(No Model.)

J. E. NEWTON.

PUNCTURE BURNING DEVICE.

No. 590,440. Patented Sept. 21, 1897.

Fig. 1.

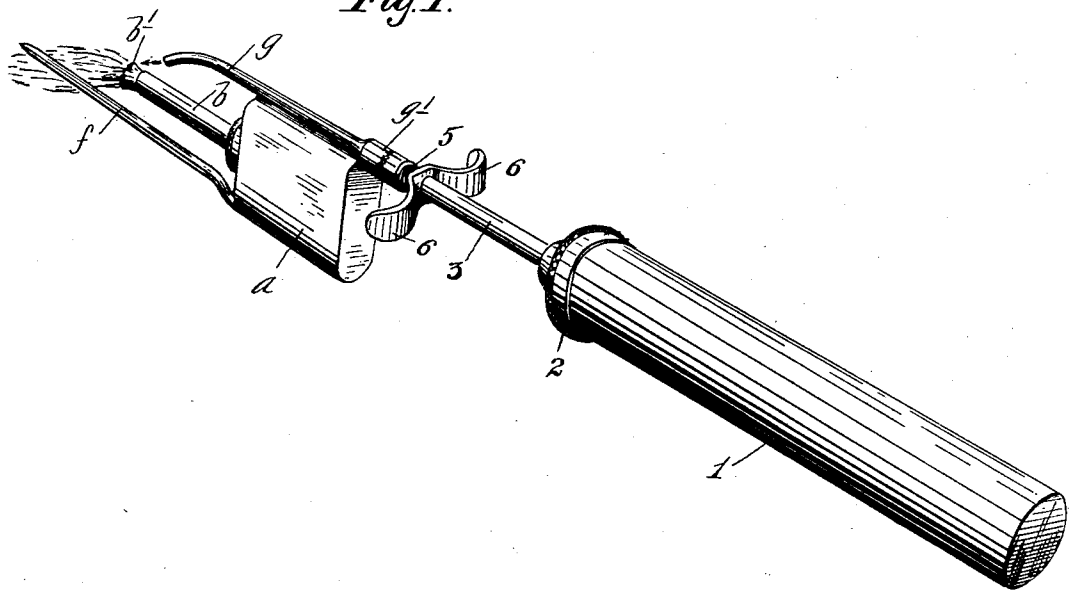
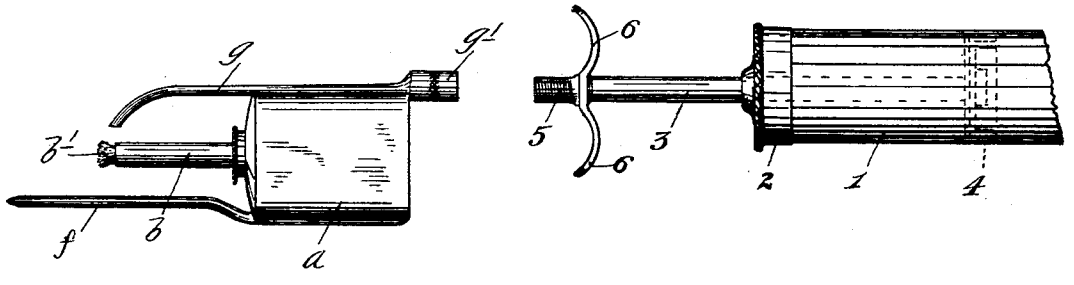


Fig. 2.



Witnesses
C. F. Kilgore
L. D. Merchant.

Inventor:
John E. Newton
By his Attorney
Jas. F. Williamson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN E. NEWTON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF TWO-FIFTHS TO OLIVER J. H. MARTIN, OF SAME PLACE.

PUNCTURE-BURNING DEVICE.

SPECIFICATION forming part of Letters Patent No. 590,440, dated September 21, 1897.

Application filed January 11, 1897. Serial No. 618,743. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. NEWTON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Puncture-Burning Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved device especially adapted for burning out or truing up punctures in pneumatic tires, an operation necessary to properly prepare the puncture to receive the sealing or puncture-closing plug.

To this end my invention consists of the novel device hereinafter described, and defined in the claims.

The preferred form of my invention is illustrated in the accompanying drawings, wherein, like characters indicating like parts throughout both views—

Figure 1 is a perspective view illustrating the preferred form of my puncture-burning device adapted for application to an ordinary bicycle-pump and shown as so applied, and Fig. 2 is a side elevation of the parts shown in Fig. 1 with my improved attachment removed from the pump and some parts of the pump being broken away.

The pump illustrated may be of any ordinary or standard construction, and as shown consists of the cylinder 1, with removable head 2, and the piston 3 4, the stem 3 of which terminates at its outer end in a screw-threaded section 5 and is provided just inward of said screw-threads with finger-pieces 6. The piston-stem 3 is hollow, and under the action of the pump air is delivered therethrough to the part attached to the screw-threads 5.

As shown, my improved puncture-burning attachment consists of a small lamp *a*, provided with a removable wick-stem *b*, in which the wick *b'* is placed, a projecting burning finger or rod *f*, sharpened at its outer end and secured at its inner end to the lamp *a*, and a blow tube or pipe *g*, secured also to the lamp *a* and provided with a socket *g'* at its receiving end. This socket *g'* is provided with internal threads which fit the threads 5 of the delivery end of the piston-rod 3. It will be noted that the burning rod or finger *f* and the blow pipe or tube *g* are located diametrically on opposite sides of the wick-stem *b* and that the delivery end of the tube *g* is curved or bent inward, so as to direct a blast of air against the flame from the wick *b'*, and thereby blow the said flame directly against the outer portion of the burning-rod *f*.

As must be obvious, when the pump is applied to my improved attachment as above illustrated and manipulated in the ordinary manner the burning-rod *f* may be almost instantly brought to a red heat. When thus heated, the rod *f* may of course be readily passed through the irregular or very minute puncture in the tire and thus produce a puncture which will have a true or round form and will be of sufficient size to permit of the application of the sealing-plug or puncture-closing device thereto. This operation is, as is well known to cyclists, a necessary operation in preparing the puncture for the application of the puncture-closing plug or sealing device. The pump may of course be used as a handle by means of which the attachment may be directed to its work after the burning-rod *f* is heated. When the pump is thus used, however, no blast being produced through the blowpipe *g*, the flame from the wick *b'* will remain very small and there will be no danger of the same coming in contact with or burning the tire. The attachment being very small may, when removed from the pump, be readily carried in the tool-box.

The device above described is thought to be a very simple, cheap, and efficient device for the purpose had in view.

It will be understood, of course, that various alterations in the details of construction above set forth may be made without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a hand-operated air-pump serving also as a handle, of a puncture-burning attachment involving, a lamp, a projecting burning rod or finger, and a blow-pipe securable at its receiving end to the delivery portion of said pump, said parts being

so related that the blast from said blowpipe will blow the flame from said lamp against said burning rod or finger, substantially as described.

2. The combination with the pump involving the cylinder 1 and piston 3 4 the stem 3 of which terminates in screw-threads 5, of the puncture-burning attachment involving the lamp *a b*, the burning-finger *f* and the blowpipe *g* provided with the socket *g'* removably securable to said screw-threads 5, said parts being related and operating substantially as described.

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

JOHN E. NEWTON.

Witnesses:
BESSIE B. NELSON,
F. D. MERCHANT.