April 15, 1924. 1,490,667

E. P. HENEREY

RADIUS ROD REPAIR SOCKET

Filed June 30. 1922

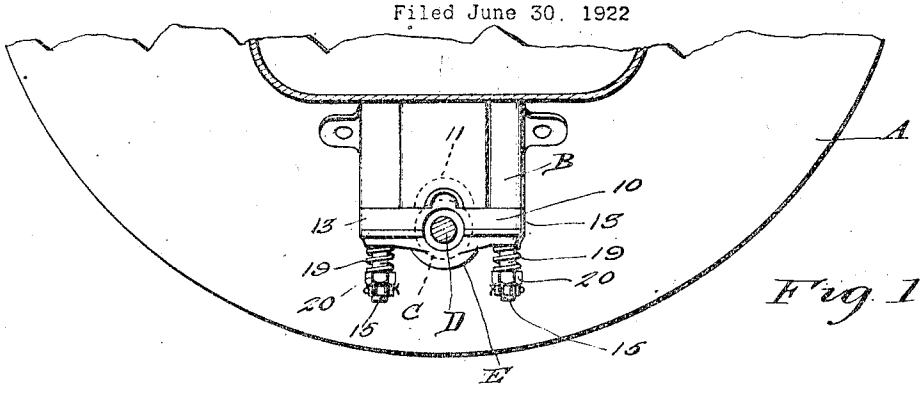


Fig. 1

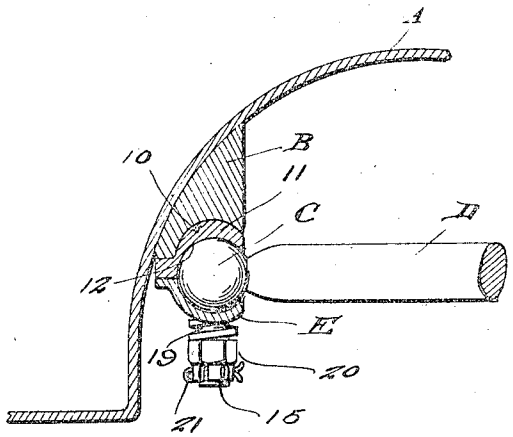


Fig. 2.

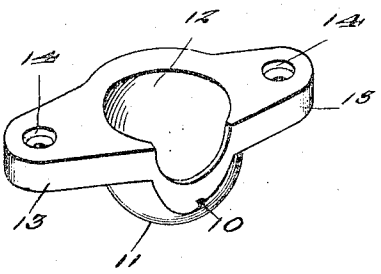


Fig. 4.

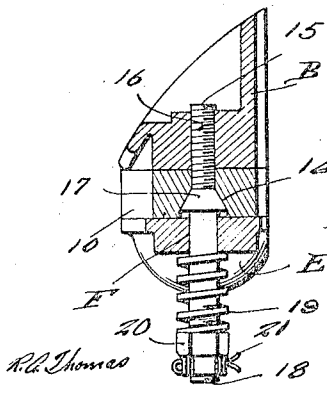


Fig. 3.

E. P. Henerey INVENTOR

BY Victor J. Evans

ATTORNEY

WITNESS:

R. A. Thomas

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UNITED STATES PATENT OFFICE.

EDWARD P. HENEREY, OF COPE, SOUTH CAROLINA.

RADIUS-ROD REPAIR SOCKET.

Application filed June 30, 1922. Serial No. 571,866.

To all whom it may concern:

Be it known that I, EDWARD P. HENEREY, a citizen of the United States, residing at Cope, in the county of Orangeburg and State of South Carolina, have invented new and useful Improvements in Radius-Rod Repair Sockets, of which the following is a specification.

This invention relates to repair devices for automobiles, particularly Fords and has for its object the provision of a novel socket device designed to be used in making repairs in case of breakage or wearing out of the ordinary socket which holds the ball head of the front radius rod.

It is well known that it is a very difficult matter to make a repair at this point owing to the fact that the socket is brazed onto the engine and necessitates disassembling before the necessary work can be accomplished. It is also well known that after considerable use of a car the ball socket becomes greatly worn even though it may not become broken and excessive play results which causes an annoying degree of rattling and makes the structure insecure. It is with these facts in view that I have designed the present invention.

