

not, for the sake of keeping the medicine to suit the syringe, give it too strong. Far better to dilute it, and use the bottle or horn.

ELECTUARIES OR PASTES.

These are generally used in cases of sore throat. The medicine is mixed up with syrup or honey, and licorice powder, to a soft paste. Then, with a long iron spoon, or a piece of smooth, flat wood shaped like an oar, the paste is put into the mouth and rubbed upon the back of the tongue, gums or back teeth. The mixture, being rather pleasant to the taste, is licked or sucked in without any trouble. This is a rather nice way of giving medicine.

NOSE.

In "Lung Diseases," medicines can be applied directly to the air passages from the nose to the lungs. A pail of hot water can be taken, and a tablespoonful of the medicine, oil of turpentine, oil of tar, spirits of camphor, oil of eucalyptus, carbolic, creolin, tincture of myrrh, etc., be added to it. Then the pail should be so placed that the horse would be compelled to breathe in or inhale the steam, and with it the medicine. For this reason, it is termed inhalation. I also advise that more steam could be made to rise by stirring the water with a whisp of hay. Of course, he can be made to inhale it without using the steam, e. g.: Sometimes chloride of lime is sprinkled over the bottom of the manger, so that he is compelled to breathe the chlorine gas arising from it. Sometimes a hot brick is placed in the manger, and the oil of tar, creolin, carbolic, etc., poured upon it. Other times, a nose-bag is used, and the bottom covered with hay wet with hot water, upon which is added the volatile medicines. But do not do it that way. I mention this merely to warn you. You may easily scald him; besides, he wants to breathe air, not steam with very little air.

Some add the drug to a hot bran mash, in cases where a nasal discharge is to be encouraged, as in strangles or distemper. I wonder if these people ever thought what a vile, disgusting thing they were doing. They compel the horse to eat the discharge with the bran. I prefer to spend a few minutes bathing the face and forehead, while I keep his head over the steaming pail. Of course, everyone knows the surgeon gives ether and chloroform by means of the nose, and they are inhaled.

DOUCHES.

Sometimes the nose has to be washed out, or medicine applied locally. Each wash is termed a douche. They are very rarely required, and are generally resisted by the animal.

INSUFFLATION.

This consists in blowing a fine powder into the nose for local treatment. It is done occasionally.

TRACHEA.

Medicine is injected directly into the trachea or windpipe when it is desirous of treating the breathing tubes or lungs locally. In such cases, whatever medicine is used must occupy but a small compass, and it must neither be oily nor insoluble. It is not often done, even by veterinarians. Turpentine is sometimes used thus.

ADMINISTERING BY SKIN.

On the outside of the skin drugs are very rarely or never placed to produce their constitutional effect, but that they will do this, is evident from the following cases:

(a) I have seen a dog poisoned by carbolic acid through being bathed in water containing carbolic acid.

(b) I have seen inflammation of the kidneys produced in a horse when too much cantharides was used in the form of blisters.

In both cases the drug was absorbed by the external skin, and produced its effects upon the internal organs. There is, however, the useful hypodermic method of giving medicines. By this we mean placing the medicine under the skin, whence it is rapidly absorbed into the blood, and thus produces its effects very rapidly. To physic a horse, by a physic ball given by the mouth, takes anywhere from eighteen to thirty hours, but, by giving a hypodermic injection of eserine and pilocarpine, the same effect is produced in about fifteen minutes.

Of course, everyone knows that morphine is administered in this way, and in a few minutes the patient—be it man or beast—is free from pain. This is also the most satisfactory way of poisoning an animal, and this sentence tells me that I should say it is essential that only certain drugs be used. They, in most cases, are known as alkaloids, and are extremely strong poisons—so strong that an apparently trifling variation in the dose is sufficient to produce the most undesirable effects. For this reason, they should not be used but by the professional. If an improper drug be used hypodermically, or if an unclean syringe be used, an abscess may be the result. Unclean, in the last sentence, refers mainly to freedom from germs.

