April 24, 1934. E. SCHRADER ET AL 1,956,545

PRESSER BELT FOR VULCANIZING MACHINES

Filed Oct. 4, 1933

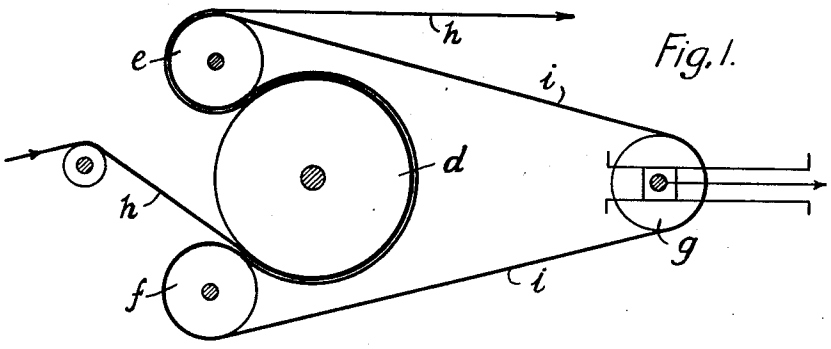


Fig. 1.

Fig. 2.

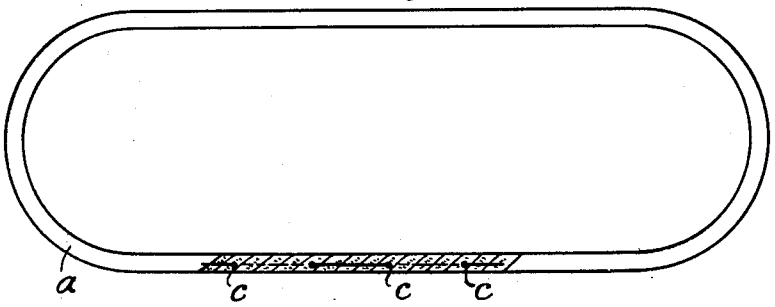


Fig. 3.

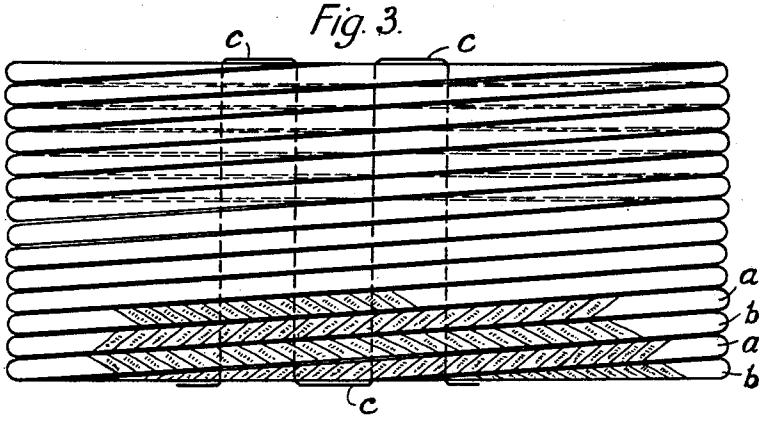


Fig. 5.

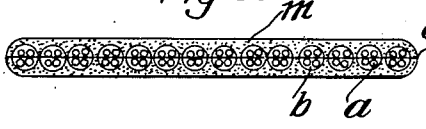
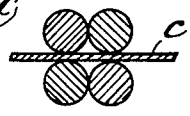


Fig. 4.



INVENTORS.
E. SCHRADER,
H. WINDHORN.
H. MEYER.

BY Blair & Kilcoyne.
ATTYS.