An important object is the provision of a repair device of this character which is used in connection with the ordinary ball cap and which is held in place upon the broken or worn out socket by means of studs of peculiar formation.

An additional object is the provision of a device of this character which will be simple and inexpensive in manufacture and installation, highly efficient in use, durable in service and a general improvement in the art.

With the above and other objects and advantages in view the invention consists in the details of construction to be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which:

Figure 1 is a cross sectional view through a portion of a Ford automobile engine the section being taken in advance of the radius rod holding socket,

Figure 2 is a central vertical cross section through the device in place,

Figure 3 is a vertical section taken along one of the studs and

Figure 4 is a perspective view of the replacement member alone.

Referring more particularly to the drawings the letter A designates a portion of the transmission case of a Ford automobile engine, B designates the socket which is brazed onto the transmission case and which is for the purpose of holding the ball head C of the front radius rod D, the ball head being held in position by a cap E secured in place by means of nuts engaged upon the studs.

In carrying out my invention I provide a replacement member 10 which may be constructed of any suitable metal and which includes a partially spherical portion 11 adapted to fit within the socket B, this spherical portion being formed with a socket 12 corresponding exactly to the original condition of the socket B. This replacement member further includes lateral extensions 13 formed with holes 14.

In connection with this replacement member I make use of a pair of peculiarly formed studs 15 which replace the ordinary studs, and each of these studs 15 has one end threaded as shown at 16 for engagement within the usual stud receiving hole of the member B. Intermediate its ends each stud is formed with a frusto-conical enlargement 17 which fits within the hole 14, it being noted that these holes are formed substantially of the same configuration as the enlargements. The other ends of the studs are threaded as shown at 18.

When it is necessary to employ my repair device, the cap E and the ordinary studs are removed and the ball head of the radius rod is disengaged from the socket member B. The member 10 is then placed in position with the spherical portion 11 thereof engaging within the socket B, and the studs 15 are then screwed into the holes in the member B. Owing to the fact that these studs are formed with the enlargements 17 which fit within the openings or holes 14 it is apparent that the member 10 will be held firmly against the underside of the member B so that it cannot possibly drop down or become otherwise displaced. The ball head C is then engaged within the socket 12 and the cap E is placed in position against the underside of the member 10, the studs 15 passing through the holes F in the ends of the cap. I then prefer to place coil springs 19 about the studs, these springs abutting against the underside of the cap and also abutting against castellated nuts 20 which are screwed onto the threaded

ends 18 of the studs and secured by cotter pins 21 in the usual manner.

From the foregoing description and a study of the drawings it will be apparent that I have thus provided a simple and consequently inexpensive repair device which will have the effect of renewing the radius rod ball socket so that replacement of the latter will be avoided. It is to be noted that my device is placed in position without it being necessary in any way to remove the motor or disassemble any part of the mechanism.

While I have shown and described the preferred embodiment of the invention it is of course to be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention I claim:

1. A repair device for the front radius rod ball socket of an automobile, comprising a member having a partially spherical projection and adapted to be disposed against said socket with said projection received therein, said projection being itself formed with a socket corresponding to the normal condition of the original socket, said member being adapted to have the socket thereof to receive the ball head of the radius rod and to have the ordinary ball cap disposed against its underside, and studs passing through the cap and said member, each stud being formed intermediate its ends with an enlarged portion and said member having its end portions formed with holes conformingly receiving the enlargements on the studs, coil springs surrounding the studs below the cap, and nuts on the studs holding said springs in place.

2. A repair device for the front radius rod ball socket of an automobile, comprising a member having a partially spherical projection and adapted to be disposed against said socket with said projection received therein, said projection being itself formed with a socket corresponding to the normal condition of the original socket, said member being adapted to have the socket thereof to receive the ball head of the radius rod and to have the ordinary ball cap disposed against its underside, and studs passing through the cap and said member, coil springs surrounding the studs below the cap, and nuts on the studs holding said springs in place.

In testimony whereof I affix my signature.

EDWARD P. HENEREY.