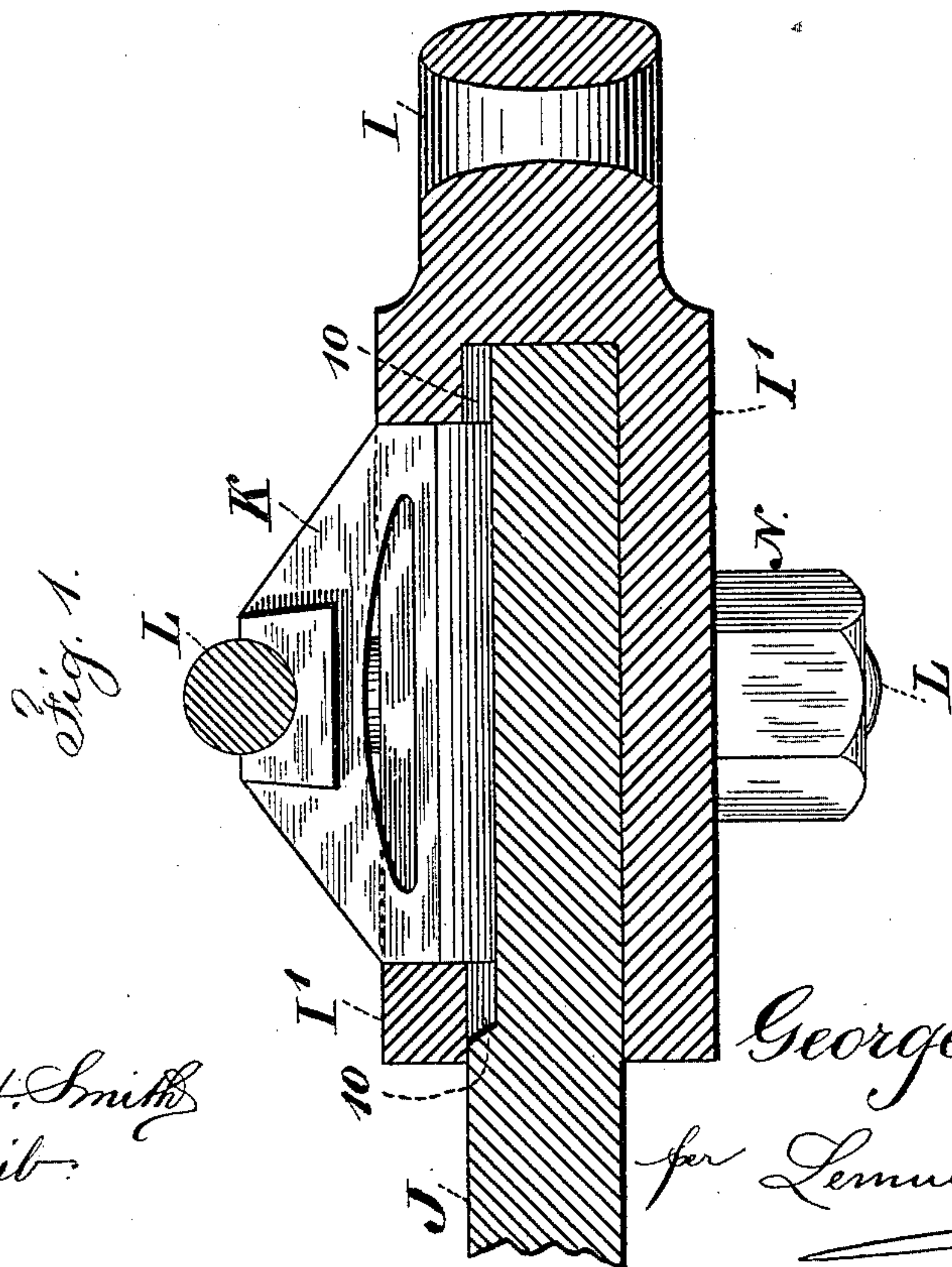
