

Scientific.

TRIALS OF ROAD LOCOMOTIVES.

Two six-horse road locomotives, belonging to the Telford Pavement Company were recently tried at South Orange, N. J., by Prof. R. H. Thurston, of the Stevens Institute of Technology, to ascertain their power in ordinary work.

The engines are by Aveling & Porter, and are alike, except that the wrought iron driving wheels, which have oblique headed rivets to dig into the road and give adhesion, have been removed from one of them, and broad, smooth cast-iron wheels have been substituted, to serve as rollers. These cast iron wheels added 6,700 lbs. to the weight, making the total weight of this engine 17,348 lbs. Each engine has one cylinder, 7 1/2 in. in diameter, 10 in. stroke, geared to make 17 turns to one of the driving wheels, which are 66 in. in diameter. The boilers have each 130 feet heating surface. The wrought-iron-driver engine is new, and its boilers not yet clean, and it primed so much as to render it less efficient than that of its companion, which has been long at work and did not prime.

Early in the day, we were informed one of these engines drew 16 tons (wagons included) up a grade of 1 in 10. There was no slipping of the wheels in any of the trials, so we could not well judge as to the need of rough tires. The heaviest load drawn was by the smooth-tired engine, 56,000 pounds, up a grade of 250 feet per mile, at 3.6 miles an hour, the pressure falling from 113 to 90 lbs in going 1,400 feet. The train consisted of 10 wagons, loaded with broken stones. Three horses to a wagon are used at this grade. The engine, therefore, drew the load of 30 horses at a much higher speed than horses can draw such loads.

The road has a newly made broken stone surface, on a Telford foundation. Having been rolled, the surface must be in first rate order; but it was dirty to such a degree as to make it much more resistant than an English road that is swept. But this makes the test more practical for our use, for we shall not soon incur the cost of cleaning roads outside of cities.

The cost could not be determined in a short time, but some of the employees of the company thought it as low as a fourth of the cost of horse power.

The engines are handier than horses. One man does all the work on an engine. With a train made to turn in the track of the engine, one additional man can manage the train. Thus two men can do the work of ten men with horses.

The quantity of fuel used had not been ascertained when we came away. But all reports concur in showing that the fuel cost very much less than horse feed.

The work was all done easily, without the least stoppage or delay. We saw no trouble with horses, although many were passing, and the steam blast was very loud when going up the grade; but Professor Thurston said that some horses had shied, but were easily led past the train. Generally horses do take fright, and the few that do, at first, soon become reconciled.

We saw nothing to excite doubt of the general opinion of the company's employees that the engines are much more economical and convenient than horses.—R. R. Gazette.

TO CLEAN SMOKEY PAPER-HANGING—Take a piece of wood of the shape of a scrubbing-brush, nail a handle on the back, then upon the face nail a piece of sheepskin with the wool upon it, or flax or tow will do, or cotton flannel of several thicknesses will answer very well. Dip this brush into dry whiting, and rub the smoke lightly with the brush, on the upper part of the room first,—protecting the carpet with matting or newspapers, as the whiting dust is hard to sweep off a carpet. The whiting that remains on the wall is easily brushed off with a soft cloth attached to a stick. It is very effectual if the room is not damp and the whiting is dry.—Agriculturist.

The irritating grain of sand which by accident has got within the shell of the oyster, incites the inmate to secrete from its resources the means of coating the intrusive substance, and thus germinates the pearl. And is it not even so with troubles and afflictions in our case? We, too, may turn even sick and sorrow into pearls of great price.

Agriculture.

COMPARATIVE DAIRY VALUE OF MILK.

The Journal of Chemistry gives the following table, in which the milk of domesticated animals is arranged in the order of its richness in butter, etc.:

Table with 4 columns: Fat Butter, Cheese, Sugar, Whey. Rows include The Sheep, The Cow, The Goat, The Ass, The Mare, The Sheep.

