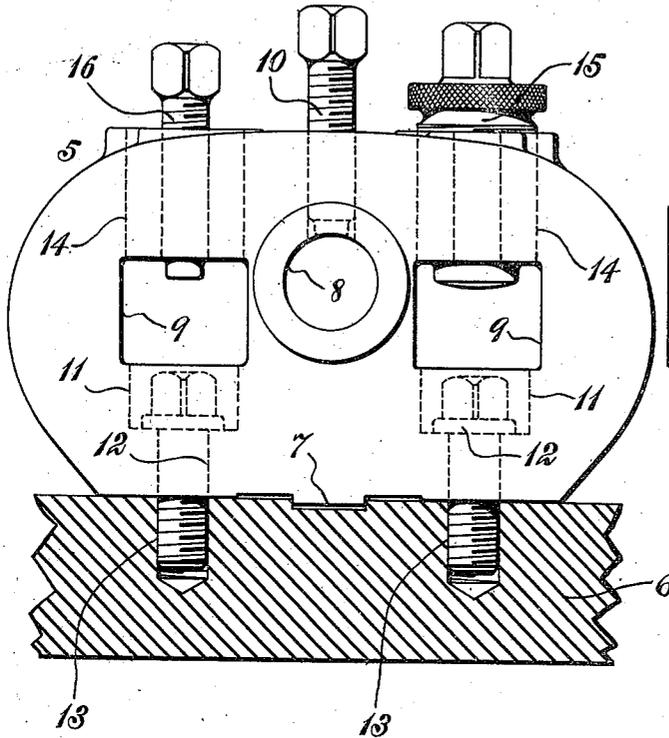


Fig. 2.

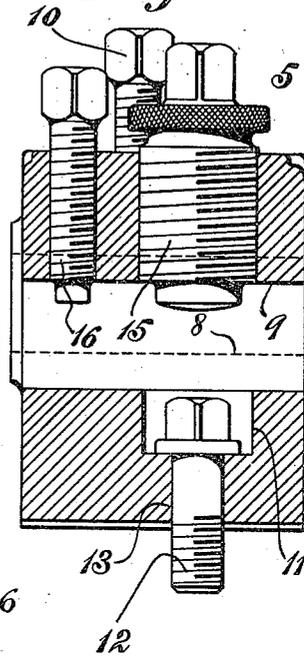
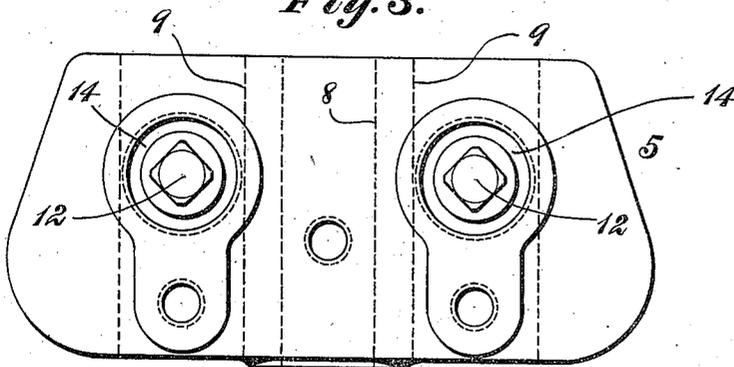


Fig. 3.



Witnesses:

*W. H. Morley*  
*H. C. T. Tucker*

Inventor:

B. M. W. Hanson  
 By his Attorneys,  
*Sutherland & Anderson*

# UNITED STATES PATENT OFFICE.

BENGT M. W. HANSON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO PRATT & WHITNEY COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF NEW JERSEY.

## TOOL-HOLDER.

963,144.

Specification of Letters Patent.

Patented July 5, 1910.

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*To all whom it may concern:*

Be it known that I, BENGT M. W. HANSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tool-Holders, of which the following is a specification.

This invention relates to tool-holders primarily intended for use in connection with metal-working machines of various kinds but which are of especial utility when employed in conjunction with a flat-top turret-lathe the object of the invention being to provide simple and effective means which occupies but a relatively-small amount of lateral space, for substantially and solidly holding a tool-holder to its carrier.

In the drawings accompanying and forming part of the present specification I represent in detail one convenient form of embodiment of the invention which to enable those skilled in the art to practice the invention will be fully set forth in the following description while the novelty of the invention will be included in the claims succeeding said description.

Certain variations may be adopted within the scope of my invention as expressed in said claims.

Referring to said drawings, Figure 1 is a front elevation of a tool-holder including my invention, a portion of a flat-top turret-lathe being sectionally shown. Fig. 2 is a sectional view from front to rear of said tool-holder the section being on a vertical plane and through one of the tool-receiving passages or chambers of said tool-holder, and, Fig. 3 is a top plan view of the same with certain binding screws omitted.

Like characters refer to like parts throughout the several figures of the drawings.