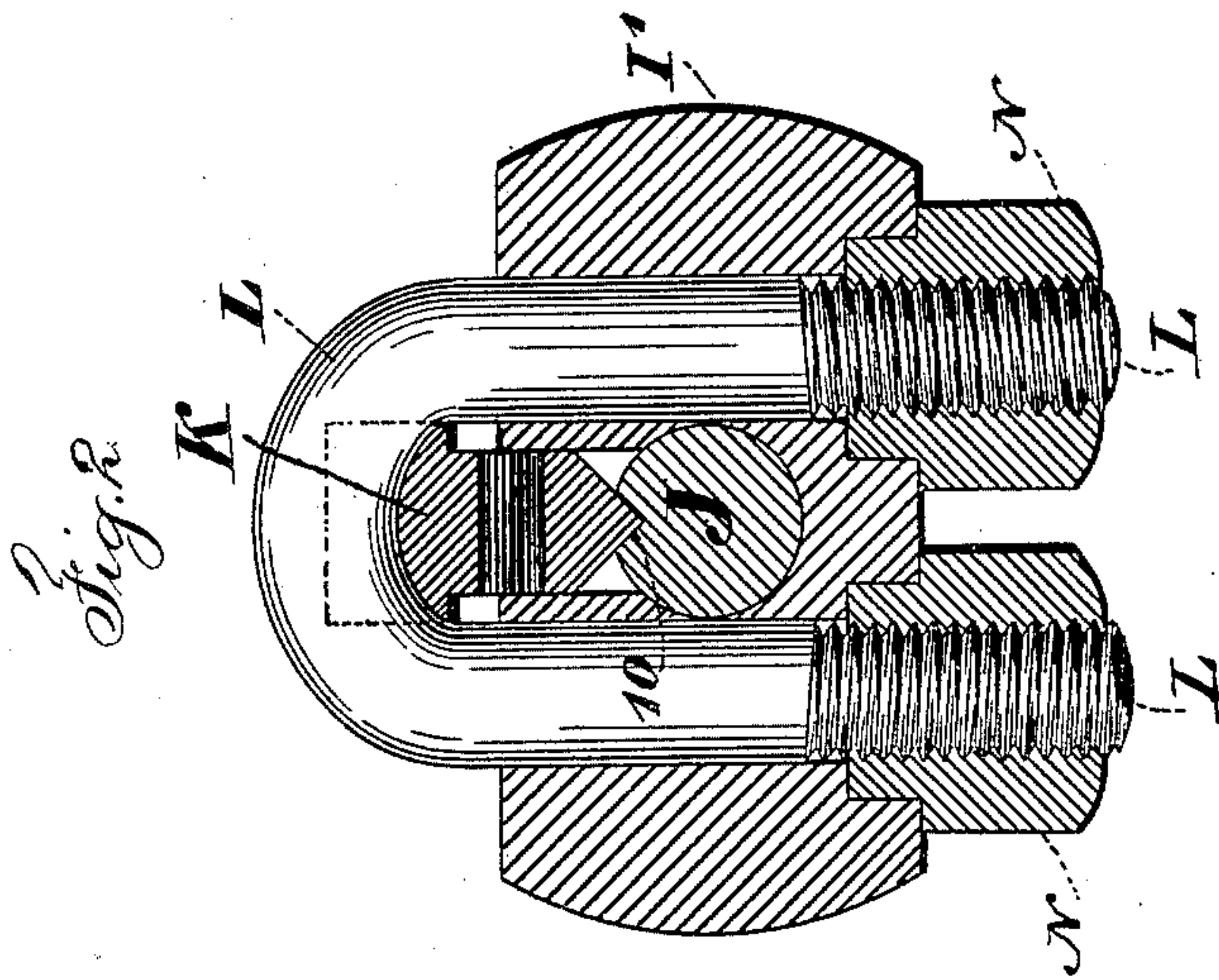


