The young geese are nearly as large as the old ones, being hatched in April. They are nearly all feathered out, and are nice and fat."

[It is hard to say from the information given what is the exact trouble. Geese are natural grazers, the same as cattle, and require very little, if any, grain when they have a grass range and plenty of water. The symptoms given would indicate apoplexy, caused by overfeeding, the geese becoming very fat. I have known ducks to go lame where there was a lack of grit in the food, especially when they were being well fed for market purposes. Fowls must have a liberal supply of grit, either mica crystal or the ordinary gravel, in order to properly digest their food. W. R. GRAHAM.
O. A. C., Guelph.

NOTE.—Mr. Chas. F. Newman, of Hongens, Staten Island, N. Y., who is an extensive breeder of geese, says: "Geese are easier to raise than any other fowl. There is no mortality among the young stock from disease. Lameness is the only ailment with which I have had to contend. It is caused by too close confinement, unwholesome food, too warm housing, and close quarters in the fall. Let your geese lay out under a shed with some litter under them in the harshest winter weather, and they will be more vigorous than those closely housed. To treat lameness, proceed as follows: If you notice one that is rather bad, put it by itself in a dry place and give light food (stale bread) and water. If it shows signs of fever and diarrhœa, give a tablespoonful of castor oil by holding its beak open and working it down its throat. Repeat second day if bird is no better."—ED.]

BLOWERS FILL SILO.

SUBSCRIBER, Huron Co.:—"I had intended getting a blower attached to my cutting box to fill my silo, but I am told that the attached blowers will not elevate corn. If you would allow the space to be used, would some of those who have tried putting corn into high silos at the rate of about ten tons per hour let me know through the ADVOCATE if they will work well?"

[We have used the blowers with entire satisfaction in filling a silo 26 feet high, the cutting box standing on the ground, and a portable threshing steam engine being used, but hardly at the rate of ten tons an hour. If the short cut is used (half-inch cut), we should say there is no doubt of the success of the blowers, and we are not sure that they would not do the work well with an inch cut; but our experience is that it pays to use the shorter cut, as the ensilage packs closer and keeps better, and is more easily and closely eaten by the stock.]

FALL PASTURE FOR COWS.

I. C. B., Middlesex Co., Ont.:—"Will you tell me what, in your opinion, is the best thing to sow on wheat stubble for fall pasture for milk cows, clover catch having failed?"

[We do not know of anything that would be more useful in this case than rye. If sown now or early in August, it will, if weather conditions are favorable, give considerable pasture this fall, and also in early spring if left over for that purpose, and could be plowed down in a preparation for peas in May or for rape in June next year. The rye might be pastured this fall and left for a crop next year, and the land seeded to timothy in the fall and clover in the spring.]

UNTHRIFTY BULL.

W. J. C., Kent Co., Ont.:—"I have a Shorthorn bull, 2 years old, has not been hurt by over service, and has been falling away in flesh; weighs about 1,500 lbs. Have been feeding him 3 quarts whole oats and 2 quarts bran, mixed, twice a day, with plenty of timothy hay. Recently changed grain to 2 quarts chop corn and 3 of bran, but still failing. Hair is dry. Tied on ground floor, with some exercise once a day. Please answer as to trouble and remedy."

[It would be well to examine the bull's mouth and teeth to see if there is anything wrong in that department. We would recommend green fodder if it is on hand, such as rape or corn. Would have the oats ground, and add a little coarse-ground oil cake (nutted size). The mastication of this will induce the flow of saliva and help digestion. Do not let him drink largely of water at any time; a little and often is better. We have not much faith in medicines in such a case. If constipated, a dose of salts, 1½ lbs. with 1 oz. ginger in a quart of warm water, may be given, but there is always some risk in drenching an animal. If he refuses to swallow, there is danger that the medicine may get into the bronchial tubes and lungs and cause inflammation and death. It is well to give a bottle of cold water first to accustom to swallowing. The drench should be given slowly.]

STERILE BULL.

SUBSCRIBER, Glengarry Co., Ont.:—"I bought an Ayrshire bull, 3 years old in April last, and commenced to breed my cows on the 12th of May. The bull served two or three cows a week, as they came in heat. I have twelve cows, and all came in heat the second time and were bred again. The first two came in heat again last week for the third time. The bull seems to serve right. Do you think anything can be done for him so that he will be surer, or is it better to send him to the block. The bull is kept in a good roomy stall, and is fed four pounds of ground oats a day."

