

(No Model.)

W. HEALE.  
VALVE FOR PNEUMATIC TIRES.

No. 462,815.

Patented Nov. 10, 1891.

FIG. 4.

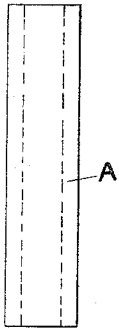


FIG. 5.

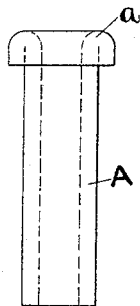


FIG. 1.

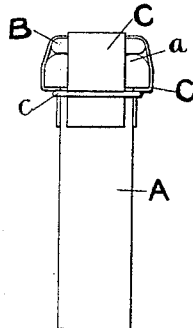


FIG. 2.

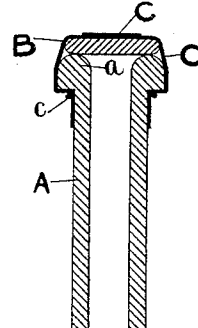


FIG. 3.

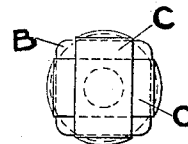


FIG. 6.

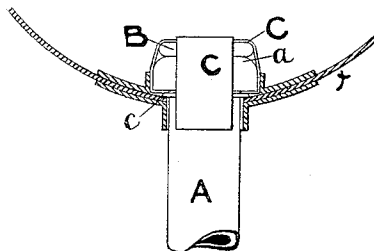


FIG. 8.

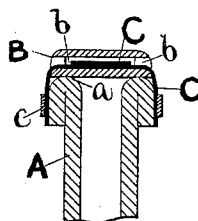
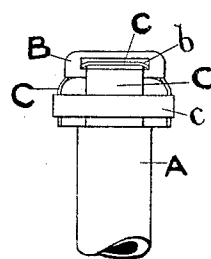


FIG. 7.



WITNESSES:

*W. B. James*  
*W. B. James*

INVENTOR.

*William Heale*

Per

*T. B. Phillips*  
Attorney.

# UNITED STATES PATENT OFFICE.

WILLIAM HEALE, OF LONDON, ENGLAND.

## VALVE FOR PNEUMATIC TIRES.

SPECIFICATION forming part of Letters Patent No. 462,815, dated November 10, 1891.

Application filed August 17, 1891. Serial No. 402,946. (No model.) Patented in England April 6, 1891, No. 5,889.

*To all whom it may concern:*

Be it known that I, WILLIAM HEALE, a subject of the Queen of Great Britain, residing at Battersea, in the county of Surrey, England, have invented a new and useful Improvement in Valves for Pneumatic or Air-Inflated Tires, (for which I have obtained a patent in Great Britain, No. 5,889, bearing date April 6, 1891,) of which the following is a specification.

My invention relates to improvements in non-return valves for pneumatic or air-inflated tires; and the objects of my improvements are, first, to provide for the deflation as well as the inflation of the tire; second, to reduce the chance of accidental damage to the valve, and, third, to simplify the construction of valves used for this purpose and to increase their efficiency. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a vertical elevation of my improved valve; Fig. 2, a vertical section thereof; Fig. 3, a plan thereof; Fig. 4, a vertical elevation of the rubber tube out of which the valve-seat is formed; Fig. 5, a vertical elevation of the rubber tube with the valve-seat formed; Fig. 6, a vertical elevation of the valve complete, showing the method of attaching it to the air-tube of the tire; and Figs. 7 and 8 are a vertical elevation and a vertical section, respectively, of another form my invention may assume.

Similar letters refer to similar parts throughout the several views.

The seating *a* of the valve is formed on the end of the inflation-tube A (which is made of rubber) by turning back the end thereof—*i. e.*, turning it inside out. This forms a perfectly true end to the tube and enables the valve B, which preferably takes the form of a square or approximately square plate, to hermetically close the ends of the tube with a minimum amount of pressure. To give this pressure I confine the valve B on the end of the tube A by two strips of rubber C C, passed over the said valve at right angles to one another and then cemented or otherwise attached to one another and to the side of the tube A, a slight tension being given to the

said rubber strips. It will thus be apparent that these rubber strips serve the double purpose of confining the valve on its seating and acting as springs to keep it thereon. Instead of passing the rubber strips C C over the top of the valve B, they may pass through suitable holes *b b*, formed therein, as shown by Figs. 7 and 8 of the accompanying drawings. The valve B may be made of metal, vulcanite fiber, or any other suitable material.

The rubber strips C C may be attached to the turned-over end of the tube A in the manner illustrated by the accompanying drawings—*i. e.*, by cementation and an exterior binder *c*—or they may be attached in any other convenient and suitable manner, either before or at the same time as the valve is fixed to the air-tube X of the tire.

It will be seen that although this is a non-return valve the air-tube of the tire can easily and readily be deflated by lifting the valve B off its seating *a* by pushing a rod or bar up the tube A. This construction of valve is exceedingly simple, not liable to get out of order, and is inexpensive to manufacture.

I wish it to be particularly understood that I do not limit myself to the precise details of construction hereinbefore described and illustrated by the accompanying drawings, but that I hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having now particularly described my invention, what I desire to secure by Letters Patent is—

1. The combination, in a non-return valve for pneumatic or air-inflated tires, of a rubber tube having a seating formed on its one end by turning back the said end on itself—*i. e.*, inside out—a flat plate-valve, and elastic strips confining the said valve on its seating, but allowing it movement for its action, as set forth.

2. The combination, in a valve for pneumatic or air-inflated tires, of the rubber inflation-tube having a turned-over end, forming a valve-seating, the flat plate-valve, and the rubber strips passing over the said valve and confining and holding it down onto its seating, all substantially as set forth.

3. The combination, in a valve for pneumatic  
or air-inflated tires, of the rubber inflation-  
tubes having a turned-over end, forming a  
seating for the valve, the flat plate-valve  
5 adapted to rest on the said seating, and the  
rubber strips passing at right angles to one  
another through holes formed in the said  
plate-valve and adapted to hold down and

confine the said valve on its seating, as and  
for the purpose set forth.

WILLIAM HEALE.

Witnesses:

ROBT. ED. PHILLIPS,  
W. H. JAMES.

*Both of 70 Chancery Lane, W. C.*