J. J. PENHALLEGON.

AUTOMOBILE RADIATOR CONNECTION.

APPLICATION FILED MAR. 15, 1917.

1,330,899.

Patented Feb. 17, 1920.

Fig. 1.

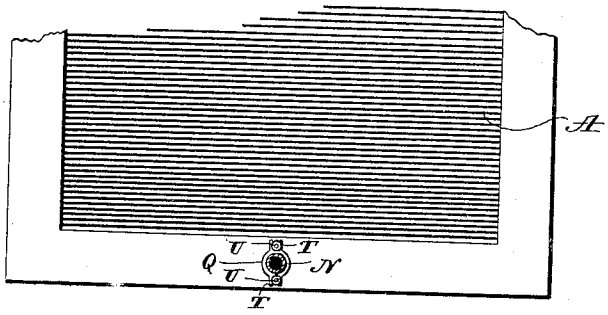


Fig. 2.

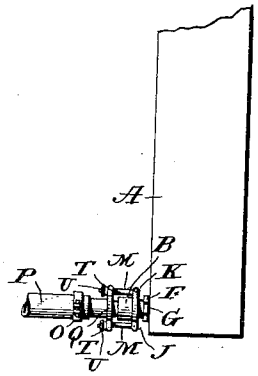


Fig. 3.

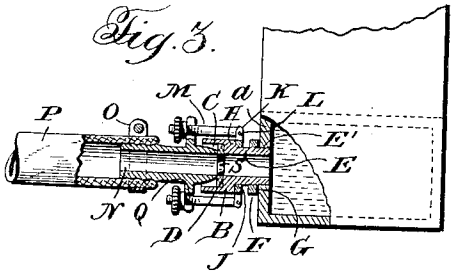
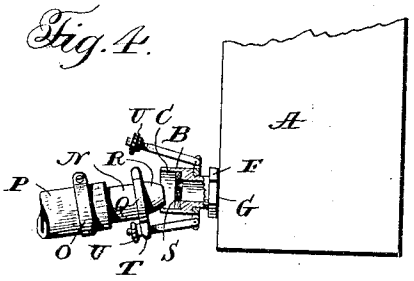


Fig. 4.



Witness:

Jas. E. Hutchinson.

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN J. PENHALLEGON, OF MINERAL POINT, WISCONSIN, ASSIGNOR TO THE PENHALLEGON COMPANY, OF ST. PAUL, MINNESOTA, A CORPORATION OF SOUTH DAKOTA.

AUTOMOBILE-RADIATOR CONNECTION.

1,330,899. Specification of Letters Patent. Patented Feb. 17, 1920.

Application filed March 15, 1917. Serial No. 155,016.

To all whom it may concern:

Be it known that I, JOHN J. PENHALLEGON, a citizen of the United States, residing at Mineral Point, in the county of Iowa and State of Wisconsin, have invented certain new and useful Improvements in Automobile-Radiator Connections, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in automobile radiators, and has for its object the provision of improved means for connecting the radiator to the conductor that leads from the radiator to the engine jacket or the like for conveying the cooling water or other liquid from the radiator to the parts to be cooled thereby.

Heretofore in the art it has been the practice to provide a flexible hose extension in the lead from the parts to be cooled to the radiator, and means for detachably securing the opposite ends of the hose in place so that the same might be removed in the case of wear and substitution of another therefor, and also to enable the uncoupling of the radiator to enable its removal from the vehicle.

My present invention includes the forming of the radiator with a separable coupling element adapted to coöperate with a complemental coupling element connected to the hose or other piping, and improved means for binding the separable coupling members in sealed relation, said means in turn being of what may be styled a quick-detachable nature. A characteristic of the preferred embodiment of the invention resides in the fact that though confined within small space or at a comparatively inaccessible place, the same may be readily assembled in operative position and secured in the sealing condition referred to; and a further characteristic is that quick separation may be accomplished upon simply releasing one of several securing devices together utilized in clamping the parts together at separated points.

The preferred embodiment of the invention to which I have just referred is illustrated in the accompanying drawings forming part hereof and the details in the construction and combination of parts may be readily understood from the specific description hereinafter contained when read in connection with said drawings.

In the drawings:

Figure 1 is an inner face view of a portion of a radiator with my improvements applied thereto;

Fig. 2 is a side view; and,

Figs. 3 and 4 are partly longitudinal sections and side elevations showing the parts in coupled position and in uncoupled position respectively.

