(No Model.)

C. T. HACKEN.

NIPPLE HOLDER.

No. 445,949. Patented Feb. 3, 1891.

Fig. 1.

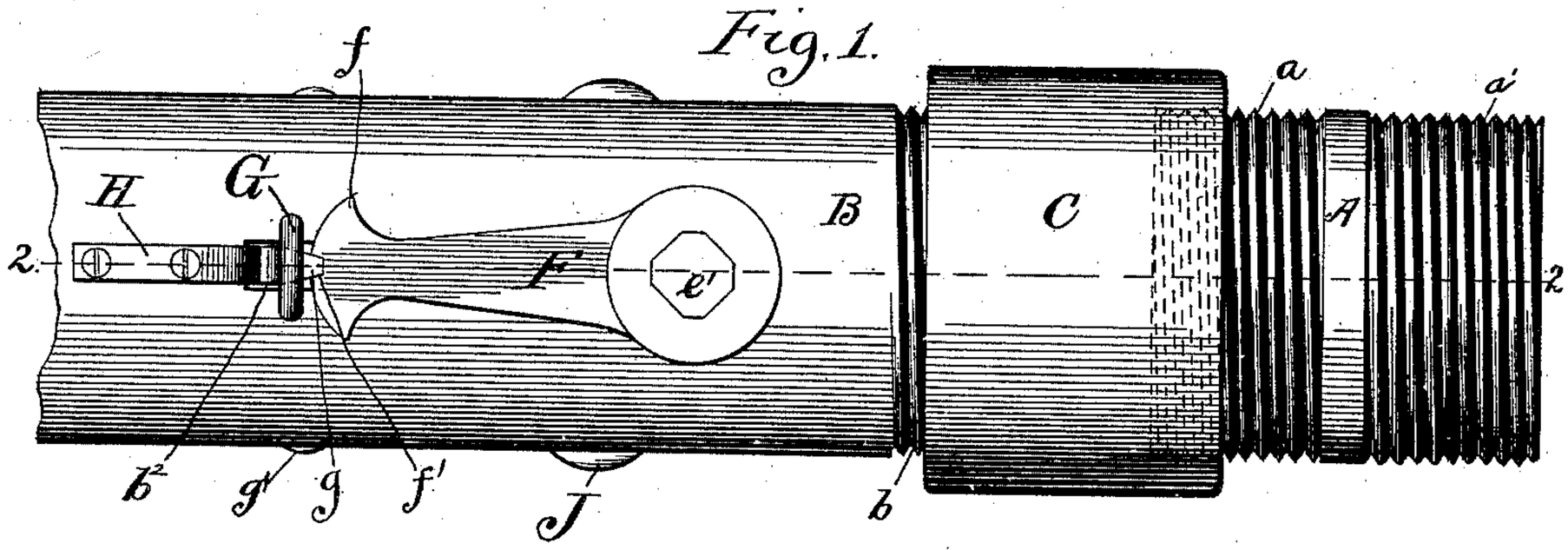


Fig. 2.