So that from equal quantities of milk, the greatest produce of butter would be obtained from that of the ewe; of cheese from that of the goat; and of sugar, from that of the ass; but at the same time, the sheep is inferior to the goat only, and superior to the cow, in the production of cheese. If, however, ewe's milk exceeds that of the cow in the quantity of the butter yielded, that butter is inferior in quality: it is less solid, it has an unpleasant, oily taste, and it soon becomes rancid. On this account, probably, there are few places in which mention is made of ewe's butter as an article of food, and there is no recorded instance of its having been an article of commerce.

WEANING LAMBS.—It is very frequently the case that lambs are let run with their dams too long, which has an injurious effect upon both. So long as they run together, the lamb will depend on the milk drawn from its mother for sustenance, which often does not amount to much, consequently, both are the worse for not being separated. Persons who have had large experience in sheep-raising generally agree that four months is the proper age to wean lambs of all breeds.

It is the best to put a few old tame sheep with the lambs to teach them how to come when called.

The ewes should be put on the driest pasture on the farm for a few days to assist in drying up the milk, and it may be found necessary to milk some of them a time or two.

Should cold rains prevail during the early fall months, lambs should be put under shelter, and have some hay given them in the racks; and as the season advances they should be kept in at night. By doing this, by the time winter sets in, they will be so taught to eat that the change from pasture to dry feed will not be perceptible.

It will not require a person to keep sheep many years, until he will find out that the main thing in wintering them is to keep them up in the fall, for if permitted to loose flesh they will not recruit up again during the entire winter more especially is this the case with lambs.—Agricultural Commonwealth.

SELECTING CALVES FOR MILKERS.—A writer in one of our exchanges says: "The points that indicate a good cow are discernible in the calf, and why not? This may stagger some dairymen, but that is just what we wish to do. This wholesale slaughter of calves in the spring is wrong. A calf will show a good milk-mirror, as well as a cow, and a rich cream colored udder as well as a cow, a healthy, thrifty looking and strong loin as well as a cow. And these points make up the cow every time. Let the breed be what it may, this is our experience in the matter. A calf that is worth ten or fifteen dollars should not be killed for its mere hide, for the lack of judgement in selecting."

GINGER MUFFINS.—One dozen eggs two pounds of flour, two and a half pounds of butter, one pint of molasses one-teaspoonful of soda, a handful or two of brown sugar and a teaspoonful of ginger; beat well to gather and bake them.

POTATOES should be dug and taken out only on dry days, allowing them to remain on the surface long enough to dry, and immediately transferred to bins in well ventilated, dry cellars. They should be handled as little as possible, and kept from the light after storing.

TREE SETTING should be attended to as early as possible, better if done just as the leaf is ready to drop, rather than later. Above all things don't seek "How not to do it" by placing them in badly dug holes, poor ground, or with an over dose of manure.

TO GET LARGE ONIONS.—A writer upon onion culture says the best way to get large onions is to tramp and roll beds firmly; the seed is then sown on the compact surface, and covered with a rich compost the usual depth.

HALIFAX, N. S., DECEMBER 11, 1872.

MESSENGER. HALIFAX.

DECEMBER, 1872.

First Quarter, Dec. 7th, 7h. 22m. morning. Full Moon, " 14th, 5h. 30m. afternoon. Last Quarter, " 22nd, 9h. 57m. afternoon. New Moon, " 30th, 2h. 22m. morning.

Table with columns: Day, SUN, MOON, High Tide. Rows list days from 1st to 31st with corresponding times for sun, moon, and tide.

THE TIDES.—The ebb of the Moon's Sunthing gives the time of high water at Parisboro', Cornwallis, Horton, Hantsport, Windsor, Newport, and Truro.

High water at Pictou and Cape Tormentine, 2 hours and 11 minutes later than at Halifax. At Annapolis, St. John, N. B., and Portland Maine, 3 hours and 25 minutes later, and at St. John's, Newfoundland 20 minutes earlier, than at Halifax. At Charlottetown, 2 hours 56 minutes later. At Westport, 2 hours 54 minutes later. At Yarmouth, 2 hours 20 minutes later.

FOR THE LENGTH OF THE DAY.—Add 12 hours to the time of the sun's setting, and from the sum subtract the time of rising.

FOR THE LENGTH OF THE NIGHT.—Subtract the time of the sun's setting from 12 hours, and to the remainder add the time of rising next morning.

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