C. A. KURTZ.

RADIATOR REPAIR STAND.

APPLICATION FILED MAR. 16, 1920.

1,397,931.

Patented Nov. 22, 1921.

Fig 1

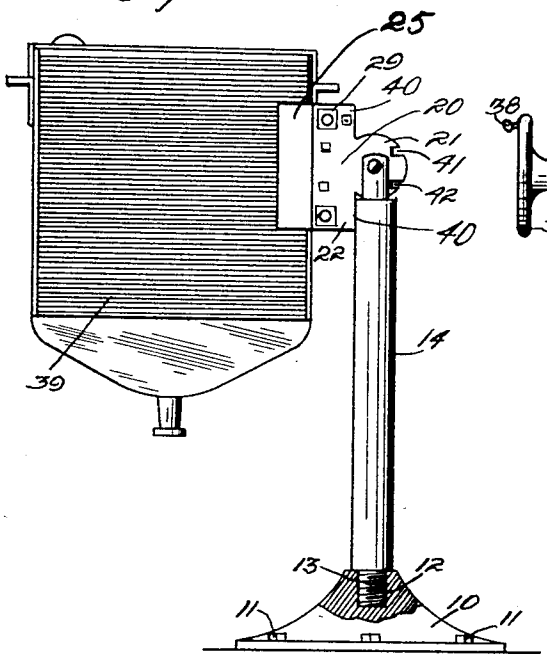


Fig 2

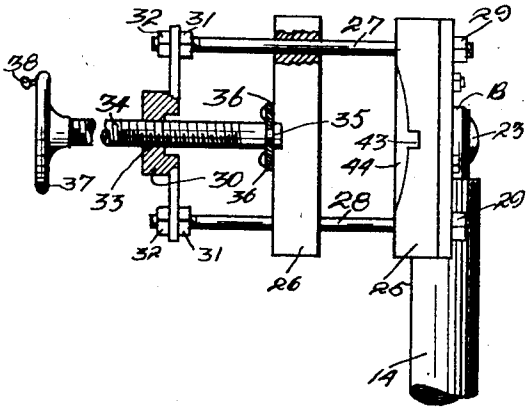


Fig 3.

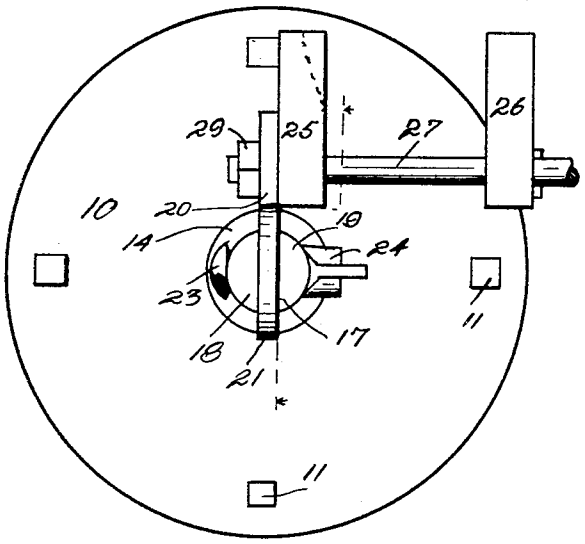
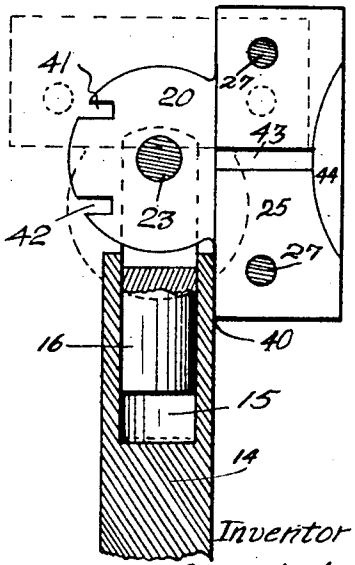


Fig 4



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RADIATOR-REPAIR STAND.

1,397,931. Specification of Letters Patent. Patented Nov. 22, 1921.

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To all whom it may concern:

Be it known that I, CARL A. KURTZ, a citizen of the United States, and a resident of Sac City, in the county of Sac and State of Iowa, have invented a certain new and useful Radiator-Repair Stand, of which the following is a specification.

The object of my device is to provide a radiator repair stand of simple, durable and inexpensive construction, and of such type that a radiator may be held in several positions in order to more perfectly repair it.

A further object is to provide a device having radiator jaws fixed thereon and capable of movement relative to each other, whereby radiators of various sizes may be held in position.

Still a further object is to provide a stand having radiator gripping jaws fixed thereon, capable of pivotal movement in two different planes, whereby any part of the radiator may be worked upon without the necessity of the operator traveling back and forth from one side to the other side.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 shows a side elevation of my device with a radiator gripped between the jaw members and held in one of its positions.

Fig. 2 shows an end elevation of my device, parts being shown in section to better illustrate the construction.

Fig. 3 shows an enlarged top view of my device; and

Fig. 4 shows a central, sectional view taken on line 4—4 of Fig. 3, the dotted lines showing the position of the jaw members when they are in their raised locked position.

In the accompanying drawings, I have used the reference numeral 10 to indicate the ordinary base of a stand, the base 10 being adapted to be secured to the floor by means of the bolts 11.

The base 10 is also provided with an internally screw-threaded opening 12, which is designed to receive the screw-threaded portion 13 of a column or supporting member 14. The supporting member 14 is provided near its upper end with a central opening 15. The opening 15 is designed to receive a short shaft 16, which has its center cut away at 17 in order to provide the upwardly extending fingers 18 and 19.