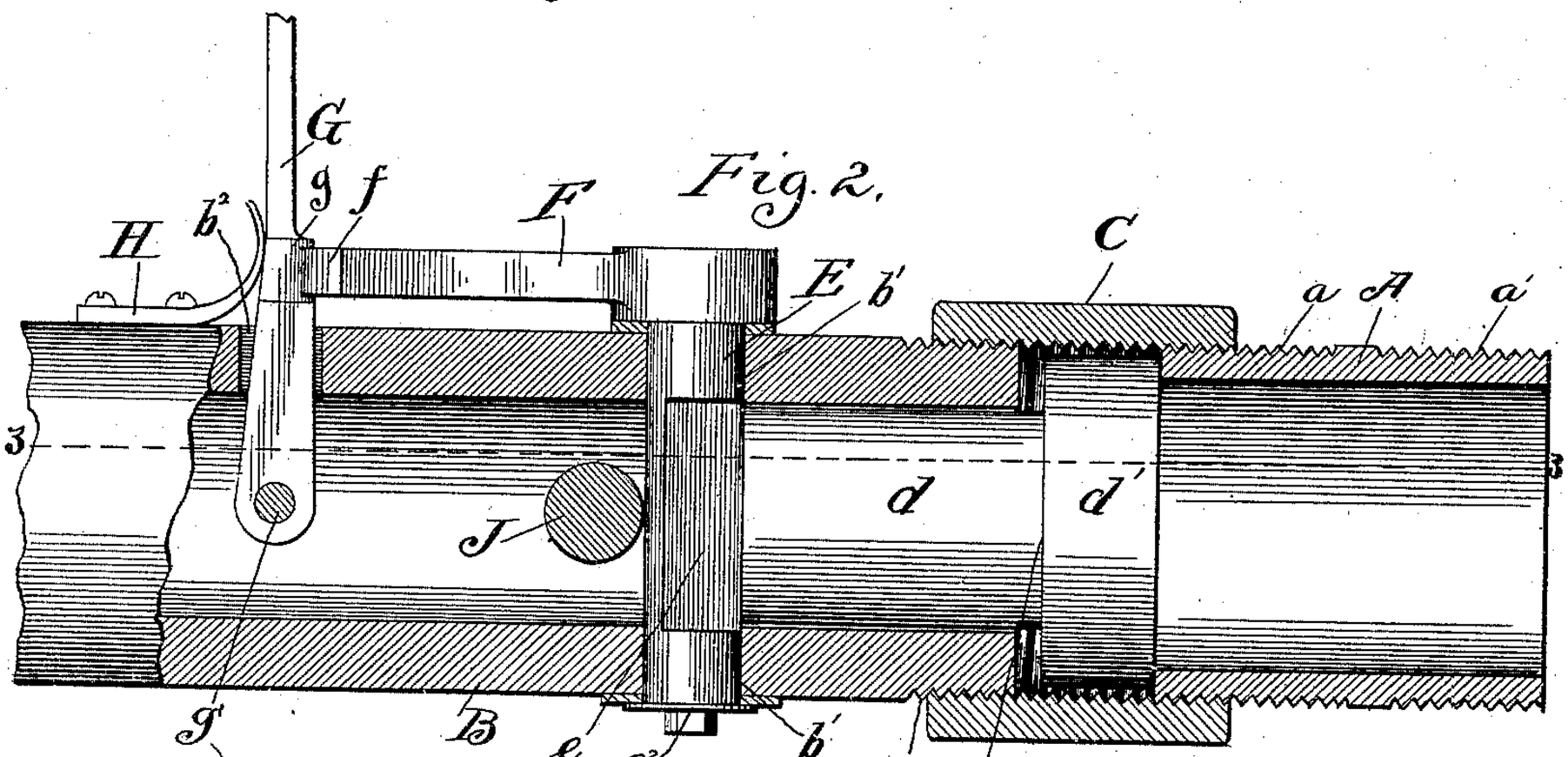
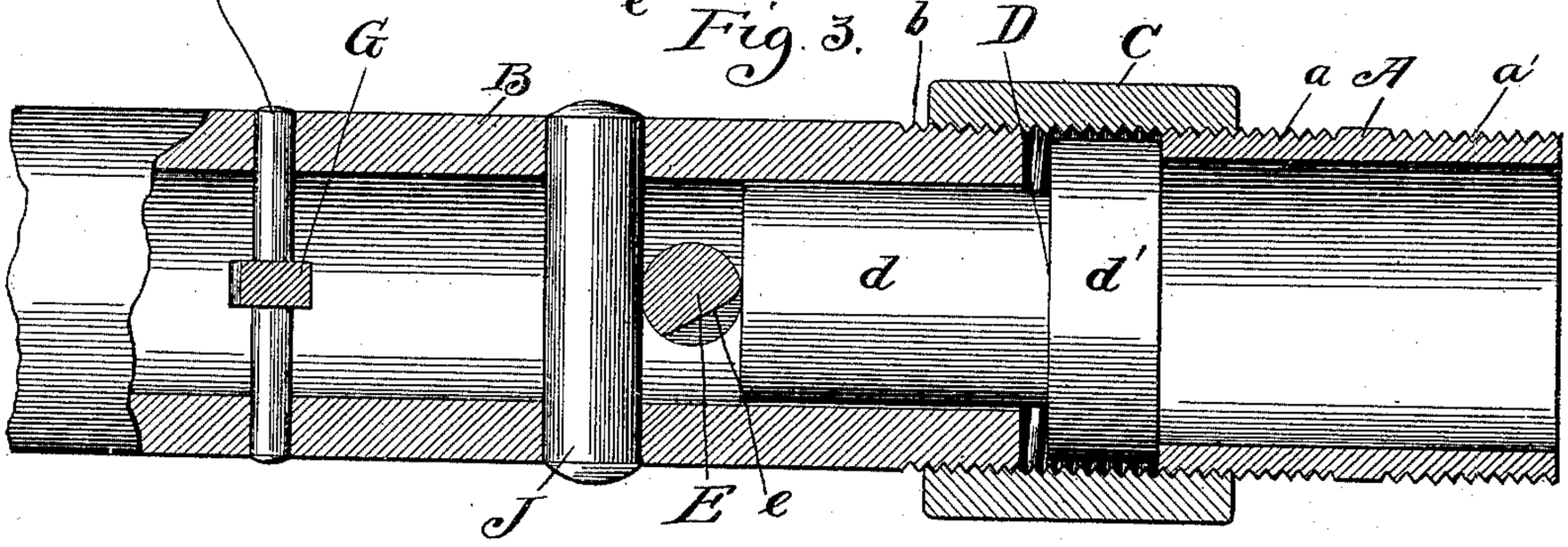


