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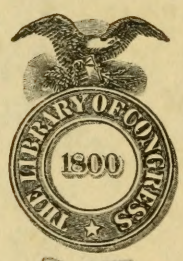
THE PROPAGATION OF MINK AND MARTEN

BY
W. G. GATES



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OF
MINK AND MARTEN

BY

W. G. GATES

Formerly in Charge of the Government Experimental Fur Farm at Pritchard, Idaho

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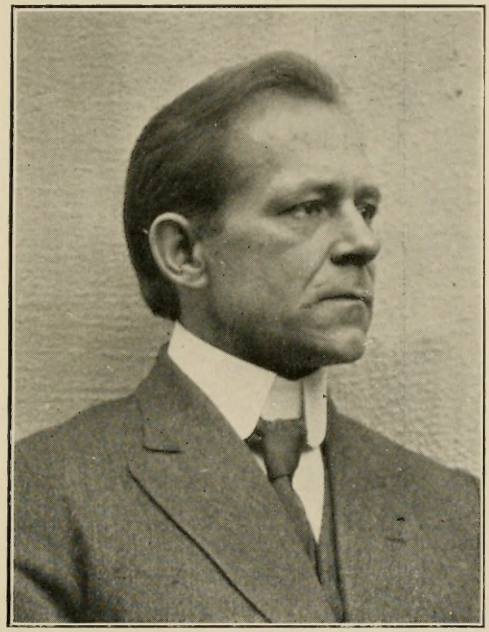

W. G. GATES

THE PROPAGATION
of
MINK AND MARTEN
by
W. G. GATES

A book of information on Mink and Marten, setting forth such facts as I have gained by six years of experience in handling them from trap-line to breeding pens. Also some deductions and theories.

W. G. GATES.

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INTRODUCTORY

MONEY—and the comforts and luxuries that it will buy, is what all men are looking for. Happiness is the prime object in this life; and how can a man be happy when he is wearing his life away, overburdened with excessive toil, hardships, and privations? How can a man be happy when he is worrying himself gray over an occupation, business, or profession that does NOT get the money? And, it **does** make a difference how we get it. No man really enjoys the good things of life on the money that he gets dishonestly. Some may think they do, but they are mistaken. He may say he does, but he lies. And no man can enjoy life, even though he is getting fair wages, if he is overworking his body and grinding his very life away to produce wealth for some one else, of which he does not get a fair proportion. If a man works all day, harder than he is physically able to, he is so tired at night that he cannot enjoy the few remaining hours off duty. "Then what shall it profit a man if he gaineth a big pay check and loseth his own health, mind and body?" Or, what does he get in exchange for the old carcass that is swallowed up by the grave? To live a life that is **fit** to live, and gain an occupation that is both pleasant and profitable has long been the aim and ambition of your humble servant. We believe we have found it and cheerfully submit on the following pages, our plan for your consideration.

THE PROPAGATION OF MINK AND MARTEN

CHAPTER I

OPPORTUNITY

Opportunity, they say, knocks once at every man's door. That doesn't necessarily imply that it knocks but once. I have known of men meeting one good business opportunity after another all through life and passing them all up unheeded, unrecognized Josh Billings said "The trouble with most people is, their hind sight is better than their fore sight." They can look back and see where they could at one time, have gotten in on the ground floor and made a barrel of money, (away back in the hopeless past) but the opportunity went to another. They failed to see it in time. That is the history of the down-and-outer in most every line of business. It is particularly true in the Black Fox Business. About 20 years ago, when the Pioneer Fox Men ventured upon the unique and "extremely precarious" business of Fox Farming there was a bunch of knockers that hooted at the idea. Their hoots and jeers overwhelmed a few of the weak-kneed and they fell by the wayside.

Those that had a mind of their own stayed with it and almost to a man they became wealthy. Many of them millionaires. The black fox business today is paying bigger dividends on the capital invested than any other legitimate busi-

How We Go Fishing

ness in the Dominion of Canada. It represents millions of dollars. Now there are scores of poor old poverty-stricken bone heads that are looking back sorrowfully at what might have been theirs.

But, says Mr. Knocker, "The Fox Business is on the decline; it isn't paying the big dividends that it used to." Oh, is that so? No doubt it isn't paying any one man or company as big dividends as it did the originators. Why should it? But it is paying more money in dividends than ever before, only to a greater number of dollars invested and consequently, at a smaller rate per cent. One could hardly expect a business to continue paying from five hundred to one thousand per cent forever. The fox business did this for a few years. Those who were wise and not afraid got busy and made the big money; and also, a stable and well paying industry for their country. Now the same conditions and reasons that actuated the fox raiser are behind the MINK and MARTEN business. The love of the almighty dollar and what it represents, and the prospect of getting it. The country is being so rapidly and surely settled up, that it is only a matter of a few more years, precious few at that, when our Mink and Marten furs will have taken their place with the Buffalo robe in the regretable past. The only chance we have to conserve our Mink and Marten is to raise them in captivity. This affords a good business opportunity to not only the trapper, but to thousands of others who enjoy out door life and a business that will permit them

to live it. Since we know that the price of any commercial commodity is regulated by the supply and demand, we feel sure of a bountiful price forever for our furs. But don't think we are going to start into the fur farming business on a pelt basis. It will be many, many years before we will have to sell an animal that is fit for breeding purposes, for its "fur-value."

The Fox business hasn't reached a pelt basis yet and it is a little more than 20 years old. They are still selling breeding stock at from five to fifteen thousand dollars a pair. It takes big money to get into the Fox business now. Before the European war a good Mink hide was worth $10.00. A number one black Marten was worth about $35.00. Now commerce and industry are so completely paralyzed that the fur markets of London, Paris and Berlin have ceased to exist. This "crimp" in the fur business of the world gives the fur-bearers a chance to save their hides for a while.

This is the time to secure breeding stock, if you are going to use wild stock to begin with; and most all new ranches will have to do so, for there isn't enough ranch-raised stock to stock many new farms at present.

This war isn't going to last forever, and when it's over, commerce will be resumed, business re-established. Then the man who has taken time by the forelock and established himself in the Mink and Marten business, will reap his reward. We must sow before we can reap, and if we

neglect our sowing till harvest time we will have no harvest; that's all. Some people can't see that far ahead. You can always tell these people. You will find them driving nails or wielding a pick and shovel for some contractor, or bowing their back over some other man's desk. They never look any farther ahead than from one pay-day to another. But there is another sort, one that CAN see these things, but just can't muster up enough energy to act. Haven't got the courage of their convictions. No back-bone. This fellow is just as useless, and much less excusable. It's not that sort of men the world is looking for. Show us a "Live Wire," a man that can and will reason, and having reasoned and argued the proposition to a conclusion, will back his judgment with his money or leave it alone and go to looking for something that he thinks **is** good.

CHAPTER II

WANTED—A "LIVE WIRE"

To that kind of a man I most respectfully submit the following facts:

First—Ranch-raised furs (if raised and cared for intelligently) are just as much better than the average wild furs as a well bred horse is better than a cayuse, or a tame hog is better than a wild hog.

Second—Any fur-bearer improves its coat up to a certain time each season. After the fur has got as long and dark as it will, and the guard hairs have attained their full length and lustre, the hide is absolutely "prime" (thin all over and entirely white on the inside) then the hide is at its best and from that time on it is on the decline in value. Then by the weather, and the condition of his animals, the fur-farmer knows when to take off the hide and he can do so when he chooses.

Third—The trapper has to catch his before he can skin them, and it is impossible to catch them all when they are at their best, so he has all kinds of hides, from trash to number one. It is very seldom, however, that he gets a number one or gets credit for it if he does get one.

A summer fur is worthless.

Fourth—When it comes to selling his furs the best that a trapper ever gets is the worst of it. The few remaining fur animals are fast being cleaned up by amateur trappers mostly, who catch them any old time (just so their neighbor don't get them) either before the fur is prime or after it begins to loosen. Consequently they get from twenty-five cents to a dollar for hides that would have brought ten times that much if taken at the proper time. Suppose a wheat farmer cut his crop a month or two before it had time to fill, or waited till it was half shelled out before harvesting.

Fifth—The difference between the price that a trapper gets for his furs and the price that the consumer pays for them is something amazing to say the least. The consumer as a rule has no idea what price the trapper gets for his furs and the poor devil that catches them never sees money enough to buy them back after they leave his hands. Who gets the money? The fur buyer; the exporter; the tanner; the manufacturer in the sweat shops of Europe; the importer; the jobber; the wholesaler; the retailer; the railroads and steamship lines. And who gets it in the neck? Both the trapper and the consumer. What are we going to do about it? The consumer can't help himself, and as trappers, we can't, but as fur-farmers, WE CAN.

When the market for breeding stock is supplied and we have furs to sell we can raise, tan, make up, and sell our product at home; "and

A Bunch of Marten

though our home be in the wilderness, the world will make a beaten path to our door."

Sixth—The only way we have of judging the future is by past events and present prospects and conditions. All of these indicate that the raising of MINK and MARTEN is going to become a great industry in the United States, even as the Fox business has become great in Canada, especially on Prince Edward Island. MINK and MARTEN raising is going to outdo the Fox business in time and as soon as it is generally known that it is a success, there will be a grand rush to get into the business. Breeding stock will be selling at prices that would scare you if we would attempt to name them now. That will be the time to BE in it, not to GET in it. GET in now. N-O-W, now.

CHAPTER III

BUSINESSLIKE FUR-FARMING

Now if we are going to raise Mink and Marten successfully, we must go at it in a scientific, businesslike way. We must have a farm properly equipped for the purpose. Devote all of our time to it and run it on a sufficiently large scale to justify this The time may come when anyone can raise these animals in the back yard as we do ferrets or rabbits now, but at present our knowledge on the subject is too limited and our breeding stock not far enough removed from the wild state to enable us to do this.

We would hardly expect a man who had never had any experience in raising horses, cattle, sheep, or hogs to take up any of these lines of stock farming and make a success of it, even though he had domestic stock to start with and a whole library of reliable information to draw upon.

Then why should we expect individuals to embark in a business of which they know almost nothing at all, with no source of information to draw upon and with wild stock, to win success? Our farm animals have been domesticated hundreds of years, yet the U. S. Department of Agriculture is maintaining farms to carry on experiments with all of these, and gaining valuable information every year. The most success-

ful farmer is no longer the one with the most grown up sons to do the work, but the one who reads the best up-to-date agricultural papers and keeps in touch with the government experiments by reading their bulletins. The scientific farmer that gathers all available knowledge and profits by the experienc of others. The government maintains these stations for the benefit of these investigating farmers. The government has financed this experiment these last three years, since it got too big for my pocketbook which was steadily getting thinner. I didn't realize the magnitude of my undertaking when I started it; couldn't see the many expensive mistakes and stumbling blocks that lay ahead of me for nobody had blazed the trail. But I soon found out that the business was a good one if the raising of Mink could be accomplished. I met many obstacles but always found a way to overcome them, and as each one appeared and disappeared I had more knowledge and understanding, and more faith in the business.

Many others, I find have started to raise Mink and most of them, yes I dare say 98%, have become discouraged and quit at their first failure. I would have had to quit, or take in a partner (which generally spells failure) if the U. S. Biological Survey had not come to the rescue and helped me to carry on the work. And if the information that this little book contains, proves a benefit to its readers and helps to build up a new industry, as I feel sure it will, we must unite

in giving due credit to this department of our government. There are very few private individuals who are unselfish enough to spend their time and money to acquire knowledge that will become public property and help someone else as much as it does them. Therefore, it necessarily becomes a function of the government to aid such enterprises as it considers worthy, and possible to develop into an industry for the benefit of all of the people and an asset to the country.

As for myself, I felt that "The laborer was worthy of his hire;" and that if I stuck to it and made it win, I would surely get my reward. I had faith in it, most implicit, from the start and every day that faith has grown stronger until now I **know** beyond a shadow of a doubt that it is not only possible, but entirely practical; I know that it is a well paying business, sure to develop into a big industry, and make the men that make the business, well to do at least, if not wealthy. Some people (who are thoughtless to say the least) expect us to know all about mink and marten. They don't know that it takes many generations to teach us what they want to know about these animals. As I have said before, the U. S. Department of Agriculture is still maintaining experiment stations to study our farm animals and they have been domesticated hundreds of years. The Mink and Marten are just coming into the domestic family. We have learned something of them to be sure, but there is much yet to learn. We feel, however, that we have learned

enough to be able to judge what kind of stock we want to raise and how to go about it. We have learned how to trap; not pelts, but live animals. To get them alive and uninjured and keep them alive. We have learned to feed them; to select and procure such foods as they will thrive on and to avoid unwholsome diets. We have learned what we believe to be the best methods of fencing; what precautions along this line are necessary and safe and what are not. We have learned to breed them and raise the young. Now we have learned the fundamental principles of this particular branch of fur farming, we must pay some attention to the scientific part of it. We must learn more of their habits and their very nature. What breeds of mink are most desirable for raising in different localities, and why. To most people, no doubt, a mink is a mink. But there are different breeds of mink the same as there are of other animals. These breeds are characterized by their size, color, texture of fur, teeth, skull, etc. Each have their own respective natural range as a rule, but they sometimes overlap. In that case they are likely to interbreed and produce an animal that has some of the characteristics of the two parent tribes or breeds. These crosses are exceptions and don't propagate by themselves so as to form a new and distinct breed. The habits of different breeds are also somewhat varied, owing to the varied conditions of the different parts of the country in which they live.

Umbrella Rock (Just a Scene on the North Fork)

Most every "Old Trapper" who has tramped the world over as only a trapper will, has noticed that Florida mink are not like those in Michigan or that the mink from the lower Mississippi Valley are not like those from North Idaho, Montana, Eastern Washington and British Columbia. He has noticed the difference in hides taken from different parts of the country. If he was too thick headed and unobserving to notice the difference in the hides, he would sit up and take notice when he got his check from the fur buyer. In a few years more the first thing a fur buyer will consider is, "What breed is it" They do that now, only instead of saying "what breed is it?" they say, "Where did it come from?"

There are still places where we can catch "all kinds of mink" (that is, if "a mink is a mink.") But who would go into the poultry business and select Bantams or Blue Games to supply the market for table fowls?

