

where the soil is positively poor, three bushels of any of the compost hereafter named should be applied to each vine when first set out always mixing it well with the soil taken from the holes.

MANURES.

In our country are millions of acres of soil that will not need manure for some years. But in the vicinity of most of the large cities of this country, where the grape culture is most likely to be commenced, there is much poor soil that needs to be enriched. Fortunately in large cities immense quantities of manures can be obtained and at a small expense.

Blade Manure answers all the purposes of enriching a vineyard.

Bones are without doubt the most permanent in their effects,—they decay slowly and furnish carbon and phosphate of lime for 15 or 20 years, and will pay the vinegrower ten times the first cost.

Night Soil.—To one load of this substance of 25 or 30 bushels add four loads of swamp muck or good rich soil one bushel plaster, and five bushels lime and it to be had 15 or 20 bushels charcoal dust.

Butchers Manure, Tanners, Courriers, and Morocco Dressers Waste may be mixed with swamp muck or good soil in the same manner as recommended for night soil.

Muck Compost.—Take one bushel salt and make it into brine,—with the brine slake two bushels lime, if there is not sufficient brine add water,—cover over this mixture to keep it from the weather. In 6 or 7 weeks it will become chloride of muriate of lime.—Mix this with four cords of swamp muck, rich pond or river mud or good rich soil,—turn over this compost 2 or 3 times in as many weeks, and you have a compost equal in value to stable manure.

Dead Animals.—A horse will manure forty vines in a superior manner. Each leg may be cut in two and manure two vines, the head another, a part of the neck another and so on. The fleshy part will decay the first season, and give the vines a vigorous start and the bones will decay slowly for many years.

Marl.—Some of the green sand marl of Delaware is admirable for vines as it contains ten per cent. of polish.

Street Dirt may be made into compost with marl lime, swamp muck and plaster.

Soot, horn, shavings, blood, offal, &c., animals, fish or poultry, spent ley from soap boilers, leached or unleached wood ashes, waste wool from manufactories are all excellent for the growth of vines and may be applied from two or three quarts to each vine mixing them intimately with the soil.

Soap Suds are an excellent manure and where a few vines are cultivated in a garden, a bucket full may be applied to each vine every wash day, during the growing part of the season.

In our next number we will give the method of planting, training, &c., in the vicinity of Philadelphia, by which ten thousand pounds of grapes have been raised to the acre.

B. G. BOSWELL.

Philadelphia, March 13.

For the Farmer and Mechanic.

A Visit to Le Roy & Co.'s Lead Pipe Manufactory.

On Tuesday last, the 14th inst., I availed myself in company with several others, of the polite invitation from the firm of Le Roy & Co., given to the officers and members of the American Institute, to

visit their Lead Pipe Establishment, located in this city, at 261 and 263 Water Street, for the purpose of examining their machinery and the mode of operation in manufacturing Lead Pipe, and Rolling Sheet Lead, in all their various sizes and thickness, required for the numerous purposes to which these useful articles are applied.

On arriving at their establishment we were kindly received by Messrs. Le Roy and Smith, under whose personal care and superintendence the whole concern is conducted.

On entering the manufactory, order and method may be seen at a simple glance in the arrangement of the numerous coils of Lead Pipe of all sizes and thickness ready for inspection, and easy delivery to their customers.

These coils of lead pipes of all sizes from 1-8 of an inch to 5 inches calibre, methodically arranged for an easy inspection of the article, tend to favorably impress the mind of either visitors or customers, that whatever is made at these works, under the guidance of such care and skill may be relied on as perfect and complete in its kind.

We were informed by Mr. Smith, that the pipe manufactory at this place, will with ease sustain the regularly estimated hydrostatic pressure calculated for the various diameters and thickness for such articles, and that the manufacturers run no risk in warranting their pipes to be equal if not superior to any lead pipe in the world.

Mr. Smith informed us that their machinery was manufactured at the West Point Foundry, and such is its perfect finish including the Rolling-Mill, that when the whole is in full operation, its movements can scarcely be heard in the second story above.

