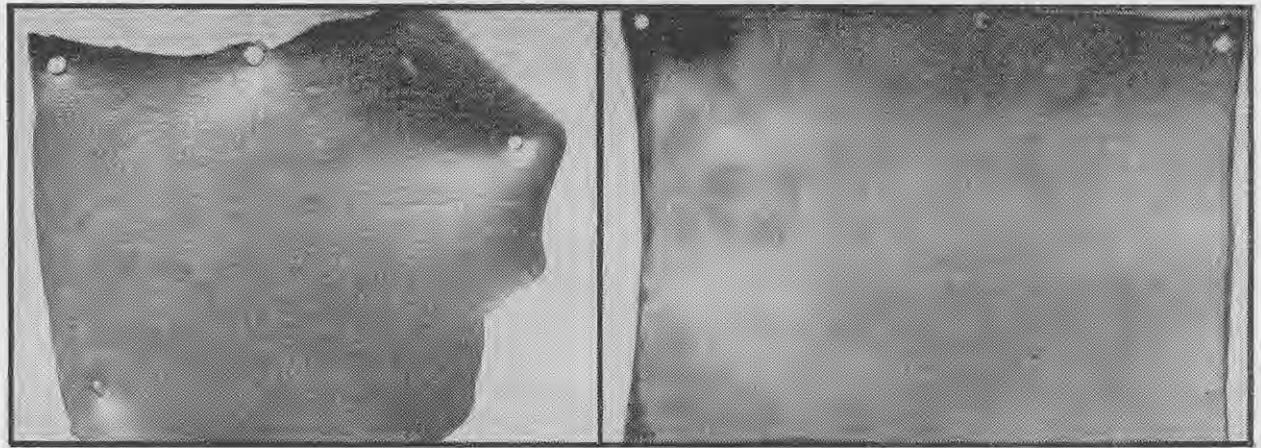


CLEANING MILKING MACHINES AND DAIRY EQUIPMENT



Left—A milk-elevator inflation perished by fat penetration. Note the cracked and perished surface, which harbours bacteria. This inflation was washed by hand twice daily. Analysis showed that it had absorbed 5.8 per cent. of fat by weight in 2 months. Right—Another inflation from the same elevator, treated by the boiling water-caustic soda method. Analysis showed that after 18 months' use it contained no trace of fat.

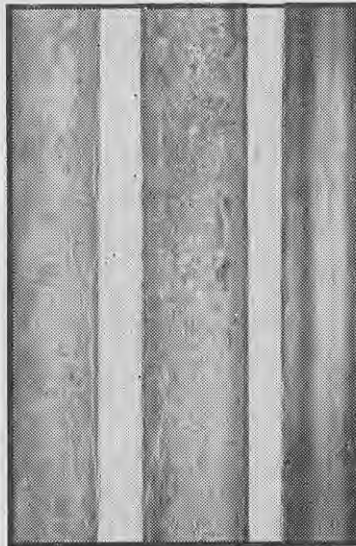
as adequate boiling water is available at any time and it provides a means for the sterilisation of utensils by immersion.

Electric water-heating appliances are simple and convenient, but the capacity of the cylinder and of the element must be sufficient to provide boiling water by the time it is required. This is not always possible during periods when electricity must be conserved; then it becomes necessary for the operator to adjust the intake of cold water to the cylinder to the reduced supply of electricity.

Warm or hot water, however plentiful, is useless for sterilising milking machines and dairy equipment, and if there is not sufficient power to bring the water to boiling point it will be more satisfactory to reduce the quantities of water recommended for cleaning to ensure that the supply from the cylinder reaches boiling point at the required time. A small quantity of boiling water will destroy bacteria; a large quantity of hot water will not.

Removal of Milkstone and Mineral Stone

Encrustations of milkstone and mineral stone are a serious contaminat-



Three sections of milk piping. Left—Heavily coated with milkstone and mineral stone. Middle—Coated with milkstone. Right—Pipe after treatment as recommended in this article.

ing influence, because they harbour bacteria and prevent effective cleaning and sterilisation.

The number of milking machines affected by milkstone and mineral stone coincides with the number not equipped with brushware. The contaminating influence of the encrustations and the difficulty and inconvenience of removing them from milking machine piping can be obviated by regular flushing and brushing. Where the piping and metal parts of a milking machine or the metal of other equipment is not bright and smooth and is coated in these deposits all such encrustations must be removed if the quality of dairy produce is to be protected. Any powerful acid will soften the deposits, but experience has shown that a weak solution of hydrochloric acid (spirit of salt) is the most suitable. The procedure is as follows:—

1. Dismantle the piping and plug one end of each length.
2. Pour into each length in turn 1 breakfast cup of a solution of spirit of salt and cold water (1 part spirit of salt and 2 parts water) and plug all inlets.
3. Allow the solution to remain until the deposits are softened. This will require half an hour or more, and the piping should be turned occasionally to spread the acid over the whole surface.
4. Remove the deposits, when softened, with a hard brush and immerse the piping or metal parts immediately in an alkaline solution (washing soda or caustic soda is suitable) to neutralise the acid and prevent damage to the tinning. Rinse with clean, boiling water.

Separator discs and parts, releasers, milk vats, and coolers, are treated in the same manner, but the acid solution is applied with a soft brush or cloth. Properly treated, piping and metal parts should be clean and bright and will remain in this condition if the cleaning methods recommended are followed regularly.

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