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LUBRICATING, RUST-DISSOLVING, AND PENETRATING OIL

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2 Claims. (Cl. 252—11)

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The present invention relates to the art of loosening or "unfreezing" ferrous metallic articles which have become "frozen," i. e. essentially integrated, as a result of the rusting of the parts.

It is a common experience to encounter difficulty in the removal of nuts, bolts, screws and the like from tools, machine parts or other metallic articles, particularly after the latter have been allowed to remain in disuse for a considerable period of time, due to the formation and integration of layers of rust on contacting surfaces. The resulting parts are said to be "frozen" and articles are not infrequently discarded because of the owner's inability to "unfreeze" the same.

A primary object of the present invention is the provision of a new composition of matter in the form of a penetrating liquid which is characterized by its capacities of (*a*) penetrating a rusted joint or connection between "frozen" parts of the character described, (*b*) deoxidizing the rust, and (*c*) lubricating the penetrated joint or connection, whereby relative movement between the parts is facilitated.

It has been found that this object of the present invention may be effectually realized by a four-component liquid composition which includes as ingredients:

1. Carbon tetrachloride, as penetrant agent imparting to the composition its ability to penetrate into the "frozen" joint;

2. Acetic acid, as deoxidizing agent to effect deoxidation of the rust of the penetrated rusty surfaces;

3. Gas-oil, as a vehicle and bodying agent; and

4. A lubricating oil, to lubricate the released surfaces.

An important feature of the invention is the method of compounding the new liquid composition. The acetic acid and carbon tetrachloride have to be mixed apart from the other ingredients, and this applies also to the gas-oil and lubricating oil. Then the acetic acid-carbontetrachloride

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mixture is intimately and uniformly admixed with the oil mixture.

A highly effective penetrating liquid can be obtained by using 30 parts by volume of carbon tetrachloride, 10 parts by volume of acetic acid, 40 parts by volume of castor oil, and 20 parts by volume of gas-oil.

A small quantity of the resultant liquid composition, applied to the end of a rusty and "frozen" screw thread, will penetrate the frozen joint within a few minutes so that the screw can be easily turned. Five to 20 drops of the liquid composition will suffice to loosen, within 15 minutes, a nut "frozen" by rust on a one-inch bolt.

In lieu of castor oil, as lubricating agent, use may be made of any other suitable and available lubricating oil. The acetic acid is conveniently used in the form of so-called "glacial" acetic acid.

Having thus disclosed the invention, what is claimed is:

1. A penetrating liquid of the character described for releasing "frozen" ferrous metallic screw-threaded joints and the like and consisting of an intimate admixture of carbon tetrachloride, acetic acid, gas-oil and a lubricating oil, in a proportion by volume of about 3:1:2:4.

2. A penetrating liquid according to claim 1, wherein the lubricating oil is castor oil.

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