(No Model.)

F. N. GARDNER & J. E. WOODBRIDGE.

HOLDER FOR GRINDING TOOLS.

No. 243,770. Patented July 5, 1881.

Fig. 1.

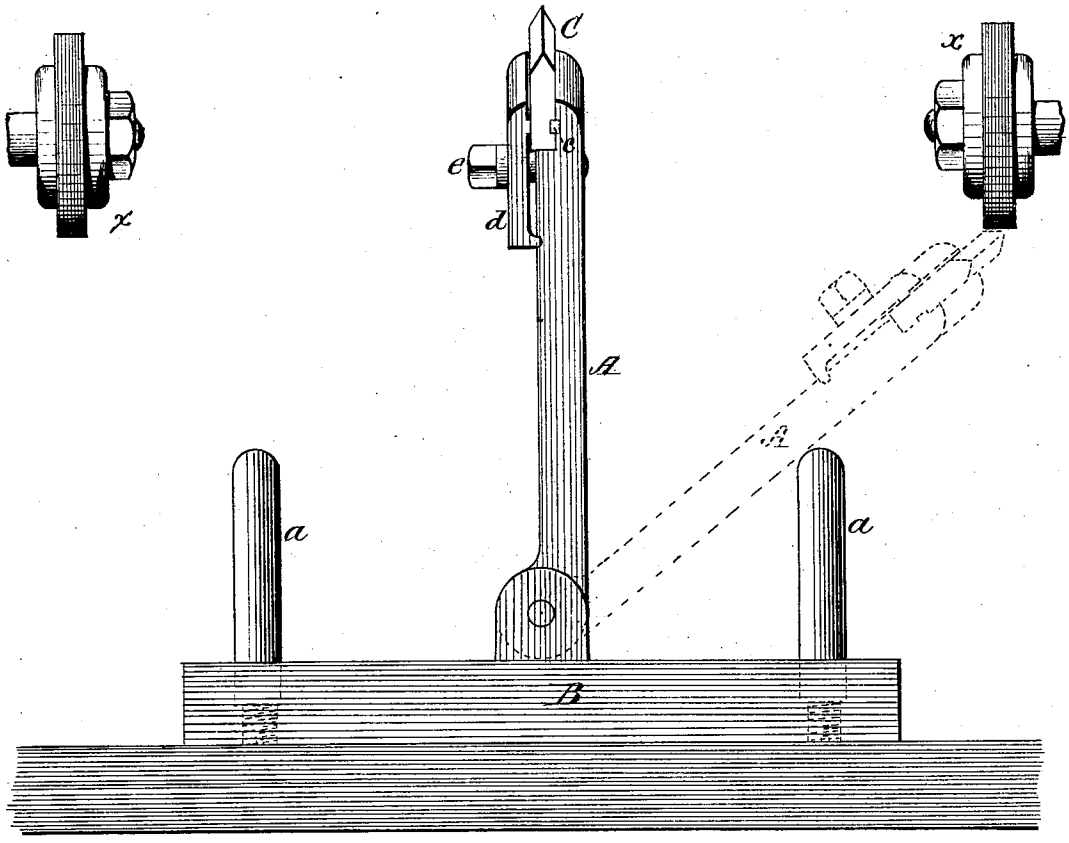
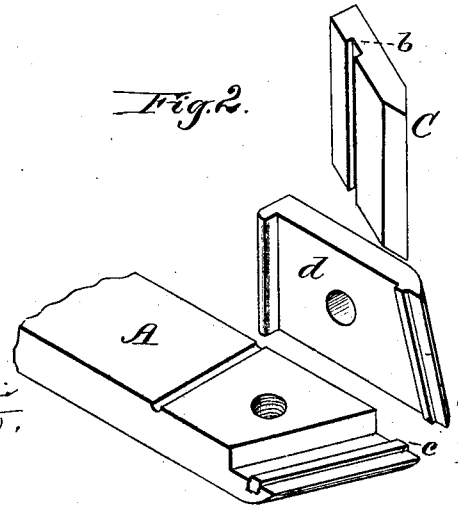


Fig. 2.



