Ewbank's Hydraulics.

To the Editor of the Scientific American

Without the remotest interest in the work, but simply as an acknowledgment of benefits derived from it, and a desire to direct the attention of a class of men to it, who above all others are interested in the matter it contains, I respectfully submit the accompanying remarks on "Ewbank's Hydraulics and Mechanics." A PATENT AGENT.

New York, Jan. 18, 1848.

One of the traits of this popular volume has not, I think, been so fully appreciated hereas in Europe, viz. its practical value to mechanics and inventors. This was one of its features noticed particularly by British writers. The Atheneum said, "it is a book which every mechanic and inventor ought to consult." To which the editor of the Architect's Journal added, "it is capable of saving infinite trouble and mortification to inventors." These declarations have been remarkably verified in the recent history of some English machines and of their truth and force I have had some professional experience. Hardly a month has elapsed in the last two years without one or more examples occurring in my own office.—It is truly lamentable to meet (with a view to prepare drawings and specifications for them) men with models of ancient devices—to hear them speak of the time spent to mature them and of difficulties they had to surmount, &c., perfectly ignorant that the same things, substantially and often identically, had been discovered, tried and laid aside—never dreaming of being anticipated—incredible when told so, and not unfrequently getting angry at the gentlest hint in that direction—men, who had they bought and read the book in question would, beside saving their time and money have avoided spending their energies in vain

Not half a year has elapsed since an old and very respectable mechanic arrived in this city from one of the Western States, bringing with him a machine which probably did not cost him less than between three and four thousand dollars. He had been years employed upon it and had spent the greater part of his life in the department of Arts to which it belonged. Preparations were made to exhibit it in public, and in the meanwhile a gentleman was solicited by the inventor to examine it, and urged to give a candid opinion of its novelty and merits. *It was found fully described by Ewbank.* What became of it I have not heard. Ewbank's work was first published in 1842. Had this unfortunate mechanic consulted it he would with many others have been prevented from sowing the wind and reaping the whirlwind.

State and County rights for a patent rotary machine were lately, and I believe still are, offered for sale. *Ewbank has described and figured a similar one* of French or German origin, and of remote date. Not a month ago an inventor insisted on forwarding thirty dollars with an application to Washington for a patent, for a device in much the same predicament: nor has the moon waxed or waned since an application of Bellows to raise water has been seeking purchasers in this city. Ewbank shows that Bellows pumps are among the earliest devices for that purpose, and has given numerous illustrations on the subject.

These are specimens of at least a score of cases that have recently come within my own knowledge.

Before determining to prosecute any supposed new invention, I would urge every one to consult this book; and before laying down a dollar I would earnestly advise all who are about to become partners in or purchasers of patent rights, to have recourse to it. I do this from a conviction that few persons under such circumstances can follow the advice without being grateful for it, and that none can turn over its leaves with that intent without profit. This book I know *has* saved individuals from wasting their means on specious but worthless devices—devices rendered still more deceptive by interested statements. It has prevented thousands of dollars here, and as many pounds sterling in Europe from thus being thrown away. It has done more, for it has turned many ingenious men from the pursuit of phantoms—by breaking the enchantment at the beginning; it has prevented not merely heavy losses of time and money and the useless wear and tear of their physical and mental powers, but that prostration and sickness of heart which accompanies the dissolution of long cherished hopes, and a bitterness of disappointment that in some instances has driven reason from her throne.

[The incident referred to in regard to the "Mechanic from one of the Western States," came under our own observation.]—ED

The Lately discovered Volcano in Victoria Land, towards the South Pole.

With a favorable breeze, and very clear weather, we stood to the southward, close to some land which had been in sight since the preceding noon, and which we then called the "High Island;" it proved to be a mountain twelve thousand four hundred feet of elevation above the level of the sea, emitting flame and smoke in great profusion; at first the smoke appeared like snow-drift, but as we drew nearer, its true character became manifest. The discovery of an active volcano in so high a southern latitude cannot but be esteemed a circumstance of high geological importance and interest, and contribute to throw some further light on the physical construction of our globe. I named it mount Erebus, and an extinct volcano to the eastward a little inferior in height, being by measurement ten thousand nine hundred feet high, was called "Mount Terror." * * * At 4, p. m. of the 28th January, Mount Erebus was observed to emit smoke and flame in unusual quantities, producing a most grand spectacle. A volume of dense smoke was projected at each succesive jet, with great force, in a vertical column, to the height of between fifteen hundred and two thousand feet above the mouth of the crater, when condensing first at its upper part, it descended in mist or snow, and gradually dispersed, and gradually to be succeeded by another splendid exhibition of the same kind in about half an hour afterwards, although the intervals between the eruptions were by no means regular. The diameter of the columns was between two and three hundred feet, as near as we could measure it; whenever the smoke cleared away, the bright red flame that filled the mouth of the crater was clearly perceptible; and some of the officers believed they could see the lava pouring down its sides until lost beneath the snow which descended from a few hundred yards beneath the crater, and projected its perpendicular icy cliff several miles into the ocean.—*Ross's Voyage of Discovery.*

