(No Model.)

J. H. VINTON.

NIPPLE HOLDER.

No. 527,031. Patented Oct. 2, 1894.

Fig. 1.

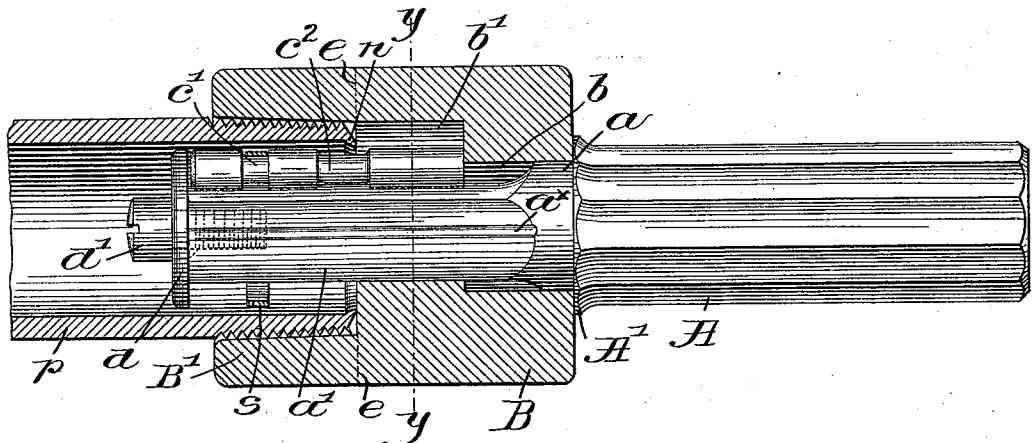


Fig. 3.

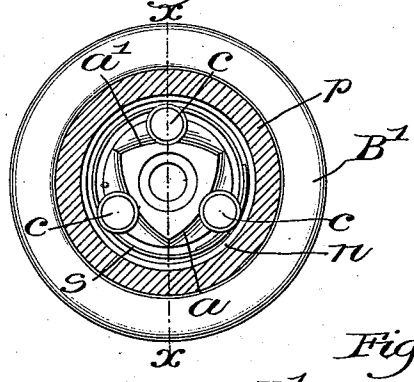


Fig. 2.

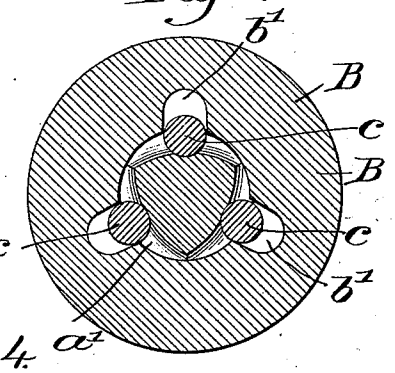
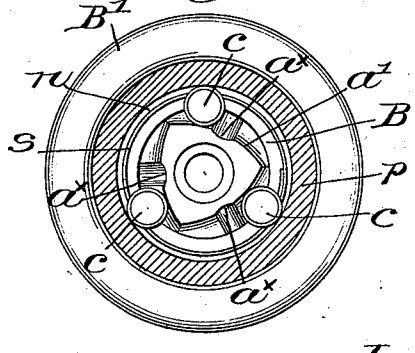


Fig. 4.



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UNITED STATES PATENT OFFICE.

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NIPPLE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 527,031, dated October 2, 1894.

Application filed January 13, 1894. Serial No. 496,761. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. VINTON, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Nipple-Holders, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a nipple holder or clamping device particularly adapted to hold short lengths of pipe threaded at one end while the unthreaded end of the pipe is being provided with a right or left-hand thread, it being immaterial to the operation of the device whether the end of the pipe engaged thereby is provided with a right or a left-hand thread, and inasmuch as the thread upon that end of the pipe which is held by the nipple holder performs no function whatsoever in the operation of the device, said nipple holder may be used to hold a pipe or nipple to be provided either with a right or with a left hand thread, and, therefore, the range of usefulness of the device is greatly extended.

With nipple holders as now constructed it is a difficult and tedious operation to form a right hand thread on one end of a nipple or length of pipe, and a left hand thread on the other end. This difficulty arises from the fact that the end first threaded has to be screwed very tightly into the usual threaded holder, or else the nipple will be unscrewed from the holder as the die used to cut the reverse thread is turned, and the hard screwing in of the nipple in order to prevent it from unscrewing, as stated, not only injures the threads, but also so sets the nipple or pipe in the holder that it can be removed therefrom, after the thread has been cut, only by very considerable trouble.

I have produced a simple and efficient nipple-holder by which to firmly hold a nipple or pipe without injury to the threads, and the threaded nipple or pipe may be instantly released by but a slight rotative movement of one part of the nipple holder on the other, my device being equally efficient for cutting right or left hand threads.

My invention comprehends a nipple holder, consisting of a cam-faced arbor, a holder loosely connected therewith, and a sleeve to receive within it the nipple or pipe to be threaded, and a dog located between the holder and the arbor and adapted to enter and engage the interior of the nipple or pipe, the sleeve surrounding the nipple or pipe preventing expansion thereof during the operation of the dog and arbor within the nipple or pipe.

Other features of my invention will be hereinafter described and particularly pointed out in the claims at the end of this specification.

Figure 1 is a vertical longitudinal section of a nipple holder embodying my invention, taken on the line *x*—*x*, Fig. 3, the arbor and roll being shown in elevation. Fig. 2 is a transverse sectional view thereof taken on the line *y*—*y*, Fig. 1. Fig. 3 is a left-hand end elevation of the nipple holder shown in Fig. 1, with the nipple in section and unclamped, and Fig. 4 is a similar view with the nipple clamped.

