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passes directly through the plates as it falls on them; the balance is pressed through as it is stepped on by the animals, and very little remains on the plate; what does, readily falls through by sweeping the plate with a brush broom. The iron floor for each cow weighs about 200 pounds, and each forms 10½ superficial feet of floor, requiring no repair. The upper surface of the bars of the gratings is convex and smooth. Cattle do not slip on them, nor do they suffer any inconvenience in any way from lying on them.

The floor on which the cows stand and lie is raised eight inches above the floor of the passage in the rear of the line of stalls; it has no obliquity or slope in any direction, and is long enough to lie on. Before I dismiss the consideration of my improved cow stable floor, I will describe one feature that I consider the most important of all embraced in it. Cow stable floors having a slope to the rear are both uncomfortable and dangerous to the animals. The obliquity occasions slipping; and when a cow in an advanced stage of pregnancy lies with the posterior considerably lower than the fore parts, the effect is to produce undue fatigue and injurious posterior pressure on the bowels and womb; and I have often observed the effect of it when it had so fatigued the muscular power of the neck of the womb that the fetus would be prematurely partially presented at times for weeks prior to the period of normal parturition. This needless barbarism is effectually avoided in the use of a stable floor that is level "fore and aft," and the floor a proper length.

In the use of open gutters behind cows to receive the excrement, it is a universal practice, besides giving the stable floor a slope to the rear, that the animals may not drown in their own urine, to place the gutter close to the animals, that the excrement may fall in it, instead of on the floor. This generally causes the posterior of the cows, when lying, to overhang the gutter, and they being thus deprived of support, the position is one of constant and severe fatigue. This, and a number of other stable cruelties which I desire to ventilate, we might hope would, at an early day, like other glaring barbarities when exposed, succumb to the march of civilization, but I fear it has become too stable to be soon supplanted by any substitute, however good.

I cannot dismiss the consideration of the "open gutter" without stating one more characteristic that it possesses, viz., that of storing in the stable all the accumulating filth in the most favorable position possible for the animals to smear themselves, the stable, the milker, the milk, and even the mangers.

The solid excrement dams the liquid in the gutter, and the tails of the cows become saturated with the filth, for broadcasting which that natural fly-brush seems admirably adapted. I know of stables that are smeared from floor to ceiling, and from wall to wall, and I know of few things that directly affect the cleanliness of human food which need reform more than the cow stable, yet it seems to have received little attention from members of dairy associations, but it is devoutly to be hoped that it will at an early day.

Nothing is more certain than that good butter and cheese cannot be made from impure or tainted milk.

## New Facts About Butter.

We gather the following interesting facts from the *Agricultural Gazette*:—

A report has been made to the Board of Inland Revenue by the Principal of the Chemical Laboratory, Somerset House, on experiments conducted by him for the analysis of butter; 117 samples were tested, the result being that while a few samples were found to be very poor in quality, and a few others exceptionally rich, the great bulk examined were found to possess considerable uniformity of composition, the principal variations being apparently due to a difference in the method of manufacture, the different seasons of the year when made, and the various modes of feeding. As might be expected, some of the poorest butters were produced by and obtained from small farmers in Ireland, at a time when there was very little grass, and food was scarce. It was also noticed that the butter was relatively poorer in its essential constituents when the food was chiefly cotton and oil cake, than was the case when roots and grass formed the staple food. A noticeable feature in the results recorded is the great variation in the quantity of water in the different butters, the lowest being 4.15 per cent. and the highest 20.75

per cent. The Devon and Dorset butters, which usually stand so high in the market, were found to contain in nearly all cases a high per centage of water, and one which was procured from the dairy of a private gentleman contained as much as 169.99 per cent., and a second sample, recently obtained from the same source, contained 15.70 per cent. Another point of interest was in some measure elucidated, and which has reference to the deterioration which certain butters undergo when kept in small quantities in glass or earthenware vessels. It was found that while some of the finest and best prepared butters undergo little or no change, there is in others a gradual disappearance of the characteristic principles of butter, and a consequent assimilation to the constitution of an ordinary animal fat. This change, which appears to be due to an incipient fermentation, and is generally accompanied by the development of fungi, is probably caused either by the use of sour cream or by insufficient care in making butter.

