(No Model.)

W. S. WILLIAMS.

PNEUMATIC TIRE.

No. 605,532. Patented June 14, 1898.

Fig. 1.

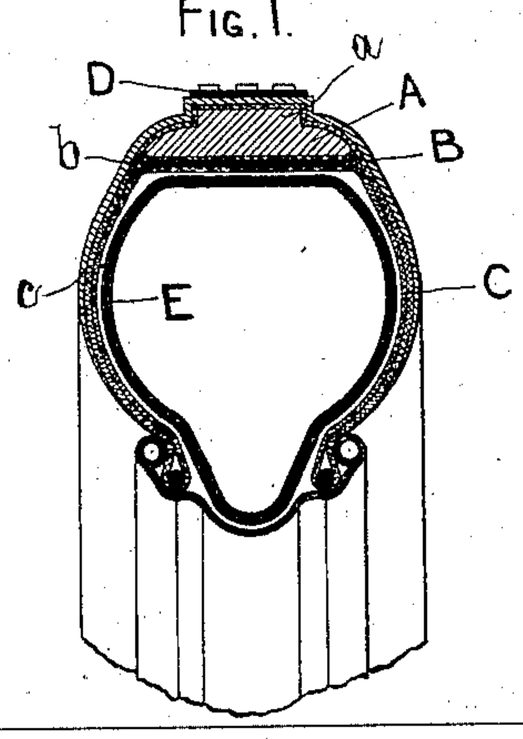


Fig. 2.

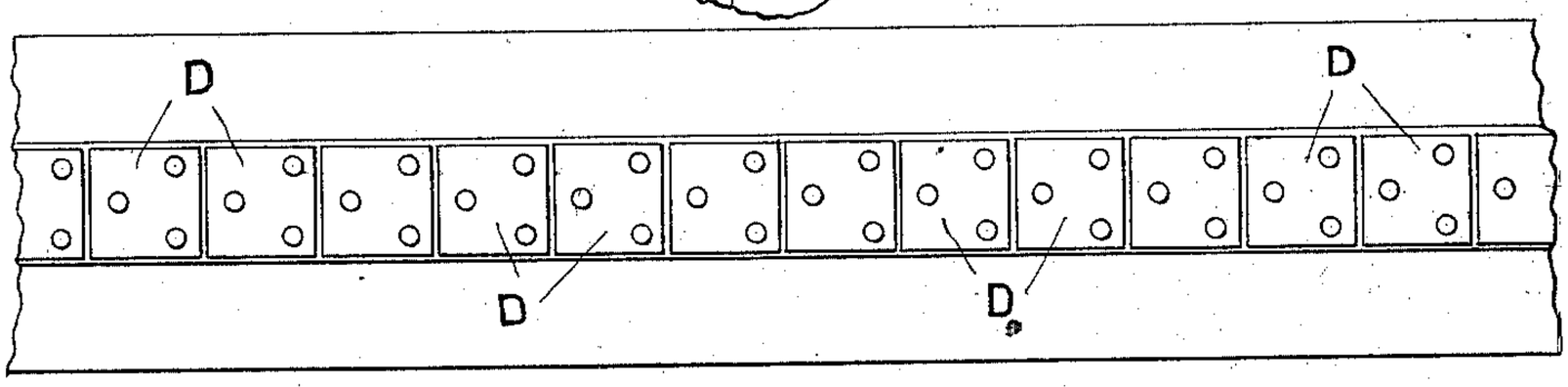


Fig. 3.

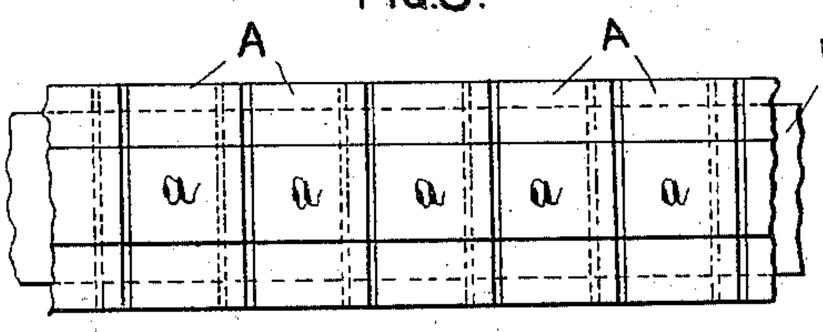


Fig. 4.

