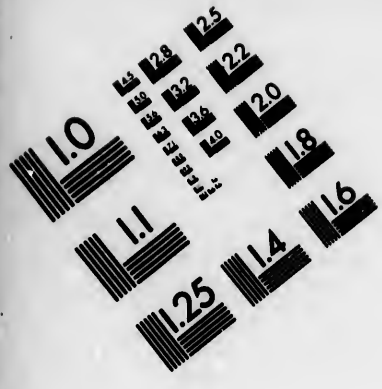

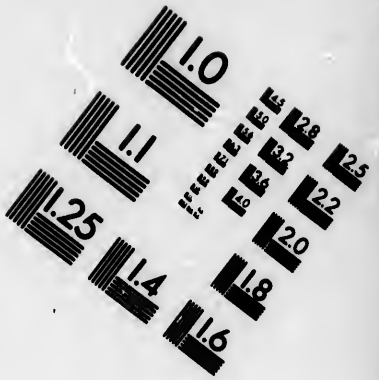

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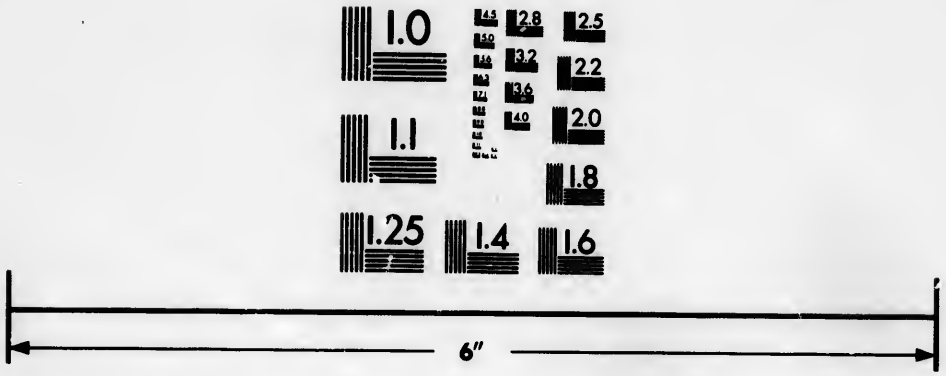

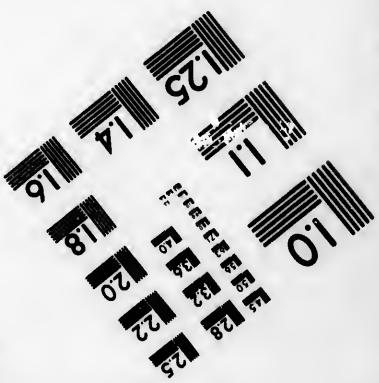

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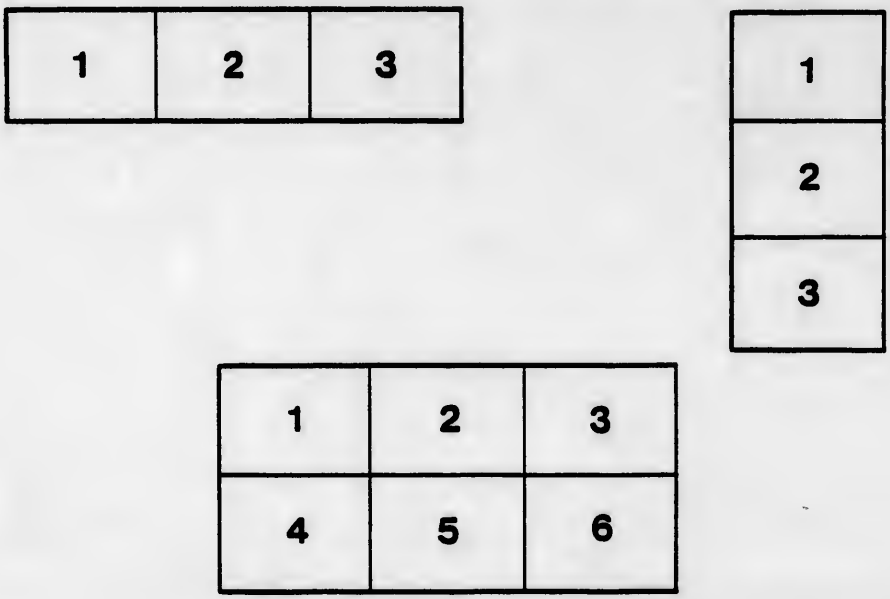

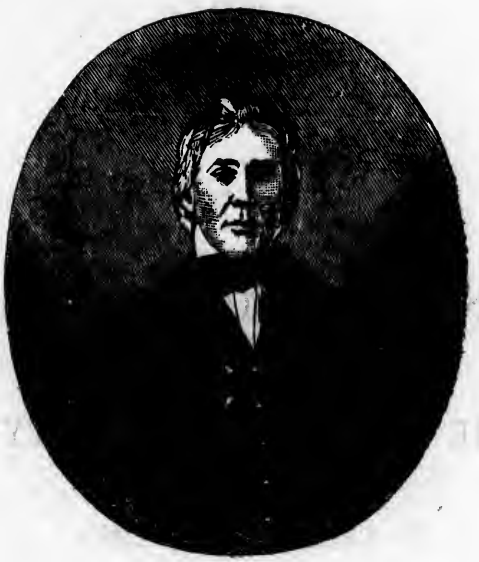

THE AUTHOR.

4

TREATISE

ON THE

THEORY OF SWIMMING

MADE SO EASY THAT IT CAN BE

REDUCED TO PRACTICE

AT ONCE.

ALSO,

TREATISE

ON

CAUSES AND EFFECTS IN GENERAL,

PERTAINING MORE ESPECIALLY TO

THE FARMING COMMUNITY,

By EBENEZER MARTIN.

Montreal:
LOVELL PRINTING AND PUBLISHING COMPANY.
1876.

TO

PARENTS, GUARDIANS OF YOUTHS,

AND TO

ALL WHO HAVE NOT ACQUIRED

THE ESSENTIAL QUALIFICATION OF

SWIMMING,

THIS WORK IS RESPECTFULLY

Dedicated

BY

THE AUTHOR.

INTRODUCTORY REMARKS.

As regards swimming, all animals when first cast into deep water will swim, except man, although man is blest with much better facilities for swimming than other animals, still when man is cast into deep water he drowns himself, unless he has previously learned to swim. It is very evident that God has seen fit to bring man into the world more helpless and more dependent than other animals, perhaps it is for the good of man that it is so, for dependence is one of the strongest bonds of society. But man is capable of learning more than other animals.

Since the facilities for travelling have increased the exposure to drowning has increased in the same ratio, and in my treatise on swimming I have laid down the rules, so that, when any one is initiated into the theory of swimming, even a woman with a long dress on, down round her feet, can reduce it to practice at once, when cast into deep water, without any danger of drowning.

The calculation has been made by some that fifty thousand people are drowned annually, and the greatest number of them were drowned because they did not know how to swim.

RULES AND OBSERVATIONS

ON

SWIMMING,

BY EBENEZER MARTIN.

