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Farmer Miles' Methods

—OF—

ANIMAL CASTRATION, SPAYING

—AND—

AFTER TREATMENT

—WITH—

ILLUSTRATIONS.

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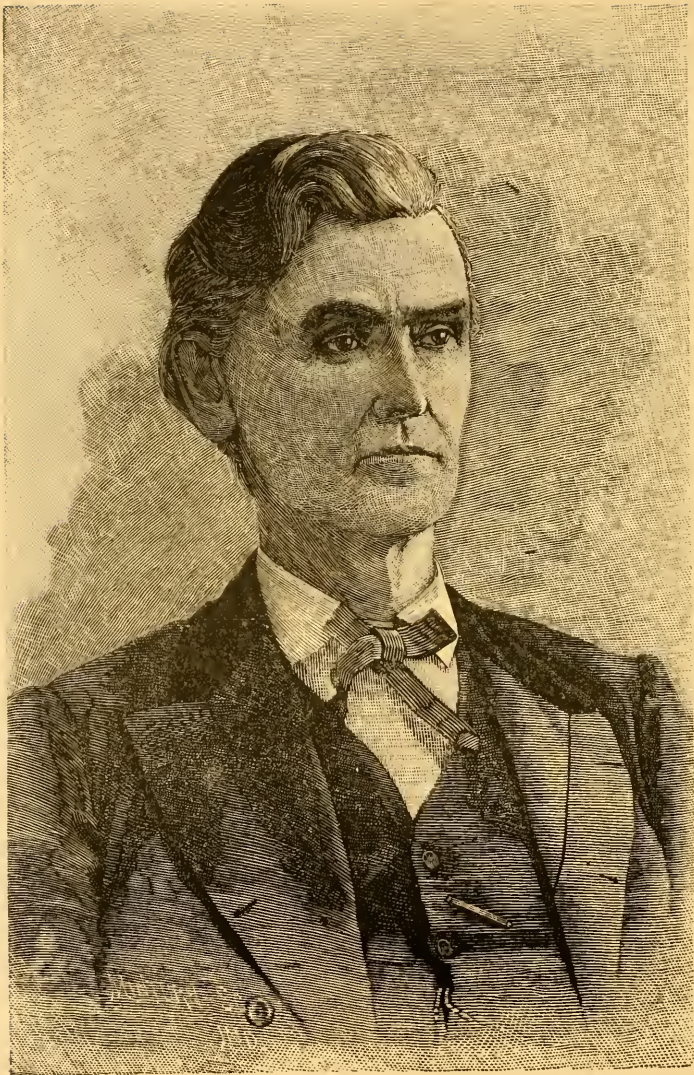
UNITED STATES OF AMERICA.











A SHORT AND COMPLETE EXPLANATION

—OF—

FARMER MILES' METHODS


—OF—

ANIMAL CASTRATION, SPAYING

—AND—

AFTER TREATMENT

WITH ILLUSTRATIONS.


BY FARMER MILES,
Charleston, Illinois,
U. S. A.

1891.



New York

PREFACE.

In boyhood I had a natural fondness for animal surgery. My father being a physician, I naturally acquired, through him, more or less knowledge in that line. I moved from Kentucky to Illinois, where I had a large farm and was raising all kind of stock. There being no veterinary near, I was compelled to frequently use the knife, first for myself, then for my neighbors, as in those early frontier days here neighbor helped neighbor, and I appeared to be the one always called upon to do the surgery, until so much practice gave me a reputation second to no one living near. Then ridgling horses were almost worthless, and my neighbors would sometimes ask me to "cut or kill them." I always did one thing, and sometimes both, but free of charge. In thus experimenting, I obtained a reputation twenty-five years ago which caused me to stop farming and travel most of the time, in answer to calls, over the entire country, from Maine to California. I also spent one year on the other side of the Atlantic, in England, Ireland and Scotland, where I performed a great many operations in animal surgery.

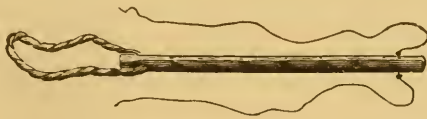
This little book is intended as an expose of my favorite methods, ropes, instruments, etc. I have tried to make it plain and truthful, as well as helpful, to all castraters. Trusting it will be a benefit to many,

I am, yours truly,

FARMER MILES.

ANIMAL CASTRATION.

I COMMENCED the castration of stock in 1850, without books, teacher or theory, not thinking then, or for years after, that I would ever leave my immediate neighborhood on such business, but I now think I have traveled over more territory, in this business, than any four castraters I ever heard of, and I have tried all methods known worth considering. I have had the counsel and advice of some of the best veterinarians and M. D's at all times. I have liked the business more and more, even so much as to neglect my farming, and have given all my time and attention to it. I got the prize at our Centennial Exposition at Philadelphia, Sept. 14, 1876, as the best castrater of ridgling horses in the U. S. A. I do not claim to know it all, but do claim to be in good practice, and to do every operation the best I can, which is usually satisfactory to all parties concerned.



First, I like a nose-twitch in horse surgery better than ether or chloroform. The best twitch I get is made of a spoke out of a buggy wheel, about sixteen inches long, and flattened at the small end. The loop at the large end of the twitch should be of one-half inch cotton or flax rope (flax is best), spliced in thirteen inches long, and a large twine



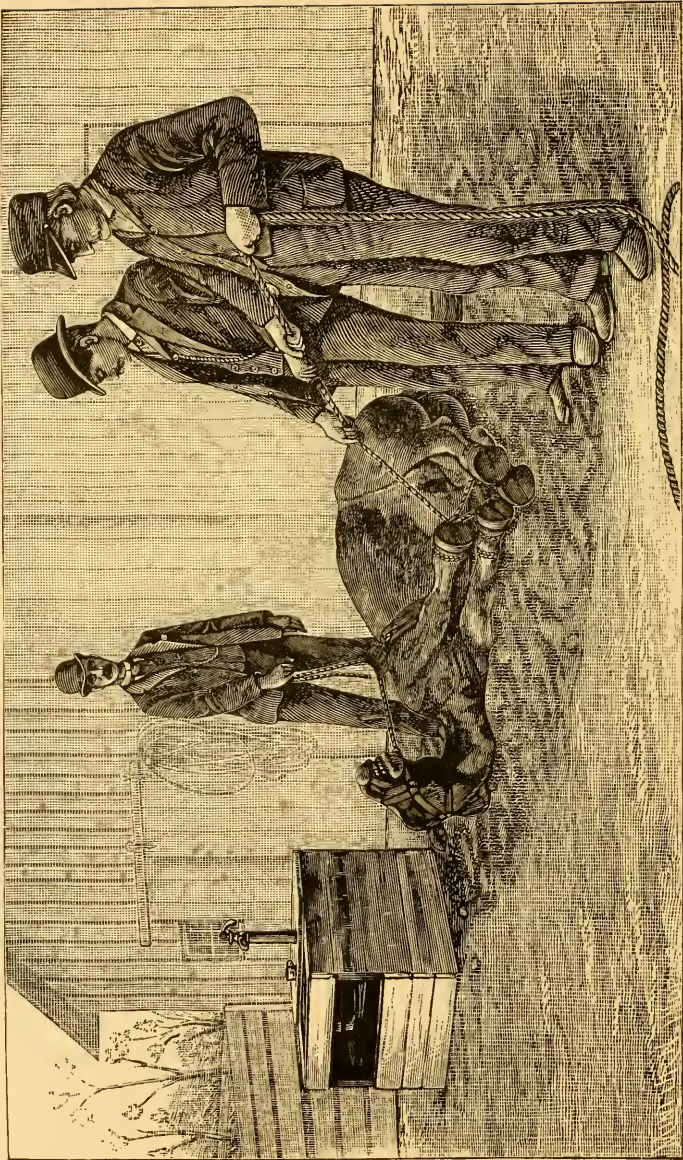
cut 1

string, three feet long, should be fastened in the middle to the small end of twitch, like the cut.

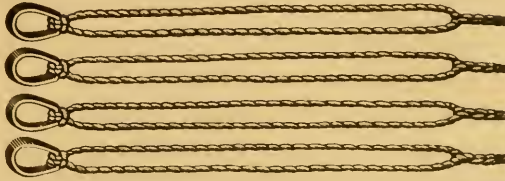
I have never seen but three or four horses that I could not get the twitch on while standing. The twitch loop should be over the left hand; then gently grasp all of the upper lip you can, and, with a slow movement, twist the twitch until it binds the nose lightly; then, with both hands on the twitch, turn *slowly*, still tighter, until the colt raises his head and winks his eye, then stop and turn the small end of the twitch slowly up beside the halter and tie it there with the long strings on the small end of the twitch in a double bow-knot. Now ask the man that is to hold the colt's head while casting him, "Please do not touch the twitch until we are through operating on him."

In common castration of colts and stallions, after trying all the different methods known, I have done the most natural thing, I think, with my own inventions. I have made a choice of all other methods for my own use, and this little book is intended as a full expose and explanation of my present methods and practice. To meet a demand for my printed methods, my ropes and instruments are shown, so as to more fully explain my use of them.

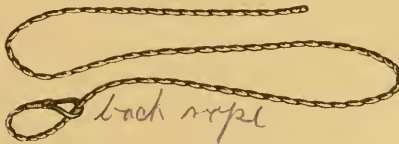
I will now speak of colt or common castration in a general way. First halter the colt with a leather head-halter, and, if convenient, have a one-half inch rope hitch strap on the halter; next, half-hitch the under jaw with the rope, and push the lips in under the rope; next, put on the nose-twitch, as above described. Then nearly every colt will



stand still while you put a short hopple on each hind ankle, and two on right fore ankle; then the



THIRTEEN INCHES LONG INSIDE.



