

(No Model.)

M. B. LLOYD.
BICYCLE PUMP.

No. 577,438.

Patented Feb. 23, 1897.

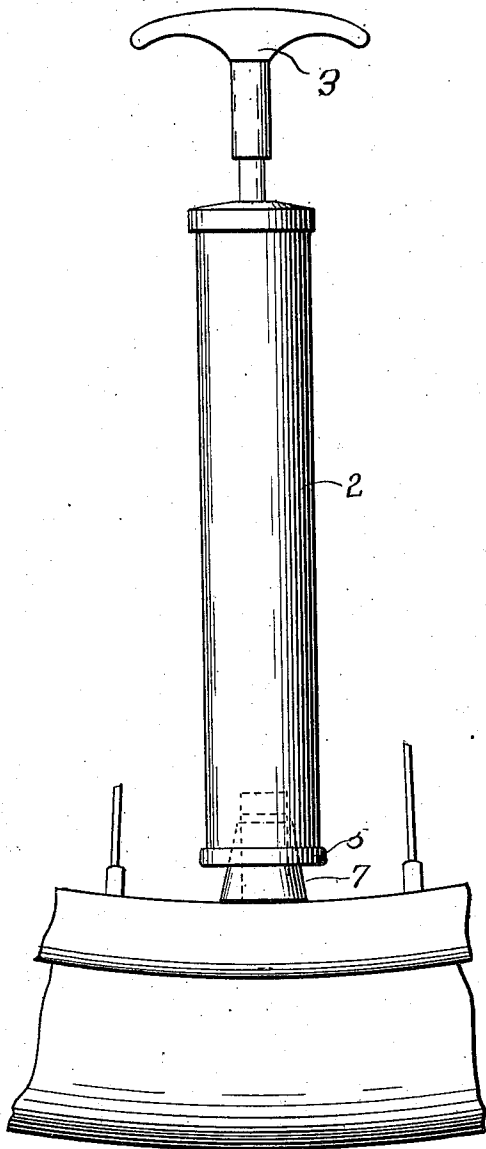


Fig. 1.

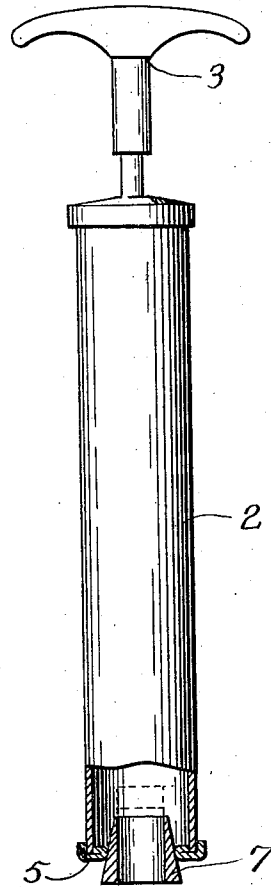


Fig. 2.

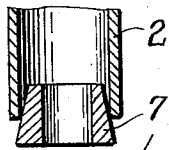


Fig. 4.

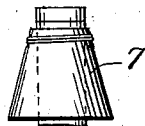


Fig. 5.

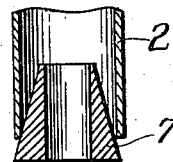


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

MARSHALL B. LLOYD, OF MINNEAPOLIS, MINNESOTA.

BICYCLE-PUMP.

SPECIFICATION forming part of Letters Patent No. 577,438, dated February 23, 1897.

Application filed May 8, 1896. Serial No. 590,754. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL B. LLOYD, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Bicycle-Pumps, of which the following is a specification.

This invention relates to improvements in pumps designed especially for use in inflating the tires of bicycles or other vehicles.

The invention consists generally in a bicycle-pump adapted to be quickly applied to any bicycle-tire nipple and to make an air-tight joint therewith, for the purpose of enabling the tire to be quickly and readily inflated.

The invention consists, further, in an air-pump having an opening in its end and arranged to fit upon a conical outer surface provided upon a bicycle-tire nipple.

