(No Model.)

R. J. SCOFIELD.

APPLIANCE FOR INDICATING POSITION OF PUNCTURES IN PNEUMATIC TIRES.

No. 601,907. Patented Apr. 5, 1898.

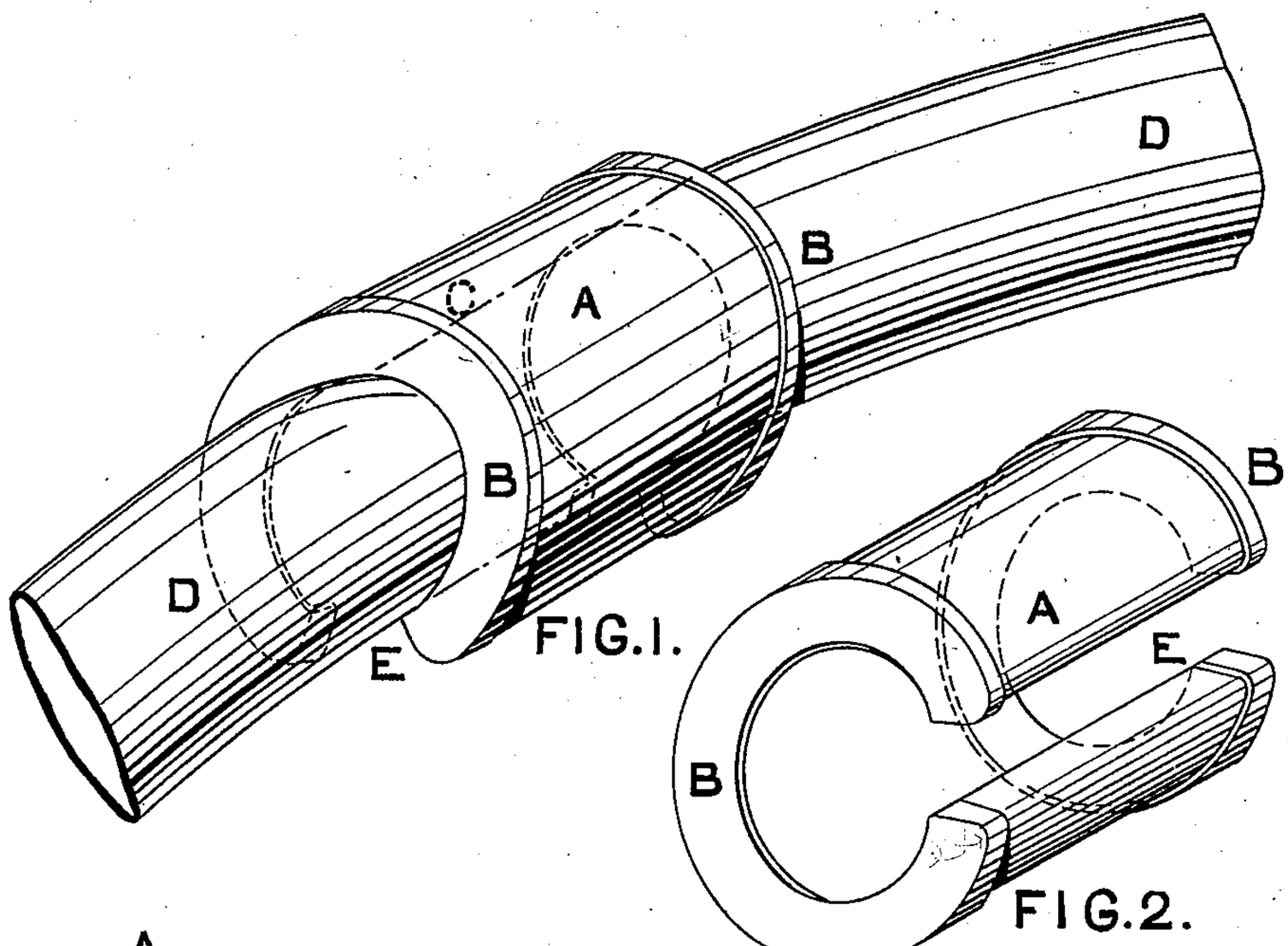

FIG. 1.