Then why raise "Cotton Mink" for their furs? It takes no more time, food and trouble to raise a thoroughbred than it does to raise a scrub, and you get three or four times as much for one as you do for the other. The reason is quite obvious why we should be particular about selecting our breeding stock. Of course a "Cotton Mink" may be a "thoroughbred," but they are an undersirable breed. What we call a "cotton" mink is one that has fur that may be fairly dark on the outside, but when you blow it apart and look in next to the hide it is almost white. The

dark color don't run in on the fur. The guard hairs are not so long and dark and silky on these "cotton" mink as they are on the northern breeds. The cotton mink is not a breed by itself, but rather a characteristic of several different natural breeds whose range is in warm climates. They range from the Chesapeake Bay on south along the coast and through the southern states, and along the coast of California up as far as Humboldt Bay.

There is a very desirable breed along the New England coast, ranging as far south as Chesapeake Bay and west along the Ohio River to the Mississippi. They run up into the lower peninsula of Michigan and from there on eastward to the Catskill mountains, they overlap the range of another mink that is a little smaller and possibly a shade darker. This is what I call the Canadian Mink. It's range is through Eastern Canada as far west as the Hudson Bay. In the upper Mississippi Valley there is another type, slightly larger but paler than the eastern mink, but a good animal at that. This breed runs as far west as the Rocky Mountains, where they seem to grow darker and larger and in fact average up better, while at the same time retain the other characteristics that mark the breed. Then through the Rocky Mountains from central Colorado on north through Wyoming, Montana, North Idaho, Eastern Washington and up through British Columbia there ranges a mink

that to my notion is the best all around animal for a fur farmer to handle.

This mink is as dark as the eastern mink and it's hide measures up from three to five inches longer. The fur is about the same quality, long and thick, guard hairs fine and silky. A small head and big neck marks this animal; also a long, well furred tail.

The Canadian Mink before mentioned, is a very desirable animal for the fur farmer. This animal is not so large as some others, but on account of it's dark pellage, it is worth fully as much as the New England or the Idaho and British Columbia Mink. There is a big "rangy" Mink along the Alaskan coast; color pale and has a big head and heavy jaws. On the interior of Alaska there is a better animal, quite large and dark, though not so dark as the Eastern Canadian, but on account of it's exceptionally long fur I think it would make an excellent cross with this breed or the New England or Idaho and British Columbia Mink. The finest and largest of all the Mink family has been exterminated. This animal used to range in the vicinity of Penobscot Bay, up to about sixty years ago. It was known as the "Sea Mink" and was almost twice as large as our largest Mink of today. The hides would often measure as much as sixty inches long on a board six or seven inches wide. The fur was of a reddish brown cast, very thick and the guard hair was inclined to be coarse and lacked the lustre of that of the smaller breeds.

Snow Picture,
With Buck Deer Looking Over the Ridge

On account of it's size and value the Sea Mink was more closely pursued by the "Pelt Snatcher" than the others and extermination was of course the natural consequence. Ten thousand dollars would be cheap for a pair of these precious animals now. But the fur farmer comes too late to save them. Now the next best breeds are next in line for extermination, and they are fast approaching it. They are the Idaho and British Columbia Mink. The Canadian or Prince Edward Island Mink, the New England, the Alaskan (inland) and the Mink of the upper Mississippi Valley which I will designate as the "Minnesota." There is not so much difference in these northern breeds as there is in the individuals of each breed, when it comes to picking breeding stock, but the finest specimens of each breed will be chosen to make up the domestic stock for the fur farmer. These breeds will be crossed and bred up until we have as many as possible of the most desirable features of each one combined in one strain of stock. For instance, we may seek to combine the long fur of the Alaskan, with the dark fur of the Prince Edward Island or New England and the large size of the Idaho and British Columbia Mink. Thus making a more valuable animal than any of the original stock. A strain like this would naturally acquire the distinction of a distinct breed and take its name, probably, from the breeder or the location in which it originated, as "Morgan" horses, or "Shropshire" sheep.

Ladies' Attire for the Woods

CHAPTER IV

THE MINK—ITS NATURE, HABITS, DISEASES AND AILMENTS.

There are a few diseases and ailments of the Mink in the wild state. There are others to which they are subjected only in captivity. By a thorough understanding of these ailments we may be enabled to correctly diagnose and successfully treat them so as to render them harmless to this branch of the fur farming business. The best way by which to arrive at an understanding of the diseases of an animal is to first understand the animal. Let us see then, what is a Mink, is it a land or water animal? It is amfibious, or both. Although it divides its time mostly in favor of the land. To what family does it belong; the cat family? No, to the Mustelidae family (the same family to which the Weasel belongs), Sub family Mustelinae, genus Putorius, sub genus, Vison. (The cat is Mustela Felis.) Is it carniverous, herbiverous or omniverous? Strictly speaking, it is carniverous, but can be taught to eat other foods such as bread and milk and cooked vegetables. They are fond of fish and shell-fish such as shrimp, crawfish and clams or mussels. How large is a Mink? A big buck will weigh about four pounds. A full grown female not more than three. A

big hide will stretch thirty-six or thirty-eight inches from tip to tip, on a board three and one-half inches wide. That is big mink though, more of them stretch thirty-four or less. Habits? Both diurnal and nocturnal. Great hunters and fierce fighters. If a mink finds a store of food (a fisherman's "cache" for instance) he will steal every fish and make a "cache" of his own. If fish are strung on a willow and left in the water, a mink will unjoint them at the neck and carry them all away. I've known a mink to steal a basket of eggs and roll them to a place of safety without breaking an egg. They seem to be very cunning in their own way but are not at all quick to learn the things that man would teach them. On this account they are undesirable as pets. They are a very clean animal if they have a chance to be clean and cannot stand filth. Filth breeds disease with the mink as with most other animals. They are very playful and enjoy their bath; they will roll one another over and over in the water, dive and duck each other under and have a general "rough and tumble."

The following questions have been asked me by the chief of the Biological Survey and others who are investigating:

Q. What ailments and diseases have you found affecting the Mink?

A. One, Gangreen of the stomach and intestines; 2, suppuration of bites and scratches; 3, abscesses and boils; 4, rickets in young mink; 5, rheumatism in young and old mink; 6, lung para-

sites (a small grub); 7, stomach worms; 8, stomach and intestinal worms; 9, tape worms; 10, paralysis; 11, mange; 12, lice and mites; 13, dissentery; 14, excessive fat; 15, grubs or warbles.

Q. What is the cause, symptoms and treatment of these diseases?

A. One, gangreen of stomach and intestines. Cause, a filthy pen; feeding spoiled meat, or throwing good clean food in a dirty place for the mink to eat.

Symptoms: Emaciation, dumpishness, loss of appetite, and blood in feces.

Treatment: Provide a warm, clean, dry place for the animal. If the animal is used to nesting with other animals do not segregate, but leave two or three others to keep the sick one warm and for company. Provide a tub or pool of clear pure water at least twelve inches deep for the animal to swim in and feed two ounces a day of lean meat and bread and milk, if animal will eat it. Keep strangers away and do not excite the animal unnecessarily.

Two. Suppuration of bites and scratches.

Symptoms: Self evident, indicative of bad blood, generally caused by feeding tainted meat.

Treatment: Boil a basin of water and cool down to where you can bear your hand in it. Work up a good lather with casteel soap or Synol soap. To a quart of this suds add a half teaspoon full of carbolic acid or Lysol. Use a medium coarse sponge and wash the affected

parts twice a day thoroughly. Keep nest and pen clean and free from vermin. Rince out the pan and never let the water stand over to use again. Provide gunny sacks or clean rags for the mink to crawl into and dry off on after the treatment.

Three. Abscesses and boils. Caused generally by a bruise and bad blood; or by a grub in the skin.

Symptoms: A swelling appears; it may have an opening and it may not; hard around outside and soft in center, or soft all over.

Treatment: If there is no opening it should be lanced; use a sharp pointed knife, dipped first in iodine or carbolic solution. In lancing be careful to not get any deeper than the puss sack. Squeeze out the puss and syringe out with a solution of carbolic acid. Keep open till well healed up. Wash twice a day, and always give animal rags to dry off on.

Four. Rickets in young mink. Caused by lack of lime in the system.

Symptoms: Hind legs are weak and crooked; drawn up and have a grissly fealing where there should be nothing but red meat or muscle. The kitten will try to walk, but since it can't straighten out its hind legs, it kind of "hitches" along behind while walking normally in front. It hasn't much use of the hind legs.

Treatment: The best treatment for this is to prevent it. During the period of gestation the mother mink should be fed good palatable food,

such as lean meat, milk with bread or cornbread in it and ground or finely pounded fresh bone, mixed with minced meat once or twice a week. If it has not been prevented and you find the kittens suffering from this trouble, feed the mother nursing them a little lime water in her milk, and if the kittens will drink milk, feed them a little in theirs. A teaspoonful to a pint of milk is enough to start with, then increase to a tablespoonful, gradually. Rub the legs and gently pull them as near straight as you can without hurting the animal. Give them plenty of sunshine and keep nest clean, warm and dry. A kitten may recover from rickets and make a good fur but I would not advise keeping one that had ever been so affected, for breeding purposes.

Five. Rheumatism in young and old mink. Cause, impure blood, damp nests, lack of exercise and old age.

Symptoms: Swelling of feet and legs; inactivity, and sometimes a whining cry of the animal. The mink has a stiff, awkward gait and when approached, instead of running to get away it will generally show fight. Sometimes turning over on its back, and sticking its feet up as if to ward you off.

Treatment: If you are feeding a mixed diet of meat and bread and milk, cut down on the meat and feed more bread and milk. Keep the animal warm and dry, and rub the rheumatic legs with liniment of one-third turpentine and

two-thirds lard. Two or three treatments a day should be given.

Six. Lung Parasite. Cause unknown to me; it doesn't seem to be contagious nor infectuous.

Symptoms: Emaciation; short-windedness; upon violent exercise the animal shows weakness; humps up its back and has a wobbly, staggering gait, especially in the hind parts.

Treatment: I know of none except good feed and quiet until the hide gets prime and then take it off. Autopsy reveals a white spot on the surface of the lung, from one-quarter to three-quarters to an inch in diameter. The tissue is bloodless and leathery and firmer than the surrounding tissue. It extends down into the lung to a depth of about one-half of the diameter. In this, will be found a cyst, usually, but not always, containing water, and a little grub or worm that looks something like a bot in a horse, only not quite so "thick set." The grub is from one-quarter to a half an inch long, of yellowish or dirty white color, has a little black head and keeps up a writhing or spiral like motion for about an hour after it is removed. It will live in the lungs about two days after the mink is dead and partly dissected.

Seven. Stomach worms.

Symptoms: Restlessness, especially noticeable when the animal is sleeping. Also just before feeding time in the evening. It seems to be temporarily relieved by feeding the animal and the animal will often go to sleep soon after

eating and sleep soundly for a while; then become restless again.

Treatment: Give ten drops of turpentine mixed with a teaspoonful of olive oil about noon; don't feed till about dark in the evening, and only once a day. Give this dose every day for three days and watch the excrement for worms. An autopsy has revealed as many as forty-six of these in one stomach. They are a very wirey, red worm from one-half to one inch long; about as big around as a pin and appear to have no head. They are very active.

Eight. Stomach and Intestinal Worms.

Symptoms: Restlessness, sliding around on the belly, and "sleigh-riding," or sitting down flat behind and sticking up the hind feet and drawing itself around with the front feet. These worms will sometimes be found in the feces or protruding from the anus.

Treatment: Same as for Stomach Worms. Autopsy reveals a white threadlike worm, sometimes larger, getting as large as a small knitting needle, from one to three inches long. They move with a peristaltic motion in either direction and appear to have no head. I have found as many as twenty of these in the stomach and intestines of an animal.

Nine. Tape Worms.

Symptoms: I called this worm a tape worm because it looks like the tape worm, but it don't act like the tape worm in other animals. There is no emaciation, nor voracious appetite. There

is passing of sections and even whole worms in the excrement. I have found them in the alimentary canal of the mink many times but they never seemed to hurt the animal nor make it sick, until in a case that recently came to hand. In this case the animal seemed to be in great pain and would continually cry out in a sort of bark or squeal. The trouble did not yield to the "turpentine treatment" for worms and I was unable to tell what ailed the animal. He acted more as if he was poisoned. Was bloated some, but by rubbing the belly the bloat would go down and disappear. He lived in great pain for about forty hours and died. An autopsy disclosed about a half teacup full of small "tape worms" from six inches up to twenty-eight inches long. There were some so fine and threadlike that one could hardly see them; the largest were only about an eighth of an inch wide. And I can safely say there were at least a few hundred of them. I know of no remedy for this parasite. Never had but this one fatal case of it.

Ten. Paralysis.

Symptoms: First a slight swelling and dropsical condition in the hind feet. Then as the animal runs around the pen, it will miss a step with a hind foot and it will drag. The feet get cold, indicating poor circulation, and the hind legs become helpless. The hind parts now drag and the animal makes no attempt to stand on hind legs. The fur on the affected parts loses its gloss and appears dead; showing a distinct con-

trast with the other. The spine becomes affected and the "lay" of the fur tells just how far up the body it has gone. The animal appears to be in no pain, eats well and sleeps perhaps more than usual. By the way the animal handles itself you can also tell how much of the back is affected. It will keep creeping up the spine till it reaches the shoulders, and then the front feet will become paralized; the animal will sleep most all the time now and the "dead line" in the fur moves up on the neck. The animal can still be revived to consciousness, but the neck becomes helpless, the eyes refuse to open and death takes place without a struggle. The appetite will not be much affected till the disease reaches the shoulders. Its progress is more rapid from then on.

Treatment: When the first symptoms appear get busy. Take the mink by the neck so that the thumb and forefinger come just back of the jaws and don't shut the wind off. Don't be rough enough to injure the animal, but don't try to be tender. Get the mink to fighting and keep it fighting mad all the time. This to cause it to try to use its hind feet to scratch with. Pinch and squeeze and rub the feet and lay them on your leg and spank them. Work like this about ten minutes then, retaining your hold on the neck, stick the feet in hot water, (just as hot as you can possibly bear your hand in) and out of that, into the coldest water you can get, ice water if possible. Repeat this a dozen or more

How to Muzzle an Animal—Fox, Mink, or Marten

times, then rub the animal dry with a cotton rag and rub into the fur on the affected parts and all over the feet, a thick paste made of lard and ground mustard. Rub this in well. Keep the animal warm and give it all the sunshine there is. Give two treatments a day and feed all the fresh meat it will eat. In the hot and cold water treatment, get all the affected parts in and a little more won't hurt. I have recently lost one mink with paralysis by just keeping it warm, feeding it and "trusting to the Lord," and cured two more by the above treatment.

