

neglected, and may cause acute mammitis, or even blood-poisoning. They are sometimes caused by powerful traction of the calf on the teat while sucking when the milk is scanty and the teat empty. Even in cases where the milk is abundant these cracks may appear, especially when the skin of the teat is quite fine and thin. This is especially the case in cold weather, the alternate operations of heat produced by the calf when nursing, and cold acting upon the parts immediately afterwards have a tendency to cause the trouble. The trouble may also be caused by careless or rough handling of the teats by the milker, and it sometimes occurs without appreciable cause.

Symptoms—When the teats are empty probably nothing abnormal can be noticed, but when full, more or less deep cracks will be noticed in a transverse direction, at the bottom of which pus will be noticed. The surrounding tissue will be inflamed, red and tender, and the animal refuses to be milked, or nursed by the calf.

Treatment—Preventive treatment consists in observing care and cleanliness in milking; and if nursing the calf the cow should be excluded from cold. Curative treatment consists in not allowing the calf to nurse, but drawing the milk carefully with a teat syphon, which should be thoroughly disinfected by boiling in water and then oiled with sweet oil each time before commencing the milking operation. The fissures should be kept clean, and a dressing of one part carbolic acid and thirty parts of sweet oil applied three times daily until healed.

Fistula of the teat—Fistula results from wounds inflicted by barbed wire, or something else penetrating through the teat substance into the milk duct. The milk then escapes more or less, constantly through the wound which gradually heals until only a small opening remains through which the milk continues to escape. These are hard cases to treat successfully. If treatment be adopted when the wound is fresh, a self-retaining teat syphon should be introduced and left there, and the wound kept clean, and dressed three times daily with an antiseptic, as a four per cent solution of carbolic acid, until healed, then the syphon is removed and a cure has been effected. If treatment be not given until the fistula has formed it will be necessary to scarify the edges of the external opening all around until they are raw, then put in a stitch or suture of carbolized silk and insert into the teat a self-retaining syphon and dress the wound as above. This treatment appears simple and will be successful if the syphon remains in, in which case the milk escapes from it as it reaches the teat and the wound heals, but there is great difficulty in keeping the syphon in. It is called a "self-retaining syphon" but we find that it is very liable to get out, when the milk will again escape through the fistula, working its way through the stitching opening preventing healing. If this occurs a few times there is liable to be inflammatory action set up which may be serious and the opening of the fistula becomes hardened and refuses to heal unless it be re-scarified and re-stitched. In the majority of cases it is wise to do the best that can be done until the cow goes dry, then scarify and stitch the opening and treat as stated. Under these conditions a complete closure occurs and the teat will be all right after next calving.

Closure of the milk duct—In rare cases the milk-duct becomes gradually closed by a thickening of the mucous membrane for which practically nothing can be done. Also in rare cases the skin is continuous over the opening and this will not be suspected until the milking period commences when, although the quarter be full and the milk can be felt in the teat and holding its point upward a bulging can be noticed where the opening should be. This can be rectified by pressing and holding the teat as stated and with a sharp lance making a small, crucial incision through the skin and then with shears clipping off the four corners of the skin. To prevent closure of the duct during the healing process it is well to try a self-retaining syphon or a gutta-percha plug. If these will not remain in, the frequent introduction of a syphon (which of course must be thoroughly disinfected each time) will give the desired results.

The most common form of obstruction in the milk-duct is a small tumor. This tumor usually grows during the period that the cow is dry. After calving it is discovered that no milk can be drawn from one or more teats. Careful manipulation reveals the presence of a little hard lump, sometimes a cord of considerable length in the duct. This obstruction may be in any portion of the teat from the point up to its junction to the udder. The probability of successful treatment depends greatly upon the situation and shape of the tumor. If cord shaped the prospects are slight. If circumscribed, and not more than two-thirds the length of the teat from its point, it can, in most cases, be treated successfully, but treatment must be given by a person skilled in the use of instruments for the