FIG. 2.

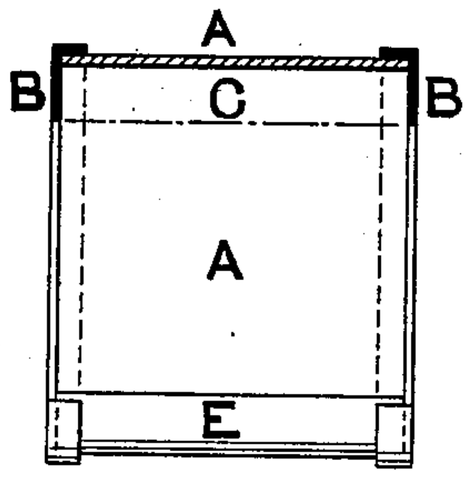

FIG. 5.

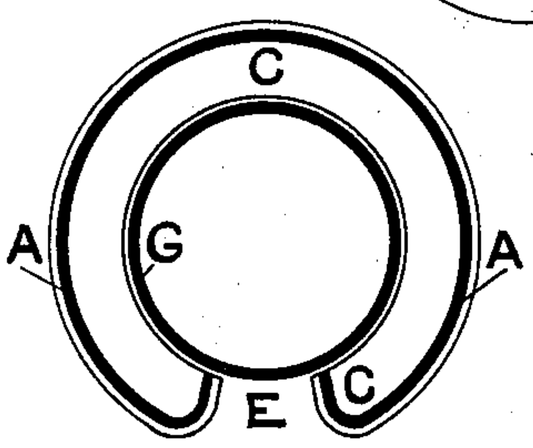

FIG. 4.

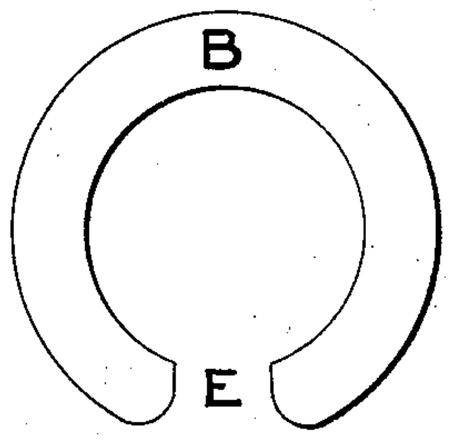

FIG. 3.

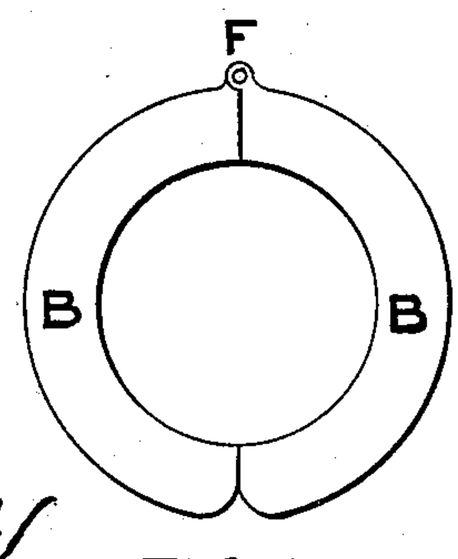

FIG. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

RICHARD JAMES SCOFIELD, OF MANCHESTER, ENGLAND.

APPLIANCE FOR INDICATING POSITION OF PUNCTURES IN PNEUMATIC TIRES.

SPECIFICATION forming part of Letters Patent No. 601,907, dated April 5, 1898.

Application filed December 22, 1896. Serial No. 616,638. (No model.) Patented in England June 24, 1896, No. 14,017; in Belgium December 22, 1896, No. 125,324; in Italy December 22, 1896, No. 85/67, and in Canada January 23, 1897, No. 54,718.

