No. 740,107. PATENTED SEPT. 29, 1903.

G. H. DWORZEK.

INSTRUMENT MAKER'S TOOL HOLDER.

APPLICATION FILED MAY 1, 1903.

NO MODEL.

Fig. 1.

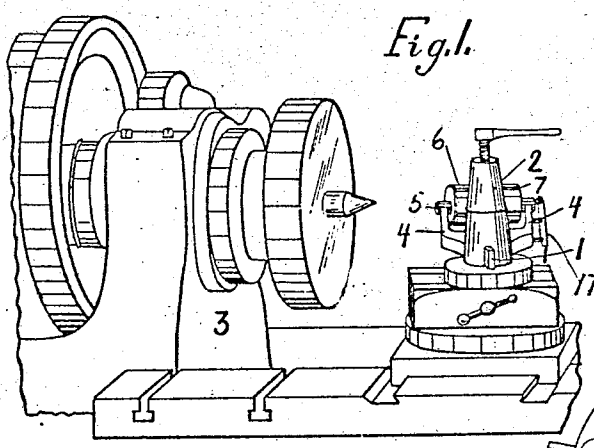


Fig. 4.

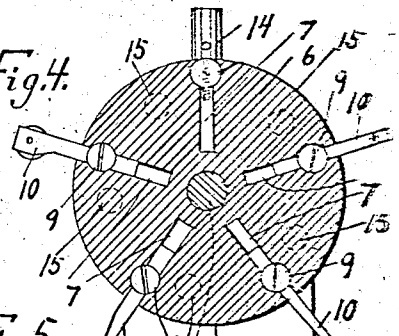


Fig. 5.

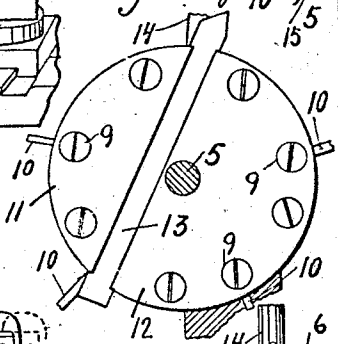


Fig. 2.

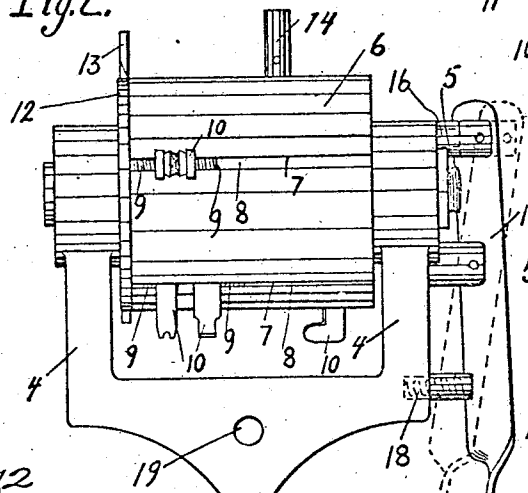


Fig. 3.

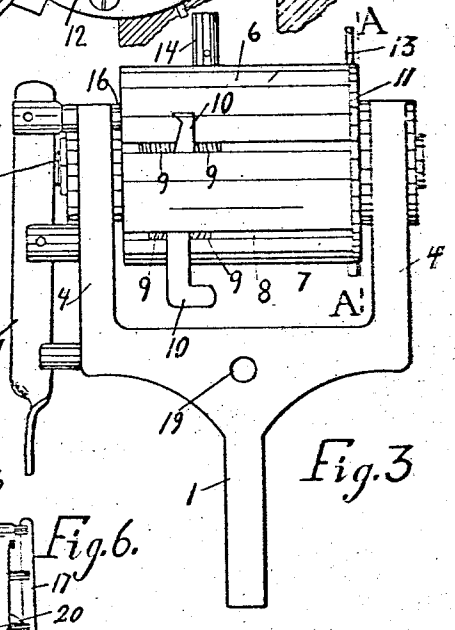


Fig. 7.

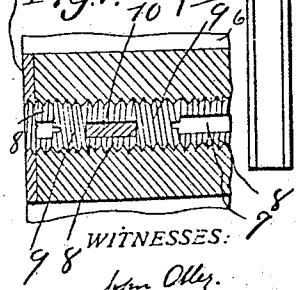
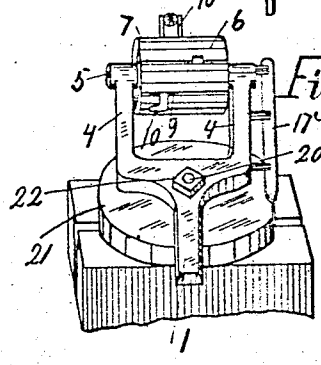


Fig. 6.



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No. 740,107. Patented September 29, 1903.

UNITED STATES PATENT OFFICE.

GUSTAVE H. DWORZEK, OF SAN FRANCISCO, CALIFORNIA.

INSTRUMENT-MAKER'S TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 740,107, dated September 29, 1903.

