

velopment than he can assist in ministering to the wants of the foal after birth."

As the investigation shows that from the sixth week of development there is an ever-increasing demand for bone formers, a demand especially urgent during the latter end of gestation (pregnancy), a demand even more insistent for the first five months after the foal's arrival, during which time the greatest bone growth should take place, unless, therefore, each breeder so feeds his breeding mares during gestation, and the foals produced for the first two years of life as to supply this demand for material for bone and muscle growth, he cannot expect those foals to grow to the maximum size and strength.

Incised Wounds.

(Continued.)

When bleeding has been arrested, as discussed in a former issue, or in cases where bleeding has not been excessive and required no special treatment, all blood clots, dirt and foreign bodies of all kinds should be removed from the wound, by carefully sponging with warm water, to which has been added a little carbolic acid, zenoleum, creolin, phenyle, or other good disinfectant. In sponging a wound, care should be taken to not injure its surface by undue pressure. It is quite sufficient to squeeze the water out of the sponge and allow it to flow gently over the wound, the sponge not being brought into contact with the tissues. If any materials are firmly imbedded in the tissues, they must be carefully removed with the forceps or the finger. Cleaning wounds with a coarse brush cannot be too highly condemned. The wound should be carefully examined, and if the instrument that inflicted it has penetrated the muscular tissue to a lower point than the skin is severed, thereby forming a sac or pocket from which serum and pus cannot escape, the opening in the skin must be enlarged to the lowest point of the wound in the muscles; or if the difference be considerable a counter and independent opening should be made through the skin and tissues to connect with the lowest point of the wound, in order to allow effective drainage. It is seldom this condition exists in incised wounds. Having observed the above, the wound is now ready to be sutured or stitched. The materials used for sutures are many. The best is carbolized catgut or silk, which can be purchased ready for use from dealers in veterinary supplies, but for suturing the skin ordinary shoemakers' hemp, slightly waxed with beeswax, answers the purpose well. A suture requires to be strong, and at the same time soft; as fine, hard sutures more readily cut through the skin and tissues if there be any considerable tension. The needle should be a curved suture needle, but where one cannot be procured a large darning needle can be used. Various forms of sutures are employed, as the uninterrupted, the interrupted and the quilled. The first, as the word indicates, is that in which the whole wound is stitched without the suture thread being severed, as a person would stitch a rent in a garment. This form is not used except in some cases in suturing an internal organ. The interrupted suture is generally employed. This is where each stitch is tied and the thread severed, thus rendering each independent of the others. This is the favorite suture, from the fact that one stitch may be severed or torn out and the others not thereby interfered with. When the wound is a transverse one,

and the gaping considerable, the tension on the sutures will be in proportion, and in some cases this is so great that there is danger of the sutures tearing through the tissues quickly. In such cases the quilled suture is often employed. This consists in a double thread being used; they are tied together, the skin pierced by the needle about an inch from the edge on each side, and when the suture is pulled up a piece of cane, whalebone or wood is passed through the loop made by the two ends being tied together, and the other ends cut off, leaving two or three inches of the double suture, which are tied to enclose a quill on the other side of the wound; each stitch is used this way; the same quill may answer for two or more stitches. This causes the tension to be exerted to a great extent upon the quills, rather than on the suture thread, and the stitches are more likely to withstand the tension without cutting through the tissues.

