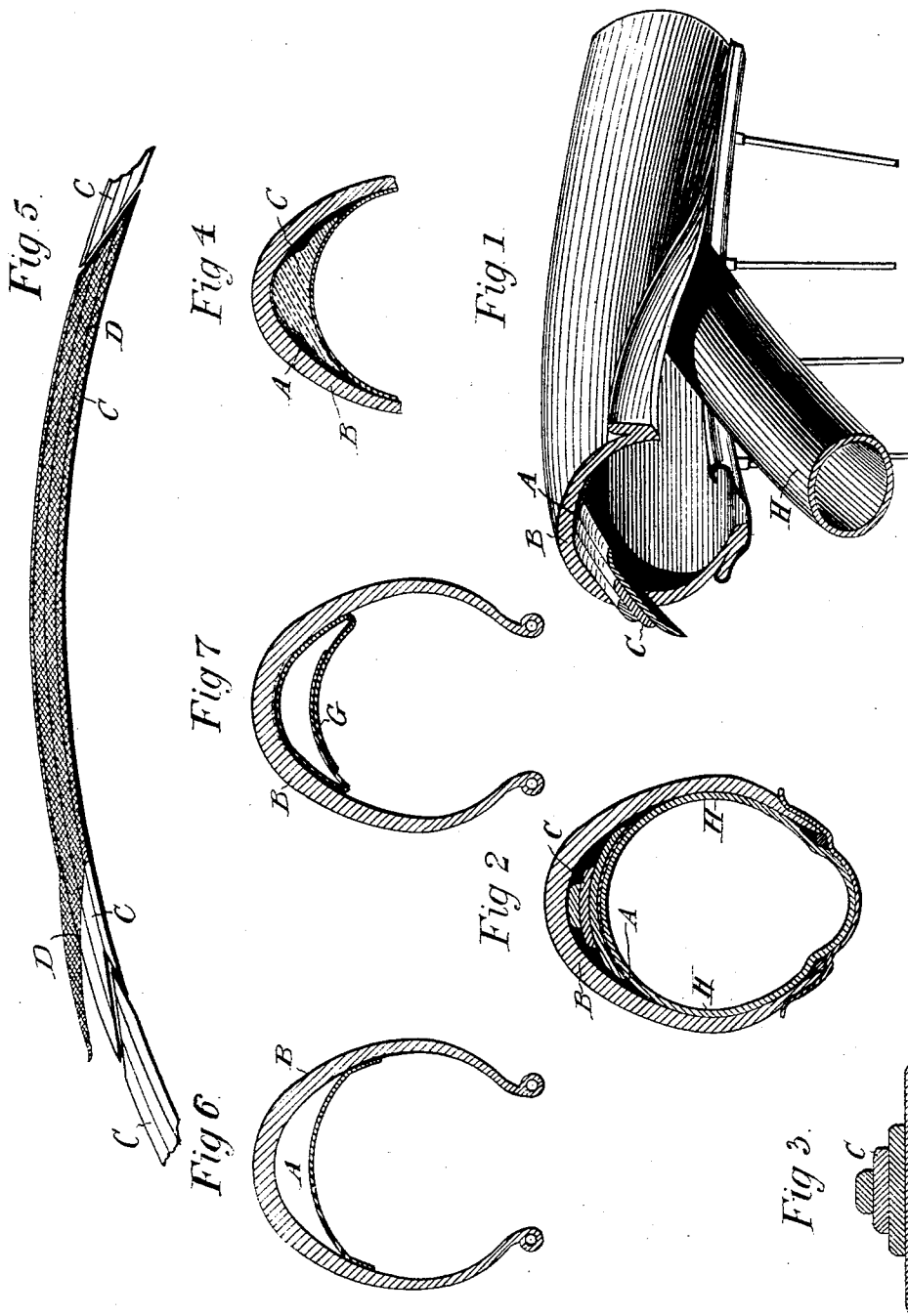


(No Model.)

J. McCONECHY.
CYCLE TIRE.

No. 586,509.

Patented July 13, 1897.



Witness-
John P. Wilson
J. Stephen Kinsten.

Inventor-
James McConechy,
by Whitman & McKinnon, Attys.

UNITED STATES PATENT OFFICE.

JAMES McCONECHY, OF GLASGOW, SCOTLAND.

CYCLE-TIRE.

SPECIFICATION forming part of Letters Patent No. 586,509, dated July 13, 1897.

Application filed August 1, 1896. Serial No. 601,336. (No model.) Patented in England April 18, 1896, No. 8,199.

To all whom it may concern:

Be it known that I, JAMES McCONECHY, residing at Glasgow, in the county of Lanark, Scotland, have invented certain new and useful Improvements in and Connected with the Tires of Cycles and other Wheeled Vehicles, (for which I have obtained Letters Patent of Great Britain, No. 8,199, dated April 18, 1896;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object to construct the tires of cycles or other wheeled vehicles so as to produce as small a contact-surface in cross-sectional area with the ground as possible and present at the point of contact therewith a harder and more resilient running-surface, in order to minimize ground-suction and cause little or no friction, with an increase of speed of the cycle or vehicle to which the tire is applied.

It has also for its object to minimize the tendency to puncturing of the inner air-tube.

