DAIRY LABORATORY GUIDE

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INTRODUCTION

THIS laboratory manual is published for the benefit of the dairy short courses where the classes are largely made up of farm-boys whose education ranges from the Eighth Grade to High School graduates. Consequently it begins with the most elementary work and touches only the practical side, with which every dairy or creamery operator should be familiar.

Dairy classes are usually large, and where the instructor cannot give personal attention some students will not grasp the fundamental principles underlying the work. By following the outline of the manual the student may work out for himself these principles and their application. There is also a growing demand for systematic laboratory work in the short courses where a large amount of work is crowded haphazard into a small space of time. The purpose of this manual, therefore, is to aid the beginner in obtaining the greatest amount of benefit from the limited time spent in the dairy short courses.

Exercises in the operation of boilers and engines are not included in this manual because that work should be taken up in the mechanic arts department.

EXERCISE I

Arranging Laboratory Apparatus Preparatory for Use

Mix potassium bichromate $K_2Cr_2O_7$ and sulphuric acid H_2SO_4 in equal parts in eight to twelve of water for a cleaning mixture. Clean all glassware with this mixture by allowing the articles to stand

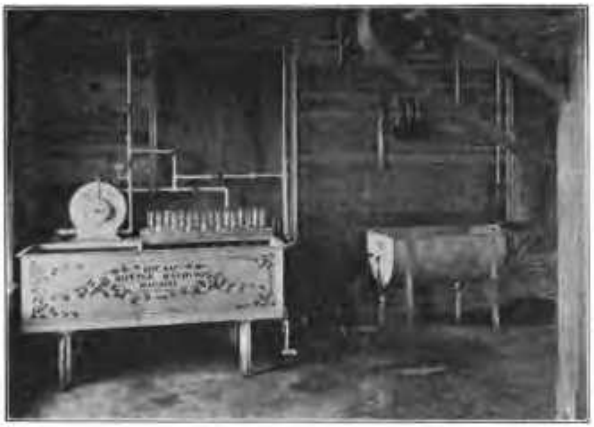

Fig. 1. — Bottle washing machine and sanitary wash tank, showing trap connections. This prevents water from splashing on the floor and soiling clothes or disfiguring machinery. The horizontal pipe should be six inches lower for convenience in stepping over it.

submerged in it for at least twenty minutes. Remove them from the cleaning mixture, wash with a solution of warm water and good washing powder,