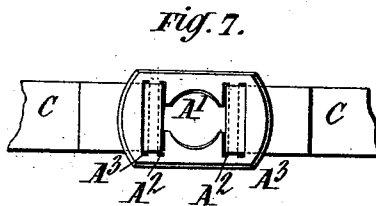
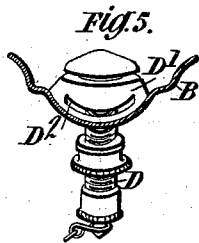
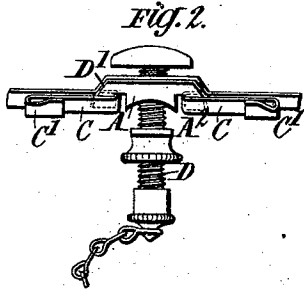
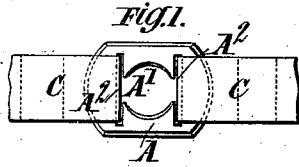


(No Model.)

C. K. WELCH.
PNEUMATIC TIRE.

No. 526,882.

Patented Oct. 2, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES KINGSTON WELCH, OF COVENTRY, ENGLAND, ASSIGNOR TO THE PNEUMATIC TYRE COMPANY, LIMITED, OF DUBLIN, IRELAND.

PNEUMATIC TIRE.

SPECIFICATION forming part of Letters Patent No. 526,882, dated October 2, 1894.

Application filed May 15, 1894. Serial No. 511,283. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KINGSTON WELCH, engineer, a subject of the Queen of Great Britain, residing at Coventry, England, have invented certain new and useful Improvements Relating to Pneumatic Tires, of which the following is a specification, reference being had to the accompanying drawings.

This invention has reference to improvements relating to pneumatic tires.

The object of my said invention is to provide an improved retaining-device for the ends of the tape or the like which is commonly placed on the outside of the rim of velocipede and other wheels and in the central groove of the rim to cover the ends of the spokes which project thereinto, the tape preventing the said ends of the spokes from injuring the air-tube of the tire. Hitherto it has been the custom to connect the ends of the tape to each other by cement or by solutioning but this method is unsatisfactory inasmuch as the joint thus produced cannot be unmade and re-made except with considerable trouble.

According to this invention I construct a retaining-device of a piece of metal formed to lie snugly in the rim or in the central groove thereof. The piece of metal is perforated so that the valve may pass there-through thus avoiding the necessity of making a hole in the tape, and is also provided with slots at opposite ends, through which slots the ends of the tape or the like are passed.

In the accompanying drawings, Figure 1 is a plan, Fig. 2 is a side elevation, and Fig. 3 is an end elevation of one form of my improved retaining device, with the ends of the tape passed through the slots. Fig. 4 is a transverse section showing the retaining device and tape in position on the rim of a wheel. Fig. 5 is an end view, showing a modification wherein the valve-washer is used as a tape-retaining device. Fig. 6 is a side view of the washer shown in Fig. 5. Fig. 7 is a plan of a retaining device having two slots at each end.

Like letters of reference denote similar parts in all the drawings

The retaining device as shown consists of

a piece of metal A curved to fit the central groove of the rim and having a hole A' for the inflating valve of the tire to pass through. The ends of the tape or the like C are passed through the slots A², A² in the ends of the retaining device, the friction between the said tape or the like and the retaining-device and between the said tape and the rim preventing the slackening of the tape. The said ends are led over or under the main part of the tape, and if desired, either or both can be cemented or otherwise fastened thereto. I preferably form a loop or eye in each end of the tape as shown at C' to facilitate its adjustment by means of a hooked or other tool.

In Fig. 4 the retaining device A is shown in position in the central groove of an ordinary "Dunlop" rim B.

I sometimes provide the ends of the tape with a ring or clasp to embrace the principal portion of the tape. As the inflating valve passes through the hole A' in the retaining-device the tape is prevented from shifting upon the rim. I preferably bring the slots A², A² as near together as possible so that the plate can be made short enough to be entirely covered by the valve washer as shown in Fig. 2 which shows an ordinary valve D in position, D' being the valve washer. In the drawings these slots merge into the central hole, but I may obviously make the device with the central hole and slots not in connection. I also make the retaining device flat or of any other form suited to the shape of the rim with which it is to be used.

In Figs. 5 and 6 a tape retaining device is shown which is formed of the valve washer D' itself by simply making a slot D² in each end of said washer. I thereby dispense with a separate plate for the retaining device. This however can only be done when a valve is used wherein the washer is not permanently attached to the air-tube of the tire which is the case with the valve shown in Figs. 5 and 6.

I sometimes make a retaining device according to this invention with two or more slots at each end thereof instead of only one slot at each end. Such a device is shown in Fig. 7 where A², A³ are the two slots. The tape C is passed through the said slots A², A³

in succession being thereby retained very
securely in place.

When it is required to "spoke" wheels
fitted without said improved retaining de-
5 vice, the tape can be removed and replaced
without trouble, whereas formerly the joint
of the tape had to be broken and re-made.
This operation involved considerable trouble,
which I am now enabled to obviate in a neat
10 and mechanical manner. Moreover by pass-
ing the valve stem through the plate I dis-
pense with the necessity for making a hole
in the tape which is objectionable since the
edges of the hole are liable to fray and weaken
15 and ultimately destroy the tape.

What I claim is—

1. The combination with the rim of a wheel
and with the tape for covering the heads of
the spokes, of a plate provided with slots

through which the ends of the tape are passed 20
and secured and with a hole for a valve stem
to pass through, substantially as, and for the
purpose, set forth.

2. The combination with the rim of a wheel
on which a pneumatic tire is fitted and with 25
the tape for covering the heads of the spokes,
of a plate adapted to serve as a washer for
the air valve of the tire and having slots
through which the ends of the tape are passed
and secured, substantially as, and for the 30
purpose, set forth.

In witness whereof I have hereunto set my
hand this 23d day of April, 1894.

CHARLES KINGSTON WELCH.

Witnesses:

FREDERICK WILLIAM LE TALL,
C. JUNGE.