(No Model.)

J. B. RATHBUN.

PNEUMATIC TIRE FOR WHEELS.

No. 504,135. Patented Aug. 29, 1893.

Fig: 1.

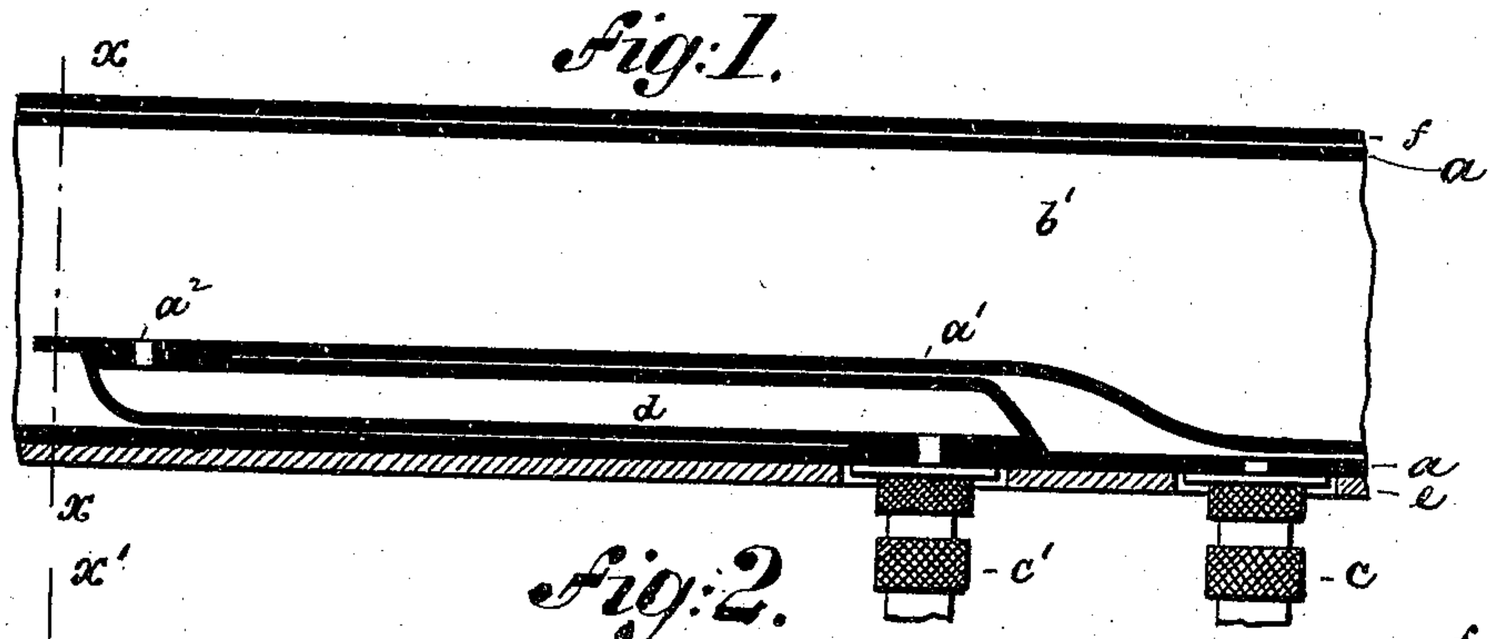


Fig: 2.

