

THE METAL NICKEL--ITS USE IN COINAGE.

The people of this country have become somewhat familiarized with the name of the metal known as nickel from its employment in the composition of our lower class of coins. Indeed, our "lame duck" cents--so called from the abortive effigy of a flying eagle, resembling a duck flying--are denominated "nickels" from the known fact that nickel forms an important part of their composition.

Still, the object has been to keep our lower valued coins somewhere near the market price of the metals of which they are composed, and at the same time to prevent them from becoming inconveniently large; so nickel was introduced as a composition of our cents in order to reduce their size while preserving their value.

Nickle is a brilliant, ductile, and malleable metal discovered by Cronstedt in 1751. It is found associated with cobalt and with iron in the ore, and is a common constituent of meteoric iron. The usual sources of supply are the arseniurets of nickle in cobalt and in what the Germans Kupfernickel or copper-nickel, containing 56 per cent of arsenic and 44 per cent of nickle.

Our nickel cents contain 88 parts copper and 12 nickle. It has been used for coinage also in Bavaria. It is valuable as an ingredient of the alloy known as German silver, the best of which is made of nickle, 3 parts; zinc, 3 1/2; copper, 8. The Chinese tutenag also contains nickle, although often regarded as zinc. The pakfong of the East Indies is also a composition of which nickle forms a part.

POISONOUS CHARACTER OF SO-CALLED "CALIFORNIA ROSEWOOD."

We are aware that some trees in a state of growth are poisonous, but entertained the belief that when cut down and seasoned no injury could arise from their use; but our faith is now shaken by the assurance of one of our subscribers that he has frequently had his hands and face poisoned when turning the so-called "California rosewood."

This wood is of a more brilliant red than Brazilian rosewood, and very handsomely grained with dark lines; its texture is however, closer than rosewood, and it resembles in that respect, as well as in its agreeable odor when worked, the red cedar.

We wish some botanical reader of the SCIENTIFIC AMERICAN in California would investigate the subject and give us the result. Occasionally parcels of this wood arrive by sailing vessels from San Francisco at this port and are purchased by the dealers in fancy woods. A beautiful specimen of this wood is on our table, and from the end of it a piece was cut and turned by our informant to make an ear ring.

The effect was similar to nettle rash; the back of the hands and wrists became like those of a child with scarlatina, and the itching so intense that it kept him awake almost all of the night. This effect had invariably attended the turning of the wood when no precaution had been taken to guard the hands. Some one of our chemical friends might like to analyze the specimen on our table and give the benefit of his skill to our readers.

TRANSPLANTING TREES--THE BEST TIME AND WAY.

For most trees, especially fruit trees, no time is more propitious for transplanting than the autumn. If the leaves are green they may be either growing, or not yet in process of decay; the difference between these two stages must be determined by experience and a knowledge of the nature of the tree. The state of the soil and weather is a much more important matter than the condition of the trees.

from the twigs, otherwise the rapid evaporation of moisture from the roots by means of these lungs will certainly kill them. By the first of October in the northern sections of the country our fruit trees have ceased growing--such as cherries, plums, pears, etc. If the leaves are removed they may be transplanted without injury.

But the soil to which they are transplanted should be mellow, friable, and fine, so that it can be sifted well in among the roots and leave no interstices for water, frost, or mice. The roots should also be well covered and the stems buried to a depth of one or perhaps two feet, with a mound covering the roots, to be removed in the spring.

TRIAL OF STEAM FIRE ENGINES.

On Tuesday last we were present at a competitive trial of two steam engines manufactured the one by the Amoskeag Company, of Manchester, N. H., the other by the Gould Machine Company, of Newark, N. J. The trial was under the direction of the Metropolitan Fire Department of this city, and was undertaken to test the value of the claims for superiority made by the makers of the latter engine.

The Amoskeag steamer, Metropolitan, has a cylinder eight inches diameter, twelve inches stroke. The Gould engine has a cylinder seven and one-half inches in diameter, and ten inches stroke. The manufacturers assert that by their improvement in introducing two more pumps than are ordinarily employed, one of their second-class engines will throw a greater amount, and more streams of water, than a first-class steamer of other makers.

In the first trial for rapidity in generating steam, the engines were practically on a par. Both were then supplied with two hundred and fifty feet of hose, to which was attached a one and one-eighth inch nozzle. The streams were thrown nearly equal distance, the Amoskeag perhaps throwing a few feet further than her opponent, her steam and water gages showing at the same time a pressure of eighty and one hundred and sixty pounds, to fifty-five and one hundred and forty pounds respectively of the Gould engine.

The last test was forcing a stream of water through one thousand feet of hose with the nozzles first used, attached. The result showed that the Gould engine with one pump working with ninety pounds of steam and two hundred and twenty of water pressure, could throw water to a distance of one hundred and forty eight feet. Her competitor with one hundred and sixty pounds steam, and two hundred and twenty-five pounds water, threw a stream one hundred and fifty-four feet.

The hose used on this occasion stood a very severe test, and satisfactorily demonstrated its great strength above that made of leather. This rubber hose, patented through this office by Messrs. Perry and Torrey, has a filling of duck cut in strips and so wound that the warp threads of the fabric will cross each other at right angles. It stands a water pressure of over three hundred and fifty pounds without bursting, and the water never oozes through to the outside.

Coal Gas Explosions.

When coal is stored in bulk in a confined space, highly explosive gases are given off which may accumulate and on being ignited cause the destruction of the confining structure. This catastrophe frequently happens on board vessels freighted with bituminous coal, and the provision should always be made, as we intimated in an article bearing on this subject some months since, for thoroughly ventilating the hold of all vessels engaged in the coal-carrying trade. The latest accident of this kind reported occurred on board the English screw steamship Conservator on a passage from Sunderland, bound for London.

The Ailanthus.

There is a great hue and cry throughout the West just now against the Ailanthus; but a writer in the Cincinnati Times thus defends it: "The Ailanthus tree is a native of the northern provinces of China, brought from there in 1750. The tree will grow in any soil, and to a large size where scarcely any other tree will grow at all. It grows so rapidly that it may be cut down for fuel every fourth year. As fuel, the wood is superior to that of most other trees; for open fires I prefer it to any other wood.

OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office, FOR THE WEEK ENDING JULY 30, 1867.

Table with 2 columns: Description of patent/claim, and Fee amount. Includes entries like 'On filing each caveat', 'On filing each application for a Patent, except for a design', etc.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS the following being a schedule of fees--

- 67,155.-EAVES TROUGH, BRACKET, AND CORNICE.--John N. Ball, Buffalo, N. Y. I claim a combined cornice, eave trough, and brackets, A B D, as a new article of manufacture, constructed and used in the manner substantially as described.