The results from turning the cream separator every morning still surprise me. Our little table top version of the mechanical device that Gustav de Laval of Sweden improved, patented, and manufactured beginning in about 1880 does the same job as the heavy duty model we had when I was growing up. This small separator requires a lot of cranking to turn Buttercup's whole milk into the skimmed version. But, in a few minutes, it does produce a Mason jar of thick cream, most of which eventually becomes yellow sweet cream summer butter.

Apparently, deLaval wasn't thinking about butter when he improved on the design for a separator based on centrifugal force. He had a steamship and needed a way to separate oil and water involved in the functioning of the engine. A retired Great Lakes freighter engineer told me that the separator is still used, for the same purpose. Its size, though, would dwarf our little model.

When I was small, we sold cream. The separator—a floor model that was both bigger and faster than the one we use for Buttercup's milk—stood in the milk house, a small concrete building next to the barn. We sold cream mostly during the summer months, the cows milking on grass. When they calved in the spring, it was in time for that first flush of pasture that produced an abundance of milk. Sometimes, I would "help" Dad turn the separator. Like "helping" drive the team of horses by following along behind with my hands on the lines behind him, my assistance in cranking the separator was, at best, not needed, and probably actually interfered with the process. Yet, nobody complained about my help. In fact, my father would call us "Holcomb and Kent," two old neighbors from before my time who, Dad said, did everything together. I would ask which I was—Holcomb or Kent, but I don't remember how he answered.

There was no hot water or washing facilities in that milk house. Dad would carry the separator basin and its working parts, along with the milk pails, to the house. My mother washed it all like she did the dishes, and the disks that did the job of separating were hung on a holder in the sun. I think my mother would have enjoyed the convenience we have now, of hot water in the milk room and a place to store the equipment.

I suppose I asked a lot of questions about how that separator worked. It still fascinates me, watching the stream of skim milk pour from the larger spout into the pan while a thin trickle of cream fills the jar. So, Dad explained about centrifugal force. He demonstrated by swinging a milk pail—half full—in windmill circles. I was astonished that no milk spilled.

I thought about that a lot. Later that fall, when there wasn't much cream in the pail—cows were drying up at that time of year—I tried it myself, but with the cream pail, not a milk pail. Unfortunately, I hit my leg at the bottom of the arc and spilled the cream.

One would think that a child would be punished for such a

wasteful act, but I was not. I guess my folks looked upon that incident as a learning experience, and, of course, I didn't try it again except with a pail of water.

Our cream went to the creamery in a small city about thirty miles away. A truck picked up the cream twice a week, and Dad took the ten-gallon cream cans to the bottom of the lane for the truck to pick up. The driver would leave our empty cans and take the full ones. Each producer had a number that was painted on the side of the can, so we always got our own cans back, and there was no confusion about whose cream was in each container.

We had a little glass churn, but my mother only churned butter when there was just a small amount of cream at the end of the season. When there was enough to sell, it went into the big cans.

This didn't mean that we ate margarine, at that time always referred to as "oleomargarine." I don't think any of us could have accepted that substitute. But, we didn't have to go to the store for butter, either. Once a week, in the empty cans the truck driver left, there were three one-pound packages of butter. Each brick of butter was wrapped in paper and then in a bright yellow, waxed cardboard box with the script "Meadow Queen" on the side of the carton. Three pounds a week were enough—but not too much—for our family of five. When the cream check appeared in the can once a month, there was a deduction for the butter.

Now, though, we make our own butter. The little glass churn has also been retired, because I found that my Swedish mixer can serve as a churn, saving labor and time. I don't mind turning the crank on the small separator, but somehow, spinning that churn handle is a job I don't relish resuming. I pour off the buttermilk—giving it to Kate and Blue—the border collies—and Raymond the Cat. I wash the butter in cold water, work in salt, and store the foil wrapped packets in the freezer.

We spend a lot of time producing our butter—Buttercup must come into the barn each day, Runo milks her, we strain the milk, I turn the separator, we wash the equipment and feed the skim milk to Lucia, Buttercup's calf. I churn and wash that equipment, and package the butter. But, that butter is definitely worth it. Plus, it is one more way by which we reduce our dependence on the industrial system, for most milk production, we believe, has gone from "farming," to "factory."