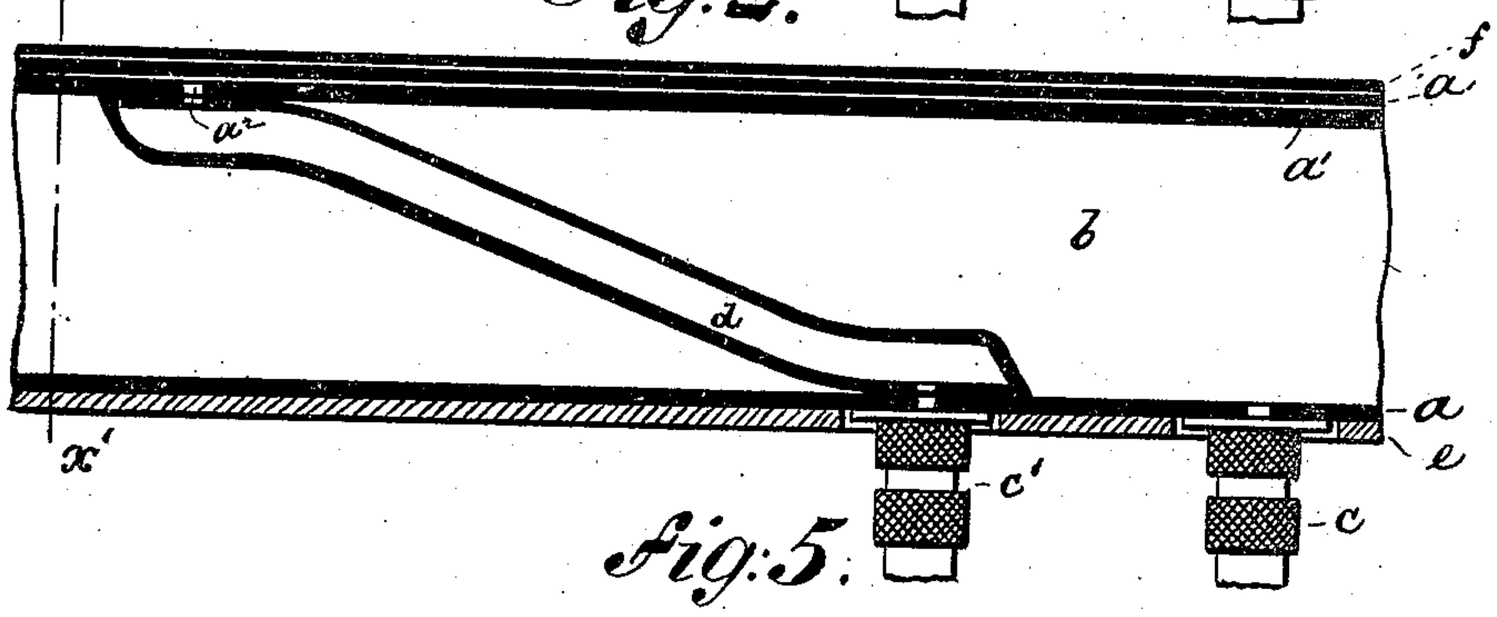


Fig: 5.

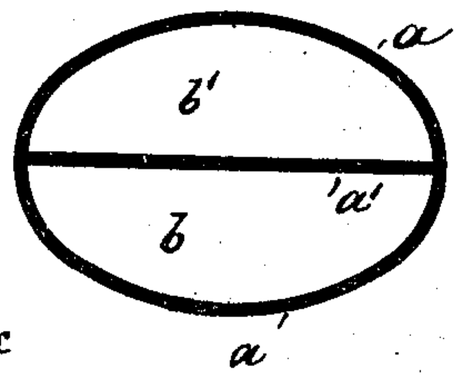


Fig: 3.

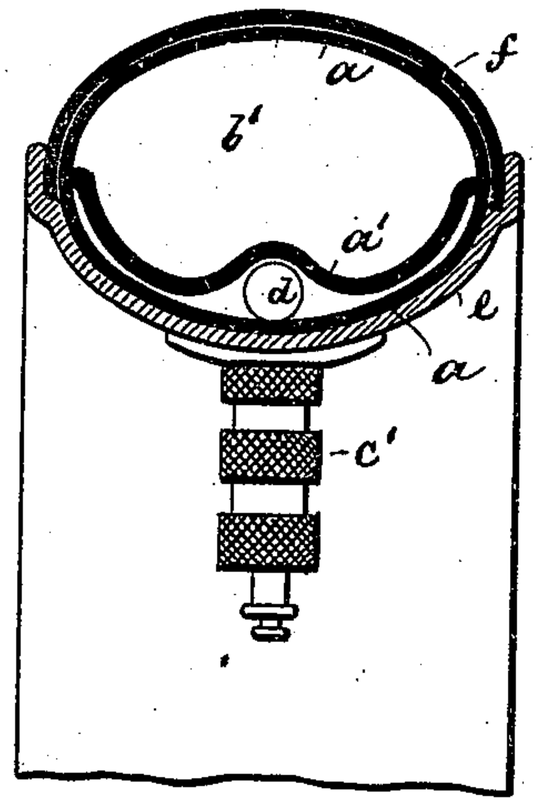
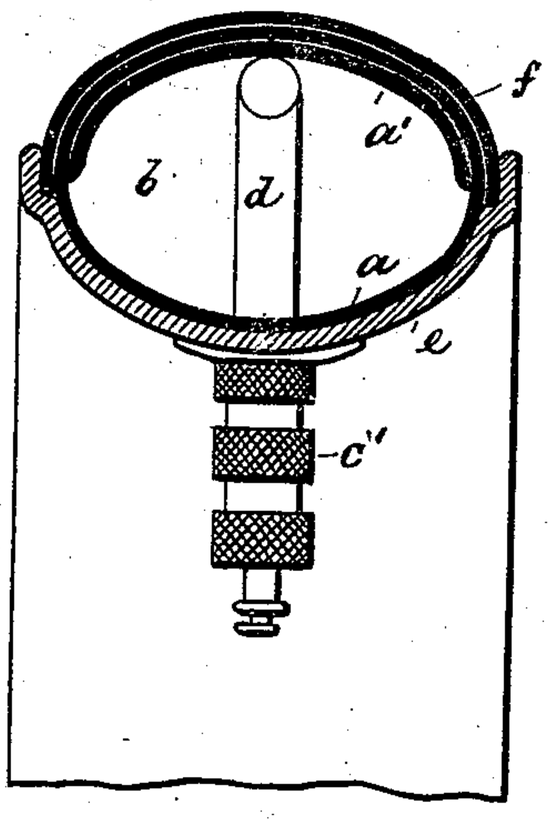