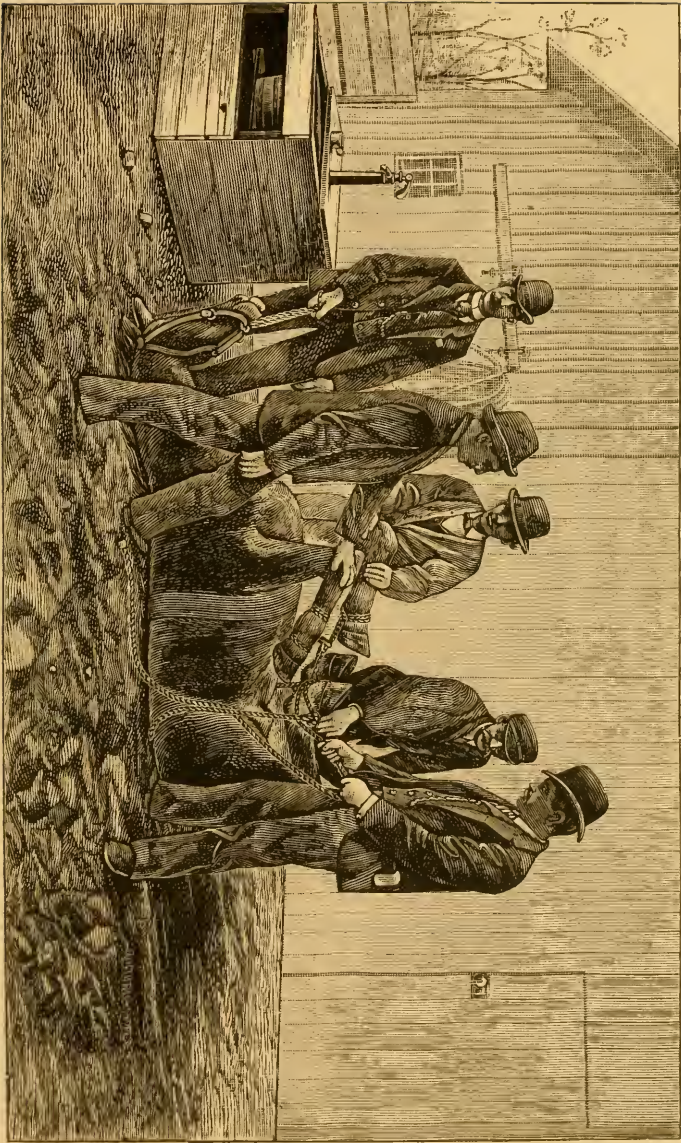
FIFTEEN FEET LONG.

back rope around the left fore ankle, running it through the rings as described in the cut/like a thread through four needles, first the lower ring on the right front ankle, then through ring on right hind ankle, then through the ring on the left hind ankle, then through ring at right front ankle above the pastern, and draw all up snug on the left side.

Now ask the two men who are to hold the back rope, to be ready to pull when you give the word "pull." Then ask the man holding the head, to stand at the colt's left shoulder, and with his left hand grasp the rope close to the chin of the colt, and gently turn the colt's head around to the colt's left side, slowly. Then slowly put the halter rope around the left fore leg and hold it in his right hand. All is now ready to cast the colt on a pile of straw, or on some soft ground. The operator should now gently pull five pounds on the tail, to the left, and say "pull," which will cast the colt on

his right side at your feet, if the operator and head-holder both push only a few pounds when the word "pull" is given. An improvement on this cast is to take a knee rope, half inch cotton, seven feet long, and double it in the center and loop it around the right hind leg below the hock. After you get the hind feet near together then twist the two ends until they close together at the left leg, then tie it—in other words hobble the colt behind, but be sure and tie the knee rope in a bow knot. Do this the last thing before casting; always remember this is the last tie. Another addition is to put on a surcingle, and instead of the rope from the jaw to and around the fore leg, put this halter rope through the surcingle rather tight, and have the head-holder hold it in his right hand when casting, and still hold it tightly even after the colt is down, which will hold his nose up and back, preventing much struggling. Never allow any man, under any circumstances, to hold the head down when cast, but in place thereof, hold the nose straight up and the withers down by sitting upon the top of the shoulders.

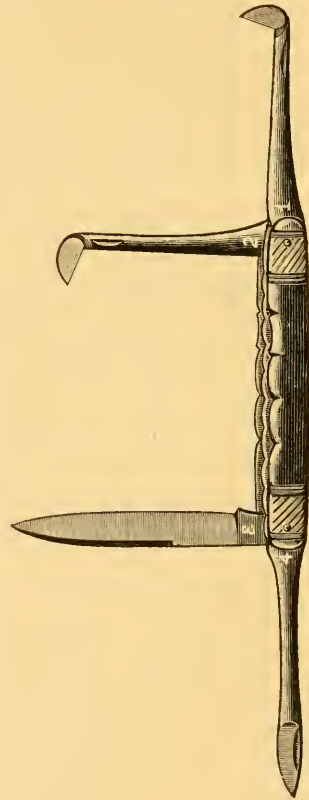
We will now suppose the colt is on his right side, at your feet, and the head holder is sitting on his withers, pulling the colt's chin back on his side near the left shoulder, unless you have used the surcingle, then the head holder's position should now be standing at the withers with his right foot on the colt's neck, near the shoulder, and pulling on the



halter-rope that is half hitched on the colt's chin and comes under the surcingle to his right hand, enabling the holder to keep the chin up from the ground and back near the point of the shoulder. In this position, with the twitch on, and half hitch in the mouth, nearly every colt will be still. Then the operator should gently take the back rope, and if all the feet are not together now, pull gently with the two men until they are ; then wrap his back rope twice around the left hind ankle and hold it with a ten pound pull, and walk back around the colt's rump, and then draw a fifty pound pull to raise that left hind foot up near the stifle, which will partly pull the colt upon his back. Now, have one of the first two men that pulled, when you first said pull, to cast the colt pull the back rope under his rump tightly, while you hold the same rope near the foot and bearing the left hind foot down close to the stifle. Now ask the other one of the first two pullers to gently lift up on the colt's right knee. Your pull and his lift should roll the colt nearly on his back. During this time have the man that pulled the big rope under the rump catch a hitch over the colt's right hind foot and draw it down tight and again tighten it, still holding the rope, so if the colt should struggle he can not get loose or hurt any one, in case of a struggle ; and if your rope is not as tight as you like it, again place the rope that is around the rump forward of each stifle and bear down on the left hind foot, and take up all slack rope on the other side, then bear the right hind foot down again, and tighten your tie ; but

remember, do not jerk while tightening the rope, or the colt will struggle, for that is horse nature. When the rope under the rump is forward of each stifle and tight, put a tuck under the rope from the foot to the stifle, and half hitch back over the right hind foot, and he is tied, and should now be on his back. To keep him on his back two minutes while you operate, ask two men, one on each side, or if four men are present two on each side, to stick their left feet, toes foremost, as far under the colt as possible, then pull the colt by knee or hock only back on their feet, which acts as a chock. No one will be hurt though he should struggle. Each man should pull to himself, and not push the colt away from him over on the other man. My advice to all new beginners is to get a colt out on a good place, cast and tie him several times. Learn the A, B, C of castration before you attempt any surgery. Almost every man that attempts colt castration soon gets conceited and thinks himself an expert, when in fact he is liable to do great wrong. But let us suppose our colt is now cast skillfully and tied slowly and safely, and held firmly on his back by our assistants. If the bag, or scrotum, testicles and all are down well, then with elbow forward between the hind feet grasp one seed at a time in the left hand, and with a knife or hook, which is my preference, split the bag over the extreme hind part of the seed one inch long into the water, then introduce the hook No. 1 here described—all other blades shut—and push forward to the point you wish to split to; then

turn the point of hook upward, and with one gentle pull split the skin and tunic out, and expose the testicle. Then do the other the same way, about one inch on each side of the septum or raphe three inches long. But if the seeds are small and are not well down, and are hard to grasp with the left hand, grasp the sheath two inches behind the front end and push it forward tightly. Then place your hook where you want the front end of the gash, and slowly pull back with your hand raised a little after the hook enters the skin, and you will not cut deeper than the skin, nor cut into large veins just below, and repeat on the other side. Each incision three inches long. Now both testicles are exposed with tunic on. Split the tunic and lift the seeds up well, about a two pound pull on each seed. If you use the ligature, which looks well but is the most dangerous of all methods, put your small, strong twine as high on the cord as you can to be below the tunic, and tie by a surgeon's knot as tightly as possible. Cut the cord half off if you can in the tie, for a slack tie and large string is liable to



produce tetanus in a few days' time and loss of the colt. But a better way is the old-fashioned clamps



from five to seven inches long, according to age; five inches long and one inch thick is large enough for yearling colts, while a large stallion would require clamps seven inches long and one and one-half inches thick, of sumac or some soft wood, with the pith grooved out and the groove greased with lard, and the lard sprinkled over with powdered corrosive sublimate, very lightly. These clamps should be put on very tight, from one to three inches above the testicles, according to the length and strength of the spermatic cord or attachments holding them to the horse. I pull up about two pounds on the average yearling and three or four pounds on the average stallion on each seed, so as to get well up on the cords, and tie them tightly at both ends, then cut the seeds off and let up. In one day or less time take the clamps off and tear all attachments to the cords loose and push them up, but the best way, I think, is to

use no strings, clamps or hot irons, but a good ecrasure and the hook knife to get the testicles exposed, then grasp them both in the left hand at the same time through the chain of your ecrasure and

lift up about three pounds on a yearling or six pounds on a stallion. Then with the right hand adjust your chain several inches up on the bloody cord (spermatic cord), but always square across, and sometimes over the exposed ends of the tunic, which is not wrong if you like, but always, after closing the chain over both testicles, and around both cords at once, hold now with the ecraseur in the right hand. Now, take the bloody cords, one at a time, in your left hand and draw them one inch or more through the chain, so as to shorten them still more. Now see that no skin or extra tissue is caught under the chain; then change hands by grasping the ecraseur near the front end with the left hand, with the thumb resting firmly upon the chain and loop in the ecraseur; then with the right hand quickly take up all slack in the chain and tighten it some; then with the left hand grasp the middle of the ecraseur over the handle to better hold it, as you should; then grasp the gimlet handle in the right hand, and turn until both cords are severed or pulled through the loop, which one or both cords are liable to do. But, in case they do, only press your left forefinger on the cords in front of the ecraseur, then grasp with right hand one chain and jerk it on through the cords and tissue, which pull through the loop, and all will be well. I expect to be criticised by thousands of castraters as a common crank, but nevertheless I propose to tell the truth plainly as I can, and candidly express my preferences, obtained by thirty years of practice. In speaking of the ecraseur I

prefer a loose one, liable to pull part of both cords through the loop of the ecraseur, or, at least, some of the tissue, because when the chain fits closely it is harder to cut off with, and will bleed more than an old, loose, half worn-out ecraseur does.

If you wish a bloodless operation, pinch both cords with your ecraseur chain one-half inch above where you intend to crush them both off at one time. Pinch half hard enough to sever the cords; then loosen and slip the chain one-half inch nearer to the seeds, and crush off. As to turning the ecraseur slowly, I never do. I can not see any benefit by doing so longer than five seconds on the first pinch; that stops the circulation in the blood-vessels inclosed in the chain. A rupture or scrotal hernia should always be castrated by the covered operation, two or three inches higher than commonly done, with large clamps, put on tightly, and left on to fall off within from five to seven days; therefore medicine on the clamps is unnecessary. Most all colts that show a rupture while sucking will be all right when one year old. Umbilical hernia is easily cured by a strong wooden clamp, put on tightly while the colt is held on his back; no cutting is necessary, only clamp all of the loose skin you can, and the end of the umbilical cord inside, and let up; all will drop off within from five to seven days, and will be all right. But ventral hernia can not be safely treated in that manner. None but veterinarians should attempt to treat it, and they will need a sheet of zinc, perforated

and riveted to two surcingles, as a level bandage, and kept on tightly several weeks after the animal has been cut open and sewed together—peritoneum to peritoneum and skin to skin.