As intimated hereinbefore a tool-holder embodying my invention is susceptible of employment in connection with different types of metal working machines although it is of especial advantage when utilized in conjunction with a flat-top turret-lathe where economy in lateral space in maintaining such a tool-holder in an adjusted position is a desideratum and this function as I have indicated I secure.

The tool-holder may be of various sizes and shapes, the latter not being a matter of

consequence; that shown is denoted in a general way by 5 and it is made in the form practically of a block which can be inexpensively made by casting although this is not material. In the present case and as will hereinafter appear the tool-holding block 5 is of such nature that it may support one or more tools although there may be instances where I should prefer to so construct the device as to make it capable of sustaining but a single tool. The tool-holder or block 5 as is well known is moved radially, for adjusting purposes, of a flat-top turret 6 shown only in Fig. 1, it being customary to provide the tool-holder with a tongue as 7 fitting in a way or groove in the upper surface of said top.

I provide passages or chambers extending from front to rear of the tool-holder, for receiving differently shaped tools, there being shown three of such passages or chambers, the central or intermediate one being designated by 8 and the two lateral or side passages each by 9. The central passage is represented as being circular in cross section to better adapt it for receiving the similarly shaped shank of a tool (not shown.) The outside or lateral passages or chambers 9 are preferably polygonal in cross section and a rectangular or square shape is satisfactory.

I have shown as tapped through the upper portion of the tool-holder 5, a binding screw 10 the lower end of which is adapted to solidly engage the tool placed in the central opening or passage 8.

I have shown as leading downward from the respective chambers or passages 9, holes 11 for the passage of clamping screws as 12 which are adapted to fit threaded openings 13 positioned appropriately in the turret top 6. These holes 11 may be made in different ways although they are preferably made in the form of counterbored openings by virtue of which the heads of said clamping screws 12 can find a firm bearing below the passages 9 upon the bottoms of the larger diametrical portions of said counterbored openings. The said tool-holder 5 is illustrated as having formed through the upper portion thereof the holes 14 which are respectively in vertical alinement with the counterbored openings 11 and the diameters of which respectively substantially agree with the larger diametrical portions of said counterbored openings so as to properly

insure the passage of a socket-wrench, used in applying the screws 12, through said openings 14. It will therefore be evident that the diameter of the respective openings 5 14 is greater than the smaller diameters of the respective counterbored holes 11. It might be considered also that the openings 14 are respectively a part of the openings 11; in this event there would be a lateral opening at each side of the tool-holder intersected by a tool-receiving chamber or passage. The openings 14 removably receive screw plugs as 15 the lower ends of which bind against the shanks of the tools in said passages 9. To rigidly secure such tools in place it is not necessary that I rely wholly on these screw plugs for I may as shown dispose in advance of the same (or it might be at the rear thereof) binding screws 16 which 20 respectively augment the effect of the said screw-plugs 15. It will be of course obvious that the openings 11 and 14 open at their inner ends into the intervening chambers 9.

The tool-holder 5 is assumed to be clamped 25 in an adjusted position in Fig. 1 by the two clamping screws 12. It will be assumed that it is desired to change the adjustment of the tool holder. To do this the following procedure is adopted: The tools in the chambers 30 or passages 9 are removed by first backing out or wholly removing the screws 15 and when the screws 15 are taken from place a socket wrench will be passed downward through the openings and passages 9, respectively, to the heads of the said two screws which will be backed out of their seats in the turret-top at which point the adjustment can be effected and when secured 35 said clamping screws will be run down by the socket-wrench into their seats in said top so as to firmly clamp the tool-holder to

said top after which the tools which were removed can be put back if necessary or others substituted in their stead subsequent to which the screws 15 will be put into position. It should be added that while it is 45 necessary to wholly remove the screws 15 in changing an adjustment this is not necessary with the screws 16 which need simply be backed out sufficiently to free them from the 50 tools. Also it is not necessary to wholly remove the screws 15 in adjusting the tools themselves, it being only necessary to slightly back the same out. Preferably the heads of all the described screws are of the same size 55 so that I can employ the same wrench for turning all said screws.

What I claim is:

1. A tool-holder comprising a block having a tool-receiving passage, a counterbored 60 hole extending downward from said passage to the bottom of said block, and a threaded opening extending upward from said passage to the top of the block, the diameter of said opening being greater than the smaller 65 portion of said counterbored hole.

2. A tool-holder comprising a block having a tool-receiving passage, a counterbored hole extending downward from said passage 70 to the bottom of the block, and an opening extending upward from said passage to the top of the block, the diameter of said opening being substantially the same as that of the larger portion of said counterbore and 75 the wall of said opening being threaded.

In testimony whereof I affix my signature in presence of two witnesses.

BENGT M. W. HANSON.

Witnesses:

CHAS. E. HOLT,

F. E. ANDERSON.