cows, a straw shed and an empty pocketbook, that he does not become interested and fails to grasp the principle underlying the whole matter, whether it be a 100 cows in a $5,000 barn or a half dozen cows in a board shanty roofed with hay.

Wherever a cow is kept for milk, there are a few things that should never be lost sight of. To the man with a few cows and little money they are more important than to the rich man with many cows and more money. It should always be the aim of the owner to secure the largest possible amount of butter fat (because this is the only true measure of the value of milk) with the minimum amount of expense, including time, labor, food and capital invested. The cow should be comfortable, healthy and vigorous, able to consume, properly digest and assimilate food for her support and a large surplus for milk. The profit in darying is always measured by this surplus. Moderate exercise under favorable conditions will contribute to the desired result; but every effort of the cow beyond that will detract from the profits. All the energy used in warming up ice-cold water, every moment she shivers in the cold wind, lessens the surplus for the milk pail. Cold, damp, dark or dirty stables are not comfortable, therefore in such quarters a cow will not do her best.

In the exercise of my duties as a dairy inspector I have visited every class of stable, from the best to the worst, those that were dry, clean, light and well ventilated, down to those that were dark, damp and filthy beyond description. Hundreds of times I have been met with the statement: "I would like to keep my cows clean, dry and comfortable, but I cannot afford it." In these inspections we note the kind and amount of feed used, the cost, etc., also the amount of milk produced. This gives us a reliable basis from which to determine the kind of care and feed and the character of stables that bring to the owner the largest returns for the time, labor, capital and brains invested. Right here it might not be amiss to mention that a great deal of time, much hard and disagreeable labor and the interest on consideragle capital was being wasted because there was

So Little Brains Invested.

I might put it another way, and say that the proportion of brains was so small in comparison to the time, material and hard work that the results, like the investment, was all one-sided, and that the wrong side.

After years of observation and thorough investigation I am firmly convinced that the weakest link in the dairy chain today is the stabling and care of cows. The ignorance, carelessness or negligence of one-half of the owners of cows throughout the Northwest discount the possible income from their cows more than 25 per cent.

To save this large annual loss by men who are too poor to bear it, the reform must be inaugurated by methods within the reach and understanding of the men who are at the bottom of the line. They must be forcibly and clearly impressed with the necessity, practicability and profitableness of cleanliness. It is both practicable and profitable to have stables clean, light, dry, warm and well ventilated without expensive buildings.

I can best illustrate this by the story of two small dairies where the changes were made at my suggestion and under my personal direction. In the first I found twelve cows in a low stable. The walls were of brush poles and boards, banked with manure and straw, the roof poles and brush with slough hay. It was thirty-five feet long and fifteen feet wide, a manger two feet high and two and one-half feet wide ran along the north side; no floor but the ground, which was level and fairly smooth. The cows were tied to the manger with short pieces of rope. Feed was carried in, and the manure pitched out through a large door at the south side and near the middle. The forks full of hay were passed over the cows to reach the manger. Bedding was used quite freely, but there was no trench, the ground was wet and the cows had a thick coat of manure on the udder over the flanks, and in some instances to the top of the back and along the sides. There were no windows or ventilators. The air was warm, but damp, and foul with odors. I insisted that milk produced under such conditions was unclean, unhealthy and

FARMER C. L. SMITH.
In characteristic attitude as he appeared while lecturing at the recent state dairymen's convention.

unfit for sale or consumption as human food. In this, as in hundreds of other instances, I was met with the statement, "I am too poor to bnild a better stable. I am doing the best I know how. I cannot afford to make any change. Cows kept in the stable in winter always have manure dried on them like that from fall till spring. I always brush off the teats before I milk, and very little manure gets in the pail. What does fall in we strain out with the chaff, hair, etc. The strainer takes out all the dirt." The man was honest and a hard warker. He believed every word he said. When I tried to reason with him, and insisted that he must change the condition of both cows and stable, he thought me ignorant, impracticable, cranky and unreasonable, and did not hesitate to express his opinions in language more forcible than elegant. It took me many hours