Fig: 4.



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UNITED STATES PATENT OFFICE.

JAMES B. RATHBUN, OF NEW YORK, N. Y.

PNEUMATIC TIRE FOR WHEELS.

SPECIFICATION forming part of Letters Patent No. 504,135, dated August 29, 1893.

Application filed April 4, 1893. Serial No. 469,021. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. RATHBUN, of New York city, New York, have invented an Improved Inflation-Tube for Wheels, of which the following is a specification.

This invention relates to an inflation tube for the wheels of cycles and other light vehicles which is constructed with a view of permitting ready re-inflation in case of puncture and consequent exhaustion upon the road.

The object of the invention is to produce an inflation tube which is of simple construction, requires a minimum of rubber and may be readily manipulated without taking it off the wheel.

In the accompanying drawings: Figure 1 is a longitudinal section of my improved inflation tube showing the upper chamber inflated; Fig. 2 a similar section with the lower chamber inflated; Fig. 3 a cross section on line x, x, Fig. 1; Fig. 4 a similar section on line x', x', Fig. 2; Fig. 5 a cross section of the tube with both chambers equally inflated.

My improved inflation tube a, is made of rubber and is preferably of oval form in cross section. The tube is provided with an integral diaphragm a', which is stretched across it through its major axis, to divide the tube into an upper chamber b', and a lower chamber b. Each of the chambers b, b', may be independently inflated by means of the nozzles c, c'. The nozzle c, communicates directly with the lower chamber b, while the nozzle c', communicates with the upper chamber b', by means of a flexible tube d, which traverses the chamber b. The upper and lower ends of tube d, are of course perforated, the lower perforation communicating with nozzle c', while the upper perforation coincides in position with a perforation a^2, in diaphragm a', which is placed out of line with nozzle c'. The tube d, is considerably longer than the height of chamber b, and extends for some distance along said chamber (Figs. 1 and 2). Thus when the diaphragm a', is forced downward by inflating the upper chamber, the tube d will not become wrinkled, but will lie down flat upon tube a, (Fig. 1,) while when the diaphragm is forced upward, the upper end of tube d, will be raised with it (Fig. 2).

My improved inflating tube a, is placed upon the grooved rim e, of a cycle, road wagon or other light pleasure vehicle. Above the rim, the shoe f, is attached, so as to produce the desired elastic tread. Normally the upper chamber b' is inflated (Figs. 1 and 3) so that the diaphragm a', folds upon the bottom of tube a, and is out of harm's way. In case of puncture of the tube and a consequent exhaustion of chamber b', the lower chamber b, is inflated (Figs. 2 and 4) to re-establish the proper inflated condition of the tube.

The object of the oval cross section of the tube a, is to obtain an increased breadth and a consequent increased degree of expansion for the diaphragm a'.

What I claim is—

An inflatable tubular tire provided with a diaphragm to form two chambers, and a filling tube for one of the chambers extending through the other secured at one end to the diaphragm and movable with it, and at the other to the tire wall, said tube being otherwise disconnected from the walls of the tubular tire, whereby it is free to vibrate about its stationary end, the tube being disposed longitudinally of the tire in the chamber through which it passes, to permit of such vibration, substantially as described.

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