

B. M. W. HANSON.
 TOOL HOLDER.
 APPLICATION FILED AUG. 11, 1909.

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965,893.

Fig. 3.

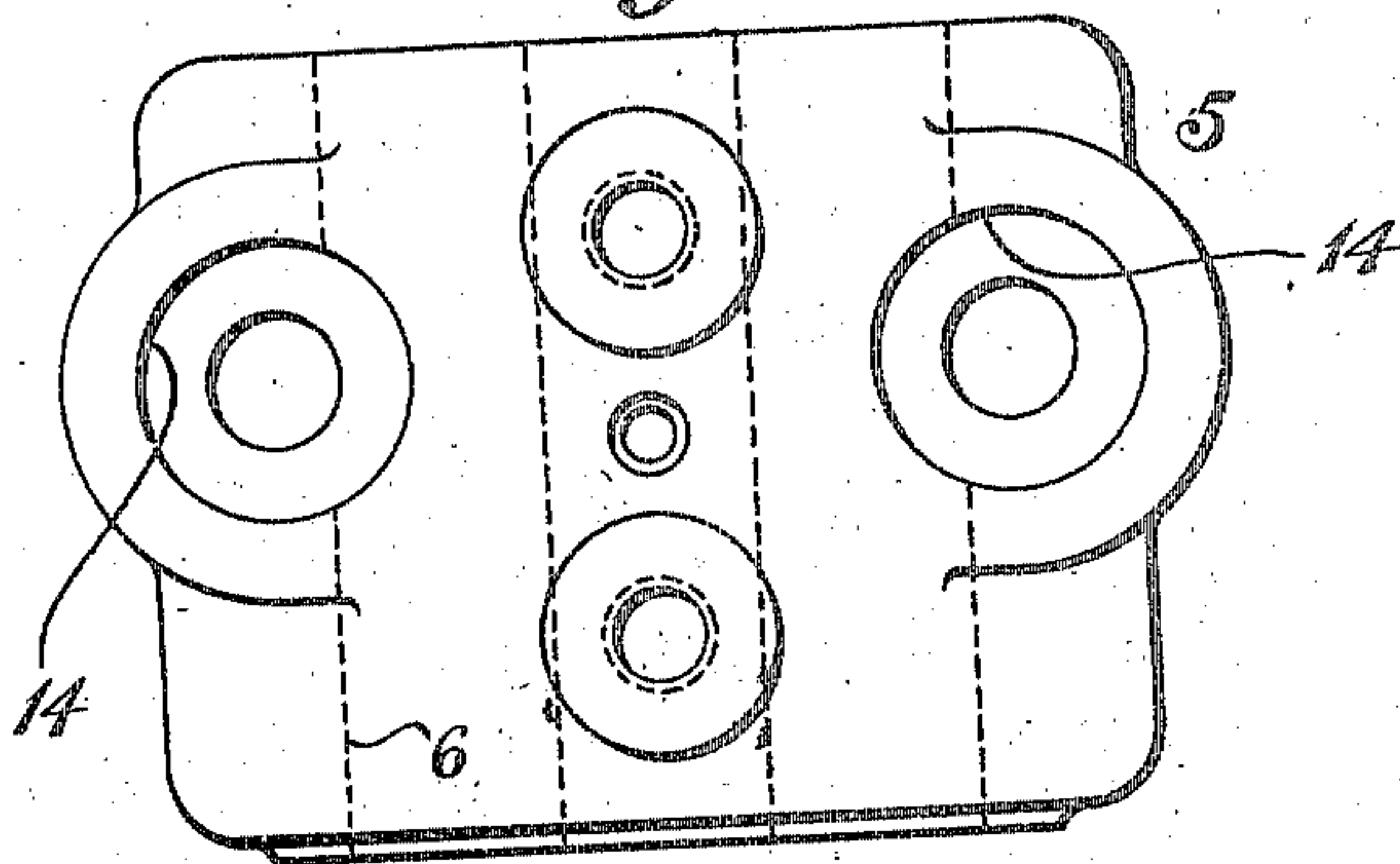


Fig. 1.

