as the most scientific and natural mode of preserving the ammonia of urine, is to fill your yards and barn cellars with plenty of mould; by which I mean truly decayed and decaying vegetable matter, as well as loam. There is no mode more effetual, no mode more economical. Consider now for a moment, how mould formed and forming, and ammonia act. Have I not said, again and again, that ammonia hastens decay? that it makes mould more easily dissolved? and cooks the food of plants? That action having occurred during its progress, acids were formed. The ammonia unites with them, loses its burning properties, and becomes fixed. The acids having been satisfied, the ammonia is actually imbibed and retained by mould.

It does not drink it in like a sponge, but the mould forms a peculiar chemical compound with ammonia. This peculiar compound, while it does not render the mould an easily dissolved matter, yet holds ammonia by so feeble a force, that it easily yields to the power of growing plants. It gives up the stored ammonia at the place where, and the time when, it is most wanted. If you remember these actions of mould and ammonia, it will be as plain as day, that what we have said of the inexpedience and expense of vats, and tanks, and urine-carts, must not only be true, but is confirmed by the experience of a host of hard-working, thinking, practical men. In connection with urine, the dung of birds, for instance, domestic fowls of all kinds, and pigeons may be here mentioned. These animals discharge their solids, and what we may term their liquids, together. Their urea comes out combined with, or forming part of their dung. Now reflecting a moment on the nature of their food, strongly nitrogenous, being seeds, grains, &c., or animals, bugs, grasshoppers, &c., we understand why their droppings are peculiarly rich in ammonia and salts. The strongest of all manures is found in the droppings of the poultry yard.

But since these form but a small portion of the farmer's stock, and are never regarded as a principal source of manure, their further consideration may be omitted. It may perhaps be here added, that as from their nature bird-droppings run quickly into fermentation, with warmth and moisture, so they act quickly, and are quickly done. They are more allied to sheep-dung than to other manures. Their mould not being great, droppings of poultry require to be mixed with decayed vegetable matter, or loam. To this class belongs the manure brought from the Pacific Ocean, under the name of Guano, a Spanish word for excrement. New England farmers can find cheaper sources of salt, to which the main value of guano is owing, and therefore, reader, we shall detain you no longer on this point.

SECTION TENTH.

Mineral Salts or Manures.

Having thus considered the salts derived from the animal, let us now proceed to those derived from the mineral kingdom. Among these, we shall find some whose action is similar to that of the animal salts. That is, they are true nourishers of plants.

They afford, by the action of the growing plant, the same elements as the animal salts. Of this nature is saltpetre. Now, reader, I want you to understand by saltpetre, not only that well-known substance, but also that which has lately been much used in farming, South American saltpetre. This differs from common saltpetre, by changing its potash for soda. One step more; I want you to understand by saltpetre, not one salt, in farming, but a class of salts; that is, a number, having the same acid, which may be combined with several different bases which all act one way. Saltpetre being a salt, of course must be composed of an acid and a base. The acid is always aqua-fortis, or nitric acid. The base may be potash, or soda, or lime, or ammonia. These all may be called saltpetre. In forming saltpetre, it is generally that variety which contains lime and aqua-fortis which is procured. So far as we understand the action of salts, and this has been fully explained, the action of the varieties of saltpetre is the same; and where it not for the peculiar nature of the aqua-fortis or acid of saltpetre, the explanation of the action of this salt might be referred to the general laws above set forth. But the acid of saltpetre is composed of volatile ingredients. It is nothing more nor less than a compound of the common air we breathe. Surprising as it may seem, reader, yet it is not the less true, the common air is a mixture of oxygen and nitrogen. What a bland and harmless, yea, what a healthful blessing is air, not only to us, but to plants! It is a mere mixture, not a chemical compound, a mere mixture. In every hundred parts, eighty of nitrogen, twenty of oxygen. Yet if you compel, as natural operations are continually compelling the air to unite chemically, so that fourteen parts of nitrogen shall unite to forty parts of oxygen, you will form aqua-fortis. Now, I do not mean to trouble your head further with the chemistry of saltpetre, than merely to say, that having thus shown you the composition and origin of the acid of all kinds of saltpetre, you will readily see, that a substance which affords such an abundance of nitrogen, cannot but be beneficial to plants. This nitrogen may, and probably does form some portion of ammonia in the soil. It may enter as nitrogen into the plants, disolved in water, as a very weak aqua-fortis.