The invention consists, further, in a pump having an opening in the end of its barrel, with a rubber or similar sleeve having a cylindrical bore and adapted to fit over a bicycle-tire nipple and having a conical outer surface which fits into the opening in the barrel of the pump, so that pressure applied to the barrel of the pump compresses said sleeve and forms an air-tight joint both between the sleeve and the wall of the opening, and also between the inner surface of the sleeve and the nipple of the tire.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation of a pump embodying my invention, showing the manner of applying the same to the nipple of a pneumatic tire. Fig. 2 is a similar view of the pump, the lower end thereof being in section and the sleeve being also in section. Fig. 3 is a similar view showing the open end of the pump-barrel adapted to fit on the conical surface of the sleeve. Fig. 4 is a detail showing a short tapering sleeve. Fig. 5 is a detail showing the sleeve arranged on the nipple and showing also means for securing the sleeve in position.

In the drawings, 2 represents an air-pump of any ordinary construction, the end of the barrel farthest from the handle 3 being provided with an opening that may be nearly as large as the diameter of the pump. I may construct the end of the barrel in the form of

a cap 5, that is screwed onto the end of the barrel and soldered or otherwise secured in place, with the edge of the metal around the hole or opening turned inward and back upon itself, as shown in Fig. 2, so as to form the wall of the opening with a smooth and rounding surface. The end of the barrel may be open, as shown in Fig. 3, to fit directly upon the conical surface of the sleeve.

7 represents a sleeve formed, preferably, of rubber or other suitable material and adapted to fit upon a bicycle-tire nipple, the outer surface of the sleeve being of a tapering form and the top end thereof being of smaller diameter than the lower end. In using the device this sleeve is placed upon the bicycle-tire nipple, with which it makes a close fit, and it may remain in position thereon. Several sizes of sleeves may be provided to fit different sizes of nipples.

When it is desired to inflate the tire, the cap on the nipple is removed or loosened and the opening in the end of the barrel is placed over the sleeve and pressed down upon its tapered outer surface, making a tight fit thereon, and at the same time the sleeve makes a tight fit with the nipple. The tire may be then readily inflated and the pump quickly removed. I prefer to provide a sleeve for each nipple of the bicycle and to leave these sleeves in place thereon at all times, so that at any time the bicycle-pump may be applied thereto for the purpose of inflating the tire.

For large pumps a plate or cap may be provided at the end of a tube or hose, to which it is secured, and the plate be applied to the outer surface of the sleeve in the manner herein shown and described, for the purpose of making an air-tight joint between the tube or hose and the nipple.

I may in some instances permanently secure the sleeve to the nipple or form the nipple itself with a conical outer surface. I have shown the conical sleeve 7 in Fig. 5 permanently secured to a nipple 9 by means of a wire 11. It might be secured by any other suitable means.

I may form the sleeve 7 of considerable length and tapering throughout, as shown in Figs. 1, 2, and 3, which will enable the various sizes of pumps to be used upon the same

sleeve; or I may form a very short sleeve having a blunt end, as shown in Fig. 4.

I claim as my invention—

- 5 1. The combination, with a pneumatic-tire nipple or stem provided with a conical or tapering elastic outer surface, of a pump having an opening fitting upon said conical surface, for the purpose set forth.
- 10 2. The combination, with an elastic sleeve adapted to fit upon a pneumatic-tire nipple, and to be compressed thereon and having a conical or tapering outer surface, of a pump provided with an opening adapted to fit upon the outer or tapering surface of said sleeve,
15 for the purpose set forth.
3. The combination, with an elastic sleeve having a cylindrical bore adapted to fit upon

a pneumatic-tire nipple, and having a conical or tapering outer surface, of a pump having an opening fitting upon the outer surface of
20 said sleeve, for the purpose set forth.

4. The combination, with a pump provided upon the end of its barrel with a cap or plate having a central opening, and a rubber or elastic sleeve having a conical outer surface
25 fitting into said opening, for the purpose set forth.

In testimony whereof I have hereunto set my hand this 5th day of May, A. D. 1896.

MARSHALL B. LLOYD.

In presence of—

M. E. GOOLEY,
A. C. PAUL.