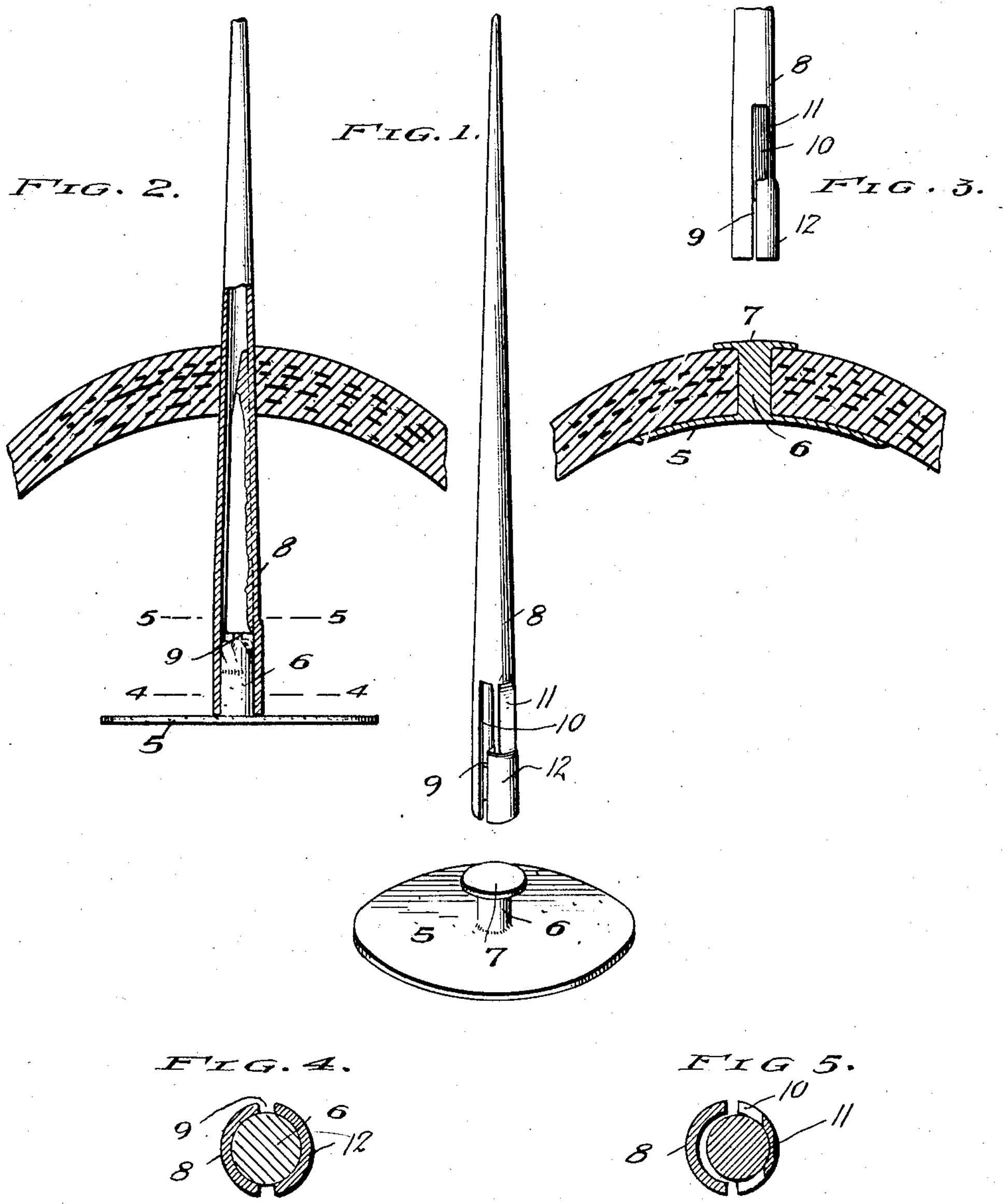
May 15, 1928. 1,670,242

E. COOK

PNEUMATIC TIRE CASING REPAIR PLUG

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UNITED STATES PATENT OFFICE.

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PNEUMATIC-TIRE-CASING REPAIR PLUG.

Application filed September 20, 1927. Serial No. 220,754.

This invention relates to a plug especially designed for use in plugging holes made in tire casings by nails, glass or pebbles working through the casing.

An important object of the invention is to provide means whereby holes on the tire casings may be plugged to prevent foreign matter such as dirt, gravel, water or the like from entering the casing to puncture or deteriorate the inner tube housed by the casing.

A further object of the invention is to provide a device of this character which may be readily and easily positioned by persons unfamiliar with the art of repairing tires, thereby reducing the cost of repairing or reconditioning the tire casing, to the minimum.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawing:

Figure 1 is an elevational view of a needle, the plug being shown in perspective.

Figure 2 is a vertical sectional view through a needle constructed in accordance with the invention and showing the same as positioned in a casing.

Figure 3 is a view illustrating the plug in position in an opening of the casing.

Figure 4 is a sectional view taken on line 4—4 of Figure 2.

Figure 5 is a sectional view taken on line 5—5 of Figure 2.

Referring to the drawing in detail, the device forming the essence of the invention is in the form of a plug which includes a large base indicated by the reference character 5, the same being preferably circular in formation.

Extending from the central portion of the base, is a shank 6 on which is formed a flat head 7 which is of a diameter considerably less than the diameter of the base 5 as clearly shown by the drawing. It will of course be understood that the plug is constructed of rubber and may be formed in various sizes so that plugs are provided for various sized openings, and for casings of various thicknesses, the length of the shank being equal to the thickness of the casing with which the plug is used.

The plug is positioned by means of a needle such as indicated by Figure 1 of the drawing, and as shown, this needle includes an elongated tapered body portion indicated by the reference character 8. One end of the needle is hollow and split as at 9, the split portions being cut away at 10 defining a contracted spring portion 11 that normally acts to urge the end 12 inwardly to clamp an article positioned between the split end. Secured to the contracted portion is a rod that braces the contracted portion of the needle to stiffen the contracted portion.

In the use of the device, the opening to be filled by the plug is thoroughly cleaned by a gasoline rag. The needle is now brought into play and the head of the plug is rolled so that it may be positioned between the jaws of the needle.

The plug is now thoroughly coated with cement or other adhesive material and the needle is forced through the opening in the casing from the inside of the casing and the plug is pulled into position to close the opening as shown by the drawing.

It will of course be obvious that the air pressure within the inner tube acting against the base of the plug will force the base of the plug into close engagement with the casing, filling the opening or cut in the tire to prevent foreign matter from entering the casing to puncture or cut the inner tube.

I claim:

A plug including a body portion constituting an enlarged rubber base, a shank extending from the central portion of the base, said shank being of a length equal to the thickness of the casing with which the plug is used, an enlarged flat head portion formed of thin rubber, and said head and shank adapted to be threaded through an opening in a tire casing to plug the opening.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

EUGENE COOK.