

IMITATION ROSEWOOD.—Boil one-half pound of logwood in three pints of water till it is of a very dark red; add one-half an ounce of tartar. Stain the work with the liquor while it is boiling hot, giving three coats; then, with a painter's graining brush, form streaks with the following liquor: Boil one-half pound of logwood chips in two quarts of water, add one ounce pearlsh, and apply hot.

CEMENT FOR STEAM JOINTS.—Take sal-ammoniac, two ounces; sublimed sulphur, one ounce; fine cast iron turnings, one pound, mix in mortar, and keep dry. When to be used, mix with twenty times its quantity of clean iron turnings or filings, and triturate the whole in a mortar; then wet with water until of proper consistence. A red putty for steam joints can be made of stiff white lead working well in red lead powder.

TO MAKE CORKS AIR-TIGHT AND WATER-TIGHT.—A German chemical journal commends the use of paraffine as the best method of making porous corks gas-tight and water-tight. Allow the corks to remain for about five minutes beneath the surface of melted paraffine in a suitable vessel the corks being held down either by a perforated lid wire screen or similar device. Corks thus prepared can be easily cut and bored, have a perfectly smooth exterior, may be introduced and removed from the neck of a flask with ease, and make a perfect seal.

OPTICAL DELUSION.—Take three differently colored wafers—red, violet, and orange—place them upon a large piece of white paper in a triangular form; hold the paper in a strong light, and fix the eyes upon the wafers, gazing upon them steadily for two minutes; then turn them away from the wafers to a blank part of the paper, and you will see three spectral wafers, but the colors will be different: the red wafer will now be represented by a green one, the violet by a yellow, and the orange by a blue.

JAPANESE MATCHES.—Lampblack, 5; sulphur, 11; gunpowder, from 26 to 30 parts—this last proportion varying with the quality of the powder. Grind very fine, and make the material into a paste with alcohol; form it into dice about one-quarter of an inch square, with a knife or spatula; let them dry rather gradually on a warm mantel-piece, not too near a fire. When dry, fix one of the little squares into a small cleft made at the end of a lavender stalk, or what is better, the solid straw-like material of which house-maids' carpet-brooms are made. Light the material at a candle; hold the stem downward. After the first blazing off, a ball of molten lava will form, from which the curious convolutions will soon appear.

A SUBMARINE LAMP.

The perfection to which the art of diving has been brought has necessitated the introduction of some means of enabling the diver to carry with him an artificial light. The fact is obvious that with a water-tight lantern, an ordinary oil-lamp could be used, but that would involve a supply of air and a length of hose equal to that paid out to the man who carried it. To be of any practical utility, however, a diver's lamp should have the maximum power of illumination, and any suggested application of gas or oil falls short of what is needed. Under those circumstances, two ingenious methods of lighting the bottom of the sea have been invented, and experience must decide which is the more successful. The first is an electric lamp which appears to have nothing to be desired in the matter of mere illuminating power, but doubts may be entertained as to whether the necessary connections with the battery would not interfere with the free movements of the diver, or, on the other hand, whether his movements would not disarrange them. The current necessary requires a large battery, and, unless that also be submerged, connecting wires would be required which would be liable to derangement by the motion of the vessel containing the battery. The lamp gives a light equal to twenty thousand candles, and the arrangement of the carbons has been so improved that it will burn uninterruptedly for four hours. The other method consists in the use of a simple spirit lamp, fed by oxygen,

compressed in an iron cylinder. That arrangement has the advantage of allowing it to be taken down by the man and moved about as he pleases, for the oxygen bottle can be slung over his shoulder while he carries the lamp in his hand. The light is not so brilliant as that produced by electricity, but appears to be sufficient for all the wants of the diver.

DAWN ON THE MOON.

The Lunar Wonders Revealed by the Advancing Sunlight.

A Rochester journalist who visited Prof. Swift the other evening, and had a view of the moon says: "The Telescope, with a power of 35 diameters, was tuned upon the moon. At first the flood of light was blinding, and the view was but cursory. The moon looked like a shield of embossed silver—the shield of achilles—hung by his goddess mother in the azure of the heavens. Prof. Swift looked over the field and noted as he looked many of the interesting points, and suggested that we follow the sunrise on the moon. On the moon the dawn advanced at the rate of ten miles an hour, lighting up new fields and furnishing to him an ever-changing panorama. Still, there is naught but desolation, yawning craters and sharp peaks of volcanic mountains and circular walls with perpendicular sides that surround deep pits. The moon is dead to all appearance—burned out with volcanic fires. No water leaves the desolate and rugged shores of its grey sea bottoms. But in the grey plains, where some astronomers think an ocean once spread, craters are seen with perpendicular walls.

The grey plains can be seen with the naked eye, forming what is called "the man in the moon," on a map like the Eastern continent. Under the telescope we could trace what seemed at first to be shore lines on the borders of this plain. On closer inspection, instead of wave-washed sand, these appeared to be but rounded steps formed by successive lava bursts spreading over the plain and marking, by the lessening flow, the gradual exhaustion of the volcanic force. From one of the largest craters rise three volcanic cones, the summits of which are tipped with sunlight before the floor of the crater is lighted. In another large crater two cones arise. From the large craters rays spread out as though the volcanic force cracked the firm crust in its upheaval, injecting through the broken surface ridges of dazzling white lava, that spread out like the arms of cuttle-fish, covering a vast surface.

The grandest phenomena is to be observed by following the sun on the moon. The advancing dawn forms a ragged crescent line upon the surface still in darkness. The sun's rays pass over dark chasms and low fields, lighting up ragged mountain tops far in advance. They appear like little islands of light lying off the coast of an illuminated sea. High mountains and crater walls near the shore of light cast deep shadows. The circular rims of craters are illuminated, and shine like rims of silver, glittering upon a cushion of darkness. The advancing dawn now lights up the bases of the outlying mountains that but a moment ago showed but a speck of light, and still new mountain tops are tipped with silver far in advance.

The sunlight strikes upon the side of a circular wall of a crater, and there is a silver crescent, with a blank space between it and the sea of light. Slowly the summit of other portions of the circular wall are lighted up, and then the sunlight invades the depth of the crater, while the shadow of the wall nearest the sun stretches half across the floor of the chasm. Frequently great gaps are broken in the crater walls and streaks of light stream across the floor. The jagged rocks, in calm, cold beauty, shine and glitter in the fierce white light. The mountains are mountains of desolation, and the valleys of silence and death. They are wrinkled with the flow of lava and torn with upheavals. The moon is dead. No sea, no forest shade, or living thing. The moon is a never-failing source of delight. It is so awful in its suggestions of power and loneliness of utter desolation.

The willow which bends to the tempest, often escapes better than the oak which resists it; and so in great calamities it sometimes happens that light and frivolous spirits recover their elasticity and presence sooner than those of a loftier character.