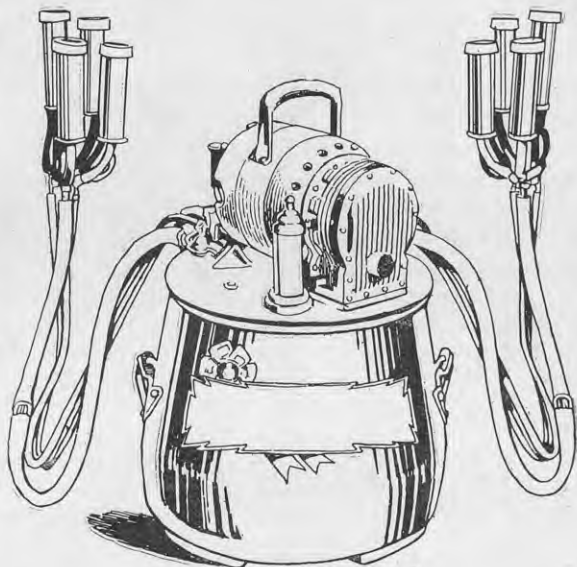


The history of the development of electric-power milking has been the replacement of the standard 3 h.p. oil-engine driving the ordinary releaser milking-machines by, first, a 3 h.p. electric motor. This was found to be largely in excess of the power actually required, and that even 1 h.p. will operate sufficient milking-machines at once to deal with a herd of a hundred cows. But a large proportion of the herds range from ten to twenty cows, and for a herd of this size a plant capable of milking two cows at a time is all that is required. A machine is now available of a much more compact type, capable of fulfilling this service, and driven by a motor of only  $\frac{1}{4}$  h.p. Moreover, it has the great advantage that the motor vacuum-pump and releaser are all mounted direct on the lid of the



bucket, and the whole outfit is thus exceedingly portable, and can be carried about in one hand, thus reducing the cost of the building and accessory equipment required in connection with it to a minimum. The complete apparatus is shown in the figure herewith. The cost of operation will also be much less than the standard 1 h.p. or 2 h.p. plants, though, of course, with the self-contained plant the separator and water-supply pump, if required, cannot be driven from the same shaft as is usual with the larger installations, and separate motors will have to be installed for this purpose. The Thames Valley Power Board have fixed a charge ranging from £7 per year upwards for the energy for this  $\frac{1}{4}$  h.p. outfit. Though it will probably not take the place of the standard arrangement for large herds of thirty to one hundred head, the  $\frac{1}{4}$  h.p. unit will probably have a large influence in extending the demand for electric power for milking the smaller herds of the Dominion.

---

**Areas in Orchards, Gardens, Tree-plantations, &c.**—Particulars of the area in occupation in New Zealand under this class in 1921-22 (aggregated as 146,346 acres on page 123 of February *Journal*) are as follows: Commercial orchards—Bearing, 17,607 acres; not bearing, 7,604 acres. Orchards for private use only, 5,910 acres. Vineyards, 179 acres. Market-gardens, 4,262 acres. Nurseries and seed-gardens, 395 acres. Private gardens and grounds about residences, 57,927 acres. Plantations, 52,462 acres.