Placed between the fingers 18 and 19 and in the opening 17 is the plate 20, which is provided with a circular portion 21 and an oblong portion 22.

In the center of the circular portion 21, an opening is provided, which is designed to receive the bolt 23. The fingers 18 and 19 are also provided with an opening, which is designed to register with the opening in the circular member 21, thus permitting the bolt 23 to extend through the alined openings in the fingers 18 and 19 and the plate 20.

The bolt 23 is provided with a wing nut 24, whereby it may be tightened, thus causing the fingers 18 and 19 to firmly grip the sides of the circular member 21 of the plate 20.

Fixed to the plate 20 is the jaw member 25. Another jaw member 26 is provided, which is adapted to slide upon the guide rods 27 and 28. The guide rods 27 and 28 extend through the jaw member 25 and through the plate 20 and are provided with nuts 29 on their extended portions adjacent to the plate 20.

The free end of the guide rods 27 and 28 is provided with a bearing member 30, which connects the two free ends of the guide rods 27 and 28 together.

Nuts 31 and 32 are provided on each of the guide rods for holding the bearing member 30 in position. The bearing member 30 is provided with a central screw-threaded opening 33, which is designed to receive the screw-threaded rod 34. The inner end of the screw-threaded rod 34 is provided with an annular groove 35 in which is fixed the collar 36.

The collar 36 is fixed to the jaw member 26, whereby the screw-threaded rod 34 may be rotated for moving the jaw member 26 in either direction.

The outer or free end of the screw-threaded rod 34 is provided with a wheel 37 and a handle member 38.

It will be seen from the foregoing, that by rotating the wheel member 37, it will cause the screw-threaded rod 34 to rotate within the screw-threaded opening 33 of the bearing 30, thereby causing the member 26 to move toward or from the jaw member 25. The jaw member 25 may be called a fixed jaw member, while the jaw member 26 is a movable jaw member.

The radiator 39, shown in Fig. 1, is held between the jaw members 25 and 26.

It will be seen that by making the jaw members movable relative to each other radiators of various thicknesses may be accommodated.

By pivoting the plate 20 to the shaft 16 by means of the bolt 23, I am able to move the radiator to various positions in one plane, and by providing the shaft 16 within the opening 15, I am able to rotate the radiator in a different plane. By providing this, I am able to move the radiator to a great many positions and hold the radiator in any position, where it may be worked upon with the least amount of inconvenience to the operator.

It will be understood that when a radiator is broken, and it is necessary to solder it by the use of the blow torch method, it is extremely difficult to lay the radiator upon some flat surface and work upon it.

With my device, by placing the radiator between the jaw members, I am able to work through the radiator from either side, locating the broken tubes and thus repairing them without any great amount of inconvenience.

The fingers 18 and 19 of the shaft 16 are of such material that I am able to move the circular portion 21 of the plate 20 to various positions and hold them in any position by tightening the wing nut 24 on the bolt 23, this causing the fingers 18 and 19 to firmly grip against the sides of the circular portion 21.

The pivotal movement of the jaw members upon the bolt 23, as a pivot is limited by the edges 40 of the plate 20 striking against the sides of the column or support 14.

The circular portion 21 of the plate 20 is provided with the openings 41 and 42. When the jaw members are swung a quarter of a revolution from the position shown in Fig. 1, the openings 41 and 42 will register with the wall of the support 14. The weight of the jaw members when in this position will cause the shaft 16 to slide downwardly within the opening 15, thus causing the openings 41 and 42 to pass over the walls of the support 14.

When the jaw members are in this position, that is the position shown in dotted lines in Fig. 4 of the drawings, the device is locked against pivotal movement in one direction; but pivotal movement in a horizontal plane is still permitted when the device is in this position. The device will remain in this position whether the wing nut 24 is tightened or not.

The jaw member 25 is provided with a groove 43 on its inner face and with a semi-circular cutaway portion 44. The groove 43 and the cutaway portion 44 are provided so that the inner side near the top of the radiator may rest against the inner side or face of the jaw member 25.

It will be understood that on radiators of the Ford type, an extended portion is formed near the upper edge of the radiator, so that the water circulating tube, which connects with the engine may be secured thereto.

The groove 43 and the cutaway portion 44 are so designed that they will take care of the irregularities on the inner side of the radiator, so that when the jaw members are clamped against the radiator, the radiator will be held tightly against the inner faces of the jaw members.

In Fig. 1 of the drawings, I have shown the radiator in one position, but it will be understood that the jaw members are so adapted that either the top or bottom of the radiator may be engaged, depending just where the operator desires to work upon the radiator.

From the foregoing, it will be seen that my device is simple to operate and makes it possible to work upon radiators of various types without experiencing any difficulties.

Another advantage of my device is that I am able to move the radiator to various positions, where it will be most easy to work upon, and yet I am able to hold the radiator solid enough for any of the ordinary repair jobs.

Some changes may be made in the construction and arrangement of the various parts of my improved device without departing from the essential features and purposes of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

In a device of the class described, a stand having a center socket therein, a shaft slidably and rotatably mounted in said socket, the upper end of the shaft being adapted to project out from said socket, the projected portion of said shaft being bifurcated, a pair of clamping jaw members spaced adjacent to the upper end of said shaft, one of said jaw members being pivoted in the bifurcated portion of said shaft, said jaw member

being capable of movement to position where it will be held against pivotal movement relative to the shaft, said jaw member being provided with a notch in its surface, so that it may rest against objects having an irregular face, the other of said jaw members being capable of movement relative to the first jaw member, whereby a radiator or the like may be clamped between said jaw members, said jaw members being capable of pivotal movement in two different planes on said shaft, as and for the purposes stated.

Des Moines, Iowa, February 25, 1920.

CARL A. KURTZ.