Elephants in Quicksands.

On the banks of the river there are many quicksands, and during this expedition, a somewhat distressing scene occurred. An elephant incautiously came within the vortex of one; first one footsank and then another; and in endeavoring to extricate himself matters became worse, no portion of either of his legs was at last visible, and the bystanders had given up the poor animal as lost. Being, fortunately, unusually powerful, he three several times, with what appeared to all supernatural strength, drew a foot from the closely clinging earth, placing it where, by sounding with his trunk, he found most solidity; not until the third time, did the ground bear his pressure, when he gradually released himself. During the whole period of his troubles, his cries were extremely dolorous, and might have been heard a couple of miles; his grunt, when they were at an end, was equally indicative of satisfaction. The internal application of a bottle of strong spirits, soon dissipated his trembling and restored equanimity.—Many unfortunate elephants are lost in these treacherous sands, when large quantities of grass or branches of trees are not at hand to form an available support to them. After a certain time the poor beast becomes powerless, and the owner can only look with sorrow at the gradual disappearance of his noble animal, and lament the pecuniary loss he sustains, for all human aid is futile. They have been known to be twelve hours before entirely sinking.—*Hand Book of India.*

The discovery of chloroform is now attributed to an American, Samuel Guthrie, of Sackett's Harbor in the State of New York, who is said to have published accounts of his discovery in the American Journal of Arts and Sciences, volume 21 and 22—1831 and 1 32.

For the Scientific American.

Chemitype Printing.

The art of Wood Engraving is now admitted to have arrived at perfection. Yet there are still many difficulties in the art to contend against, at least of such a kind as to prevent a supply equal to the demand upon real works of merit. This lies principally in the material. Many schemes have been resorted to, in order to overcome the disadvantages of wood engraving for printing. Glyphography, and anastatic printing have come and gone—passed the ordeal and received the verdict of public opinion. Another scheme has within the past two years been added to the list of inventions. It is that of a Dane, Herr Pul, of Copenhagen, who gave it the name which heads this article. By this method an engraving made in the usual way, may be converted into a high relievo stamp to be printed in the ordinary press like wood cuts.

On a highly polished plate of zinc an etching or engraving is made in the usual method which under common circumstances would be fitted for the engraver's press. Zinc being a positive metal, the tracery thus attained on the plate is to be electrotyped with a negative metal while the zinc plate itself is corroded by a certain acid and thus the cavities of the drawing on the zinc plate appear as a high relievo stamp. This effect is produced by the lines of the tracery not being acted upon by the acid of corrosion. The principle rests upon the positive and negative nature of the metals.—We have seen a few samples of this kind of printing and have no hesitation in saying that it will yet supersede wood engraving for large plates, but never for small engravings. It is very correct in regard to lines, and there are none of those light spaces in large engravings of the chemitype, which mars the beauty of the wood cut by the joining of the boxwood piecestogether, because no large blocks of that wood are to be found.

We have lately seen accounts of an invention called the Chemitype Printing, a description of which is shortly to appear in a pamphlet by a Mr. Doubry, in this city. It appears to be somewhat different and more simple than Herr Pull's invention by the brief account of it in the American Whig Review. Time and experience will test fully this new art. It may be no better, if as good, as wood engraving. We are not too sanguine of its complete success. The Anastatic system was to supersede wood engraving entirely, but it has not affected it in the least and is far inferior in producing meritorious works. G. R.

The Way in which French Wine is made.

Wine is made in a very simple and cheap manner. I shall mention the simplest, which by many persons is also considered the best. When the grapes are ripe they are gathered, and placed, either with or without the stalks, in large vats where they ferment during a few days—from eight to fifteen. At the end of that period and when great fermentation has taken place and ceased, the wine is entirely in the lower part of the vat, the other parts of the grape are at the top of it. The wine is drawn from the vats and placed in casks. There it must be allowed to remain for some time without being disturbed.

