

(No Model.)

W. LAWSON.
TOOL HOLDER.

No. 488,361.

Patented Dec. 20, 1892.

Fig. 1.

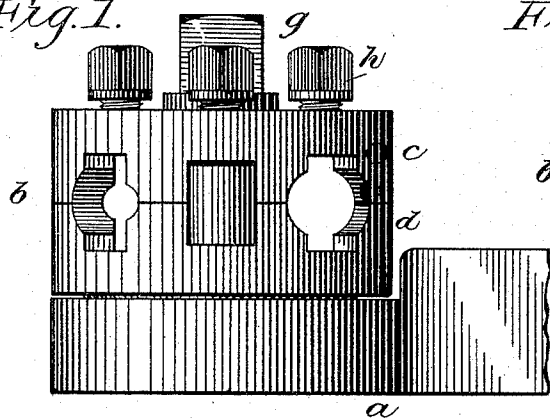


Fig. 3.

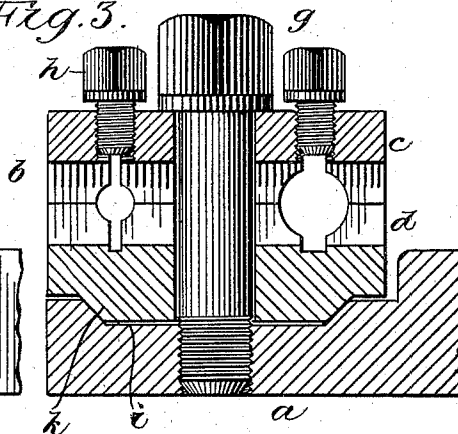


Fig. 2.

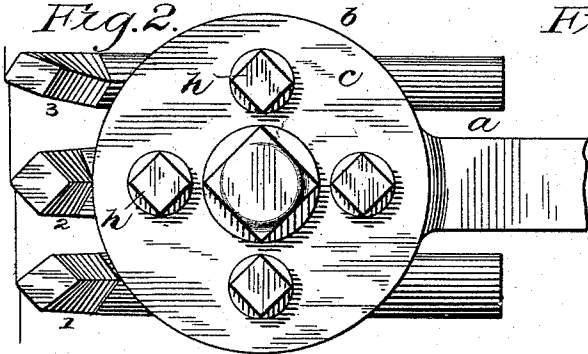


Fig. 4.

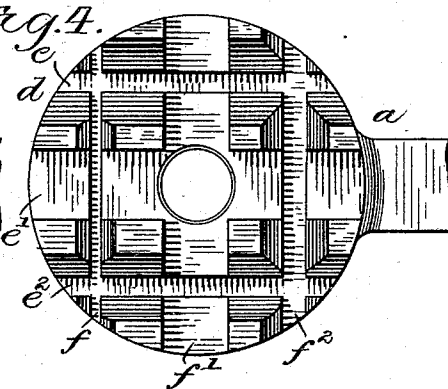
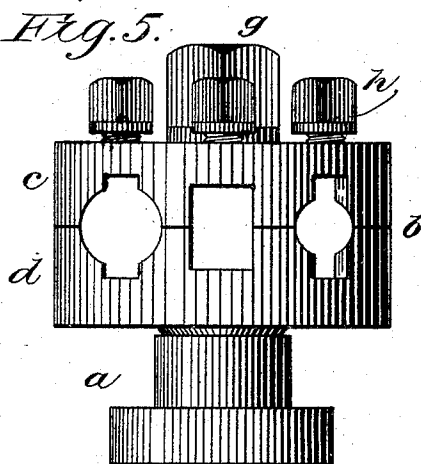


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM LAWSON, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO EDWARD SMITH, OF SAME PLACE.

TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 488,361, dated December 20, 1892.

Application filed February 25, 1891. Serial No. 382,772. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LAWSON, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tool-Holders, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a device for holding cutting tools used in a lathe and planer work, and one that is particularly adapted to meet all of the requirements of such a tool, and to this end my invention consists in the combination of the shank with the rotary tool head and clamping means, and it further consists in details of the several parts making up the device as a whole and in their combination, as more particularly hereinafter described and pointed out in the claim.

Referring to the drawings: Figure 1 is a detail view in side elevation of my improved tool. Fig. 2 is a detail top view of the same showing a number of tools held in the head. Fig. 3 is a view in section through the center of the tool holder. Fig. 4 is a detail view in horizontal section through the head. Fig. 5 is a view in end elevation of the holder showing a different form of shank.

In the accompanying drawings the letter *a* denotes the shank of the tool holder that is made preferably of steel and of any convenient form that will enable the device to be held in a tool post or like part on a lathe, planer, or other machine tool. On this shank is supported a head *b* that is made preferably in two sections *c* and *d*, the plane of division between these sections passing lengthwise through the tool socket, but the head may be formed if desired in one piece or block, the tool socket *e e' e²* extending through or into the mass of the head preferably in parallel lines, and the tool sockets *f f' f²* being similarly located transversely of the first series. These several tool sockets are provided for the purpose of enabling the head to hold not only tools of various kinds and sizes, but a plural number of tools. The clamp-bolt *g* extends through the head into the shank and by the hold afforded by the overhanging head of the

bolt at one end and the threaded portion at the other the shank and head of the tool holder may be securely clamped together so that the parts may be held in any position relatively to each other that may be desired so far as the angular relation of the plane of the longer shank *a* and a given tool is concerned. The head may be swung or rotated on the shank by loosening the clamp bolt *g*, and a tool held in either of the sockets in the head moved into any desired position so as to reach any kind of work whether it is surface turning, boring, or cutting off. Each of the sockets is provided with a clamp screw *h* the outer end being accessible to a wrench or screw driver and the inner end adapted to project into a tool socket so as to bind upon the tool placed therein and firmly hold it.

Where the head is made in two sections separated as shown in the drawings and as above described the tools are preferably made slightly deeper than the sockets are high and in that case the clamp bolt *g* serves not only to hold the head in the proper position on the shank but also to clamp the tools in the head, but the supplemental clamp screw *h* may be of advantage when the tools vary slightly in depth.

In order to provide for a sufficient binding hold between the surfaces of the shank and of the head that are in contact a socket *i* is preferably formed in one part as the shank, and a projecting portion *k* on the other part fits within the socket, the edge walls of which taper so that the parts are wedged together by the compressing force of the clamp bolt. This construction of the parts is shown clearly in the sectional view in Fig. 3 of the drawings. It is immaterial whether the sockets be formed in one part or the other so long as the inter-engaging parts are present on the two faces that are in contact, and other means of securing a frictional hold between the head and shank may obviously be employed without departing from my invention.

The utility of my device in a saving of time and labor is shown in Fig. 2 where the tools 1, 2 and 3 are secured in the head and arranged so that the first makes a roughing cut on a piece of work, No. 2 makes a second

cut and No. 3 a finishing cut so that in one travel of the tool holder along the length of the bed the whole work of turning down a column or like piece of work is accomplished, 5 whereas, in the use of any old device but a single cut can be taken and more than twice the time consumed in doing the work.

I claim as my invention:

10 In combination with a support for a tool holder, a rotary tool holding head formed in sections and having a plural number of tool sockets extending transversely through the

substance of the sections, the tool holder support having a socket with tapered walls, the corresponding projection on the lower 15 part of the tool holder located in said socket, the clamping bolt extending centrally through the tool holder and the tool holding clamps appurtenant to the several tool holding sockets in the head, all substantially as described. 20

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Witnesses:

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