## Dairy and Beef, Combined.

J. B. Sheldon, of Derbyshire, writes as follows to the *Agricultural Gazette*:—

"The breeding of stock and its subsequent treatment, and the various diseases to which it is subject, must receive considerable attention at the hands of the Association, with regard to their bearing on the dairy. Of late years the fashion of breeding cattle has gone almost exclusively in the direction of beef and aristocratic pedigree, milking properties having been left too much out in the cold, too much ignored. With feelings of almost unqualified satisfaction I hail the establishment of an annual Dairy Show in the Agricultural Hall, the chief object of which is to stimulate and encourage the breeding of cows with a view to the production of that most useful and valuable article of food—milk. This however, must not be overdone, as the breeding of cattle with an eye chiefly to beef has been. The two should go hand in hand: both qualities should be developed in one and the same animal. And, indeed, it is as feasible to breed a cow possessed of excellent milking capacity and having also, when that capacity begins to fail or has become no longer profitable, a superior tendency to fatten well and quickly. The rapidly increasing consumption of milk in its primal and natural condition by all classes of our urban populations, makes the production of it all ready, and in the future more particularly so, a matter of passing importance to our dairy farmers. We find such a rapidly increasing trade being done in fresh flesh-meat from America—from which country such trade is capable of almost unlimited expansion—that in the production of this class of food for the people our farmers possess no longer what in the past has amounted almost to a monopoly. Hence it will in all probability soon follow that the production of beef in this country will cease to be of the transcendent importance it has been in past years. Now, milk is the one thing which we cannot get from abroad new and fresh and in its natural condition; and I seem to be imbued with a fancy—the prophetic accuracy of which, however, I do not venture to affirm—that with the increased consumption of milk by our people, will come to some extent a corresponding decline in the consumption of 'animal food,' as it is termed. And, indeed, it would be well if it were so—well for the soundness and health of the people. In any case, however, the attention of the Association to the development of the milk trade may wisely and worthily be directed. The end we have in view will be best accomplished by securing to the people a regular and sufficient supply of milk in a pure, fresh, and sound condition. This done, it will rapidly increase in popularity as an article of food."

A Cheshire letter says:—"The great decrease in cattle and sheep reported in your journal a few weeks ago will undoubtedly cause an advance in stock when the spring sets in, and unless there is a larger importation of American cattle and sheep through the coming year than the past, the probability is that mutton and beef will command higher rates."

## Kindness in Milking.

There is no situation in life, where man comes in contact with man, or with domestic animals, where he should not exercise kindness and consideration. Even as a suave, gracious manner wins for a person golden opinions, so tenderness and patience, combined with common sense, will gain for him the greatest profit in his farm-yard. In milking cows,

too many forget what they are handling. The udders of some cows are always exceedingly sensitive and tender. If, with rude grasp and carelessly rough grip, the milker begins to strip the milk from the bag, it is no wonder that the cow immediately protects herself by kicking. In those countries where woman does nearly all the milking, the kicking, "ugly" cows are the exception. The loud, disagreeable tone, the blow upon her flank, and the rude method of fairly dragging the creamy fluid into the pail, make of the most amiable creature a cross, stubborn and unruly beast. The milk never flows so freely as when some pleasant chatting and stroking has been given her beforehand. The mild, brown, peaceful eyes and sweet breath of this profitable animal can't but have their influence on any manly heart. A cow is so frequently of a nervous temperament, and of very delicate fibre, incapable of enduring unkindness with patience, that it were well to study her physical nature narrowly in order to make her of the most possible benefit as a milker or mother of calves.

## Shipment of Cattle to England.

The first shipment of cattle from Detroit by Michigan drovers has been made. The cattle have been successfully sold in London. The agents have returned and submitted their accounts of expenses and sales. The experiment has been entirely successful, and a valuable experience has been gained, and we think it has been demonstrated by this enterprise that the business can be carried on as successfully from Detroit as from any other part of the United States.

The trip was made in one of the steamships of the Guoin Line called the Wyoming. The intention of the shippers was to sell their cattle in Liverpool, but when they got there it was found that the butchers and drovers of that city did not favor the importation of American cattle, while in London the feeling was just the reverse. This made it necessary to ship the cattle to the London market by rail, and consequently there was this additional expense, which did not enter into the estimate. When another shipment is made it will be direct to the London market, and the cost of the freight will be no greater than to Liverpool.

The number of cattle purchased and shipped was fifty, and twenty-nine of these averaged 1551 lbs. in weight, the remaining twenty-one averaging 1762 lbs. Four head were sold in New York, and the remaining 46 head were put on board ship, with ample provision to feed them on the passage across the ocean, which lasted just ten days. The cattle bore the voyage well, coming off the ship at Liverpool in fine condition, and apparently not having lost in weight or quality. When taken to London market they were pronounced the best lot of bullocks that had been on sale for that week. They were sold by the head at the Metropolitan Cattle Market.

Receipts.....	\$7727 07
Expenses.....	7863 00

Total loss on shipment.....\$ 135 93

This shows a loss on the whole of \$2.72 per head, but this itself is to be accounted for altogether by want of experience. The shipment to Liverpool was a mistake, for the opposition and combination of the cattle dealers obliged the American dealers to take their cattle to London at an expense of \$141.80 for freight; and besides this there was the loss of time, and the expense of handling them in Liverpool, which together would make a difference of nearly \$3 per head, which would have been saved by a direct voyage to London, where it is proposed to take the next shipment, as the steamship company have offered to take future shipments of live stock at the same rates to that port that were paid for the freight to Liverpool.

These shrewd shippers think they can see a margin of profit in future shipments, and by a direct trade with London they will save enough to make a profit. Had they had the good fortune to have got their cattle into London the week previous they would have sold for two pounds sterling per head, or \$10, more than they brought. The freight across the ocean is expensive, but the room taken up by the cattle counts. On board the same ship there were 500 head of dressed cattle, 300 sheep and 200 hogs, and these did not take up any more room than the 46 head of live stock. But the advantage of live stock is very great, from the fact that it can be held to wait for a market, while the dressed meats must be sold at once.