

UNITED STATES PATENT OFFICE.

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LA SOCIÉTÉ CHIMIQUE DES USINES DU RHÔNE, ANCIENNEMENT GIL-
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COMPOUND FOR CLOSING PUNCTURES IN PNEUMATIC TIRES.

SPECIFICATION forming part of Letters Patent No. 606,751, dated July 5, 1898.

Application filed July 1, 1897. Serial No. 643,164. (No specimens.)

To all whom it may concern:

Be it known that I, NAUM WEINTRAUB-SCHNORR, of 4 Chemin de la Chevilliard, Genève, Switzerland, have invented certain
5 new and useful Improvements in Pneumatic Tires and a Liquid for Closing Punctures Therein, of which the following is a specification.

The primary object of this invention is to
10 provide an improved compound for the automatic and immediate closing of punctures produced in pneumatic tires or tubes by nails, broken glass, or the like, and thereby preventing escape of air.

15 According to this invention the tire contains an improved liquid, which is introduced into the tire preferably before this is inflated, the liquid being of such a nature as to close any such puncture by penetrating into the
20 puncture and hardening.

I am aware that there have been introduced into pneumatic tires for a similar purpose such liquids as oil or aqueous solution of gum or gelatin or hygroscopic liquid containing silicic or aluminium hydrate or other
25 finely-divided substances in suspension. The oil or aqueous solutions of gum or gelatin do not, however, harden in the puncture, and, moreover, they have a more or less deleterious
30 influence on the rubber of the tire. On the other hand, the hygroscopic liquids containing materials in suspension depend upon the blocking of the puncture with the solid particles held in suspension and cannot, like solutions, be introduced through the valve of
35 the inner tube as convenience requires.

The liquid made according to my invention is alkaline, whereas the liquids previously in use are acid or neutral.

40 The basis of the liquid is a silicate soluble in water, to which is added an agglutinant or adhesive medium.

Example: I may suitably employ an aqueous solution containing, in one hundred

parts, thirty parts water-glass, twenty parts
sugar, and five parts dextrine. 45

By "water-glass" I mean any silicate at discretion which is soluble in water. The sugar and dextrine may be substituted by other
50 carbohydrates, and generally by any agglutinant soluble in water which is indifferent to water-glass. The proportions may be varied within considerable limits.

If liquid or soluble albumen or other agglutinants containing nitrogen are employed, 55 it will be necessary to add to the solution a small proportion of a suitable antiseptic soluble in water.

The bringing together of the ingredients mentioned in aqueous solution may be effected by simple admixture without necessity for a particular method of preparation. After proper admixture the liquid is ready for immediate use.

About one hundred grams are poured 65 through the valve of the tire, which is then pumped up in the usual way, and the liquid is allowed to remain therein during use. In consequence of the great pressure existing in the tire and of the centrifugal force created 70 by the rotation of the wheel the liquid penetrates into any puncture which may occur and immediately closes the same in an absolutely air-tight manner.

What I claim, and desire to secure by Letters Patent, is— 75

An alkaline liquid for closing punctures in pneumatic tires, said liquid consisting of an aqueous solution of water-glass, sugar and dextrine in substantially the proportions 80 specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

NAUM WEINTRAUB-SCHNORR.

Witnesses:

FERD. ADOLF PERTSCH,
FRITZ ULLMANN.