

P. ROUSSILLON.
FLEXIBLE AND ELASTIC BAND FOR PNEUMATIC TIRES.
APPLICATION FILED JAN. 14, 1908.

943,998.

Patented Dec. 21, 1909.

FIG. 1_

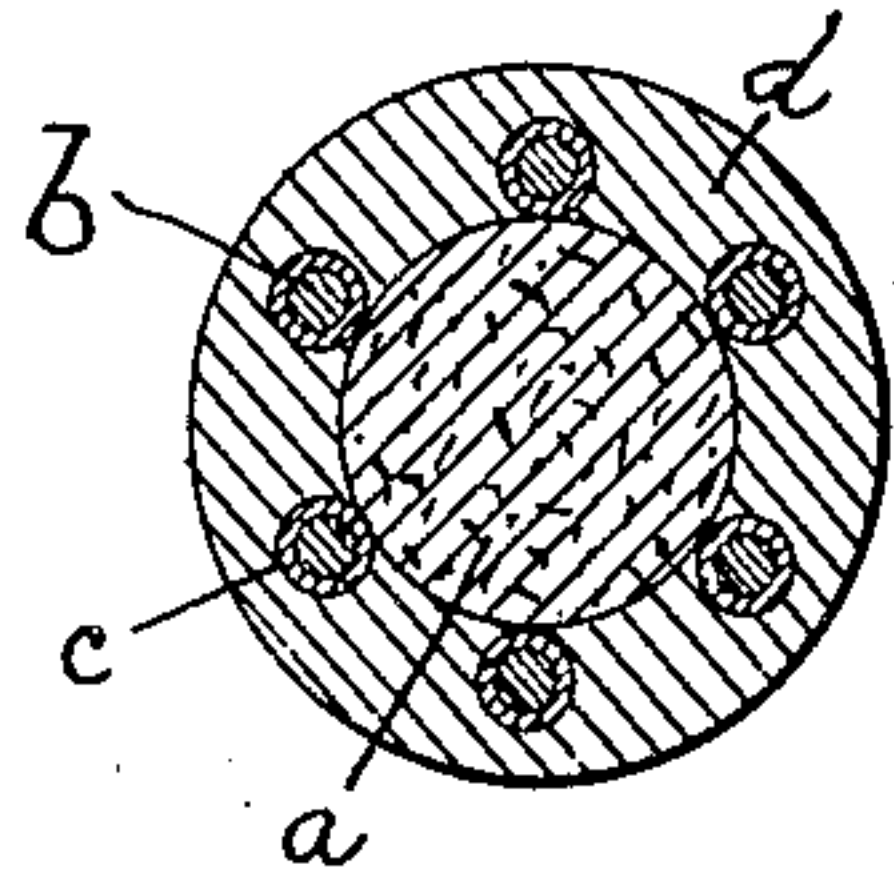


FIG. 2_

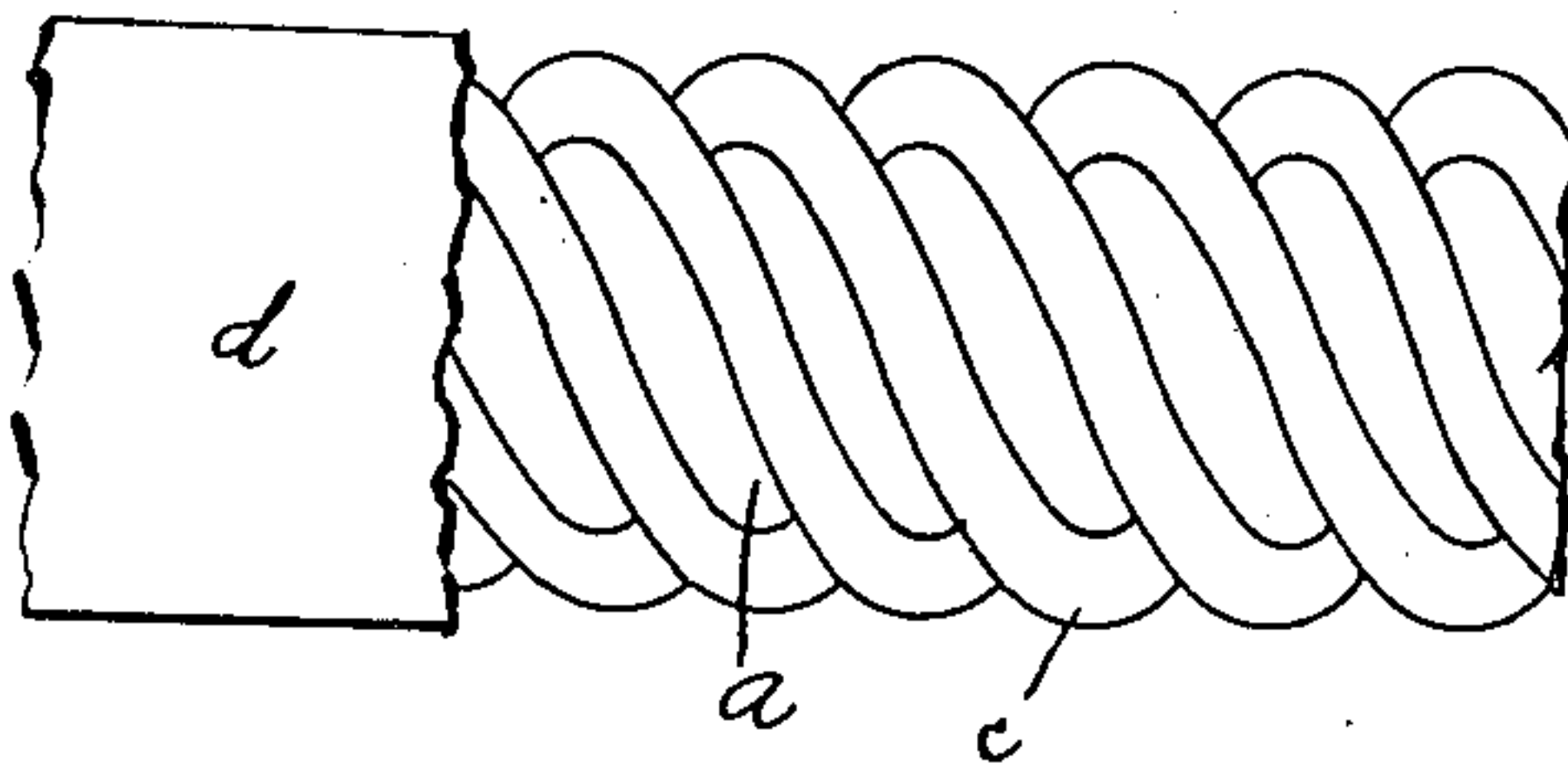


FIG. 3_