Several authors have published works on the Theory of Swimming, but I have never seen them all. I read one of Doctor Franklin's works on the Theory of Swimming several years ago, but it appears very evident that people who do not know how to swim are constantly being drowned, as they were before the Theory of Swimming was published. Therefore it is apparent that all authors have failed on the subject of the Theory of Swimming, but they should have credit for their good intentions.

It has always been my lot to live close to a river, lake, pond or sea. I learned to swim over seventy years ago, when I was but a child. I chose a place where the water deepened gradually, I then waded in till the water come up to my breast; I then turned around with my face to the shore; I then plunged towards the shore and found that I could swim till my hands and knees touched the bottom, I had no fear of drowning, for, if I found that I could not swim, I could bring my feet under me, and, by standing erect, my head would be above the surface of the water.

I intended when I first went into the water to wade in up to my chin, but I found that the water was going to buoy me up, and I was afraid to lose my footing on the bottom of the river. I went alone, without letting my folks know of my intentions, as I was afraid that they would not let me go, for fear that I would be drowned. Some time after

I had learned the different ways of swimming I went down to the river alone one pleasant Sunday morning; I crossed over to the other side of the river in a canoe to where there was a sandy bank along the shore, and went in for a swim. Soon after I came out and had dressed two young men came down, who were strangers to me; one of them, a Mr. P., said that he was a good swimmer and that his friend a Peter Sylvester, had come to learn how to swim; they urged me to go into the water again with them. I refused, for the reason that I had been in so long that I was chilled, and that I was going to paddle the canoe down the river so as to warm myself. Mr. P. then said that he could swim faster than I could paddle the canoe.

I started off down the river and he after me, but he soon gave up the chase, as he found out that I could paddle the canoe faster than he could swim, or anybody else. I looked back and saw that he could swim very fast, so I considered Sylvester was safe in his care, but I soon found out that I was mistaken in Mr. P., for, when I had nearly got out of their sight, Mr. P. hallooed out to me that Sylvester is drowning. I first thought that he was only in fun, but in an instant I put around the canoe, for it was so constructed that only one end was calculated to cut through the water, (I had amused myself so much in paddling a canoe that I thought I could paddle a canoe with any one of my strength) where I could see the sand bank, and as soon as I hove in sight of it, I found that Sylvester was really missing. I knew then that he was under water, for there was no place where he could get out of my sight.

I paddled as fast as I could towards the spot. I knew that the water deepened gradually from the bank till it would be up to a man's arms, and then it went down perpendicularly into deep water. I kept looking forward all the time, in hopes of seeing Sylvester come above the surface of the water. On reaching the spot, I saw some bubbles rise to the surface of the water. To dive for him would have taken some little time, as I should have had to take off my clothes, for I did

not know then that I could have swam with my clothes on. The water being clear, and the morning very bright, I could see him lying on the bottom on his back. His head was pointed down the stream; his fists were closed and lay on his breast close together.

In the canoe was a setting pole (used to set the canoe from one side of the river to the other where the river was shallow and the water run swift.) An observation that I had heard my father and mother make flashed across my mind in an instant, namely, that a drowning man will catch at a straw, consequently I took the pole, and run the end of it down a little forward of his face, but he did not notice it. I then run the end of the pole between his fists, and he caught hold of it in an instant. I pulled him up to the surface of the water. I then caught hold of one of his wrists, and brought both of his hands over the side of the canoe. I then let go of the pole, and it took such a purchance as it went over across the canoe into the river, that it jerked the pole out of his hands; his wrists being over the side of the canoe, he caught hold of the edge of the canoe. I then took the paddle and paddled ashore.

Mr. P. helped me to draw him up on the shore, because it descended to the river very steep. We placed him on the ground, his head much lower than his body; water ran out of his mouth, also food that he had been eating. We then raised his head somewhat higher than his body. He soon caught his breath and recovered, (I should think that he was about 17 or 18 years of age.) The sand-bank that he lay on was warm with the hot sun, which helped to warm his body. He was so far gone that he was black and blue under his eyes and around his mouth. Now if Mr. P. had the moral courage to rescue Sylvester when he got into deep water, it would have saved Mr. Sylvester the pain that he suffered in drowning, and I may say the still greater pain in recovering.

At that time I should say that Sylvester weighed about one hundred and seventy-five pounds. He was quite too

heavy for me to handle out of the water. But while he was in the water his weight seemed to me only about three or four pounds.

Mr. P. told me that he had come up the third time. I think that he must have, as persons drowning generally do. The foregoing case shows the danger of trusting to an incompetent guide.

To convince the reader of the fact that a drowning person will catch at anything they come in contact with while in the act of drowning, I will state several instances that I know of. I shall not relate them all, for it would take up too much time and space, but I shall relate a sufficient number to convince the reader of the fact, that a drowning person will catch hold of anything that they come in contact with while in the act of drowning.

I know of a man in company with his wife and her sister, an intelligent young woman. They started to go across a mill pond in a canoe, the young woman was the last to step into the canoe. In the act of stepping in she lost her balance, and was pitched head foremost into the water and sank to the bottom. Her brother-in-law, on seeing what had happened, stopped the canoe, and waited for her to come up to the surface, (as they generally do), but on seeing that she did not come up, he took off his hat and coat, and being a good swimmer, he jumped in; he then dived to the bottom of the pond, and found that she had caught hold of the root of a stump with both of her hands; he at once broke her hold, and brought her up to the surface of the water and saved her. He stated that only he was stronger than she, he would not have been able to save her, as she held on with such an iron grasp.

I shall now mention some of the many cases that I know where people might have been saved if the bystanders had known that a drowning person would catch at any thing they would come in contact with while in the act of drowning.

The first corpse that I remember seeing was that of a fine young girl. Her name was Sally Trescott. She fell from the string piece of a bridge. The river was neither very wide nor very deep. She was seen by some women standing near by as she fell into the water, and if they had known that a drowning person would have caught at anything she might probably have been saved.

There was another young woman fell in along with her, but she caught hold of some bushes, as she came up to the surface, that grew on the side of the river and leaned over into the river.

I will mention one more case of a man that was not a swimmer and who fell into a mill pond and was drowned. There were several people that did not know how to swim looking on at him drowning. There was plenty of edgings of saw logs and long poles near by, which were ample means for saving him, but it appears that the bystanders were ignorant of the knowledge that a drowning person would catch at any thing they come in contact with while in the act of drowning.

I think that I have mentioned a sufficient number of cases to convince the reader that any person while in the act of drowning will catch at any thing they come in contact with.

Whenever a party of men and women go out for a boat-ride, in a canoe or in a boat (as they often do), they should have a long pole at the bottom of their boat or canoe, as the case may be, in case any of the party should get into the water and be drowning. In fact it should be the law in all civilized countries that any one going out in a canoe or boat, and not bringing with them a long pole, should be liable to a heavy fine. Poles can be had from fifteen to twenty feet long, and made so light that a boy of ten years of age can handle one with the greatest of ease. People that go swimming should provide themselves with a pole, and have it near them when they go in swimming, so as to be able to reach it to any of them in case they should be drowning.

