Sept. 2, 1924. 1,507,449

M. ANCHELEVICH

REPAIR DEVICE

Filed Oct. 16, 1923

Fig. 1.

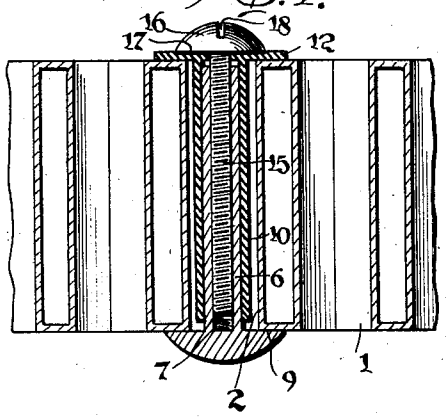
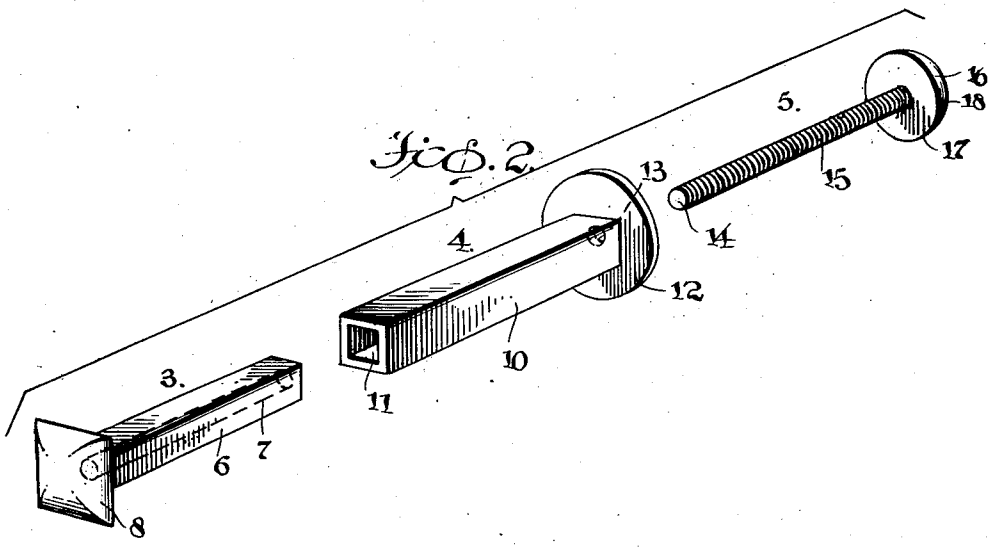


Fig. 2.



INVENTOR.
Max Anchelevich,
BY
Geo. P. Kimmel ATTORNEY.

Patented Sept. 2, 1924. 1,507,449

UNITED STATES PATENT OFFICE.

MAX ANCHELEVICH, OF EVANSVILLE, INDIANA.

REPAIR DEVICE.

Application filed October 16, 1923. Serial No. 668,868.

To all whom it may concern:

Be it known that I, MAX ANCHELEVICH, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Repair Devices, of which the following is a specification.

This invention relates to a repair device for radiators designed primarily for use in connection with automobile radiators of the honeycomb type, but it is to be understood that a repair device in accordance with this invention can be employed for any purposes wherein it is found applicable, and has for its further object to provide, in a manner as hereinafter set forth, means for repairing a radiator leak, when the radiator tubes are polygonal shape in contour without necessitating the removal of the radiator from the car, and with the means so constructed whereby it can remain indefinitely in position if desired.

Further objects of the invention are to provide, in a manner as hereafter set forth, a radiator repair device for stopping leakage and which is simple in its construction and arrangement, strong, durable, thoroughly efficient in its use, readily applied in operative relation with respect to the radiator tubes and inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a fragmentary view, in section, of a radiator showing the adaptation therewith of a repair device in accordance with this invention.

Figure 2 is a grouped perspective view illustrating the elements of the repair device disassembled.

It is of course well known that honeycomb radiators consist of a chamber of relatively small thickness and with the chamber provided with front and rear parallel walls, formed with tubular passages through which the cooling air passes. In radiators of this character, the liquid circulates about the tubular passages and the air passes through them. When a leak occurs in the radiator, water will discharge therefrom and the water circulation for the engine will be destroyed, under such conditions the engine will become heated and if it continues to operate without the water cooling system performing its function, serious trouble will result. A repair device, in accordance with this invention is employed for efficiently stopping a leak in the wall of a tubular passage so as to prevent the discharge of water from the radiator whereby the water cooling system will function.

