

natural destructive agencies with which man has to contend.

Another consideration as to the value of growing trees is the fact that a park of any size is warmer when belted and grouped with trees, in winter, and cooler in summer, which has been demonstrated by practical experience for centuries. Many fruiting and ornamental plants flourish when so protected, that would not live if exposed to bleak winds. Domestic animals, too, grow faster, thrive better, and give better returns if sheltered and protected by trees. Much better is it also to rest under their broad branches on a hot summer's day or to be enlivened by their cheering green when all else is dull and cheerless.

A feeling of admiration and awe comes over me when I think of the wonderful wisdom shown in the forms or natures of trees to suit our various wants. If we plant trees with naked stems and branchy heads to shut out unsightly views, the work is only half done, as we can see through and under the branches; but when we plant evergreens, whose largest branches are near the ground, they fill up the gap and the work is complete. With fruit trees the same beneficence is manifest. We have to climb up trees to pick the large fruits, which when green are unfit for eating; while it would be tedious to pick the thorny gooseberry and blackberry, did they grow upon trees.

We say, therefore, plant trees for shelter and shade, for embellishments to your grounds and adornment to the landscape; they are grand and ennobling to look upon, and their fruits and timber in a few years growth will be as valuable as gold.—*Gardener's Monthly*.

Numerals of Different Sizes.

As the decimal system of notation is supposed not to be universally understood, it may be well to consider whether we can render it clearer by introducing into numerals distinctions in size and shape analogous to the distinctions between capital and small letters. If in printing sums of money we used common figures for the dollars, and figures of smaller size for the cents (as is often done on coupons), it would be more easily understood by persons who are not familiar with decimal notation; and even experts might sometimes be saved from errors of sight; so if decimal fractions were generally, or always, printed in smaller type, it would contribute to clearness, and to prevent mistakes; and it would avoid a difficulty which, without sufficient reason, is thrust upon us in many recent mathematical or partly mathematical works in which the decimal point has been changed from a period to a comma—the period being wanted for another use. And in the printing of the timetables of railways it might also be an improvement to print the minutes in small type; for example, 12₃₀ instead of 12:30, to express half-past twelve; and, \$25₁₆ instead of \$25.16, or \$25 and 16 cents. In decimals generally it would be easier and surer for the eye to distinguish them if they were printed thus 452₈₇₃₄₇, instead of 452.87347. We suggest this for the consideration of editors, and others concerned; hoping that if the idea be deemed sound, there may be an expression of opinion upon it. Of course it would be improper to attempt the

introduction of such a change without previous discussion, and a conventional agreement upon it.—*American Artisan*.

Alkali.

This term is constantly used by farmers in speaking of manures. It is well to understand its derivation and precise meaning. It is of Arabic origin. Dr. Dana says that *Kali* is the Arabic word for bitter, and *al* is like our word *super*; we say fine and superfine; so *kali* is bitter; *alkali*, superlatively bitter, or, truly, *alkali* means the "dregs of bitterness."

Alkali is a general term which includes all those substances that have an action like the ley of wood ashes. If this ley is boiled down, it forms potash. What is chiefly understood by the term *alkalies*, means potash, soda, and ammonia. *Potash* is the alkali of *land* plants; *soda* is the alkali of *sea* plants; and *ammonia* is the alkali of *animal* substances.

Potash and soda are fixed; that is, not easily raised in vapor by fire. Ammonia always exists as vapor unless fixed by something else.

Lime, fresh slacked, has the alkaline properties of potash, but weaker,—so has calcined magnesia, but in less degree than lime. Here are two substances, earthy in their look, having alkaline properties. They are called, therefore, *alkaline earths*. When the tongue is touched with a bit of quicklime, it has a hot, burning, bitter taste. These are called alkaline properties. Besides these, they have the power of combining with and taking the sour out of all sour liquids and acids; that is, the acid and the alkali neutralize each other. Were it not for this, there would probably be no such thing as vegetable growth. *N. Eng. Farmer*.

Transportation of Nitro-Glycerine.

The United States Congress has passed a bill prohibiting the transportation of nitro-glycerine on any vessel or carriage conveying passengers, under penalty of a fine of not more than \$5,000; in case of death from a violation of this law, the parties transgressing are to be indictable for murder. Nitro-glycerine is not to be transported unless packed in a metallic vessel separate from all other substances, and labeled "Nitro-glycerine—dangerous." Violations of this clause are to be punished by a fine not exceeding \$3,000.—*American Artisan*.

Colors, as Applied to Dress.

Few people give themselves the trouble to understand the rules of color. They consider them as belonging to an obtruse science. The principles, which are supposed to be too much wrapped in mystery to be worth the trouble of acquiring by any but professional persons, are those comprehended in the laws of contrast of color and contrast of tone.

First, as regards contrast of color. There are three primary colors—red, blue, and yellow. From these every other color is formed, and each has its perfect harmony in its contrasting or complementary color. The complementary of each simple color is formed by the union of the other two (and is therefore called also the secondary), that is, green being the mixture of blue and