

## MISCELLANEOUS.

**Bain, the Inventor of the Chemical Telegraph.**

Alexander Bain, so well known in this country as the inventor of the Chemical Telegraph, has recently failed in England, and has applied for a discharge in the Court of Bankruptcy. His debts to unsecured creditors amounted to £8,044, to others holding security, £3,628, amounting to about \$58,000. His available assets amounted to £40 in good debts, and £892 in property; the property of his patents was also given up, amounting to a large sum, according to the inventor's estimate, such as his Electric Clock patent, a patent Ship Log, and his Chemical Telegraph; he has patents for his Electric Clock for France, Belgium, and England, and his Chemical Telegraph has been patented in all the civilized countries in the world.

Upon the examination, Mr. Bain made a statement of his history as an inventor. He was a clock-maker by trade, and belonged to John O'Groats, in the North of Scotland, which place he left and came to England in 1837. His attention was soon directed to the application of moving clocks, by electricity, and he soon devised a plan for moving all the clocks in the kingdom by one clock connected with the Royal Observatory at Greenwich, to keep true Greenwich time, and he also applied his principle to common clocks, only his required no winding. He obtained his first patent in 1841, and a second and third one for Electric Clocks and Telegraphs in 1843. He also, at this time, invented a telegraph to print the common alphabet, which was made public property. In 1846 he joined the Electric Telegraph Company in London, against whom he had instituted proceedings for an infringement of his patent. His patent was purchased by them for £7,500 and a contingent sum of £2,500. In 1846 he obtained a patent for his Electro Chemical Telegraph, which, he says, "is an invention surpassing all others in the speed of transmitting messages, and the Electric Company, appreciating its value, purchased the right for Britain, Ireland, and the Colonies for £13,250, one half to be paid in cash and the other half in shares of the company." A portion of the cash he received, but in 1848 a compromise was made and he received back all his patents, some of which are now working successfully on the best lines in England. In that year, 1848, he came to the United States for the purpose of obtaining patents and selling his invention. His Chemical Telegraph was open to the press here the week after his arrival; we visited it, and at our own expense, knowing it was a subject of interest, published an engraving of it on page 273, Vol. 3, Scientific American.

From an examination of this Telegraph we became satisfied that it was entirely different in essence and principle from the Electro-Magnet Telegraph, or any other ever exhibited in our country. Mr. Bain made application for a patent, and was rejected, upon the grounds that it interfered with a caveat of Prof. Morse, filed in the Patent Office. We gave the subject great care and attention, and came to the conclusion, that obstructions of an illegal character were placed in the way of this stranger inventor by some in the Patent Office, whose personal and interested feelings led them to act like persecutors, rather than judges, to do justice alike to every applicant for a patent. Since then, from a knowledge of Prof. Morse's Chemical Telegraph, which is not worth a single straw, and which cannot operate as a telegraph at all, that is as it is represented in his drawings, we humbly believe that the Chemical Telegraph of Prof. Morse was set up merely to blockade the path of another rival Telegraph. The Patent Office decided against Mr. Bain, and refused to grant him a patent; he appealed to Judge Cranch, and was successful. The Patent Office was ordered to grant the Patent for the Chemical Telegraph, and shortly after this he sold his first patent right (U. S.) to Messrs. Rogers, Barvain & Lea, of Baltimore, who established a line of the Chemical Telegraph between Philadelphia and Baltimore. This was the Company against whom an injunction was sought by the proprietors of Morse's patent, for infringing on the Electro-

Magnet Telegraph, in which case Judge Kane made that decision, which our readers well know we have spoken against as illegal and wrong in every sense. An appeal was to have been taken to the U. S. Supreme Court, but the Company of Messrs. Rogers & Co., made a compromise for their own benefit, but much to the injury of the interests of the inventor. Six lines have been established in our country, worked by the Bain Chemical Telegraph. Mr. Lefferts, of this city, we believe, owns most of Mr. Bain's rights. We suppose that he obtained considerable money for his patent, but the expense to which he was subjected by unjust opposition must have been enormous,—we have looked upon him as an injured man. We would not say so unless we were convinced of this. His Patent Agent was Mr. Serrell, of this city (now deceased), an old and respectable citizen. We have never had any business transaction with Mr. Bain, and spoke to him only a few times, and our conversations were but short. When he first arrived here we formed a high opinion of his abilities as an inventor, and excellent machinist. His inventive faculties were high, and his hands could execute what his head designed. From being so much harassed and persecuted, we observed, before he left New York last, that a great change had taken place in his appearance since 1848. We were sorry to observe it; we would not like to be in the place of some of those who did so much to injure his interests—our conscience could not feel at ease. He is now poor, and according to the ways of the world, he will find few to say a word in his case, since there is no money in his purse to pay for it. His inventions, however, will carry his name down to the end of time, and his fac-simile telegraph may yet be so improved as to supersede all others.

