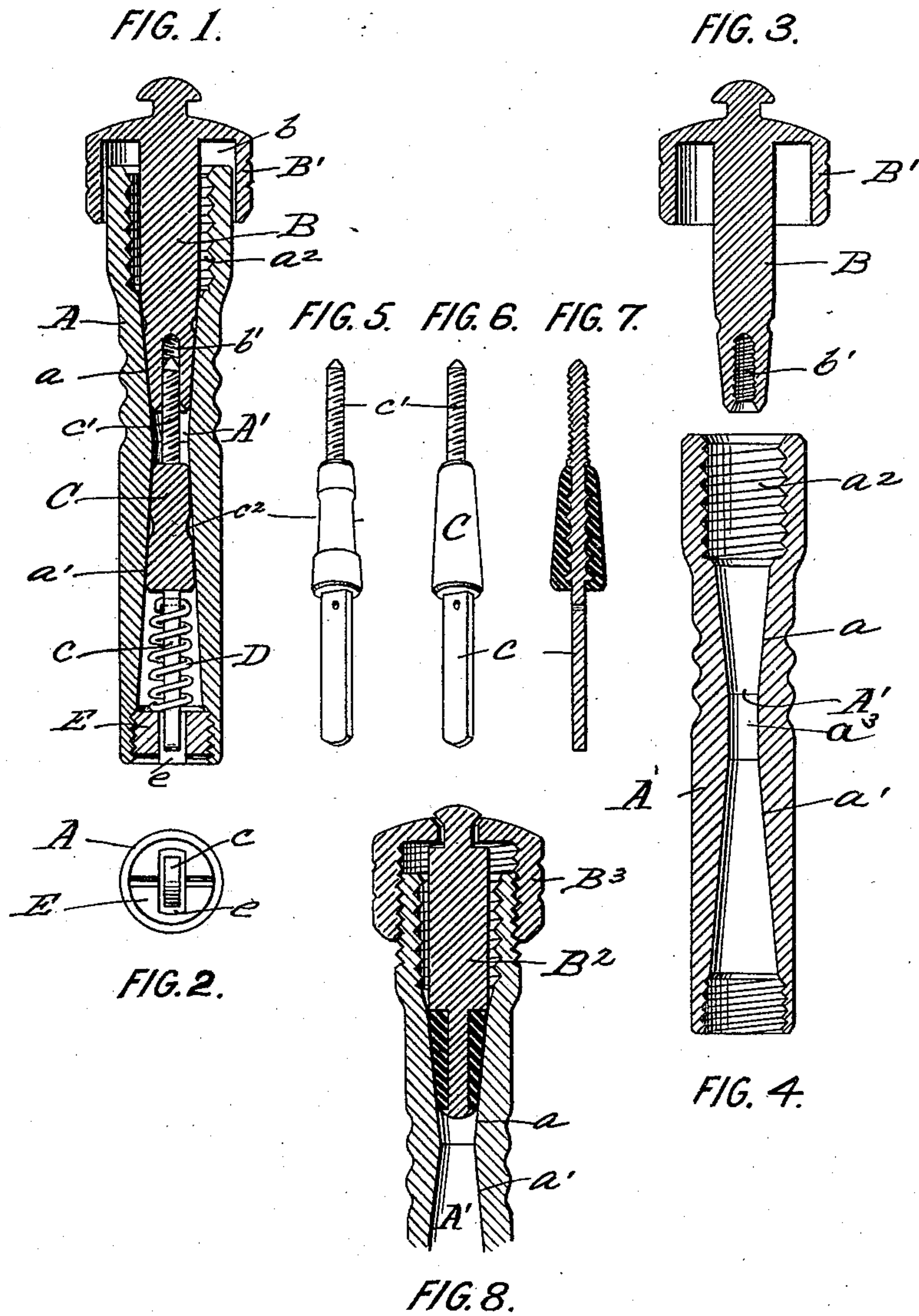


(No Model.)

S. LAMBORN & H. & F. HARKER.
AIR VALVE FOR PNEUMATIC TIRES.

No. 592,010.

Patented Oct. 19, 1897.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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PHILADELPHIA, PENNSYLVANIA.

AIR-VALVE FOR PNEUMATIC TIRES.

SPECIFICATION forming part of Letters Patent No. 592,010, dated October 19, 1897.

