NEW YORK, JUNE 10, 1848.

Origin of Letters Patent.

Letters patent derive their origin from the system of the old monopolies which embraced nearly every branch of mechanical art down to the early part of the seventeenth century. These monopolies are to be found protected in the corporate laws of the old boroughs both in Germany and Britain. Monopoly means exclusive right to making, sale, practice and use. The first grants of this kind were those of the ancient free cities of the European Confederations, or made by the crowns. They extended first to certain classes in the practice of certain arts, to which none were admitted to equal privileges except through the provisions of charters granted.—This is the reason why we find all the old cities and boroughs divided into classes, with Mayors to preside over and maintain the rights of the charters. The aim of these grants was undoubtedly to benefit trade and promote the interests of community, hence we find Edward IV. of England granting special privileges to many of the banished Flemings from Flanders, for the encouragement of cloth manufacture. Many such grants, however, were selfish and rather detrimental than beneficial to community. Such as the great land monopolies, which have been fruitful sources of evil in every nation. Patents for inventions and the encouragement of art, are very different from such special grants. The letters patent are given for something that is to be a benefit to community, the other kind of charters are for the benefit of a few to the injury of community. The person who brings into the public stock some new art or trade, which is to be a stream to feed the national treasury of comforts, should receive some reward for his ingenuity, trouble and expense. To reward the inventor for the benefit his invention has conferred on community, and to secure him for his outlay of capital, was the origin of letters patent, not a mere matter of favor certainly, but a just claim upon national polity. Some have contended (and that but recently) that inventors and their heirs should have a continual protection to their inventions to the end of time, upon the property protection principle. But it may be truly said that no man has a natural right to an invention. If one man invents something useful that was unknown to him before, but which had been known before to others, no natural law could prevent him from using his own invention and giving it to whom he pleased. Letters patent, however, do this, and it is therefore plain that for a limited period only, should they exist, and community by our laws protects them for a limited period in order that community should get the benefit of the invention afterwards. "The patentee," says Lord Eldon, "is a purchaser from the public, being bound to communicate his invention to the public after his patent has expired." Patents were in use in England at a very early date, as early as the reign of Edward III., but in all cases they were subject to the action of common law,—and no letters patent granted could be held good, if granted for something that had been used before — The granting of letters patent in our Government was not a new institution, but just a continuance of the English Law, a few alterations having been made, but the main features are essentially the same. Letters patent for inventions, is a matter which originated in a sense of justice to inventors, as well as a wise national policy to encourage trade.

More Novelties in Steam Engines.

We have seen drawings of two steam engines lately put up at Deptford, England, by Messrs. Joyce, named "double cylinder pendulous condensing engines." They are curiosities in their way. The piston rods work below the cylinders and the cylinders are suspended on trunnions, not as in the oscillating kind, but hung at the top as it were, and vibrate like pendulums. They are also combined upon Woolfe's principle, having one small high pressure cylinder and another large condensing cylinder side by side. The steam from the boiler passes through connecting pipes into hollow chamber trunnions, and the open ends lead directly into the valve chests of the high pressure cylinders. At the commencement of the working of the engines, the steam is conducted to the upper end of the high pressure cylinders. At the end of the first stroke both pistons being at the bottom of their respective cylinders, the two slide valves have a reverse position, then the steam from the high pressure exhaust rushes in below the pistons of the low pressure cylinders while the lower ends of the high pressure cylinders receive a fresh supply of steam through their own valve ports. At the third stroke of the high pressure, the exhaust steam from the lower end passes into the upper end of the large cylinder and the exhaust from the lower end of the latter passes off through the hollow trunnions into a vertical condensing pipe leading down to the air pump. Rotary motion has long been sought in steam engines, but as yet, not successfully, so far as we have seen. The oscillating cylinder is a middle step between the reciprocating stationary cylinder and the rotary, and will no doubt supersede in many respects some kinds of engines for many purposes. The pendulum engine, however, although it may be new in England, is not new here, and its combination on Woolfe's plan is all the novelty that we see in it. We have in our possession at this moment a pamphlet kindly sent us by Mr. Enoch Burt, of Manchester, Conn., containing a drawing and a description of a pendulum engine, invented by Ebenezer A. Lester, of Boston. It was in operation at the Navy Yard in Charlestown, in 1830, and it received the highest commendations from many excellent mechanics. It would appear then that some pioneer inventions are being resuscitated long after the inventors should have been rewarded. This is too often the case.

At the present moment there is a steamboat named the Amenia, running between this city and Albany, that is creating no small sensation, both on account of her novelty and speed. She has no superior in swiftness on the river—no equal. She is but small in size but has got a tremendous stroke, being no less than 14 feet, while the diameter of her cylinder is only 34 inches. Thus the length in proportion to the diameter is as 4 8-10 to 1. Mr. Dunham is the Engineer, and the works are well put together. We are not admirers of the long stroke, but must tell the truth as it stands out. The long stroke was a favorite idea with James Watt for a long time and the first engines of his build resembled the one of the Amenia in this respect. For marine engines they would be objectionable, and for wear, we think, inferior, but we shall see—"time will try all."

Pure Water.

It frequently happens that Croton water is neither very beautiful to look upon nor pleasant to drink. After heavy showers, the water is muddy and brown and scarcely fit to drink, being full of impurities In such cases it should always be filtered. This can be done by the many excellent filters for sale, or by making one for domestic use, which can be very easily accomplished. A strong well varnished water box should be made with a division near the middle not extending to the bottom, but to the top. One side of this division should be empty, with a faucet communicating to the outside, and the other side of this division should be filled at the bottom with a layer of washed sand and then layers of charcoal with fine sand on the top not quite so high as the top of the division board. The water to be filtered is poured upon the top of the sand and charcoal, through which it soaks and rises into the empty chamber, a clear, wholesome and sparkling fluid. A sponge placed in the neck of a strainer makes a very cheap and handy filter, and should not be neglected by those who cannot get any other.—Eighteen cents will thus make a filter that will last six months, and although not so good as the filtering box above described, yet it is better than none. Charcoal is the best purifier. It not only removes impurities of color, but impurities of taste and smell, and a filtering box made as described above will last for a twelvemonth with an expense for charcoal of only twenty five cents.

