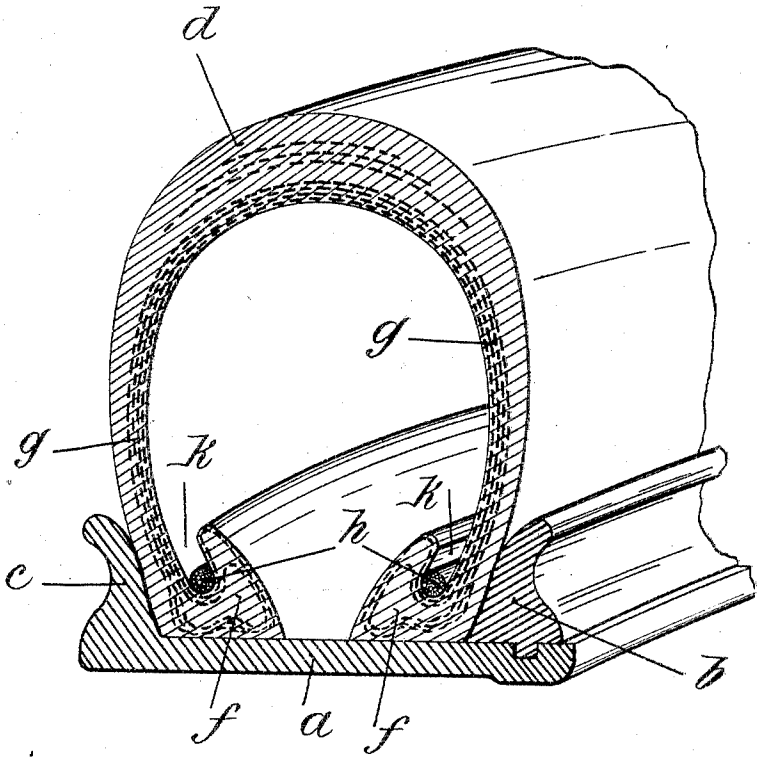
No. 780,209. PATENTED JAN. 17, 1905.

A. VON LÜDE.

FASTENING FOR WHEEL TIRES.

APPLICATION FILED APR. 21, 1904.




Witnesses:
Henry Thieme
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No. 780,209. Patented January 17, 1905.

# UNITED STATES PATENT OFFICE.

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## FASTENING FOR WHEEL-TIRES.

SPECIFICATION forming part of Letters Patent No. 780,209, dated January 17, 1905.

Application filed April 21, 1904. Serial No. 204,149.

*To all whom it may concern:*

Be it known that I, ARTHUR VON LÜDE, engineer, residing at 45 Schumannstrasse, Frankfort-on-the-Main, Germany, have invented new and useful Improvements in Fastenings for Motor-Wheel Tires, of which the following is a specification.

This invention relates more particularly to those tires in which there is laid within the foot of the tire or tire-case a complete closed and non-expansive ring—such, for example, as a ring of wire or wire rope. Heretofore such tires, though they have been used on bicycle-wheels, have not been used on motor-wheels, owing to the difficulty of getting them over the flanges of the tires. The purpose of this invention is to facilitate the application of these tires to motor-wheels.

In carrying out my invention I make the wheel-felly with an exterior circumference of plain cylindrical form and with a detachable flange—such, for example, as is shown in United States Patent No. 742,486—and form the tire-foot to fit close to this felly and as stiff as practicable; but instead of making the flanges of the felly with an inward curvature I prefer to make them with an outward flare, or at least without any curvature inward; but most important features of my invention are the formation of an inwardly-open channel in the foot of the tire-case, into which channel the non-expansive ring is placed, and a thickening of the inner edge of the tire-case, so that the said edge may not slip through between said ring and the felly, but that the foot of the case may be held to the felly by the pressure of the inner air-inflated tire.

While it is most advantageous to use a non-expansive ring of wire or wire rope, which securely presses the tire-foot close to the felly, yet a very useful result may be attained by the insertion into the channel of the tire-case of a ring which if sufficiently stiff need not be non-expansive. For instance, if cane is inserted this will give the foot of the tire-case an important hold, such as can hardly be attained by the insertion thereinto of a reinforcement of fibrous material, and thereby prevent the case from springing out of the felly.

According to this invention the felly-flanges may be made higher than formerly to better prevent the springing out of the edges of the tire-case, and they may have an outward flare, so that the tire-case when it turns over to the side presses lightly against them and does not suffer.

The accompanying drawing represents a transverse section of a wheel-felly and a tire-case illustrating my invention.

*a* is the principal part of the felly; *b*, the removable flange; *c*, the fixed flange.

*d* is the case for an air-tire, which is provided with the two thickenings *f*, reinforced by a lining or insertion of fibrous material *g*. The thickenings *f* are so formed that their inner diameter corresponds exactly to the outer diameter of the felly *a*. In the channel *k*, open inwardly or toward the interior of the case, there lies the wire ring *h*. The thickenings *f* must in every case be considerably greater than the distance of this ring from the felly.

Now what I claim, and desire to secure by Letters Patent, is the following:

1. The combination with a motor-wheel the felly of which has an externally-cylindrical part and a removable flange, of a tire-casing having its foot fitted to said felly and formed with an inwardly-open channel, and a non-expansive or stiff ring inserted into said channel, substantially as herein described.

2. The combination with a motor-wheel, the felly of which has a removable flange, of a tire-casing having an inextensible inwardly-protruding foot which is fitted to said felly and has an inwardly-open channel, and a closed metal ring inserted into the said channel.

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

ARTHUR VON LÜDE.

Witnesses:
JEAN GRUND,
CARL GRUND.