No. 652,830. Patented July 3, 1900.

C. E. BOWN.

VALVE FOR INFLATION.

(Application filed Oct. 24, 1899.)

(No Model.)

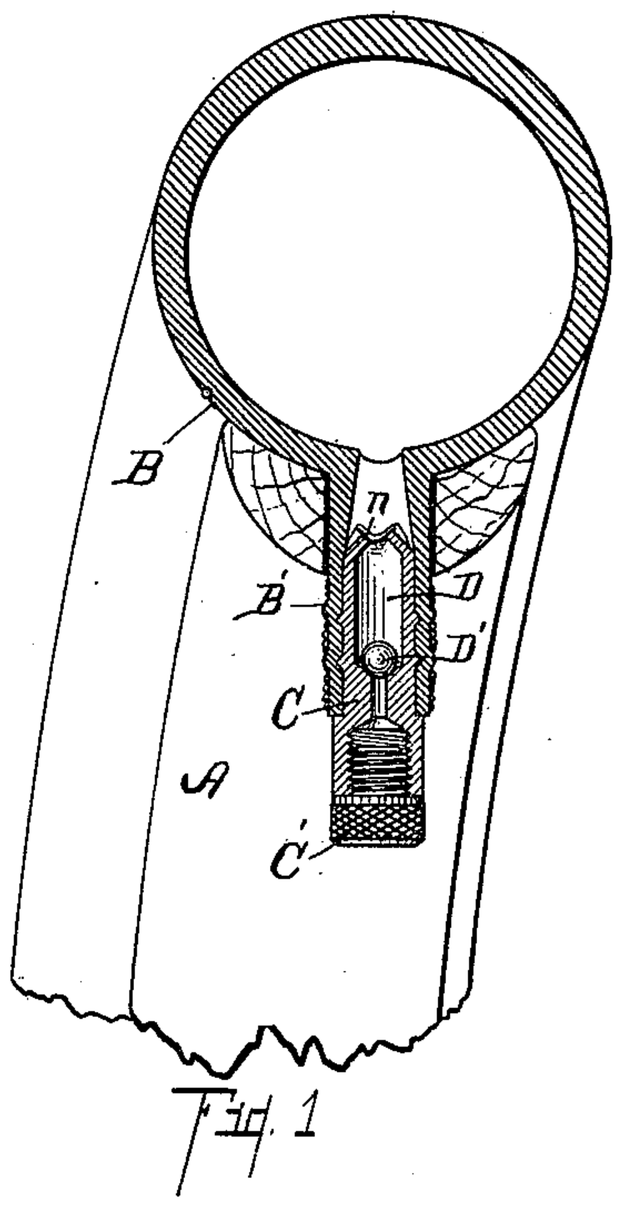

Fig. 1

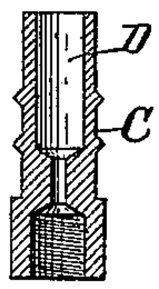

Fig. 3

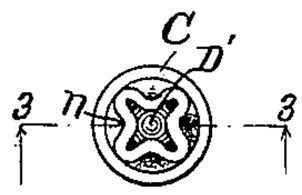

Fig. 2

Witnesses:

Otis A. Earl

Mary Eicher

Inventor,

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By Fred L. Chappell

Atty.

UNITED STATES PATENT OFFICE.

CHARLES E. BOWN, OF BATTLE CREEK, MICHIGAN, ASSIGNOR TO THE BOWN MACHINE WORKS, OF SAME PLACE.

VALVE FOR INFLATION.

SPECIFICATION forming part of Letters Patent No. 652,830, dated July 3, 1900.

Application filed October 24, 1899. Serial No. 734,689. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. BOWN, a citizen of the United States, residing at the city of Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Valves, of which the following is a specification.

This invention relates to improvements in valves, and more particularly to improvements in valves for pneumatic tires, though the valve is well adapted for any similar use.

The objects of the invention are to simplify the construction of such valves and to provide a simple valve which is efficient and satisfactory in use.

Further objects will definitely appear from the detailed description to follow.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail transverse sectional elevation through a pneumatic tire equipped with my improved valve. Fig. 2 is an interior end view of the valve removed from the tire. Fig. 3 is a longitudinal sectional elevation of the tube from which the complete valve is formed, taken on a line corresponding to line 3 3 of Fig. 2.

In the drawings similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A is the rim of a bicycle-tire. B is the pneumatic tire, having a valve-tube B′ therein extending through the rim A. My invention does not pertain to these parts, but relates to the valve itself which is retained in the tube B′.

My improved valve is made of a tube of metal which is adapted on its exterior to be retained in position in a bicycle-tire. The passage at the outer end of the tube is slightly enlarged and is screw-threaded to receive a cap C′. The portion next the cap is made heavy, as at C, with a small perforation for the admission of air. A chamber D is bored out larger toward the inner end, and a valve-seat is formed at the inner end of the reduced passage. Within this enlarged chamber D is arranged a small rubber ball D′. The inner end of the tube is then crimped at *n*, preferably by four indentations at equal intervals around the same. This reduces the inner mouth of the tube, so that the rubber ball will be retained and at the same time air-passages will be left around the same owing to the irregular formation.

In use it has been found that this structure is entirely practical. The ball being very light moves readily to its seat, and being plastic and elastic perfectly fills the joint at that point. The particular method of forming the parts is also very economical and would be quite effective with a ball of different material, though less care is required in the construction when provided with a soft-rubber ball.

I have thus described my invention in detail and specifically and believe that the exact form possesses great merits over any other on account of its simplicity.

I am aware that heretofore valves for this purpose have been made of a tube with a restricted passage at the center and the inner end restricted to retain the valve. The valve, however, was of metal having a stem and the parts required accurate fitting and were not adapted for use with a rubber ball. By making use of the rubber ball in this connection and indenting as I have done the air passes in freely, but the valve is perfectly closed by pressure from within. It being rubber it is retained against its seat by the pressure permanently and perfectly air-tight.

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, the combination of a tube made of a single piece having a restricted passage at its central portion; an enlarged passage toward each end, internally screw-threaded at its outer portion and crimped at its inner end; a rubber ball D′ within the chamber at the inner end and a screw-cap C′ to fit within the outer end, all coacting for the purpose specified.

2. In a valve for pneumatic tires, the combination of a tube made of a single piece having a restricted passage at its central portion and an enlarged passage toward each end,

the inner end of the restricted passage being expanded into a valve-seat and the inner end of said tube being crimped or indented inwardly; a rubber ball arranged within the chamber at the inner end and a cap for the outer end, for the purpose specified.

3. In a valve the combination of a tube made of a single piece having a passage therethrough which is enlarged at the inner end; the inner end of said tube being crimped; a rubber ball arranged within the chamber at the inner end and a suitable cap for the outer end of the tube as specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

CHARLES E. BOWN. [L. S.]

Witnesses:
OTIS A. EARL,
A. E. HOUGHTON.