

No. 636,517.

Patented Nov. 7, 1899.

G. F. GLIDDEN.

DEVICE FOR INSERTING PLUGS INTO PNEUMATIC TIRES.

(Application filed Feb. 17, 1899.)

(No Model.)

Fig. 1.

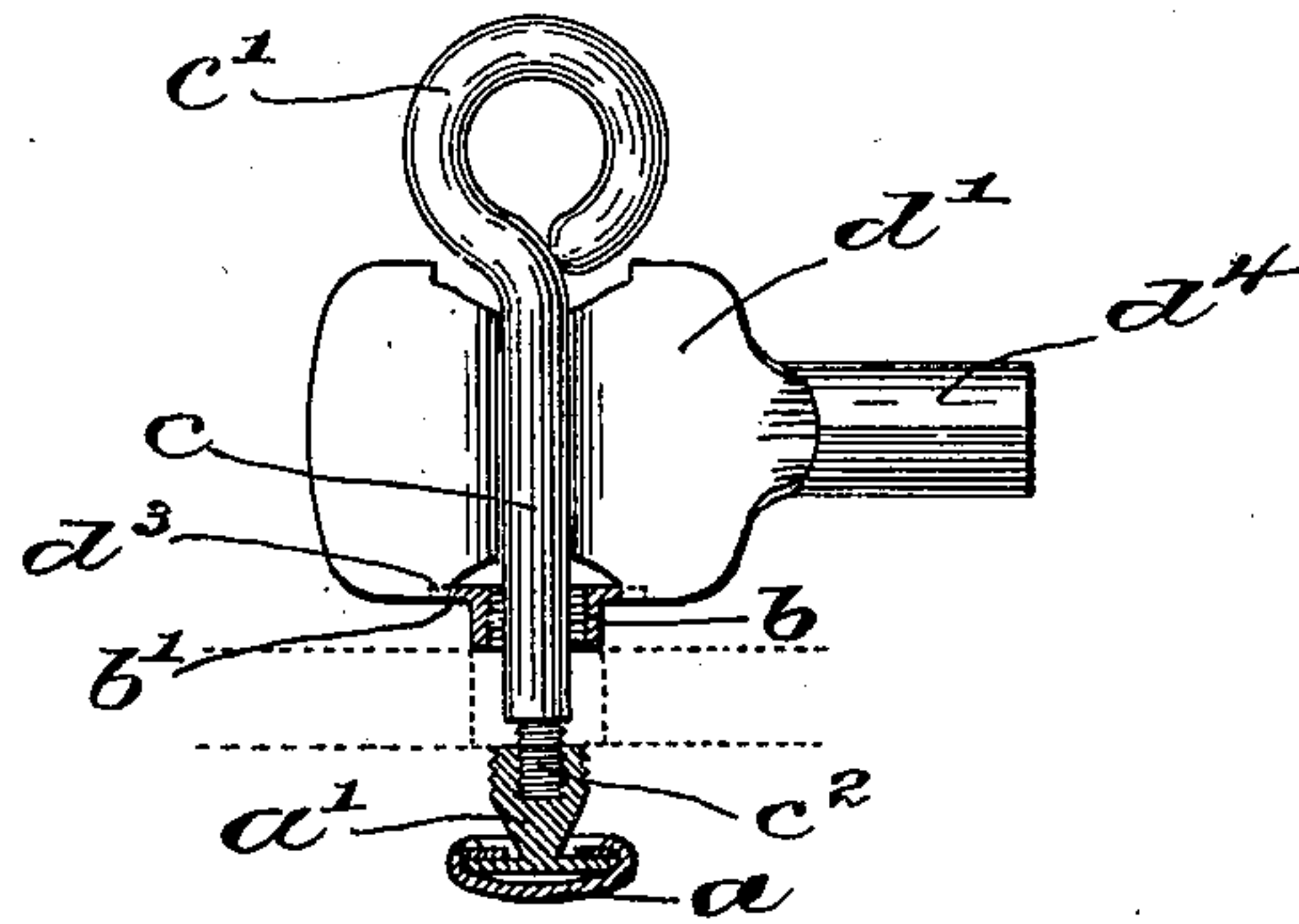


Fig. 2.