In the drawings, Figure 1 is a perspective view illustrating how my improvements may be applied to a Mackintosh detachable tire. Fig. 2 is a transverse section representing my invention applied to a Dunlop tire. Fig. 3 is a transverse section representing my cork strip, hoop, or band composed of four distinct layers of upwardly-decreasing measurement, built one upon the other and cemented together. Fig. 4 is also a transverse section of a modified form of the said strip, hoop, or band inclosed within the outer cover of a cycle-tire. Fig. 5 is a side elevation of a segment of the cork strip or band aforesaid, illustrating the tapered ends which form the spliced joints, as will hereinafter be more fully referred to. Fig. 6 is a transverse section of the outer cover of the tire, illustrating the pocket as it would appear distended by the said strip, hoop, or band, which is wanting in this figure; and Fig. 7 is a transverse section also of the outer cover, showing the method of applying the said strip, hoop, or band to existing tires by means of inclosing it within a wrapper cemented centrally to the inside of the outer cover aforesaid.

In carrying my invention into practice I in-

terpose within the pocket A, formed round the inside of the outer cover B of the tire, the strip, hoop, or band of cork C, composed either of one piece in the form shown in Fig. 4 or of three or more pieces, as represented in Fig. 3, with chamfered or beveled edges cemented together by an insoluble or waterproof cement. To lessen the tendency to chafing of the said outer cover B by the strip, hoop, or band C aforesaid and consolidate the integral parts of which it is composed together, the latter is covered by a thin sheet of canvas or other textile fabric D, as seen more particularly in Fig. 5. The said strip, hoop, or band C is further prevented from chafing or frictional contact with air-tube H by the intervention of the canvas composing either the pocket A, Figs. 2 and 6, or of the wrapper G, as seen in Fig. 7. In the formation of a complete ring of the said strip, hoop, or band C the integral parts would consist, preferably, of five segmental sections. The tapered end of each section to reduce friction at the point of contact of the rubbing-surfaces, respectively, would be treated with a layer of black-lead or analogous lubricant. The pocket A would be provided with suitable inlets or openings, in order to insert the various sections of the said strip, hoop, or band and facilitate the building up of the ring.

By virtue of the introduction of the cork strip, hoop, or band aforesaid the tread of the tire coming in contact with the ground would approximately alter little or none of its cross-sectional form, as opposed to tires presently in use, wherein ground-suction constitutes so grave a defect, while none of the resilience or elastic power due to pneumatic inflation of the tire is destroyed, and this is attributable to the fact that no part of the air-tube H is diminished circumferentially.

The convex surface or tread of the outer cover B may be constructed more or less semielliptical in cross-section, and in some cases may be specially molded with a bead-like projection, while its under side would constitute a hollow for the reception of the said strip, hoop, or band.

The advantage specially derivable by my improvements would be increased speed to the rider, which primarily constitutes its object; but there are others which are all-im-

portant to know in explaining my invention, and consist in the prevention of side-clipping, which is a source of great inconvenience to the rider. But the greatest evil that can befall the cyclist is the puncturing of the air-tube, which is caused in a majority of cases by small articles, such as thorns, tacks, fragments of broken glass, and small things of a kindred nature, which cannot penetrate beyond the puncture-point of the ordinary tire, a very inconsiderable depth indeed.

Reference to Figs. 1, 2, and 4 will show that in order to puncture the air-tube H an article of some considerable length would be required, but which would very rarely be found, owing chiefly to the narrowness of the tread of the tire and the diminished area of ground the cycle has to traverse.

I claim—

1. In an inflatable tire the combination with an inner air-tube, of an outer removable cover or casing inclosing said air-tube and provided along the inside of its tread portion with a continuous pocket, a chamfered hoop or band of cork fitting in said pocket and composed of segmental strips overlapping at their ends, and a lubricant composed of graphite or similar substance, applied to the ends of said strips, substantially as described.

2. In an inflatable tire, the combination with an inner air-tube, of an outer removable cover or casing inclosing said air-tube and provided along the inside of its tread portion with a continuous pocket, a chamfered hoop or band of cork fitting in said pocket and composed of segmental strips made up of two or more layers of varying width cemented together with the narrower layers on the outside, and overlapping at their ends, and a lubricant composed of graphite or similar substance, applied to the ends of said strips, substantially as described.

3. In an inflatable tire, the combination with an inner air-tube, of an outer removable

cover or casing inclosing said air-tube and provided along the inside of its tread portion with a continuous pocket, a chamfered hoop or band of cork fitting in said pocket and composed of segmental strips made up of two or more layers of varying width cemented together with the narrower layers on the outside, and overlapping at their ends, and a lubricant composed of graphite or similar substance, applied to the ends of said strips, and a protective covering inclosing said hoop or band, substantially as described.

4. In an inflatable tire the combination with an inner air-tube, of an outer removable cover or casing inclosing said air-tube and provided along the inside of its tread portion with a continuous pocket, having transverse openings at intervals therein, a chamfered hoop or band of cork fitting in said pocket and composed of segmental strips overlapping at their ends, and a lubricant composed of graphite or similar substance, applied to the ends of said strips, substantially as described.

5. In an inflatable tire the combination with an inner air-tube, of an outer removable cover or casing inclosing said air-tube and provided along the inside of its tread portion with a continuous pocket having transverse openings at intervals therein, a chamfered hoop or band of cork fitting in said pocket and composed of segmental strips made up of two or more layers of varying width cemented together with the narrower layers on the outside, and overlapping at their ends, and a lubricant composed of graphite or similar substance, applied to the ends of said strips, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES McCONECHY.

Witnesses:

L. SIMPSON,
J. H. PEARSON.