

No. 612,855.

Patented Oct. 25, 1898.

A. F. LITTLE.
VALVE FOR PNEUMATIC TIRES.

(Application filed Sept. 27, 1897.)

(No Model.)

Fig. 1.

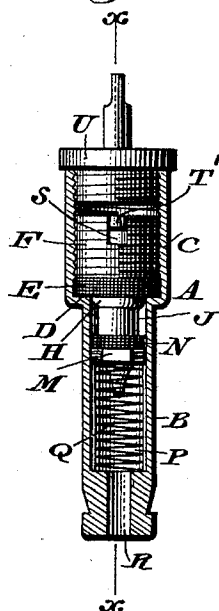


Fig. 2.

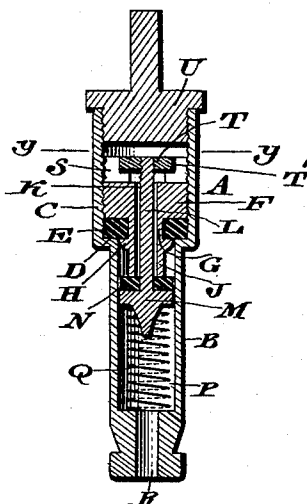


Fig. 3.

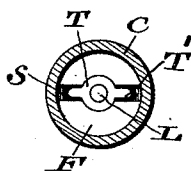
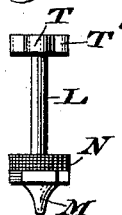


Fig. 4.



WITNESSES

P. H. Hagler.
M. G. Lukens.

INVENTOR.
Alexander F. Little.
BY
Diederichsen & Fairbank
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALEXANDER F. LITTLE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ALFRED S. BUTZ, ROBERT L. GIBSON, ANDREW ARMSTRONG, DENNIS MCBREARTY, FRANCIS MCBREARTY, AND MICHAEL F. REILLY, OF SAME PLACE, AND EDWARD BRENNAN, OF SHAMOKIN, PENNSYLVANIA.

VALVE FOR PNEUMATIC TIRES.

SPECIFICATION forming part of Letters Patent No. 612,855, dated October 25, 1898.

Application filed September 27, 1897. Serial No. 653,129. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER F. LITTLE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Valve for Pneumatic Tires, of which the following is a specification.

My invention relates to air-valves for pneumatic tires in which the number of parts are reduced to a minimum and the different elements are prevented from dropping into the tire upon disarrangement, means being also provided for rendering the same more accessible than heretofore for purposes of repair.

It also consists of novel details of construction, all as will be hereinafter set forth, and fully pointed out in the claims.

These objects are attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a sectional view of the casing, showing the internal parts in elevation. Fig. 2 represents a longitudinal sectional view on line *xx*, Fig. 1. Fig. 3 represents a sectional plan view on line *yy*, Fig. 2, showing the cap of the valve-stem with its wing extension. Fig. 4 represents an elevation of the valve-stem with its valve and cap.

Similar letters refer to corresponding parts throughout the several views.

Referring to the drawings, A designates the casing, consisting of body C and valve-chamber B, which latter is preferably tubular and of reduced diameter, thereby forming the shoulder D and having the longitudinal port or air-exit R. The inside of the body C is preferably screw-threaded and engaged by the plug F, the latter being provided with a neck G, the flange or shoulder H, and extension J, the extremity of which latter forms a valve-seat. Around the neck G and between the body of the plug F and the flange H is a washer or gasket E, composed of any suitable material, preferably rubber. The upper part of the plug F is provided with a groove S for the play of the head of the valve-stem and for the insertion of a screw-driver for

the removal of said plug from its casing. Through the plug, its neck, and extension extends a longitudinal passage or opening K, in which is located the valve-stem L of less diameter than said passage, so as to permit of the free movement of said stem therein and the passage of the air. This valve-stem is provided on its lower end with the head M, supporting a washer or gasket N of any suitable material, preferably rubber, the whole forming a valve-seating on the extension J. The head M is preferably formed integral with the stem; but they may be constructed separately without departing from the spirit or essence of my invention. At its upper end the valve-stem is provided with a cap T, adapted to be removed therefrom, said cap having the wings T'; but any other form and construction will answer the purpose—to wit, to hold the stem in place and enable the said stem to be removed with the plug. The stem is of sufficient length to allow of its longitudinal play, so as to enable the air to flow through the passage K into the tire, (not shown,) said passage being closed by its valve.

Q designates a spring which rests in the cavity P of the valve-chamber B, one end of said spring contacting with the head M, while its other end abuts against a wall of said cavity.

U designates the cap of the casing A, which engages therewith.

The operation is as follows: The valve-stem is inserted in the longitudinal passage K, and the cap T is caused to engage the upper end of said stem by turning the latter. The spring Q being dropped into the cavity P, the plug F, carrying the valve-stem, is inserted in the body C of the casing and screwed down until the washer E rests upon the shoulder D, thus closing the passage securely against any escape of air, the head M contacting with the spring Q. The valve-chamber B is inserted into the tire, and when it is desired to inflate the same the cap U is removed from the casing. An air-pump is attached thereto in the usual manner. The air-pressure forces down

the valve-stem, thereby unseating the valve and enabling the air to escape through the valve-chamber B and port R into the tire. The cessation of the exterior pressure upon the valve permits the spring to reseat the valve, which, in connection with the several washers, prevents any escape of air from the tire. The pump is then disconnected and the cap U secured in place.

10 It will be seen that all the operative parts can easily be removed and repairs thereto readily made, while at the same time it is impossible for any of said parts to fall into the tire, as heretofore, by reason of the employment of the shoulder D, upon which said parts are supported.

The plug can easily be withdrawn from its casing and simultaneously with it the valve-stem and valve, the removal of the spring being then readily effected.

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

1. In a valve for pneumatic tires, a casing provided with an interior shoulder, combined with a plug having a longitudinal passage therethrough, a valve-stem extended through said passage and carrying a valve at its inner end, means for seating said valve and a cap removably connected with the outer end of the stem and held against turning by said plug.

2. In a valve for pneumatic tires, a casing

having an interior shoulder, combined with a plug having a longitudinal passage there- 35 through, and a groove at its outer end, a valve-stem extended through said passage and carrying a valve at its inner end, means for causing said valve to normally remain seated and a cap removably connected with said stem 40 and having a lateral portion engaged in said groove to hold the cap from turning.

3. In a valve for pneumatic tires, a casing formed with a shoulder, in combination with a plug having a neck and projection with a 45 longitudinal passage therethrough, a washer or gasket encircling said neck, a valve-stem, a valve integral therewith, and a cap seated in a groove in said plug and adapted to be removed from said stem, the latter being in 50 said passage.

4. In a valve for pneumatic tires, the combination of a casing, a plug therein having a longitudinal passage, a valve-stem extended through said passage, a valve at the inner 55 end of said stem, said valve consisting of a gasket surrounding said stem and adapted to be seated against the inner end of the plug, a gasket surrounding the plug, and a cap on the outer end of the stem held against turn- 60 ing by said plug.

ALEXANDER F. LITTLE.

Witnesses:

JOHN A. WIEDERSHEIM,
WM. C. WIEDERSHEIM.