A good swimmer cannot rescue a person drowning by diving in after them as quick as he would by the means of a pole, as by reaching a pole to them, they will catch it at once, except when they are entirely drowned, or have previously caught hold of something at the bottom of the river,—in that case to dive for them is the only means left.

A pole that is not more than a quarter of an inch in diameter at one end, (poles can be cut in tamarack swamps, from fifteen to twenty-five feet long, and not more then one and a half inches in diameter at the butt end,) such poles as boys use for fish poles, of good timber, will hold to pull lengthways more than the strongest man can pull.

As soon as I was old enough I left St. Johnsbury and went to the town of Linton in Vermont, to work for a tanner and currier, as an apprentice at that business. One day as the journeymen and myself were at dinner, I, having finished before any of the rest, was ordered to go and get some water. I accordingly took two pails and went and got the water from a penstock that ran into the soak vat. In going for the water I had to cross the road. On coming back, I set down the two pails of water to rest myself. I happened to look back towards the mill pond, and in an instant I saw the water spatter, as if somebody had thrown something in. A thought struck me that it might have been a fish, as I had heard that fish would jump out of the water, and, in falling back again, would make the water spatter. I could see the spot further than any body could throw a stone; it was not more than a few seconds after I saw the water spatter, when I saw four small fingers above the surface, spread as far apart as they could be. I started and ran as fast as I could. Arriving on the spot I threw off my hat, dived into the pond, and swam to the spot. I then dived to the bottom of the pond and found a little boy (he was about four years old) lying on his back. I caught hold of his arm near the shoulder and brought him up to the surface; his head drooped so that I had to hold his shoulders out of the water, so as to prevent his head from

touching it. His name was Henry Cushion. I brought him on to the same side as I went in on, although his father lived on the opposite side of the pond, but the landing there was not so good. After getting the little fellow up on to the bank I held him up by the heels to let the water drain out; a lot of water came out as well as some food he had been eating. I then laid him down on the bank, it being an awfully warm day. His pants were already unbuttoned, which saved me some time. I then pulled his pants down to his ankles and raised his clothes up under his chin, so as to expose his body to the heat of the sun. I then bent down close to his mouth and blew into it several times in quick succession; he soon caught his breath and came to, saying I will go out. I replied to him, you are out; his reply was, I say I will go out,—this showed that his sense of hearing had come back to him. As soon as he was carried to the house his wet clothes were taken off, he was then put into a warm bed, and, after a while, his folks brought him home. It was a long time before he was thoroughly recoverd. The reader may be anxious to know why I did not save the little fellow's life by the means of a pole. There were three reasons, which I shall relate to you: The first was because there was no pole handy. In the second place I could not reach him from the bank with a pole; third, because I thought he was too far gone to catch at anything, and I found it to be so. Now some folks would wonder how it was I did not lose my life on account of going into the water so hot, and in a state of perspiration. Well the only thing that saved me was that I changed my clothes as soon as I could, and immediately went to work again until I commenced to perspire freely. The little fellow's grandfather having found the spot where he fell in, he got a piece of stick and threw it into the water where the little fellow had fallen in, to see how long it would take to float down the current to where the little fellow was found, and circumstances showed that the little fellow was over an hour in the water.

I have known a great many families that lived close to

rivers, and, instead of taking their children down and teaching them how to swim, they would keep telling them not to go near the water, as they might be drowned. Now I have known several cases where the children were told not to go near the water, and went and were drowned the very same day. But I have never known of any one, when going for a swim, that would choose a place where the water deepened gradually and went into it till the water came up to their breast, and then turned around with their face towards the shore and then make a plunge in the same direction, and try and swim till their hands and knees touch the bottom, and in that way they can learn how to swim without any fear of getting drowned, as they would know by bringing their feet under them they could touch the bottom when ever they might wish. In all the places that I have lived there has been more than twenty persons drowned through not being able to swim, besides several others that would have been drowned if they had not been rescued in time by persons who could swim.

A few years ago, on one of the Western Lakes, a steamboat took fire. The captain of the boat finding that the fire could not be extinguished headed the boat for the shore, and reached within swimming distance, when the fire drove all the passengers into the water. There were several women on board, they jumped into the water and were drowned, simply because they did not know how to swim.

A woman with a long dress on down around her feet cannot use them, no matter how good a swimmer she may be. If a woman should fall into deep water she should keep her feet perfectly still, and she can save herself by using her hands and arms if she only knows the proper way of using them.

Now, if the reader will trace back his memory to the 23rd of November in the year 1873, the date of that appalling marine disaster, the foundering of the steamship *Ville de Havre*, where two hundred and twenty-six lives were lost, and only eighty-seven saved by the steamship Lochern. I would

be taking up too much of your time to relate how the disaster occurred, but I mean simply to pass a few remarks.

Now, after the collision she sank at once, and cast all on board into the deep sea. The steamship Lochern stood about a mile from the spot where the disaster occurred, she at once sent off two of her boats to rescue those from the steamship Ville de Havre, and did succeed in rescuing some of them. They made two different trips, which was a mile to the scene of the disaster and a mile back. When they returned for the third time they could find no more, they having all sank.

Now, if they all had known how to swim, most likely they would have been nearly all saved. Some people seem to form an opinion that it is of no use to know how to swim in case of a disaster at sea. Now there was an officer of the steamship Ville de Havre who swam to the steamship Lochern, a distance of one mile, and the consequence was that he saved his life. Now, as I have said before, I could mention a great many other instances of people drowning through the want of not knowing how to swim, but it would be only taking up too much time and space.

Some authors seem to differ on the various ways of bringing a person to life after drowning. Some say roll the person on a barrel or wine cask; others say don't ever hold the person up by the feet; then others say that they should not be laid on their backs. The following is the system adopted by Sylvester of restoring a drowned person:

1. Position: place the patient on his back with his shoulders raised and supported on a folded article of dress.

2. To maintain a free entrance of air into the windpipe, draw forward the tongue and keep it projecting beyond the lips, by raising the lower jaw. The teeth may be made to hold in the proper place.

3. To imitate the movements of respiration raise the patient's arms upwards by the sides of his head, and then extend them gently and steadily upwards and forward for a few moments, (this action, by enlarging the capacity of the chest,

induces inspiration.) Next turn down the arms and press them gently and firmly for a few moments against the sides of the chest (forced expiration is thus effected.) Repeat these measures alternately, deliberately and perseveringly, fifteen times in a minute.

The above way is recommended by physicians. But the question has often been asked, when Physicians disagree who shall decide? I say let experience decide.

The following is my experience: My practice has always been to hold a drowned person up by the heels, as it is the quickest way to have the water run out of the lungs and stomach. The water must be got out before the patient can be restored to life, and the quicker it can be done without injury the better. If the patient should be a female, bring the lower part of her dress around her ankles, then take hold both her dress and ankles and hold her up by the heels, and by that means you shall avoid the exposure of her person.

The first thing that is required after getting the water out of the patient's lungs and stomach is heat, and if the weather is warm enough, place the patient on his back with the head and shoulders raised, and then place your mouth close over the patient's mouth, and blow into it repeatedly, and in quick sucession. Whatever the patient should be laid on should be very warm, as the coldness of the body will soon make the place cold where they lay.