Eleven. Mange. Cause, a parasite working in and under the skin.

Symptoms: A lack-lustre appearance to the fur, scaly spots on the skin that looks something like dandruff. The animal will bite and scratch and make a raw sore.

Treatment: Where only a small spot appears I use Glovers Mange Remedy, as per directions for dogs, and mix it with olive oil half and half to rub over the rest of the body. I tried using it straight all over the body and killed my mink. If a large area of skin is affected, say the whole back of the animal, I dope only a portion of it at a time, say a third; then after about three days I cover another section, and so on till the affected parts are all covered, then wash with carbolized soap suds. Watch for its reappearance, you may not have it all by this "sectional" method of treatment; if not dope the remaining spots; clean the pens thoroughly; also the nest boxes, and dis-

infect with a strong solution of chloride of lime. Be thorough about this. Don't forget that when the animal's fur is wet or greasy he is subjected to cold as you would be if you had fallen in the river, so keep the animal warm. Segregate from the rest for mange is infectious. Give plenty of clean rags for the mink to crawl in under and keep warm, and lots of sunshine.

Twelve. Lice and Mites.

Symptoms: Animal scratches a great deal and the coat looks rough and lacks the slick appearance that it should have. An examination will disclose the parasites on the back of the neck and shoulders, and under the front legs. They may be all over the body.

Treatment: Get Glover's Mange Remedy, mix with it an equal proportion of olive oil and rub in thoroughly all over the animal. Keep the animal in a good warm room with a nest of clean rags to crawl into. After twenty-four hours wash the animal thoroughly with a carbolized solution of soap suds and rinse off with clear warm water. If one mink is "crummy" they probably all are, so don't clean one up and turn back in with the rest, but serve them all alike. Clean out the pens and nest boxes and disinfect thoroughly with a good strong solution of chloride of lime.

Thirteen. Dysentery.

Symptoms: A running off at the bowels, if not checked the animal will get poor and may die. Excrement consists of a watery mucus full of

small white scaly looking particles, and is sometimes streaked with blood.

Treatment: Change the diet. If feeding milk unboiled, boil it and let it cool to about 100 degrees before feeding. Feed white bread in the milk. Change the meat diet to fish if you can. If the trouble continues give a teaspoonful of castor oil three times a day, and if that don't stop it give a teaspoonful of blackberry cordial once a day till it is checked.

Fourteen. Excessive Fat. This may prove fatal, and is at least detrimental at breeding time.

Treatment: Cut down on the meat and feed more of other foods. Give the animal plenty of room for exercise and see to it that he takes it.

Fifteen. Grubs or Warbles.

Symptoms: A bunch will appear in the skin. It may form a boil or abscess. In this will be found a Grub or Warble.

Treatment: There will be a small opening in the top of the bunch or lump. Hold the lump between the thumb and forefinger and with a sharp knife cut across the top so as to enlarge the opening sufficiently to let the grub out. Squeeze the grub out, also all the puss, if there be any, and syringe out with a solution of carbolic acid. Wash daily with carbolic solution till the sore is healed up.

CHAPTER V

QUESTIONS

(A Continuation of Chapter Four)

Q. How long is the alimentary canal of a full grown mink?

A. From fifty-four to sixty inches.

Q. What remedies, medicines and appliances should be kept on hand?

A. Iodine, carbolic acid, turpentine, castor oil, olive oil, lard, ground mustard, casteel or Synol soap, Glover's Mange Remedy, chloride of lime and a couple of syringes, one small one for giving medicine, and one larger one for washing out sores, cuts, etc., a flash light; also a canvas bag to handle the mink in, (I use a cement sack). A couple of sponges and a stick that I will refer to hereafter as a "medicine gag." This appliance is made as follows: Take a stick of soft wood about three-quarters of an inch in diameter and approximately six inches long, and round, Bore a hole two inches from the end with a five-sixteenths-inch bit. Trim out the hole so it will readily take a quarter-inch rubber tube and the job is done. And now a shoe-string to use with this "medicine gag" as hereafter described.

Q. How do you give a mink medicine and prevent the animal biting you while doing it?

A. With the mink in the nest box, put a canvas sack over the entrance and drive the animal into it. Now with the mouth of the sack in one hand, put the other hand into the sack, keeping the hand tightly shut and the back of it towards the mink. Shove the hand to the bottom of the sack, so you can touch the animal and keep the top of sack closed tightly around the arm that is in it. Don't let the mink see a hole through which to escape or he will try it. Now rub the back of the hand against the mink alongside of the head. With the knuckle of the forefinger, rub from the point of the jaw to the base of it, several times. Don't open your hand and stick a finger out at him or he will grab it, (try this on a cat and see how she will respond by holding her mouth up to have it rubbed; a mink will do the same). Now with the right forefinger at the base of the jaw, it is easy to slip the thumb over the back of the neck and shut down quickly. He may scratch, but he can't bite. Don't wear a glove, for you can't feel anything with a glove on and you can't tell when you have your hand on the animal's head. Now with the mink by the neck you can place the medicine gag in the mouth. Place it so that a tube run through the hole, will go down the animal's throat. With the shoestring wind the jaws just back of the stick tight enough to prevent the mink from getting the stick out, and tie it on top. Be sure to place the stick just back of the tusks; not too far back. Use judgment

about winding the jaws, don't get the string so loose that he can get it off, nor yet so tight that it will hurt or injure the animal. Now with a quarter-inch rubber tube about one and a half inches long, on the end of the medicine syringe, fill the syringe with the prescribed dose making allowance for what will remain in the syringe and tube, and placing the tube through the hole in the stick run it pretty well down the animal's throat, and gently, not violently, work the piston. During this operation you should be holding the animal by the neck, being careful not to choke him, and hold the head up so the medicine will run down. Have the string tied in a bow-knot on top of the nose so you can quickly loosen it if the mink should choke or strangle. Use only about three wraps around the jaws and tie the last one. Don't tie a knot in the string and then slip it over the nose, nor put a knot in the first two wraps at all. Tie only the last one.

Q. What precautions against parasites and disease do you recommend?

A. Cleanliness and pure food, plenty of pure running water, dry nests well ventilated, and room to exercise. Have no cover over the pens to keep out the rain and snow. The animals need the weather.

Q. What precautions against accidents do you advise?

A. Good fences, at least six feet high. (See chapter on fencing.) Cut down all big timber that could possibly blow down on the pens. If

you leave a tree in a pen for shade, put a "collar" on it about a foot below the level of the top of the pen, or the mink will climb the tree and jump out. (See cut on p. 78.) If you use a short ladder to get in and out of the pens, (as I do) be careful to not leave it in when you go away. A mink will climb a ladder too. Be thoughtful and watchful at all times. Keep dogs away. Keep visitors away except when you are with them.

DON'T, under any circumstances, allow anyone to feed the animals.

DON'T ever feed the meat of a horse or other animal that was not properly slaughtered for the purpose. For instance, a horse that died from disease or was injured and allowed to get full of fever before it died.

DON'T "murder" an animal, and spoil the meat. Slaughter it as it should be slaughtered. (See chapter on slaughtering.)

DON'T use a diseased animal for feed. (See chapter on slaughtering.)

Q. What, as to material, dimensions and arrangements, do you recommend for mink pens; and for marten?

A. See chapter on fencing.

Q. Are under-ground passages desirable?

A. No.

Q. What are the essential features of a nest box, or how should one be made?

A. The essential features are warmth, dryness, good ventilation and adequate room. (For plans see sketch in chapter on fencing.)

Q. How much water do mink require?

A. That depends. In order to sustain life they actually require only enough to drink. That's all that a man requires but it don't hurt him to take a bath once in a while, and he is not classified as a "water animal" either. A mink is a water animal and for his happiness and contentment, and consequently his well being and the profit he is supposed to produce, WATER TO SWIM IN IS NECESSARY. His very nature cries out for it.

Q. How much water do Marten require?

A. The Marten is not an amfibuous animal, and only requires enough water to drink; but it wants to be clean and fresh.

Q. What different kinds of food have you tested?

A. Clams or mussels, crawfish, trout, white fish, birds, mice, squirrels, rabbits, pork and mutton liver, bread and milk, beef cheeks and scraps of fish and meat from the markets, corn bread made with cracklings, and horse meat.

Q. How do each of these foods agree with Mink?

A. Clams are all right for a temporary food while out in the jungles where other foods can not be obtained. For instance, on a trapping expedition. So are crawfish, trout, white fish, birds, mice, squirrels, rabbits, etc., (or any kind of fish for that matter.) But these articles can not be procured in sufficient quantities to feed a large bunch of animals for any length of

time. They would be too expensive. Pork and mutton livers are not so very expensive for a boughten food, but the animals do not like liver for a steady diet.

Bread and milk is a good food, and not very expensive if you have your own cattle and sufficient range at little or no cost. Get some bakeries to save and ship you their stale bread at a low figure. This can usually be done.

Beef cheeks are too tough, they make better "weinies."

Fish scraps of any kind are all right if they can be procured in sufficient quantities. There is no beef scraps in the big markets any more. A Mink won't eat fat meat. Corn bread, shortened with "cracklings" is all right but they will eat but a limited amount of it.

Horse meat, properly dressed and preserved, is the only practical feed I have so far found.

Fish would be all right if it could be secured at a very low cost; say, not more than a cent a pound. There are places where that can be done.

In horse meat we find a food that agrees with the animals perfectly. It is cheap enough so we can raise a Mink or Marten on it and will not have paid out for feed more than the animal is worth at maturity. For further discussion on this, see chapter on general comments.

Q. How much food is required daily by a Mink?

A. Four or five ounces of horse meat and about a quarter pint of milk.

Q. How much for a Marten?

A. About six ounces of meat and half a pint of milk.

Q. How often should they be fed?

A. Once a day; or by splitting the meal, feed milk at noon and meat at night.

Q. What do you consider the best staple food for Mink?

A. Horse meat and bread and milk as before stated. Or fish if procurable.

Q. For Marten?

A. Same as for Mink, only it can be increased by adding table scraps, cooked vegetables and grains if properly prepared. A Marten will eat most anything that a cat will.

Q. Should it be varied during the breeding season?

A. No, but a female should be fed all she will eat, after she is bred and while she is nursing her young.

Q. When is the season of heat?

A. February and March.

Q. Are females in heat more than once in a season?

A. No.

Q. How long does a single period of heat last?

A. Usually about a month or till the animal is bred.

Q. How long should the sexes be allowed to run together?

A. Until the female is bred. You will have to watch for this.

Q. Is it best to have a male for each female?

A. Yes, if you have plenty of males anyway; but it isn't necessary, one male will do for three or four females. The Mink is a polygamist in the wild state.

Q. About what percent of females will breed in any given year?

A. According to my observations about 80%, but I believe that is too low. I believe, under better conditions, that fully 95% will breed.

Q. What is the length of the period of gestation?

A. I can't answer this positively, but to the best of my judgment, based on careful observation it is about 84 days. (See chapter on breeding.)

Q. In what condition are the young born?

A. Nearly naked, only a little white fuz on them; blind of course and very delicate. They have a "patch" or spot of very tough skin on the back of the neck by which the mother takes them with her teeth to carry them around. This, nature has provided to protect the tender skin of the kitten from the long sharp teeth of its mother.

Q. Does the color of the first coat of hair differ from that of the second one?

A. Yes. The first coat is white; only a light

Some Marten

fuz. The second coat is a thick coat of fur, usually dark brown, and without guard hairs. It may get lighter in color as fall approaches and the winter coat appears. The guard hairs do not appear till the Mink puts on its winter coat.

Q. At about what age do they come out of the nest?

A. At the age of about six weeks.

Q. When do they open their eyes?

A. At this age, when they leave the nest. More correctly speaking, they leave the nest when they open their eyes, or just a day or two after.

Q. When should they be weaned?

A. Not till the mother weans them, usually at the age of about nine or ten weeks.

Q. What food is best for young Mink?

A. Bread and milk, and the tenderest of meat or fish.

Q. How many young do they have at a litter?

A. From two to eight.

Q. How many will they average?

A. Five.

Q. What do you use to disinfect the wound when bitten by an animal?

A. Tincture of iodine. Use it right away and work into wound well. This will prevent blood poison.

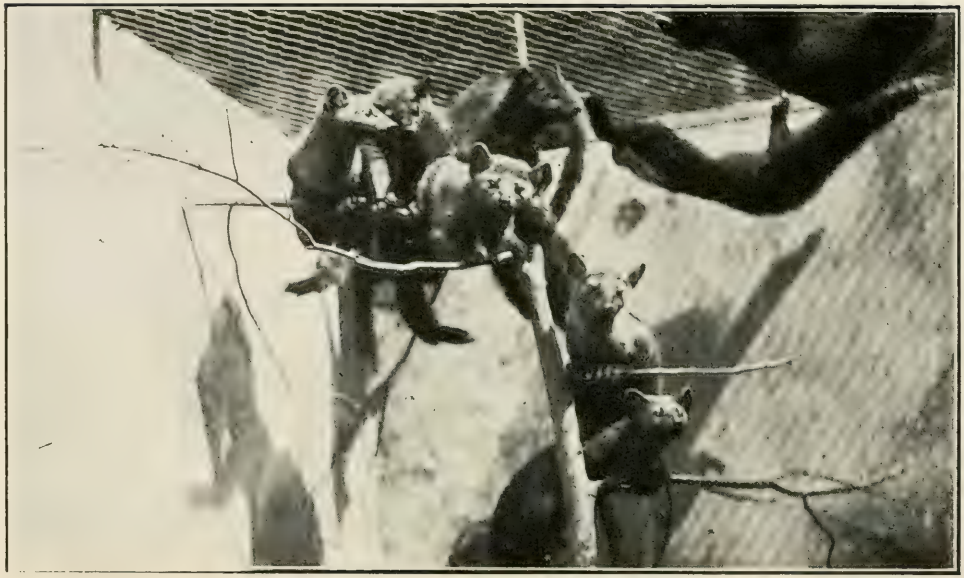
Q. What do you do in case of blood poison?

A. Soak the inflicted parts in water just as hot as you can stand it, (and then some). Paint above the affected parts with iodine and keep boiling up in the hot water. If this does not relieve and cure, get to a physician.