This is the method we use in testing horses with mallein for glanders, and cattle with tuber-

culin for tuberculosis. The new school of practitioners who follow Pasteur, with his treatment for hydrophobia, and the still more recent ones who have found or are finding one serum or antitoxin to counteract the poison of disease germs, largely or mainly use this method.

RECTUM.

The rectum is the last portion of the intestine. Very little absorption takes place in it, so that we can give but few medicines effectually here. Still, some will act well. It may be used in cases where, for any reason, the mouth cannot be used, or when the stomach will not retain the medicine. The rule to be observed is this: A small dose will be retained, but a large dose will be ejected. If the horse cannot swallow, say in sunstroke, a dose of alcohol or other stimulants will be absorbed if placed here. Again, if the animal cannot eat, he may often be kept alive by injecting small doses of liquid food into the rectum; but if a large quantity be placed in, it will be thrown out.

But we use this part for a very different purpose. This is the seat of the pinworms of the nose. Then, by throwing up from a quart to a gallon of vermifuge (tobacco, quassia, etc.), we may clear these away without needlessly disturbing the whole system. Again, it often happens that when a horse is constipated, the whole bowel is more or less torpid, or still, but if we can cause the last part, the rectum, to move, the wave-like movement will travel along the whole. For this reason we inject, say, a gallon of warm water. This not only brings away the manure collected in the rectum, but causes all the intestines to move, and largely assists the action of medicines given by the mouth.

These rectal injections are properly termed enemas or enemata, but were formerly called clysters. Of course, they may be repeated as often as necessary or desired. Personally, I prefer to use clean water for the first, and either slightly salt or soapy water afterwards.

To inject these, I use a pump, but the same effect may be obtained by using about four feet of 1/2-inch rubber garden hose with a ten-cent funnel in one end. The free end is inserted, the funnel raised, the fluid poured in, and this finds its way inside by gravitation and the pressure of the atmosphere; the higher the funnel is raised, the quicker will be the flow. I prefer this on every ground to the "veterinary" syringe sold for this purpose, but this latter instrument is useful when the amount to be injected is small, and desirous of being retained.

About the temperature of these enemas, but little need be said. The temperature of the horse is about 100, a little above, or a little below, and the fluid thrown up should not be far from this. There is one exception to this. In the case of sunstroke it may be necessary to produce a shock to the system, and this can often be done by injecting ice-cold water. We sometimes mix up a drug with cocoa-butter, make it into a conical mass, and insert it into the rectum, especially of the dog. We term this a suppository, and it forms a nice way of treating piles, among other ailments.

URINO-GENITAL ORGANS.

We never use this method except for local disturbances, say, after parturition, inflammation of the womb, in the rare cases of cystitis or inflammation of the bladder, leucorrhœa, or "whites" in the mare, and so on.

The instruments I have just described would be the ones to use.

BLOOD.

This method of administering drugs has practically become extinct. The hypodermic method answers the same purpose, and is free from its dangers. I formerly frequently saw barium chloride given in this way to act as a quick cathartic. In some cases it acted well and quickly, but in other cases, precisely similar to all appearances, it produced almost instant death. The drug was administered by the hypodermic syringe, but was placed in the blood vessels (jugular vein, for preference), instead of in the tissues under the skin. At times, when using this method, blood clots would be formed, and cause serious trouble. Or, again, bubbles of air would enter the blood stream, and the result be alarming. No, we certainly have no desire to bring this method into use again. J. FIELDING COTTRILL.

Ability to withstand cold and exposure is very much a matter of how the colt is fed, what he is accustomed to in the way of temperature, and what air he breathes. Habitual exposure to cold induces the growth of a thick, long coat of hair, which renders the animal indifferent to all but the greatest extremes. Good feed furnishes fuel to the body, and fresh air supplies the oxygen necessary to oxidize or burn that fuel in the body. It takes a great deal of hard weather to upset a well-fed colt running loose in a properly-ventilated box stall or yard, and accustomed to regular outdoor exercise.

