L. SWANSON.

TOOL HOLDER.

APPLICATION FILED OCT. 13, 1917.

1,300,042. Patented Apr. 8, 1919.

Fig. 1.

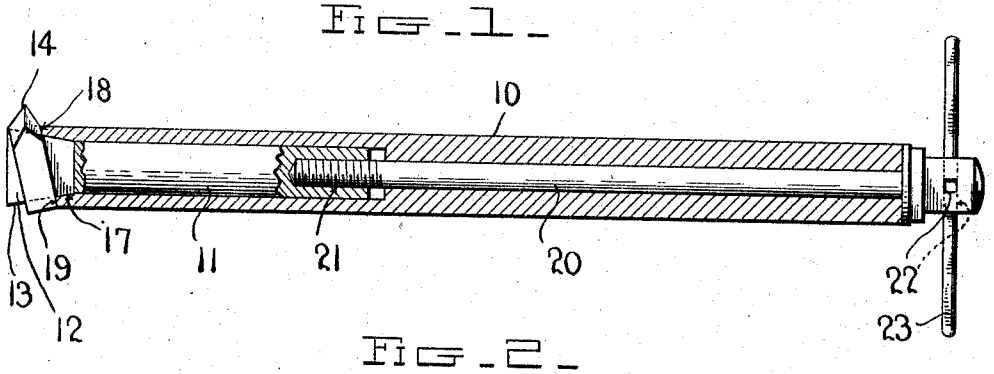


Fig. 2.

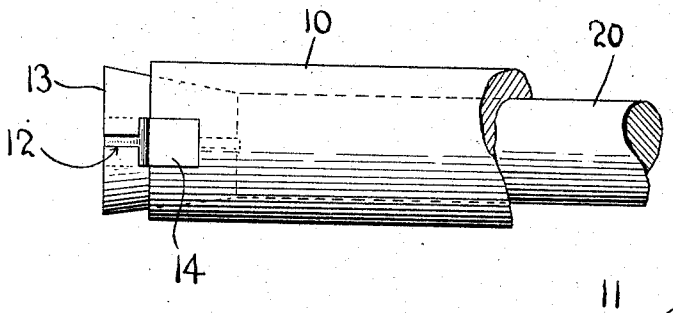


Fig. 4.

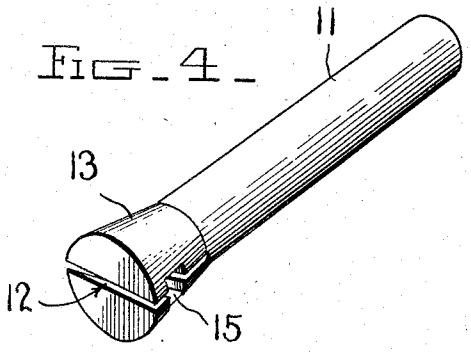
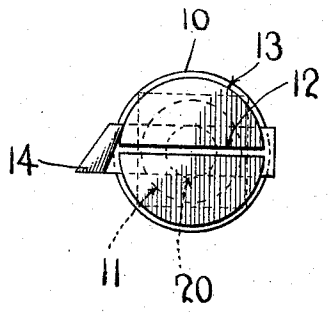


Fig. 3.



Witness

L. B. James

Durand Georges

Inventor

L. Swanson

By Victor J. Evans

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D.

UNITED STATES PATENT OFFICE.

LUDWIG SWANSON, OF DETROIT, MICHIGAN.

TOOL-HOLDER.

1,300,042. Specification of Letters Patent. Patented Apr. 8, 1919.

Application filed October 13, 1917. Serial No. 196,519.

To all whom it may concern:

Be it known that I, LUDWIG SWANSON, (declared my intentions four years ago) a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Tool-Holders, of which the following is a specification.

This invention comprehends the provision of tool holders for use in connection with lathes, boring machines and the like, the holder being designed to accommodate different style tools, and to permit of a quick association of parts, or the removal of a tool therefrom.

The nature and advantages of the invention will be better understood when the following detail description is read in connection with the accompanying drawing, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawing forming part of this specification like numerals of reference indicate similar parts in the several views and wherein:—

Figure 1 is an elevation partly in section of the holder showing one type of tool associated therewith.

Fig. 2 is a fragmentary bottom plan view.

Fig. 3 is an end view.

Fig. 4 is an enlarged detail view of the holder proper.

A tool constructed in accordance with my invention embodies a stock or body portion 10 which may be of any suitable dimensions, and provided with a relatively small bore and a communicating relatively large bore. The holder proper as illustrated in Fig. 4 consists of a tubular member 11 of uniform diameter throughout the major portion of its length, the remaining portion or one extremity of the holder being of frusto-conical formation. The frusto-conical portion is slit centrally as at 12 to provide relatively movable jaws 13 between which the tool 14 is adapted to be clamped in the manner to be presently described. The confronting faces of the jaws 13 are provided with alined transverse grooves 15 which unitedly define a pocket for the reception of the shank of the tool 14. The grooves by preference are inclined to permit the tool to assume the proper inclination so as to be properly presented to the work. The tubular member 11 is adapted to be slidably fitted within the enlarged bore of the stock or body 10, with the frusto-conical portion projecting beyond one end of said body. The inner surface of the body 10 adjacent one extremity is beveled as at 17 to coöperate with the frusto-conical portion of the holder proper, so that the movable jaws 15 will be moved into clamping or gripping relation as the holder proper is moved inwardly within the body 10. In order to permit the tool to maintain its proper inclination with respect to the holder, when the latter is drawn within the body 10, the forward extremity of the latter is provided with diametrically opposed notches 18 and 19 respectively, the latter being deeper than the former and adapted to receive the tool in the matter clearly shown in Fig. 1.

Various means may be employed for moving the holder longitudinally of the body 10, but by preference use is made of a rod 20 positioned within the relatively small bore of said body, and having a threaded extremity threadedly engaged in a recess 21 opening at the end of the tubular member arranged innermost within the body. The rod projects beyond one end of the body and is provided with a transverse bore 22 to accommodate a suitable handle or the like indicated at 23 for rotating the rod in the proper direction to cause the tubular member to move inwardly and outwardly of the body. Manifestly by reason of this construction and arrangement of parts, a tool can be quickly and easily associated with or separated from the holder as the occasion requires.

The holder 25 is provided with a threaded recess 30 opening at one end of the holder to accommodate an operating element for moving the holder longitudinally of the body, this element not being shown but similar to the element described in connection with the preferred form of the invention for this purpose.

While it is believed that from the foregoing description the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described, and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What is claimed is:—

The herein described tool holder comprising a stock having communicating bores of

unequal diameter extending to its opposite end, the outer end of the larger bore being frusto-conical and the corresponding end of the stock having open notches; a cylindrical member arranged for longitudinal movement in the larger bore and having an enlarged frusto-conical outer end arranged to fit in correspondingly shaped portions of said bore, said frusto-conical end having a longitudinal split providing resilient clamping jaws and said jaws being provided with transversely arranged and inclined grooves in their opposing sides, a tool arranged in said grooves, projecting at its ends beyond opposite sides of said member, and engaged in the notches of the stock, and an adjusting and clamping screw extending through the smaller bore of the stock, engaged at its inner end in a threaded bore of said member and having a head at its outer end bearing against the corresponding end of the stock.

In testimony whereof I affix my signature.

LUDWIG SWANSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."