If the apparatus works according to anticipation a cotton mill may be lighted without any current expense, except the small power required to turn the electrical machines. As in mills driven by water there is always a surplus of power during the winter months, the only time when lights are required, there would be no expense for this light except the first cost of the apparatus, which would be quite moderate.—*Scientific American.*

Watt, the Inventor of the Steam Engine.

A young man, wanting to sell spectacles in London, petitions the Corporation to allow him to open a little shop, without paying the fees of freedom, and he is refused. He goes to Glasgow, and the Corporation refuse him there. He makes the acquaintance of some members of the University, who find him very intelligent, and permit him to open his shop within their walls. He does not sell spectacles and magic lanterns enough to occupy all his time; he occupies himself at intervals in taking asunder and remaking all the machines he can come at. He finds there are books on mechanics written in foreign languages; he borrows a dictionary and learns those languages to read those books. The University people wonder at him, and are fond of dropping into his little room in the evenings, to tell him what they are doing, and to look at the queer instruments he constructs. A machine in the University collection wants repairing, and he is employed. He makes it a new machine. The steam-engine is constructed; and the giant mind of James Watt stands out before the world —the herald of a new force of civilization. But was Watt educated? *Where* was he educated? At his own workshop, and in the best manner. Watt learned Latin when he wanted it for his business. He learned French and German; but these things were tools, not ends. He used them to promote his engineering plan as he used lathes and levers.—*Fincher's Trades' Review.*

Are Hurricanes Caused by Meteors?

Among the most mysterious actions of the atmosphere are those blasts of wind that sometimes rush along in narrow paths with terrific violence for a moderate period of time and for a moderate distance. May not these be caused by the passage of meteoric stones through the air?

The great meteor which passed over this city on the 20th of July, 1860, was seen at Elmira at five minutes before 9 o'clock in the evening; a friction of a minute later it flashed over this city; and in a few seconds it was lighting up the east end of Long Island, 90 miles away. It is supposed that the heat of these bodies is caused by the destruction of their motion from the resistance of the air, and that large numbers of them are so highly heated as not only to be melted, but to be evaporated, when they would of course be dissipated in the atmosphere. Would not one of these bodies, rushing at such immense velocity through the air, necessarily produce a narrow and violent blast of wind along its track, conforming in all respects to the singular hurricanes that so frequently occur?

If the earth should be stopped in its orbit, it would begin to fall straight towards the sun. As it approached more nearly to that great source of heat it would soon reach a point when the temperature is as high as 212°, and then all of the waters of the ocean would be evaporated. As it drew still nearer, the rocks would be melted, and afterwards they also would be evaporated. Before it reached the sun, this solid earth would be converted into a vast volume of red hot gas, which when it fell into the fiery atmosphere of the sun, would merely produce blasts of wind from the point where it struck outward in all directions.

A Cheap Dining-room for the London Workmen.

A commodious building has been erected and opened in Cambridge street, for the provision of cheap meals to workmen. The building is spacious and more like a chapel than a dining-hall. It is built of red-pressed brick, and its entire cost, although it is a large building, is only £1,300. The large door-way and the two large windows in front have semi-circular heads, with brick margins and keystones of granite. The hall is quadrangle, 115 feet long by 34 feet wide. The ceiling is 24 feet high, and light is admitted through skylights in the roof and through the windows at each side of the hall. There are forty tables, giving accommodation to 400 persons. The seats are backed but not cushioned, and the tables are covered with mahogany oil-cloth. The walls are papered with a dark paper for a height of about five feet from the ground, and the remaining portion is covered with a lighter paper. There are a large mirror and a clock at one side of the room. The following is a copy of the bill-of-fare and prices:—Cup of coffee, 1d.; cup of tea, 1d.; cup of milk, ½d.; bread and butter, 1d.; bread and cheese, 1d.; slice of bread, ½d.; boiled egg, 1d.; slice of broiled bacon, 2d.; ginger beer, 1d—all of the best quality and always ready. Besides the above from twelve till half-past two, may be had—bowl of soup, 1d.; plate of potatoes, 1d.; plate of hot roast beef, 3d.; plate of hot boiled beef, 3d.; plate of hashed mutton, 2d.; plate of hashed beef, 2d.; plate of cold beef, 2d.; plate of cold ham, 2d.; plate of plum pudding, 1d. Dinner (between the above hours) of soup cold or hashed meat, potatoes, and pudding, 4½d. Breakfast (with the morning newspapers) ready at eight o'clock. The room is kept warm with stoves and gas, and is well ventilated. on the left-hand side there is a small room for women, with seats for between thirty and forty. This, it is expected, will be a very valuable part of the institution, whilst the whole establishment must be a great boon to the mechanical classes.—*London Sanitary Reporter.*

Catalysis.

Cold oxygen gas and carbonic oxide may lie in contact for years without combining together, but if a piece of clean platinum is placed in the mixture, the two gases immediately manifest an affection for each other, and enter into combination. The platinum itself undergoes no change, but induces the union of the other two substances by its simple presence. This is catalysis.

If starch is mixed with saliva and kept for a few minutes at a temperature of 100°, it is converted into sugar by a catalytic action of the saliva. It is stated by Dalton and other eminent physiologists that nearly all of the chemical changes which occur in the animal economy are due to this mysterious property.