May 11, 1926. 1,584,347

L. F. ARMSTRONG

TOOL HOLDER

Filed April 23, 1925

Fig. 1.

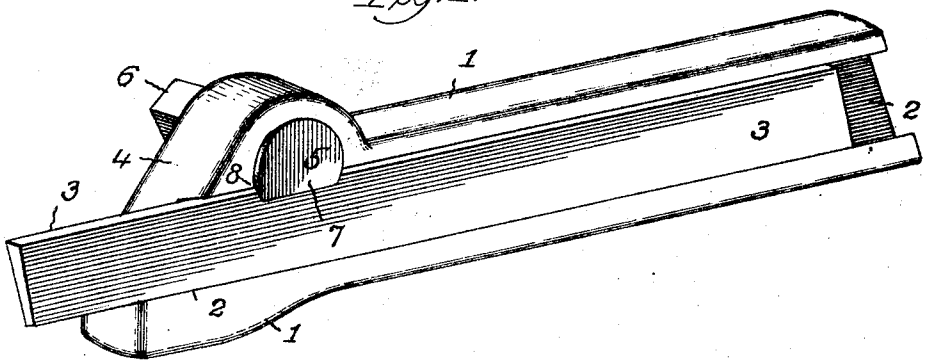


Fig. 2.

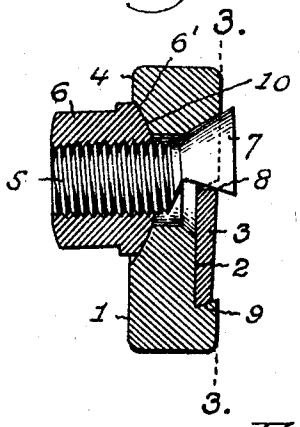


Fig. 3.

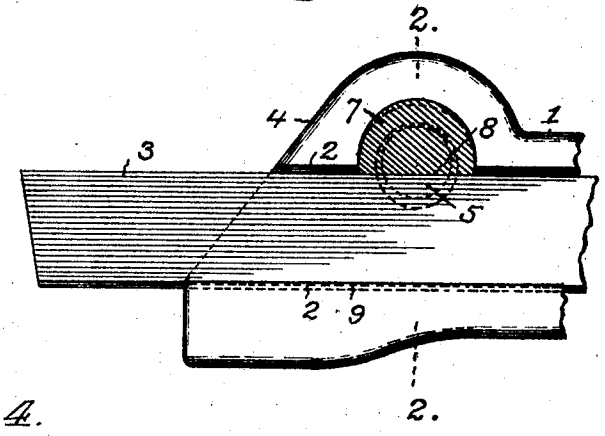
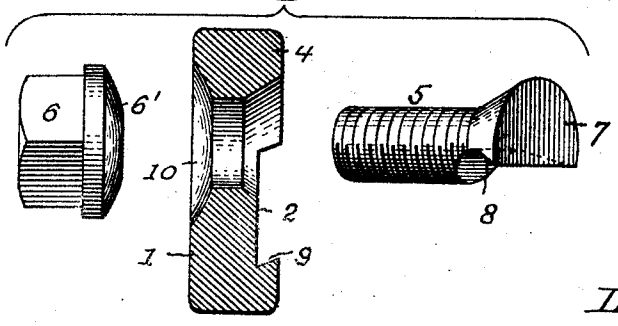


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TOOL HOLDER.

Application filed April 23, 1925. Serial No. 25,242.

This invention relates to that class of lathe and like tool holders, in which the stock or body is formed with a longitudinal channel in one of its sides and in which the tool blade is clamped and held in a manner capable of longitudinal adjustment for wear and repeated sharpening in long continued use. And the present improvement has for its object:

To provide a structural formation and combination of parts in a tool holder of the type described, involving a simple and substantial association of parts and features by means of which the tool blade is effectively clamped in place and held along its length in an efficient manner, all as will hereinafter more fully appear.

In the accompanying drawing:—

Fig. 1 is a perspective view illustrating the general arrangement of parts in the present tool holder.

Fig. 2 is a transverse section on line 2—2 Fig. 3.

Fig. 3 is a longitudinal sectional elevation on line 3—3 Fig. 2.

Fig. 4 is a combined elevation, section and perspective view of the holder parts in a separated condition.

Like reference numerals indicate like parts in the different views.

In the construction shown, the body or stock 1 of the tool holder is of a rectangular bar shape adapting it for ready application to the tool post or holder of a lathe or the like, and is formed with a longitudinal channel or recess 2, for the reception of the cutter blade 3 of the flat strip type generally used, and with an enlarged and beveled forward end 4 for the reception of the transversely arranged clamping bolt 5 by which said cutter blade 3 is clamped and held in place.

The shank of the bolt 5 is of the usual cylindrical form for sliding movement in a transverse orifice in the stock or head 1 and has one end screw threaded for operative engagement with its operating nut 6. The other end of said shank carries a fixed head 7 of the cone type engaging a complementary conical counterbore or orifice forming an extension of the transverse orifice above referred to. In the present improvement the cone shaped head 7 is cut away on its underside to provide a flat inclined or beveled bearing surface 8, to provide extended bearing contact with a complementary beveled top edge of the cutter blade 3, with a tendency to simultaneously force said cutter blade downwardly and inwardly to attain a firm and substantial holding of the cutter blade in place, as the bolt 5 is forcibly drawn along its transverse guiding orifice in the tool stock 1 by its operating nut 6. And in this connection a material part of the present improvement involves the formation of the lower edge of the cutter blade 3 and the complementary lower wall 9 of the holding channel or recess 2 of an inclined or beveled shape as shown.

Another part of the invention consists in forming the operating nut 6 of the above described structure with a convex bearing end 6′, and with the seat 10 in the stock 1 for said nut of a complementary concave form as shown, and for the purpose of affording a broad and substantial bearing contact of the nut in the various adjustments of the parts in changes and replacements of cutter blades in continued use of the appliance.

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

1. In a tool holder, a stock formed with a longitudinal recess in one side and with a transverse orifice adjacent to the upper part of said recess, a clamping bolt arranged in said orifice and carrying a fixed conical head on one end formed with a beveled bearing surface for contact with the upper edge of a cutter blade, and an operating nut engaging the end of the clamping bolt opposite to the end carrying the head aforesaid, the bearing face of the nut being of a sphero-convex form and the bearing face therefor in the stock being of a complementary concave form.

2. In a tool holder, a stock formed with a longitudinal recess in one side with the lower wall of said recess of a bevel form and

with a transverse orifice adjacent to the upper part of said recess, a clamping bolt arranged in said orifice and carrying a fixed conical head on one end formed with a beveled bearing surface for contact with the upper edge of a cutter blade, and an operating nut engaging the end of the clamping bolt opposite to the end carrying the conical head aforesaid the bearing face of the nut being of a sphero-convex form and the bearing face therefor in the stock being of a complementary concave form.

Signed at Chicago, Illinois, this 21st day of April, 1925.

LENNOX F. ARMSTRONG.