Warm flannels should be put under the patient, and the body and limbs should be rubbed over with warm flannels. The flannels first used soon get cold, therefore some one should be warming others as the rubbing should be continued without cessation.

The longer a person has been under water the longer it will take to restore him to life.

Now, in case of a failure in restoring a patient to life on the spot, he should be taken to a house where the flannels can be kept constantly warm, (that is if it is too cold out doors). The rubbing should be kept up till all hopes of

restoring the patient to life are given up. As a matter of course, wet clothes should be taken off in all cases.

It has been published that the reason why men turn on their backs and women on their faces, while in the act of drowning, is owing to modesty. It is an error, they don't think or know anything about modesty. The cause of men turning on their backs and women on their faces is strictly owing to the difference in the physical organization of the two sexes.

Having mentioned some of my experiences in rescuing persons in the act of drowning and in bringing drowned persons to life, I will now proceed to lay down the theory of swimming in so plain and clear a way that every one having the use of their hands and arms can reduce it to practice at once, when cast into deep water, and so as to keep their head above the surface and swim to the shore, if within swimming distance.

It is necessary, previous to laying down the rules of swimming, to mention the cause of persons drowning when cast into deep water, and not knowing how to swim. The principal cause is fear. I have already shown in my previous remarks that all who do not know how to swim when cast into deep water, by being frightened out of their senses, drown themselves by the irregular efforts which they make to save themselves.

Since the facilities for travelling have increased, the exposure to drowning has likewise increased in the same ratio. It has always been a wonder to me why a person that did not know how to swim when cast into deep water should drown. But I have learned by experience that fear is the cause, therefore the main thing is to lay down the theory of swimming in such a way that when a person is cast into deep water all fear should be banished from them. The first effort they should make is to catch their breath, shut the mouth, extend the arms at full length before them, with the palm of the hands downwards, the thumbs touching each other, then bring the arms downwards in quick motion,

which will throw the person up and forward; repeat these efforts continually, catching their breath between the efforts of throwing the arms forward and bringing them back as above described.

The above is something the same as shoving a paddle that is used for a canoe.

EXAMPLE.—A little girl 3 years of age can shove a paddle endways through the water with ease. But when the paddle is raised perpendicular and brought back flat ways through the water, it would require nearly all the strength of a strong man to bring it back with a quick motion. A strong man can paddle a canoe faster than one of less strength. So it is in swimming. If one be stronger than the other, the strongest one will swim faster than the other, because when he extends his arms forward at full length he can bring them back with greater force, and as a matter of course go through the water faster than the other.

Now some authors on the subject of swimming have drawn exquisite pictures of a man in the water swimming in all the different attitudes that a man can be placed in, but still people continue to be drowned, as they were before anything was written on the theory of swimming, or any pictures drawn. Therefore people will not learn by book instructions. I have already mentioned that fear is the principal cause of so many drowning. Now the best way is to banish all fear from them, is the way I learned to swim, and it is also the way Doctor Franklin recommended. But I learned to swim before ever I heard of Doctor Franklin, and I presume many hundreds of cautious little boys have learned to swim by the same way. Many years before Doctor Franklin was born it appears that very few in comparison to the great number that don't know how to swim have ever learned that 'way, especially females. There should be neither time nor money spared in laying down the theory of swimming so as it can be reduced to immediate practice, for what would it profit a man if he should gain all the money in the world, and lose his life by drowning.

A CHAPTER FOR THE WOMEN.

The following is a good method for learning the theory of swimming:

Let them when washing their hands and faces in the morning fill the wash-basin with water, full enough that, when you put your face down to the bottom, the water shall be up around your ears. Then let them place the basin on the wash-stand or some other convenient place to suit the purpose. After you have put enough of the water into the basin so that it will come up around your ears, then catch your breath, and put your face into the basin of water deep enough so as the water will come up around your ears. Then throw your hands forward to the full extent of your arms with the fingers of each hand closed together, and your thumbs close to the edge of your fore-fingers, with the ends of your fingers raised higher than your hands and arms; then as quick as your arms and hands are extended to the full extent they must be brought back with a quick motion in a circular form with the little fingers raised the highest. Repeat these efforts while your mouth and nose is under water as often as you conveniently can every morning, day after day, week after week, till you become thoroughly habituated. And then if you should be cast into deep water you will extend your arms and swim as by nature.

What I have just mentioned is only to initiate a person into the theory of swimming.

By practicing the way I just mentioned once or twice would be sufficient in case you should be cast into deep water to enable you to bring your head up out of the water, and by repeating the efforts you could easily keep your head out of the water and paddle yourself ashore if within swimming distance of it.

It would be advisable also to hold meetings to show people the regular efforts that they should make in swimming, and to appoint competent persons to hold meetings

throughout the entire country, and there, choosing a place where the water deepens gradually, walk into it till it is up to your breast, then turn round your face to the shore, and make a plunge towards the shore, and you will swim to the shore; repeat till you find that you can swim well on the front, and then wade back till the water is up to your arms, and then turn round your face to the shore; then lie down on your back, your head under water except your mouth and nose out free for breathing, your hands and arms extend at full length down by your sides, then bring your hands back in a circular form with a quick motion; falling down repeat the efforts in quick succession, and you will find that you can swim on your back, feet foremost; have a swimmer with a fish pole on the shore to assist you if required.

To deliniate and set forth the effect that habit has on people in all its bearings, would require several hundred octavo pages, therefore I shall not attempt it, but suffice it to say as the old saying is, Habit becomes second nature.

SWIMMING HAND OVER HAND.

In this mode of swimming, each hand is raised in quick succcession hand over hand, not out of the water, as they would be heavier out than in, but near the surface; the hands shoved forward to the full extent of the arms, with a kind of a circular sweep, your hands grasping the water and passing downwards towards the hips, is succeeded by the other hand, which performs a similar movement. A woman with a long dress could swim the above mentioned way by using her hands only. Swimming hand over hand is not the proper way of swimming, nor is it the quickest way, it is commonly called swimming the dog fashion. The proper way of swimming is on the front with both hands at once.

SWIMMING ON THE BACK.

Directions for a woman with a long dress on.

When a woman is thoroughly initiated into the theory of

swimming, she can turn on her back. Her head must be immersed in the water, except her mouth and nose; they must be left out free for breathing. She must not attempt to use her feet, for if she did they would get tangled in her long dress, and thus sink herself. She must use the hands by throwing them forward the full extent of her arms, and then bring them down briskly in a circular form, the same as in front swimming; but it is easily noticed that a woman swimming on her back cannot use her feet on account of her long dress, she can use her hands only. By using her hands only she will go feet foremost through the water. There is no way that a man or woman can swim so easy as on their backs, for the reason, that when you are in a swimming position on your back, you would be all under water except your mouth and nose, they must be left out free for breathing. In that position you can lie still and float. But in doing so, you will soon find that your feet and legs, being more solid parts, will begin to sink gradually; but with your hands extended and brought back in a downward direction by your hips, you will bring your legs to a horizontal position. Every effort you make with your hands and arms will throw you forward, and by repeating the efforts you would reach the shore if within swimming distance. But if not within swimming distance you could manage to keep yourself afloat till some one could go to your rescue.

