No. 615,509. Patented Dec. 6, 1898.

F. M. STEVENS.

PUMP CONNECTION.

(Application filed Feb. 18, 1898.)

(No Model.)

Fig. 1.

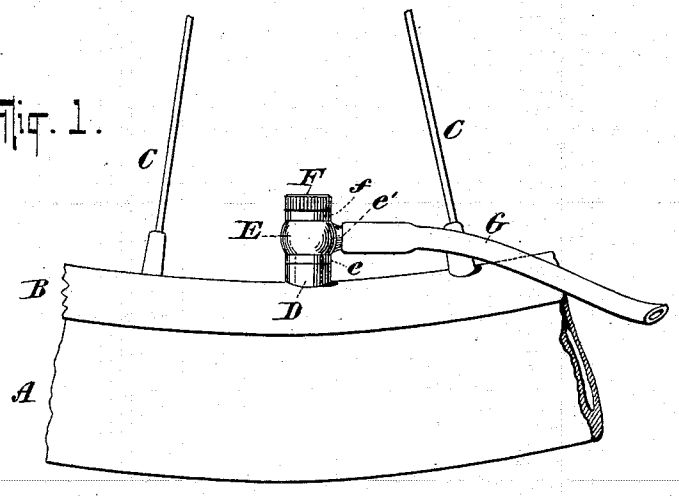


Fig. 2.

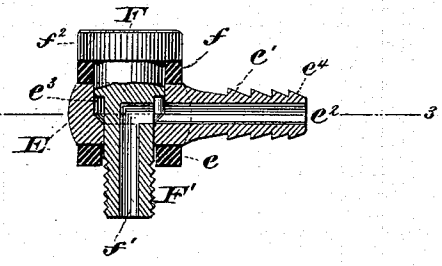
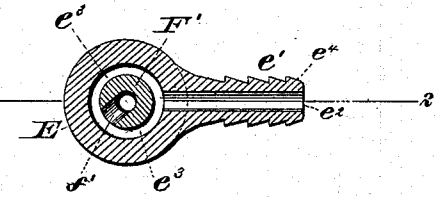


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FREDERICK M. STEVENS, OF WATERBURY, CONNECTICUT.

PUMP CONNECTION.

SPECIFICATION forming part of Letters Patent No. 615,509, dated December 6, 1898.

Application filed February 18, 1898. Serial No. 670,805. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK M. STEVENS, of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Pump Connections; and I do hereby declare the following, when taken in connection with the accompanying drawings, in which similar letters refer to similar parts and which drawings constitute part of this specification, to be a full, clear, and exact description of the said invention, which will enable those who are skilled in the art to make and use the same.

Figure 1 is a view in side elevation of a pump connection constructed in accordance with my invention, showing the same as applied to a pneumatic tire for a bicycle. Fig. 2 is a view in vertical section of my invention through the line 2 2 of Fig. 3. Fig. 3 is a horizontal sectional view through the line 3 3 of Fig. 2.

My invention relates to an improvement in pump connections, the object being to produce a simple, compact, and convenient article constructed with particular reference to ease of adjustment at the time of use and primarily designed to be used in conjunction with bicycle-pumps.

In general terms my invention consists in the herein-described pump connection, which is composed of a longitudinally-perforated stem provided at one end with a transverse collar, in combination with a cylindrical plug or key perforated for a portion of its length and passing through the collar, in which it turns freely, said plug or key being provided at one end with a stop or shoulder which takes against said collar, and at its other end with a suitable device for making a tight joint with the tire-valve, and said collar for a portion of its length being of an interior diameter greater than the diameter of the plug, so as to form about the plug an annular air-space suitably located to communicate at all times with the perforations in the stem and plug.

In the drawings my invention is shown as applied to the valve of an ordinary bicycle air-tire.

A is the tire; B, the rim; C, the spokes; G, the rubber tube of the pump; e', the stem of the pump connection, provided with collar E and longitudinal tubular perforation e^2.

F is the plug or key, having stop or shoulder f^2, tubular perforation f', and externally provided with screw-thread at F'.

e f are washers of any suitable form and material.

e^3 is an annular air-space formed by making the interior diameter of the collar E for a portion of its length greater than the diameter of the plug F where it passes through the collar E.

The stop or shoulder f^2 and washer f are of suitable thickness to stop the plug F when inserted into the collar E at a point where the perforations e^2 and f' open into annular air-space e^3, so that the air connection between the pump and the valve shall always be unbroken whatever be the positions of the inner apertures of the tubular perforations e^2 and f'.

The shank of the stem e' is provided with corrugations e^4 or other suitable devices for making a sufficiently air-tight joint with the rubber tube G.

The plug F turns freely with a swivel motion in the collar E, so that the plug may be screwed into or unscrewed from the valve without turning the tube G or stem E.

In using my improved pump connection with a bicycle-pump and air-tube the rubber tube is drawn into place over the shank of the stem e'. The valve-cap having then been removed, the plug F is screwed into the valve, so as to make an air-tight joint, and the pump is operated in the usual way. The air passes through the perforation e^2 into the annular air-space e^3 and thence through the perforation f' into the valve. An internal screw-thread or any other suitable device for making an air-tight connection between the plug F and the valve may be used instead of the external screw-thread shown and described herein without affecting the principle of my invention.

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

1. The herein-described pump connection consists of the stem e' having corrugations e^4; and tubular perforation e^2, and provided with collar E, in combination with plug F having shoulder f^2, tubular perforation f' and screw-thread F', the interior diameter of

the collar E, being enlarged for a portion of its length so as to form the annular air-space e^3 communicating with the inner apertures of the perforations e^2, f', substantially as described and for the purposes set forth.

2. In combination with a pump for bicycle air-tires, having flexible tube G, and with the valve of an air-tire, the herein-described pump connection, which consists of the stem e', having the corrugations e^4 and tubular perforation e^2 and provided with collar E, in combination with the plug F, having shoulder f^2, the tubular perforations f' and screw-thread F' and with suitable washers e, f, the interior diameter of the collar E being for a portion of its length larger than the diameter of the stem F, where it passes through the collar E, so as to form an annular air-space e^3, so located as at all times to communicate with the inner apertures of the perforations e^2, f', substantially as described and for the purposes as set forth.

Signed by me, at Waterbury aforesaid, this 9th day of February, 1898.

FREDERICK M. STEVENS.

Witnesses:

C. H. SKILTON,

S. N. BLAKESLEE.