(No Model.)

C. F. WHITE.

NEEDLE FOR REPAIRING PUNCTURES IN BICYCLE TIRES.

No. 591,443. Patented Oct. 12, 1897.

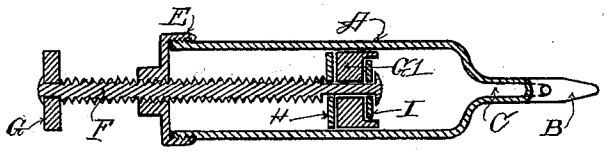


Fig 1.

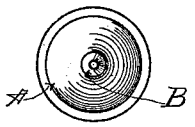


Fig 2.

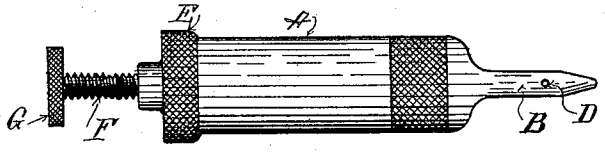


Fig 3.

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES F. WHITE, OF DENVER, COLORADO.

NEEDLE FOR REPAIRING PUNCTURES IN BICYCLE-TIRES.

SPECIFICATION forming part of Letters Patent No. 591,443, dated October 12, 1897.

Application filed January 26, 1897. Serial No. 620,806. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. WHITE, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Needles for Repairing Punctured Bicycle-Tires; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in needles for repairing punctured bicycle-tires with cement; and the objects of my invention are, first, to provide a needle having a pliable or slightly-yielding piston-head; second, to provide a compact, durable, and efficient cement-repairing needle. I attain these objects by the mechanism illustrated and described in the accompanying drawings, in which—

Figure 1 represents a longitudinal sectional view of my improved needle; Fig. 2, an end elevation of the same, and Fig. 3 a side elevation of the same.

Similar letters of reference refer to similar parts throughout the several views.

Referring to Fig. 1, A represents a cylindrical tube. At one end it is reduced to a small needle-shaped tube and point B. The larger tube is bored out to form a cement-holding chamber, and a hole C is drilled from the chamber into the needle end of the tube to near its point, where a transverse hole D is drilled through the shell into it. On the opposite end of the tube I cut a thread and fit upon it a cap E, the outer surface of which is knurled. Through the center of the cap I bore and thread a hole in which I fit to turn freely a threaded piston F, upon the outer end of which I secure a finger-disk G, the periphery of which is knurled to form a frictional surface. The opposite end of the piston is reduced in size below the threaded surface, which forms a shoulder. This end is provided with a leather or rubber or other suitable piston-head G′, which is of cup shape. On each side of this piston-head I place metal washers H and I, the washer I on the end of the piston being made small enough to fit inside of the cup of the piston-head and the washer H on the opposite side being made almost as large as the diameter of the base of the chamber. The end of the piston is then upset, and the piston-head is thus confined on the reduced portion of the piston. The cupped piston-head supported by the metal washers forms a yielding and pliable piston-head which can be compressed to fit tightly in the base of the cement-chamber and will yield enough to make a freely-moving and at the same time a slightly-expansible piston-head.

Some of the features of this needle were fully described and illustrated in Patent No. 571,422, issued to me November 17, 1896. Consequently I do not claim them all broadly in this application; but

What I claim as new, and desire to secure by Letters Patent, is—

The combination in a cement-needle for repairing bicycle-tires of a cylinder adapted to hold cement and having a needle-point, an eye in the needle below its point and a cap screwed to the inlet end of said cylinder, with a piston threaded to said cap, having a reduced inner end, a leather cup-shaped washer on the said reduced portion of said inner end of said piston adapted to form a piston-head, a metal washer on the reduced end of the piston inside of the cupped portion of said piston-head and against its outer side and the inner periphery of said cup-shaped portion of the piston, a metal washer on the opposite side of said cup-shaped piston-head a trifle smaller in diameter than the bore of the cement-chamber and resting against the shoulder of the reduced end, and an upset end on the extremity of the reduced end of the piston adapted to clamp the said cup-shaped piston-head between the said metal washers and the washers against the shoulder of the reduced portion of the piston substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. WHITE.

Witnesses:

JAMES W. DONNELL,

GEO. T. TRUMBULL.