As women are entitled to our first care and attention, I have therefore laid down the Theory of Swimming for women in case they should be cast into deep water with a long dress on, and not knowing how to swim.

CHAPTER FOR BOTH SEXES.

SWIMMING ON THE FRONT.

The legs being larger and stronger than the arms have much more power in swimming. To use the feet and legs to the best advantage in swimming, the first action of the

feet and legs is to draw them in as high as convenient: The feet then must be struck out as widely from each other as can be done to the extent of the legs. Then kick back as quick and with as much force as possible.

There is a small loss in drawing the legs in, but in throwing them out there is a gain much greater than the loss. In swimming on the front the legs and arms are both used alternately, and every regular effort that you make will throw you up and forward at the same time.

HOW TO MANAGE WHEN ENTANGLED BY WEEDS.

Should the swimmer at any time find himself entangled by weeds, he should turn on his back, so that his head will be immersed in the water, and mouth free for breathing; his legs extended at full length, the toes a little above the surface of the water, and his hands extended at full length, with the palms down and the thumbs close to the forefingers, then brought down in a circular form, as quick and with as much force as possible,—the effort should be repeated in quick succession, and in this way you can go, feet foremost, over the weeds, your hands grasping the weeds and water together, throwing them back every effort that you make, and at the same time you throw yourself forward.

TREADING WATER.

Treading water signifies to swim in an erect or perpendicular posture. It is of but little use, but often practiced by good swimmers. The hands are folded across the breast or placed on the hips, and the feet and legs are only used, by being brought down alternately in quick succession.

DEEP DIVING.

After one has learned to swim he should learn to dive, because occasion for it often occurs. Diving must be learned by practice. The best way for a new beginner is to dive off something not more than 3 or 4 feet above the surface of

the water. In going head foremost into the water the hands must be brought together; stretch at full length over the head, stoop forward, and bring your head down as low as your feet and then make the plunge. Diving from a great height is dangerous unless the diver has practiced enough so that he can go with head down and his feet in the air over his head, for, if he should lose his poise and fall flat on the water, it might prove fatal. But the most common way of diving is from the shore, and it should be most practiced, for the reason that a swimmer often finds it necessary to run and dive off the shore into the water when he goes to rescue a drowning person.

It has often been stated by some authors, that the best way to rescue a person drowning is to catch them by the hair of the head. But I have learned by experience that, to catch a drowning person by the hair of the head, is a most dangerous way, because a person in the act of drowning will catch at whatever they come in contact with, therefore he could catch the swimmer by the throat with both of his hands and choke him to death. But the way I have always practiced, when it was necessary, was to catch the left arm of the drowning person above his elbow with my right hand and hold him up over the surface of the water. In that way I could hold him out at arms' length and swim to the shore with him, by using my left arm and feet.

There is one more remark I want to make before closing my Theory of Swimming, that is:—when a number of persons go out for a boat-ride, and, if the boat should happen to capsize, it is a most dangerous practice to catch hold of one another. They should strike out from each other, and, by the ways I have mentioned in my Theory, they can keep themselves up till assistance reaches them, or, if the shore be within swimming distance, they can manage to paddle themselves ashore.

There are two ways to show that a person is specifically lighter than water. One way is to wade into the water up as far as you can, without letting the water take you off

your feet. Then drop a piece of white earthen ware, it will sink to the bottom; the water must be deep enough, so as that you cannot reach the piece of earthenware without having to dive for it, then stoop down and try and pick it up, and you shall find that you cannot reach it, because the water will buoy you up. There is another way to ascertain that any person that has the breath of life in them is specifically lighter than fresh water:—make a box seven or eight feet long, two feet six inches wide, and two feet deep, water tight, then put in water enough to come up over a person that is sunk below the surface of the water, then mark the box at the surface of the water, then let the person get into the box and be sunk below the surface of the water, then mark the box again at the surface of the water, then let the person get out of the box, (when the person is getting into the box, they should settle back very slow and careful on their back, so as to prevent the water from splashing, and lie still, the one who is assisting can have time to mark the box at the surface of the water, which will not take half as long as one can hold their breath under water, then measure and see how many cubic feet of water that the person sunk below the surface of the water has raised the water, and you will have the number of cubic feet of the person sunk below the surface of the water.

Then weigh the water, and then the person on a true platform scales and you will find the water is the heaviest. This is the only way that it can be done, and any person or thing that is lighter than water will float on the water.

A sap holder or tub that is large enough to hold a sufficient quantity of water to come up over a person would answer in lieu of a box, but I have preferred a box, for the reason, if made larger than mentioned, a person could learn to float or swim on their backs a short distance feet foremost, by using the hands only. A box of the above-mentioned size or larger would answer a whole village. A boy from 8 to 10 years old could swim with his clothes on from one end to the other feet foremost.

A girl can do the same with a swimming dress on or without by having some one to attend to her that has a right to do so. At any rate she can learn to float and keep her mouth and nose out of water, free for breathing. A box for the purpose, made of wood, would shrink and swell and soon leek, therefore it would be the best to make one of zinc, it would last for years, and, therefore, in the long run would be the cheapest.

THE END.

TREATISE

ON

CAUSES AND EFFECTS IN GENERAL,

MORE PARTICULARLY PERTAINING TO

THE FARMING COMMUNITY.

INTRODUCTORY REMARKS.

Treatises on causes and effects in general, pertaining more especially to the Farming Community. The farmers and others throughout the United States of America and the Dominion of Canada meet with avoidable losses amounting annually to several millions of dollars. I will here mention some of the different kinds of property on which they meet with so many losses: first, on their seed corn not coming up when planted in the Spring; second, on horses; third, on cattle, and how to kill lice on horses and cattle without injuring them, and also how to keep lice off them; fourth, cause of horses drulling and cure; fifth, how to manage with hogs; sixth, how to take the wool from sheepskins; seventh, how to cure burns; eighth, how to cure corns on toes; ninth, how to manage with boots, shoes and harnesses; tenth, the effects of wearing Indiarubber overshoes. It is sometimes the case that people have lodgers that leave body lice in the bed that they slept in, the quickest and best way to kill both nits and lice. How to take the frost out of potatoes that are frozen hard, and leave them good for the table.

The cause of milch-cows' udders swelling, commonly called bags, and a preventive, the loss among farmers every year is great by their cows' bags swelling and their milk drying up. It is often the case that cows, after they have calved and were doing well, are taken at different times during the summer, but oftener in the spring,—one quarter of their bag is affected first; in trying to get milk out they will get blood, sometimes not anything, some lose half their bag, some the whole, seldom that a cure is effected, especially in cases of long standing.

But this complaint is easily prevented. To ascertain the cause of this prevalent disease among milch-cows has cost the author much time and to expense.

Cattle running in the woods or bushes to pasture.

TREATISE

ON

CAUSES AND EFFECTS IN GENERAL,

MORE PARTICULARLY PERTAINING TO

THE FARMING COMMUNITY.

