by fat alone, $2.78; if by the fat plus two, $2.60, and if by the pooling system, $2.20. The pooling system would have given the patron 45 cents less for the milk than the market value of the cheese made from it. Compared with these figures are the results obtained from 3.2 per cent. milk, which is the lowest testing milk in the test. One hundred pounds of this milk made 8¾ lbs. of cheese, or 4½ lbs. less than was made from the same weight of 5.5 per cent. milk. Its value was $1.75, or 90 cents less than the value of the cheese made from the other lot. Again the difference in the values according to the fat plus casein and the straight fat, was only one cent, being $1.61 and $1.62 respectively. The fat plus two basis would give $1.80, and the pooling system $1.20. This shows the way in which the man with low testing milk profits at the expense of the men supplying the better article. In this case he would receive 45 cents more for his milk than the value of the cheese received from it, as against the other man's receiving 45 cents less than he should have done.

Results With Average Milk.

The second comparison represents the average milk as received at factories. The average difference between the highest and lowest testing milk is sometimes one and one-half per cent., sometimes three-quarters of one per cent., and on the average about one per cent. This year Mr. Publow received reports of tests from his instructors of the milk received at most of the factories in Eastern Ontario. In only four individual cases, represented by the reports of all his instructors, did the difference exceed two per cent. Here it will be seen that the amount of cheese again varied: the 3.5 per cent. making $1.87 cents worth of cheese, as against $2.30 from the 4.2 per cent. milk. The straight fat method, it will be seen, comes nearer in both of these samples to giving the patron the true value of his milk than either the fat plus casein or the fat plus two method. The pooling method, as usual, is the most unjust of all, giving the man with 4.2 milk 14 cents less, and the one with 3.5 milk 22 cents more than they should have received.

In the third comparison the fat method was only one cent out with the 4.0 milk, and with the 3.4 milk gives the patron the correct amount of money: the pooling system being 16¾ cents out with both lots, again discriminating against the man with the best milk. With the fourth comparison approximately similar results are obtained.

How It Works in Practice.

The second large division of the table may be taken as showing the way money would be distributed to the patrons who were sending milk that varied in the test within ordinary limits. The milk used in these tests varied from 3.2 to 4.2 per cent. If these patrons were paid according to the pooling system, each would receive $1.94 cents a cwt. for his milk. For the 4.2 milk, 36 cents too little would be realized, while for the 3.2 milk 19 cents too much would be realized. Paid for on the fat basis, the high test milk brings within five cents and the low test within four cents of the true value of the cheese made from them. On the fat plus two basis, the high testing milk brings within 16 cents and the low testing within four cents of their true value. This is significant as showing that in the cases under investigation, the straight fat basis came

(Continued on page 8.)

Heaves of Horses

They May Be Prevented, But Not Cured

HEAVES is a very common and annoying disease of horses, interfering seriously with the usefulness of the animal, and consequently detracting from its value. Mainly a disease of old horses, it is essentially the result of faulty feeding and working, especially hard pulling or fast driving when the stomach is overloaded. Gross feeders are frequently subjects of heaves.

While in old, established cases there may be alterations in structure of the heart and stomach, the principal changes are observed in the lungs. These consist first in an enlargement of the capacity of the air cells through dilation of their walls, followed by a passage of the air into the lung tissue between the air cells. Owing to such structural changes, it is impossible to prevent progressive development of the disease, which, however, under proper care, may go on slowly, the animal remaining serviceable for certain kinds of work for years.

Symptoms of Heaves.

Except in the very early stages the disease is readily detected. The symptoms are those which would naturally be manifested in a condition where the lungs are involved. A peculiar short, grunt-like cough is usually present, and when the animal is exerted a wheezing noise accompanies the breathing. The principal and characteristic symptom, however, is the jerky or double movement of the abdomen in an effort to force air from the lungs. The air passes into them freely, but the power to expel it is lost to a great extent; therefore the abdominal muscles are brought into play.

Indigestion is frequently observed in these cases, and the horse may have a depraved appetite, as shown by a desire to eat dirt and soiled bedding; and there is a tendency to the condition commonly termed "pot-bellied." The animal, though a heavy feeder, becomes unthrifty and emaciated.

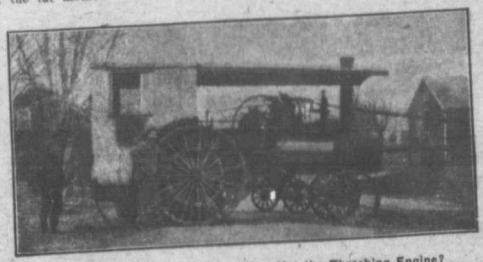
A poorly ventilated stable, humid weather, severe work, and overfeeding with coarse, dry feeds tend to aggravate the trouble.

As in this condition structural changes have taken place in the lungs, treatment, as a rule, can only be directed to the relief of the symptoms, and it is not possible to effect a complete cure after the disease is established.

Feeding the Heavey Horse.

In the case of an affected horse it will be an advantage to dampen the food with a mixture of one part of molasses to three parts of water, so that no dust may arise while the animal is eating. It is also desirable to restrict the amount of hay or forage, as large quantities of bulky feed which distend the abdomen increase the difficulty, and an animal with heaves should never be driven or worked when full of such material.

In these cases Fowler's solution of arsenic may be given in doses of one ounce in the drinking water three times daily. Ordinary lime dissolved in drinking water (limewater) will be found beneficial. Lime may be added to a barrel or cask of water, and after the resulting mixture has become clear through precipitation of undissolved portions of the lime the limewater may be used freely in watering the animal.



The Locomotive Has a Cab. Why Not the Threshing Engine?

This illustration, from a snapshot taken by an editor of Farm and Dairy in Prince Edward Co., Ont., shows how one thresherman has provided for his comfort in cold, raw fall weather. The cab is made of corrugated iron.

Red Clover Flourishes in New Ontario.

This fin. crop of clover grew on the farm of Mr. Alex. Skene, in the Rainy River District. Mr. Skene is one of the early pioneers of the district and was formerly a neighbor of the live stock editor of Farm and Dairy.

Milking by Machinery

It Helps To Keep the Men on the Farm

A FEW years ago one who ventured the opinion that the milking machine would soon be in common use on dairy farms was apt to be looked upon as being too optimistic. Now, no matter where one travels in dairy sections, he is constantly meeting farmers who have milking machines installed. To the majority of those who are using them they are proving satisfactory. Some, of course, are to be found who are not strongly impressed with their merits, but others are enthusiastic about them, some exuberantly so. From an impartial standpoint it would appear that where one of the standard makes of machines has proved unsatisfactory there is a probability that the trouble is due to bad installation, or to unskilled operation, rather than to the machine itself. The best proof that they are successfully filling a great need on dairy farms is that they are steadily and rapidly gaining in favor. The indications are that they will soon be found on every progressive dairy farm.

During a recent visit to Durham Co., Ont., I called on Mr. A. T. Stainton, who had been referred to me as the local milking machine expert. Mr. Stainton I found to be thoroughly well informed on the operation of the milking machine, and in the half-hour's chat that we had concerning them he brought out many valuable points regarding their care and operation. "The milking machine is a success when properly installed and operated," he said. "Whenever they have been found to be unsatisfactory it has generally turned out to be the fault of the man and not of the machine. Our experience in this locality confirms that of the city milk inspector of Toronto, who stated that he had found lots of machines working satisfactorily, and if they were giving trouble it was because they were not properly handled. I have had the machine in my stable for a year and a half, and in that time have