CHAPTER VI

THE MARTEN

The Marten belongs to the Mustelidae family, and there are about nine or ten different kinds or breeds of them; among which are the Mustela Zibellina, or Russian Sable; Mustela Melanopus, or Japanese Marten; the Mustela Pennanti, or Pennant's Marten, otherwise known as the "Fisher," and two or three breeds of the Mustela Americanus or American Marten or Sable. Of the latter we are familiar with two distinct strains known as the "Stone" Marten and the "Pine" Marten. The only difference in these is that the former is of a beautiful grayish yellow color while the latter is dark like the Russian Sable. The Marten is naturally a cold climate animal, as shown by the feet. Its feet are covered with fur between the toes and on the ball of the foot. I know of no other animal that has this characteristic. It has a semi-retractable claw, so it can roll the claw back far enough to not interfere or wear off when traveling on a rocky hill range, and yet it can roll the claws out so it can set them into the bark of a tree, enabling ito climb like a squirrel. But it can't hide the claw entirely like a cat does. It can dig like a dog and thereby catch mice and moles. A red squirrel stands no chance with a Marten in a



Some More Marten

tree top for he is much more active than a squirrel. A Marten runs straight up a tree apparently as easily as a cat runs on the ground or up a slanting pole; and then like the squirrel he reverses his hind feet and comes down head first as handily as he went up. A cat can't do this simple but all-important "stunt." Kitty can run up the tree or a telephone pole, but it generally takes the city fire department to get her down. The Marten has a good nose and can trail like a hound. He makes a jack rabbit ashamed of himself on a straight run (or a crooked one for that matter). They often run a rabbit down in the woods. They are much heavier furred than the Mink. The Stone Marten, as said before, is of a beautiful rich grayish yellow, making a fur that many prefer to that of the Sable or Pine Marten. There are different shades, however; some not so beautiful. The Pine Marten or Sable is of a rich dark brown or black. They have a spot of golden yellow or bright orange at the throat, generally triangular in shape. This is the "beauty spot" of the Marten. The Marten has a trim, alert, lofty bearing and appearance that makes him especially attractive among other animals. The fur is very thick and fine and from an inch to an inch and a half long. The guard hairs are so fine and silky that they are sometimes called the outer fur.

A large skin will stretch up to about thirty-six to forty-two inches. The skin itself is of lighter weight than the Mink's but is tougher

and very pliable. It makes a most durable and valuable fur and is often faked, but I can't say imitated, by what is known by the "trade name" of "natural black marten." SKUNK. A real dark fur in good condition and of good size is worth about $35.00. A live animal with such a fur is worth from $75.00 to $100.00. The feeding habits of this animal are quite different from those of the Mink. The Marten is carnivorous as shown by the teeth, but he is not so scrupulously so as the Mink. It doesn't hurt his stomach nor his conscience to rob a trapper of his lunch, should he be so indiscrete as to leave it hanging in a tree while he makes a round on his trap line.

In captivity he is easily cared for; if we get out of meat or liver temporarily, we boil up some spuds, mix in a few crusts of bread and give a little extra allowance of milk, and they seem to enjoy the change. Meat makes the best fur, however, and should form the basis of their diet. They are very fond of mice and will climb all over their keeper to get one away from him. Easily tamed, they make very desirable pets. One Marten is worth a dozen cats when it comes to keeping the place clear of rats and mice. They will easily kill a wood rat that a cat has no business with. Intelligent and clean, they are the ideal pet, and to my eye the most beautiful animal that runs on four feet. They must be tamed before they will breed in captivity, but since that is so easily done I believe they will prove even

more profitable for the fur farmer than the Mink. The natural range of the Mink is all over the United States and most of Canada, but not so with the Marten. Many people who are familiar with Mink have never seen a Marten, for they are a native of cold climates and high altitudes. Yet they endure hot weather well, for they shed their fur in the spring and don't put on their winter coat till they need it. They are an exceptionally hardy animal. I have never had a sick one and therefore do not know anything about their ailments. A louse or a woodtick can't live on a Marten. They comb each others fur with their claws and pick them off. Bold and audacious, they readily make up with strangers, and often for their benefit it seems, as though trying to "show off," they will do some of their "cute little tricks," such as pulling off a boxing contest, or playing tag around the pen. They are as handy among the branches as a monkey, and just as amusing.

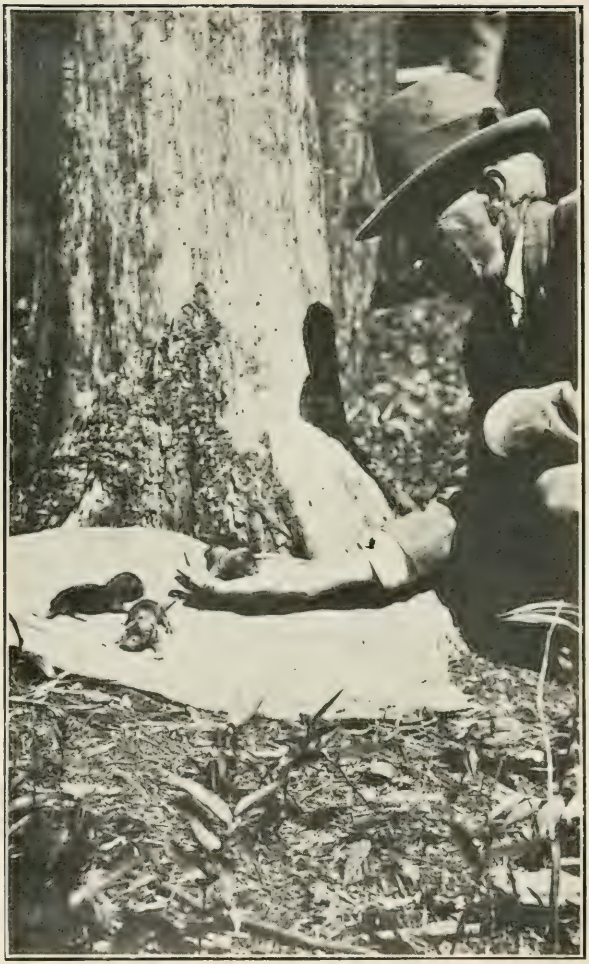
Still Other Positions

CHAPTER VII

BREEDING AND RAISING THE YOUNG

It is natural for all animals to breed, of course; otherwise they would not exist. When any one specie refuses to breed there is something wrong somewhere. Now what was the matter when my Mink refused to breed? That was the thing for me to find out. Nature has her laws governing these things and they must not be disregarded nor to any great extent, tampered with. Where was I running counter to this law? Lets see, I had my Mink in a pen, they had food and water, but not much room to exercise. My pens were small and built more as if for exhibition purposes than for privacy.

The animals were wild, shy, and afraid, and visitors by the dozens swarmed around the pens. I only had a little water in the pens, a trough only four inches deep, by a foot wide. In this a Mink would vainly try to dive, but would have to turn over to get his back wet. The place was all right for visitors, but not at all congenial to the animals. That's what was the matter. But it took me a year to find it out. That is, it took one breeding season, and since they breed but once a year, I figure that it cost a year. I had to change conditions for them and wait till another breeding season to try it again. The



Baby Mink (Four Weeks Old)

next fall I had my pens arranged so I could turn them all in together at the proper time. I was watching evidence that the females were ready to breed. I didn't know what the signs were nor what to look for. While watching for the sign in the females, I discovered it in the bucks. The testicles that had not been visibly noticeable were now swelled up so as to be quite conspicuous. So this, I took to be a sign of the "rutting" season for the Mink, as the "thick neck" of the buck deer indicates that for the deer family. The pen for the females was separated from the buck's pen by a partition, the lower half of which was screen. I noticed that the females were becoming restless and pacing up and down this side of their pen more than usual. The bucks also spent most of their time digging along that side of the pen and noseing and smelling the females through the screen. These were the signs, I thought, so turned them in together. There were eleven females and nine bucks. Only five of the females were ready and would breed at this time. These, after three days, I removed to a pen far away from the breeding pen. Soon others came in heat and were bred, and I removed them. And when they were all bred, which was inside of two weeks, I put the females back in their own big pen and the bucks away by themselves; not in the pen adjoining the females.

I couldn't tell to a day when a Mink was bred, for I put them all in together as I removed them

A Half Grown Kitten

from the breeding pen. I did not keep a written memoranda of the time as I should, but as near as I could figure back it was the tenth of February when the first ones were bred and it was the sixth of May when the first litter appeared.

Thus I estimated it was about eighty-four days, the period of gestation. I am disputed on this point, however, by men that say they have raised Mink and as I am not positive as to all dates, I am merely stating 84 days as my opinion. This was the most successful of the six breeding seasons that I have observed, as regards getting them all bred. I believe there were ten out of the eleven that produced young that spring.

Now I tried the "pairing off" system, and was going to get the "dope" on this question. For fear that they would not breed I only used two pairs in this experiment. The rest I bred on the "bunching up" plan.

The ones that I paired off did not breed, and the ones that I kept no time on, did. Thus by trying these little experiments, from year to year, I find that about 80% of all females will breed. But I don't consider this a fair test, for an answer to that question, "What percent of females will breed in a given year?" We should take the most successful method of breeding and draw our answer from that. I believe that will demonstrate that about 95% will breed. One great difficulty in observing the habits of wild Mink in captivity is their shyness. If they know you are watching that spoils all chance for observation.

I can't tell whether a female has been bred or not unless I see it. The buck will take them by the back of the neck, and you can see where they have been chewed, but that is not proof positive that they have been bred. If there are several bucks in a pen and only one female that is in heat, they will fight over her and chew her neck all raw. This should not be allowed. Put this female in a pen with a buck that you know is all right. Not all bucks can be depended on. If a buck is past a certain age (I think about eight years), or is too fat he will be very apt to be of no account as a breeder. If a female shows a disinclination to breed, sometimes a vicious buck will set his long tusks through the back of her skull and kill her. The tusk penetrates the brain. I take a pair of small nippers and cut the tusks off, just a little longer than the rest of the teeth. They need some tusks to tear their food with. So I would not cut them any shorter than is necessary to prevent their killing their mate. Some females do show a disinclination to breed, notwithstanding the proverb to the contrary.

A female in heat will sometimes announce the fact by standing up on her hind feet and emitting a certain peculiar cry. A long, drawnout cry unlike the squeal that they make in fighting over their food.

This cry I have heard in the woods, or along the river bank, while making observations of Mink in the wild state. It can be heard a half mile on a still night and several times I

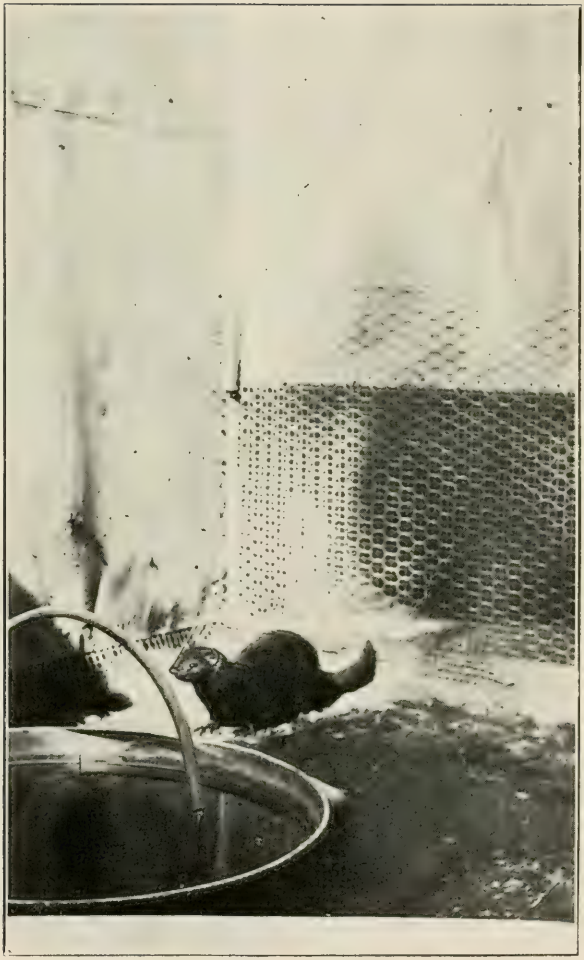
have observed it attracted the male Mink. A Mink is a polygamist naturally. He will run for miles up and down the river and cover every female that he comes to.

But unless one is somewhat familiar with Mink and the noises that they make he would not recognize nor distinguish this noise from the others. This cry is a call for her mate and is never made when there is a commotion around the pens, as at feeding time. It will be heard in the stillness of the night. Then if you slip out quietly and look into the pen you will see the animal standing on her hind feet, looking all around and every few minutes calling to her mate. Now if you have a door to the nest box that can be closed with a wire from your "lookout" you can shut this one out, (and the chances are good that she will be the only one that is out.) Now put another box into the pen and she will run into it. Put the sack over the entrance and drive her into it, and you can then move her to the breeding pen without any undue excitement or trouble.

Or, in place of the sack, you can have a door on the little box that you use to catch her in and take box and all to the breeding pen.

At breeding time don't allow any visitors around, keep cats and dogs away, and also all strange noises and scents.

In the Northern United States the breeding season begins about the first of February and continues for nearly two months. Where I have



A Full Grown Mink—Twelve Months Old
Also Inside Corner of Pen, and Bath Tub

no particular buck that I want to breed from, I prefer the "bunched up" method of handling, but when I have a certain fine specimen to breed from, I have to use the "pairing off" method. One can not be too careful at this time.

Now, after the females are bred they should be put in a big pen by themselves; feed them all that they will clean up, as long as they don't get too fat. If that begins to show, cut down on the feed for a while. Play with them, feed them out of your hand and get them just as tame as you can, so that when they have their kittens they will not be so afraid of you. They are easier to take care of in one big pen as long as it is safe to leave them there, but by the middle of April it is best to put them in their individual pens, and care for them separately. Keep handling them. Keep their nest boxes clean. Never make a quick move that will scare them, and about the time that you expect the kittens to arrive, be sure to have the nests free from vermin and filth. After the kittens arrive you must not touch the nest for a month or more. Use fine grass or hay for nests. Make a nest for a mother Mink like this: Line the bottom of the nest compartment with about two inches of the fine grass, and then put your hand in where the Mink will lie and cover it over with more grass, keeping the hand in the nest open, moulding a little room or cave. Now draw the hand out, leaving the opening where it should be, on the side, not on top of the nest, pack the hay down on top, while your hand

is inside so as to make the wall compact and warm. Don't make the opening too large, no larger than your hand or wrist. If this little tunnel leading into the nest is quite long, it is better. So the kittens are away back in their warm room, safe from the cold or draft. As a general thing, you will have better luck if you provide for them like that and then let the mother take care of them, but if for any reason you want to look at the kittens proceed like this: At feeding time the mother will come out to carry the food into the nest box. When she is out, close the door to her nest and shut her out Now put the "catching box" into the pen and run her into it and close the door. Remove her to some other pen so she can't hear what is going on around her kittens, keeping her shut up in the dark box that you caught her in. Now with a flash light you can look into the nest and, if necessary, clean it out, or remove a dead kitten. Don't disturb the nest any more than is necessary. And DON'T REACH AROUND a kitten to pick it up. Take the thumb and finger and pick the kitten up by the nape of the neck. Nature put a "patch" on the back of a Mink kitten's neck for this purpose Do it quickly and have it over with; the mother is working herself into a frenzy. Put her back in the pen. When she runs into the box, shut the door and keep her in or she is liable to carry all the kittens out and bury them or pile them up in some hole or corner of the pen. Keep away and don't make

any more noise, and after an hour or so go back and open the door and get out without making any noise. If the mother Mink has been sufficiently tamed so that you can pick her up and handle her without her biting or struggling to get away, she will stand for your handling her kittens, but unless she is, you had better let the kittens alone.