We have said so much upon the action of ammonia and nitrogen, that you will perceive how important a part nitre is likely to play in manure. Not only does the nitrogen act here, but the oxygen, the other component of the acid, also acts. It acts upon the mould as air itself would. Besides, the mould of soil and manure imbibes and condenses this oxygen in its pores, and consequently heat a little; so that saltpetre, whether added as such to soil, or formed in manure, as it is always, helps to warm a little the soil, like fermenting manure. So far as these effects are desirable they may be expected from the use of saltpetre. But this, reader, if you buy your saltpetre, is procuring a small effect at a great price. The action of the alkali of saltpetre is not different from alkali in other shapes, and therefore if you have money to lay out for salts, let me advise you, reader, to spend it rather for ashes than for saltpetre,

To be Continued.

To Prevent Wood Decaying.—Take twelve ounces of rosin and eight ounces of roll brimstone, each coarsely powdered, and three gallons of train oil. Heat them slowly, gradually adding four ounces of bees wax, cut in small bits. Frequently stir the liquor, which as soon as the solid ingredients are dissolved, will be fit for use. What remains unused will become solid on cooling, and may be remelted on subsequent occasions. When it is fit for use, add as much Spanish brown, or red or yellow ochre, or any colour you want, first ground fine in some of the oil, as will give the shade you want; then lay it on with a brush, as hot and thick as you can; some days after the first coat is dried give it a second. It will preserve plank for ages, and keep the weather from driving through brick work. Common white paint may be used on top of it, if required, for the sake of appearance. Two coats should always be given and in compound machinery, the separate parts should be varnished before they are put together, after which it will be prudent to give a third coating to the joints or to any other part which is peculiarly exposed to the action of moisture, such as water-shoots, flood-gates, the beds of carts, the tops of posts, and all the timber which is near or within the ground. Each coat should be dry before the parts are joined, or the last coat applied. The composition should be applied when the wood is perfectly dry. It is necessary to mention that compositions made of fresh oil, should, for the sake of security, be heated in metallic vessels, in the open air, for when the oil is brought to the boiling point, or 600 of Ferenheit, the vapor catches fire, and though a lower degree of temperature should be used in this process, it is not always possible to regulate the heat, or to prevent the overflowing of the materials; in either of which cases, were the melting performed in a house, fatal accidents might happen.—*Archives of Useful knowledge.*

From the American Agriculturist.

A SHEEP-TROUGH.

I here give you a description of my sheep-trough, which I consider a very good one. Take two boards 8 inches wide, of common thickness, and any length you may wish the trough Lap the edge of one board over the other the whole length; then nail the two together; a cross section of the trough will thus form the letter V. Now take a piece of board or plank 14 inches wide, and 12 inches in length, and nail on each end of the trough, so that it will stand about 8 inches from the ground. This finished, nail a strap of board about 3 or 4 inches wide to the middle of each end, so that it will come up 12 or 14 inches above the upper edge of the trough, then take a piece of board of the same width, and the whole length of the rough, and nail on to the top of the last named pieces; this will prevent the sheep from getting in to the trough and dirtying their feed, so that they will not eat it, and it will prevent them from jumping over it, thus we may always have a clean trough, which I find a very good thing. I have 30 ewes and 21 lambs, that I feed with sliced turnops and corn every day.

Practical experiments are what we farmers want, and how we can make our land produce the most with the least expense.

H. C. M

Miller's Place, Long Island.