To all whom it may concern:

Be it known that I, RICHARD JAMES SCOFIELD, a subject of the Queen of Great Britain, residing at Manchester, in the county of Lancaster, England, have invented a certain new and useful Improved Instrument or Appliance for Indicating or Locating the Position of Punctures in the Air-Tubes of Pneumatic Tires, (patented in Great Britain, No. 14,017, dated June 24, 1896; in Belgium, No. 125,324, dated December 22, 1896; in Italy, No. 85/67, dated December 22, 1896, and in Canada, No. 54,718, dated January 23, 1897,) of which the following is a specification.

This invention is designed to provide a puncture-locator or an appliance whereby the position of a very small hole or puncture in the pneumatic tubes of cycle or other tires may be readily ascertained.

It consists, essentially, of an appliance to embrace or encircle and to be moved to and fro over the exterior of the tube or tire, constructed with a chamber to contain a light material capable of being moved, agitated, or acted upon by a fine spray or jet of air, so that when the appliance is over the puncture the material is displaced or by its movement or otherwise indicates from whence the spray or jet of air is issuing.

It will be fully described with reference to the accompanying drawings.

Figure 1 is a perspective view of the appliance in position on the pneumatic tube; Fig. 2, a perspective view of the appliance detached. Fig. 3 is an end view of the device; Fig. 4, a transverse section; Fig. 5, a longitudinal section. Fig. 6 is an end elevation showing a modified construction.

I construct the appliance with an exterior casing A, fitted into or attached to two ends or end pieces B, having an internal diameter somewhat less than that of the casing A, thereby forming a chamber C. The diameter of the casing A is greater than the diameter of the air-tube or tire D, and the internal diameter of the ends B is rather less than the tire or tube D, leaving the space or chamber C encircling the tube when the appliance is in use, as shown in Fig. 1.

The exterior casing A is preferably made of a transparent material—such as celluloid, glass, a gelatinous material, mica, or the like—or it may be made of a material, such as gauze-wire or the like, through which a spray or jet of air can penetrate. The ends B are made of metal, vulcanite, celluloid, or other rigid material.

I prefer to make the appliance with the ends B of horseshoe or C shape and with a slit or aperture E along one side, through which the tube or tire D, when deflated, can be passed. When applied to a single-tube tire, the slot or slit E will be wider than for an inner tube. If desired, the appliance may be made in two parts, with a hinge F, (see Fig. 6,) so that it can be opened to be placed round and embrace the tube or tire D.

In the chamber C or interior of the appliance I place a small quantity of finely-powdered French chalk or other light material which will coat the interior of the casing A with a fine layer or which will be easily displaced or agitated by a fine jet or spray of air.

When not in use as a locator or indicator, the appliance may be used as a case or holder for repairing materials, for which purpose I insert a box or holder G in the interior, which can be easily removed when the appliance is to be put into use.

To locate or ascertain the position of a puncture or small hole, the appliance is placed over the tire or tube D, which is then inflated. The light material is placed in the chamber C and dusted over the interior of the casing A and the appliance is moved to and fro over the tube. When it is over the puncture, the jet or spray of air issuing therefrom displaces the material from the surface of the casing A or otherwise agitates the light material, which can be observed from the outside, giving a clear indication of the position of the hole or puncture in the tire.

What I claim as my invention, and desire to protect by Letters Patent, is—

1. In a puncture-locator the combination with a casing of transparent material adapted to grasp the tire, of end pieces connected to and supporting said casing free of the tire, and a suitable material applied to the transparent surface of the casing and adapted to

be displaced by a leakage of air from the tire, substantially as described.

2. An appliance for locating or indicating the position of a puncture or small hole in a pneumatic tube or tire comprising an exterior transparent casing A fitted into horseshoe-shaped ends B with an inner edge to embrace the tube or tire forming a chamber C to contain a light material capable of being displaced by a fine spray or jet of air.

3. In an appliance for locating or indicating the position of a puncture or small hole in a pneumatic tube or tire the combination of the outer transparent casing A provided with a slit or slot E along one side horseshoe-shaped ends B into which the transparent casing A is fitted the inner edges of which embrace and fit against the tube or tire D forming a chamber C and fine light material inserted in the chamber to be displaced by a fine spray or jet of air.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD JAMES SCOFIELD.

Witnesses:

J. OWDEN O'BRIEN,

RICHD. OVENDALE.