Fig. 3.



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NIPPLE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 445,949, dated February 3, 1891.

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To all whom it may concern:

Be it known that I, CHARLES T. HACKEN, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Nipple-Holders, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—.

Figure 1 represents a plan view of a nipple-holder embodying my invention; Fig. 2, a section of the same, taken on the line 2 2 of Fig. 1; and Fig. 3, a similar section taken on the line 3 3 of Fig. 2.

My invention relates to a device for holding a coupling-nipple while its ends are threaded, being intended more especially for holding the nipple after the thread has been cut upon one end and while it is being cut on the other.

The object of the invention is to provide a device which will securely hold the nipple by its threaded end and prevent it from turning while the other end is threaded and at the same time without any danger of injuring the thread already cut.

I will proceed to describe in detail the construction and operation of a nipple-holder in which I have embodied my invention in one practical way, and will then point out more definitely in claims the special improvements which I believe to be new and wish to secure by Letters Patent.

In the drawings, A represents a nipple or coupling-section, which is a well-known device used in coupling pipes together. When completed and ready for use this device is threaded upon each end. Now, there is no difficulty in cutting the thread upon one end of the nipple, for of course the other end is a plain pipe or cylinder and can be clamped and held firmly in any suitable device without injury to the nipple. Now suppose one end *a* of the nipple has been thus threaded. It is obvious that in order to thread the other end *a'* the nipple must be held during the process by the end *a*, which is already threaded. If any ordinary clamping device is employed for this purpose, there is great danger of injuring the threading on the end of the nipple to which the clamp is applied. In fact, it is almost impossible to employ any clamping device for this purpose which will hold the nipple securely while the thread is cut upon the other end without injuring the thread already cut. It is the purpose of my invention to entirely overcome this difficulty and provide a holder for the threaded end of the nipple which receives this end of the nipple and firmly holds the latter from turning without possibility of injury to the thread.

The main portion or body of this holder is a metal tube B, the thickness of which is sufficient to give it great strength. The extremity of this tube is provided with a short externally-threaded section *b*. A wide ring C is threaded internally and adapted at one end to be turned upon the threaded end of the tube B, and at the other end to receive the threaded end *a* of the nipple.

In the open end of the tube B a plunger D is mounted, the stem *d* of which is fitted to the tube internally, while the head *d'* is considerably larger, being of a diameter to nearly fill the interior of the ring C, though of course without entering the thread thereof. The diameter of this head must always be larger than the inside diameter of the nipple, so that when brought up to the end of the nipple it will abut against it and not enter it. This plunger is free to move back and forth in the tube, and immediately behind it a cam E is mounted in the tube B. As shown in the drawings, this cam consists of a straight cylindrical pin passing centrally through the tube from one side to the other, and having a flat face *e*, provided on one side thereof by cutting away the surface of the pin. This pin is inserted in suitable perforations *b'* in the tube, in which it is free to turn. At one end outside of the tube it is provided with an angular-shaped head *e'*, and at the other is fastened by any suitable device, such as nut and washer e^2, as seen in Fig. 2. An arm F is fastened to the angular head *e'* of this pin and extends backward along the upper side of the tube a little distance, and at its free or rear end is preferably widened somewhat to provide a tail-piece *f*, by which it is held in place. The extremity of this end of the arm is rounded or convex and has a notch *f'*, so that as the arm is swung it will readily engage with a hand-lever G, pivoted to the tube and provided with a thin edge *g* on the face toward