Professional Racing and Light-horse Interests.

Editor "The Farmer's Advocate":

We have been free, in this country, from many of the undesirable features that characterize horse-racing in the United States, where race-meets are held with two objects in view, first and foremost being the separation of the proverbial fool from the stake he wagers on the nags sent over the course, the second and rather less important object being the making of short-distance speed records. Recently, however, a charter has been granted by the Dominion Government to a syndicate of race-horse specialists, which gives them the privilege to open and maintain race-tracks in any part of the Dominion, hold race-meets, and carry their business on in practically the same manner as horse-racing is conducted in the United States—a manner, by the way, which has resulted in horse-racing being put altogether under the ban in New York State, and driven out in several others. Driven from their own country, these track sports have sought a haven here, and apparently have found one, since our Federal authorities have signed, sealed and delivered over to them privileges that give rather broad powers for the carrying on of professional horse-racing. Horse-racing, properly conducted, is the king of all sports, and a little betting on the side may do no particular harm; but professional meets, where the same plugs are jogged over the same course for sixty or ninety days at a stretch, with an army of bookmakers and "touts," equipped for the wholesale robbery of the public, is good neither for the best interests of horse-racing nor the morals of the community. Certainly, it should not be legalized.

After all, what has horse-racing of the professional type done for the trotting or running horses of either Great Britain or America? What has it done for the English Thoroughbred, and what is it doing for the trotting breeds of this continent? When one speaks of Thoroughbreds nowadays, he thinks instinctively of the racing machines into which this useful breed has been developed. Short-distance speed specialization, the breeding and training of horses to go comparatively short distances at high speed has effected some remarkable changes in the Thoroughbred. One hundred and sixty years ago, stamina and strength, the ability to haul or carry a fairly heavy load over comparatively long distances at a good-going clip, was considered one of the essential qualities of the Thoroughbred. It is related of Infidel, a classic racer of about 1750, the winner of the great Subscription race at York, that he could trot fifteen miles some minutes within the hour, and was as useful as a hack horse as he was successful as a racer. How many so-called classic racers of the present day could cover fifteen miles of common road within the hour?

Nor is the Thoroughbred alone to be criticised for being over-specialized in one function, and that function far from being the most useful. The American trotting horse is trending the same way in the matter of high speed at short distances, only he is becoming a racing machine even more rapidly than the English breed. From an extended observation of the way things are going all over this continent, we believe the racing mania, and the relegation of the maintenance of the type of the running and trotting horse to professional racing men is not improving these breeds in the direction they should be improved for the highest practical usefulness. Canadian breeders of the light horse have now before them the question of professional racing as it was never presented before. Racing, such as is aimed at by the syndicate recently empowered to carry it on, is not likely to result in good for the breeding interests of this country. Canadian horsemen should demand that this charter be recalled.

Manitoba.

IOWA-CANADIAN.

Horse-racing and Gambling.

Victoria (B. C.) bankers figure that two hundred thousand dollars were taken out of that city during a recent race-meet of several weeks' duration. After making this good-sized clean-up on Vancouver Island, the sure-thing artists moved over to Vancouver, and opened a sixty-days' engagement at Minoru Park, which continued for some time after the intended period had expired. Horse-racing of this kind cannot excuse its existence on the ground that it is improving the breed of horses. The horses are there merely as a pretext for betting, and if light-horse breeders in America wish to retain public confidence in their business, they will have to divorce their interests from those of the professional gambler.

Easy money for somebody will be the fifteen and ten-dollar prizes offered for the best letters, based on experience, in training colts. Fifteen dollars is good pay for an article of this kind, while competitors who fail to land first or second will still receive regular contribution rates if their articles are good enough to publish.