Feed her and the kittens tender lean meat. She will feed the little ones meat long before they have their eyes open. As soon as the kittens open their eyes and come out of the nest have a basin of milk fresh from the cow with a little bread in it, so they can get to it handily. If the kittens begin to show signs of dissentery, boil the milk and cool down to about 100 degrees before feeding it. Stale or dry bread is best.

Keep the nest box up off the damp ground, but let the entrance come down on the ground so the kittens can get in. I lay a board or piece of galvanized iron on the ground and then put a couple of inch strips on this to set the nest box on. Don't have these strips more than an inch thick or the kittens may crawl under there and die. Now the first thing a kitten will do when he crawls out of the nest, is to make for the water. If he doesn't the mother will take him there. So DON'T have the surface of the water more than **one-half-inch** below the top of the tub or basin. If you do the kitten will die in the water. He will not drown, for he will naturally float, but he will chill and die. I put a board in the tub

A Bunch of Mink

so it will float and at the same time have it fastened to the side of the tub so they can crawl out. Now give the kittens and the mother a roomy, sunny pen, keep the nest clean and dry, and keep visitors away so the kittens will come out and play. Feed them all that they will clean up before the next meal time, and you will raise some Mink.

CHAPTER VIII

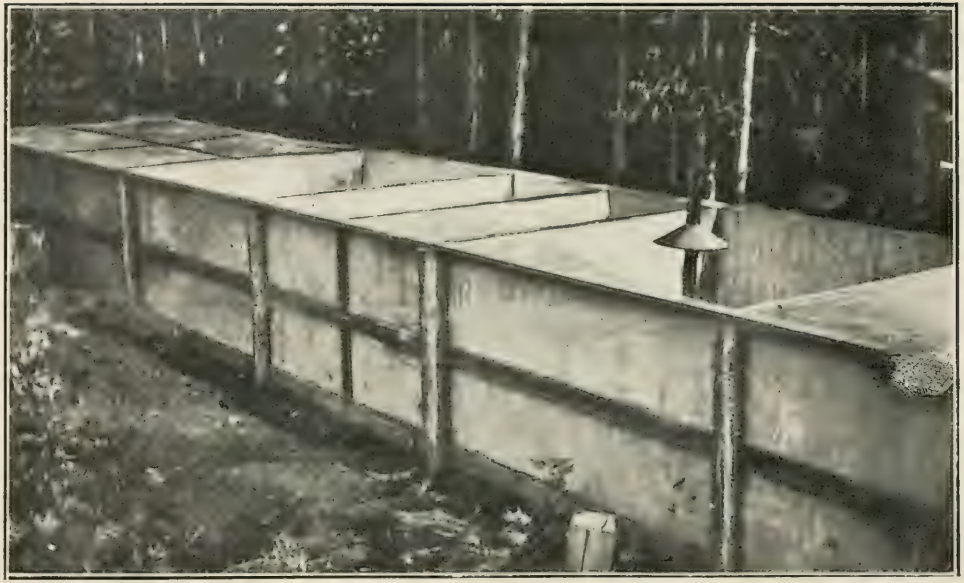
FENCING

Fencing, the kind, style and quality, depends upon what you are fencing against, and how long you want it to last. If you are fencing against newly captured wild Mink, you need a fence that is practically mouse tight. It should be six feet high, and of solid material, such as sheet iron or tin. A Mink will cut his nose and claws all up trying to get through a hole that is too small for his escape. He will break his tusks off and keep on fighting till he dies. A screen barrier is almost sure death to him. If he can't see through he will spend his time pacing up and down the pen, but not hurting himself. If the fence is too low, so he thinks he could possibly jump out he will keep trying it. He will stand back and jump as high as he can against the side of the pen, and fall to the bottom of course. Then get up and try it again and again till he dies from exhaustion. A wild Mink that is good and active can clear a fence that is four feet high. Two feet more is none too much for safety. And in case of a heavy snow fall in a single night, this two feet is certainly none too much to prevent a wholesale get-away. With a six-foot wall you need no "over-hang." That is a nuisance anyway. It is a source of danger,

being liable to break down and open a way for the animals to escape. It is always getting out of repair, and in the winter is always loaded down with snow and ice, rendering the danger of collapse greater. Of course you can shovel it off, but that costs time and money, and is not safe at that, for sometime there will something happen that it don't get shoveled off and it breaks down and its good bye Mink. Then it has cost you more than it would have cost to build the fence as it should have been in the first place. A Mink will dig, so you must fence in the ground with heavy galvanized wire screen. Screen is much better for this than solid material. A Mink will dig down till he comes to a slab of rock, concrete or sheet iron and then follow it till he comes to the edge and go in under and up out. If it is wire screen he will not follow it to the edge, but dig away at the dirt that he can see through the screen and finally get discouraged and quit. He doesn't understand the screen. This screen should be of three-quarter or one-inch mesh and a diamond mesh at that. It should be well galvanized. This "flashing" as I call it, in the ground, should be put in on a slant of a foot to the foot. See drawing. If you put it straight down the Mink will dig straight down beside it till he comes to the bottom and then up and out. Now if you are fencing for ranch raised, or wild Mink, well domesticated, a strip of screen three feet wide and then three feet of galvanized iron to make the six-foot fence, is preferable.

A Row of Pens Last Two Covered, for Marten

The Mink can climb the screen but they quit when they come to the iron. It is much better to put this iron straight up than to break it in over the top for an over-hang. By putting the screen on for the lower three feet, you give the animals the benefit of the wind. They need that for ventilation. It also gives them the sun. Sunshine is an excellent germicide, and one of the essential things to the health and in fact the very existence of animal and vegetable life. Don't think that the sun will fade out the dark color of the fur. The chances are, that you won't have any fur if you deprive them of sunshine. In a pen that has solid walls all the way around, there is dead air in the bottom. There is dampness and mold. The sun and wind will do more towards keeping the pens pure and clean than a half a dozen hired men. The sun and wind keeps the pens almost as dry as the ground outside. A Mink will stand a damp, poorly ventilated pen better than a Marten, but it is detrimental to the health and well being of the Mink. I would only recommend a solid wall for wild animals. When they will live in a screen pen without committing suicide, that is the place for them. A fence six feet high will not turn a Marten. If your pens are small, say not larger than ten or twelve feet square, they may be covered over with a one-inch diamond mesh screen. If the fence incloses a large area, then it must be at least eight feet high. You can have one-inch diamond mesh screen for the first six feet, but the top



Side View of Pens, Showing Collar on Tree, and a Ten-Foot Pen Divided

two feet must be of galvanized iron. The corners must also be of galvanized iron for a distance of at least six feet each way, or the Marten will take a run and jump as high as he can on the screen and then across the corner to the top and out.

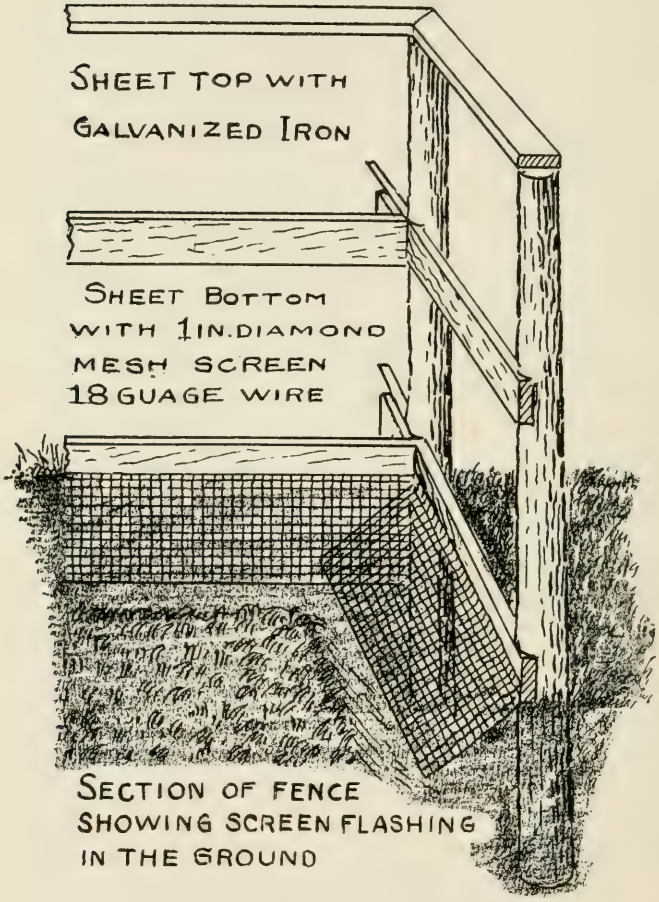
Now as to the material, the kind, size, weight and quality. Posts should be of cypress, cedar, oak, chestnut, locus, red fir, tamarack, or any other timber that does not rot readily when set in the ground. And since the posts are the foundation of the fence, they should be made as durable as possible. The life of any timber will be greatly lengthened by being treated with Creosote. This can be done quite cheaply by taking a piece of black iron 36 inches wide by 10 feet long, 16-guage or heavier, and making a trough of it. Take a piece of angle bar 1½x1½, cut two pieces the length of the sheet of iron and rivet it to the edge on each side. This to stiffen the edge of the trough.

If you can, put a sheet iron end in the trough, but if you haven't the tools nor the mechanical ability for this, do it this way. The end of the trough will represent one-half of the area of a circle. Then the width of your iron (36 inches) will represent one-half of the circumference of the circle. Now what will be the diameter of a circle, the circumference of which is 72 inches, or half of the circumference 36? Divide 72 inches by 3.1416, and we have 22.9 or practically 23 inches. Then 23 inches will be the inside width

of the top of the trough, and it will be just half that deep. Set the compasses at 11½ and place one point on the edge of a 2x12, and with the other point scribe a half circle. Take a compass saw and saw this out. Make another just like it and set them in for the ends of your trough, two inches from the end of the iron. Put a half-inch rod through the angle bar stiffeners just outside of the plank end, and you have a good, serviceable trough to creosote posts in. Use 6d nails to nail the ends in and nail both ways from the middle. Now dig a trench for a fire pit and set the trough over it. Set the trough level and put a sheet of iron along each side so the fire don't come up and fire your creosote. At one end of the trench have a stack, made of 6-inch stove pipe, about 10 feet high, and build your fire under the other end. Put in about eight inches of creosote and heat it as hot as it will stand and boil up the posts in this for about five minutes each. Stand the posts up endwise on a sheet of iron so that the drainage will run back into the vat or trough. Ice tongs are handy to handle the timber with after it is dipped. The girts should be of some rot-resisting timber as well as the posts and can be treated by dipping one end at a time, and perhaps touching up the middle with a paint brush.

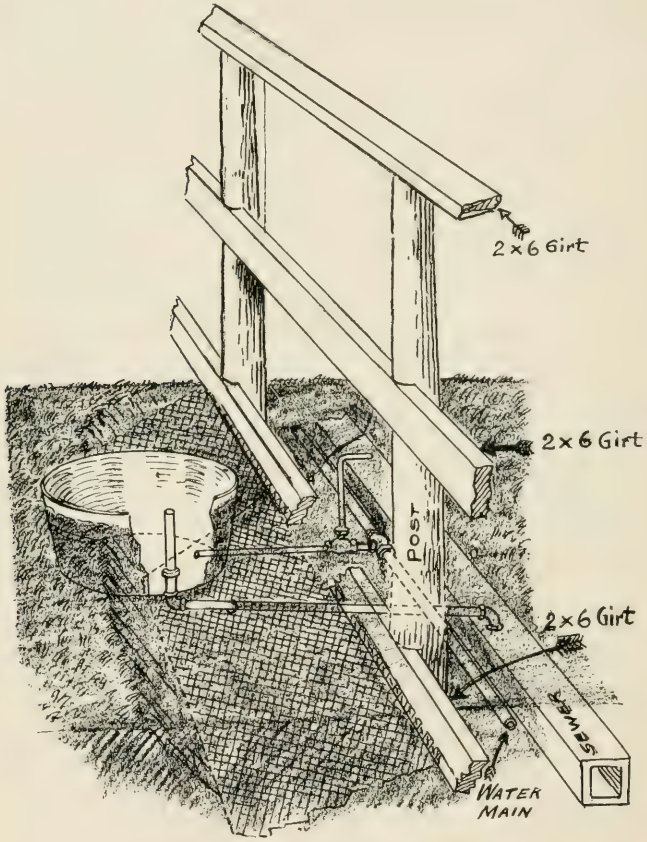
If you are using round timber for posts, cut them 9½ feet long, and about six inches at the top. Have them all the same size as near as possible. Now say we are going to build ten

pens. Set two posts exactly 100 feet apart from center to center. Now the face-side of the posts is the side towards the inside of the pen, upon which you put your girts and sheeting. Set the face-side plumb, so that when you get the other wall up the pens will not be wider on top than they are on the bottom. Set the posts plumb on center the other way. Now get a good braided linen line, one that you can stretch a hundred feet and not have much sag in it, and measure up five feet ten inches from where you want the bottom of the sheeting to come, stick a nail on the face-side and put the line on it. Stretch the line to the other post at a point exactly level with the nail on the first post. Now set the tops of the other posts to this line so that you know that you will have a little to saw off. Line them up, top and bottom, and tamp them solid. Now sight the line straight and take the sag all out of it by sticking a nail under it wherever needed. Saw off the posts to this line, being careful to get them level on top. Your posts have been creosoted, but these ends haven't. Take a brush and soak them good. Now lay the 2x6 top girt on and line it up even with the face-side of the posts. Now frame the bottom girt into the posts so it is just six feet from the top of the top girt to the bottom of the bottom one. Frame in the middle girt so the center is 36 inches from the top, and you are ready for the sheet iron. Now build another wall just 10 feet from this one, being careful to have the posts set in perfect squares,



Scale ½ Inch to 1 Foot

so the pens will be square. Be sure to dope the daps in the posts where you frame out for the girts with creosote before you nail on the girts. Where you have broken the grain of the timber that is where it will naturally start to rot first. Dope it well. Your iron will be exactly 10 feet long so you must be careful to have the walls finish just 10 feet apart from face to face. Now dig a trench 18 inches deep, 18 inches from the face of the posts or from the bottom girt, and slant the dirt bank off so that it lays on an even plane on a slope of about a foot to the foot. Take a roll of screen that is two feet wide and lay it in the trench so that the top comes up on the girt about two inches. Tack it there. Put on the bottom stretch of iron or screen so it laps over the flashing and comes to the center of the middle girt. Then the top stretch of iron. Put in the ends and the partitions at the posts. Use a bottom girt for the ends the same as for the sides, but for the partitions, bed a creosoted pole in between the posts so the top is even with the bottom of the bottom girt. Staple the flashing to this so it meets on top and also the bottom edge of the screen partition. You can use a top girt in the partitions, but no middle girt. So punch your iron with holes one inch apart and lace or sew your screen to it. Use a non-corosive wire such as untempered brass or copper. It is always best to have one or two pens sheeted up solid with iron, for wild Mink; the others should be screen for the bottom three feet.



