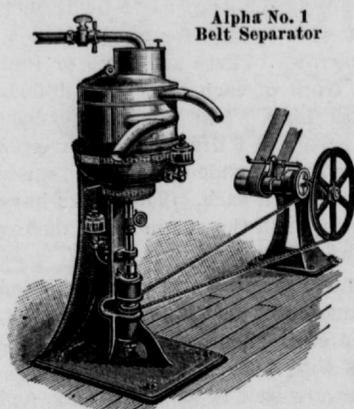


# DE LAVAL "ALPHA" CREAM SEPARATORS



Alpha No. 1  
Belt Separator

## CREAMERY AND DAIRY MACHINERY AND SUPPLIES

### What the 1897 Wisconsin State Experiments Show:

That many "Alpha De Laval" machines in every-day use are skimming as wonderfully close as .03; that the average is from .05 to .065; and that but one machine out of those personally tested by Prof. Farrington was leaving more than .1.

That the "Reid-Danish" machines are leaving an average of **three times** as much fat in the skim milk as the "Alpha De Laval."

That the "U. S." machines are leaving an average of **three times** as much fat in the skim milk as the "Alpha De Laval."

That the "Alexandra-Jumbo" machines are leaving an average of **four times** as much fat in the skim milk as the "Alpha De Laval."

That the "Sharples Imperial Russian" machines are leaving an average of **five times** as much fat in the skim milk as the "Alpha De Laval."

That the "Sharples Standard Russian" machines are leaving an average of **eight times** as much fat in the skim milk as the "Alpha De Laval."

COLUMBIA IMPLEMENT CO.

P. O. Drawer 26.

Portland, Ore.

### MAINTENANCE OF FERTILITY.

One thing experimentation has taught is that plant nutrition and the maintenance of soil fertility are two complex problems. We may date the beginning of the commercial fertilizer industry from the year 1840, when Liebig gave out his theory of plant nutrition. Bones and natural phosphate had been used prior to this time, but now that the true philosophy of their use was announced, a new industry quickly sprang into existence, and though virgin soils were still being robbed of their wealth, a brighter day was dawning for those who for the first time became conscious that they and those before them had been continually removing the elements of fertility without attempting to return them to the soil.

Experimentation followed with practical results. It appears that investigation was applied principally and only to field crops. Horticultural and orchard lands were scarcely thought of in connection with commercial fertilizers. It was soon ascertained that the elements mostly lacking in the depleted soils were nitrogen, potassium and phosphorus. This was observed in the case of field crops, but thoughtful men were not long in realizing that the same must apply to all lands that had been continually harvested with fruit of any kind.

The plain fact is that orchard lands need some kind of a fertilizer. They need nitrogen, potash and phosphoric acids and to these lime should often be added. With regard to the fertilizing of fruit trees, there is comparatively little accurate knowledge and the difficulty of the problem is heightened by the fact that, especially in young orchards, there is usually raised some crop which is making a draft on the soil in addition to the growing trees. Nitrogen tends to produce vigorous growth. Its general tendency is to cause an excessive growth of twigs and foliage; where weakness of foliage or wood is noticed, nitrogenous food should be applied. The question is often asked: "Can a soil contain too much available nitrogen?" Yes, very easily, and when it does there will be little fruit and that of poor quality. You are not after wood, but fruit, and so care and judgment should be exercised in the application of this fertilizer. As it is now generally known that leguminous plants can render the unavailable nitrogen of the air available and bring it into such a condition that it can be used as plant food, it would seem advisable to apply this element in this form. Besides, if applied in commercial form, it is very costly.

Of the three elements used in the way of commercial fertilizers, nitrogen is the most expensive. Cultivation is an easy

and rapid way of furnishing nitrogen, for nitrification is effected by continued cultivation, or by the growing of nitrogen producing crops. We thus get this otherwise costly fertilizing element at little or no expense to us.

Potash is an important element which should be applied to fruit growing lands directly. When trees have reached the bearing age, nitrogen falls out as a probable necessity, and potash and phosphoric acid become most important. How sad it is that so many orchards are not doing half what they might if these elements were applied. Bearing orchards need them every year in some commercial form.

There is scarcely a farmer in all this country, outside the student and the experimentalist, who uses any fertilizer whatsoever for his orchard crops, simply because he has always been taught that the old orchard would take care of itself. And what a mistake! It needs the same care and attention as the land devoted to other crops. And why not renovate the old orchard? It may contain but an acre or two; cut down all the worthless trees. Plow up the whole area, sow down to white clover and timothy, and at the same time put on an application of about 200 pounds of muriate of potash and 200 pounds of dissolved bone per acre. Keep the orchard trimmed up in good condition and henceforth each year apply chemical fertilizers in about this proportion per acre: Nitrate of soda, 100 pounds; ground bone, 200 pounds; muriate of potash, 300 pounds.

It will be surprising how soon the effect will be noticed. It is a sad fact that farmers do not appreciate what is often of great importance to them. We believe that by a little systematic work and study of the conditions, every farmer could materially increase his profit with a little extra work, and perhaps a little outlay of money. One of the first lines on which to begin the work is the care of the orchards. If the old orchard is hard and unproductive, first put it in fit condition for the growing of crops and the trees.

Cover the hardest spots with manure. Get humus in the soils; trees need it. And with an application of potash and phosphoric acid as previously recommended, one can feel pretty sure that a good fruit harvest will result.

The demand for hay of all kinds is better than it has been at this season of the year for the past three years. It means a great addition to the amount of money in circulation in the country when the farmers are realizing such good prices for their feedstuffs.

"Guard Your Sight."

MISS F. WILZINSKI, Graduate Optician  
112 Cherry St., Seattle.

Consultation Free.

