Oct. 24, 1950 H. A. DAVIS 2,526,997

SAFETY BOOT

Filed Dec. 3, 1946

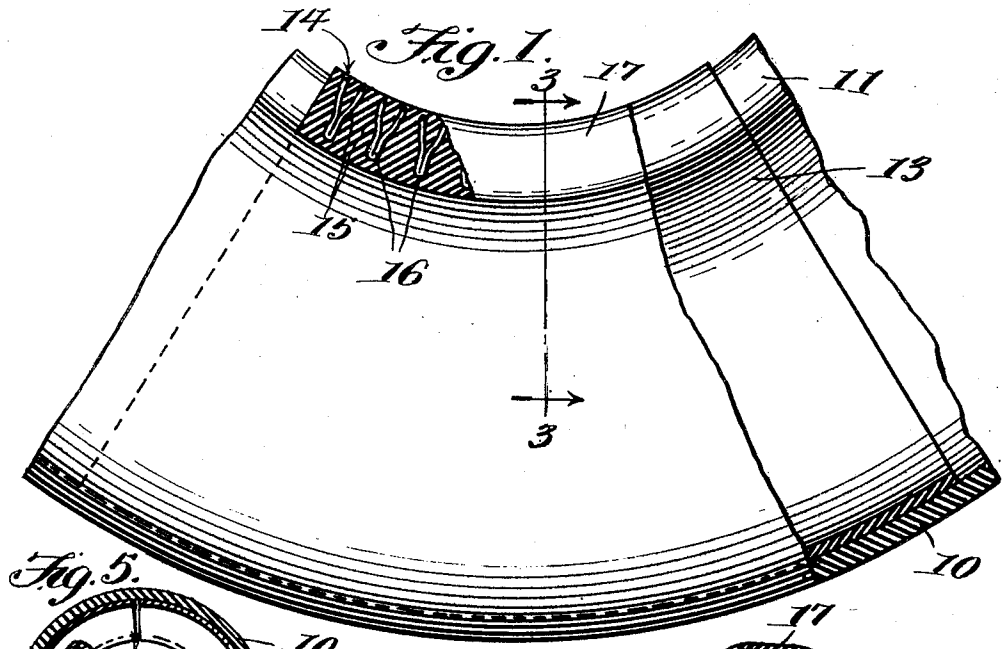


Fig. 1.

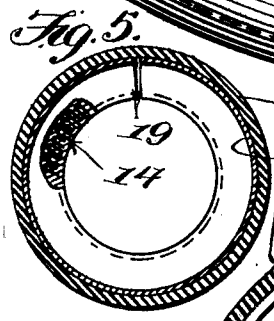


Fig. 5.

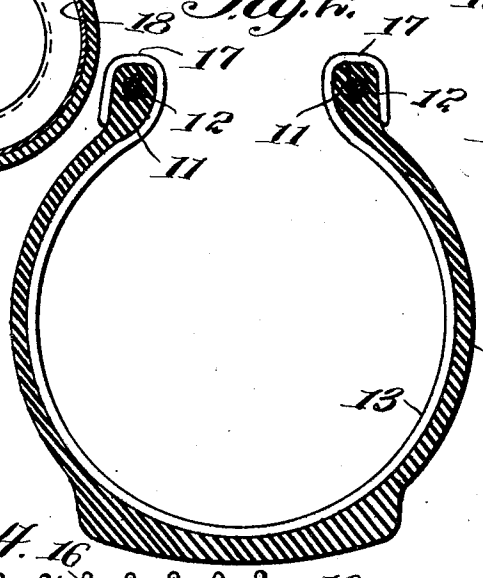


Fig. 2.

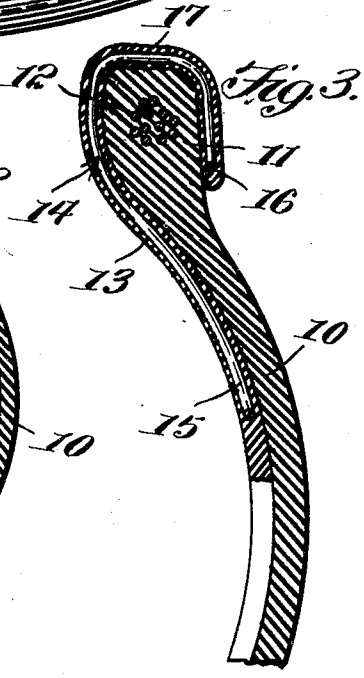


Fig. 3.