Ridgling or Crypterchid Castration.—When talking to my pupils I class as five different kinds. Number 1 is in the tunic and half way down from the inguinal ring to the scrotum, and is easily felt by an expert castrater while standing. Number 2, also, is in the tunic, but is so small, or so high up, or both, that they can not be felt, as a rule. Number 3 is above the inguinal ring, and most commonly there is no tunic below to be found, yet sometimes a contracted tunic is found four or five inches long and empty. Number 4, the testicle is in the abdomen, yet the courage ball (*Globus minor*), and some water is down in the tunic, as a number one ridgling seed, but seems small. Number 5 was once a plain No. 3, but is now diseased and enlarged to ten or twenty times its natural size in the abdomen, with serum, pus, or both.

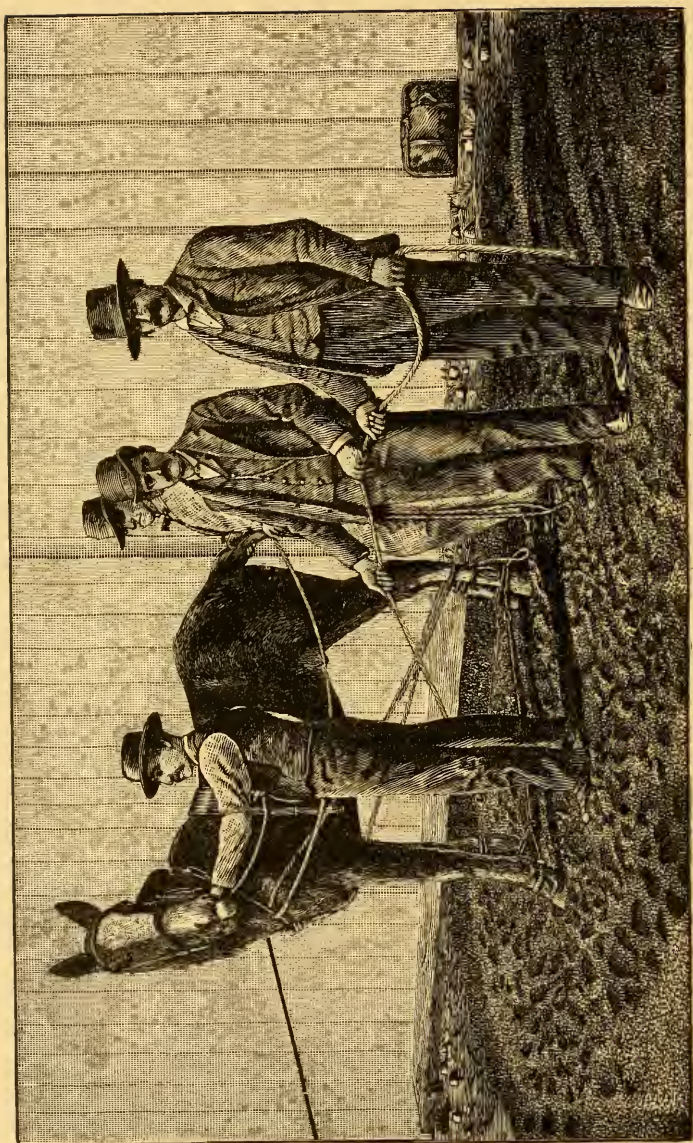
To castrate ridglings I think it very important to tie them in such a way that the operator will have every advantage. I will here try to explain my favorite method and practice: As I go through and over ten or twelve States each year in answer to calls to castrate, I first meet the owners of the stock, and next ask to see the stock. I first put my hand under and feel the scrotum, so as to decide for myself, or diagnose each case regardless of what I am told, for owners are so often liable to forget how it is, and make mistakes. I then ask,

“Where do you wish the work performed?” If I think the place suitable, I take my ropes there and get ready, otherwise I select a place, and ask that we use it. Any dry place, twelve by sixteen feet,

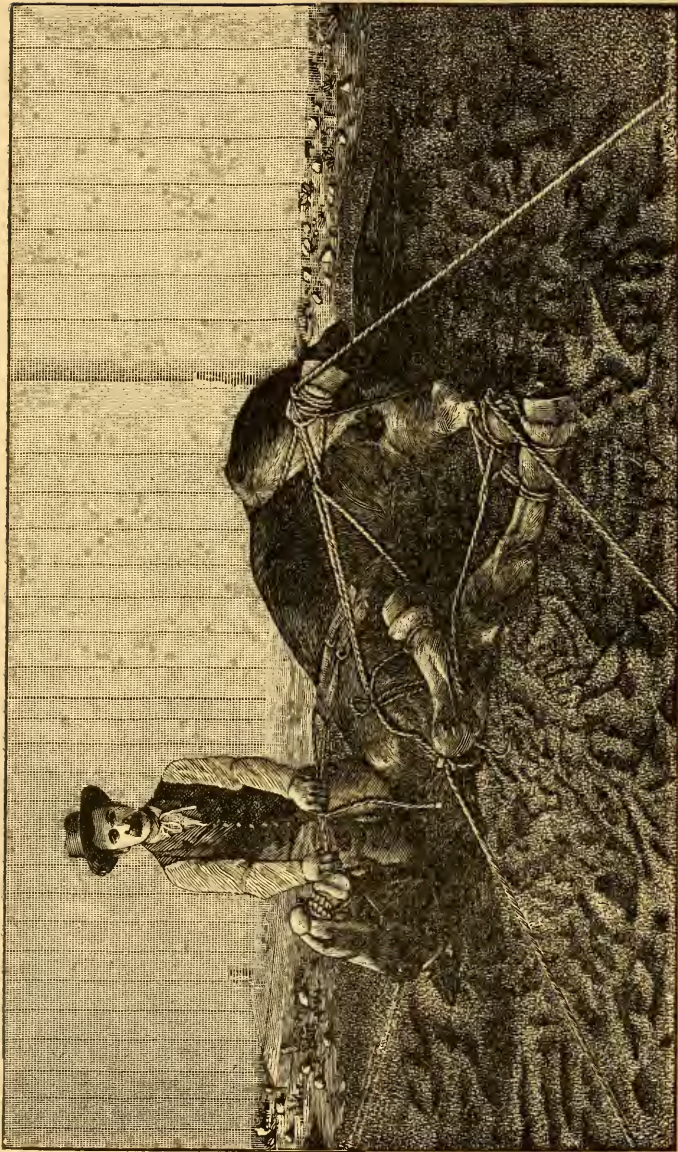


is suitable, and five men as assistants are enough — a crowd is not desirable, neither is it best to have assistants change places as holders, as a rule. On fresh plowed ground is a good place when dry, but in wet weather a barn floor is the general place. Then a bed of straw or hay is used, seven by ten feet, fifteen inches deep, on which spread several old blankets to complete the bed and hold the straw in its place, close to which lead the ridgling, and half hitch the halter strap or rope in his mouth; then put on your nose twitch tightly, and now place him just at the edge of the bed, and he will stand there until you cast him. Now put on the ridgling ropes, $\frac{5}{8}$ -inch size, and sixty-six feet long, looped in the center for a collar to fit the horse, and put over his head the old-fashioned way, then pass both ends between all his legs and outward, cross the same ropes under the first as they go back to the collar, on each side, as per cut No. 4.

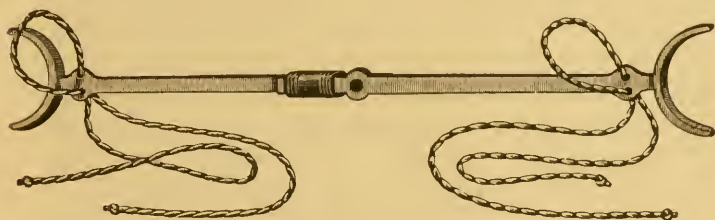
Next put on your hobbles as in cut No. 1, to cast him with. The ridgling ropes are only to re-tie with after casting, yet can be used some



by one man drawing on the right hand ridgling rope, at the word "pull." The operator should hold the left ridgling rope in his left hand, and when all is ready, as per cut No. 4, should say "pull;" he and the head-holder, at that time, should push the horse over on the bed. Next the operator should draw on the rope in his left hand, hard, then put it, where it comes around the hind leg, down to the ankle, and hold his left hand rope all the time; now withdraw the back rope out of the two first rings on the back rope and free the left hind foot from the hopple. The two men pullers again take that rope, still holding tightly on the back rope which is still on all the other feet, while you adjust your big rope so as to let the left hind foot back near the stifle. The head-holder should now have the chin up and back, near point of the horse's shoulder; one man should be holding ten pounds on the big rope on the under side of the collar, out forward. Now put your left knee under the left hind leg half way from foot to hock, and bear it in to the horse, as in cut 5, about even with the stifle; then put your long rope down on it at the ankle, and once around; then draw tightly to fit the rope to the ankle close; then take one-half hitch. Now put your rope over the rump or loin, and under the under thigh. Ask some man to draw twenty-five pounds on that rope. While he draws, you lift the left hind foot with your hand enough to tighten, like cut 4, up and between the hocks and wrap around ankle, and then take two half hitches and ask some one to hold five pounds on that



