

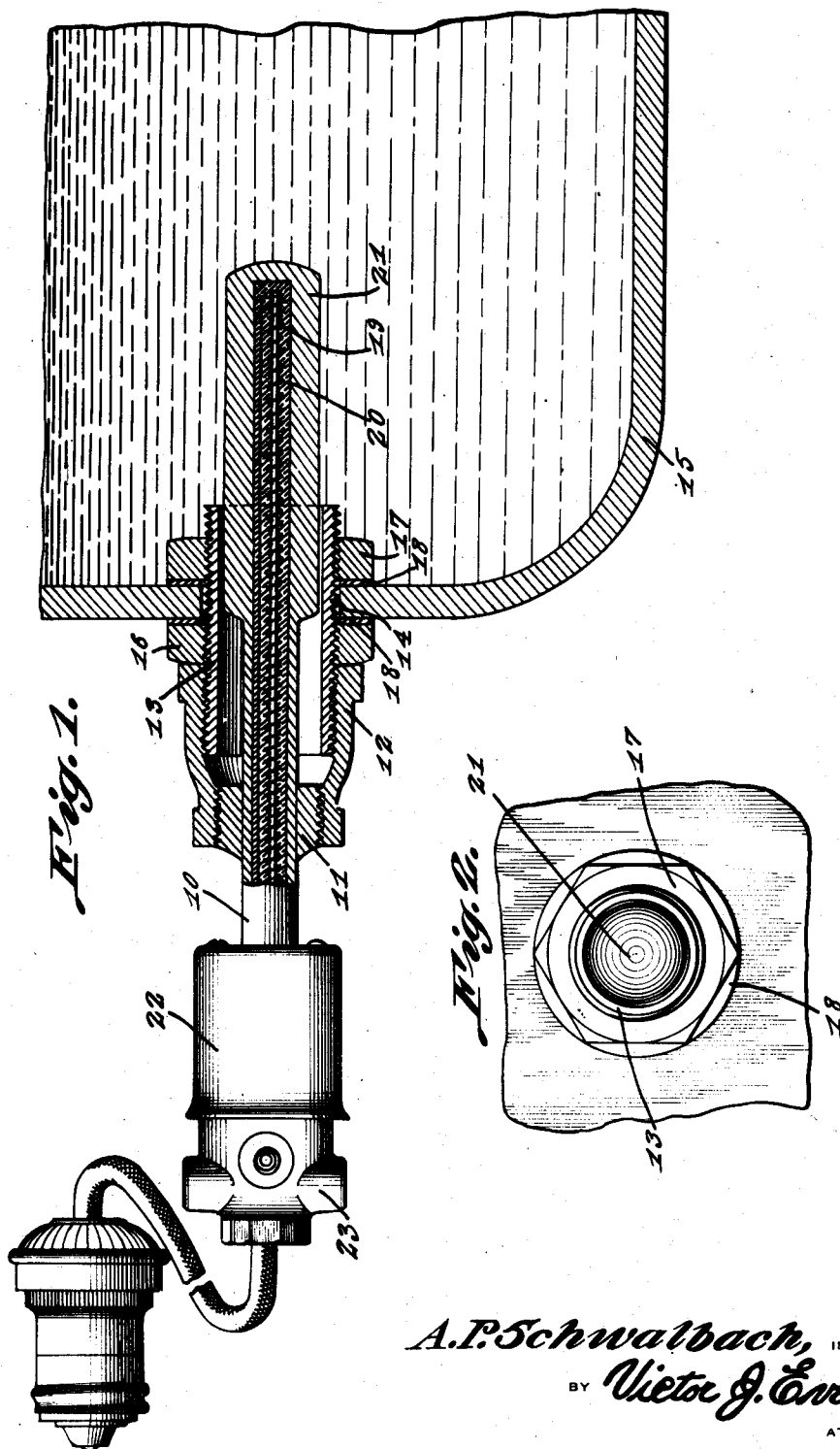
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A. P. SCHWALBACH

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HEATER

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HEATER

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This invention relates to certain new and useful improvements in heating devices primarily designed for use upon the crank cases of automobiles and the like to heat the oil therein preparatory to starting and to prevent the burning of bearings.

One of the principal objects of the invention resides in the provision and arrangement of an adaptor for the heater.

Another object of the invention contemplates a connecting element for the heater to secure same upon the adaptor and seal the assemblage upon the crank case.

More specifically stated the heater is provided with an electric plug connection for detachable engagement with a companion socket in communication with a source of electrical energy.

With the above and other objects in view, the invention further consists of the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is an elevation of the principal invention partly in section and illustrative of the particular manner of assemblage upon the wall of a crank case.

Figure 2 is an end elevation of the invention taken from within the crank case.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates generally a tubular member of metallic formation having an exteriorly threaded box 11 arranged at an appropriate point in the length thereof and which is designed for connection with the adjacent smaller end of a reducer coupling 12.

A pipe nipple or connecting sleeve 13 passed through an opening 14 in one side wall of the crank case 15 is held against displacement thereon through the employment of jam nuts 16 and 17 upon opposite sides of the crank case wall and rendered leak proof through the employment of washers or packing such as indicated at 18. The larger end of the reducer coupling 12 is telescopically associated and threadedly secured with the

outermost projecting end of the nipple or sleeve 13 and disposed for abutting engagement with the adjacent surface of the jam nut 16.

A heating coil 19, extended throughout the length and bore of the tubular member 10, is encased within a core of dielectric material 20 which also separates the return wire from the coil. The end or portion of the tubular member 10 projecting within the crank case and having contact with the contents thereof is substantially enlarged, as at 21. An electric socket connection 22 carried upon the outermost projecting end of the tubular member 10 and having spaced contacts, not shown, for connection with the adjacent ends of the coil and return wire, is adapted to accommodate a conventional form of electric cord connection or plug 23 designed for the conveying of electrical energy from the house current.

When oils within crank cases become chilled or so cold so that oil pump cannot handle it, or in cases of condensation where water accumulates in the crank case and freezes, the latter being a common occurrence in extremely cold weather, the invention will then prove effective for the purpose of thinning out the oil and heating same to such an extent that the oil pump can distribute same to the bearings and other working parts of an engine and prevent undue wear of the latter.

Although I have shown and described my invention as being primarily applicable upon the crank cases of engines and the like for the heating of the oil therein, it is obviously apparent that the heater may be equally and effectually as well applied within reservoirs containing other fluids for other purposes.

The invention is susceptible of various changes in its form, proportions and minor details of construction, and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention, what is claimed is:—

A heater for the crank cases of motor vehicles comprising a tubular member having an interior heating coil and extended for an

appreciable portion of its length within said crank case, a boss carried at an appropriate point in the length of the tubular member without the crank case, a reducer fitting carried by the boss, an adaptor sleeve telescopically associated with the tubular member and adjustably connected with the adjacent end of the reducer fitting, jam nuts arranged at intervals upon the adaptor sleeve having contacting engagement with opposite sides of the crank case wall circumferentially of the opening therein, and said tubular member being substantially enlarged from a point across the opening in the wall of the crank case and inwardly therefrom.

In testimony whereof I affix my signature.

ALFONS P. SCHWALBACH.

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