G. J. THOMAS.

NIPPLE HOLDER.

APPLICATION FILED APR. 18, 1910.

1,014,920.

Patented Jan. 16, 1912.

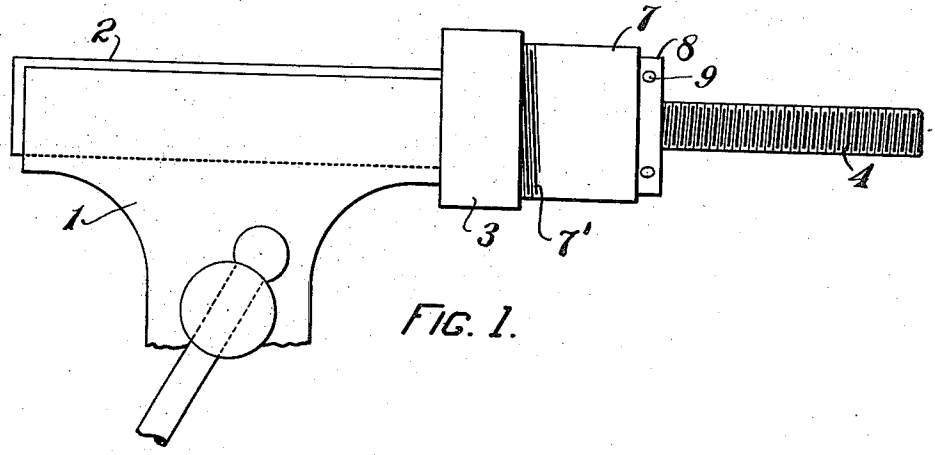

FIG. 1.

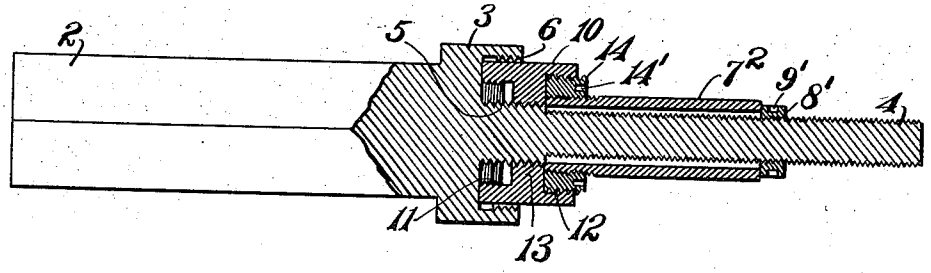

FIG. 2

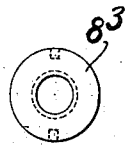

FIG. 4

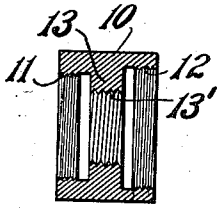

FIG. 3

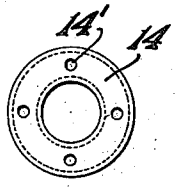

FIG. 5

WITNESSES

A. T. Palmer

R. B. Ellis.

INVENTOR

GEORGE J. THOMAS

BY Wm. Spragg.

ATTY.

UNITED STATES PATENT OFFICE.

GEORGE J. THOMAS, OF WATERTOWN, MASSACHUSETTS, ASSIGNOR OF TWENTY-FOUR ONE-HUNDREDTHS TO HIMSELF, FIFTY-ONE ONE-HUNDREDTHS TO THOMAS E. EUSTIS, AND TWENTY-FIVE ONE-HUNDREDTHS TO FRANK T. CAZMAY, BOTH OF NEWTON, MASSACHUSETTS.

NIPPLE-HOLDER.

1,014,920. Specification of Letters Patent. Patented Jan. 16, 1912.

Application filed April 18, 1910. Serial No. 556,143.

To all whom it may concern:

Be it known that I, GEORGE J. THOMAS, citizen of the United States, residing at Watertown, county of Middlesex, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Nipple-Holders, of which the following is a specification.

This invention relates to holders and particularly to a holder for work to be externally threaded such as the cutting of screw threads on nipples. In work of this sort, much difficulty is experienced in holding a nipple which has been threaded on one end while the opposite end is being threaded by the die. This matter is especially difficult where nipples are cut and threaded outside of the shop. The usual practice is to thread the end of a pipe which is clamped in a vise or other portable holding device then cutting off the nipple to the desired length, then chucking the threaded end of the nipple while the opposite end is being threaded. This, of course, involves the difficulty of so holding the threaded end of the nipple that those threads already cut will not be mangled. The further difficulty in work of this sort arises in threading short nipples which obviously present but a small surface which can be held. Further difficulty is experienced in guiding the die stock so that it is maintained at right angles to the nipple being cut. The requirements of practical usage demand, moreover, that such means as are provided for doing this work be simple and inexpensive, be light and easily transported and furthermore that they be adaptable to nipples of various diameters as well as of various lengths.

To the end, therefore of providing an implement capable of successfully holding partly threaded nipples of any standard diameter and of any usual length I have devised my present invention in which I have conformed to the requirements of simplicity of construction and cheapness of cost as well as versatility of use.

In my invention I have provided for a series of threaded nipple receiving sockets of various sizes and means for securely holding a nipple both during cutting the thread and the backing of the die. These together with various other features of construction, assemblage and operation will be more fully disclosed in the specification which follows.

In the drawings which form a part of this specification I have shown as an illustrative embodiment of my invention a form of device which I find well adapted to practical use. This illustrative embodiment I have fully described in the specification employing throughout both specification and drawings like reference numerals to indicate corresponding parts.

