Agricultural Emplements.

New Turnip Lifter.

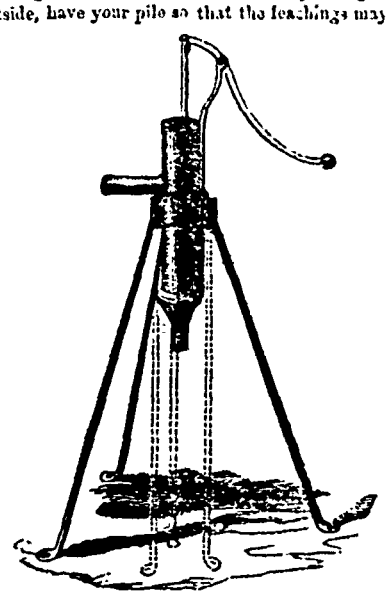
"It may be remembered," says the *North British Agriculturist*, "that one of the novelties in the Stirling show yard of the Highland Society in August last was a new turnip lifter exhibited on the large stand of Messrs Kemp, Murray, & Nicholson, Stirling, and invented by Mr Ross, farmer, Whalkhaven, Easter Ross. Great curiosity was manifested on that occasion to see it at work, and within the last ten days many have had that opportunity On Saturday week it was tried on Mr Hugh Munn's farm of Broombank, near Nairn, in presence of a large number of farmers. The machine is so contrived as to both top and tail the turnips. It is described as having done its work well at Nairn On Wednesday it was similarly tried on the farm of Brackens, near Turriff, Aberdeenshire. The implement is four feet and a half wide, and it takes two drills at a time, making a fair draught for a pair of horses. In presence of a considerable muster of farmers at Turriff, the imperfections which we elsewhere ventured to predict in our notice of it at the Stirling show were realised. The topping was fairly done, but the tailing was not so satisfactorily accomplished. If the bulbs were about a uniform depth into the soil, we believe the machine would make good work, but that desideratum is difficult, if not impossible, to acquire. In the Stonehaven district of Kincardineshire a more successful trial was made with it on Friday. It is said to have done excellent work there, and we doubt not but the implement may be perfected into a useful article in the course of a little more experience of it."

Manuring Appliances.

As we are fast approaching an epoch in the history of Canadian farming—when the question of manure is to receive that degree of importance to which it has always been entitled—we think it well, to-day, to give brief notices of the various appliances made use of in England and other countries for the proper preservation and distribution of that kind most common amongst us, and the kind also which, we are sorry to say, has been most neglected, viz., barnyard manure. As a general rule, our barn and stable contents, when cleaned out, are thrown in a heap upon what we call the dung pile, and there left to decompose, effervesce, or vanish, just as they will, under the influence of sun and rain, until we think the time has arrived for wheeling them out to the field Then we take the heap away, load after load, with, upon the whole, scrupulous care, never dreaming that during that time both wet and warmth have been leaching and scorching it alternately; it has lost one-half, perhaps three-fourths of its vital properties

On entering a stable in the morning—we mean a well kept stable—you cannot fail to have experienced a sharp somewhat permeating smell; the same is noticed when digging down deeply into a pile of manure which has lain unmolested for some time This smell or odor arises from an extremely volatile gas, ammonia, and it is this gas which lends to manure all its vitalizing and energizing effects. Now, we have said that this gas is exceedingly volatile; so it is, most wonderfully so; it is continually escaping and the freer access air, warmth and rain has to the heap, the more freely will this escape and loss take place. To preserve the vitality of manure, then, it must, or ought to be in the first place, kept under cover. This will prevent the influence of the sun's rays, and also keep it free from the leachings caused by rain. But, then something more must be done if the ammonia is to be preserved. What is it? Cover your manure over with layers of gypsum In the manure ammonia is in the volatile form of a carbonate As soon therefore as the gypsum comes in contact with it, chemical action begins; the carbonate is instantly changed into a sulphate, and in this latter state it may be retained In other words, the gaseous ingredient is converted into a solid, and in that condition preserved to the manure In England, the system just described has been in vogue for years, because that country is just old enough in agricultural experience to appreciate the essential utility of not manure only, but *good* manure to the soil.