Having decided upon the form of suture to use, the operator will proceed to close the wound. Precautions must be taken to secure the safety of the operator. One of the most essential points in veterinary surgery is to observe these precautions. The patient must be secured so that he cannot kick the operator, and at the same time not be liable to injure himself. In rare cases it is necessary to cast and secure the animal in order to dress and stitch a wound, but in the majority of cases if a twitch be applied to the upper lip, and a strap, to which a long, strong rope is attached, buckled around one hind pastern, the rope passed between the fore legs, around the neck, and drawn until the hind foot is brought so far forward that it cannot touch the ground, and the rope tied there, it is all that is necessary. When the hind foot is in this position the patient can neither kick, strike with fore feet or rear. He may throw himself, and if so can be secured when down and the operation proceeded with. When a fore leg is held or tied up it exerts some restraint, but he can either rear, strike or kick, and the operator is not safe. Having secured the animal, the hair should be clipped off closely on both sides of the wound, in order to prevent any of it being pulled through the tissues with the sutures, and retarding the healing process. The wound is then sutured, a stitch being inserted every three-quarters of an inch to an inch; a portion of the lowest part of the wound must be left open for drainage, except where a counter opening has been made, in which case the whole wound is stitched. The patient is then placed in a comfortable stall, and if possible tied so that he cannot bite or rub the wound, which must be kept clean by sponging with warm water frequently, care being taken to not rub the sutures, and after bathing it should be dressed with about a five-per-cent. solution of one of the antiseptics already mentioned. If the sutures hold they should be removed in 10 to 14 days. Constitutional treatment consists in administering a laxative of six to eight drams aloes and two drams ginger at first, and feeding lightly on hay or grass and bran. When wounds are treated as above it is seldom that condition known as proud flesh occurs, but should it occur as the result of neglect or other causes, it can be detected by the lips of the wound assuming a dark-red color, and a refusal to heal. In such cases the parts should be dressed once daily, as often as necessary, with equal parts tincture of myrrh and butter of antimony, applied with a feather. "WHIP."

Please find enclosed \$1.50 for a copy of the weekly "Farmer's Advocate." We think it a good farmers' paper. CHAS. H. LANDERS. Fry's.

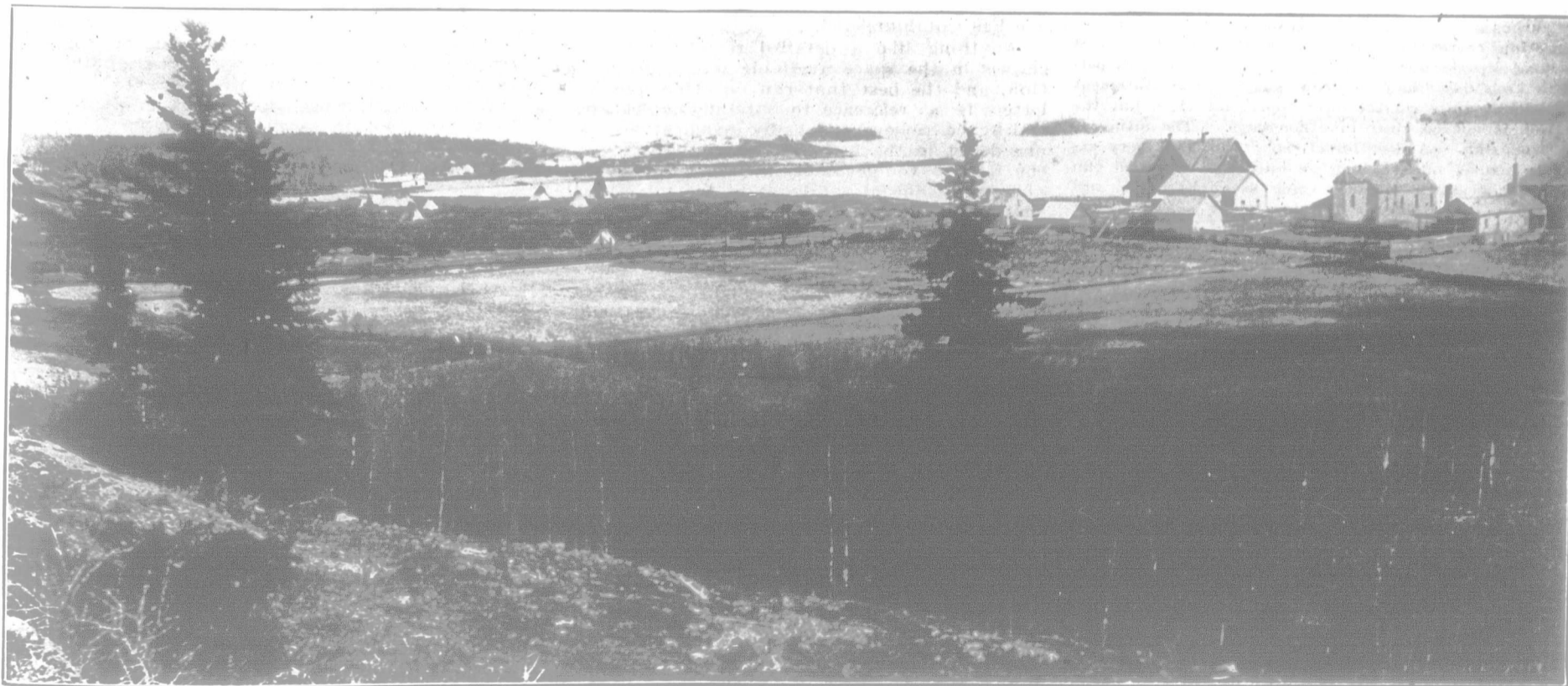
The Death of Capt. Hayes.