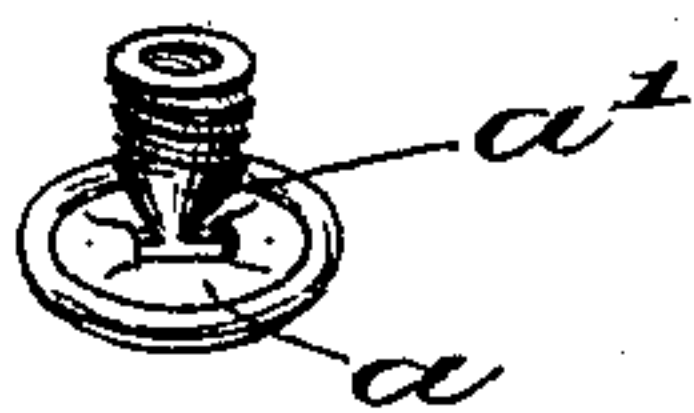


Fig. 3.

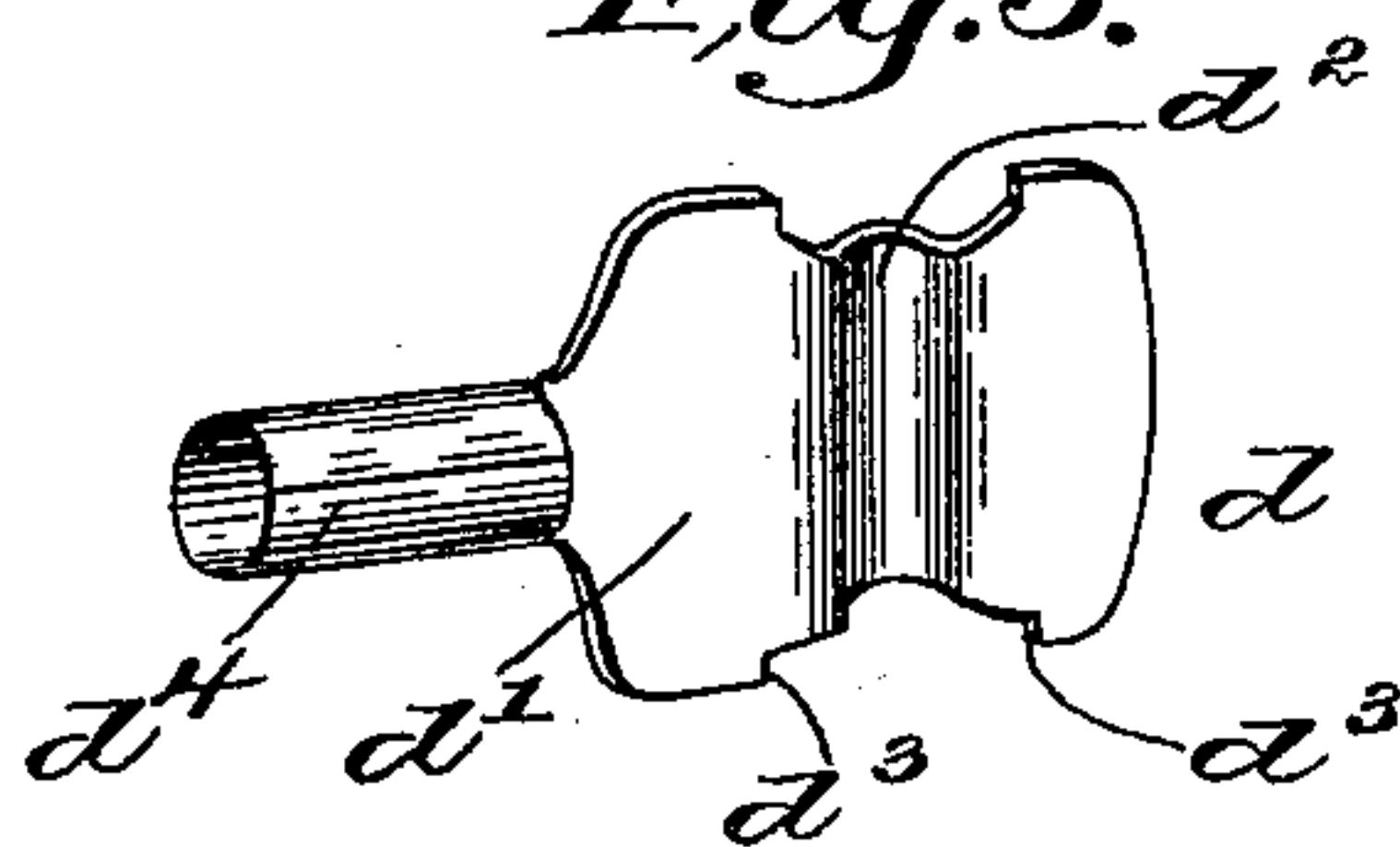
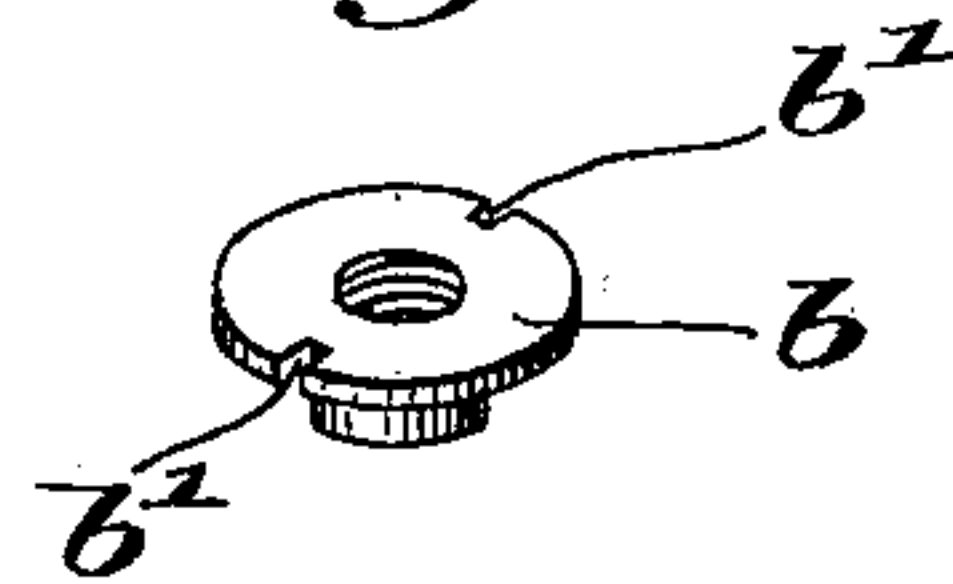