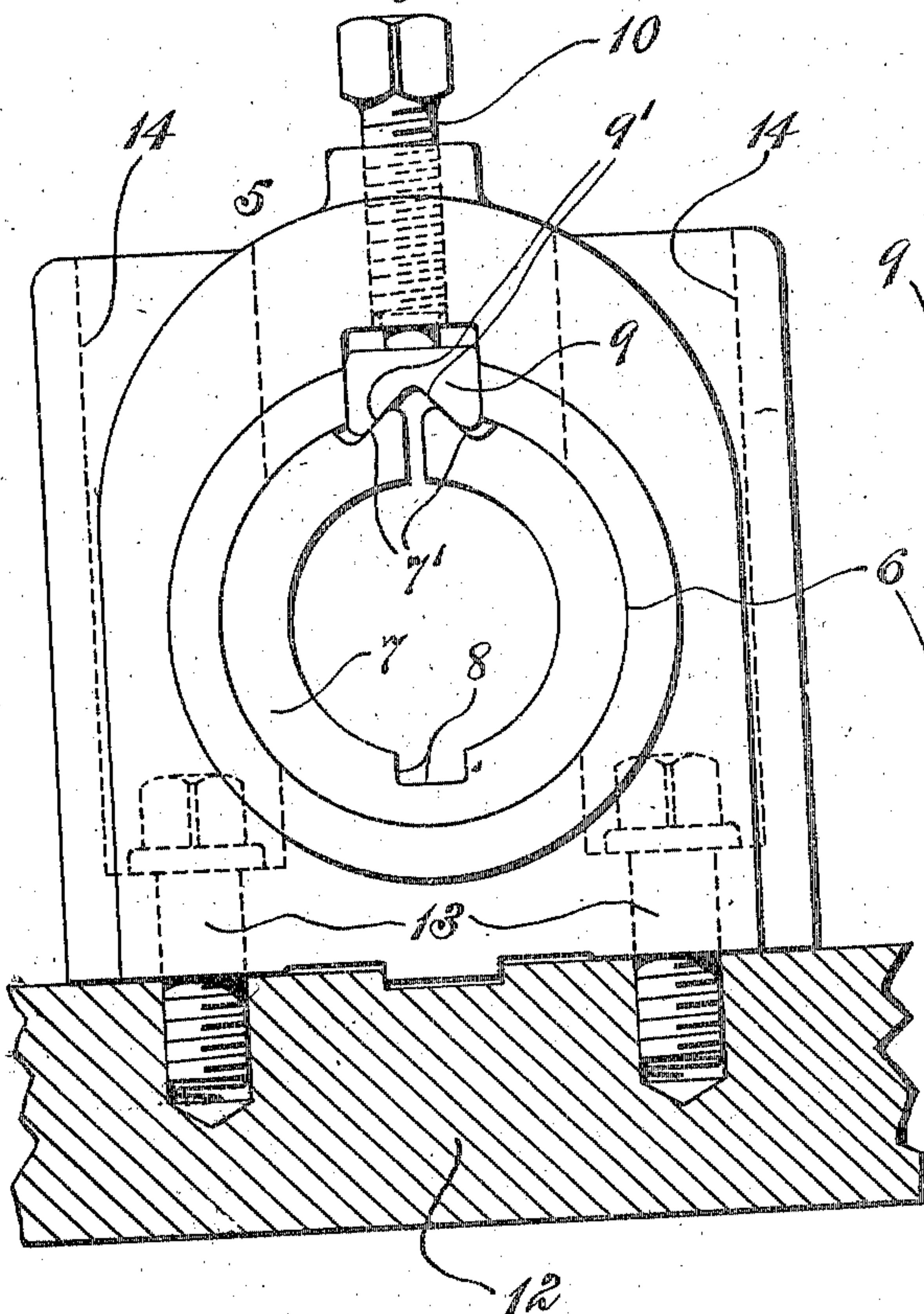
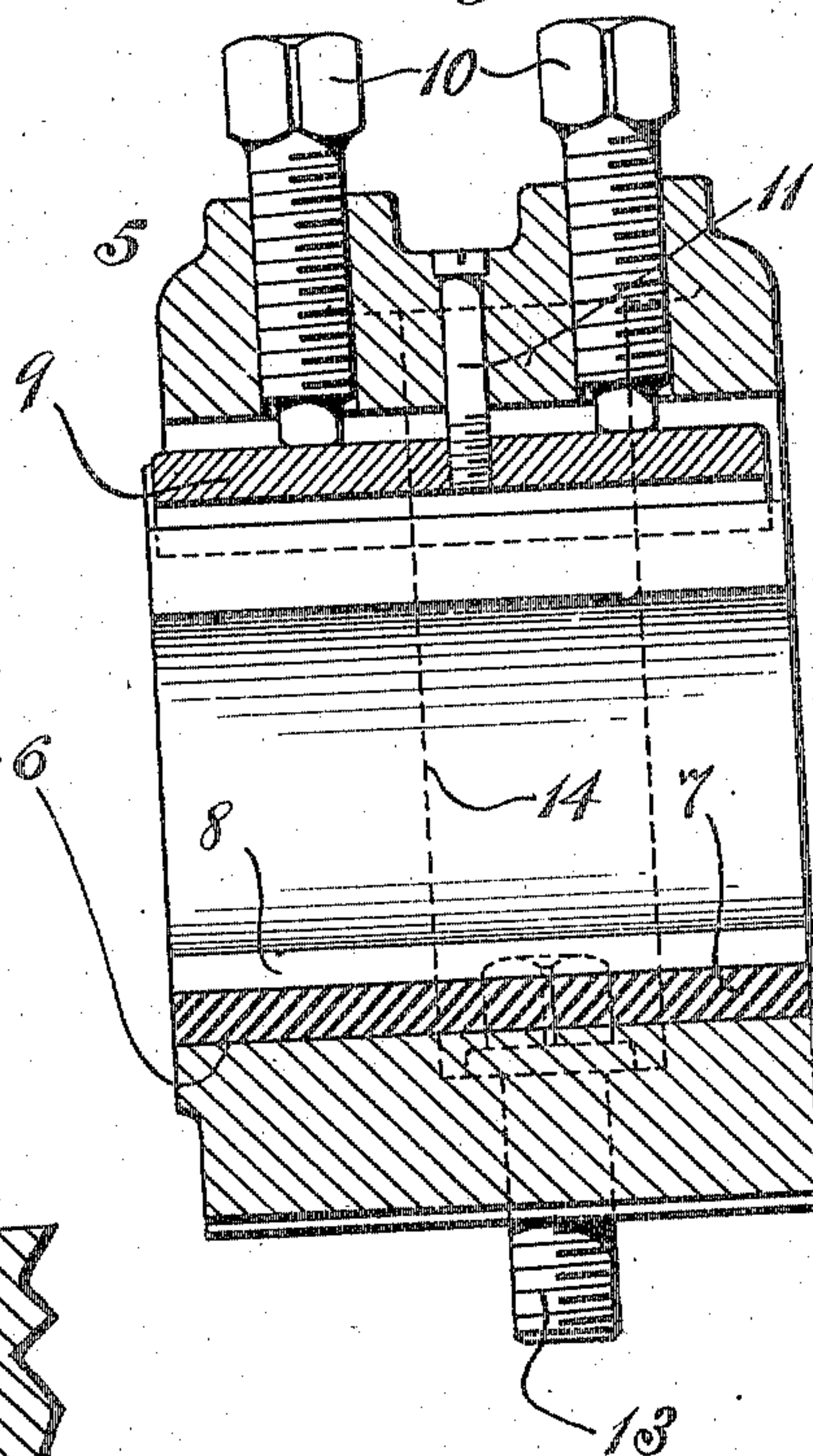