Patented Apr. 24, 1934 1,956,545

UNITED STATES PATENT OFFICE

1,956,545

PRESSER BELT FOR VULCANIZING MACHINES

Ernst Schrader, Hanover, Heinrich Windhorn, Hanover - Buchholz, and Hermann Meyer, Hanover-Kleefeld, Germany

Application October 4, 1933, Serial No. 692,194
In Germany August 1, 1932

2 Claims. (Cl. 74—232)

This invention relates to a presser belt formed by a rope belt for vulcanizing machines. In vulcanizing machines, it is known, the rubber articles to be treated, for instance rubber sheets, rubberized fabric or rubber flooring, are guided over heated cylinders or rollers, against the outer wall of which the article to be vulcanized is pressed by means of a strong endless presser belt. Hitherto for this purpose rubberized fabric or endless sheet belts and also belts of metallized fabric have been used.

In accordance with the invention a presser belt consists of an endless rope belt which is composed of a number of wire ropes lying side by side. These ropes are of alternately right and left twist and are connected together by transverse binding wires. Each of the individual ropes consists of four strands and the transverse binding wire is passed through each rope always at a point where the line of centers of the cross-sections of two adjacent strands is horizontal. In this way the binding wire traverses the whole of the belt without being bent.

In order that the invention may be readily understood it will now be described with reference to the accompanying drawing, in which

Figure 1 illustrates diagrammatically a vulcanizing machine comprising the usual vulcanizing cylinder *d* adapted to be heated, guide rollers *e*, *f*, and tensioning roller *g*.

The band *h* to be vulcanized passes over the vulcanizing cylinder *d* in contact therewith and is pressed against the said cylinder by means of the presser belt *i*. The belt *i* passes over the guide rollers *e* and *f* and the tensioning roller *g*. By suitably urging the tensioning roller in the direction of the arrow the belt *i* will be caused to apply itself firmly against the band *h* to be vulcanized and press the latter firmly against the cylinder *d*.

Figure 2 is a view in side elevation of a presser belt constructed in accordance with the invention,

Figure 3 being a plan view thereof,

Figure 4 is an enlarged diagrammatic view in cross-section through one of the wire ropes taken at a point where the rope is traversed by the binding wire, and

Figure 5 is a transverse section of the belt in modified form.

Referring now to Figures 2, 3, and 4 of the drawing, it will be seen that the presser belt is composed of a number of adjacent ropes *a*, *b*, which have alternately a right and left twist. The ropes *a*, *b* are each continuous. The transverse connection of the ropes is effected by means of binding wires *c*, which pass through the middle of the wire ropes *a*, *b*. Each wire rope is composed of four strands and the wire *c* is passed through each rope always at a point where it is possible to do so without bending the wire, that is to say where the line of centres of the cross sections of two adjacent strands is horizontal. (This is clearly illustrated in Figure 3.) The transverse binding wires *c* pass through continuously as shown in Figure 2. Preferably steel wire is selected, both for the wire ropes and for the transverse binding wire.

The construction of the endless belt can be effected by guiding the pairs of wire ropes *a*, *b* over exactly adjusted and immovably journalled rollers, the ends being secured in a suitable manner, and then connecting the ropes by the transverse wires *c*. In this way an extremely durable and uniform construction is obtained. In order to obtain a uniform surface, the rope belt may be covered with a resilient levelling material, for instance a rubber mass *m* as shown in Figure 5.

The new belt is particularly suitable as a presser belt for vulcanizing machines, because it can withstand sharp flexing and high stresses. The presser belts hitherto known will not withstand these high stresses.

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

1. As a presser belt for a vulcanizing machine, an endless rope belt composed of adjacent wire ropes each formed from four strands, the ropes having alternately right and left twists and being connected together by transverse binding wires, said wires passing through each rope and between the strands always at a point where the line of centres of the cross-sections of two adjacent strands is horizontal.

2. As a presser belt for vulcanizing machines, an endless rope belt coated with resilient levelling material, said belt being composed of adjacent wire ropes each formed from four strands, the ropes having alternately right and left twists and being connected together by transverse binding wires, said wires passing through each rope and between the strands always at a point where the line of centres of the cross-sections of two adjacent strands is horizontal.

ERNST SCHRADER.
HEINRICH WINDHORN.
HERMANN MEYER.