Fig. 4.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR INSERTING PLUGS INTO PNEUMATIC TIRES.

SPECIFICATION forming part of Letters Patent No. 636,517, dated November 7, 1899.

Application filed February 17, 1899. Serial No. 705,835. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. GLIDDEN, of Watertown, county of Middlesex, State of Massachusetts, have invented an Improvement in Devices for Inserting Plugs into Pneumatic Tires, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is an improved device for fastening puncture-closing plugs in pneumatic tires such as are commonly used on bicycles.

In the Patent No. 602,743, granted to me April 19, 1898, I have shown a closer or plug of the general kind herein set forth, and my present invention relates to an improved means facilitating the use of my said plug.

My patented plug contains a hinged head or button on one end, which is inserted through the puncture into the inside of the tire, and then its threaded shank is engaged by a cooperating cap, so that the edges of the puncture are tightly pinched between the cap and head and permanently and neatly closed; but in handling such small parts it is very difficult to properly manipulate them so as to make the closer permanent, and accordingly with a view to obviating the difficulties and providing simple means for using my patented closer I have devised the hereinafter-described improvements, comprising in general the provision of right and left threads, as will be explained, and cooperating independent holders for the two parts of the closer.

The details of construction and manner of use of my improved devices will be pointed out in the course of the following description, and the invention will be more particularly defined in the claims.

In the drawings, Figure 1 is a longitudinal sectional view illustrating the manner of use of my invention. Figs. 2 to 4 are perspective views of the separate parts to be described.

