No. 686,273. Patented Nov. 12, 1901.

M. DUNN.

TOOL HOLDING DEVICE.

(Application filed Aug. 30, 1900.)

(No Model.)

Fig. 1

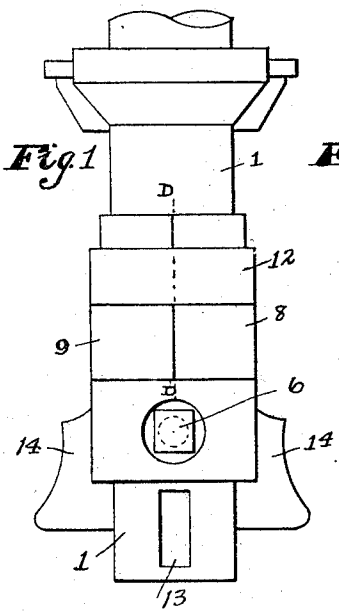


Fig. 2

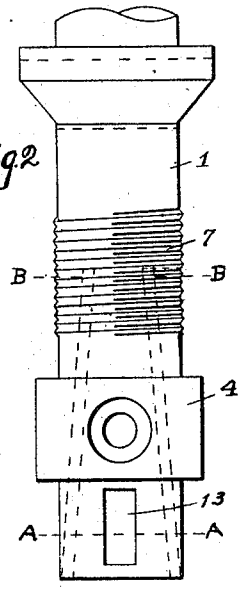


Fig. 3

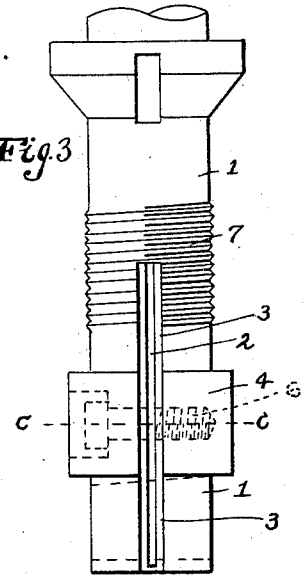


Fig. 4

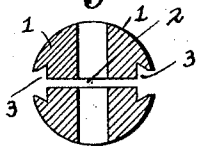


Fig. 5

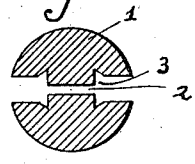


Fig. 6

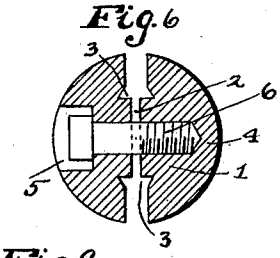


Fig. 7

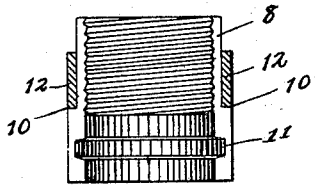


Fig. 8

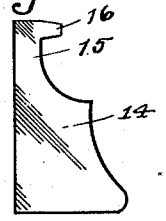
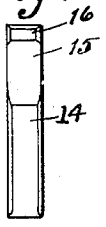


Fig. 9



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MICHAEL DUNN, OF DENNISON, OHIO.

TOOL-HOLDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 686,273, dated November 12, 1901.

Application filed August 30, 1900. Serial No. 28,504. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL DUNN, a citizen of the United States, residing at Dennison, in the county of Tuscarawas and State of Ohio, have invented a certain new and useful Improvement in Tool-Holding Devices, of which the following is a specification.

My invention relates to the improvement of tool-holding devices, and has particular relation to that class of tool-holders which are employed in boring or drilling machines, particularly machines for boring car-wheels.