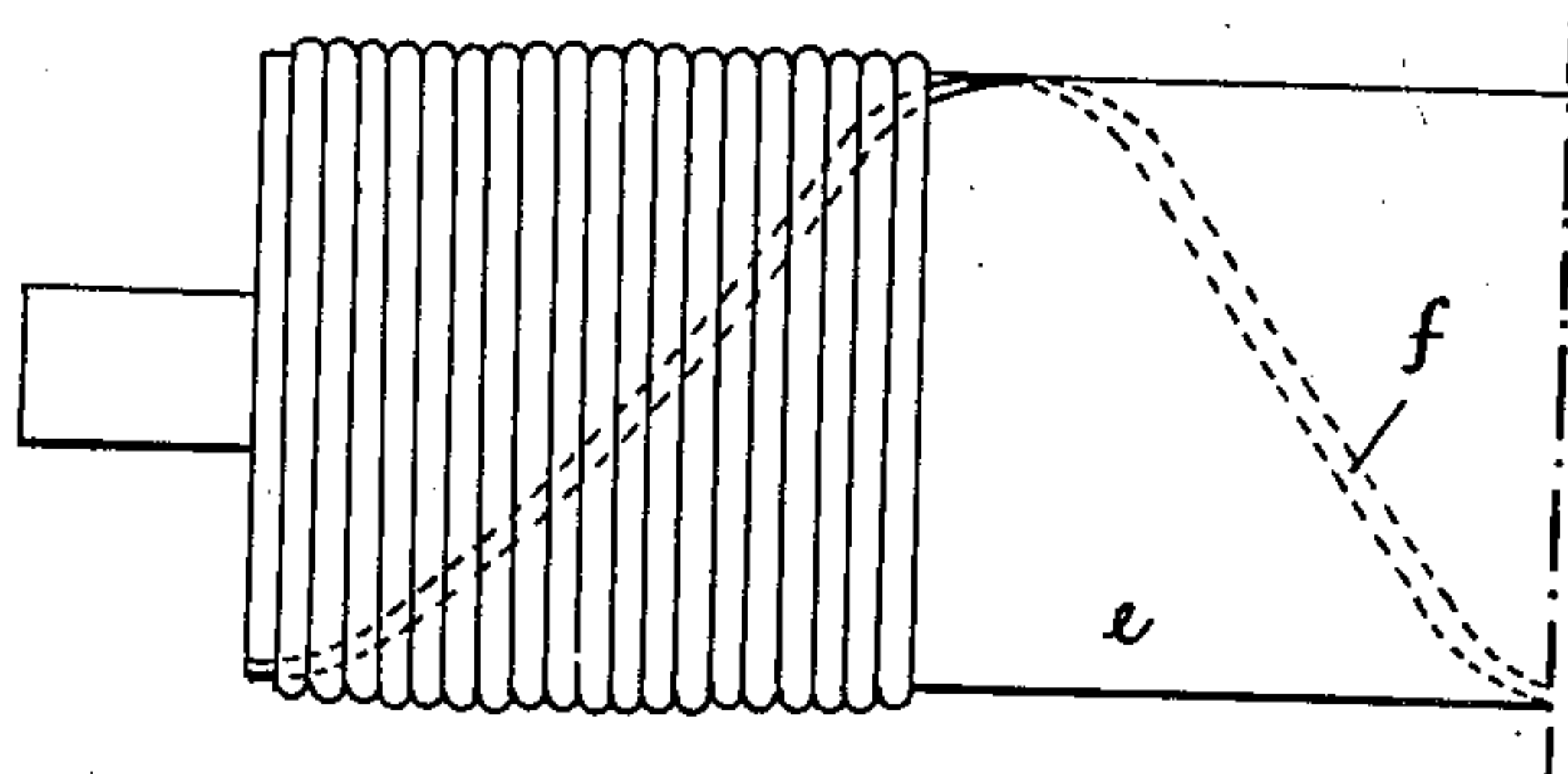


FIG. 4_

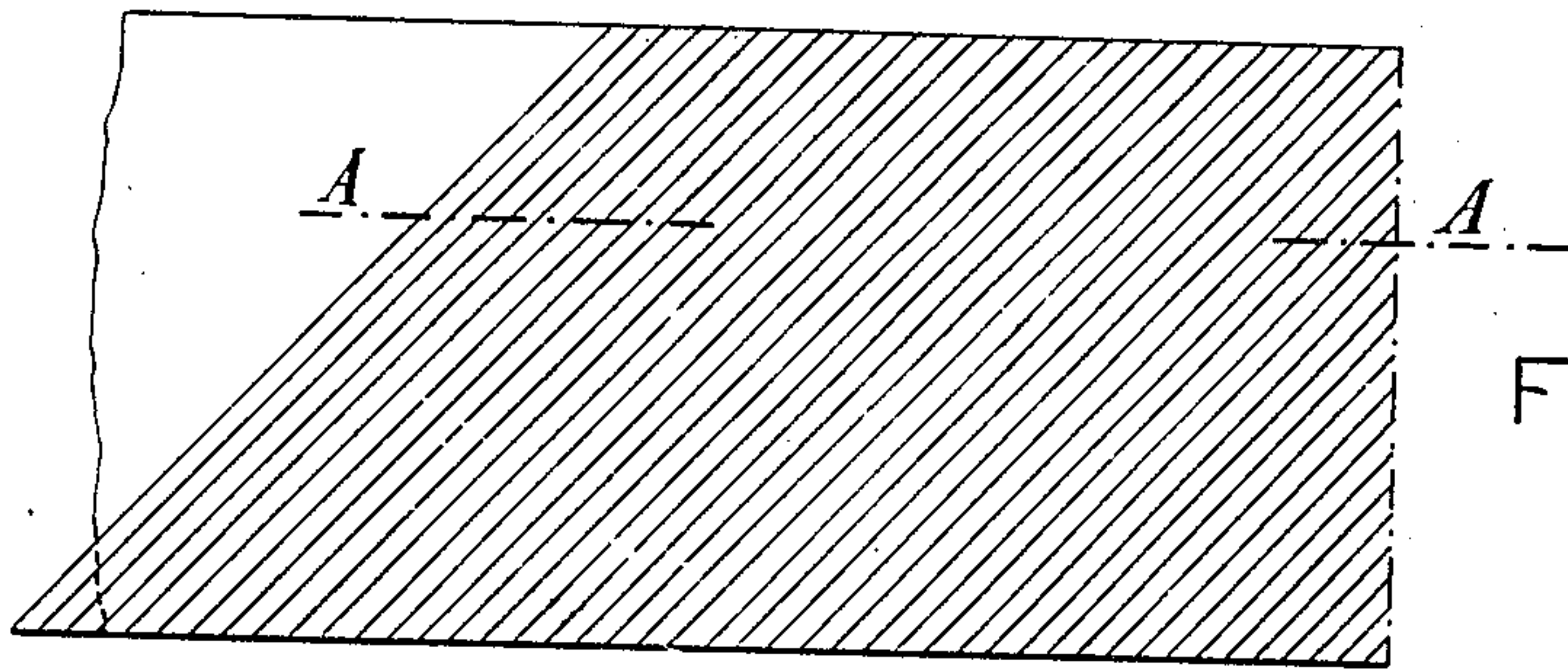
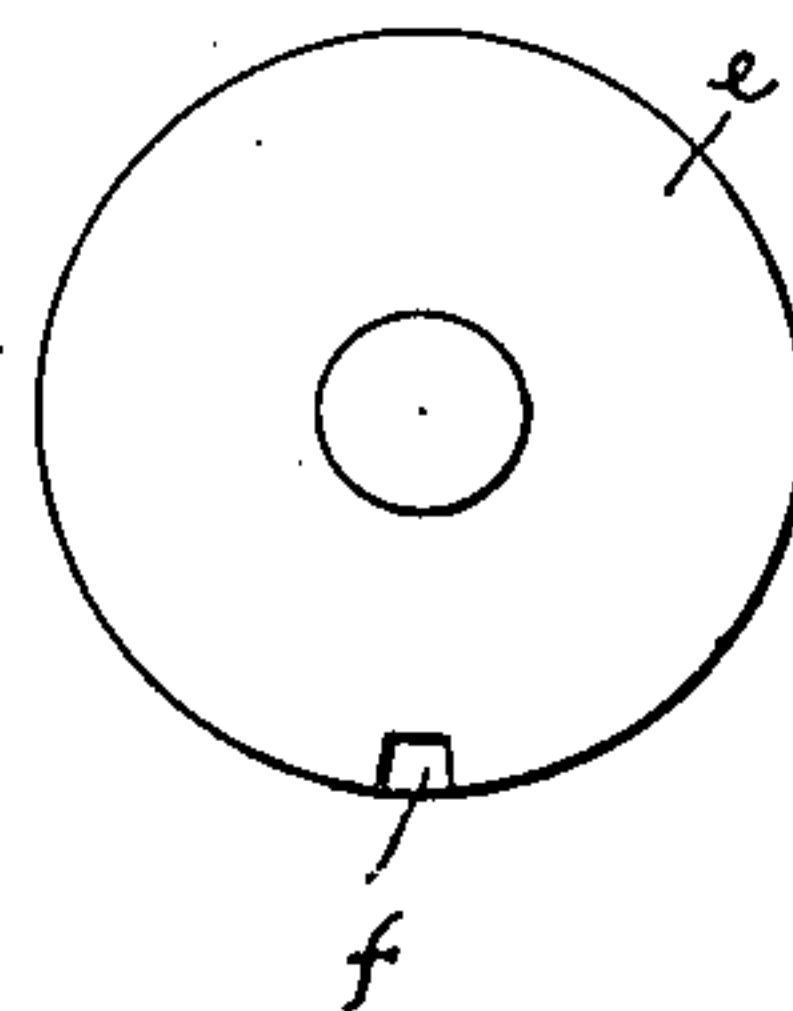


FIG. 5_

FIG. 6_



WITNESSES

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PHILIPPE ROUSSILLON, OF ARGENTEUIL, FRANCE.