For many years I have noticed among the farmers a failure of their seed corn coming up after it was planted. In the spring of 1876 the failure has been very great, the loss among farmers throughout Canada and the United States must have amounted to several hundred thousand dollars. Several years ago we had a great failure in its not coming up. That particular year there was a long wet spell in the month of December, and all corn that was exposed to the dampness of the atmosphere got damp, then, owing to sudden changes of the atmosphere from heat to severe cold, its vitality was destroyed. In that particular year it was a great failure of all corn that hung out in sheds, barns, and other outbuildings. I had corn hung out that year in a shed, where no dampness could get at it except the dampness of the atmosphere. I planted that year a little over two acres, and none of it came up. I found one man had some that he had kept hung up in his house, which kept it dry. I got some seed from him, and I planted a piece over, and it came up all right but, owing to the lateness of the season, I lost over fifty dollars. There was another man told me that his losses would exceed over one hundred dollars. Some lost more

and some less, according to the quantity they had planted, but the losses throughout the country that particular year were about the same as in the spring of 1876. It was not only the loss of new seed, and the expense of planting it over, but, on account of its being planted so late, the loss was greater, as the crops were not so good.

HOW TO SAVE SEED CORN.

Take the best and ripest ears before any frost comes in the fall. Let it be traced up the same day as picked, and then hung up in the dwelling-house, free from all dampness and frost, and kept in that state till planting-time in the spring. It can be kept in that state for several years.

Now a great many farmers think that the cause of their corn not coming up is in consequence of the lateness of the spring, the ground being too cold, but that is not the cause, for, when I was a little boy, I remember having planted corn in the month of April, in the garden so as to have some early green corn and it all came up, but there was several hard frosts after it came up. I used to water it every morning before sunrise, and that took the frost out of it. I have one more remark to make about saving seed corn. Some years the corn does not get ripe enough to pick the ears off before a frost. In that case cut up the corn close to the ground, leaving the ears on the stocks. Then let them be put into the dwelling-house where it is perfectly free from frost; then, when the corn is perfectly dry, let the ears be taken off and hung up.

HOW TO MANAGE WITH HORSES AND TO PREVENT AVOIDABLE ACCIDENTS.

I have been engaged in the farming and tanning business for over seventy years, and farmers when they lost horses and cattle would take the hides off and bring them to the tannery. I was always curious to know how they had lost them, and, hearing from a great many thousand different men in the many different places where I have lived

how they had lost their cattle, I have come to the conclusion, for the benefit of the public, to relate how those different parties had met with their losses, in order that others may avoid losing in the same way. I have known, in a great many cases, mares being lost by catching cold after foaling.

If a mare should be caught in a shower of rain soon after foaling she should be removed at once under cover in a warm dry place and covered with a blanket. There is also great danger attached to mares catching cold in some very cold nights,—in this case follow the same instructions as when caught in a shower of rain. It is also very bad to let mares drink too much cold water at a time soon after foaling.

RAISING COLTS FROM BROKEN-DOWN MARES.

Colts raised from broken-down mares, have seldom great powers of endurance.

HORSES CATCHING COLD AFTER HARD USE.

Horses used till they get very warm should be put under cover till they cool off, if not, they are liable to catch cold. They are also liable to catch cold, even in summer, if they should be left out in a shower of rain. Many horses have been lost for the want of proper precautions. Cold water should not be given to horses when they are warm, as it is sure to produce a water founder, except, when driving on the road, if a party should come to a watering place they can let their horse drink, that is, if he is not too warm and thirsty; but, after giving their horse a drink, they should drive him right away so as to warm him up again.

HALTER BREAKING COLTS.

I have known farmers to have lost valuable colts for the want of knowing the proper way of halter breaking.

They, as a general rule, tie the end of the cord attached to the halter to a post, and let the colts pull till some have broken their necks. Now the proper way is to have a long

piece of rope, and put it once around a post, still holding the end of it in your hand and, as soon as the colt pulls, slacken it all of a sudden, which will cause the colt to fall to the ground. Then, as soon as the colt gains his feet, tighten your rope the same as before. After repeating this two or three times you will find that the colt will give up pulling.

TYING HORSES IN THE STABLE.

Many horses have been lost by tying them in the stable with a rope or strap around their necks. Many horses lying down in their stalls tied in this way have been choked to death. The best and safest way is to tie horses with a head halter.

Horses have also been lost by the stable door not being fastened. When some horses get loose in the stable they make for the stable door and manage to get their heads out, and the door swinging with the wind catches it, and the horse having his neck out is caught by the wind slamming the door, and the horse in making efforts to get his head back tightens the door on his neck, and of course the harder the horse pulls the tighter it squeezes his neck, till he breaks it against the post on one side and the door on the other.

Many horses have been killed by neglect in leaving sticks on the ground in barn-yards, fields, &c. The following is an example of how horses come to be killed by the neglect of leaving sticks on the ground. Let a piece of stick, say about 3 feet long, lay on the ground, and if a horse happens to step on one end of it with one of his fore feet, the consequence is the other end flies up and sticks into his belly, and as soon as it hits him in the belly it frightens him and causes him to make a jump forward, which of course makes the stick enter deeper into his belly.

CAUSES OF HORSES DRULING.

Many people say that it is caused by lobela that they eat with their grass, others say that it is by a spider's web on the grass. But the real cause is eating green grass wet with the dew or rain.

A CURE FOR THE DRULING.

By feeding them dry hay, oats or chaff it will stop it immediately. The same complaint can be produced on cattle. They can be cured the same way as horses. The reason why cattle are not so liable to drule as horses is because they lay down more at night than horses do, and chew their cud at night while the grass is wet.

HORSES KILLED BY HORNED CATTLE.

Now in some cases you shall find among the farm-yards wicked horned cattle, and if there happens to be any horses near them, they generally make a charge at them and run their horns into their sides and let out their entrails. In cases where there are wicked cattle about a farm-yard put a small piece of board from one horn to the other which will prevent the horns from penetrating into anything. The following is the only instance I have ever known of a horse killing a horned creature. The owner of the horse had just returned from having him shod with long sharp corks, and wanting to go into the house after something, and just as he was about to enter he looked behind to see if his horse was standing all right and discovered his bull just in the act of making a charge at the horse. But the horse proving himself too smart for the bull kicked with his two hind feet and planted his sharp cork shoes into the bull's brains and killed him on the spot.

COWS CATCHING COLD AFTER CALVING.

I have noticed that there are a great many farmers that are not aware of the danger there is in cows catching cold after calving. Cows should calve in a cool place, and immediately after calving remove them into a warm and dry place and give them warm drink. Now for instance I had a cow that died by taking cold after calving. She was with other cows in the woods, and when the boy went in the evening

to bring them home to be milked he could not find her. I concluded that she had strayed away from the rest of the cows to calve, as they generally do. The night was dark and rainy. The next day two of us started out with an axe and dog, we soon found her, she was lying down natural as cattle generally do, she had also calved and done nicely. When we tried to get her on to her feet again, we found she could not get up; we then pulled some bark and set down. some crutches and raised her up with the bark, but found she had no use of her limbs, which was caused by her catching cold. I made a present of the cow and calf to an old farmer, he drew her to his barn on an ox sled. But she soon died, as they all do if they happen to catch cold after calving.