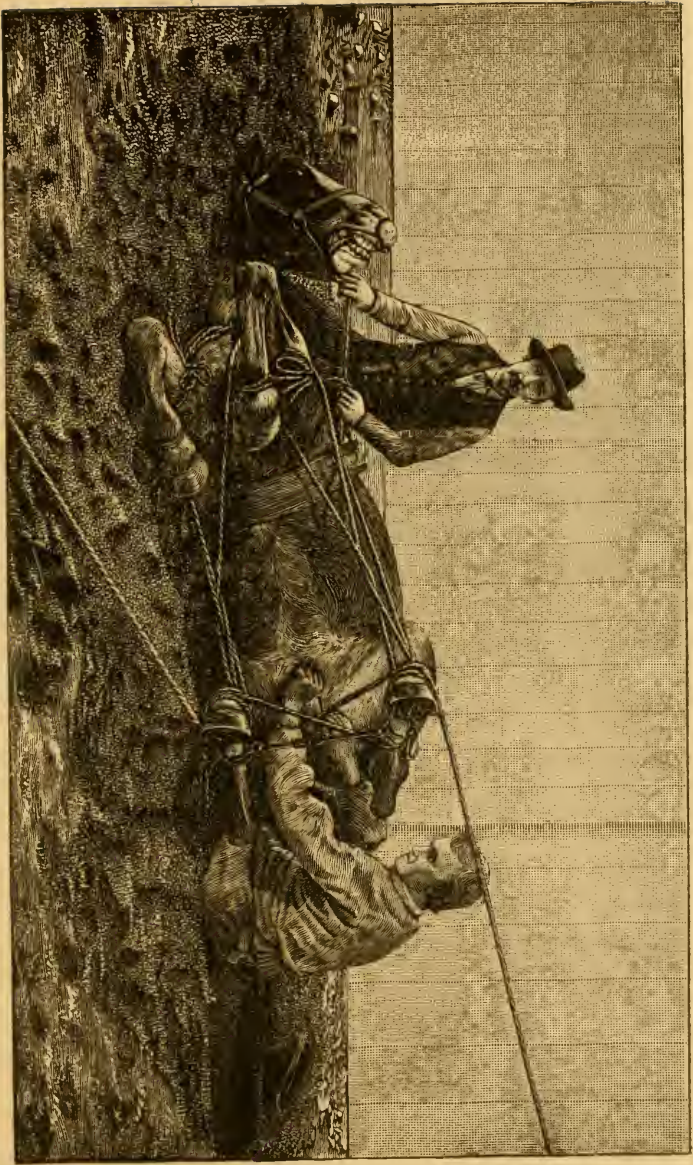
rope, which will keep it from slipping and getting too long. Now go to the horses' feet, remove the back rope from left fore foot by slacking the pull of the two first pullers on the left fore foot. Now re-tie that foot up tightly by looping a knee rope in the middle over that ankle, and one end under the leg and one over the arm; tie tightly in a bow knot near the collar. Now have the two first pullers who still hold the end of the back rope walk around behind the horse to his back, and pull hard. One man should now lift on the under fore leg, and, the operator assisting, all should turn the horse over slowly, then tie the



right legs just as you did the left legs; then turn him up on his back again, place the spreaders in between the ankles as in cut 6, and tie them by putting the spreader loops over each hind foot, then tie around each leg with strings in the spreaders. Please cast and tie other horses repeatedly this way before you tackle a ridgling for castration—practice the A, B, C of ridgling work.

Your easiest ridgling to castrate will be the one you tie best and hold properly. To get a good tie you must first practice to get them in proper position; also learn to have them held properly after they are tied. The operator should keep cool and

go slow, use no bad words, and show no cruelty to the poor horse that has not consented to such treatment, which he will prove by struggling, unless your nose twitch and half hitch on his jaw constrains him to lie still, and thereby help you to do your work quicker and better. We will now suppose your ridgling is properly tied and held in position by three or more assistants, as in cut 6, on his right side, with chin up and back, and the top ridgling rope over your shoulder as you sit down flat on the bed or ground, facing the horse, with your legs over his tail; now grasp the sheath in your left hand, well forward, and make your incision through the skin four inches long, about one inch above the septum, or raphe, just where the seed should be, if drawn properly. Now with the two front fingers like glove stretchers, separate the tissues up the inguinal canal, but do not gouge into the body of the sheath; go up near the skin. When your hand is in the inguinal canal, pointing from the incision to the inguinal ring, six or seven inches up, according to the size of the horse, your fingers should be only one-half an inch below the black skin; now oil your hand well with a tablespoonful of the best carbolized olive oil or cosmoline, and insert your hand, with the fingers pointed together cone-shaped, and rotate your left hand while you push upward, about five pounds weight, and slowly open the inguinal canal. The rotation of your hand will cause the tissues to give way in the proper place, until you reach the inguinal ring, which is up about eight inches in an eight-hundred-



pound horse, and nine inches in a thousand-pound horse, and ten inches in a twelve-hundred-pound horse, and about twelve inches up in a fifteen-hundred-pound horse, varying only a little from this, according to the fatness of the horse. A number one ridgling's seed will be found in the tunic, five to six inches up the canal. A number two ridgling's seed is eight or ten inches up, yet in the tunic. In each case work your finger around the seed, tunic and all, and break the adhesion, and gently draw it down some, then split the tunic with your hook, one inch, and with your two first fingers tear the tunic open until the seed slips out, then put on your ecraseur and crush off one inch above the seed and Globus minor. A number three is above the inguinal ring, floating in the abdomen. My preference in this operation is, first find the inguinal ring, and rupture the peritoneum as near the ring as I can, a little forward and a little above, with my fore-finger nail; then dilate the opening with thumb and fore-finger so as to admit of the first two fingers, all others shut; then insert them and feel down and back for the vas deferens, which is a little cord usually within two inches of the rupture you have made, the tenth of an inch in size, but never feel for the testicle; you would not know it if you felt it, unless your fingers are very soft and sensitive to touch. Get some fine sand-paper and scour your two first fingers on each hand until they are very sensitive to the touch before you commence. You need not feel for the bowels; slip your two fingers down between the bowels and pelvis, gently,

and wipe up, and generally you will feel this little cord, and by that wipe you can generally bring it, the vas deferens, up to the rupture, but if you can not raise it, then cross your long finger over the first finger and grasp it between them. Then withdraw your hand until the Globus minor protrudes through the rupture. Then with thumb and first finger grasp it, and rub it, to make sure that it is the Globus minor and the vas deferens inclosed, and then gently pull about one pound. If the seed is large, as is common on aged ridglings, where one has been removed when young, you may have to reach back and enlarge your rupture; then, while holding the Globus minor with your little finger shut around it, with your forefinger feel the end of the testicle and assist its delivery, while you draw with little finger on the same hand; but sometimes the cord (the vas deferens) is not to be found so near. Then feel deeper, but only with the two fingers; aim to feel on the pelvis, behind and under the bowels. There is no certain place where you can always find the cord. I am speaking of the general rule. There are exceptions. When I find a case that has no scar or testicle on that side, and I try, by cutting in, and can not find an old cord below the ring where a seed has been taken from previously, and I make my rupture through the peritoneum and can not feel the cord on the inside at all, I turn the horse over and cut on the other side, and find that it has crossed over. Even though there is a plain scar on the last-named side, or even a testicle there, I go over either, and up

through the ring, or near it. I never go through the ring, but as near it as I can to keep out of it, for if you go through the inguinal ring you put your fingers in a pocket formed by the inverted tunic, which you can not rupture there, inside, but if by mistake you do get into an inverted tunic, draw back and rupture the peritoneum one-half inch forward and slightly above the ring; do not vary much from this point, for if too high, you can not reach back and down to the cord; do not go below the ring, or the bowels will follow the seed when it comes out; but from this point you can reach it, and the bowels will not come out twice in one hundred operations, and if they should chance to do so, replace them after you get the seed, so as to leave the cord in place in the inguinal canal, and then when standing, slip your hand up again, and if the bowels are in, then they will remain in, especially after micturition. It has been so long since I have had the bowels come down, I scarcely think of it, but in case they did, I would put them in while standing, unless they were down almost to the hocks; then I would cast the horse. Later on I will tell you some of my experience.

We come now to number four, where the testicle is in the abdomen, but the Globus minor and some water is in the tunic, and when you first find it will pronounce it a number two, but when you break down the adhesions and grasp the testicle and split the tunic, and the water flies out as in common castration, you will then see that the testicle is too small, and this is only the Globus

minor, and you can not pull the seed out through the ring, and the contracted tunic above, therefore you had better not try. The better way is to tie a string on the Globus minor to gently hold it by, then go on up to the inguinal ring, and rupture the peritoneum as close to the ring as you can, closer than in a number three, and feel for the seed partly pulled down in the upper ring. Now get your one finger around the seed, then let go of your string, and let the Globus minor go up near the ring, through or with the tunic on it, while the testicle comes through the rupture down outside the tunic; then take it off and draw the string and the Globus minor down as at first and take it off. If you take the Globus minor off first you will have trouble to get the seed; if you take the Globus minor off and leave the seed still in, the horse will squeal and cut up more than a stallion, because the semen can not pass out of the seed, for the channel is cut off and closed, and it makes the after castration more difficult, as there is no cord (*vas deferens*), to find and to hold on to, and by which to draw the testicle to you. A number five was once a plain number three, but is now diseased and much enlarged by internal hydrocele; but this is not known at first. You operate as for a number three, and find the cord (*vas deferens*), and then the Globus minor, but the seed will not come through the rupture. Now you should oil your other hand and remove the contents of the rectum; then insert the hand and arm above the elbow, and feel downward with the hand in the

rectum; then jerk on the Globus minor with your first hand, and you will plainly feel a large lump shake as you jerk. Then ask some assistant to get your trocar, and withdraw the spear partly and insert the trocar up by the palm of your first hand, through the rupture made, and then plunge it one inch or more into this lump or tumor, and let out about a quart of serum or pus, or both. Then the sack, seed and all, will collapse and slip out, and most commonly come well down. Now put your chain up well over all the diseased part and cut off, and all will be as well as though no disease had existed. There is yet another kind, but so seldom found that we will not call it number six. It was once, no doubt, a number five, but has passed into ossification, and can not be punctured and let out as a number five can. I have offered insurance at ten per cent. on all ridglings I got the first cut upon, for sixteen years past, and never had but one to die while insured, and that of the kind last named. I got the seed after it had burst, and left some pus and the large ossification inside. This horse died in six days, and I paid for him. I would remove the ossification if I had a similar case again. I never had a number six to burst before, and was confused. I think that horse could have been saved; still I would rather not insure such cases.