Application filed November 18, 1896. Serial No. 612,568. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL LAMBORN, HERBERT HARKER, and FREDERICK HARKER, citizens of the United States, residing in Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain Improvements in Air-Valves for Pneumatic Tires, of which the following is a specification.

Our invention relates to that class of air-valves which are employed in connection with pneumatic tires; and our object is to provide an improved device for this purpose which will be simple in construction and operation and which will involve no renewal of parts, such as the washers commonly employed, to maintain it in satisfactory working order.

The invention is fully described in connection with the accompanying drawings, and the novel features are specifically pointed out in the claims.

Figure 1 is a longitudinal section of a valve embodying our invention in a preferred form. Fig. 2 is a view of the inner plugged end of the valve. Fig. 3 is a separate sectional view of the outer valve with integrally-formed cap. Fig. 4 is a similar sectional view of the valve-body slightly modified. Figs. 5, 6, and 7 are separate views of the inner plug-valve, showing some slight modifications in structure. Fig. 8 is a partial sectional view similar to Fig. 1, but indicating some modifications.

A represents the valve body or shell, which is formed with a valve-chamber A' for the reception of two similar plug-valves, (marked, respectively, B and C, the former of which will be referred to as the "outer" valve and the latter as the "inner" valve.) The valve-chamber A' is of minimum diameter about midway of the length of the valve-body, from which point it gradually enlarges toward either end of the latter with a regular taper, so as to form separate seats a and a' for the plug-valves B and C, which are introduced from opposite ends of the valve-body.

The inner valve C, as shown, is provided with a reduced extension c of angular cross-section; and this extension passes loosely through an angular opening e in a plug E, which is screwed into the inner end of the valve-body. This plug E serves to prevent the rotation of the valve C inasmuch as the

angular stem or projection c of the latter is not capable of turning in the opening e of the plug; and it at the same time serves as a seat for a spring D, which is arranged to normally close the valve C. This latter is also preferably provided with a screw-threaded extension c' from its smaller end, the purpose of which will be hereinafter described.

The outer valve B is of similar form to A, but carries at its larger end a cap B', which is cupped out, as indicated at b , so as to loosely inclose the outer end of the valve-body, thereby excluding all dirt from the latter. The small inner end of the valve B is provided with a screw-threaded recess b' , adapted to engage the extension c' of the valve C.

When applied in the usual manner to the tire, the valves B and C are seated tightly in the valve-body, as indicated in Fig. 1, this having been effected by screwing down the outer valve B, the screw connection of which with the valve C, as described, causes both valves to be positively drawn into close air-tight contact with their respective tapering seats. Preparatory to inflating the tire, the valve B with its cap B' is removed, leaving the inner valve still held in closed position by the spring D and by any pressure of air which may be in the tire. The air-pump is then attached as usual to the screw-threaded portion a^2 of the valve-body and the tire pumped up, after which the valve B is again secured in its normal position, as described.

We do not desire to limit ourselves to the exact construction shown and described, as different modifications may be readily devised.

The plug-valves may be made in either of the forms indicated in Figs. 5, 6, and 7, as preferred, the latter showing a rubber or leather contact-surface, while in Figs. 5 and 6 the valve is all of metal, the former having a circular groove or grooves c^2 to prevent cutting, such as are frequently provided in similar valves.

The valve-chamber A' may be formed if preferred with a cylindrical portion a^3 between the tapering valve-seats, as shown in Fig. 4.

In the modified construction indicated in

Fig. 8 the cap B³, instead of being formed in one piece with the outer valve B², is loosely carried by the latter, and the valve is seated by screwing said cap upon the valve-body 5 instead of engaging it with the inner valve, as in the preferred construction previously described.

We claim--

1. In an air-valve for pneumatic tires the 10 combination with the tubular valve-body having oppositely-tapering valve-seats therein, of separate conical valves entering said body from the opposite ends, one of said valves carrying on its outer end a cap for the end of 15 the valve-body said cap being adapted to move longitudinally with the valve, substantially as set forth.

2. In an air-valve for pneumatic tires the combination with the tubular valve-body having oppositely-tapering valve-seats there- 20 in, of separate conical valves entering said body from the opposite ends, one of said valves having an integrally-formed cap on its outer end adapted to inclose the outer end of the valve-body substantially as set forth. 25

In testimony whereof we affix our signatures in presence of two witnesses.

SAMUEL LAMBORN.
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Witnesses:

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