Scale ½ Inch to 1 Foot

Construction of Water System

Now for a water system. A pool should be not less than 12 inches deep. The top should be even with the surface of the ground inside the pen; and the ground should be level with the bottom of the bottom girt. The pool can be made of a tub or a wooden box. A drain pipe that wont freeze up should be put in like this: Cut a piece of one-inch galvanized pipe 12 inches long; thread it on one end about 1½ inches. Screw a lock nut on and put it through a hole in the bottom of the tub about six inches from the side. Screw the lock nut on the outside. If it does leak it wont hurt but you can make it water tight by putting on a thin leather washer before putting the end of the pipe through the tub. The pipe should stick through the lock nut on the bottom, three-quarters of an inch. On this screw an elbow and run a pipe out from under the bottom of the tub to the sewer. The end of the pipe in the tub should be three-quarters of an inch below the level of the edge of the tub and the tub set level. The drain pipe will stick through the flashing, but the screen should not be cut, or it may make a hole for a Mink to escape. Just spread the wire. Lay the sewer so it will take the end of each drain pipe, and have about five inches of grade to the 100 feet, or one-half inch to the pen, or every 10 feet.

By using a nipple through the bottom of the tub and a lock nut on each side you can then put the drain pipe up in the bottom of the tub by the use of a sleeve coupling. Then you can unscrew

the drain pipe and drain the tub within two inches of the bottom. By putting the drain pipe to one side of the tub and that next to the sewer, it saves piping and gives the Mink better room to swim and play in the water. The sides of the tub may become coated with ice but at six inches away the drain pipe is safe from freezing. Now run the water main close to the posts, (have the sewer a foot away) and tap into each tub with a quarter-inch pipe. Have a cutoff close to the main and run the quarter-inch pipe through the side of the tub close to the bottom, with a lock nut on each side. The main should be not less than one inch if you have 100 pounds of pressure and if you have less, it should be one and a quarter or one and a half inch.

Lay the main so that when you turn the water off it will drain the full length. Your main and each hydrant or tap is about twelve inches under ground and you can cover it over with straw or horse manure as a further protection from frost. In cold weather keep it running as fast as it can run out. That is the best protection against freezing.

For sheeting use 28 or 30 gauge galvanized iron "36 inches by 120 inches." Use one-inch galvanized roof nails to put it on with. For Mink use three-quarter-inch diamond mesh screen of No. 18 wire for sides and flashing. For Marten use the same size, except on top of a pen or cage There one-inch mesh is all right. I just cover over the Mink pen with this wire

and it will hold Marten. If you use one-inch mesh on the side a young Marten is liable to get his head through it and hang himself. You can get all kinds and sizes, any width you desire from the H. T. T. Publishing Co., Columbus, Ohio. That is the best wire and the best prices that I have been able to find. Use one-inch galvanized poultry netting staples to put the screen on with, and use lots of them.

If you are careful in selecting your wood, and thorough in the creosoting process, a fence built like that will stand from 20 to 30 years in any climate without repairs occasioned by natural decay. That is the cheapest way of building in the long run.

If you leave a tree in a pen for shade, don't forget to put a collar on it. (See cut on page 49).

A good nest box is made by taking a box about 16x30, 12 inches deep, put a partition in it so as to make a nest 16x16. Have the partition eight inches high and a hole through the partition big enough to get your hand through. Have the hole to one side and the bottom of it so it will make an entrance for the little mink, about two and one-half inches off from the floor. Bore the bottom full of holes under the nest so it will drain. Now you have a nest 16x16 and a feed room about 13x16. Put some fine hay in the nest, stick your hand through the hole in the partition and in the hay hollow out a den or nest with the top all covered. This makes a warm nest for the young mink and the mother feels a sense of

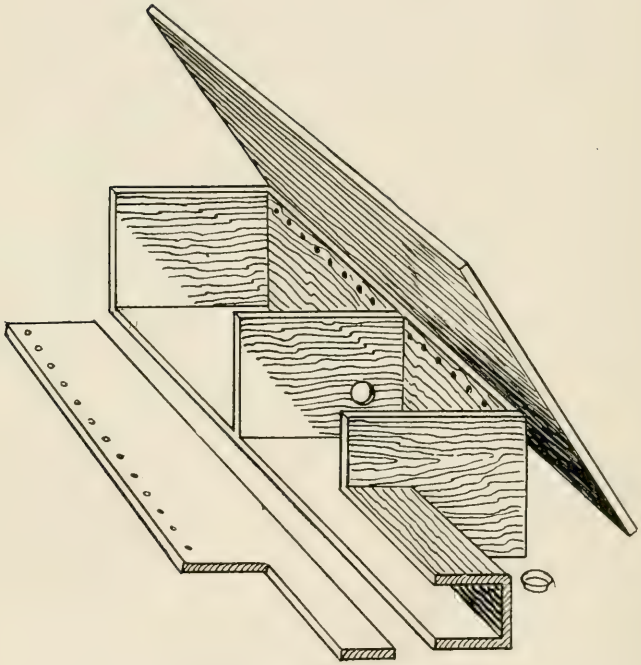
security in it that she does not in an open nest This feed room in the nest box keeps them from carrying the meat into the nest. They will keep the nest clean if they have an adjoining room when they will not if they don't. Now for an entrance, build a box four by five inches on the inside, without any ends in it, and about a foot long. Attach to the hole in the feed room and if you like you can hang a door at the outer end. A door sometimes comes handy to shut a mink out in case you are trying to separate them. To catch a mink put a sack over the end of the entrance, raise the cover a little and the mink will run into the entrance and stop. Now take a block just big enough to fill the hole nicely and crowd him into the sack.

Bore several one-inch holes along the sides near the top for ventilation. Make a cover that will project over the box four inches on the sides and back and twelve inches in front, so as to form a shed for a basin of milk. Hinge the cover at the back, or side, so it may be lifted up to clean out. Cover should be water tight. Galvanized iron or some good brand of ready roofing over thin boards makes a good cover. Don't put the hole in the partition opposite of the entrance or the wind will have a straight course to the nest.

A nest box of this size is all right for a female and young. It can be built larger for a large number of mink. For ten mink it should be 24x40 inches making the nest 24x24 Feed room

about 16x24. You should never keep more than ten mink in one pen. They are apt to pile up and smother. When the kittens are pretty well grown and the weather is warm, you can make an open nest instead of a den for them.

This nest is all right for Marten also. (See drawing of nest box).



Construction of Nest Box
(Side Removed)

CHAPTER IX

TRAPS AND TRAPPING

Trapping is such an intensely interesting pastime, besides being quite profitable as well, that perhaps more than half of the boys learn something, at least, about it before they leave the happy realm of boyhood. And having once known the delights of the trap-line, they never forget it.

Old gray-haired men doze before their evening fire and dream of the happiest hours of their life when they got up extra early to take a run back to the woods to look at the traps before mother called "breakfast." Oh, how a boy's heart jumps when he approaches his trap and hears the chain rattle. Now he looks in under the old log or upturned root and there is Mr. Mink or Mr. Coon with his foot fast in his trap. But sometimes the pleasure of anticipation is greater than that of realization. Zip—whew—it's a skunk. Instead of proudly carrying home a fine piece of fur, only hitting the highest places in the trail as he goes, he slinks along home with a disgusted look on his face, his heart boiling over with wrath and an evil-smelling odor all about him. "Confound that nasty thing anyway," he says to himself, "mother won't let me trap any more, I know she won't." But before the forget-me-not

A Bunch of Young Trappers That Have Made Good with the Gates Box Trap

odor of his last victim dies away he is secretly watching his other traps, and some day he comes "sheepishly" into the house and hands mother a beautiful mink skin to help make up her set of furs, and—well—she doesn't scold him much and he keeps on trapping. Nor does he ever quit. If it isn't the traps it's the gun or the fish-rod. "Men are only boys grown tall," and the call of the wild haunts us forever. So what's the use? But the trapping is getting poor so we must catch the remaining few alive and raise them in captivity. Thus, with our mature years our pastime evolves into a business, and we combine business with pleasure. Now if we are going into business we naturally want the best equipment that we can get in the way of traps, fencing, etc. So we look for a trap that will get them alive and uninjured. This of course has to be a box. But box traps are so big and clumsy that when it comes to handling many of them we find we have a big job on hand. We don't want many, for that matter; not as many as we would of steel traps, for we have to look at them morning and evening, to be sure of getting them alive. But a man that can hike like a trapper can cover 50 traps, along an ordinary river, twice a day. Fifty box traps, or even half that many, make a cumbersome load. So we want the smallest and lightest trap that will do the business. Efficiency and reliability come first and must not be sacrificed for lightness and durability. We have tried out all the box traps that were ever invented and

then tried to make one that combined the good features of all of them and eliminated the bad ones. How well we have succeeded is told by the "Gates' Patent" box trap. This trap weighs six pounds, is five by six inches square and twenty-six inches long. It is smooth all over the outside, no trigger nor projections of any kind to prevent bundling up nicely. A man can easily carry six or eight of them when putting out or taking up a trap line. Eight of them weigh less than fifty pounds and are as big a bulk as one man can handily carry. Most of my readers will remember of seeing a cut of myself and traps in Harding's "Fur-Farming." (There's a book worth reading. If you haven't got it, get it. It's 60 cents well invested). The doors of this trap are hung on spring hinges and swing in. A bar between the top of them keeps the trap open till the animal touches the bait. A little pull and the doors close behind the animal and there is no escape. The animal can not be eaten out of the trap by another animal. There is a slide end-gate in the back end that allows one to bait the trap and also to punch an animal out into a sack. The trigger arrangement is the simplest ever. Absolutely impossible for it to go wrong and not work, or get out of order by any kind of ordinary use.

Properly baited and scented, this trap will get any mink or marten that will go into a wooden box. That talk about "The sly old Mink" is a joke. A mink has to be caught several times

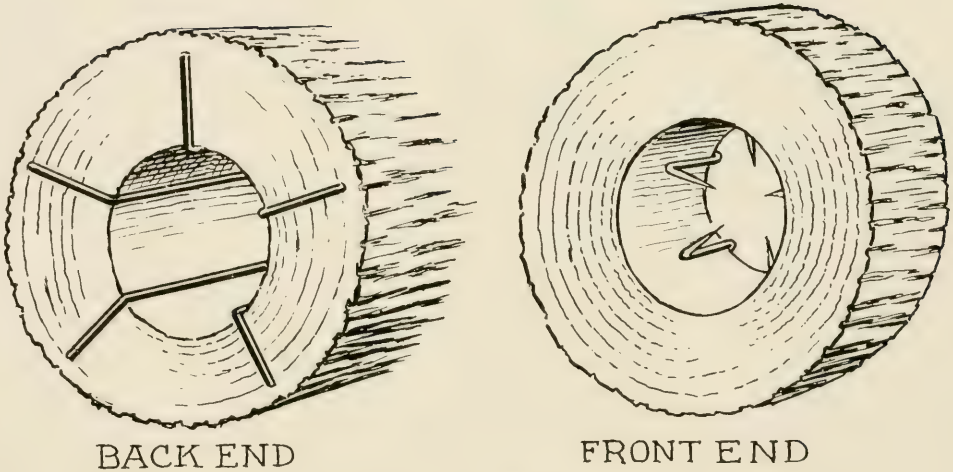
to teach him to keep out of a box trap. It's a mink's nature to go into a hole, and no amount of tin cans and sheet iron to rattle, will keep him from going where he can smell something good, (to eat or otherwise). A mink has comparatively a big leg and small foot, and can therefore pull out of a steel trap that isn't strong enough to break the leg A No. 0 Victor wont hold a mink and a No. 1, or a No 1 Newhouse, will break the leg. So it is imperative to have a box trap for them. But for marten a No. 0 Victor is all right. The sole of the marten's foot is covered with fur and the foot is so big that he finds it impossible to pull out of this little Victor. A No. 1 Victor or Newhouse will break a marten's leg. The nature of the country that the marten inhabits is another argument in favor of the little steel trap. It would be almost impossible to pack box traps into a marten country. But as for the marten going into a box trap, why, he will go into any hole that he can get his head into, if there is anything to eat in there. He is about the boldest animal that runs the woods. The box trap is desirable for marten only when you are putting out a dozen or so and you can pack them in on a horse. If you get a marten in a box trap, you have got him. He wont be eaten up by a bob-cat or cougar. And it's a cinch he wont get away. But as for marten trapping, there isn't much use in my going into detail, because there is but very little of that done by amateur trappers. It takes an experienced trapper to conduct a trapping

campaign in such a country as is inhabited by marten. They seek the most remote mountain tops and the little basins that lie between them. Places where a tenderfoot has no business without a guide. A trapper that can take his dogs and guns and traps and with what grub he can pack on his back, go into the woods and live through a winter in the high altitudes, without seeing another human being, has probably a store of knowledge gained by experience, that would not be greatly enhanced by what I could tell him in this book. However, if you ever do set a steel trap for marten, set it where it won't get covered with snow. The best set is made by cutting a notch in a tree about four feet from the ground or snow. Pick a tree that is dead if you can, if not, get a green hemlock or cedar. Don't notch a tree that has a pitch sap, or your fur will be ruined with pitch.