The next is a double number three ridgling, where both testicles remain in the abdomen. About one in every eighteen ridglings is a double number three, and all are barren, though very am-

rous generally. Ridgling stallions seem to be as sure as breeders as any horses, but remove the seed that is down only and he is a ridgling, and as amorous as ever, but always barren. My observations lead me to believe that double number three ridglings come mostly from mares sired by rigdling stallions, and bred to ridgling stallions, and over two-thirds of all ridglings are left handed, that is, the hidden seed is on the left side. The most difficult ridgling to castrate is one that has been cut into several times and the whole hand inserted; then the healing process hardens the tissue and closes the natural channel. In such, if bad, cases, I prefer to cut on the opposite side regardless of testicle or old scar, and cut outside and go up outside the tunic close to the old cord, from which the testicle was removed, or just over it, up to the inguinal ring, and one inch above, and then rupture the peritoneum and insert the whole hand and part of the arm and feel across on the opposite side. I try to find the cord, the vas deferens, but would not pass the testicle if I found it. In such a case it would be preferable to have the horse empty, I mean fed no hay for one day. Such cases are usually short corded. When you get the seed, turn the horse on his back, for that makes it easier to remove properly. Now, as this cord is liable to draw back into the abdomen, pinch it well, then slip the chain one half inch nearer the seed and crush off. A number two ridgling is the kind to bother operators that are not careful. They first feel the horse well when standing, and decide it is a number three, as they can

feel no seed. They then cast and tie him and hurry to show how quickly they can do such a job, and do not feel a number two, a small seed, but pass by it and find the ring and slightly forward make a nice rupture, and feel inside and find the cord, vas deferens; but the cord is fast at both ends, and so it is. The seed is below the ring and can not be drawn up through the ring. This operation is a failure unless he finds the seed below the rupture, as a number two. I found three ridglings that cancer must have destroyed one seed in each. I killed the first horse and found the vas deferens down too near the seed, with an old scar all healed up. The next I half castrated only and he remained as quiet as any gelding. The third one I found an old horse, a number three ridgling stallion, with all the attachments on the hidden seed, except a scab and sore, instead of the testicle. But I have never found a horse with three testicles, yet I have altered a great many ridglings that I was told had had two seeds taken out of them before I got the last one. Mostly all such had been number fours, with the Globus minor in the tunic, and that was called a seed, but was absent on the seed I got as the third one. A few times I have been called to alter a horse with one large seed, after two had been removed, and found it a scirrhus cord as large as a seed. If it had been cut off three inches higher it would have been all right then, and no scirrhus cords would have appeared afterward. I think all cases of hydrocele (water seeds) may be avoided by cutting high, say three or four inches above the

testicles. I think almost all tetanus may be avoided in castration by using no clamps or ligatures. I think nearly every death may be prevented by proper exercise and medicine after castration. I never saw a horse I was afraid to castrate at a reasonable price and insure him to live for ten per cent. on that amount beside my regular fee for that class in that locality. Of course my fees are much lower at home than a thousand miles away from home.

The best treatment I know of is to drench the horse twenty-four hours previous to castration with one and one-half pints of raw linseed oil, and soon as castrated give him drachm doses of my castrating tincture every three hours :

Tincture of aconite root, one ounce.

Fluid extract belladonna, one ounce.

Quinine, one half ounce, rubbed down in one half ounce of sulphuric acid.

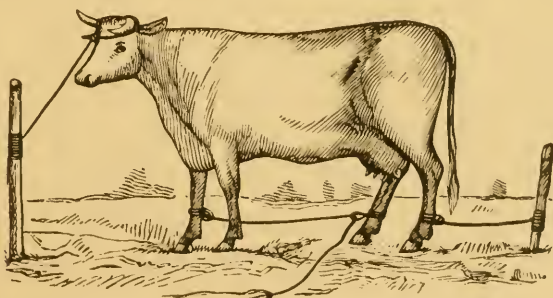
Put this all in a pint of water and give twelve doses, not remaining up at night. The horse should be walked at least two hours daily. Moderate plowing all day is the best exercise to prevent stiffness. The oil you use when castrating ridglings should be cosmoline or pure olive oil, and to one pint add one half ounce of carbolic acid. Your hands should be well washed, first with anti-septic solutions, one to two-thousandth parts, then well oiled with this only ; then insert your hand and do your operation with care slowly.

To follow my former practice, have the incisions on ridglings opened well up four or five inches high,

just before they are walked morning and evening, so as to let all serum drop out, and thereby prevent swelling, as it is called, when in fact it should be called neglect to open up the cuts five inches high for five days. Stallions and plain colts would do better in retaining flesh, and make a better recovery if they were opened twice daily for five days three inches high, unless you use the antiseptic practice, of which I will now speak. I used antiseptic tablets of corrosive sublimate, one and three quarter grains, and citric acid 87-100 grains, at a strength of one part to two-thousandth (or as per directions on all bottles of antiseptics as put up by Parke & Davis, chemists, Detroit, Mich.), on my external washings of sheath and scrotum, and double that strength in the cuts and all around the cords in the groin and tunic, and fill the wound with iodoform, and sew up the incision, and try to heal all by first intention in any and all castrations, and I like it much. I think, with practical application, it must soon become the only way—but, reader, I am not a veterinary surgeon nor a druggist. If you are either one, you ought to know more about medicine than I do; if you are neither, get some good veterinary surgeon to more fully instruct and help you. My forte, if I have any, is with a set of old ropes, casting and tying stock, and trying to cut or spay them, of which I am now trying to tell you my favorite methods. I castrate mules the same as I do horses, but I never saw a mule with a testicle in the belly, except one hermaphrodite that I altered. I have successfully

castrated nine or ten hemaphrodite mares, finding several just like number two ridglings; the others were as double number three ridglings, except the mammary glands were of the usual size for mares, and I cut outside them, and went up to the inguinal ring, and ruptured the peritoneum, just as on the ridgling horse (the same operation), and I never knew one to die. I have cut them from four months old up to four years old.

To castrate a plain bull seems too common to speak of. But I prefer to cut off the lower end of the sack or bag, as little as will do, and squeeze the testicle down and out, tunic and all. Then grasp all of one seed with one hand and push up with the other, and break the cord off six, eight or ten inches above the seed. I do the other likewise. This is the most common method known. Yet some



prefer to leave the bag on, and split into the seed through the tunic on each side. This leaves the tunic in the bag to inflame, which I think is bad. I have known a few grown bulls to bleed to death from castration. In such cases, I think a large string tied around the top of the bag in a bow-

knot for two or three hours would be best, and do no harm. I have castrated quite a number of ridgling bulls, the most of which were double number threes, and all were barren. The seeds are not attached in a ridgling bull as in the ridgling horse, but are fast to the loin. To get them out, I have always had to cast the bull and cut in the side and spay them the same as a heifer (as per cut of cow standing), a little forward of the hip bone, and half way down from the back to the belly, in the left side. I hold the flank from me with the left hand, and place the hook, No. 2 in knife, where I wish the lower end of the cut. Bear the hook in, and pull up slowly about five inches, cutting only through the skin and tissue to the red, slick beef. Now draw the hinder flap of this cut back one inch and then puncture the flesh and peritoneum with blade 4 on knife. Then insert my first fingers of both hands and tear the flesh enough to admit my left hand. Then oil it with carbolized cosmoline and insert it, and feel just behind the kidney, and I find the seed easily, unless I have overlooked a No. 2 seed high in the groin, and very small. To remove it, pull and twist. It should break off where the cord is small, five or six inches long. The lip covers the rupture, and the air is excluded by three or four stitches only skin deep.

You can alter ridgling hogs the same way, nicely and safely, if they weigh over two hundred pounds, but shoats of fifty pounds can be cut by using only two fingers in the side; but

decide before you cut in on which side the seed is by the testicle or scar behind, and cut on the side it is located. On the large hog there is no difference about sides, as the whole hand is inserted, and either is within easy reach.

To spay sows, I cut in the same place. On a sow of one hundred pounds I cut on the left side, one inch forward of and three inches below the hip bone. Just shave the hair off clean, then split through the skin and fat, up and down, to the lean flesh, and pull the hind lip back, and puncture to the bowels back of the cut one-half an inch. Then introduce just two fingers on the left hand, and bear down in the hog, and wipe back on the loin with the fingers to catch the ovary. Then remove it, and follow the uterus down one ^{ham} to the junction, then up the other ^{ham} to the other ovary, and remove it, and sew ^{up} with two stitches skin deep only.

The way to make hog spaying easy is to get in practice, and never forget to bear down constantly on the cut with the back of your other fingers, which sinks your left front fingers nearer to the ovaries, and keeps the bowels in at the same time. The hog should lie flat on the ground on its right side, with two men holding each foot in a hand, and stretching lengthwise, with the mouth open. This is the preferred position by experts, who spay thirty hogs per hour all day. My dislike for hog music, which is so abundant in spaying, has prevented my doing it for pay at the usual price of ten cents each, but I would use a bench if I spayed hogs.

I do like, however, the work of spaying cattle.

Yearlings are the most common ages; but all ages are spayed. A spaying chute is the best way, for then they are held still while standing; but for general practice the ropes are most available and convenient. Let us suppose we have a lot of fifty cattle to spay to-day, mostly yearlings, and have five men as helpers, and have choice of a large lot of one acre, or a small lot of fifteen feet by thirty feet, or a barn floor. If the weather is fair, the small lot will be best; if rainy, the barn is preferable—the acre lot is too large for convenience. Now, all ready in the small lot, the catcher should be a plucky fellow, and catch the first yearling near him with his left hand under the chin, and his fingers in the right side of the mouth, his right hand on the left horn; then turn the calf's nose up and back on the left side tightly, and hold it so one minute, when the calf will fall over on its right side. Rather than have its neck broken in this twist, when the calf falls the holder also should go down on its shoulder and still hold the nose up and around on its side. Now put the back rope, looped, around the right fore-foot, and a short hopple around the right hind-foot and left fore-foot; then thread the back rope through these hopple-rings as above named, and have one man to hold them tightly. Now put a knee rope upon the left hind foot, and have one man to hold it down and back tightly. She is now in position. Now clip the hair off where you wish the cut, and brush off cleanly all particles of dirt and hair, and wash with antiseptic solution, strength, one to four-

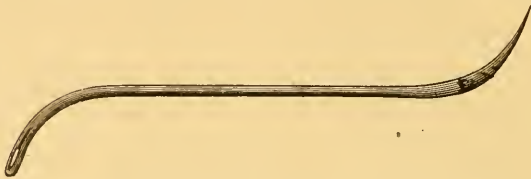
thousandth part. Then make your incision about five inches long, through the skin and tissue, down to the red beef, one inch forward of the hip-bone, and about the middle of the heifer from back to belly. I like the hook No. 2 best in this operation, and use it entirely in all my spaying; but if you have something better to make the incision, use it; then draw the hinder lips of the incision back one inch and puncture through the flesh there; then insert your two front fingers surely through the peritoneum; then tear the beef by pulling with one hand and pushing with the other hand, until your left hand will slip in easily when oiled with cosmoline, and feel on each side of the back-bone just behind the kidneys for the ovaries—in yearlings, lumps about the size of sparrow eggs, in cows, four times larger—hanging from two to four inches below the loins if standing, but when cast, may rest against the loins. If you do not understand the anatomy of the parts, go to a slaughter-house and examine them well.

To remove the ovaries, I first find them with my left hand and shut my hand on the ovary. I then



put my long curved spaying scissors, points downward, on my arm, and push down my arm to my hand. Then in my hand I open the points of the scissors, and clip the ovary off while under my flexed fingers, with no danger of nipping a bowel.