(No Model.)

G. M. GITHENS.  
TOOL HOLDER.

No. 462,483.

Patented Nov. 3, 1891.



Witnesses

*Chas H. Smith*  
*J. Stait.*

*Inventor*  
*George M. Githens*  
*per Lemuel W. Perrell*  
*att'y.*



# UNITED STATES PATENT OFFICE.

GEORGE M. GITHENS, OF BROOKLYN, NEW YORK.

## TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 462,483, dated November 3, 1891.

Application filed June 30, 1891. Serial No. 397,976. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE M. GITHENS, a citizen of the United States, residing in Brooklyn, in the county of Kings, in the State of New York, have invented an Improvement in Tool-Holders, of which the following is a specification.

Tool-holders, especially those made use of in rock-drills for connecting the drill with the piston-rod, have heretofore been made with a socket for the reception of the drill-shank and with a clamping device composed of a key and a U-shaped bolt, and in my patent, No. 426,640, granted April 29, 1890, an elastic key is represented as between the U-shaped bolt and the shank of the drill. In my present improvement I prefer to employ an elastic key, and I combine with the same a U-shaped bolt constructed in the manner hereinafter described, and my invention relates to the peculiarities of construction set forth and claimed.

In the drawings, Figure 1 is a longitudinal section of the socket at the end of the piston-rod and of the shank of the tool, the elastic key being an elevation; and Fig. 2 is a cross-section near the U-shaped bolt.

The socket I' is adapted to receive the drill or other tool J, and in rock-drills this socket is usually at the end of the piston-rod I; but these parts may be of any desired character for the reception of a drill or other tool. The U-shaped bolt L passes transversely through the head in which is the socket for the tool J and the parallel portions of the U-shaped bolt L pass comparatively close to the tool-socket, and when a key is made use of I prefer to use the elastic key K, made according to my aforesaid patent, and this key intervenes between the U-shaped bolt L and the shank of the drill J, and in order to prevent the tool rotating in the socket, I forge or cut in the shank of the tool a longitudinal V-shaped groove 10, and upon the face of the key there is a correspondingly-shaped rib to set into this groove, so that when the parts are clamped there will be no opportunity for the shank of the tool to rotate within the

socket and the pressure will be uniform, and there is no opportunity for the tool to become loose in its socket.

With the U-shaped bolts that have heretofore been employed nuts have been used upon the screw-threaded ends of the bolts; but difficulty has existed in screwing up these nuts with the required force, because the parts with which the socket is connected are often easily displaced, and there is but little resistance to the action of a wrench applied to the nuts in succession. To obviate this difficulty I make the screw-threads upon the U-shaped bolt in opposite directions, in order that two wrenches may be applied simultaneously to the two nuts N N, and the one wrench becomes a resistance in moving the other wrench, and hence the same power will be exerted in simultaneously screwing up the two nuts, and in like manner when the nuts are to be unscrewed the one wrench becomes a resistance to the other wrench in loosening such nuts simultaneously. By this means much more force can be exerted in screwing up the nuts than has heretofore been possible, especially so in the contracted spaces in which bolts of this character are usually employed.

It will be apparent that if the U-shaped bolts were divided and provided with heads, so as to form two bolts, the right and left handed screw-threads and nuts would act in the before-described manner.

I claim as my invention—

1. The combination, with the tool-stock, of a key for holding the tool, a U-shaped bolt provided with right and left hand screw-threads, and clamping-nuts, substantially as set forth.

2. The combination, with the tool-stock and tool, of a clamping device, bolts with right and left hand screw-threads, and nuts, substantially as specified.

3. The combination, with the piston-rod, in a rock-drill having a socket at its end, of bolts provided with right and left hand screws, and clamping-nuts, substantially as set forth.

4. The combination, with the tool-holding

stock, of an elastic key and clamping-bolts having right and left hand screw-threads and nuts, substantially as set forth.

5 5. The rock-drill having a cylindrical shank and a longitudinal groove therein, in combination with a socket for receiving such shank, a separate key with a V-shaped edge passing into the groove, and a screw-clamp

for holding the key to the shank, substantially as specified. 10

Signed by me this 26th day of June, 1891.

GEO. M. GITHENS.

Witnesses:

GEO. T. PINCKNEY,  
WILLIAM G. MOTT.