Pick a tree about eighteen inches in diameter and cut a notch six inches deep clear across it and then split out some wide thin wedges and drive them up in the upper side of the notch so as to enclose all but one end. This forms a hole or tunnel. Put your bait in the back end and the trap in front of it so the animal has to walk over the trap. You don't have to be careful about "human scent" nor conceal your trap. If there is a chance on earth for a marten to get his foot in the trap he will do it. If you want him alive have the chain long enough to reach the ground, or make a ground set in the root of a

tree. Don't use a trap stronger than a Victor No. 0. Look at your trap every 24 hours at the longest.

Now, Mr. Get-'m-alive Mink Trapper, unless you have had some experience along this line you will need some advice. I have had six years of continuous experience in this line and will give you the benefit of what I have learned. If you are trapping a stream you should run your trap line with a boat. Find out how much you can cover twice a day with your boat, and DON'T make your trap line any longer. If the stream is deep and you are using a power boat you can probably cover as much as 25 miles a day. Up in the morning and back at night. But if you are pushing a pole boat, on a bad stream to navigate, perhaps you can't cover more than five miles, two ways, or twice a day. This determined, get traps enough to properly cover the ground (usually six or eight to the mile). Bait with the food that forms the greater part of the mink's diet in that particular section. Fish is the best bait where there is fish. Look for fresh signs and trails, and set in such places. Use big chunks of bait on the pan or trigger, so it won't dry out, and have it fresh. Don't spoil good meat or fish by dopeing it all up with some rotten old "scent." Put the scent up high in a bush over the trap so the wind will carry it a long distance, and thus draw the mink to the trap; but don't let him get his nose on it or he may go away and never smell of the bait on the trigger at all.



LOG TRAP

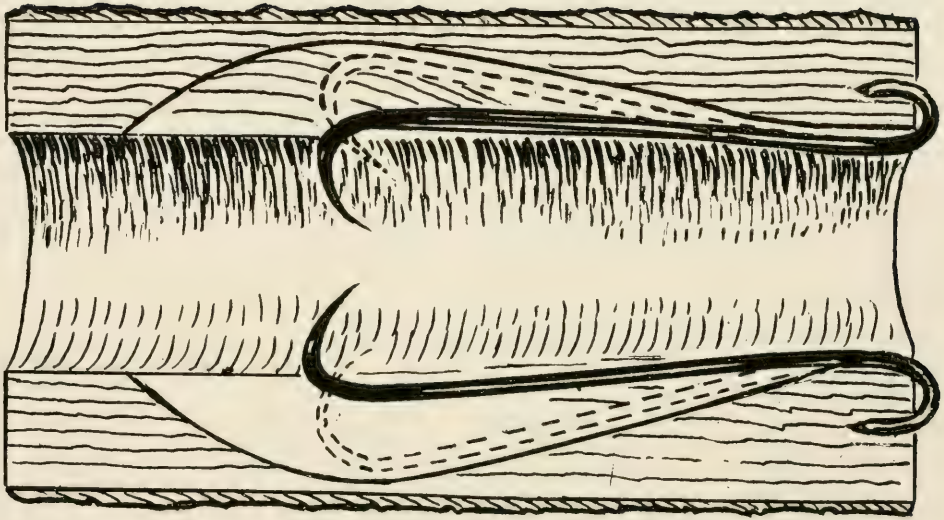
Then say "the mink came right up to the trap and was too wise to go in." If you had your nose full of garlic do you think you could smell a rose? Cut small bits of bait and strew them from the mouth of the trap to the water's edge. Lay a piece of fish on a rock and lay another big rock on top of it, this holds its scent well. Keep the trap scented inside with good fresh fish. When you get a dead mink save the scent glands and sueeze them into a small bottle with a big neck. Put in about three or four times as much lard or skunk oil as you have of the scent, and use this to lubricate the working parts of the trap.

If you don't get any dead ones you can sueeze the scent out of a live one and not hurt the animal, but it usually takes two to do it and its no snap at that. Cover the trap to protect it from the sun and the frost, and if the weather is freezing at any time of the day or night, put a thin board or shake in the trap so as to not interfere with the doors or the trigger, so the animal will be on the board instead of the cold iron. Be sure to look at them early and late. Carry a light cotton sack (not wool) about the size of a 25-pound flour sack and some clean cotton rags with you and when you find a mink that is wet and cold and about "all in," wrap him up loosely, (all but his nose) and put him in the sack and then carry him inside of your shirt to keep him warm till he is good and lively again. He may scratch around a little but he won't bite you through the sack, as long as you keep him warm.

This is all the way I have ever found of saving a mink that I got in that condition. And that will go a long way towards taming him. Now when you get a wild one, if you can put him in with some tame ones it will go a long way towards keeping him contented. If you haven't any tame ones keep watch on the newly captured ones and if they are jumping, drive them into the nest box every 15 or 20 minutes or they will jump themselves to death. It is sometimes more trouble to keep a mink alive than it was to get him, but that is a part of the game and it is worth attending to. You may as well get your experience there as in any other place. Mink are not all alike in regard to the way they stand captivity; some tamely submit to it while others seem determined to commit suicide. Now for what I call a "receiving" pen on the trap line, I use four sheets of galvanized iron, 36x120 inches, the edges bound with strips of lumber, (1x2) so they may be easily set up in a square and nailed together, and just as easily torn down and moved. Put them together with the strips of wood on the outside. Use ¾-inch tacks to nail the edge of the iron to the strips, and reinforce the corners with a strip of iron on the other side. Get 28 or 30 guage iron if you can. Now for top and bottom, cut enough screen to make a 10½-foot square, and use this for the bottom. Level off your ground and spread it down; set up the sides on it and turn up the screen around the edges and tack to the strips that bind the iron.

Now make another square for the top and tack it all around or nail another strip over it and you have a mink-tight pen. Use ¾-inch diamond mesh screen of No. 18 wire. Wrap the selvage edges of the screen together with copper wire and bind the ends so they will not stretch. Use three poles for supports across the top of the pen. You can turn up one corner of the screen for a door or make one to hang on hinges. When you move you can tear this pen down in 15 or 20 minutes, and can set it up almost as quickly. Four sides, two rolls of screen and three poles is all there is to it. You should keep a good nest box in it, well supplied with fine dry grass, and plenty of boughs for them to hide in. A small tub or bucket will do for water. Sometimes a wild mink will refuse to eat. Then if you can, get some live fish and put them in the tub. Only put in enough for a feed, for they will fish them all out and "cache" them, no matter how many there are. A canvas to spread over the top of this pen will sometimes serve to keep them quiet. You should always have one along.

Now if you have your home pen on the bank of a stream where wild mink run up and down, here is another trap that is a winner. Or if you have a sort of permanent or head-quarters camp on a stream where there are mink you can use this trap to an advantage. This is what I call my "Log" trap. I got the idea from the traps that we used to make by boring a two-inch hole



Log Trap, Showing How Gaffs Are Put In

in the end of a log, and poking the bait in it, and then driving sharpened nails around it so they stick through into the hole. It is made by taking a section of a pine log twelve inches long and about seven inches in diameter and boring a hole through it endwise three inches in diameter. Then get some brass spring wire, fifteen guage, cut five pieces each twelve inches long and sharpen one end. These are to take the place of the nails in the end of the log. But instead of being set in the end of the log they are set so that the point of the barb is about five inches from the end that the mink goes into. And instead of being solid like the nails were they spring back when the mink pokes his head in, but spring out, setting the point into the hide, when he tries to back out. So that when he shoves his head past these points he can still go in but can't back out. Now you must cut "flutes" or grooves, one-quarter inch wide and deep enough at the inner end so that the spring gaff can be sprung back far enough to bring the point even with the inside of the tunnel, or hole in the log. Bend the brass wires into gaffs as shown in drawing and put them in as shown, using a staple driven over the gaff to adjust the point, to the proper place. Set this log in the side of your pen, being sure to get it right end to. You need not be afraid of the mink that are in the pen getting out if the trap is properly built, but you will, every now and then, find an extra mink in with the others.

Now I can't restrain myself from saying something about the unsportsmanlike, unbusinesslike and unprincipled act of trapping out of season. It ought not be necessary to mention it, for any man that has as much sense as a ten-year-old boy had ought to know better than to trap for unprime hides. Its on the same principle as stealing green watermelons so nobody could have them when they are ripe. A mere child might be excused for the first offense and let it serve as a lesson; but it is inexcusable in a grown man and the only way it can be accounted for is that he is either a damn fool or a damn rascal. It was no doubt some individual who merited one or the other of these titles, or perhaps both, that was responsible for the saying that "any month that contains the letter 'R' is a proper month to trap in." THE ONLY TIME THAT YOU SHOULD TRAP FOR HIDES IS WHEN THEY ARE ENTIRELY WHITE ON THE INSIDE. WHEN THEY ARE P, R, I, M, E, PRIME. November 15 is early enough in Idaho. But September and October, NEVER. If you are trapping for live animals for breeding stock, you should not set a trap after there is a chance for a female to have a litter of young in her den, until the young are big enough to rustle for themselves, and have been for at least six weeks or two months. And then you should use every precaution to keep them alive after you have got them. That means from about March 1 to about August 15 or 20,

that you should not trap at all. There are many of the natural resources of our country that have been abused and wasted but I know of none that has suffered more from ignorance and "pure cussedness" than that which is presided over by the hunter and trapper. Every true sportsman should be a self-appointed guardian of fish, game, and fur animals; not a poacher. He should likewise appoint himself a committee of one to make the game hog and poacher hard to catch whenever one shows up.

CHAPTER X

SLAUGHTERING AND PRESERVING MEAT FOR ANIMAL FOOD.

There is a vast difference between "slaughtering" an animal and murdering one. If you are going to kill an animal, do it decently and humanely. Don't do as I have seen some men; take an old ax and batter an animal's head in, in a half-dozen places before hitting on the spot directly over the brain. If you can't strike straight, can't see straight, can't shoot straight, and don't know where to strike or shoot, let some one else do it.

To locate the vital spot on a horse's head draw a line from the left ear across the forehead to the right eye, and then one from the right ear to the left eye and there you have it where the lines cross. I never use an axe or hammer to "knock out" the animal, ammunition isn't very expensive and it is SURE if properly used. Stand about six feet from the animal and shoot within a radius of one inch of where these lines cross and the animal will not suffer. The brain and every nerve in the body are put out of commission instantly and the animal can feel no pain. Don't use a toy "pop," but get a 30-30 rifle or a 38 calibre pistol, or bigger. A Colt's Automatic, 38 calibre, is a good gun for this, or

most anything else. Your animal shot, you should cut the throat crosswise just back of the jaws, severing both jugular veins. When the blood is about all drained out of the body finish cutting off the head, unjointing the neck at the base of the skull. You can do this with an ordinary butcher knife. To get the animal well bled it is best to have the hind parts on ground a little higher than where the front parts lay, and then roll the carcass over from side to side. It is very important to get all the blood out in order to keep the meat. Now roll the animal up on its back and block it up with a chunk on each side. Take your skinning knife and cut around the fetlocks. Now cut down the inside of the hind legs, not to the vent as in skinning fur animals, but to a point between the hind legs so that it will leave all the thick skin which is well covered with hair, on one side, and the thin skin that has but little hair on it, on the flank side. If you leave all the heavy, well haired skin on the butt of the hide, you will get the benefit of it when the hide is tanned; but if you split up the hind leg so a part of this heavy skin is on the flank side, it will be trimmed off and wasted when the hide is made up into a rug, and a similar disadvantage ensues if it is to be made into leather. Now cut down the inside of the front legs to a point directly between them. Cut from there up the neck and back down the belly to the vent and around it. On a gelding cut around the sheath. Now begin to skin, using

the knife to keep the flanks from sticking to the hide and wherever else necessary, but don't score nor cut the hide. Skin the legs first and then the body down as near the back bone as is convenient. Take the chunk out from one side and let the carcass roll that way being careful to have the hide under it so as to keep it clean. Skin the upper side to the back bone and roll over on the other side and do likewise. Now roll up on the back and split from the brisket to the tail. Use a light axe to split the pelvis. Cut in with a knife and find the joint in the pelvis bone; it will be shown by a little ridge exactly in the center. Now take a hand-saw and split the brisket to well up between the front legs and finish through to the neck with the axe. Cut off the hind legs at the HOCK joint, not the gambrel. The hock is about six inches below the gambrel, and does not bend. It can be unjointed with a jack-knife. Split the tail to the end and skin out, leaving the tail on the hide. Now put in your gambrel and swing the animal clear of the ground. The gambrel should be of good strong timber, preferably round, as it grew, and flattened on each side of both ends to a thickness of about two and one-half inches, making the top edge a little the thinnest. Bore some holes through the gambrel so you can stick pins through and spread the legs from four to five feet apart, according to the size of the animal. Stick a pin through the gambrel outside of the leg, so that when you cut the meat down, the heavy side will not slip off and fall in

the dirt. Fasten a chain around the center of the gambrel and haul away. Now the animal swings clear of the ground, cut around the rectum and the intestines will roll out. Cut them loose in the back near the kidneys and the abdominal cavity is cleaned to the diaphragm. Now the aesophagus runs through the diaphragm and has to be cut off. Pull up and cut into as far from the stomach as possible. "Save the liver for the mink." Now run around the diaphragm with your knife, keeping close to the ribs. Save the diaphragm for the mink. Take out the heart and lungs and souse in a bucket of water. Cut off the front legs at the knees; cut off the tail bone and split the backbone, leaving a little meat hang at the end of the neck, and the job is done. Let the meat hang till the animal heat is all out of it. Cut it down leaving three ribs on the hind quarter. Now is when the pins through the end of the gambrel come into play. When you are going to slaughter an animal do not feed or water in the morning, unless it will be quite late in the day before you get around to killing.