I like dull flesh scissors next to the ecrasure to crush off with, and much more convenient internally. When both ovaries are removed, I sew up



the skin only with this long needle, after bathing the parts internally and externally with the anti-septic solution, one part to two thousand.

Vaginal spaying of cows is the preferable way, but it is seldom that our cattle are large enough, and it is rarely done. What little spaying I have done on cows and mares per vagina has been done with rude instruments of my own—a spear eighteen inches long, with a hook half an inch behind the point to cut back with, and surgeons' curved scissors twenty-two inches long.



EIGHTEEN INCHES LONG.

I first insert my left hand in the vagina, then the front finger into the os uteri, and bear down and forward, and puncture the vagina two inches behind the os uteri, *above*; then draw on the hook upon the end of the spear to split the vagina about two inches. I then remove the spear, and with my left hand enlarge the opening, and pass my hand on in the abdomen and grasp the ovaries, one at a time, and nip them off with the dull points of the

long curved scissors, cows and mares both alike. No after treatment is used.

When I spay mares in the side, I cut as on a cow. I dress with antiseptic solution and give castrating tincture, as to a ridgling, to keep down peritonitis; but one in six die, and I think the reason for it is that they are not in good health, the ovaries are diseased and inflamed at the time; one or both.

To spay a bitch of any size or age, I first tie a strong string, three feet long, with the middle of the string over the nose and the first knot under the chin, then up behind the ears, and tie tightly on the top of the neck, near the head, in a bow-knot; then with a string or rope, according to the size of the dog, loop one end above each hock. Now hang the pup or bitch up so that the two hind teats, when hung up, would be nearly as high as your shoulders—about three inches below. Next loop the ends of another string four feet long around each front leg. These you can slip up or down on the front legs to suit you afterward. Now have the collar rope fastened below on the wall on a nail or ring, to hold the head down, and one man to attend the head and keep the collar from choking the dog, and one man near to hold the tail from switching around. Now put your left leg over the string, as in cut of dog, holding the front legs, and adjust it. With your left leg back a little, you hold the dog's back away from the wall and its belly facing you properly. All is now ready. Now make your incision on the median



line from between the two hind teats, to or a little below the next two teats, into the bowels. Now look for either horn of the uterus. In a six weeks' old pup it is not larger than a large sewing thread; in a six months' old pup it is about one-sixteenth of an inch, and in an aged dog one-quarter of an inch, if she is not in pup. Now, with both fore-fingers pointed together as a pair of forceps, and all other fingers shut, insert the two fore-fingers, and with the back of the closed fingers push. And hold the bowels inside while you are looking for the uterus, which is always near the loin behind the bladder, as the dog hangs up, and will soon turn red, if not found at once in pups, which makes it easy to distinguish as a little red cord. Then with your forcep fingers secure and hold it. Then hold it in left hand, and never pull up more than one pound on a pup six weeks old, nor two on a pup six months old, or you are liable to break the uterus off at the ovary, but hold just so you can slip the right fore-finger down the uterus to find the ovary, which is as small as a pea, and fast to the loin, and in a sack. Tear the ovary loose and up with the right finger nail. Then the uterus is strong enough to lift the ovary up to the opening. Now put your artery forceps on, and pinch all attachments half an inch from the ovary, and cut the ovary off with small curved scissors, and leave forceps on, holding all hemorrhage shut off, until you need them on the other ovary, and pinch it the same way until you clip the other ovary off with your scissors. Be sure to get it all, and one-half *inch of* the uterus besides.

I like to sew up with the uninterrupted suture, and commence at the lower end and secure the peritoneum as well as the skin, and adjust the stitches before you fasten the top stitches. If the bitch is pregnant, I think she can be spayed safely and with less trouble. Instead of the trouble as in finding the pup's uterus, you find, with no delay, uterus, pups and all, and draw them all out and detach the ovaries with your finger-nail from below, and a two pound pull up on the other hand, until all are outside, and loose on both sides; then ligate all fatty attachments with the vagina, one inch above the mouth of the uterus, tightly, and cut off and take out the whole uterus, pups, ovaries, and all attachments. I find they do well in recovering. I have lost two bitches by my neglect to sew up tightly enough, and the bowels came out. The next day, I think it much better to have them empty of food.

I secure and spay cats the same as pups, only they are much easier to spay; but it is well to keep one eye on their claws while so doing.

I think the antiseptic solution is beneficial on all such surgery at the strength of one to two-thousandth part, mostly used upon your hands, but some in and on the wounds.

I think the stitches should be removed the second day on cats and dogs.

CAPONIZING CHICKENS.

The most perplexing castration I find is the caponizing of chickens. I have removed, as I supposed, two testicles each from young chickens, and found them when grown and fat, each one to have from one to three testicles remaining in him. These we call slips, and they will crow and have red combs, but will never sell as first-class.

They chase the hens, but do not fertilize the eggs. In caponizing, to avoid making some slips, it requires great care, and a fair chance, small birds of one or two pounds weight, well emptied, a clear day, the sun up high, and the work well done with convenient instruments through a large incision between the two last ribs on the right side. First, if the chicken has had no food for thirty hours, you will have him in condition; next, have a small table two by three feet, and two large strings each three feet long. Fasten a half brick to one end of each string. Now tie one string around his legs and drop the brick over the right end of the table; then the other string tie around the wings, close to the back, and drop the other brick over the left end of the table. He is now tied, and on his left side. Next pick the feathers off over the last rib to the hip bone. Now wet the feathers all around this naked place with very cold water, which numbs the feeling; the wet feathers will push back and stay out of the way better. Now put your fore-finger on the hip bone and across the flank to the first rib. Then stick your knife in a half-inch deep

there, between the first two ribs, and cut down and forward to the lower end of the ribs, then turn your knife and cut up between these first two ribs to near the backbone.



GRIPPERS.



KNIFE.



SPREADERS.

Now put in the spreaders and open the ribs. Next split the diaphragm which hides the bowels from you, now turn your table so the sunlight will shine inside on the testicles, and all will be seen plainly. Now take the grippers, and with the open ring up, slip under the lower testicle, and gently wipe up from under the lower seed first, which will draw it toward you somewhat. Now stop and open the gripper's mouth by spreading your fingers while you hold still as you possibly can, under the seed; when the grippers open, the seed will drop below the ring on the lower jaw; then shut them, and now turn the gripper over several times to twist the tunic, then draw out and try to get all the seed and the tunic (covering). The top seed is much easier to get, but it is better to leave it until the last; use it as a guide to get the lower seed first. Now replace the wet feathers properly and let him go without sewing up, as the ribs close the opening. If you have no caaponizing instruments, split between the ribs with any knife, and take two wires a foot long, bend a hook on one end of each and have a boy hold the ribs apart as wide as you like them, while you work. Next have a small ecraseur

of your own make out of a goose quill. Cut off the lower point and cut a hole in the side, get out the pith and insert both ends of a long coarse horse-hair from below, and leave a loop at the lower end like the cut. Through the hole in the side put this loop of hair over the seed, then tighten it by lifting on both ends of the hair, and pull all out while you push down to keep it tight.



QUILL AND HORSE-HAIR.

and pull seed, tunic, and all out clean, and you will have no slips. This will work on small chickens, but can not be used on three or four pound young cockerels.

You may ask what is the good to castrate so small a thing as a chicken of one or two pounds weight. I think no other castration pays so well, both in the increase in size in one year and the increase in the quality of the flesh. Grown roosters (or cocks), especially old ones, sell at the lowest price per pound of any meat, while his brother, if properly caponized when young, is the highest priced meat per pound in New York market any February. If for home use, you will find him both very large and fat, and tender as a broiler, a delicacy that rich men enjoy when they can get them, even at twenty-five and thirty cents per pound.

Every farmer may make capons and eat the best meat the country affords at less cost and trouble than old roosters have been to him. Castrate pigs

and calves and feed them until grown, then fatten them and sell them at six cents per pound, when you can castrate the chickens, raise and fatten them to weigh twelve pounds or more, and sell them at twenty-five cents per pound. Why this difference in price? Only because they are the best. Then why not have the best, when so easily obtained out of our large breeds of chickens? I have about forty white Brahma capons now fat and fine. Come and dine with me any day in the spring season and you will get the best I have. Come, and welcome. I never was pig enough to want all the good things myself.

MY MISTAKES THROUGH IGNORANCE.

I was called to spay twenty cattle, and alter one colt, at a certain town. I did the work nicely, as I thought. The seventeenth subject, a two year old heifer, was so hot that I then remarked, "She was boiling hot inside;" but I proceeded with my work without washing my hands or instruments, or using any antiseptics, and spayed three more and altered the colt. Within a week the heifer I mentioned, the three operated upon after, also the colt, all died. I now think ignorance on my part cost the lives of these three well cattle and the colt.

Again, I was called to alter five ridglings and one stallion at Dr. Wm. Sheppard's, M. R. C. and C., of Ottawa, Ill. I was, while there, presented with a fine gold-headed cane by twenty veterinarians. The work was nicely done, as all pronounced it, and so I thought. However, all died but one

horse, and he had a bad time of it because the first one was a double number three ridgling, and was sick. I noticed it, and said he was very hot inside, but did not think to wash my hands, or know how to use antiseptics, which I shall never fail to do hereafter. Still, I have done hundreds not so smoothly, that seemed to do extra well. My advice to all surgeons is to use your thermometer per rectum, and if the temperature is above one hundred and one degrees, defer your operation and give some sort of physic and come again. When you do operate, have clean hands and instruments, for your own credit and your patron's good.

But I now remember a different result on sick horses. At Hartford, Ky., I altered three ridglings in an old shed in a heavy and protracted rain, five miles from the railroad. When done, one owner said, "My colt has the distemper, and was a double number three ridgling, and this weather is so bad, I think I will have him insured at one hundred dollars." His brother said, "My colt has the same disease, and I believe it will be best to be on the safe side, if it does cost ten dollars more;" and both took my insurance policy for one hundred dollars each, and paid me the extra money. If the other owner had been present instead of the groom, I think I should have had to make out, unwillingly, another policy. My circulars for the past eighteen years have said: "I will insure all ridglings that I get the first cut on, for ten per cent. extra, upon the value of the horse, the owners to decide which they prefer after they see the work done." At

this particular time, in the mud, rain, etc., I sort of had the blues, something I am not subject to, and I would have preferred paying the ten per cent. not to take the risk, as these horses had the distemper, and were obliged to go several miles in a hard rain and deep mud; and, from general appearances, I feared would have poor stables and attention at home. But my circulars in our correspondence made the offer, and I felt honor bound to make my word good without complaint. Luckily for me, however, all three did well, and I received a very complimentary letter in two weeks saying, "Our horses are all well, and did not appear to mind the operation at all."