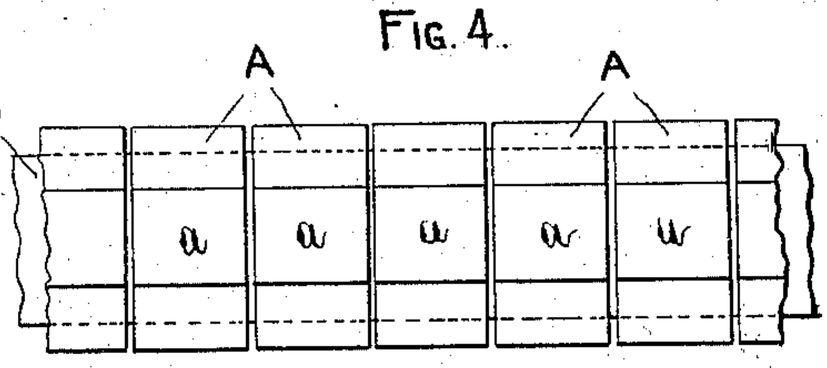


Fig. 5.

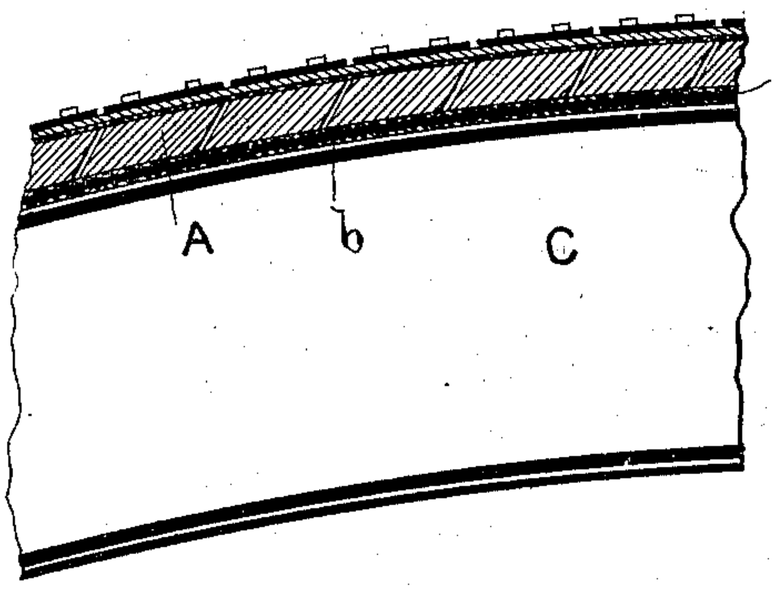
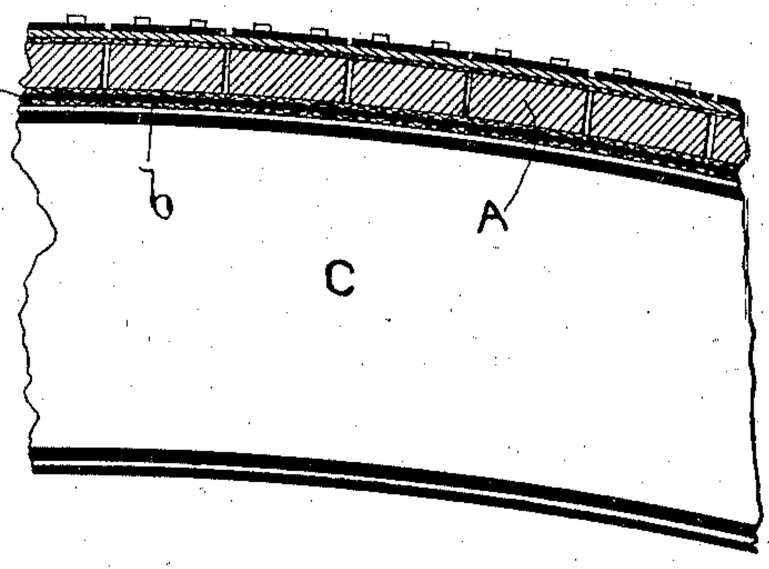


Fig. 6.