In the drawings I have shown an arbor A, upon which the other parts of the holder are supported, the projecting end of the arbor being preferably made polygonal in cross section, in order that it may be readily and firmly held in a vise, when desired.

The arbor has a shoulder A′, which forms a seat for the end of a carrier B, a cylindrical portion *a* of the arbor entering the carrier, as shown in Fig. 1, in such manner that the carrier and arbor are made rotatable relatively one to the other. That end of the arbor passed beyond or through the carrier is cam-faced or has cam portions, herein represented as three in number, said cam faces being convex and similar, as at *a*′, each face controlling the operation of a dog *c*, shown as a roll, there being one such dog or roll for each face *a*′.

The carrier B is notched or recessed longitudinally, as at *b*′, to receive loosely the dogs or grip rolls *c*, as clearly shown in Figs. 1 and 2, the notches or recesses being of sufficient depth to readily permit outward movement of said dogs or rolls when acted upon by the cam faces of the arbor.

A central longitudinal depression $a^{\times}$ is preferably made in each cam face, to receive the co-operating dog or roll when in its normal retracted position.

The dogs or rolls are drawn inward and

held against the cam portion of the arbor by an encircling spring clip or band *s*, and each dog or roll is reduced in diameter as at *c'* to receive the clip and hold it in place, and also to bring said clip within the normal or acting surface of said rolls.

A retaining cap *d*, see Fig. 1, is secured to the end of the arbor by a suitable screw *d'* extended thereinto, the cap projecting over the outer ends of the dogs or rolls *c* and retaining them in the recesses *b'* of the carrier, the carrier and arbor being prevented thereby from separating.

In the operation of the nipple holder the cam-shaped end of the arbor is inserted in the end of the nipple or pipe P to be held, the dogs or rolls at such time preferably resting in the depressions $a^{\times}$ to the more readily enter the nipple, as shown in Figs. 1 and 3.

A relative rotative movement of either the arbor or carrier will cause the dogs or rolls to ride up on the cam faces *a'* and move radially, until they bear against the interior of the nipple, as shown in Fig. 4, and firmly hold the same from rotation or withdrawal, the pressure exerted depending upon the amount of rotation. It does not matter whether the relative rotation is to the right or left, for the cam faces are alike on each side of the depression $a^{\times}$ therein.

In the operation of cutting off a pipe a burr *n* is formed at the end, and this burr, without provision is made to obviate it, will prevent the proper engagement of the dogs or rolls with the interior of the pipe, and to effect this proper engagement I have cut away a portion of the dogs or rolls, as at c^2, thus leaving spaces therein to accommodate the said burr.

In order that the nipple or pipe to be threaded may be held with sufficient force without stretching the same open, I employ as an essential feature of my improved nipple holder a sleeve to receive within it the nipple or pipe, said sleeve surrounding snugly the said nipple or pipe. In the form in which I have illustrated my invention this sleeve, marked B', is shown as a continuation of the carrier B and to prevent any possibility of stretching the pipe by the action of the dogs against the interior of the nipple or pipe as they are moved away from the center of the arbor A to grasp the nipple or pipe I have made the interior bore of the sleeve somewhat tapering to thus contact with the threaded portion of the pipe, for it will be remembered that the threaded end of the pipe is always left tapering, the taper corresponding with a regular defined standard. The sleeve B' might, however, be made as a separate piece from the carrier B, but it in any form will have an interior diameter of a sufficient size to embrace, surround, and come into contact externally with the threaded inner end of the nipple or pipe, and enable the arbor and the dogs or rolls carried by it to readily enter the end of the nipple or pipe for some distance, as represented in Fig. 1.

By the employment of more than one dog or roll *c* the pipe is more readily centered and better held or gripped, but my invention is not restricted to the number of dogs or rolls, nor to the number of cam surfaces, nor to their particular shape or size.

The spring clip may be passed around the dogs or rolls at their reduced portions c^2 if desired.

In the use of my improved nipple holder the operator cannot injure the thread on the first threaded end of the nipple or pipe, and the dogs or rolls may be instantly made to release the nipple or pipe by the slightest relative rotation of the carrier and arbor in the direction opposite.

My invention is not restricted to the precise construction and arrangement of parts as herein shown, for the same may be altered or modified without departing from the spirit and scope of the invention.

I claim—

1. A nipple holder, consisting of a cam-faced arbor, a holder loosely connected therewith, a sleeve to receive within it the nipple or pipe to be threaded, and a dog located between the holder and the arbor and adapted to enter and engage the interior of the nipple or pipe, the sleeve surrounding the nipple or pipe preventing expansion thereof during the operation of the dog and arbor within the nipple or pipe, substantially as described.

2. In a nipple-holder, a cam-faced arbor, a carrier loose with relation thereto, a series of dogs located between said arbor and carrier, a sleeve to receive within it the end of the nipple or pipe to be threaded when the said pipe is applied outside the said dogs and arbor, combined with a spring-clip surrounding said dogs to aid in retaining them in place upon the arbor, substantially as described.

3. In a nipple holder, the combination with a cam-faced arbor, of a surrounding notched carrier, and a sleeve having a tapered interior adapted to receive the threaded end of a pipe, to operate, substantially as described.

4. In a nipple holder, a cam-faced arbor, a surrounding loose carrier provided with notches, a series of dogs located in said notches and between the said holder and arbor, the said dogs being provided with recesses opposite that part of the holder which constitutes an abutment for the inner end of the pipe, and a co-operating sleeve to receive within it the threaded end of the pipe, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. VINTON.

Witnesses:
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