The loss among the farming community every year is something very great by cows catching cold after calving.

CAUSE OF COWS' UDDERS SWELLING, COMMONLY CALLED COWS BAGS.

There are two causes of cows' bags swelling. One cause is not milking a cow before she calves. When a cow's bag is full of milk it should be taken from her. The next cause is drinking stagnant water, it affects their bag as it is concentrated to that particular part. It also causes them to get quite hard and feverish. The first symptoms of their being affected is that they will loose a quarter of their bag. I have proved and demonstrated that drinking stagnant water is the cause of cows' bags swelling, it cost me dear to ascertain the cause.

FEEDING COWS INDIAN MEAL.

Feeding cows with Indian meal directly after they calve is bad. It creates too much fever, and causes their milk to dry up. A great many cows have been spoiled as milch cows in that way. Indian meal is a very good and nutritious food for cows except soon after calving. I have fattened farrow cows with Indian meal, and succeeded in getting them quite fat and milked them all the time. The best way is to feed it to them dry.

TYING UP COWS AND OTHER CATTLE IN STABLES.

I have tried all the different ways of tying up cattle in stables, and I find stantials to be decidedly the best for many reasons.

In the first place it is the quickest, because, as soon as the creature put its head in, you have nothing to do but knock the stantial back, the latch falls and the creature is secured. In the second place it is the safest, because, in case of fire, you do not lose time in trying to untie a knot, or to be hunting around after something to cut the creature free. You have simply to knock up the latch with one hand, and with the other push the stantial back, and the creature is loose at once, and will go right out if the door be open, because they have been in the habit of it. In the third place, cattle tied up with stantials cannot waste any of their fodder by getting it out under their feet. And, in the fourth place, stantials are more durable and never get out of repair. Now some farmers tie their horn cattle in stables, with a rope or strap, and, in some cases, a chain, around their necks, which is a most dangerous way. Because a great many have met with accidents while tying and untying them up in their stalls, by being hit with their horns. I knew of a man that had one of his eyes put out by the creature throwing its head up. Now all other ways your cattle are liable to break loose, but by having stantials put up properly it is impossible for them to get loose to do any damage. The stantials must be put up strong enough, so as the cattle cannot pull them over, because, if the stantials should not prove strong enough, and that they were to pull them over, they would be liable to break their necks. Very little expense would be required to fix them strong enough, so as they could not pull them over. All farmers to whom I have given my opinion have tried stantials, and have come to the conclusion that stantials are decidedly the best in all cases.

COWS THAT RUN IN WOODS AND BUSHY PASTURES.

There is a great danger attached in leaving a great cluster of long hair at the end of a cow's tail. For when cows ramble off in bushy pastures or in the woods, in frisking their tails in order to brush off the flies, they have their tails caught in the limb of a tree and in trying to free themselves they run around the tree until they fall down and die. But it is oftener the case where they break their tails off half way, which leaves them only a stump, which is no use to brush off the flies. The following is the best way to avoid such accidents:—Take the cow's tail by the end, brush back the hair leaving a little on the very tip of it. Then cut the very tip of the tail off with a sharp instrument, which leaves them enough to brush off flies, and thus avoid the above-mentioned accidents.

LOSS OF CALVES.

The loss of calves the first winter is very great among farmers. The best way is to feed them with a little boiled oats the first winter, in addition to what hay they want. Two quarts of boiled oats a day or more if they should require it is enough. Some farmers practice feeding cattle all the poorest fodder, before they feed any hay, that is an error, cattle want a change of diet as well as men, the best way is to feed a little of the poorest in the morning, after they eat that, then give them hay. I knew one farmer who lost all the cattle that he had except one, and several others who met with great losses, by not feeding properly.

LICE ON HORSES AND CATTLE.

A great many put on tobacco juice and different other kinds of stuff that is injurious to the creatures.

It is sometimes the case that people have lodgers, that leave body lice. It has been ascertained that boiling clothes in water will not kill them, but put in plenty of salt in the water and it will kill both nits and lice. It will not injure clothes to boil in salt water.

I have learned by experience that hay chaff, which can always be got on barn floors, is a sure remedy, by sprinkling it on them and rubbing it into their hair. I also have found out by experience that hemlock or oak bark dust, that can be had at any Tannery, is also a sure remedy, by using it on the same principle as the above mentioned way.

For killing ticks on sheep, hemlock or oak bark dust should be used, as it will neither hurt the sheep nor the wool.

CAUTION AGAINST CATTLE GETTING INTO FIELDS OF INDIAN CORN AFTER THE CORN HAD BECOME GLAZED AND HARD.

I knew of one man that lost all his cattle by their getting into a field of corn that had become hard and glazed. A great many others have met with heavy losses in the same way.

HOW TO KEEP FLIES OFF CATTLE AND HORSES.

Codfish oil is the best remedy. Get a piece of sponge, or something soft, and dip it into the oil, then rub it very light over the hair, so as not to let any of the oil get on their skin, apply it once or twice a week.

Cattle frequently get choked by eating potatoes, turnips and other things. In every instance potatoes and turnips should be cut up for cattle. They sometimes get choked when food is cut up for them, but very seldom. When they do the best plan is to feel the whereabouts of the piece of potatoe or turnip, as the case may be, in their throats. Then, when you have found out were it lies, begin down below it by pressing it up, hand over hand, till you get it into the creature's mouth.

This is the best and quickest way to get whatever they have been choked with out.

WARNING TO MILKMEN.

Some men when they sit down to milk, if the cow happens to whisk her tail in their faces, they jump up

in a fit of passion and kick the cow. I knew of one man who killed the only cow he had, by kicking her in the side, simply because she whisked her tail in his face. I also knew of other instances where they have caused cows to sling their calves by kicking them in their sides.

Cattle have been killed by drinking lye. When horses and cattle have been without salt for a great length of time and happen to get to a bag or bin of salt they will eat enough to kill themselves. I knew of one man who had a number of hogs and had some beef brine and put it into their trough, they drank and it killed them all. Hogs have also been killed by drinking too much buttermilk at once or by drinking too much of any kind of milk at once. Cattle have been killed by getting into sugar bushes and drinking syrup.

Many cattle have got their legs broken by stepping over a sled left in the way where cattle were going.

The following is the way the accident happens: Going across the sled they step one hind foot over the runner and under the rave of the sled, and by pressing right forward would break their leg. Therefore all sleds should be turned up on their side against something, so that they would be out of the way of cattle.

CATTLE ON SLIPPERY PLACES.

Some farmers run a great risk by driving their cattle to water when icy and slippery. For when cattle begin to slip on an icy place, to keep from falling they will straddle their hind legs out wide, which throws their hips out of joint. The best way then is to knock them on the head and kill them.

IN CASE OF A FIRE.

