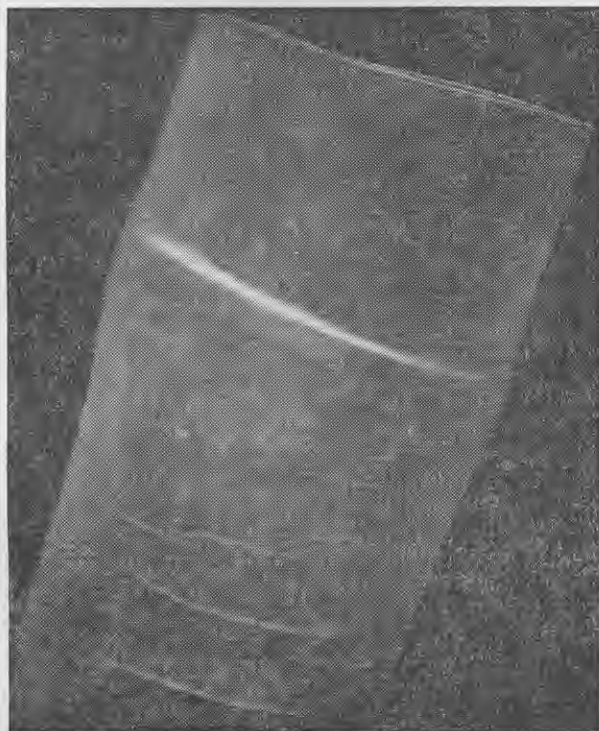


Transparent Plastic Tubing Found Unsuitable for Milking Machines

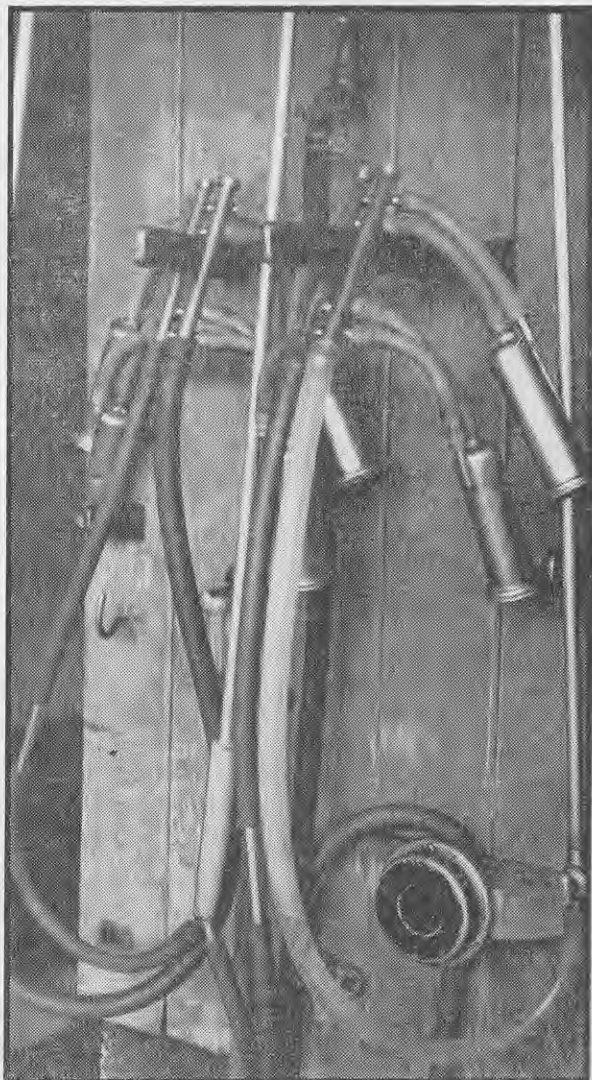
POSSIBILITIES resulting from the use of clear plastic tubing in place of rubber tubing on milking machines have aroused considerable interest. Results of trials carried out in New Zealand are the basis of this article by W. G. Batt, Supervisor of Farm Dairy Instruction, Hamilton, and W. G. Whittleston, Physical Chemist, Ruakura Animal Research Station, both of the Department of Agriculture. Their conclusions, which are supported by experience in Great Britain and America, are that the disadvantages of the plastic tubing outweigh its advantages and that the type of tubing tested is not suited for use on milking machines.

DURING the past dairying season several milking-machine companies sought an opinion about the suitability of transparent plastic tubing for the conveyance of milk between the teat cups and metal droppers of milking machines. The companies concerned had in mind that such transparent tubing would make a satisfactory substitute for long rubbers in particular, and it was suggested that it would have the advantage of allowing the milk to be visible.

To provide reliable data trials were begun under practical conditions on a Waikato dairy farm and at Ruakura Animal Research Station. In both trials lengths of English-manufactured, transparent, plastic tubing made of poly vinyl chloride (P.V.C.) were fitted and were cleaned by the boiling water-caustic soda method once daily and with boiling water after the evening milkings. At Ruakura 12



Cracks in the end of the plastic tube.



The plastic tubing on the machine during test. It has assumed a milky appearance and cracks have appeared at the end where it meets the claw.

cows per set of cups per milking were handled and on the dairy farm 9 cows. Results of the tests may be summarised as follows:—

Dairy farm: The duration of the test was 17 weeks. The main faults shown were: Principally, the appearance changed from transparent to white, making the tube almost opaque; the tubing was stiff and not as easy to handle as rubber; and the rigid nature of the plastic tubing became more pronounced with increasing cold and tended to place a side pull on the teat cups during milking.

Ruakura: The duration of the test was 20 weeks. The main faults shown were: The tube became distinctly milky in appearance, the transparency being reduced considerably; cracks developed both inside and outside where the tube joined the claw; and the end which was put on and taken off the machine became eroded.

The trials confirm the claim that plastic tubing is more fat resistant than rubber, but the plastic has disadvantages in other respects, the two most prominent being its progressive change of colour and its rigidity in cold weather.