[We have known cases where bulls that have been removed to a distance from their former home have been unsure for two or three months, and quite sure afterwards, but do not know how to account for it. It may have been owing to being overheated by travelling and the system being disarranged, or it may be the result of excitement or of home sickness on account of the change of surroundings. We can offer no suggestion as to treatment likely to improve matters, but would say that if the bull is in good condition he will bring a good price now from the butcher, and it might be wisdom to sell him and buy a young one, as it would seem to be unwise to wait for improvement which is so uncertain, if it is an object to have the cows bred to calve in the spring next year.]

PERENNIAL VETCH.

J. E., Huron Co., Ont.:—"What is the best way to destroy wild peas (a sample of which I enclose), as I have a field badly infested with the same? What is the nature of this weed? Does it grow from the root one year after another, or does it just grow from the seed, and does the seed adhere to the ground for any length of time? Does it go by any other name?"

[The plant which you sent is known as the perennial vetch (*Vicia cracca*). As regards its eradication, I would advise him to gang-plow immediately after harvest, cultivate two or three times, and late in the fall rib up in drills as he would for turnips. Allow it to remain in this condition over winter, thus exposing many of the roots to the influence of frost. The next year it would be well to follow with a hoed crop of some kind. Care should always be taken not to break up and scatter the root stocks. The same persistent effort which is needed to eradicate Canada thistle is advisable in this case, and the same methods will prove effective.
M. W. DOHERTY, B. S. A., Assistant.
Biological Dept., O. A. C., Guelph.]

PEDIGREE—BITTING AND SHOEING.

SUBSCRIBER, V. S., Lanark Co., Ont.:—"1. What is the difference in the breeding of a mustang and a broncho?

"2. Can you give me description of all the latest appliances how to bit, shoe, and any other thing that is required to teach a horse to have good knee and hock action?"

[I am not aware that it requires any particular line of breeding to produce a broncho or a mustang. Both are essentially the native horse of the Western prairies, and lay no claim to beauty or family tree, having a pedigree of doubtful origin and a tenacity of life that is astonishing. They are undersized horses, usually rough coated, sleepy eyed, square headed, and hard to handle; when subdued, or broken (this is a case where it may be correct to use the term broken instead of educated), are usually very sure-footed and make serviceable saddlers, or even harness horses for light work—but lay no claim to either style or speed. It is claimed by some that the whole race of the undersized horse on the Western prairies originated from the small Spanish horse used by De Soto and other of his countrymen on their early expeditions in the New World. Whether this be a fact, or whether they are as much a native of this continent as the now almost extinct buffalo, is not essential. Ranchers are and have been endeavoring, with greater or less success, to improve the horses by introducing into the herds thoroughbred sires, and either destroying or castrating the native stallions. This manner of breeding produces an animal that can, strictly speaking, not be called either a broncho or mustang, but a half-breed.