Several years ago a house caught fire, and hearing a cry of fire I proceeded to the spot and there found a dwelling-house in flames; a clapboarded barn stood close by, and it was too near the burning to throw water on it. There being snow on the ground, I called out to the people standing close

by to snowball the barn, which we all did, and by that means we saved the barn. I thought it well to mention this for the benefit of the public, as few would ever think of it in case of fire.

TO CURE A BURN.

In my younger days I was clearing land, and in piling up a log heap that had burned down I got one of my hands badly burned; the pain was so severe I did not know what to do, so I grabbed up a handful of earth and kept it in my hand for a short time, and throwing the first handful away I got another handful, and by repeating this a few times it took the fire out of my hand and also stopped the pain immediately. Others that I have named it to have tried it, and found it the best thing that they ever had tried for a burn. It makes no difference what kind of earth you use.

THINGS OF IMPORTANCE.

HOW TO MANAGE WITH BOOTS, SHOES AND HARNESS.

When I was in the tanning business, customers of mine used to come in and complain of their boots being hard and would want to oil them. Their boots being dry I used to tell them that leather should be wet before being oiled. But they would not believe me. One man came and bought some oil for his harness. In a few days after he came back, and wanted to know what sort of oil I had sold him. I told him that it was good cod oil. I then asked him why he asked that question. He said that he had oiled his harness with it, and that it made his harness as hard as a brick. I then asked him what state his harness was in before he oiled it. He said that it was dry. I then told him that he had spoiled his harness, that leather when oiled should be wet. Now the proper way to oil leather is to have it wet, that is, soaked through with water before putting any oil on.

If you put oil on dry leather it is sure to burn it and

make it still harder. The best way to oil harnesses is to take them all apart. Then get a piece of bar soap and make a strong soap lather and wash the harness thoroughly in it. Then you can oil it and place it up in a shady place to dry, away from any heat that is caused by fire. Soft soap would not do to wash harnesses as there is too much lye in it. Harnesses should be oiled in the fall of the year just before winter sets in, because if oiled in the spring, going out in the hot sun the oil would fry out and leave the harness sticky and gummy. For instance a man goes into a hay field with a new pair of boots in the morning, he would be sure to get them wet with the dew on the grass and he continues in the hay field till the sun dries up his boots, and by continuing on in that way in one week's time he would spoil a good pair of boots. Now whenever a new pair of boots get wet they should be taken off and oiled while wet and hung up in the shade till dry, because as the water dries out the oil soaks in and leaves them pliable. If boots soak water very easy, put on warm tallow when wet in place of oil. The loss throughout the Dominion of Canada and the United States is immense from the want of knowing the proper way of preserving leather. If a man has two pair of boots and gets one pair of them wet, let him take the wet pair off and oil them and hang them up to dry, and so change every day till the grease fills up the pores of the leather. I had a pair of boots that I had worn over two years, and a Frenchman that was working for me during haying time bought them from me because they did not soak water and gave me two dollars for them when I was selling new ones for three dollars. I met him the next winter and he told me that he had been offered four dollars for them. I asked him why he did not take the party up at that offer as they had only cost him two dollars. He then said them boots were as good as fifty dollars to him, as he had been ditching all the summer with them and used to stand up to his ankles in water all day, and at night when he would take off his boots his feet would be perfectly dry; he said that the uppers

of the boots were still whole. The boots were made of thick upper leather. So as to prevent any mistakes about the way of oiling boots, it is only the upper leather of boots that should be wet when oiling boots. The sole of the boots should be perfectly dry. By oiling the soles of boots it prevents the water soaking in and also hardens the leather.

RUBBERS.

Wearing rubbers is very injurious to the upper leather of boots and shoes. The cause is that the perspiration of the feet not being able to penetrate through the rubbers, it remains in the leather of the boots and causes the fibres of the leather to become hard and brittle. My opinion of wearing rubbers is that the loss is more than the gain from the experience I have had.

THOSE BUILDING NEW HOUSES SHOULD BE VERY CAREFUL HOW TO BUILD THE CHIMNEYS.

I have known a great many houses to have taken fire by having the stove-pipe going into the bottom of the chimney. The safest way to have chimneys is to build them from the foundation, or have them stand on the wall if the house is built of stone or brick, so as the stove-pipe will go into the side of the chimney. Fire is a good servant but a hard master to manage, therefore people should be more careful than they generally are.

HOW TO MANAGE WITH POTATOES.

Potatoes should never come in contact with frosty air. Several years before potatoes commenced rotting I ordered a load of potatoes from a man; he brought them on a cold day, he had them well covered up and guaranteed them to me not frozen. Several that had seen them decided that they were not frozen. We unloaded them as quick as we could, and put them into a good warm cellar, and, when we come to use them for the table, I found that there were blackish stripes in the middle of them, and they were so much

affected by getting chilled that they were unfit for table use. Having some of my own that never came in contact with the frosty air, I took a few out into the frosty air to try the experiment, if they would also turn black by leaving them exposed for a short time. Then I took them and showed them to several experienced men and asked their opinion as to whether they were frozen. They all decided that the potatoes were not frozen. I then put them back into the cellar and left them there for a few days, and when we came to use them we also found them affected the same way as the load that I had bought.

POTATOES FROZEN SOLID.

I have found out by experience that when potatoes, frozen solid, if cooked in that state before thawing out, they are just as good as if they had not been frozen, and, as some farmers get a great many frozen—more than their cattle, horses and hogs can eat—before they thaw out, they might sell them to others that had horses and cattle, and thus save a good deal, whereas if they were left to thaw out when the weather became warm, they would lose them all.

I read in a newspaper several years ago that the loss in the State of Vermont alone was estimated at $30,000 annually, for the want of knowing the proper way of removing the wool from sheepskins without spoiling the skins.

The way the Partie recommended as being the best was, as soon as the skin was taken off to put it on an ox, horse, or cow and tie it on, with the fleshy side down, on the back of the creature till the wool would start, caused by the heat of the creature. The above is a good way to get the wool off without injuring the skin. The only objection would be, that the creature on which the skin was tied, is liable to catch cold after the skin is removed. Now the safest way is to take

the skin and sprinkle some fine salt on the fleshy side of the skin, then roll it up and keep in that way till the wool can be pulled of.

The following is also a good way of removing the wool from sheepskins without spoiling the skin. Rub some soft soap on the fleshy side and roll the skin up. The way so many skins are spoiled is by putting lime or ashes on them. Great as the loss is estimated for the want of not knowing the proper way of removing the wool, it is only a drop in the bucket in comparison with many other losses farmers meet with which I have already mentioned.

TO CURE CORNS ON TOES AND FEET.

Remove the cause that produces them and keep it removd. They will get well in about three months. Soak the feet in warm water every night before going to bed and they will get well much quicker. The following is good:

Cattle that are taken from hay and turned out to grass, are often taken scouring; it oftener happens to old cows. Cure: feed dry hay or hay chaff when they are first taken, this will stop it. But many have died by letting it run too long. Horses have also been lost the same way; the same remedy for horses as for cattle. The loss among farmers in this way is less than it is in each of several other different ways that I have mentioned, but still the annual loss in this way has for many years back, throughout the United States and the Dominion of Canada, amounted to several hundred thousand dollars, and, like the other losses, were avoidable.