In cases where the manure must lie so exposed that more or less leaching takes place, *i. e.*, when the heap cannot be kept under cover, still use the gypsum, and save your ammonia. The leachings also are most important, and for this purpose a large tank should be dug in a depressed part of the yard into which all drainages would find their way. It is very commonly the case that leachings contain the very marrow and pith of the solid material after evaporation has taken place, so that, in point of vitality, that which evaporates ranks first, leachings second, and the solid material third, or weakest of all To preserve manure then properly, after you have cleaned your horse and cow stables each morning, and thrown the cleanings on the heap, if inside, *i.e* under cover, heap on a few inches of earth mixed well with gypsum; the gypsum will, as we have said, convert carbonates into sulphates, and the earth will absorb all leachings which would otherwise escape. Again, if outside, have your pile so that the leachings may all



run into your tank and be preserved there, and at the same time never forget the gypsum and earthy application to the heap. In coming to use the manure thus preserved, it will be found doubly strong and efficacious. The leachings also may be readily pumped up by means of an implement such as that here illustrated, viz.: the Portable Liquid Manure Pump, which is very common in England. It is a 4½ inch galvanized iron pump for filling manure carts. The valve is so arranged as to admit of dirt, &c., passing through without injury to the pump. The legs also fold up for convenience in carrying—one man carrying it easily on his shoulder to any tank or pond By merely lengthening the pipe the pump may be raised also or lowered, to suit the height of the barrel to be filled.

For pulverized manures, which are indispensable in producing good root crops, there is another excellent implement in England, and we understand, now introduced into this country, known as a One-horse Turnip and Manure Drill. It comprises in a simple form most of the important features of the more expensive article which we illustrated in the FARMER last year. Its manure coulters are fixed to a swing beam, while those for seed are attached to levers, to admit of the manure being buried to any depth in the soil, and the seed to be deposited directly over it, with a portion of mould between them for which forks are provided. It is calculated for two rows from 20 to 24 inches apart, and three rows of 15 inches apart, or any other spaces that may be specified with any order; and the quantities may be delivered as required, say for turnips, 1 to 6 lbs. to the acre, and beet seed, 3 to 8 lbs. per acre. The manure also may be regulated as required, from 2 to 12 bushels or more per acre. This drill can be easily drawn by a pony, and being only 3 feet 8 inches high, 4 feet wide, and weighing only 3 cwt., will be found very convenient and easy of management.

Another style of machine for similar use as the one mentioned is adapted for two coulters, and intended for ridge-ploughed lands. It is fitted with the improved slides to regulate the quantity of manure, placed directly under the management of the attendant who follows the drill, and may be altered while the implement is proceeding in its work, admitting larger or smaller quantities as may be required on hilly lands, or various qualities of soil. In order to accommodate the drill to irregular ploughed ridges, a pair of concave rollers are placed between the manure and seed coulters (which may be raised out of work at the ends of the field) so as to form and press the land properly for the deposit of the manure and seed. An improvement has been lately introduced whereby the necessity of the steerage is obviated; the seed coulters being affixed to the concave rollers, and always retaining their position in the centre of their track. The rollers may also be elevated or depressed at pleasure, to act with greater or less weight as the nature of the soil may require, and may be varied in width from 24 to 30 inches.

An implement of great popularity in the old country is known as "Chambers' Patent Broadcast Manure Distributor." The machine is constructed upon an entirely new principle, and consists of a barrel or cylinder formed of a series of rings, each having projecting surfaces (for the delivery of either highly comminuted or rough manure) which come in contact with scrapers placed beneath the box, the pressure of which on the barrel is regulated by movable weights to the greatest nicety, according to the adhesiveness of the manure used. It is also fitted with a novel and excellent stirrer, which never fails to give a constant and regular delivery from the box to the barrel, however moist the contents of the box may be. It will sow from two bushels to any quantity required; and it is so easily adjusted by the slide, that even when at work the quantity can be varied according to the quality of the soil, to deposit more or less as required, and without the change of wheels. To all agriculturists using artificial manures this is recommended as a most efficient machine, and one that is daily being more needed, from the now well assured conviction that manures never act so efficiently as when thoroughly incorporated with the soil.

Loading Logs on Wheels.

An easy and safe method to load logs is to place the hind wheels opposite a point in the log, one-third its length from the butt end, so that the axle will be parallel with the log and ten or twelve feet from it; then let a strong skid run from the axle to the log, give a chain a turn or two around the log, so that by attaching the team the log may be rolled up the skid high enough for the fore wheels to be backed under, and chain in the ordinary manner. The log should be secured while on the skid by scotching with an axe. The fore wheels once loaded, of course the hind ones will easily swing the log.

Another good plan with such logs is to place the fore-wheels opposite the log where you desire it to be loaded, take off one wheel and push the end of the axle (as much as possible) under the log, then give a chain about one and a half turns around log, attach team by a chain running between spokes of other wheel and roll log up the axle. Be careful to stop the team as soon as the log reaches the middle of axle, as a slight pull beyond might upset the whole thing The weight of the log where it is rolled up the axle will cause the axle to assume a horizontal position, when the wheel can be easily put on. There are many modes of loading heavy logs, but these two are simple, and are the easiest on the wheels of any with which I am acquainted.—*Practical Farmer.*