WITNESSES

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PNEUMATIC TIRE.

SPECIFICATION forming part of Letters Patent No. 605,532, dated June 14, 1898.

Application filed December 20, 1897. Serial No. 662,591. (No model.) Patented in England January 29, 1897, No. 2,427.

To all whom it may concern:

Be it known that I, WILLIS STETSON WILLIAMS, a citizen of the United States, residing at 9 Farringdon road, in the city of London, England, have invented a new and useful Improvement in Pneumatic Tires, (for which I have obtained a patent in Great Britain, No. 2,427, bearing date January 29, 1897,) of which the following is a complete specification.

This invention relates to a device for the prevention both of puncture and side slip; and it consists of a band formed of a series of short lengths or blocks of any suitable hard or unyielding substance or material mounted on a strip or hoop of metal, fabric, or other suitable material or substance in close proximity the one to the other, the shape of the said band being such as will give a broad base for the air-tube to press against and a narrow surface for the tread.

In the accompanying drawings, Figure 1 is a view in transverse section of a pneumatic tire constructed according to my invention. Fig. 2 is a broken view in plan thereof. Figs. 3 and 4 are broken views in plan; and Figs. 5 and 6 are broken views in longitudinal section, showing the construction of the band.

Throughout the views similar parts are marked with like letters of reference.

The band, which is of sufficient length to encircle the tread or periphery of the tire, is formed of a series of blocks or short pieces A of wood or other light unyielding material. These are mounted in close proximity to one another on a strip or ribbon B of metal or other suitable material. This strip or ribbon B is flat in cross-section, but may be ribbed or corrugated transversely to increase its flexibility, and it is preferably of a less width than that of the blocks A, which are attached to it.

A convenient way of attaching the blocks A to the strip or ribbon B is by screws; but they may also be attached by cement by first covering the said strip or ribbon with canvas or other fabric.

As an alternative construction the strip or ribbon B may be placed in a pocket *b*, formed in the canvas or other fabric used for reinforcing the cover C of the tire and the blocks A be cemented thereto. As a modification the complete band may be inclosed in a pocket formed in the reinforcing fabric of the cover C, in which case the fabric of the said pocket would be slit transversely between the blocks, so as not to destroy the flexibility of the band. The rubber part *c* of the cover may be made much thinner than usual.

The blocks A are so shaped in cross-section that they have a wide base and a narrow face, which preferably has sharp or square edges. This is conveniently accomplished by cutting or shaping their sides so as to produce a raised ridge *a* with sharp corners or edges. In some cases the blocks are formed with a slightly-concave tread-surface, so as to produce still sharper edges for the purpose of preventing side slip. The ends of the blocks may either be sloped, as shown by Figs. 3 and 5, to allow them to overlap each other, or they may be cut square, as shown by Figs. 4 and 6. I prefer the former construction, as it avoids the possibility of any sharp object passing through the band at the points between the blocks.

The ridge parts *a* of the blocks form the tread of the tire and are preferably faced with thin pieces D of sheet metal; but this is not obligatory. The air-tube E is of the usual construction.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a tire, the combination, with a cover C, of a series of blocks arranged inside the cover and having wide bases and narrow projecting tread portions, the said cover being stretched to conform to the said tread portions, the said blocks and cover both having sharp or angular corners at the edges of their tread portions for preventing side slip, and a band secured to the bases of the said blocks, substantially as set forth.

2. In a tire, the combination, with a cover C, of a series of blocks arranged inside the cover and having wide bases and narrow projecting tread portions, the said cover being stretched to conform to the said tread portions, a band secured to the bases of the said blocks, and a series of metallic plates secured over the said tread portions outside the said cover, substantially as set forth.

WILLIS STETSON WILLIAMS.

Witnesses:

ROBERT E. PHILLIPS,

WILLIAM H. JAMES.