purpose. The passing of knitting needles, syphons, quills, etc., which is often practiced is unsuccessful and often causes serious complications. There are many instruments especially designed for the purpose. Some of these remove a portion, others simply slit it, but either provides free passage for the milk, and if the operation be performed without wounding healthy tissue it is successful, but if healthy tissue be wounded there is danger of inflammation and consequent complications, more or less serious. If the tumor be near the udder a successful operation can seldom be performed, and it is wise to force a teat syphon through it to draw off the milk occasionally and allow the quarter to become inactive. In many cases a cow that has one teat affected one year will have another the next. There appears to be a well-marked congenital predisposition to the trouble and if the heifers of an affected cow be bred it is often noticed that a large percentage of them suffer from the same trouble, which teaches us that the predisposition is of hereditary transmission. Hence it is usually wise to fit for the butcher all cows affected.

WHIP.

GARDEN & ORCHARD.

Freight Rates on Fruit West of Winnipeg.

P. W. Hodgetts, secretary of the Fruit Growers' Association, of Ontario, informs "The Farmer's Advocate" that Donald Johnson, the well-known fruit-grower of Forest speaking for the Ontario fruit-growers before the Agricultural Committee of the House of Commons at Ottawa, complained of the discrimination in the rates to which the fruit-growers of this Province were subjected by the railway companies in connection with our western shipments and the matter has received a great deal of prominence in the press of the country, and the western freight agents have published statements of rates, disputing the claims of eastern growers that there is any discrimination. Ontario fruit growers have had G. E. McIntosh, their transportation agent, look into the matter, and his statement which follows will be of interest to all fruit growers.

Mr. McIntosh reports that "evidence given by Donald Johnson before the Agricultural Committee at Ottawa, was to the effect that the Ontario shipper is called upon to pay a much higher rate to cover that territory lying west of Winnipeg to Calgary and Edmonton than the American or British Columbia shipper over the same trackage, and the following rates and mileage comparisons issued by Mr. Lanigan are but proof of this assertion.

From	TO	Miles	Route	Rate per 100 lbs.
St. Catharines	Winnipeg.....	1383	lake and rail.....	46c
Kelowna, B.C.	Winnipeg.....	1228	all rail.....	53c
Yakima, Wash.	Winnipeg.....	1387	all rail.....	75c
Wenatchee	Winnipeg.....	1325	all rail.....	75c
St. Catharines	Regina.....	1740	lake and rail.....	76c
St. Catharines	Regina.....	1740	all rail.....	83c
Yakima	Regina.....	958	all rail.....	75c
Wenatchee	Regina.....	958	all rail.....	75c
St. Catharines	Calgary.....	2223	lake and rail.....	\$1.05
Kelowna, B.C.	Calgary.....	890	all rail.....	\$1.04
Yakima, Wash.	Calgary.....	595	all rail.....	58c
			all rail.....	95c

"Even from the standpoint of total mileage from point of shipment in Ontario to destination in the West and from point of shipment in Washington or B.C. to the prairie markets, as given above, I fail to see the great preference our Ontario shippers are said to enjoy, if we but consider conditions as they exist.

"In this particular case it is fair, however, to draw a comparison solely on a mileage basis? Must we not rightly give some consideration to the conditions which help to make these rates? Take for instance the haul from Yakima or from Okanagan to Calgary; compare the costly nature of construction of that piece of railway with that from Toronto to Winnipeg; consider also the heavy expense over that mountain haul of keeping up auxiliary power, the enormous expenditure on snow sheds and other preventives from slides, and finally consider the fact that the 180 per cent type engine which would haul, say 411 tons over that road-bed from Okanagan to Calgary, at a rate of 58c. per 100lbs. would haul, say 2,000 tons, or nearly five times the load from Toronto to Winnipeg at 53c. per 100 lbs., thus handling the Ontario shipments from say St. Catharines to Winnipeg at a greater profit than the American or B.C. shipments to Calgary.