Fig. 2.



Witnesses:

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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.

965,893.

Specification of Letters Patent.

Patented Aug. 2, 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 and a tool-holder comprising my invention can be used with advantage in connection with various types of metal working machines although it is of particular adaptability in conjunction with a flat-top turret-lathe, the principal object of the invention being to provide a tool-holder which can be rigidly and substantially secured to the turret by compact securing means.

In the drawings accompanying and forming part of the present specification I have illustrated in detail one simple and convenient form of embodiment of the invention which to enable those skilled in the art to practice the invention will be set forth fully in the following description while the novelty of the invention will be included in the claims succeeding said description. It will be understood that I do not restrict myself to the precise disclosure made by said drawings and description as certain changes may be made within the spirit of my invention as expressed in the claims succeeding said description.

Referring to said drawings, Figure 1 is a front elevation of a tool-holder involving my invention and showing the same attached to a flat-top turret (shown in section). Fig. 2 is a longitudinal, sectional view of said tool-holder, and, Fig. 3 is a top plan view of the same certain screws hereinafter referred to, being omitted.

Like characters refer to like parts throughout the several figures.

As is well known the tool-holders in a lathe of the character to which allusion has been made, are sustained upon the upper surface of the flat-top turret thereof and there are times when these tool-holders are disposed in annular order or side by side. Usually the old style tool-holders have had lateral lugs or ears perforated to receive screws which are tapped into turret top. The presence of these side lugs or ears makes a very wide tool-holder and one which naturally requires some considerable lateral

space for its adjustment radially of said top. I provide a tool-holder wherein the defects pointed out are wholly eliminated and one which is stable and susceptible of being easily adjusted and inexpensively made.