After three or four months have elapsed, even before, very often, immense quantities begin to be consumed by the working classes in our country, and by far the greater proportion of a year's growth is thus consumed during the twelve following months. But wines to be consumed by the middle and rich classes, must be kept in cellars for several years (from 3 to 6 years) in casks, and require no other care than to be drawn once or twice a year from the casks, in order to separate the wine from the dregs. When by such simple process, and a certain time, wine has become sufficiently old, it is drawn from the casks, and put in bottles. The longer French wine remains in the bottle the better it is. Its quality is thereby improved to an extraordiuary degree.—*M. Lalande.*

It is stated in the London Sun, that a barrister of high renown in Ireland, at the present time has a drove of 150 peacocks on his estate, and that he spends a large sum of money in importing grasshoppers for their consumption from Italy. "Kicked to death by grasshoppers," ought to be the fate of that fellow.

Lord Rosse a Mechanic.

On one occasion when he was but a youth, he went to an exhibition at the Adelaide, Gallery, where some kind of London steam engine, was being exhibited, By some means or other, the exhibitor could not set his engine going; all his efforts to effect it were in vain, and he was about to give it up in despair, when Lord Rosse, stepped forward, and said he thought he could make it work. No sooner said than done. He put his hand to the work, discovered by an instant's look where the machinery was out of of order, and made a few turns, put all to rights and then the machine to the admiration of the company worked beautifully.—Lord Oxmantown (for that was then his only title,) was dressed rather roughly, and not in drawing room habiliments, so that he might be mistaken for what he was not—a poor mechanic. He had already, however, proved himself to be a first rate one. Led by his rather rude appearance to suppose that he was a workman who would be glad of a job, a gentleman accosted him, and saying he was in want of a man of talent like him, offered to employ him, at a liberal salary. Lord Rosse, of course politely declined the offer, which, however, was perhaps as honorable to him who made it, as to him to whom it was made.

Occupation of our Legislators.

The present is the first House of Assembly in this State which has been elected under the single district system; and one effect has been the return of an unusual small number of practising lawyers. The House contains but two editors, both from New York city. There are 50 farmers; 16 mechanics; 17 merchants; 2 sailors or navigators, one of them being a "ferryman," and t'other a "mariner;" 4 manufacturers; 20 lawyers, including the Speaker; 1 clerk, and 5 gentlemen; 1 lithographer; 1 engineer, and 1 hotel keeper. They are described as active business men, able and willing to transact business to advantage the public affairs given them in charge. A few Europeans by birth are in the House, and the rest are citizens by birth. Of the 2,600,000 inhabitants of this State, it has been estimated that full one-fifth were not born within the limits of the republic.

TO CORRESPONDENTS.

"A. H. of N. H."—It is impossible to judge of the value of a rotary engine, or any other, but by a fair trial. How many have been constructed with the most sanguine expectations and yet have failed in their results Mr. Benson's rotary engine (Baltimore,) overcomes all the difficulty of a vibrating lever. He uses 4 pistons on a wheel, operating in the inside of a single cylinder.

"J. R. L. of Mass."—The information has been sent by mail.

"R. J. of Mass."—The gas evolved from the nitrate of ammonia being exposed in a retort to the flame of a spirit lamp, is the laughing gas. It should be collected over milk warm water, and left exposed in the vase over water for two days before it is used. The nitro ammonia should not be exposed to a great degree of heat.

"L. P. M. of N. Y."—We are happy to hear that you are so well satisfied.

"S. McD. of Pa"—We have something in view for you. Your rotary engine may work well for a short time, but we venture to say that the numberless parts submitted to the heat of the steam will soon get out of order by the expansion and contraction.

"M. A. C. of Conn."—Use more alkali.

"T. T. W. of New York"—Poppy oil is by far the best for miniature painting. It is not easily got. The nut oil so common is not rightly made. We shall give a receipt for this at some other time.

"G. C of Ohio."—There is no work on electro magnetism that is *minute* in *describing* its laws. The fact is, that its laws are not yet laid down, because they are not known, but it is to be hoped that we will soon have more revelations on this science, as the greatest philosophers in the world are now engaged in investigating the subject. Liebeg supposes that it never can be applied profitably to propel machinery. Time will corroborate or negative this statement, as there is much effort put forth just now to make it

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