"No complaint is made of the rate from Ontario points to Winnipeg, nor do we think the British Columbia shipper is charged an excessive rate to Calgary because conditions demand it.

Taking the above points into consideration, the rates are probably fair to both, with certainly no advantage or preference, as intimated, to the Ontario shipper.

"With Winnipeg, then, as an entrance to this market for the Ontario apple shipper, and Calgary an entrance point for the Western States or British Columbia shipper, all on a fair-rate basis. We find the territory lying between these points as follows:

"The Okanagan pays on a through rate 60c. to Calgary, and 75c. to Winnipeg, while the Ontario shipper pays 53c. to Winnipeg and \$1.04 to Calgary.

"The Okanagan shipper pays 15c. per 100 lbs. for the haul of 837 miles between Calgary and Winnipeg, while the St. Catharines shipper pays 51c. per 100 lbs. over the same rails.

"The C. P. R. makes a charge of 8c. per cwt. for the haul of 657 miles between Medicine Hat and Winnipeg to the B. C. shipper and for the same haul charge the Ontario shipper 48c. per 100 lbs.

From Spence's Bridge to Medicine Hat a rate is given of 79c. and to Winnipeg 85c., 657 miles for 6c. per cwt., but the Ontario shipper pays 48c. for the same 657 miles.

From Athol, Bonner's Ferry and other Idaho points the rates to Winnipeg, Brandon, Regina or Medicine Hat is 75c. per 100 lbs. Ontario shippers pay between Winnipeg and Medicine Hat 48c.; between Winnipeg and Regina 34c. and between Winnipeg and Brandon 19c. per 100 lbs.

"Another advantage these shippers enjoy over the Ontario shippers is the privilege of collecting carloads at concentration points within a radius of 60 miles at a rate of 10c. per 100 lbs.

"Mr. Johnson's assertions regarding the territory here referred to therefore appear to be well founded. If the rates are to be based solely upon a mileage basis we might refer to the following:

	Miles.	Rate.
Yakima to Fort William.....	1809.....	85c
Oshawa, Ont., to Regina.....	1632.....	87c
Hood River to Port Arthur.....	1906.....	90c
Brampton, Ont., to Medicine Hat.....	1827.....	96c
Yakima to Montreal.....	3154.....	\$1.00
St. Catharines to Calgary.....	2223.....	\$1.04
Hood River to Montreal.....	3254.....	\$1.00
Forest, Ont., to Lethbridge.....	2178.....	\$1.00

"It is, therefore, obvious that the freight rates even on a mileage basis give no advantage whatever to the Ontario producer. Advantages or a preference over other shippers are not sought for. The Ontario producer realizes, however, that with 70 per cent of the crop marketed last season going into the western market, that to retain such and meet the future competition when the large orchard acreage of the Western States and British Columbia comes into bearing,

they must or should have an equal chance to reach that market west of Winnipeg by an equalization of freight rates for that particular territory.

"Exception should also be taken to the statement of Chas. Dewey, freight agent of the C. P. R., in which he claims Ontario apples are generally shipped lake and rail. Only a very small percentage is given the lake and rail routing, scarcely any that are billed west of Port Arthur, so that all-rail rates must be considered.

"In regard to the supply of refrigerator cars, Mr. Dewey says: 'the statement of Donald Johnson that the refrigerator cars in the service of the Company are fewer this year than last is not true. This statement of Mr. Johnson's was in reference to the supply of refrigerator cars in service on the G. T. R., for the year ending June 30th, 1912, and if we are to believe the sworn statements of the officials of that Company submitted to the Minister of Railways and Canals, Mr. Johnson's assertion is correct. The figures as therein reported for the G. T. R. for five years past are as follows:

For year ending June 30th, 1908, 955 ref. cars.
For year ending June 30th, 1909, 949 ref. cars.
For year ending June 30th, 1910, 947 ref. cars.
For year ending June 30th, 1911, 944 ref. cars.
For year ending June 30th, 1912, 941 ref. cars.

"If a mistake has been made in the compila-