FLEXIBLE AND ELASTIC BAND FOR PNEUMATIC TIRES.

943,998.

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To all whom it may concern:

Be it known that I, PHILIPPE ROUSSILLON, civil engineer, citizen of France, residing at 14 Rue du Pérouzet, Argenteuil, Seine-et-Oise, in the Republic of France, have invented new and useful Improvements in Flexible and Elastic Bands for Pneumatic Tires and for other Uses, of which the following is a specification.

10 This invention consists in improvements in and relating to flexible and elastic bands for pneumatic tires and for other uses.

The improved bands are essentially constituted as follows: A fine metallic thread is 15 surrounded with a layer or sheath of textile material, then with a layer of elastic material such as a solution of india-rubber or the like in such a manner as to completely isolate the same from the neighboring elements. This so covered wire can be directly 20 used to constitute fabrics of the kind called "biased wire," which consist of wires placed side by side, without a weft. Preferably a cable is made of a convenient number of 25 wires covered as described above, wound about a core of suitable size either of metal covered as the other wires, or of textile material, or of any other flexible material. The covered wires are wound at a convenient 30 pitch in order to preserve elasticity to the whole and are of an appropriate number, in order that there remains between the successive wires a space intended to be filled up with elastic material when the band is 35 formed. The small cables so made are surrounded with elastic material and arranged side by side obliquely with regard to the length of the band, in order to form a band or a metallic fabric of the kind called biased 40 wire, each of the metallic elements of which will be entirely isolated from its neighbor.

The annexed drawing illustrates the nature of the cables used for the manufacture of the flexible bands, as well as the method 45 of manufacturing said bands.

Figure 1 is a cross section of a cable and Fig. 2 a side view of said cable with a part of the elastic material broken away to show the arrangement of the wires on the core. 50 Fig. 3 is a view of the roller used for the

manufacture of the flexible bands. Fig. 4 is an end view of said roller. Fig. 5 is a plan view of a finished band, and Fig. 6 is a section of same on a large scale through line A—A. 55

Referring to Figs. 1 and 2 *a* represents a core of stretchable substance. This core may be solid as shown or hollow that is to say in the form of a tube. The metallic threads *b* wound around this core are surrounded with a sheath *c* of textile material. 60 The cable thus formed is surrounded with a layer of elastic substance *d*.

To form a band the cable is wound around a cylindrical roller *e* as is shown in Fig. 3. 65 The surface of the roller is provided with a helicoidal groove *f* arranged at 45° with regard to the generators of the roller. A strip of cloth coated with rubber solution of convenient size is helically wound over the 70 cable in such a manner that the edges of said strip register with groove *f*. If the cables on the roller are then cut in following the groove *f* a band or strip is obtained formed of cables arranged diagonally as 75 shown in Fig. 5. This band will constitute the flexible and elastic fabric, directly usable in the manufacturing of tires or for any other use. When, in the manufacturing of 80 tires for instance, several bands are to be used, they will of course be arranged one upon the other in such a manner that the wires of a band cross at right angle to the wires of the neighboring band. By vulcanization the different elements of each band, 85 and the bands themselves, will adhere together perfectly and form a whole, having the same flexibility and the same elasticity as tires formed of simple fabric without having the disadvantages of the same and having 90 greater resisting capacity.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

A flexible and elastic band for pneumatic 95 tires comprising a strip of flexible material having a plurality of elements secured thereto, each element consisting of a core of flexible material, a plurality of fine metallic threads having each a sheath of textile ma- 100

terial coated with a solution of india rubber and wound about said core, and a layer of elastic material surrounding said core and threads, said elements extending one next to
5 each other and obliquely with regard to the length of the strip, substantially as described and for the purpose set forth.

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

PHILIPPE ROUSSILLON.

Witnesses:

LOUIS MOSES,
H. C. COXE.