Application filed May 1, 1903. Serial No. 155,230. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE H. DWORZEK, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Instrument-Makers' Tool-Holders, of which the following is a specification.

My invention relates to an improved instrument-makers' tool-holder for use with lathes, the object of my invention being to provide a device of this character by which the lathe-tools may be conveniently and successively presented in position in the order in which they are to be used upon an article turned in a lathe and so that they can be readily applied one after the other without the necessity of nice adjustment by hand when a new tool is used.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of the lathe, showing my invention in use therewith. Fig. 2 is a top plan view of the tool-holder. Fig. 3 is a bottom plan view thereof. Fig. 4 is a longitudinal section of the tool-holder. Fig. 5 is a longitudinal section on the line A A of Fig. 3. Fig. 6 shows the device held in a different manner. Fig. 7 is a detail longitudinal section through the center of one of the enlarged cylindrical threaded portions of the slots to show the manner of holding the tool therein.

Referring to the drawings, 1 represents the stem of the tool-holder, said stem being adapted to be held in the slide-rest 2 of the lathe 3 in the same way as the tool itself is ordinarily held. Said stem branches into forks 4, between the ends of which is a bolt 5, which serves as a shaft for the rotating tool-holding cylinder 6. Said cylinder 6 is formed with a series of deep slots 7, extending therethrough parallel to the axis of the cylinder, said slots being enlarged at a suitable depth into cylindrical and screw-threaded ways 8 to receive the screws 9. The tools are shown at 10 and rest in said slots between the ends of the screws 9, and are thus readily adjusted lengthwise of the cylinder by moving the screws 9 along the screw-threaded ways 8. At one end of the cylinder are secured the sections 11 12 of an end plate, which sections have their opposite edges overhanging, so as to form a beveled or undercut groove for the reception of a cutting-off tool 13. This tool 13 does not need to be adjusted except for wear, since it is used only for the purpose of cutting off the article after it has been turned. To adjust for wear or grinding, the section 11 is removed and the tool moved up and said section then replaced. It is therefore not necessary that the section 12 should be made removable, although so shown. In the slot 7 opposite to said cutting-off tool is mounted a cylindrical stop 14, which is set at the proper point to determine the exact length of the article to be turned.

In the end of the cylinder opposite to the cutting-off tool are formed, one adjacent to the end of each slot, sockets 15 to receive the inwardly-extending end 16 of a locking-lever 17, actuated by a spring 18.

The operation of the device is as follows: Supposing that it is desired to turn or fashion in succession a number of small articles identical in size and form, such articles being cut off in succession from a rod or bar of the desired material, the first part of the operation consists in moving out said rod until its end strikes the stop 14, it being observed that this stop projects farther outward than the cutting-off tool, which is axially in line therewith. The rod being thus extended, the locking-lever is actuated to unlock the cylinder, and the cylinder is turned by hand to bring the tool in the next slot into position to operate upon the bar or rod. When the tool in this slot has been so operated, the cylinder is in like manner turned through another part of a revolution to bring the next tool into operation. In certain cases, however, it is possible to make cuts with two tools in the same slot before thus turning the cylinder. The operation is thus continued until all the tools have been brought into cutting operation, and finally the cutting-off tool 13 is used for cutting off the article which is being fashioned, the tool-holder being then in the position to commence upon another article, whereupon the previous operation is repeated.

The utility of this contrivance arises from the fact that in the ordinary manner of turning small articles, which depends upon adjustment of the tool at a proper distance by hand, it is impossible to obtain articles accurately identical in size and form on account of slight variations in adjustment of the cutting-tool. With this contrivance, after the series of tools have been once set for cutting any desired article, no further care in regard to adjustment is necessary, but all that is required is to turn the holding-cylinder through the proper distance to bring the next tool into position after any tool has finished its operation.

Supposing that the article to be turned or cut is so large that the above device cannot be held in the cutter-holder in the manner already described, I provide the following arrangement: In the stem of the holder is formed an aperture 19, through which is passed a stud 20, extending upwardly from a slide 21, held in the undercut groove for the cutter-holder, and upon the upper end of said stud is screwed a nut 22, thereby clamping the stem of the tool-holder in position, but permitting it to be set a greater distance from the axis of the lathe than when the stem is held in the ordinary cutter-holder.

I claim—

1. A tool-holder having a stem, a tool-holding body rotatably carried by said stem, and having a series of longitudinal slots for adjustably holding tools, said slots having enlarged cylindrical screw-threaded portions, screws in said enlarged portions for holding the tools, and means for locking the tool-holding body at points in its rotation, substantially as described.

2. A tool-holder having a stem, a tool-holding body revolubly supported by said stem, means for holding a series of tools in said body at points around its circumference, an end plate removably secured upon one end of the cylinder and having an overhanging edge extending across said end, and said end being also provided with a part having an overhanging edge opposite to the first overhanging edge to form an undercut groove for holding a cutting-off tool at the end of the tool-holding body, and means for locking the tool-holding body at points in its revolution, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GUSTAVE H. DWORZEK.

Witnesses:
FRANCIS M. WRIGHT,
BESSIE GORFINKEL.