The objects of my invention are to provide a tool-holder of this class of simple and inexpensive construction, to so construct the same as to admit of a proper and desirable adjustment of the tools held thereby without disconnecting the tools from the holder or separating the parts of the latter, to so construct and arrange the parts of the same as to insure a firm clamping of the boring or drilling tools therein and at the same time insure a proper holding of a roughing-tool, and to provide other improvements in details of construction and arrangement of parts, which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of my improved holder, showing the tools held therein. Fig. 2 is a similar view with the tools removed and with the adjustable tool-clamping collar and its locking-ring omitted. Fig. 3 is a view in elevation of the device taken at right angles with that shown in Fig. 2. Fig. 4 is a sectional view on line A A of Fig. 2. Fig. 5 is a similar section on line B B of Fig. 2. Fig. 6 is a transverse section on line C C of Fig. 3. Fig. 7 is a sectional view on line D D of Fig. 1 with the tool-holder body omitted. Fig. 8 is a side elevation of a cutting-tool having a shank such as I may employ in connection with the holder, and Fig. 9 is a view of said cutting-tool at right angles with that shown in Fig. 8.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention I employ a tool-holder body 1, which may depend from or be connected with the rotating or stationary boring bar or shaft of any form of boring, drilling, or similar machine. This body 1, which is in the form of a spindle, as shown, is provided with a longitudinally-arranged central slotted opening 2, which extends from a point near the lower or outer end of said body to a point in the upper or inner portion thereof. I also form in opposite sides of said body longitudinal recesses 3, preferably of the dovetail forms in cross-section shown in the drawings, these recesses extending from the outer end of the holder-body inward and gradually increasing in depth toward their inner ends. In the lower or outer portion of the body 1 I provide an enlargement or peripheral shoulder 4, and in the periphery of said shoulder portion I form a recess 5, within which is countersunk the head of an adjusing-screw 6, which extends transversely into the body of the holder 1 and the threaded inner end portion of which engages internal threads in said body. As indicated at 7, a desirable portion of the inner or upper portion of the periphery of the body 1 is externally threaded, this threaded portion being adapted to be engaged by the internal threads of a sectional sleeve consisting of two half-tubular sections 8 and 9. Each of the sleeve-sections 8 and 9 is provided with a peripheral shoulder 10, and each of said sections has its lower unthreaded portion formed with an inner wall recess 11, which when said sections are joined forms a circular recess.

12 represents a locking band or ring which is designed to fit snugly about the upper portions of the sleeve-sections and unite the same, said band or ring abutting against the shoulder 10.

Through the lower portion of the body 1, below the shoulder 4, is formed a transverse opening 13. This opening 13 is adapted to receive a suitable form of roughing-tool.

In utilizing my invention any desirable character of tool or cutting device may be employed—such, for instance, as that indicated at 14. Each of these tools or cutters, however, is provided with an upwardly-extending shank portion 15, which at its head is provided with a lateral projection or tooth 16. Prior to the engagement of the sectional sleeve with the threaded portion of the holder-body the straight rear portions of the tool-bodies are inserted within the inclined re-

cesses 3, after which the sections of said sleeve are brought together so as to form a complete sleeve in engagement with the threads 7, the projection 16 of the cutters or tools loosely entering the internal recesses 11 of the sleeve-sections. By slipping the locking-ring 12 downward over the upper and smaller portion of the sectional sleeve said sleeve-sections are clamped in their position on the holder. It is obvious that by turning the adjusting-sleeve and running the same upward or downward on the threaded surface of the holder the cutters or tools 14 may not only be adjusted vertically, but owing to the inclination of the recesses 3 may have their cutting portions thrown outward or inward by the adjustment of said sleeve. By tightening the clamping-screw 6 it is obvious that the parts of the body 1 which are separated by the slotted opening 2 may be drawn closer together, with the result that the tools will be firmly clamped within the recesses 3. From this construction and operation it will readily be seen that a simple and effective tool-holding device is produced wherein a desirable adjustment of the tools or cutting devices may be attained by the rotation of the internally-threaded sectional adjusting-sleeve and that this adjustment may be accomplished without the removal of the cutters or separation of the parts of the holder. It is also obvious that a suitable form of roughing-tool may be secured in a desirable manner in the opening 3 and said roughing-tool employed in conjunction with or independently of the tools 14.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a tool-holder, the combination with the holder-body 1 having oppositely-arranged and inwardly-inclined tool-recesses 3, of tools having shank projections 16, said tools adapted to be supported in said recesses, an internally-threaded sectional sleeve adapted to engage external threads of said body 1, said sleeve-sections having internal recesses adapted to receive the projections of said tool-shanks and a locking-ring for holding said sleeve-sections together, substantially as specified.

2. In a tool-holding device, the combination with a holder-body 1 having oppositely-located recesses 3, said recesses being formed flaring and increasing in depth toward their inner ends, and said body being formed with a slotted opening 2, of tools having their inner portions adapted to enter said recesses 3 and a clamping-screw 6 intersecting said slotted opening 2 and having its threads engaging internal threads in said holder-body, substantially as specified.

MICHAEL DUNN.

In presence of—
MORRIS B. BREWSTER,
ARTHUR C. DELL.