Witnesses:
W. C. McArthur,
Jos. F. Lambert.

Inventors
Frederick N. Gardner
James E. Woodbridge.
per Chas. H. Fowler
Attorney.

UNITED STATES PATENT OFFICE.

FREDERICK N. GARDNER AND JAMES E. WOODBRIDGE, OF HARTFORD, CONNECTICUT.

HOLDER FOR GRINDING TOOLS.

SPECIFICATION forming part of Letters Patent No. 243,770, dated July 5, 1881.

Application filed December 27, 1880. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK N. GARDNER and JAMES E. WOODBRIDGE, citizens of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Holders for Grinding Tools; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of our invention; and Fig. 2 is a detail view, in perspective, of the tool-holder, clamping-plate, and cutting-tool detached from each other.

The present invention has relation to certain new and useful improvements in holders for tools which need one plane surface, and are provided with a groove in that surface for gaging their position while being ground, and relates more particularly to that class adapted for cutting screw-threads, in which it is required to reduce the tools to a proper and perfect shape after they have been hardened and tempered.

The invention consists in the tool-holder constructed substantially as shown in the drawings, and hereinafter described.

In the accompanying drawings, A represents the tool and holder, suitably hinged or pivoted to a base, B, having upon each side of the holder, and connected to the base, vertically-adjustable supports *a*, against which the holder rests while the tool is being ground by the emery or other grinding wheel. (Represented at *x*.) The supports *a* are adjustable, in order that the working-surfaces of the tool may be ground to any required angle to each other.

The tool used for cutting screw-threads is represented at C, which is first worked into shape while the steel is soft, then hardened, and afterward tempered. It is then necessary to grind the sides forming the edge of the tool perfectly true, and to accomplish this it is essential that the tool should be securely held in a fixed position while being ground. In order to accomplish this it is necessary that one or both of the flat sides of the tool should be first ground perfectly true, to fit exactly upon the face of the body of the tool-holder. It is also necessary to have a guide or lip in order to exactly fix the position of the tool in the holder. If the lip is made upon the face of the tool it cannot be ground flat after being tempered. I therefore adopt the following construction: The tool C is formed with a groove, *b*, running parallel with its edge, which engages with a tongue, *c*, on the upper side or face of the holder A. To obtain this tongue on the holder a groove is first made; then, after hardening and grinding the surface true, the tongue *c* is inserted into the groove, and held by pins or other suitable means, whereby it can be easily removed when worn, or for other causes. The tool C is held in place by a clamping-plate, *d*, and screw *e*, passing through said plate and through the end of the holder. The groove *b* in the tool C, in connection with the tongue *c* upon the holder, securely retains the tool at the proper angle in the same, thereby greatly facilitating the method of obtaining the true surface after the tool is hardened. The groove *b* being in the tool enables its surface to be ground perfectly flat and true, and by means of this groove and true side surface the working or cutting sides of the tool are formed.

By reason of the hinging or pivoting of the holder A in connection with the adjustable supports *a*, the position of the base B is not required to be changed, the tool-holder, with its tool connected thereto, being thrown into the position required to grind the surfaces, depending on the style or form of the cutting-tool—as, for instance, the tools employed for cutting the United States standard form of screw-threads—it being important that the working sides should be ground true and straight.

The devices described relate to the forming of the sides and cutting-angle of the tool, and fixing these in their proper positions. The tool is sharpened for use by grinding upon the end or flat upper side across the V-shaped edge, and this grinding upon the end is the only sharpening required as the tool becomes dull with use. The tool can be sharpened upon

any flat surface, and such grinding does not disturb the working edges, which are formed as before described.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the jaw A, having a plane face furnished with a groove, the tongue *c*, fitting in said groove, the plate *d*, and the clamp-screw *e*, substantially as described.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

FREDERICK N. GARDNER.
JAMES E. WOODBRIDGE.

Witnesses:
JOHN P. HEALY,
DAVID G. GORDON.