the arm F, adapted to enter said notch in the arm. As shown in the drawings, this lever is mounted within the tube by means of a pivot-pin g', passing through the tube, and the lever extends outward therefrom through a suitable opening b^3 in the latter, a little larger than the lever, so as to permit some vibration thereof. A spring H is arranged immediately behind the lever G, which operates to hold the latter up toward the arm F and cause the notch in the arm to engage therewith. Immediately behind the cam E there is a cross-pin J, fitted in the tube and passing through the same at right angles to the cam and in contact with its circumference, as seen in Figs. 2 and 3. This pin is for the purpose of bracing and giving strength to the cam, so that the latter will be perfectly firm and rigid. The cam works between this cross-pin and the inner end of the plunger-stem, and the parts are so constructed relatively that when the flat face e is turned toward the plunger the latter may be pushed back into the tube until its head comes in contact with the end of the tube, but when the cam is turned out of this position its greater circumference will drive the plunger outward from the tube.

The operation of these devices is as follows: Suppose the nipple A has received a thread upon the end a, and it is desired to cut a thread upon the other end a', the arm F is turned, thereby oscillating the cam until its flat face is brought opposite to the plunger and the latter is pushed inward. The ring C is turned upon the end of the tube B and the threaded end a of the nipple turned into the opposite end of the ring, or vice versa, these parts being adjusted so that a little space is left between the head of the plunger and the inner end of the nipple. The arm F is then swung around toward the tube, thereby bringing the cam into action against the inner end of the plunger and driving the latter out into contact with the end of the nipple, as seen in Figs. 2 and 3. By means of the cam and its operating-arm great force can be brought to bear upon the plunger and thereby produce a frictional contact between the plunger-head and the inner end of the nipple sufficient to prevent any rotation of the latter and hold it perfectly firm during the threading of the other end. It will be seen that this must be so, for any rotation of the nipple must of course be in the threaded ring, and this movement only forces the nipple inward against the plunger with greater force. The nipple will therefore be held perfectly firm and steady, so that the thread may be cut on the opposite end a' without any difficulty. At the same time it is perfectly evident that the thread on the end a cannot be injured. Where it is in contact with anything it is in a nicely-fitting threaded ring, and the strain on the parts cannot, therefore, damage the thread. Preferably the several parts of the device are arranged so that in operation the cam may be turned around far enough to bring its operative arm into contact with the spring-lever G, as seen in Figs. 1 and 2, so that the arm and cam will be held in proper position during the threading operation. This may always be secured by turning the cam into this position, thereby giving the plunger its full outward thrust before the nipple is turned into the ring. Of course, the nipple will then be turned up against the plunger, if not completely at first fully by the very operation of threading the opposite end. The nipple is shown in the drawings as it will appear after this operation is completed—that is, both ends are threaded.

In the drawings I have shown the nipple and tube of the same circumference. This is not necessary, however, as they may differ in this dimension, the holding-ring C being constructed accordingly. The devices for operating the plunger may be varied from those here shown and described.

The main feature of the device is the plunger in connection with the holding-ring and any devices adapted to force the plunger outward and hold it firmly against the nipple, may be substituted for those here shown and described. It is also obvious that the ring may be fastened to the tube in any suitable way other than that here described. It is only necessary that the ring shall be fast to the tube and the latter stationary.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The tube B, provided with threaded end b, in combination with the internally-threaded ring C, the plunger D, fitted in the end of the tube and provided with an enlarged head d', and an oscillating cam E, mounted in the tube and arranged to force the plunger outward against the threaded end of the nipple A when turned into the ring, substantially as and for the purposes specified.

2. The tube B, in combination with the ring C, adapted to receive the threaded end of the nipple A, the plunger D, the cam E, arm F, and spring-lever G, substantially as and for the purposes specified.

3. The tube B, in combination with the ring C, adapted to receive the threaded end of the nipple A, the plunger D, oscillating cam E, and bracing-pin J, substantially as and for the purposes specified.

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