Canadian horsemen particularly will recall the exceedingly interesting and instructive articles contributed on several occasions to the "Farmer's Advocate" by Capt. M. H. Hayes, F. R. C. V. S., Yew Tree House, Crick, Rugby, Eng., a number of whose books have been reviewed at length in these columns. His death at Southsea, on Aug. 31st, in the 60th year of his age, will be regretted the wide world over among lovers of the horse and equine literature of a high order. He was an accomplished writer on horses and horse management, and one of the most celebrated breakers and trainers. He was a student of the New Veterinary College, Edinburgh, and became a Fellow of the Royal College of Veterinary Surgeons. He served in the Royal Artillery, the Bengal Staff Corps, and finally in the "Buffs." He travelled in Egypt, India, Ceylon, China, South Africa and elsewhere, and long cherished the plan of visiting Canada, communicating his expectations in that respect in a personal letter to the "Farmer's Advocate" during the past year. Among his books might be named: "Veterinary Notes for Horse Owners" (which has reached a sixth edition, and which many of our horsemen have obtained through this office), "Riding and Hunting," the "Stable Management and Exercise," the "Points of the Horse" (of which a third edition, nearly rewritten, was recently issued), "Horses on Board Ship," "Among Horses in Russia," "Illustrated Horse Breeding," "Riding: On the Flat and Across Country," "Training and Horse Management in India," "Soundness and Age of Horses," "Indian Racing Reminiscences," etc. The English Live-stock Journal well says: "To a wide knowledge of horses in all countries, he added the system of scientific study, and traced the questions and causes to their foundations, so that he could clearly explain the reasons for one plan of treatment or feeding being better than another. He has left a monument to his knowledge and industry in the library of books he wrote on the horse, and there will be deep regret that the active brain and skillful pen are now still."

Stock.

Our Scottish Letter.

The Board of Agriculture has recently been issuing figures regarding the extent of land under crop in the United Kingdom. These annual returns may not be absolutely correct, but in the main they are so, and for purposes of comparison they are very useful. The outstanding feature so far as cropping is concerned is the continued decrease in the wheat area, and an increase in the area under bare fallow. This means that we are giving up growing wheat and allowing land to go out of cultivation. Our returns distinguish between land deliberately laid down under pasture according to a fixed rotation, and land allowed to go out of cultivation. The area under the former indicates in some measure the extent to which grazing is taking the place of cropping. Horses show an increase in numbers when compared with those of the previous year of 1.5 per cent. Cattle of older ages show an increase of 3.5 per cent., and of all ages an increase of 1.7 per cent. Harvest weather this year is somewhat broken, and



In the Far North.

Fort Chipperton, on Athabasca Lake, about 550 miles north of Edmonton. R. C. Mission to the right. English Church and Hudson's Bay Co.'s fort in the distance. Sample of wheat from there was good.