

cles are dissolved or left floating on the surface. Free the mass from the water, and put into a cylinder like a nutmeg grater, whose revolutions will remove the outer skin of the grain. Immerse the wheat thus cleansed in twice its weight in water, heated to 95 degrees, add 1 part of half dry yeast and 5 or 6 oz. of glucose to 200 parts of water. A day in this bath will give the necessary absorption and fermentation. The water being then removed put the stiffened mass through rollers, which mash it into a glutinous pulp and mix regularly through the whole bulk all the remaining particles of bran. The dough is then put into a trough, flavored with water into which salt has been thrown and allowed to absorb more water if necessary and then thoroughly kneaded by hand. When sufficiently light, put it in the oven.

AN AUTOMATIC RAILWAY SIGNAL, for crossings, and to prevent collisions at stations has been introduced. It is worked by electricity, an alarm being given on approach of a train by the engine striking a lever placed at a suitable distance on the track.

THE INFLUENCE OF SUNLIGHT ON HEALTH.—Late experiments tend to show that in climates where nudity is not incompatible with health, the exposure of the whole surface of the body to light is favorable to the regular formation of the body, and isolation in the open air is suggested as a means to restore healthy formation to scrofulous children, and is said to be exceedingly useful in consumptive diseases.

CROUP.—A German physician recommends the inhalation of pure glycerine as a remedy for croup, the remedy to be used early and frequently, at intervals of from half an hour to an hour and a half, and about 15 minutes at a time.

A new "**AUTOMATIC HOUSE PUMP**" has been invented in Boston, which by the extra heat of a common range or stove boiler will fill the tank at the top of any dwelling from any pipe, well, or stream in or near a building without any other labour than turning a screw to be let alone till the tank is full and then turned back.

VELOCITY OF ELECTRIC WAVES.—The velocity of electric waves through the Atlantic cables has been ascertained by Professor Gould to be from 7,000 to 8,000 miles per second. Telegraph wires upon poles in the air conduct the electric waves with a velocity more than double this. It is a curious fact that the rapidity of the transmission increases with the distance between the wire and the earth, or with the height of the support. The "*Journal des Telegraphes*" says that wires placed upon poles slightly elevated transmit signals with a velocity of 12,000 miles a second; and those at a considerable height give a velocity of 16,000 or 20,000 miles.

TO SAVE BUILDINGS IN BUSH FIRES.—In the country, when bush fires are beginning to spread the following directions by Alfred Perry of Montreal, will be of great value; Remove all fences or anything that will burn, while the fire is yet some few hundred feet away. See that each building has one or more active men in charge of it: have a ladder that will reach to the roof: close all windows and doors, and keep close watch of any sparks lighting on the roof. Roofs whitewashed with lime will resist any danger from falling embers. Have a barrel of water outside of the building. In this put a bucket of salt. If the sparks fly in quantities, wet the roof with this, it will resist the fire for days. Remove all spouts unless you can stop them up and keep them filled with water. This will keep the fire from creeping up the eaves.

WEATHERING OF COAL.—An important statement lately appeared in a German journal on the effect produced on stone coal by exposure to atmospheric agencies. The property which coal has of taking up oxygen is modified by its percentage of disposable hydrogen. This becomes oxidised with a certain portion of the carbon; since on one hand water is formed, and on the other oxygen combines directly with the coal. The carbon of stone coal, possesses at a temperature of 375° Fah., a variable affinity to oxygen, 5 or 6 per cent, combining with it and forming carbonic acid, and the rest, showing little or no affinity for it. These experiments apply equally well to ordinary atmospheric temperatures. Weathering of coal is ascribed to the absorption of oxygen, Moisture, as such, seems to have no accelerating influence upon the weathering of coal. Pure coal, heaped up for nine months or a year, unprotected from the weather, and not allowed to become heated, is changed no more than in a perfectly dry locality. The decrease in value for combustible purposes, which coal experiences by the weathering is produced by a decrease of carbon and hydrogen, and increase of oxygen.

PURIFICATION OF OIL.—Michaud's method for purifying burning oils is said to be the most satisfactory. This is, to introduce sulphuric acid into it the oil in numerous thin streams, air being forced into at the same time, so as to throw the liquid into active movement. The air bubbles carry the impurities with them to the surface and form a copious scum, which is removed from time to time, air being introduced anew until the surface continues entirely clear. To free the oil from sulphuric acid, it is placed in a copper kettle, and steam introduced until it is heated to 212°, at which temperature it is kept half or three quarters of an hour, during which it becomes sufficiently clear to be filtered. It is then drawn off, allowed to cool to half the temperature mentioned, and filtered. It is said to exceed in illuminating power and transparency any other oil.

LEACHED ASHES (WOOD ASHES WITH LIME) AS MANURE.—A German agricultural journal calls renewed attention to the great value of these ashes as manure. Although the soluble salts are removed from these ashes, the insoluble parts, the carbonates, sulphates and phosphates, principally lime salts, remain. There is no substance equal to leached ashes of this kind for manure, not even the richest guano,—the vegetation of the cereals becoming broader than common, the stalks more tubular, and the leaves, a dark bluish grey. In meadows where it is applied, the ordinary grass disappears and is replaced by a thick vegetation of red clover which will last for several years.

WATER PEST.—The spread of "The Water Pest," a plant living in running water, has caused some alarm in Europe. By its very rapid growth, it chokes up channel ways, impeding the flow of water in mill races, and interfering with fishing. Recently, it is thought, however, that this plant purifies the water, and if planted in streams into which sewers empty will take up entirely and destroy any disagreeable smell and noxious properties. The plant is said to furnish a manure of great value, and it has been tried with success in paper making.

DESTROYING LARVÆ OF INSECTS.—It is said that the larvæ of insects which are injurious to plants may be exterminated by applying water in which petroleum has been stirred. Applied in this way, the plant is not injured, and a small quantity of petroleum is sufficient for a considerable amount of water.