Figure 1 is a side view of my device clamping a short nipple of maximum diameter. Fig. 2 is a partly section view showing a minimum sized nipple clamped in place. Fig. 3 is a sectional view of the reversible socket included in Fig. 2. Fig. 4 is a plan of the follower adapted to be used in the socket left of Fig. 3. Fig. 5 is a plan socket adapted to be used on the right of Fig. 3.

1 indicates a clamp or vise of any suitable character in which a shank 2 is held.

3 is a socket formed on the shank 2 and having an internal right-hand screw thread 6 cut on its inner face.

5 is a spindle projecting centrally of the socket 3 and also having a right-hand screw thread but of larger size.

4 is a continuation of the spindle 5 but smaller and having a left-hand screw thread cut thereon.

10 is a reversible piece having opposite sockets 11 and 12 of different diameters but each internally threaded with a right-hand standard thread. The sockets 11 and 12 are separated by a central wall 13 through which an internal threaded opening 13^1 is formed to receive the enlarged right hand threads on the central extension 5 at the base of the spindle 4.

14 is a follower piece externally threaded

to fit the socket 12 and internally threaded to form a socket of minimum size.

It will therefore be seen that I provide for four different sized sockets which are made to fit four different standard sizes of pipe. In actual practice my tool is made in two sets, one set for $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{3}{4}$ inch standard pipe and the other for 1 inch, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 inch standard pipe. The sizes of the sockets may of course be varied to receive any desired size of pipes and they may be multiplied so as to bring about a gradual reduction and provide for use with any number of sizes of pipe in a single tool. I find in actual practice, however, that it is more convenient to provide the tool in two sets as described.

In operation my device is employed as follows:—The shank 2 is clamped in the vise 1 and the socket selected to fit the diameter of the nipple to be threaded. In Fig. 1 the nipple 7 is shown as being of maximum size. This nipple has been prepared by threading the ends 7^1 of a pipe and then cutting off the length desired. The nipple 7 is put on over the spindle 4 and screwed into the right-hand internally threaded socket 3. A follower 8 is then run down on the left hand thread of the spindle 4 and turned up by means of the capstan sockets 9 until it tightly clamps the nipple 7 in place. The follower 8 is of slightly less diameter than the outside diameter of the nipple 7 but slightly more than its internal diameter. It will therefore permit a die to pass over it and engage the nipple 7 without actual contacting with the follower 8. On short nipples the bearing of the die stock fits over and turns upon the smooth outer circumference of the socket 3. The die stock is therefore held in proper right angle position to the nipple 7. As the die stock is turned against the unthreaded end of the nipple 7 in cutting the thread thereon its tendency is to screw the threaded end of the nipple 7 more firmly into the socket 3. In backing off the die stock the opposite tendency is to unscrew the nipple 7, opposed by the follower 8 which has been turned up on a left hand thread so that any tendency on the part of the nipple 7 to rotate would simply tighten the follower 8. In this way the nipple is firmly held which way the die stock is turned. If it be desired to thread a pipe of less than maximum size that socket which is provided to receive it is exposed at the base of the spindle 4.

In Fig. 2 I have shown the arrangement for holding the minimum sized nipple which I have numbered 7^2. In this arrangement the double ended bushing 10 is set within the socket 3 with the inner bushing 14 screwed into the socket 12. The pipe nipple 7^2 is screwed within the bushing 14 as the bushing 14 is screwed with the right-hand thread into the socket 10 and as the socket 10 is turned up on the right-hand thread on the projection 5 any tendency to turn the nipple 7^2 in a right hand direction will simply tighten it and its sockets. The follower 8^1 is turned up on the left-hand thread on the spindle 4^1 and will be oppositely rotated on the nipple 7^2 when the dies are backed off. If the next largest size nipple is to be threaded the bushing 14 is unscrewed from the assemblage shown in Fig. 2 and the threaded end of the nipple is screwed within the socket 12 and held in place by a suitable follower, not illustrated in the drawings but corresponding to the other followers therein shown. If the next to the smallest size is to be used the socket 13 is reversed in its position shown in Fig. 2 and the threaded end of the nipple screwed within the socket 11 and held in place by a follower 8^3.

The sockets may be made in any desired size or form and as indicated may be made reversed or single and may be made to nest or cut independently.

Various other modifications in the structure assemblage of my device may obviously be made without departing from the spirit of my invention if within the limits of the appended claims.

What I therefore claim and desire to secure by Letters Patent is:—

1. A device of the class described, comprising a shank, a maximum size socket formed on said shank and having an internal right-hand screw thread, a spindle centrally of said shank consisting of an enlarged right-hand threaded portion adjacent to said socket, and a reduced left-hand threaded portion beyond said socket, a socket adapted to fit within said maximum socket and having an internally threaded opening through to receive said enlarged portion of said spindle, and a plurality of threaded followers of slightly less external diameter than the internal diameters of said sockets.

2. A device of the class described, comprising a shank, a maximum size socket formed on said shank and having an internal right-hand screw thread therein, a spindle centrally of said shank and having an enlarged right-hand threaded portion adjacent to said socket, and a reduced left-hand threaded portion beyond said socket, a reversible piece having a socket on each side and having an internal right-hand thread and an internally threaded opening through to receive said enlarged portion of said spindle, and having an internal right-hand thread, said sockets being of different diameters, a threaded filler piece adapted to fit one of said sockets and hav-

ing an external screw thread adapted to engage the threading of that socket, and an internal right-hand screw threaded socket adapted to receive the end of the nipple, and a plurality of threaded followers of slightly less external diameter than the internal diameters of said socket.

In testimony whereof, I affix my signature in presence of two witnesses.

GEORGE J. THOMAS.

Witnesses:
ELLIS SPEAR, Jr.,
JOSEPH W. DOWNS.