My improved tool-holder is designated in a general way by 5 and it is preferably made in the form of a block which is usually made in the form of a casting although this is not a matter of consequence. The under surface of said block is shown as being substantially rectangular although such shape is not a material matter. The tool-holder or block 5 is represented as having a tool-receiving chamber or passage as 6 extending completely through the same from front to rear although preferably the tool does not directly engage the wall of this chamber or passage the tool generally extending through a bushing or sleeve as 7 fitted into said chamber or passage 6. Said bushing is shown as being of the "split" or "divided" type and as having a key-way 8 interiorly thereof at the bottom to receive a key on a tool (not shown). The tool is passed through said bushing or sleeve 8 and the latter is then drawn or constricted about the tool in some convenient manner for example by a wedge-block as 9 disposed within the chamber 6 said block having two upwardly converging faces 9' which engage against similar faces 7' on the said bushing at opposite sides of the slot or split of said bushing by reason of which when said block 9 is forced down the bushing will be drawn about the tool to clamp the same in working position. Any desirable means may be provided for pressing the wedge block down; I have shown two screws 10 for this purpose, they being tapped through the upper portion of the tool-holder or block 5 and their lower ends or tips engaging the block to attain the function in question. The wedge-block may be held from dropping down into the chamber 6 when the bushing 7 is removed by a screw 11 extending or threaded thereinto and projecting through a perforation in the top of the tool-holder.

There are probably several ways the tool-holder 5 can be rigidly connected with the turret-top 12. I have found that screws 13 answer the purpose satisfactorily and two of them are preferably provided they being screwed into tapped holes in the turret top and being located preferably at opposite

sides of the front to rear central line of the tool-holder. These screws 13 are associated with the tool-holder in a novel and advantageous manner as will now appear.

5 The tool-holder 5 has at opposite sides thereof bores or countersunk openings as 14 from which it will be evident that said bores are of two diameters and when I speak of
10 them as "bores" I do so in a general sense rather than to convey the idea that they are made by a boring tool. In other words these two openings may be made in various ways; nor is it essential that they be in two diam-
15 eters although this form is advantageous in that the base portion of the parts of the bores of greater diameter presents a solid and firm foundation for the heads of the screws utilized in clamping the tool-holder to the turret top 12. Said bores as will be
20 obvious extend completely through the tool-holder depthwise thereof and the screws 13 to which I have referred can be passed toward their seats through the upper open
25 tops of said bores which extend as shown vertically but which would not be so disposed were the tool-holder horizontally arranged. These bores as will be evident intersect the tool-receiving passage the preferable though not essential relation, such rela-
30 tion being the preferable one because greater compactness is secured than if said bores were disposed outside of or at opposite sides of said tool-receiving passage or chamber 6; in the latter event the width of the tool-
35 holder would have to be increased. By referring to Fig. 1 it will be seen that the smaller portions of said bores are located below the tool-receiving chamber or opening of the tool-block. It therefore is obvious
40 that I can provide a tool-holder somewhat narrow in construction and this without weakening in anyway the device.

When the position of the tool-holder is to be changed it is a simple matter to introduce
45 a socket-wrench into the bores 14 and remove the screws 13 which are shown as being set in Figs. 1 and 2. With the screws out the tool-holder will be moved radially of the turret top until the desired adjust-
50 ment has been obtained at which time the wrench previously used will be called into requisition and the screws passed into said bores and their shanks passed through the smaller diametrical portions of said bores
55 into the threaded seats of the turret top when said screws will be run home until the

tool-holder is properly clamped in place, the heads of the screws as intimated binding against the bases of the larger diametrical portions of said bores. The heads of the 60 screws 14 are therefore inclosed by the tool-holder.

What I claim is:

1. A tool-holder having a tool-receiving passage extending from front to rear thereof 65 of and a bore having different diameters, for the passage of a screw, intersecting said passage and extending entirely through said tool-holder from top to bottom thereof.

2. A tool-holder having a tool-receiving 70 passage extending from front to rear thereof and also having bores having different diameters laterally separated and both intersecting said passage said bores being adapted for the passage, respectively, of clamping 75 screws and extending entirely through said tool-holder from top to bottom thereof.

3. A tool-holder having a tool-receiving passage extending from front to rear thereof 80 and also having a bore for the passage of a screw, intersecting said passage and of two diameters, said bore extending entirely through said tool-holder from the top to the bottom thereof.

4. A tool-holder having a tool-receiving 85 passage extending from front to rear thereof and also having laterally-separated bores of different diameters extending entirely through the same from top to bottom thereof and also intersecting said passage. 90

5. The combination of a turret top, a tool-holder supported on said top, and screws inclosed by the tool-holder, for clamping said tool-holder to said turret top, the heads of the screws being located below the upper 95 surface of said tool-holder.

6. A tool-holder having a tool-receiving passage extending entirely through the same from front to rear thereof and also having laterally separated bores extending from top 100 to bottom thereof, each of said bores being of different diameters, the portions of large diameter intersecting said passage and the portions of small diameter being located respectively below the portions of larger di- 105 ameter.

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

BENGT M. W. HANSON.

Witnesses:

CHAS. E. HOLT,

CARL L. GRÖHMANN.