If you are in a high altitude where the air is dry you can hang this horse meat up in a meat house that is fly tight, and it will case over and keep a month or six weeks in the hottest weather. If you should have a damp, rainy spell, and the meat begins to "slime" and get strong, just take a blow-torch and blow it all over good and keep it cased. The meat house should be where it will get all of the wind and should be screened

How a Corner Is Notched Together—
and a Fox

in, not boarded up tight. If a fly should get to the meat and "blow" it, don't cut the piece off, but take the blow torch and blow it again. That will prevent the fly-blows from hatching. An ordinary cayuse will dress about 600 pounds. That will feed 100 mink or 75 marten 24 days. Now if you are located in a climate that is humid and hot in the summer, you will either have to feed more animals or have a refrigeration plant or lose some meat. If you are keeping a big stock of breeding animals it is best to have a refrigeration plant any way, for it is much cheaper to winter a horse in the ice-box than in the stable. You can buy all kinds of old horses in the fall for $5.00 per head, but in the spring any horse is supposed to be worth his winter's keep. A fur farm should be located on a stream where you can get water power enough to run an ice machine. Don't try to put up ice enough to keep your meat by the old ice-box method. The labor will eat up your profits and the business will fail.

CHAPTER XI

A SCHOOL, ITS PURPOSE, AND THE ADVISABILITY THEREOF

A great many people who have visited this ranch and got an inkling of the future of the fur farming industry, have requested that they be allowed to send a son, a friend, or in some instances, to come themselves, to learn what they can of this business: Raising Mink and Marten. Mr. R. of Spokane, was up here on a hunting and fishing trip. He visited the Mink ranch, now writes: "Here, Mr. Gates, I have a son that is 20 years old; he has been through grammar school and high school, and still we are undecided as to a suitable business or profession for him. He doesn't know himself what he wants to be. But I think I can see a good business career ahead for the scientific fur farmer. The business would just suit my boy for he doesn't care for the city and seems to take naturally to the woods. Of course we were aware of this inclination in him but heretofore we have been unable to find a business that he is adapted to and that would be suitably remunerative. Now I just wish you would take him out there to your ranch and teach him what you know about the mink game, and I will pay you your price for it." I told him that I could not take one lone student,

but if I could get several I might attempt to teach them. He replied that he could get me as many as I wanted and urged me to consider the matter.

This request has been made by several, but I do not consider it so much because these people request it, as I do because the business demands it. There are hundreds of people that are anxious to get into this business, but they don't know how to go about it. There is money in the business, but not unless you understand it. You will meet a bunch of hard luck in any business if you don't thoroughly understand it.

We can sell all the breeding stock that we can raise at from $50.00 to $150.00 a pair. But we can not guarantee the purchaser success with them because we have no guarantee that said purchaser knows how to handle them. On the contrary, we are pretty sure that he does not. Now if we were conducting a school, we would be able to supply our graduate students, or the parties engaging their services, with breeding stock that they were used to handling, thus insuring success for our students and the parties employing them. This we MUST do, or our school will be a failure. Now the hardest thing in the world for a man to do, whether serving in the capacity of laborer, mechanic, foreman or superintendent, is to serve the best interests of a man or company that don't understand their own business, don't know what they want done, and don't know how to do it themselves. If a

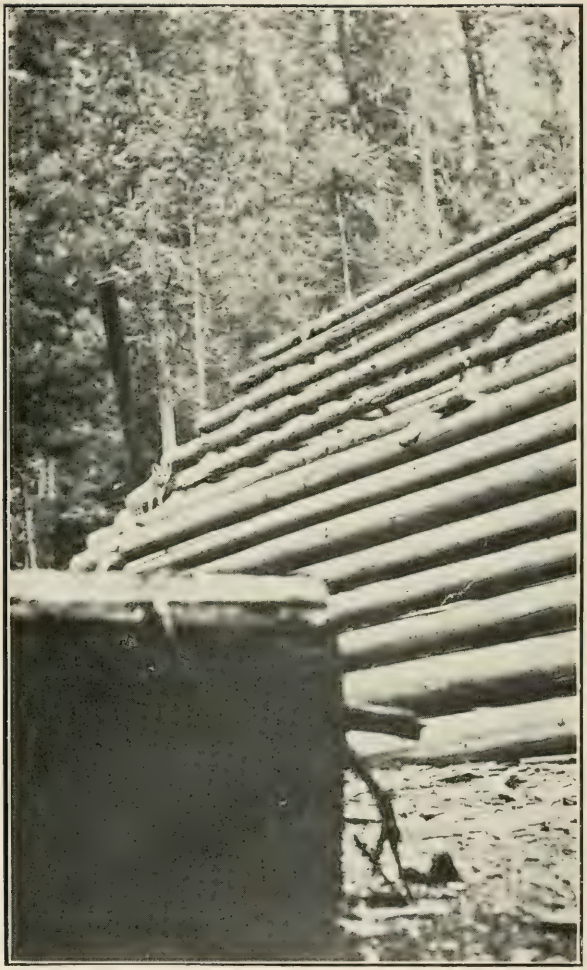
man would instruct a laborer or mechanic or presume to criticise his work, he should be able, yes, thoroughly competent, to take up the tools and do the work himself. Otherwise he is not fit for a foreman directly in charge. A superintendent may not be able to perform all of these mechanical feats, nor pack as heavy loads as the laborer, but he should be able to pick competent foremen. Therefore, young man, (I don't care how much money your "dad" has, nor how smart you think you are) if you don't know how to fall a stick of timber, notch a corner on a log house or cut a rafter pattern, you are totally unfit to preside over this work. This rule applies to carpenter work, blacksmithing, and painting; all included in building a boat. It applies to hunting, trapping, packing a horse, handling a boat on rough water, guiding a party in the woods and mountains, laying out a fur farm, installing a water system, figuring the amount of power that can be generated by a certain stream, and installing machinery.

Now of course this work isn't fur farming proper, but the fur farmer will have to deal with it more or less. Therefore he should be, to a considerable extent, familiar with it. Then how much more necessary will it be for him to understand fur farming proper? Such as trapping live animals, handling them, feeding them, doctoring them, breeding and raising the young, skinning and stretching the hides, caring for the fur, tanning, manufacturing and selling it? Of

course we can never hope to teach the young fur farmer all there is to the carpenter's, painter's, and blacksmith's trades, nor do we wish to do so; but we could and would teach and train him in such branches of these trades as would combine to his advantage in conducting this business. In case of emergency he should be able to nail on a horse shoe, weld a broken iron or mend a harness. It isn't the cost of the repair alone, in the city shop, but it's the time, delay and expense of getting it there and back.

There are several other things that a man should know if he is going to live a life that brings him into the woods, such as fighting a forest fire, swimming, life saving in fire or water, resusticating a victim of smoke or a drowned man, getting out of the woods or mountains when lost or better yet, to never get lost, first aid to the injured by gunshot or broken bones, and certain hygienic rules especially useful in the wilderness.

Such knowledge is an asset to any man whether he is a fur farmer, clerk, or banker. At least, that is my judgment; but whether it will be shared by a sufficiently large number who would be willing to patronize and contribute to such a school, is a matter of conjecture. It is the purpose of this chapter to find out this one thing. I shall be glad to hear from such people as are able and willing to foster such an enterprise.



Log House Ready for Shakes
(Fox on the Corner)

CHAPTER XII

GENERAL COMMENTS

My vocation is that of a trapper and fur farmer; not an author or writer. Dear reader, please make allowance for this fact when you criticise this book. This is my first offense and my excuse for doing it is that I am intensely interested in fur farming; I feel that I must tell what little I have learned to others and in return gather what information I can from other investigators, and incidentally, get the money to continue my own part of it. Nobdy knows it all. No one man can hope to learn it all by himself. No two men see the same thing exactly alike, even though they stand side by side when it happens. Consequently, there will be a difference of opinion on many questions pertaining to the business. Each man has his own belief and it is to be hoped, has reason for it. For instance, in Outdoor Life, October, 1915, we read:, over the name of B. F Tarman: "As to feeding the same (referring to mink) I use an inexpensive mush made of rice, wheat bread, corn bread, oat meal, mixed with a small portion of ground meat. Fish and game scraps are always in order, but do not attempt to feed too much meat. It is best to soften the above described mush with a

little sweet milk. The animals will soon learn to like this kind of feed and will thrive on it." Now I will agree with Mr. Tarman, so far as the welfare of his own domestic stock is concerned, but should he attempt to pick up a bunch of wild mink and feed them this kind of a diet, I fear he would need more stretching boards instead of mink pens. That has been my experience. Furthermore, this diet may agree with a certain bunch of mink, but how will it agree with the stockholder's dividends

Out in Idaho rice costs "3 pounds for a quarter," wheat flour from $1.75 to $2.10 per sack of 50 pounds, corn meal three cents a pound, oat meal two and a half cents, lard for shortening twelve and a half to fifteen cents per pound, and "cracklings" (the fatty scraps out of which the lard has been extracted) three cents per pound, milk, in town, costs ten cents per quart. Lean meat scraps are almost an unknown quantity in a butcher shop now days, and I have never known a mink to eat fat. Fish and game scraps are not always in season and a mink has to eat the year around. It costs time, and therefore money, to concoct a feed after this prescription, and I am wondering what Mr. Tarman considers "inexpensive." What would it cost to feed one mink or a hundred, a year on this diet? Of course, in feeding a hundred of them a man would get the benefit of wholesale prices on his groceries, but that would save him only about 10%. Remember, we must not let a mink eat

his head off before he is ready for market. It seems there are several "Mink men" making this very mistake. As to that injunction about "feeding too much meat." I have heard that before, but I would like to ask, WHY? Is not a mink strictly and absolutely a meat or fish eating animal in the wild state? Of course fish is not meat for religious purposes, but for that only. When it comes to food values it is meat. No herbivorous animal will eat it and few carnivorous animal will refuse it. I have fed one pen of mink for eight straight months on horse meat alone while I fed others a mixed diet of meat, and bread and milk, and the straight meat eaters looked the best, and I never lost a mink by dying whereas I did lose one in the other pen. One, (and I might say the chief), difficulty, collecting a bunch of wild mink for breeding purposes, is to get them to eat bread and milk and live without meat or fish. Mink don't want nor need a changeable diet. Lean meat, and a little bread and milk is the ideal menu for them. Or at least I have found it so for the mink of this section. I believe, however, that in sections of the country where they live exclusively on fish, that fish should for some time after their capture, form the chief article of their diet. I believe that a mink farm located where fish were the only available food (but that in plenty), would be a success. And I know that a mink will live and do well on horse meat alone. I am stating these facts, not to dispute the word of others, but that they may

know and profit by my experience as I have by theirs. I think that by reading each others books, and letters in the H. T. T., we may all help one another. If you read my book, I would advise you to read White, Tarman, Norton, Harding and any others that have had any experience with the business. They may not agree with me but they may be right at that. I make mistakes like others, but I do try to never state anything for a fact, unless I know it to be a fact and can prove it.

There is a difference between a thing being possible and commercially practical. It is a well established fact that it is possible to raise mink in captivity. I learned that the second year that I was in the business, others have demonstrated it, but I have been three or four years demonstrating that it is a **commercial** success and a good place for a man to put a few hundred or a few thousand dollars. I could not afford to keep it up just for a fad or hobby. I need the money, and if I did not think that I could get more of it by raising mink and marten than by doing something else, I would go to doing something else. Now I am going to venture just one little theory, and state it as a possibility only.

Take for a unit five female mink and one buck. Eighty percent of the females will breed each year, (but this is too low, I think it is fairer to figure ninety). Then four will have kittens; they average five to a litter, then we will figure

on 20 kitens. It costs less than one cent a day to feed a mink properly on milk and horse meat. A kitten will sell for breeding stock when it is six months old, but say we keep them a year. A June kitten will make a good fur the following January, or will breed in February or March.

Now:

To feeding 20 kittens at 20 cents a day, 365 days ---------- $73.00
To feeding 6 breeders at 6 cents a day, 365 days ---------- 21.90

Total feed bill for raising 20 mink---- $94.90

At present I can get from $50.00 to $75.00 per pair for ranch bred and raised mink.

Then 10 pairs at $50.00 a pair---------- $500.00
Cost of feeding them ---------- 94.90

For running expenses and interest on money ---------- $405.10

To go a little farther with our theorizing, suppose the cost of these six mink were $25.00 apiece. We lose one, then there is 5 at $25.00 each, or $125.00.

On a properly euipped farm, one attendant could attend to 1,000 mink. Then for attending this six or even 25, the cost would be only about $25.00, since a good man for this purpose can be hired (as laborer, not superintendent) for $1,000.00 per year. Now to our $125.00 invest-

ment, suppose we add $25.00 for labor, and we lose one out of the six mink by accident or disease, making $175.00. Now from $405.10 we take $175.00 and we have $230.10 as interest on $125.00 for one year. That is pretty near 200% and I have figured safe all the way along. There is the interest on the money invested in the plant and the superintendent's salary to come out of this, but I believe I have made more than sufficient allowance for this. However, this is only a casual estimate to ascertain if there is a possibility or a probability of this business ever paying dividends. All the work will have to be systematized and brought up to a scientific basis before we can state what the actual profits will be. Cost of operating must be cut to the minimum by careful and judicious management.

Now as to what animals to raise, the question is not hard for me to decide. I think when a man does one thing, or two at the outside, and does them well, he has done enough. I have had plenty of opportunities to get into the fox business, and to start in the muskrat, coon, 'possum, and skunk business, but I don't understand them as I do mink and marten, and I have still got lots to learn about these animals, so I have no business with these others.

I at first believed, and do yet, that there is more money in mink and marten than there is in any other animals, black fox not excepted. I like these animals, and never lose interest in them. This climate is most admirably adapted

to their health and well being, as well as man's, and I am located in the heart of a natural mink and marten country. I know every square mile of the country for miles around, and that helps some in a rugged game country. We are within easy reach of abundant food supplies and have a location for a fur farm that could not be surpassed if made to order.

It is my intention to organize and incorporate a company for the purpose of raising mink and marten, and possibly conducting a fur farming school. I have no time to correspond with the idle and curious, but will always be glad to hear from anyone engaged in any kind of fur farming, or desiring to buy stock in this company. This business affords a pleasant and profitable vocation for any man that likes out door life, and likes animals. But if you do not, I would not advise you to go into it. There is another advantage in fur farming, this branch in particular, that is, there will be no competition to push a man to the wall for a number of years. The man that gets in the game now will have ample time to make his stake before mink and marten hides, or breeding stock of these species becomes a drug on the market.

This book contains all the information that I have on the subject to the present time, but a revised and supplemented edition will appear when I have gained enough more information to justify it.

With best wishes for the success of the industry and all engaged in it, and hoping others will join us.

I am, sincerely,

W. G. GATES.

Pritchard, Idaho.

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