with a lot of bother. The cylinder does not have to be tight enough to pump air, and if any leaks occur in the pipe it will still throw water and does not need "priming." Of course it costs a little more for cylinder rods, and takes, I believe, a little more power to lift the water; also, it is a little harder to take out and repair, but if sacking be tied over the water inlet and all joints screwed tightly trouble will seldom ever occur. Put this iron pump in the well beside the wooden one and fasten them together by means of two-foot lengths of 2"x6" pine. Fasten these together and with a one-and-one-half-inch augur bore a hole across the width of the planks, taking half out of each. Fasten one of the pieces to the wooden pump with bolts or bands with nuts, and clamp the iron pump on with the other piece. Screw up tightly, taking care to have cylinder the right depth in well to insure the bucket working freely. A spout is put on by means of a T, and can be put high enough for elevated tank. Put a leak hole below the platform, and you have an outfit better than a $30 iron pump, and at one-third of the price. J. H. BURNS.

Perth Co., Ont.

Housing and Caring for Implements.

The following sensible ideas concerning the care of farm implements are contained in a Colorado bulletin by Messrs. Bainer and Bonebright, of Colorado :

"To house machinery does not always do as much good as commonly supposed. In making investigations, the following question was asked many times, 'How should farm machinery be cared for?' It is usually answered by the farmer : 'Everyone knows that it should be housed.' This is a good answer as far as it goes, but to house machinery under any condition, and not properly care for it otherwise, constitutes very poor care.

"Machinery may be just as well cared for if it is allowed to stand in the shade of a tree as if it is stored in some of the leaky sheds, poorly-drained sheds, or combined machine sheds and hen roosts, such as were found during the investigation.

"There is no question but that to properly house machinery is a great saving, as it not only adds a great deal to life of machine, but it also adds to the general appearance of the farm. It was generally found that where a farmer was interested enough to properly house it, he was also interested enough in it to care for it otherwise.

"The investigation showed that the life of farm machinery depended a great deal upon the owner. Individual farmers were found who took very good care of their machinery, and left it in the weather when not in use. A great deal of housed machinery was found which had done no more work and was no better nor older than some which had not been housed, but which had been well cared for otherwise.

"Cultivators, shovels, plowshares and attachments, which had been removed and greased, should be placed where there is no chance for them to get damp. It is a good plan to place them in a gunny sack and suspend them from the rafters of the shed or barn."

Silo Filling.

Editor "The Farmer's Advocate":

On reading the article in the current issue of your helpful paper, relating to silo-filling, I was very much surprised at your system of filling. I have had considerable experience in silo-filling, and I wish to say that, for a long time now, having an extra man to help unload has proven to be detrimental to quick work. The only satisfactory way to load corn sheaves for silo-filling is to commence at the back standard and build up as high as convenient for drawing off, and so working to the front standard gradually, tiering up as one goes. This suits both the teamsters and the pitchers. The idea you mention, of standing the sheaves upright in the wagon, hardly seems feasible, but, not having tried it, cannot speak definitely, but I should think that upright sheaves would get into trouble between the field and the silo, because of the ridges along the rows of corn stubble, which in many cases are very high. It is rough going at any time, even with a flat load. A complete silo-filling gang, as used mostly in our neighborhood, comprises engineer, feeder, five teamsters, four pitchers, and four trampers in silo. To do good and quick work, less help cannot be put up with, except in the case of long draws, then more teams only solve the problem.

Middlesex Co., Ont. A FARMER.

Feeding Sheaf Oats.

Editor "The Farmer's Advocate":

With regard to the feeding of oats in the sheaf I have practiced the plan on a small scale for several years and find that it is by far the most economical way of utilizing the grain. The only objection to it is the wholesale destruction of it by mice and rats.

These little pests can be kept in check if proper precautions be taken, however. A good plan is to keep one or two good mother cats, preferably with late fall kittens, in the barn. Avoid petting them and supply them with a dish of milk twice a day. If you pet them or pay any attention to them they will almost invariably find their way to the house, and if permitted will spend most of their time there. At least that has been my experience, especially where there are children. Cats to be useful about the barn must be kept in a semi-wild condition and if the kittens are left strictly alone and all feeding done in the barn you will find that it will be a comparatively easy matter to keep the cats where they are wanted and the number of mice they destroy will soon be quite noticeable in the amount of grain saved.

It is better to get rid of the kittens before they are full-grown. A .22 rifle is the easiest and most humane way in the hands of a skillful marksman. If not a good shot, it is better to use poison.

Now, with regard to the oats. I cut the grain that I intend keeping in the sheaf before it is quite ripe. This allows it to finish the ripening process in the sheaf without any danger of shelling of the grain. If left too long the husk of the grain opens and allows the grains to drop out and a consequent waste will occur, not only in the field but in the barn as well. Then, again, when cut in a slightly green state and properly dried the straw will be softer and hence more palatable to the animals. My method of feeding, which I find gives most satisfactory results from the milch cows, is to feed them first thing in the morning a small feed of clover hay. Later on, after milking, I feed each animal a sheaf of oats ; at noon I give a feed of straw or hay ; in the evening corn, and last thing at night another feed of sheaf oats. I find that when the cows get the oats as a last feed they then take the time to digest them properly. The objection that has always been raised against the feeding of sheaf oats is that the animals do not digest them properly and as a result there is a waste. If fed as a "last" feed in the morning and at night no such difficulty will be experienced, as the cow, instead of "bolting" her food when the next feed comes on, will have time to settle down and "chew her cud," which is the main digestive process in the cow's make-up. Sheaf oats is also an ideal form in which to feed that grain to poultry, and I always lay in a supply for them as well as the other animals. I usually give each pen a sheaf, opened and scattered around, first thing in the morning, and the amount of work they will expend on that sheaf looking for their breakfast on a cold morning is enough to put the hen in good humor for the rest of the day.