2. In your second question you ask a great deal—more, I think, than any man can answer; at least, I acknowledge my inability to enumerate *all* the appliances, etc., that are being used for the purposes you mention. Some would-be horsemen think they can make an actor out of almost any horse if they get sufficient iron in his mouth and on his feet and use the whip and curb sufficiently. Such ideas are false. In order that any horse may become an actor, he must have natural predisposition and conformation, and the man who undertakes to educate him must simply aim at perfecting the style of going for which his breeding and predisposition especially fitted him. While the desirable knee and hock action at present demanded in the carriage horse cannot be forced or drilled into an animal to whom such action is foreign, at the same time, where such action is in accordance with the animal's predisposition, careful and intelligent handling will perfect and intensify it. Take the Hackney, for instance, the type of the carriage horse, and the animal to whom excessive action may be said to be natural, yet an uneducated Hackney, while showing more action than an uneducated animal of other breeds, has not, by any means, the finished and excessive action of the educated Hackney. The education of the Hackney for show purposes on the leading rein is, we might say, a business by itself, and as I have had no experience in this line of education, I do not feel competent to give details. I presume what you want to know is the easiest manner to teach a horse to act in harness. In the first place, the horse must have a good mouth, and be taught to respond promptly to the rein. If he be not thus far educated, a dumb jockey and lunging rein should be used for a couple of weeks. He should then be driven with a Liverpool bit; the amount of curb used will depend upon the force he puts on the lines; but, by all means, avoid teaching him to pull hard. As a rule, a horse that is possessed of natural predisposition to go high will not require a check rein—he has sufficient ambition and life to hold his head sufficiently high without, and if he hold his nose out, this should be remedied by the use of the dumb jockey before he is hitched. As to shoeing, it will be found that no set rules can be laid down as to the weight of shoe, some going higher with very heavy shoes, and some better with lighter ones; but, as a rule, a horse will act better with rather heavy shoes. The trainer will have to determine this by actual experience—that is, by having him shod with shoes of different weight, until he ascertain what weight acts best, but he must be given a fair chance with each weight, as a horse that has been driven with light shoes, and they are exchanged for those much heavier, will in all probability not act well at once. The change is so violent it takes some time for him to become accustomed to them. I have known horses that acted well in shoes of two pounds or over, but as a rule such weight is not desirable, as the excessive weight is apt to give clumsy action. Usually the hind shoes are considerably lighter than the fore. Whatever weight is used, the shoes should be flat, rounded at the toe and thicker at the heels both fore and aft. The want of the calkins and the fact that the toe is rounded on the ground surface, giving a rolling motion, enables him to pick up his feet more quickly, hence going higher and more sprightly, and the weight of shoe has a tendency to give greater length of stride; the same behind gives higher hock action and greater stride. If in slippery weather, when he cannot go without calkins, have short calkins on heels, but none on toe, and have the toe rounded as in warm weather. Having him properly shod and harnessed, with bit as mentioned, his education as an actor may be said to commence. He should, for considerable time, be driven slowly, but always up to attention. A spring-topped whip with a good lash should be used. If he be inclined to loaf, he should be sharply touched on the shoulder with the whip, and at the same time held so as to prevent him going fast. A carriage horse must go high at all gaits. Some horses will go high when going fast, but when jogging go quite low. This is not tolerated in a carriage horse. He must go high at all trotting gaits. Care must be taken to not teach him to pull—a puller is a very undesirable horse, either in a carriage horse, roadster or saddler. When he has been taught to go properly at a slow gait, he may be allowed to go faster, but this must be done gradually. Under no circumstances should he be allowed to go so fast as to hitch and shuffle; of course, the faster he can go and at the same time maintain the quality, squareness and apparent ease and style of action, the better; but the carriage horse is not necessarily a fast mover. It is recommended by some to force him to travel through deep straw or over sticks of various heights. This, of course, must be done on the lunging rein. I do not approve of this method, because, as a rule, he will go high only when under those conditions. It takes considerable patience and skill to get the very best out of a horse that is naturally an actor, while it may be said to be next to impossible to make an actor out of a horse that is not bred that way. There are, of course, exceptions to this, but they are rare. J. H. REED, V.S.]

LIGHTNING-ROD CONNECTIONS.

SUBSCRIBER, Perth Co., Ont.:—"Is there a company in London known as the Ontario Lightning Rod Co.? A man came here last fall, claiming to represent that Co., and put rods on one of my barns and made only one ground connection. Now another man comes along and says there is no such Co. in existence, and that rods should have two ground connections. He wants to rod another barn. What is your opinion on the ground connections—should there be one or two?"

[After considerable inquiry, we cannot learn of any such firm doing business in London as the Ontario Lightning Rod Co. In our volume for 1897, we made several references to a cheap form of home-made lightning rod that has been proved to do effective work in conducting electric currents from the clouds to the earth. It was referred to in the issues of August 2nd, September 1st, and September 15th. The rod is made of nine strands of No. 8 galvanized wire, twisted together. The ground connection is made by inserting the end of the twisted cable eight feet into the ground. The hole is made by a two-inch well auger. It is attached to the building by three-cornered cedar blocks about three inches across, nailed to the building. These are notched and the cable is stapled into the notches. Sufficient blocks are used to keep the cables from touching the building, and each rod is brought in as straight a course to the ground as possible.

The points are on the ridge of the barn about twenty feet apart, and ten feet high. They are stayed with light cedar poles. Each point (except one which was spliced to the rod leading from another point) has separate ground connection. This wire rod was constructed and attached to a barn by Mr. Thos. Baty, Middlesex Co., Ont. He and his man took a little less than a day and a half to make and put up 240 feet of rod. About ten ounces of wire were used per foot of cable, which cost less than two cents per foot. This form of lightning rod is pronounced by experts to be correct in principle, and as it is much cheaper than the sort agents sell, a man who wants his barn rodded can do it cheaply and well with No. 8 galvanized wire. It is the opinion of some authorities that the cedar-block attachments mentioned are unnecessary, and that the rod might just as well be stapled to the building, as the lightning would not be likely to leave so good a conductor as this rod to take to a wooden or brick wall.]