Combustion of Fuel.

Perfect combustion of Fuel is claimed in a new English stove, with which no flue or chimney is is used; although vent is provided for a small residuum of gas, if desired, through a half-inch pipe. The effective principle consists in making all the gaseous products of combustion pass into a chamber filled with the patent molded peat charcoal, which is said to have the property of absorbing carbonic acid and other gases and burning with a very small supply of air, until entirely consumed. In all stoves, wherever the strength of draft, the form of the grate or the nature of the fuel admits of lighting the fire at the top, a material saving of otherwise lost gases may thus be effected, the mass of fuel being roasted and a large portion of its gases disengaged and burned before it becomes itself incandescent.

Putting out a Fire.

During the process of extinguishing the fire in the colliery of Clackmannan, near Stirling, England, in 1851, about 8,000,000 cubic feet of carbonic acid gas were required to fill the mine, and a continuous stream of impure acid gas was kept up night and day for about three weeks. The mine extended over a surface of twenty-six acres, and had been thirty years on fire.

Effects of Alcohol.

Experiments made by Drs. Ringer and Rickards on men and animals go to show that the temperature of the body falls nearly as fast after the use of alcohol in doses sufficient to produce intoxication, as after death itself. The facility with which drunkards freeze to death, is explained by this fact. Dr. Jolly declares that an increasing tendency towards mental disease has been generated by the increasing consumption of spirits. Official reports show that the abuse of alcohol accounts for one fifth of the insanity in France.

Oiling the Sea.

An experienced sea captain writes to the New York *Herald* that he has been at sea for twenty eight years, and master of a vessel for the last ten years, and during that time he saved the vessel under his command twice by "oiling the sea." He writes that "when the master of a ship cannot get out of a storm—that is, when a ship is disabled and he has to take the heft of the gale—if he has oil on board, start two or three gallons over the side of the ship. This will give the ship smooth water to the windward, and then the oil allowed to run drop by drop is all that is required, for as soon as the sea comes in contact with the oil it breaks, and the ship is in smooth water as long as the oil is allowed to run. In 1864, in the heaviest gale of wind I ever saw, I lost all my sails, then the rudder; and I know the vessel could not have ridden the sea for another hour if I had not had oil on board. Five gallons of oil lasted me fifty six hours, and this saved the vessel, cargo and lives of all on board. Let ships of heavy tonnage have two iron tanks of forty gallons each, one on each side, with faucet so arranged that the oil can be started at any time; small vessels, ten gallon tanks, and all ship's boats tanks of five gallons each, well filled, so that in case the ship founder or burn, the boats will have oil to smooth the sea in case of a gale. With these tanks of oil on board of ships and a good man for master—one who knows the laws of storms and handles his ship so as to get it out of the center of the storm, you will have no more foundering of good ships at sea, with the loss of many lives and millions of money."

Engineer and Machinist Apprentices.

The *Scientific American* says;—"The directors of the North Eastern Railway (English) have made an arrangement for the instruction of the apprentices in their locomotive department, at the York School of Arts, at a reduced rate, half of which is borne by the Company. To educate their own engineers and machinists scientifically and practically from boyhood, is a shrewd liberality for corporations whose interests depend so much on the capacity and fidelity of such employees. There are many concerns in this country that might improve and economize their service materially by such means."

Early Measures.

In a primitive state of society, measures are simple enough, and the thumb, the palm, the foot, shod or bare, lie at the base of every system. "Let the ditch be 5 ft. wide by 7 ft. in length, one foot shod, the other bare." Such are the directions in an old Brunswick document and there was accordingly a slight difference between the "fuss" and the "schuh," to which some of the minor variations in the old German land-measures may be traceable. Long after the establishment of a regular standard in England, this kind of measurement remained in force as "customary;" for "le messuage de Crabhus" was measured by a pole "sixteen *pes d'home* in length," and in width the messuage was 35 poles and 4 large feet, "the feet of a tall man." A "day's work" was often the equivalent of an acre, at other times of half an acre; varying again accordingly as the work was reaping or mowing, plowing or hoeing; hence the frequent difference in measurements that go by the same name.—*The Gentlemen's Magazine.*

Wet Seasons.

The usual impression that wet seasons are unhealthy, is contradicted on the authority of compared meteorological and medical records, showing that the more rain the fewer deaths, and *vice versa.* Intermittent fevers in malarious localities, have been observed to prevail worse in dry than in wet seasons. Diarrhea and cholera are asserted to follow the same law, What say the doctors? If their proverbial diversity cannot yield us at least three contradictory opinions on this question, we shall have made a remarkable approximation to definite assurance.—*Scientific American.*

A Scotch blacksmith thus defines metaphysics:—"Twa men are disputin' thegither—he that's listenin' disna ken what he that's speakin' means and he that's speakin' disna ken what he's sayin' himself—that's metaphysics."