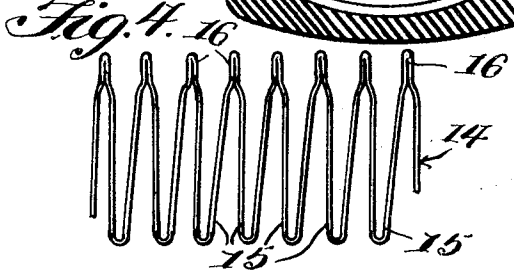


Fig. 4.

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SAFETY BOOT

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1 Claim. (Cl. 152—371)

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This invention relates to a safety boot or tire innerliner for automobile tire casings that will enable a casing that has broken or cut places on the inner or outer walls thereof to be used with perfect safety without danger of damage to the tube through foreign particles entering the cuts or breaks or the tube bulging outwardly of the cuts and breaks to cause rupture thereof.

An object of the invention is to provide a boot or lining that is made of the same type of material as the tire casing, and to be reinforced with the same gauge wire used in the casing beads.

The boot or lining will be formed to conform to the inner walls of the casing, and provided with means for retaining the boot and lining in place within the casing.

Conventional boots in use at the present time cannot be affixed to the inner walls sufficiently to hold them firmly in place, and to prevent the casing from bulging at the damaged portion. If the boot is made heavier to eliminate the bulge, it will cause the casing to bump as it rotates over the roadway, and the constant bumping generates heat, causing wear, reducing the strength of the casing and causing subsequent blowouts.

A boot or lining made in accordance with the invention will be light and strong enough to prevent bulging of the casing while also eliminating the bumping action due to the use of heavier boots.

With the above and other objects and advantages in view, the invention consists of the novel details of construction, arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawing in which:

Figure 1 is an elevational view of a section of tire casing showing a boot in section embodying the invention mounted therein;

Figure 2 is a transverse sectional view of a casing showing a boot embodying the invention mounted therein;

Figure 3 is a sectional view on the line 3—3 of Figure 1;

Figure 4 is an elevational view of the wire reinforcing and

Figure 5 is a sectional view of the casing showing an entire innerlining mounted therein.

Referring more in detail to the drawing, the reference numeral 10 shows a conventional tire casing having the beads 11 formed thereon in the usual manner, with reinforcing wires 12.

The boot comprising the invention can be made of any shape or size along its extreme ends from material similar to that used for making the original casing.

A piece of the above material is cut to form the boot 13 shown in Figure 1 and is split along its longitudinal outer edges to receive the reinforcing wire 14 which is bent in the spaced convolutions 15 shown in Figure 4, which are crimped at 16 at their outer end as shown, and

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the split ends then vulcanized to retain the wire 14 therein, or the reinforcing wire 14 may be molded into the material during the formation thereof.

The longitudinal ends of the boot in which the wire 14 is embedded are bent to form the hook-shaped portion 17 which will engage the casing bead 11 and when the casing is applied to an auto wheel, the rim thereof will firmly affix the boot in position in the casing.

In Figure 5, an entire tire innerliner 18 may be formed with free ends 19 whereby the innerliner may be positioned in the casing to cover the entire inner wall thereof.

The type of boot does not have to be affixed with an adhesive, but if found desirable, an adhesive may be used.. The boot is thinner, lighter and stronger than an ordinary boot, and will therefore eliminate the bumping of the casing caused by the use of an ordinary boot.

The wire 14 extends far enough into the boot to take care of breaks and cuts in the side rails of the casing. If the inner tube does not have enough pressure to hold the side walls in proper position, it will not affect or damage the wire 14 because the bottom ends of the convolutions would turn upwardly as the casing became flat, and would still protect the side walls of the casing without damage to the inner tube.

There has thus been provided a device which when used will lengthen the life of damaged tire casings, and it is believed the construction of the invention and its manner of use will be apparent to those skilled in the art, and it is to be understood that changes in the minor details of construction may be resorted to, provided they fall within the spirit of the invention and the scope of the appended claim.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

A safety boot construction for a tire casing having beads comprising a flexible body adapted to be placed in the casing and conform to the contour of the interior surface of the casing, a reinforcing wire formed with spaced convolutions embedded in said body, the convolutions of said wire being crimped at their outer ends and then bent into a U-shape to engage and conform to said beads to retain said body in said casing.

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