The machinery for making the lead pipe is an improvement upon the Patent of Thomas Burr (who received a Patent in England in 1820 for the first machinery for making lead pipes by hydrostatic pressure,) and is so admirably adapted to its purpose, that no scientific Engineers can see the same in operation without instantly comprehending the beautiful and simple arrangement of its several parts.

When operated under the care of their practical and scientific superintendent (Mr. Smith) he requires only common laborers for his assistance, and with three men he can with ease make upwards of ten tons of lead pipes in 12 hours. The length of this quantity of pipe would depend upon its weight per foot. If estimated to average 1 3/4 lbs. per foot it would extend upwards of two miles.

This beautiful machine including the furnace for melting the lead, and all other articles connected with the same, is contained and operated in a less space than ten feet square, so compact and simple is the press only, that it stands within the superface of about four feet square, and including the force pumps to supply the hydrostatic pressure may be said to consist of but about ten parts, each of which admits of being made in such a manner as not to be out of order once a month, and when repairs are required the same can be done by any common machinist.

The upward motion of the piston on the hydrostatic cylinder, does not generally exceed five inches per minute, while its return, on the downward motion is about 12 inches per minute. The furnace used for melting the lead is about three feet deep, the melted lead is drawn from the same a little above the bottom, thereby insuring at all times nothing but the pure metal to enter the cylinder from which the

lead pipe is pressed. The area of this cylinder which receives the melted lead is about 1,400 cubic inches, and contains about 3 1/2 cwt. to each charge. The time required for the cooling of the lead within the cylinder, to the proper temperature for insuring a perfect pipe is about four minutes, and the time for each charge of 3 1/2 cwt. about 12 minutes. The whole operation is regulated by a time-piece, hence the uniformity in the goodness of the article made.

The rolling mill is of the most substantial build, the rollers are 8 feet long and 20 inches in diameter with a reversed motion attached to the same, thereby saving much laborious manual exertion, and time for the quantity of work performed.

In this establishment the separate departments for making the pipes, and rolling the sheet lead, together with other matters and things belonging thereto, is so admirably arranged that the manual labor required therein is performed with comparative ease and facility.

This manufactory is an excellent illustration of what can be accomplished in the way of modern improvements, when conducted by science and skill.—The special interest of the operators, or workmen, engaged in the manufactory of metals constitutes a main feature in the construction of this improved machinery. The interests of owners and workmen are so equitably combined as to insure a satisfactory and profitable result of their united labors.

A visit to this model establishment cannot fail to be pleasing and useful, particularly so to those engaged in such like works. Their accomplished and scientific Mr. Smith is ever ready to extend to all such, a hearty welcome to the works of Le Roy & Co., Nos. 261 and 263 Water street.

Remaining, dear sir,
yours with esteem,
JOHN CLOWES.

New York, March 17th, 1848.

ARTS, INVENTIONS, &c.

Bentz's Hulling Machine.

A machine is now being exhibited in this city, invented for the purpose of unbranning grain, and which promises to be of remarkable utility.

"The effect," says the Tribune, "is almost miraculous. The berry comes out entire, but robbed of its brown outer covering, purely white, polished, and resembling wax. In this state it has lost all its offal, and every particle will make extra flour, the berry having wasted but about two pounds to the bushel in the operation. The residue left in the machine is mere refuse, and without value. The comparison between the berry after it has passed through the machine, and before, is greater than between the reddest wheat of Chicago and the whitest of Genesee. The saving in weight, as well as the advantage of color, by the process, promises to create a radical revolution in milling, and force all millers either to employ it or abandon the business. A machine to cost about \$500, will prepare about 4,000 bushels per day. The right is in the hands of one of our most enterprising Western millers, who has heretofore made about as good flour as was sent to this market, but who, ambitious to make the very best, has purchased the right to this important discovery, and will test it to the fullest extent. We expect to see some flour, soon after the opening of the canal, made by this process, which will exceed the present extras as much as extra does superfine.