ANOTHER MISTAKE.

I would like to tell you how I lost my handkerchief. I was called to alter a number three ridgling at Terre Haute, Ind. I got him down and tied. I then made an incision through the peritoneum. Just then he struggled, and I made the rupture much too large, and the bowels came down. I put them back again and again, and finally got the seed out and the bowels in. But they would not stay, so I asked a boy to give me my handkerchief from my overcoat on the fence. I took it and crammed it high up in the inguinal canal, and let the horse up, and down came his bowels again. I caught them, and with little difficulty replaced them once more while standing, but forgot the handkerchief. I soon missed it, however, and supposed I now had a new and desperate case on hand, but I had no

trouble while standing to lift his hind foot and set it on my knee, and then gently insert my hand to the rupture and my fingers inside, and there found and got the handkerchief. That colt worked every day and did well, but I did not tell any one for several years of my loss. I now tell you, so that you may be more careful; for should such an accident happen you, it may be of service to you to know how others have done when cornered.

I have now about one hundred pupils upon the royalty plan, for ten years' time, and I tell them all never to be afraid of blood or bowels, for there is a way to manage them with safety. You can take up and tie almost any blood-vessel, or open a horse and take out and look at his bowels and safely put them in, and have him live and do well.

There are a number of bitches in this town that I have spayed, removing ovaries, womb, pups and all, that lived and did well. There is a dog here now that never was born; and his mother is here and well, also. The pelvis bones would not open, and, after one day in labor, I opened the belly and the womb and took him out, and in four months after spayed the mother, at the same opening, and found the womb grown in the cicatrix.

I never found the mare or cow I could not deliver successfully.

I was called by Jack Pierce, my friend, to alter three ridglings, about forty miles from here. The first one had been cut into, without success, twice before, and was healed up tightly, and was hard and calloused in the groin. This horse was badly stringhalted at that time on that side. By chance

that horse was cast first, and with much trouble castrated.

The second was cast and partly tied, when upon looking around I saw the bowels of the first one hanging out. I asked some man to hold them up until the second horse was castrated, so we could have the ropes to use, but the horse was restless and the man timid, and he would let go. So the bowels came on down nearly to his hocks, and we let the half tied horse up, and cast number one with the four hobbles and back rope, and soon replaced the bowels. I then castrated the second and third ridgling. I then saw the bowels hanging out again. We cast number one the third time, and I took a stitch, as I supposed, around the inguinal passage and left for the train. When I had gotten a quarter of a mile away I heard a call, and, looking back, knew by their gestures that something was wrong. I returned at once and found a bucket full of bowels out and the horse down in the dogfennel and weeds and quite sick. We put the ropes upon this one the fourth time; next picked the dogfennel off, oiled the bowels. I then slipped my hand into the inguinal passage up to the ring; then grasped the bowels and put them back through the rupture by lifting one inch at a time, when the horse was on his side and the rupture up. I then split into the inguinal channel as high as I could conveniently, about half way up to the ring, up and down, three inches long, so I could then see where to put my needle, still above my last cut, so as to close the suture around the channel above. That horse made a good recovery,

but strange to say, he was never seen to show stringhalt afterward and soon sold for a good price.

I forgot to speak of one ridgling I castrated in Kentucky. He had been unsuccessfully operated upon repeatedly on both sides, and was hard and calloused in the groin. I spayed him (the only one I ever did that way) in the right side, as we do cows in the left side. He got his pint and a half of linseed oil twenty-four hours previously, and twelve of my one-drachm doses of castrating tincture promptly afterward, and the antiseptics were used freely. He did well in recovering.

SOME OF MY MISTAKES ON DOGS.

I spayed an eight-months-old pup, and by mistake got one ureter instead of one horn of the uterus, and it broke off near the kidney. Then, for experiment, I cut it off near the bladder, and then spayed her. She was helpless for several days after, and filled up, seemingly with water. She broke at the incision several times, and the water ran out, but she finally got well.

I spayed a four-weeks-old pup, and made the same mistake, and it lived. But the nicest job I ever did in spaying was on three three-months-old pups. The second one was spayed in five minutes, without one drop of blood. I was proud, if I must admit it, of my skill. The owner was pleased that the pup took it so kindly; it made no move while I was spaying it, or ever afterward, but it was not choked to death, which there is danger of doing. The same man wanted some pups' tails cut off. I

put the tails in the ecraseur, and pinched them off. That works like a charm. Try it, Mr. V. S.

HORSES TAILS.

I am often called to straighten horses' tails. My preference is to cast the horse with my four hobbles and back-rope, and use my castrating knife with No. 4 blade, the small blade on my castrating and spaying knife, as shown on page 16

To cut the upper cord or muscle in two, in one, two or three places, according to how much it crooks, avoiding the joints. I aim to cut so the tail will go straight and a little over to the other side, for in healing it will settle back a little. I put my blade in half an inch below the hair, sideways, and bury all the cutting edge beyond the skin well; then turn the edge up and cut all the top muscle in two up to the skin. Then turn the knife over and cut down to the tail bone to make sure of all the cord while the muscle is tight. By bending the tail from you, no after treatment is necessary. I like this better than to only make one cut, and tie the tail around to the opposite side for one week or longer.

I am often called to do something for fistula on horses. In the first stage, when filled with serum, I think half turpentine and half fish oil liniment, applied daily for a week, will drive it away by absorption soon after application; but all cases with pus in them should be opened well, and the openings filled to the bottom of each pipe with lumps of bluestone for five days—lumps, not powder, as the latter floats out, but the lumps remain in. After

five days, generally, the sack or pipes can be drawn out. Then fill all openings with salaratus for two or three days. If the pipes will not pull out then, repeat the bluestone four days longer. After the salaratus has been in two or three days I like to cut well on each side over the pockets, so as to get my hand, or fingers at least, to the bottom of all pipes, and fill them all full of absorbent cotton, which should be removed daily and the sores washed with tepid salaratus water and refilled with absorbent cotton. If the cotton is inclined to come out, a stitch may be taken across the incisions to hold it in. Large openings at the top are best, and should be kept well open until the bottom heals up. If diseased bone is found, as the vertebræ sometimes are, the dead bone should be cut out with bone forceps. Sometimes such fistula cuttings bleed freely, but I never knew one to bleed over two gallons, and I think frequent blood letting good in fistula. The worst case of fistula I ever saw I tapped in the middle of the neck, and took out four gallons of thick pus and dead tissue. There was no enlargement in the withers, and it had never broken or run. The whole neck seemed double the natural size.

I had a similar case about half as large, filled with serum only, which got well in a short time by being kept open well while running out on pasture.

DEHORNING.

I never met a farmer who knew nothing about dehorning but objected to such cruelty. I also never knew one who had had twenty cattle dehorned but

was in favor of it always afterward. I am most decidedly. I think it a great prevention of cruelty to animals. The best way is to blister the horns off of the little calves with the strongest blister you have. I think any strong blister will kill the horns, especially one drop of the oil of mustard on each horn; but after the horn is one inch long, here horn forceps are used to take them out with. Yearlings and all older cattle are best dehorned with a small bone saw, such as butchers use. Specialists, as dehorners here, make a frame to load in a wagon and haul around the country and will stop at the barn door or gate and dehorn all your cattle for ten cents each, and they saw down into the head so as to have a ring (a quarter of an inch) of skin left on each horn, which is the best way and the right place. I think in a few years more, in this country, horns on cattle will not be seen at all for none die from dehorning and the cost is so slight. They feed, handle and ship better, as well as sell better, without horns. Try it and be convinced.

PRICES.

In the Western and Middle States the common price for ordinary castration is generally one dollar per head, in small lots, but for yearling mules and colts in large droves, twenty-five cents each is a common price—that is for seventy-five or one hundred in a place. In the Eastern States the price is generally double what it is in the Western, that is, where there are not so many in a place to alter. Where there is but one or two in a place, the price

is five dollars each, East, if well-bred stock. Three-fourths of them are now cast and clamped; many years ago standing was as common as casting. I think casting the best way, and do that entirely of late years, but have altered nearly one thousand standing. I never did but one ridgling standing, and will never try another that way. I suppose I get better prices than any castrater ever did, or ever will again, as my trips are so lengthy, but my pupils will soon divide that practice up, and none have such long trips or heavy expenses to reach their patrons. I castrate in the East a few yearlings in bunches at five dollars each; where there are but two or three at a place, ten dollars each; ridglings, four or more in a place, twenty dollars each; for one only, more is charged, according to time taken and railroad expenses.

Two years ago, W. L. Scott, of Erie, Pa., wanted me to alter five yearling colts—all plain work. I did them nicely as I could, when he asked what my charges were. I told him ten dollars each—he objected to the price and paid me fifteen dollars each. Last year I altered eleven plain colts for him, and charged one hundred and ten dollars. He objected again, and paid me one hundred and twenty-five dollars. Let me further say, one of his first five colts (“Chaos”) won for Mr. Scott, as a two-year-old, seventy-five thousand dollars as a race horse—in five races.

While in Tennessee, Nov., 1887, I received a letter saying, “Farmer Miles, when can you come to Saratoga and alter four plain colts? J. B. Dyer.” I answered, “I can go to Saratoga, N. Y.,

and alter four plain colts nicely, Dec. 10, for seventy-five dollars, if answered soon, saying come." In three days I received a telegram saying, "Farmer Miles, your seventy-five dollar rates are satisfactory. Come Dec. 10." I went and got his seventy-five dollars, and his thanks, also.

Dec. 20, 1888, I was again called to castrate seven plain colts for J. B. Dyer, and did so, charging him one hundred and fifty dollars. This you may think a big price, but Mr. Dyer seemed satisfied.

In June, 1888, I was paid sixty-five dollars to alter one ridgling colt for Mr. E. Thorne, of Henderson, N. C.

In August, 1888, I was paid seventy-five dollars to alter one double number three ridgling horse for T. Dudley, Topeka, Kan.

The best I ever did was to alter six ridglings and two plain yearlings, at Bangor, Me., for one hundred and sixty dollars, one afternoon, all easy work, and a pleasant crowd, and plenty of sweet cider to drink. The most I was ever paid for one operation, was eighty-five dollars, on a ruptured, heavy stallion, near Pittsburg, Pa.

The most difficult operation I ever did on a fine bull, was for rupture of the scrotum on one side, in Chicago. One State veterinary had tried to return the bowels with his hand in the rectum and the bull on his back one hour, and failed to return them, two weeks before I was called. I split the bag, tunic, and all, and found adhesion of the bowels all around in the tunic, which was very, large and hard. I broke down the adhesion and

then replaced them. Also put the testicle on that side in, rather than remove it, and sewed all up, with antiseptic, in which Dr. Withers, V. S., of the Veterinary College of Chicago, kindly assisted me.