SUBSCRIBER.

Death in Underground Silo.

The report comes from Cincinnati that five persons recently lost their lives in an underground silo on a dairy farm. Distillery waste had been stored in this silo, and used as feed for cattle. The man who was accustomed to do the feeding went into the silo to get out some of the feed, and instantly collapsed, being overcome by gas. His condition was discovered by the owner of the dairy, a woman, and she called her brother, who ran to the silo. The ground around the top was covered with the moist malt, and was slippery. The brother undertook to reach into the silo and pull out the man who had been overcome. In doing this he slipped and fell in. His sister heard his cry, and she ran to rescue him, with the result that she, too, fell into the silo, and she in turn was followed by another woman who was attracted by the cries. The driver of a milk wagon heard the cries of the last woman and rushed to the rescue, only to follow the others. Five people were suffocated by the gas, and their bodies were rescued with difficulty, and only after two of the rescuers had been overcome and were saved only by the heroic efforts of the physicians who were called.

This remarkable incident, quoted from an American exchange, reminds us of a warning which is in order, now that silo filling is once more upon us. The fermentation which occurs when a silo is filled results in the formation of a certain amount of carbonic acid gas, which being heavier than air, settles and displaces the latter. Carbonic acid gas is heavy, colorless and incombustible. It is produced in the respiration of animals and in the decay or combustion (whether rapidly by burning or more slowly by fermentation) of organic matter. It is not poisonous, but is incapable of supporting life. It kills by depriving the lungs of oxygen. It is itself a chemical compound of carbon and oxygen. There is a trace of it in the air which we normally breathe, the proportion amounting to about one twenty-five-hundredth part. It is a product of life and fire, but when not removed at a reasonably rapid rate it will diminish and finally extinguish the processes which produce it. A match in a jar of it will immediately go out for lack of oxygen, and a mouse or any other animal would promptly die for the same reason. Where there is atmospheric drainage from the silo through chinks in the walls or through doors this heavy gas will not accumulate but will flow out. In an underground silo it is different, and such was the case cited above. Or in any good concrete silo the gas may accumulate, probably up to the bottom of the first open door. We personally had quite a good illustration of this the other day. Some alfalfa which on account of wet weather could not be cured as hay was put into a cement silo. About twelve hours after filling we went in to tramp, taking a lantern along as it was dark. Without thinking we set the lantern down on the alfalfa. Immediately it went out. We tried twice again with the same result. Only by holding it near the level of the door could it be kept burning.

After tramping around for a time we tried setting the lantern down again, and found that though burning somewhat dimly it did not go out. On the other hand, we were all conscious of a languid sensation and dull heavy feeling in the head, such as often experienced in an unventilated room where many persons are congregated. You see we had by this time disturbed the gas and mixed it with the air. We have since been feeding regularly from the silo, and have never been seriously inconvenienced, but the warning of our experience will be remembered all the same. The men had been joking about shutting the dog in the silo, sleeping there themselves, and so on. As surely as they had done so there would have been a fatality to report. There is nothing in this article that need alarm any silo owner, but merely a caution to heed on entering deep, tight silos, especially at filling time, when the gas has been allowed to form and accumulate over night.

"We notice," writes Austin E. Darling, a Lanark County subscriber, "that alfalfa planted three years ago on deep clay loam land has entirely smothered a thick bed of sow thistle and bindweed is looking very sickly."

THE DAIRY.

Cream for Buttermaking.

As a reminder of what is good practice in the care of cream for butter-making at this season, and to a certain extent this will apply to cream used for other purposes, we reproduce the conclusions drawn from a couple of season's experimental work by Geo. H. Barr, Chief of the Dairy Division, Department of Agriculture, Ottawa :

"An ordinary cellar is not a good place in which to keep cream.

"Cream must be cooled to 55 degrees and held at that temperature to be delivered to the creamery every other day in a sweet condition. Setting the cream cans in water, or in water and ice, is the best method of cooling.

"Cream delivered only twice a week must be cooled immediately after skimming to 48 or 49 degrees and held at that temperature.

"A refrigerator is not as good a place in which to cool cream as a tank with water and ice.

"The natural ripening of gathered cream at the creamery will not produce butter with good keeping qualities.

"The use of ten per cent. of clean-flavored starter improves the flavor and keeping quality of the butter.

"Butter made from pasteurized cream without a starter has better flavor and better keeping quality than butter made from raw cream to which a good starter has been added, especially when the cream is tainted.

"Pasteurized cream with 10 per cent. of a starter added gave the best-flavored and best-keeping butter.

"Cleanliness and low temperature are the two most important essentials in the production of fine-flavored butter with good keeping quality."