The button or head *a*, swiveled to a threaded shank *a'*, and the internal threaded cap *b* of my puncture-closer may be and are preferably of the same general construction as set forth in my before-mentioned patent. The shank *a'* is centrally recessed and provided on its inside with right-hand threads and on its outside with left-hand threads, as clearly

shown in the drawings, the internal threads of the cap *b* being also left-hand threads to cooperate with the external threads of the shank *a'* for a purpose presently to be explained. Cooperating with the internal threads of the button or shank thereof is a holder *c*, shown as a heavy wire provided with a loop or other holding means *c'* at its upper end and having a right-hand threaded lower end *c²* fitting within the recess of the shank *a'*, the body of the holder *c* being of a size to readily receive the head *b* of the closer and permit it to slide up and down thereon freely.

A wrench or tool *d* is provided to cooperate with the parts thus far described, this tool having a flat thumb-piece or holding portion *d'*, transversely bent at *d²* to partially encircle the body of the holder *c* and cut away at its opposite edges, so as to present engaging corners *d³* to fit into notches *b'* in the head *b* and enable the operator to thereby hold the head stationary while the parts are being screwed together. The opposite cut-away parts of the holding portion *d'* are of different widths to accommodate themselves to different sizes of closer-heads. At one end the tool *d* is bent around on itself in tubular form and sharpened at its end, so as to constitute a cutter or punch *d⁴*.

In use it will be supposed that a puncture has occurred in a tire. (Indicated by dotted lines in Fig. 1.) The operator immediately cuts a hole through the tire, as indicated by the vertical lines, Fig. 1, with the punch *d⁴*, and then screws the end *c²* of the holder *c* into the shank of a button *a*, and inserts the latter through the puncture of the tire into the inside thereof, said holder first having received a head *b* thereon, as shown in Fig. 1, and thereupon the operator places the tool *d* about the body of the holder *c* and engages its corners *d³* with the notches *b'* of the head *b*, as shown in Fig. 1, and then simply pulls the shank of the button against the head and turns the holder *c* to the right, this movement operating to screw the head and button tightly together, pinching the tire between them to the extent desired, whereupon a reverse movement of the holder *c* screws it out of the shank of the closer and leaves the latter in place.

Of course, if preferred, the threading of the parts may be reversed, although the arrangement shown is preferred.

The tool d operates as a holder for the head 5 and the part c as a holder for the button.

I am aware that it is not new to provide a punch for this purpose, nor to provide a combination-tool, broadly, nor to provide a closing-button with external and internal 10 threads; but these threads have never been made right and left, so far as I am aware; but, so far as I am aware, I am the first to provide any such arrangement as that shown.

The offset or bent part d^2 of the tool d is 15 substantially semicylindrical, being just sufficient to cause the tool properly to embrace the body of the holder c , while bringing the corners d^3 into proper diametrical position relatively to the head b for engagement with 20 the notches b' thereof.

I do not intend to restrict my invention to the precise details of construction shown, as very many changes and modifications may be resorted to without departing from the spirit 25 and scope of my invention.

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

1. A puncture-closer, comprising a separate 30 head and cap or button, the latter having a shank provided with internal and external threads extending in opposite directions, and the head having internal threads to cooperate with the external threads of said shank, substantially as described. 35

2. A puncture-closer, comprising a separate head and cap or button, the latter having a shank provided with internal and external threads extending in opposite directions, and

the head having internal threads to cooperate 40 with the external threads of said shank, in combination with a holder for said cap or button, said holder having a body fitted to receive loosely thereon said head, and having a threaded end with the threads extending in 45 a direction to cooperate with the internal threads of said shank, substantially as described.

3. A puncture-closer, comprising a separate head and cap or button, the latter having a 50 shank provided with internal and external threads extending in opposite directions, and the head having internal threads to cooperate with the external threads of said shank, in combination with a holder for said cap or 55 button, said holder having a body fitted to receive loosely thereon said head, and having a threaded end with the threads extending in a direction to cooperate with the internal threads of said shank, a holder for said head, 60 said holder having a flat holding portion provided with a transverse bend for partially encompassing the body of said cap-holder, said head-holder being provided with means for engaging and holding the head, substan- 65 tially as described.

4. The herein-described special tool, consisting of a thumb-piece or flat holding portion having a transverse semicylindrical bend, and cut away at its edges to provide engag- 70 ing corners, substantially as described.

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

GEORGE F. GLIDDEN.

Witnesses:

GEO. H. MAXWELL,
FREDERICK L. EMERY.