To Convert Him,

and my patience was sorely tried many times. Finally he yielded, and in one week we had the cows in four rows standing on a platform with an eight-inch drop, three good ventilators running from the floor up three feet above the roof, two windows in the south side, with nine square feet of glass in each one, the cows eating from the floor instead of the manger. Within two weeks the cows were all clean; so clean that there was no hair, chaff or manure left in the strainer. It all cost just $3.50 in money and about five days' hard work. There was no floor put in, but the edge of the trenches were faced with two 2x6 plank, the flat side of one being spiked to the edge of th other, the dirt from the trenches being thrown up to raise the platform. The poles and boards from the manger were used in making the stalls for three cows facing a narrow feeding alley at each end of the stable, the other six facing each other on a double galley in the middle. The man seems greatly pleased with the new arrangement, and says he finds it much easier to care for the cows than before the changes were made.

On another occasion I found four cows in a board stable 12x14 feet with a level plank floor laid on the ground, a manger two and a half feet high, to which the cows were tied; no window or ventilator. The stench was sickening when the door was opened; the loose planks would slush up and down in the filth. Scarcely any bedding was used and the cows were covered with filth to their ears. A woman was in charge of these cows and insisted that she used a great deal of care in milking; that the milk was clean and her customers all praised its quality. Here also I was met by the argument that they were too poor to fix their stable, and that it was impossible to keep cows out of manure. I would not yield, and finally succeeded in having the floor torn out, the stable divided into two stalls, a rack for hay made with old boards and barrel staves, a trench dug nine inches deep with plank at the sides, a window and ventilator put in. Each cow had a small feed box, The rack was hung so that when the cow stood up she must step back, so her hind feet would be close to the edge of the gutter. These cows were so dirty that it took several days to get them clean and there was not much hair left, but they were kept clean the rest of the winter. The owner has frequently told me that it is easier to care for the cows; that less feed is wasted and the cows give more milk.

When cows are properly stabled, the stables kept clean and the cows well curried and brushed every morning the work can be easily and quickly done. It pays to

Work by the Watch.

I do not believe it is necessary for the farmer to get up at 4 o'clock in the morning to care for his cows, but let the time be 6, 7 or even 8, it should be the same time every day. If the usual time for milking in the evening is 6 o'clock, then let it be at 6 every evening—not 5 one day and 8 or 9 the next. The milker's hands and clothing should be clean; the finger nails short and smooth. If the milker has sharp, rough nails the cow may kick, and who would blame her? Water regularly, and if possible have the water under cover in cold weather. The cow that shivers for hours together in the barnyard after swallowing a big drink of ice cold water is burning a good deal of butter fat to get warm again.

Feed regularly all the feed the cow will eat up clean. After the food of support there is profit in every pound of feed the cow can digest and assimilate.

$1,000

We offer one thousand dollars to be given in premiums on Butter at the next Annual Meeting of the Vermont Dairymen's Association, if the "Societe Anonyme Separator" **did not** exhibit a **Radiator** at the Paris Exposition, 1900; and provided the DeLaval Separator Co. will give the same amount of the "Societe Anonyme Separator" **did** exhibit a **Radiator** there.

$1,000

We offer one thonsand dollars to be given in premiums on Butter at the same meeting as stated above if the Aktiebolaget Separator **did not** have a large exhibit at the Paris Exposition, 1900, and **did not** distribute circulars in its own name; and provided the DeLaval Co. will give the same amount if the Aktiebolaget Separator **did** have such an exhibit, and distribute such circulars.

$1,000

We offer one thousand dollars to be given as above if the statements given below of the work of the U. S. Separator and the DeLaval Separator in the Model Dairy at the Pan-American **are not** stated as given by the Superintendent of the Model Dairy, viz.:

Average of tests of DeLaval Separator. .0172
Average of tests of United States Separator ..... .0138

And provided the DeLaval Separator Co. will give the same amount if those statements **were not** furnished by the Superintendent of the Model Dairy.

Vermont Farm Machine Co.
Bellows Falls, Vt.