

Jan. 10, 1950

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2,494,262

IMPERVIOUS SPRING-ENCLOSING BELT

Filed March 19, 1947

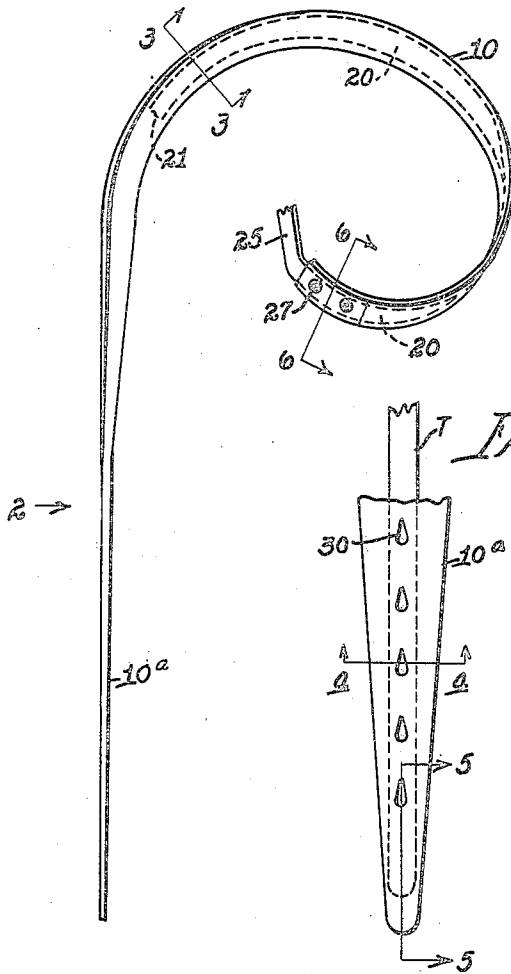


Fig. 1.

Fig. 2.

Fig. 3.

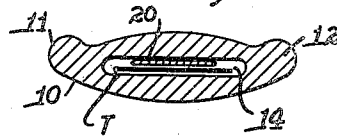


Fig. 4.

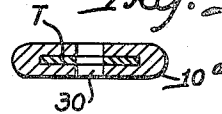
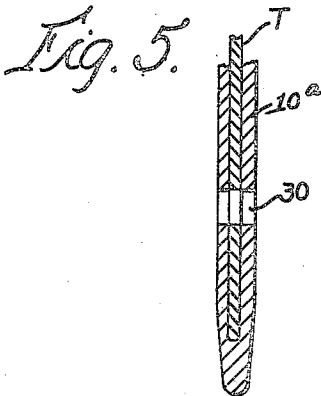
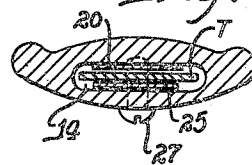


Fig. 6.



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2,494,262

IMPERVIOUS SPRING-ENCLOSING BELT

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Application March 19, 1947, Serial No. 735,749

1 Claim. (Cl. 2-338)

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This invention relates to belts as used in trusses and for other similar purposes, and relates particularly to belts which enclose metal parts. Such belts when in use are exposed to moisture and perspiration, and are found to deteriorate rapidly if made of leather or of other permeable material.

It is the general object of my invention to provide an improved belt which is impervious to moisture and perspiration, and which will not stretch under continued tension when in use.

A further object is to provide a spring-enclosing belt in which there are no exposed threads or stitches through which moisture may enter.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claim.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is a perspective view of my improved belt;

Fig. 2 is a plan view of the free end portion of the belt, looking in the direction of the arrow 2 in Fig. 1; and

Figs. 3, 4, 5 and 6 are enlarged detail sectional views, taken along the line 3-3 in Fig. 1, the lines 4-4 and 5-5 in Fig. 2, and the line 6-6 in Fig. 1 respectively.

Referring to the drawings, my improved belt comprises a strip 10 of extruded plastic material which preferably has the section shown in Fig. 3, with convex upper and lower surfaces, rounded edge portions 11 and 12, and a longitudinally extending opening or passage 14. This strip 10 may be formed of any suitable flexible plastic material which is impervious to moisture and perspiration.

In forming the belt from this strip of material, a non-extensible and preferably woven tape T is first inserted in the longitudinal opening or passage 14. This tape extends through a belt-length of the strip 10 of plastic material, from the spring-enclosing end of the belt to a point just short of the free end as indicated in Fig. 5.

A flat and preformed steel spring 20 is then inserted in the opening 14 alongside the tape T and this spring extends along the belt to an intermediate point indicated at 21 in Fig. 1.

If the belt is to be used in a truss, a pad-supporting plate 25 (Figs. 1 and 6) may also be inserted in the opening 14. The adjacent ends of the plastic strip 10, tape T, spring 20 and plate 25 are then firmly secured together, as by screws 27 but the rest of the spring is left free in the opening 14.

The end portion 10a (Fig 2) of the strip 10 and the end portion of the tape T are then subjected to heat and pressure in suitable dies so that the tape T and the plastic strip portion 10a

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are firmly compressed and with the tape T firmly anchored in the plastic material.

Holes 30 may then be punched through the strip portion 10a and tape T in the free end portion of the belt to receive a stud in any desired coating fastening device.

In a belt made as above described, the spring 20 is entirely encased in flexible impervious material by which it is fully protected, and the tape T, extending substantially the whole length of the belt, takes the endwise tension and prevents the plastic material from stretching or acquiring a permanent set. Furthermore, the tape T reinforces the stud openings 30 and directly receives the pull of a coating fastening stud.

I thus provide a plastic belt of pleasing contour and with smooth and impervious surfaces, which belt will permanently resist stretch and in which belt a preformed flat steel spring may be readily inserted and fully protected.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:

An improved spring-enclosing belt comprising a preformed flat tubular strip of flexible impervious plastic material having a correspondingly flat opening extending lengthwise therein and substantially therethrough, a strip of non-extensible tape positioned in said lengthwise opening and substantially coextensive in width with said opening, and a preformed elongated flat metal spring positioned in said lengthwise opening, one end of each of said tape, said spring and said tubular strip being firmly secured together at one end of said belt, said spring extending in said lengthwise opening alongside said tape for a portion only of the length of said tape and being free in said lengthwise opening, said tape extending freely in said belt opening to a point just short of the free end of said belt and the end portion of said tape being sealed in said belt adjacent said point, and the extreme free end of said belt being sealed.

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