Referring to the drawings in detail, 1 denotes a radiator of the honeycomb type and with the tubular passages 2 thereof polygonal, but they can be of any desired shape in cross section.

The repair device, in accordance with this invention, consists of a pair of closure members and a coupling member. One of the closure members is indicated generally by the reference character 3, and the other generally by the reference character 4. The coupling member is referred to generally by the reference character 5. The closure member 3 consists of a stem 6 of substantial length and which is polygonal shape in cross section and provided with a lengthwise extending socket 7, having the wall thereof threaded throughout. The length of the socket 7 is substantially the same as the length of the stem 6. The outer end of the stem 6 has formed integral therewith a head 8 which projects from each of the side faces of the stem 6 and has its inner face 9 flat throughout, so that when the closure member 3 is in operative position with respect to a tube 2, the inner face of the head 8 will abut throughout against the radiator 1, and as the head 8 is of greater size than the tube 2, one end of the tube 2 will be completely closed by the head 8, as shown in Figure 1.

The closure member 4 comprises a substantially elongated hollow stem 10, which is polygonal shape in cross section, and which forms a polygonal shape socket 11 for the

reception of the stem 7 when the closure member 3 is mounted in operative position, as shown in Figure 1 of the drawings. Formed integral with one end of the stem 10, is a flat circular disk 12 which is larger than the head 8, and said disk 12, when the closure member is mounted in operative position, abuts against the other side of the radiator 1 for the purpose of closing the other end of the tube 2, as shown in Figure 1. The disk 12, is of materially greater size than the size of the tube 2 and both faces are flat throughout. The disk 12, centrally thereof, is provided with an opening 13. The length of the stem 6 or a stem 10, is less than the length of the tube 2. The stems 6 and 10 may be of the same length or of any suitable length desired.

When the closure members 3 and 4 are arranged in operative position with respect to the tube 2, for the purpose of closing the ends thereof, the stem 6 is telescoped by the stem 10.

The coupling member comprises a substantially elongated cylindrical stem 14, provided with peripheral threads throughout, as indicated at 15, and the outer end of the stem 15 is provided with a head 16 having its inner face flat throughout, as at 17, and which abuts when the coupling member is in operative position against the flat outer face of the disk 12 in a manner as shown in Figure 1. The closure members 3 and 4, are detachably coupled together, when arranged in operative position with respect to the tube 2, through the medium of the coupling member 5, and the latter when in operative position extends through the opening 13 and has threaded engagement with the wall of the socket 7 in the member 6 as shown in Figure 1. The outer face of the head 16 is grooved, as at 18, for the reception of a suitable instrument, for the purpose of shifting the coupling member 5 to and from engagement with the threads of the wall of the socket 7.

When using the repair device, the closure member 3 is first inserted in the tube 2 from one end thereof, after which the closure member 4 is inserted in the tube 2 from the other end thereof and is arranged in telescopic position with respect to the stem 6. When the closure members 3 and 4 are arranged in the position, as stated, the coupling member 5 is then inserted through the opening 13 and shifted until its threads 15 engage with the threads of the socket 7 whereby the closure members 3 and 4 are detachably coupled together in operative position for the purpose of closing or sealing the ends of the tube 2.

The preferred embodiment of a repair device, in accordance with this invention for the purpose of stopping leaks in a radiator without the removal of the radiator, is as described and illustrated, but it is to be understood that changes in the details of construction can be had which will fall within the light of the invention as claimed.

What I claim is:—

1. A repair device for the purpose set forth comprising a pair of telescopic closure members each having its outer end provided with a head, each of said members including a shank, one of said shanks provided with a socket for the reception of the other of said shanks and the last mentioned shank provided with a socket formed with a threaded wall, and a removable coupling member including a threaded shank extending into the last mentioned shank and engaging the threaded wall of said socket for detachably connecting said closure members in operative position, the shanks of said closure members being polygonal in cross section and the shank of said coupling member being cylindrical.

2. A repair device for the purpose set forth comprising a pair of telescopic closure members each having its outer end provided with a head, each of said members including a shank, one of said shanks provided with a socket for the reception of the other of said shanks and the last mentioned shank provided with a socket formed with a threaded wall, and a removable coupling member including a threaded shank extending into the last mentioned shank and engaging the threaded wall of said socket for detachably connecting said closure members in operative position, the socket in the shank of that closure member which receives the shank of the other closure member being polygonal in cross section, and the other of said sockets being cylindrical.

In testimony whereof, I affix my signature hereto.

MAX ANCHELEVICH.