A New Acid.

A new acid has been discovered by Mr. R. Smith, of Blackford, England, found by a preparation of the *Euphorbia Officinarum*, belonging to the family of the castor oil plant. To obtain it, the plant is cut in small pieces which are digested in water at a gentle heat for about three hours, after which it is filtered and a solution of the diacetate of lead added as long as any precipitate is formed. It is then filtered again and the liquid contains the alkali and the precipitate the acid, which precipitate is diffused in water and a stream of hydrogen gas passed through it, precipitating "sulphuret of lead." It is then filtered the third time and the clear liquid contains the acid which is colorless and perfectly transparent. It does not redden litmus paper, is bitter and of a slightly sour taste, and if allowed to remain on the tongue a little while, it produces a painful sensation. It precipitates the chlorate of tin, but no precipitate with the sulphate of iron. It combines with a few of the alkalies forming salts. The alkaline principle in the liquid mentioned above in the first filtering process, when evaporated and left to cool, forms into beautiful crystals. The acetic acid contained in the diacetate of lead mentioned above, combining with the alkaline principle forms an acetate. The liquid of this which remains after crystalization deposits a brownish gum, which with sulphuric acid produces a deep red color. This acetate in crystals, is insoluble in water and alcohol, but dissolves quickly in nitric acid A small dose administered to an animal destroys life, producing dilatation of the pupil of the eye. It has been named Euphorbic acid.

Knowledge is Power.

In the course of the pacification conference of Sir Harry Smith with the Kaffirs at King William's Town, a voltaic battery was fired on the opposite slope about a quarter of a mile distant. Here a wagon had been placed at three hundred yards distance from the battery, communicating in the usual manner by means of wires. The object of his Excellency was to convey to the Kaffir mind an idea of sudden and irresistable power. Accordingly, on a given signal from him —the waving of a small flag—the discharge instantly took place. The explosion shattered the carriage of the wagon—canting up the body of the vehicle, so that it remained fixed by one end on the ground, at an angle of 45 degrees. The action was so sudden as scarcely to afford time to his Excellency to direct the attention of the Kaffirs to the experiment —but in those who were looking towards the spot and saw the power exercised on a distant object, the surprise manifested was amusing. "There," exclaimed his excellency, "is a lesson for you not to meddle with wagons:—as you see the power I possess, should you do so, to punish you."

Man's Abilities.

No man knows what he can do till he is fully resolved to do whatever he can. When men have thought themselves obligated to set about any business in good earnest, they heve done that which their indolence made them suppose impossible. There are several abilities unknown to the possessor, which lie hid in the mind, for want of an occasion to call them forth.

Iron from Lake Superior.

A small boat which coasted down from Carp River, week before last, brought from the Jackson Iron Works at that place some 600 or 700 weight of bar iron, manufactured there, and which is pronounced by competent judges, who have examined it to be of a very superior quality. It is also their opinion that for the manufacture of steel, from its extraordinary fine grain, it will prove equal, if not superior, to any now used by cutlers at home or abroad. A cargo of Lake Superior Iron will be apt to elicit some attention.

The Scientific American.

We would *again* strongly recommend this excellent Journal to the patronage of mechanics and others engaged in, or having a taste for scientific pursuits. It is probably the most valuable and the cheapest journal—taking the usefulness of its matter into account—of the kind, published on the continent of America. The paper is steadily improving; the number—now before us—of date the 13th inst. is in our estimation, worth in itself, the amount of a year's subscription, which is put at the extremely low charge of $2 There is a short but sensibly written editorial, under the head of "Novelties in Steam Engines," that contains some useful information, resulting from practical knowledge, which we have copied into our present number. We would recommend the publishers to appoint an agent for the S. A. in this city, at the same time intimating our wish to subserve their interests in this quarter, blended as they would then be through the extended circulation of their truly useful paper, with the interests of Science and Mechanics in this Province.—*Albion, St. John, N. B*

[The spontaneous compliment paid to the Scientific American by our excellent exchange in the Province of New Brunswick, is evidence of an opinion impartial and gentlemanly. We are much obliged to our contemporaries both at home and abroad for the interest they have taken in the Scientific American. It shows the interest they take in the cause of science and the spread of solid and useful information.

For the Scientific American,

Steam and Gases.

There is a vast difference between steam and the gases to be used as a motive power in propelling machinery. Above all the elements steam is the most easily managed.

Steam is just water expanded to 1700 times its bulk by the application of heat to it, and it has the grand quality of being brought instantly back to its natural state by being brought into contact with itself in a cold state No gas has this quality. What is cheaper than water—what more plenty? Those who suppose that electricity, powder, or carbonic acid gas will supersede water as a mechanical propellant have never studied the subject thoroughly. The great expense of the steam engine is fuel. Well, it will take more fuel to smelt zinc enough to drive an engine one day by galvanism than fuel to raise steam, and the same may be said of powder and other gases. Carbonic acid gas, from its very expansive nature, might be supposed to be superior to steam, but that as well as powder has been weighed in the balance and rejected.

G. R.

British Patents.

During the last three years, no less than 2405 patents have been granted for England, Scotland and Ireland, at a cost of $1,473,400 or an average of $612 each. What would our inventors do, if they had to pay this amount of money for patents.

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