Referring more specifically to the drawings, wherein like reference letters designate corresponding parts in the several views. A represents an automobile radiator, it being necessary to show the same but in a fragmentary way, the inner wall of said radiator being indicated at *a*. B is a relatively fixed member of a separable coupling, the same being provided with a socket portion C terminating in a shoulder D at the end of a stem portion E, the latter being detachably but firmly secured by threading into the wall *a* of the radiator as at E′ and being clamped in position by a threaded collar F on said stem, a suitable packing G being interposed to effect the sealing engagement if said packing is found necessary. Loosely mounted upon the stem E and exteriorly thereof and confined in place by the enlarged end portion H of the coupling member now being described and the nut F is a ring J having oppositely projecting pairs of ears K in which are pivoted as at L clamping bolts M to be again referred to. The complemental separable coupling member has a stem N peripherally roughened or grooved to receive and retain in place by a clamp O the end of a hose section P leading to the mechanical part or parts of the vehicle to be cooled. This stem N is formed integrally with an outwardly extending flange Q, and beyond said flange with a longitudinal tapered or rounded part R constituting the male member of the coupling adapted to fit in the socket C of the other coupling member B. The end of this projection R is of substantial thickness to bear upon a packing ring S introduced into the socket to occupy a position between the shoulder D thereof and the end of the projection R so that when the coupling members are clamped together in a manner as will now appear, the joint will be sealed.

Extending outwardly from the flange Q are oppositely disposed pairs of spaced lugs T integral with the flange Q, the space be-

tween the member of each pair of lugs opening outwardly or peripherally to permit the free insertion or removal of the ends of the bolts M when rocked on their pivots L. The outer or free ends of the bolts are threaded to receive thumb or other nuts U, so that when the bolts are thrown between the lugs T and the nuts screwed up against the outer faces thereof, the projection R of the separable coupling member will be forced home or against the packing or washer D to secure the coupling members against separation, relative movement, and in sealed coöperation.

The end of the hose section P being ordinarily fixedly secured at its end (not shown) to some stationary part of the machine it is of course not desirable, and at times it is impossible, to turn the hose so that for all practical purposes the coupling lugs T occupy relative relation to the parts of the coupling member carrying these lugs. Therefore provision is made to enable adjusting the position of the bolts M to bring them into registration with the spaces between the lugs and this is primarily the purpose for the loose ring J that carries said bolts, it being instantly appreciated that the ring may revolve about the stem E at the will of the operator. Another reason for this special arrangement is that the threaded portions of the bolts M and their pivots L are perhaps the weaker elements of the device and when desired to substitute new bolts in their stead it is simply necessary to remove the coupling member which is normally fixed to the radiator, take off the nut F and slip the ring J with its bolts from the coupling member when another may take its place. A further advantage of this construction is that, as hereinbefore observed, these parts are sometimes arranged in inaccessible places and the ease with which the hand of the operator may bring the bolts into alinement with the spaced lugs T is a matter of consequence.

In clamping the coupling members together of course both bolts are properly engaged with the lugs of the outer or separable coupling member, and the nuts turned up to rigidly clamp the coupling members together. However, in removing the coupling it is not necessary that both nuts be loosened because upon the loosening of say the upper nut, the conical formation of the projection R will permit the outer coupling member to rock downwardly thereby throwing the lowermost lugs T toward the outer coupling member or radiator which will permit the lower bolt to fall from place and entirely release the hose section from the radiator. Again, after once adjusting the parts, the connecting of the hose member to the radiator may be accomplished by simply inserting the lower lugs in advance of the nut over the bolt using the same as a fulcrum for rocking the projection R back into impinging relation when the upper bolt may be dropped into position and clamped. Here, obviously, by referring to upper and lower, I am merely making reference to relation because the rocking devices may as well be at the sides as above and below the coupling portions.

While I have herein disclosed one specific embodiment of the invention it will be understood by persons skilled in this art that the invention is capable of embodiment in such other forms and devices as may be included in the appended claims.

Having thus described the invention, what I claim is:

1. In combination with a radiator having a coupling member rigid therewith, a second coupling member adapted to interfit with said first mentioned coupling member to constitute with the radiator a water conductor, the interfitting portions of the coupling members being formed to permit the second coupling member to rock laterally out of interfitting relation with that coupling member that is rigidly connected with the radiator, and means for clamping the coupling members together to seal the space therebetween, said means comprising oppositely disposed clamping bolts pivoted to that coupling member which is rigid with the radiator, the swinging bolts being adapted to engage outwardly opening oppositely disposed slotted portions on the second coupling member, and means for securing the bolts in clamping position.

2. In combination with a radiator having a coupling member rigid therewith, said coupling member having a stem portion, a ring freely rotatable on said stem portion, clamping bolts pivoted to said ring, a second coupling member adapted to interfit with the first mentioned coupling member to constitute with the radiator a water conductor, said second coupling member having outwardly extending separated lugs providing peripheral openings for the reception of the clamping bolts, the interfitting portions of the coupling members being formed to permit the second coupling member to rock laterally out of interfitting relation with the other coupling member, and means for securing the bolts in clamping position.

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

JOHN J. PENHALLEGON.

Witnesses:

GEORGE D. RILEY,

SEWARD BACON.