The most surgery I ever did in one day with five helpers and only one set of ropes, was to spay two hundred and five large, wild cows for J. W. Iliff, of Denver, Colo., and I climbed a small pole about twenty-five times, besides, when I was tired. I presume you would like to know what pole climbing had to do in spaying cattle? It saved my life many times. It is very easy to do when a fellow knows the cow is very mad, and comes at him double quick, with such long horns, out on the plains, thirty miles from any tree or house. I sometimes feel I could climb two at a time, or any other way to get out of their reach. Each helper also had a pole planted near him, to climb when necessary. Mr. Iliff had fifty-five thousand head, and all as wild as buffaloes.

The most large horses I ever altered in one day was sixty-six head for Lux & Miller, of San Francisco, Cal., on a farm fourteen miles wide on an average, and over fifty miles long. I also spayed a few cattle for them, out of their eighty thousand head, and other stock in proportion. From there I went to Pettaloma, Colo., and offered to castrate the "man-eater" free of charge (it was an imported Norman stallion seventeen hands high, that had killed several men), but he was kept as a show then, and I failed to get the job; but a month later he was shot seven times and killed, while he had his keeper, Prof. Tapp, down trying to kill him.

I felt proud to cast a very vicious ridgling horse for Mr. Case, in the Veterinary College, London, Eng., and castrated him in good order, before a large crowd of veterinaries there, who always treated me as kindly as if I was a veterinary myself, with a large diploma.

I have castrated in the veterinary colleges of Paris, France ; London, Eng.; Glasgow, Scotland; Montreal, Canada ; Boston, Mass.; Chicago, Ill., and in other cities too numerous to mention. I have spayed cows for the State of Pennsylvania, and have castrated colts for the Baltimore & Ohio Railroad Company, two of the richest firms any castrater ever worked for.

I felt pleased to be permitted by George Fleming, F. M. R. C. V. S., to alter one of Queen Victoria's Life Guard horses, free of charge, at St. John's Wood Barracks, London, before several of England's best veterinarians. He was a black, bob-tailed number three ridgling. I did him in good time and order, and did not draw ten drops of blood. The horse was sound and well twelve days after, which proved that the work was well and properly done.

I went to England in September of 1878, to spend three or four weeks only, and found it so pleasant that I remained there one year. I have most kind remembrances of the treatment I received while in England and Ireland by the veterinary surgeons there, and of their universal kind treatment and hospitality. Where I expected rivalry and competition, I found all helps and kind treat-

ment. I now wear a gold watch—a *timer*—presented to me at Drawhada, Ireland, and inscribed thereon as follows: “Presented to Father Miles by Messrs. Drummond and Jones, Veterinary Surgeons, in testimony of his ability as an operator upon horses when in Ireland in May, A. D. 1879.”

I was also presented with the following, upon parchment, which I call my English diploma:

“We, the undersigned veterinary surgeons, practicing in the county of Lincoln, having witnessed Mr. T. C. Miles’ operations upon ridgling horses, desire to bear witness to the humane, scientific and perfectly satisfactory manner in which he attains his object. We also wish to express our approval of his method of casting and securing the animal, and of the instruments he uses in the performance of the operation.”

This was signed by fifteen of the best veterinarians in Central England, and sent to me most unexpectedly after my return home to Illinois, and for which, both watch and diploma, I have often felt that it would be a great pleasure to me if I could again meet those gentlemen and say, “Thank you, thank you,” several times to each one for the gratification and pleasure you gave me.

The pictures in this book are of a horse bought for the purpose of operating upon, and for giving some final instructions to a class of pupils. He was a double No. 3 ridgling. He was first cast and tied as herein represented, and held upon the ground, while twenty-four hands were inserted in my cuts up to the bowels, for three minutes to each

pupil, while examining the parts, as I progressed in his castration. Of course he was as mercifully treated as possible, and with clean hands, well oiled. Still he was kept tied down for more than an hour. However, he did well, and I considered him sound and well the twelfth day after, with no swelling of the sheath, as is common in castration in that time, and was used daily while recovering. He was not given the pint and a half of linseed oil previously, as recommended, but was given drachm doses of the castrating tincture promptly, and was well opened twice a day for five days five inches up in the groin on each side, and was trotted around in our operating house twenty minutes after each opening of the cuts, and I now think all operators on ridglings can safely and well perform all such castrations, if they will strictly follow the contents of this little book. I do not think any man will fully understand these instructions by once reading them, but it will be best to read them, short as they are, until all are familiar; then put in practice all tying and rope work, until all is easy to do, before the commencement of surgery. I feel sure you will never regret the time lost in so doing. There is money in it, and more sport and pleasure in it than gunning where the game is plenty. My pupils all declare there is nothing called business so pleasant as to meet a crowd of gentlemen with four or five ridglings to alter, and be able to nicely cast, and tie, and castrate them in one hour, to the satisfaction of all present, and then be paid one hundred dollars cash in hand, and complimented for

their success. I have experienced this sensation many times in life, and I also testify that it is pleasant. Try it a few times. I think you will like it more and more.

Believing I have given all of the necessary information upon this subject, I wish, before closing, to say to all readers of this little book, as I generally say to the crowds of friendly spectators that collect at the various places where I am called to operate, and to those who help me in my work, that surgery, whether upon man or beast, should always be humane. We should always remember that a horse is one of man's nearest and best friends and helpmates below his own race; that God has given him to man to serve and obey; to be patient and kind to man. In return we should remember that in sickness and health we should care for this animal with a kindly heart and the greatest sympathy. While he trusts man we hope that man will not betray the confidence the noble brute places in him, and in all kinds of surgical operations it has been one of my highest aims and ambitions to do the work skillfully and quickly, and to cause as little pain as is possible with success. We must remember that the poor creature is bound and held at our mercy; that he, too, has nerves, suffers pain and is entitled to all human kindness; and I believe there is no greater crime in the annals of inhumanity than the torture or recklessness which may produce pain and suffering in this noble animal. And I do hope and trust that all who may try to follow my footsteps in the surgical part of this work

will also keep ever in mind that pain is severe ; that animals suffer but can not speak or even cry to tell us of their pain and sorrow. Never keep an animal fettered or bound a moment longer than is necessary. Never produce pain that can be avoided. In other words, always follow the golden rule in your dealings with your best friend in the animal kingdom.

Finally, good-by. God bless you all. Live right and easy, and let us all try to meet in heaven. I believe in God the Father, God the Son and God the Spirit, three in one. I believe as old Paul said to the Athenians, the time of this ignorance God winked at, but now commands all men everywhere to repent. I think good works are good fruits for believers to bear ; but that Jesus Christ is the only Savior of sinners, and that on the conditions that we trust Him and try to obey Him.

Yours truly,

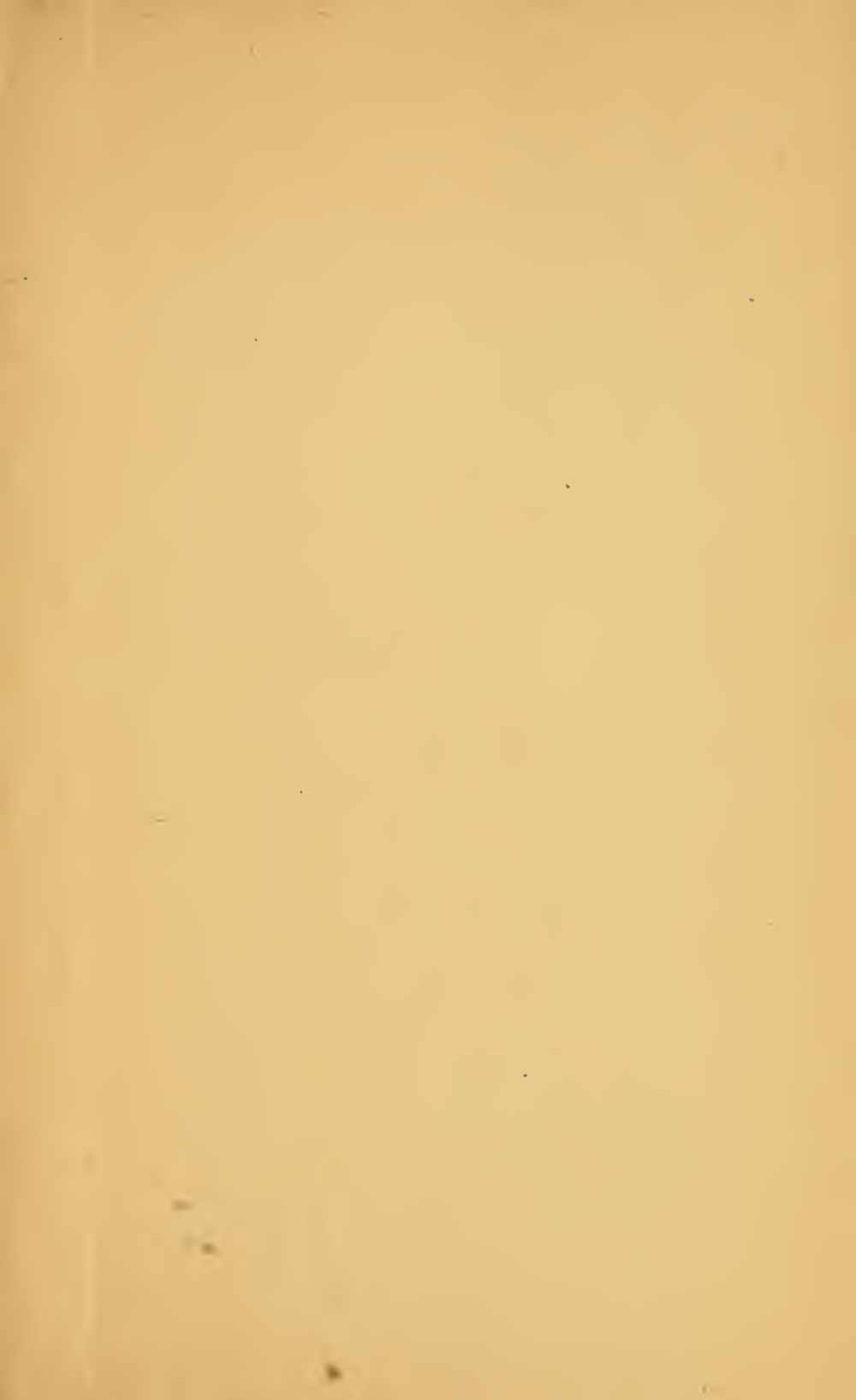
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