These remarks have been dictated by a sense of our duty to inventors, based upon the principles of justice and truth. No personal considerations ever prompted us to say a word in his favor, nor one against those who opposed him: the Scientific American is not conducted to carry out such feelings, and never has exhibited them. Independent and free to speak at all times on every question of interest to science and inventors, we speak the truth right out as we believe it, whether for rich or poor, friend or stranger, and abide the result, confident in "honesty being the best policy."

**Berdan's Gold Crushing Machine.**

Experiments have lately been made with the above machine, which leave no doubt of its superiority for obtaining the greatest amount of gold from a given quantity of quartz. These experiments have been conducted at the Novelty Iron Works in this city, and the working of the machine has fully borne out its character for efficiency and economic results. A public trial of its capabilities of performance, was made last week at the above-mentioned establishment, under what may be called the most disadvantageous circumstances which resulted in a perfect success. The experiment was made with the refuse from the workings of the Gold Hill Mining Co., in North Carolina, which are technically called "tailings," and thrown aside as worthless, after all the gold has been or is supposed to have been extracted. With some of these "tailings," large quantities of which have been bought up, we understand, by parties in Boston for further extraction of the remaining gold, the efficacy of Berdan's machine was tested. The quantity of "tailings" experimented with was two barrels, weighing together about 100 lbs., and to these were added about 10 lbs., or rather more of quicksilver, the processes of pulverizing and amalgamation being carried on together, which will be understood by referring to page 35 of the present volume of the Scientific American, where the machine will be found illustrated, with accompanying letter-press explaining its mechanism and method of operation. The proceeds were 58 dwts. 1 gr. of gold, but as the experiment was done very roughly, a deduction must be made for impurities which would be thrown off on refining; these, however, on examination of the specimen, we should conclude will not amount to much; at all events it proves decidedly that the refuse of the above named mine is worth being washed over

again, the weight of gold obtained from the above quantity of "tailings" being sufficient to amply reward for the expense and labor in extracting it. A second experiment of crushing the quartz as well as pulverizing it, was afterwards made, 70 lbs. of gold-bearing quartz, from a mine in Rutherford Co., in the same State, being operated upon; in this instance the product was very small and mixed with inferior metal, bearing no comparison with the results obtained by the first experiment. We will not vouch for its accuracy, but it was publicly mentioned, during the experiment, that the per centage of precious metal obtained from these "tailings" was greater than that obtained at first from the original quartz. Whether this is the case or not can be easily ascertained, the quantity obtained by the above experiment being known, and the quantity obtained from a given quantity of quartz by the Gold Hill Mining Co. being compared with the former.

**Patent Cases—Hook-Headed Spike.**

For a long time a keen litigation has been going on between Henry Burden of the Troy Iron and Nail Factory, and Corning, Winslow & Horner, of the Albany Iron and Nail Works, respecting the infringement of Burden's patent for making hook-headed spikes by machinery. Burden's first patent was dated in 1840. In 1842 he brought a suit against Corning, Winslow & Horner, for violating said patent, which suit resulted in a verdict of \$700. A motion for a new trial having been overruled, the verdict was carried into a final judgment against the defendants. In 1848 having reason to believe that Messrs. Corning, Winslow & Horner continued to use his patent, Burden brought a suit, and filed a bill for a perpetual injunction and damages, in the United States Circuit Court for the Northern District of New York.

The validity of the patent was again sustained, but the injunction was not granted, the defendants alleging that they had a license to manufacture. Burden appealed to the U. S. Supreme Court, and prayed "that the Court would enjoin the defendants, Corning, Horner & Winslow, their attorneys, and agents, and workmen, to desist from making, using, or vending any machine, containing the improvements for which letters patent were granted to Burden on the 2nd of September, 1840, and from selling or using any spikes which they then had on hand, which had been manufactured by their machines, containing the improvements of that patent; and that an account of the profits which they have derived from the use of such patented improvements, should be made."

The Court, in giving their decision, say that the license, permit, or instrument set up by the defendants, in their answer and defence, and under which they claimed to manufacture, was not a license; and touching the other allegations in the bill, the Court say they were all "either proved or admitted by the answer of the defendants." "In every point of view," says the Court, "which we can take of this case, we think that the defendants have infringed the patent for making hook or brad-headed spikes, with Burden's bending lever. We shall direct the decree of the Court below to be reversed, and shall order a perpetual injunction, to enjoin the defendants from using the machine with Burden's bending lever in the manufacture of brad headed spikes, and shall remand the case to the court below, with directions for an account to be taken, as prayed for by the appellants."

This case having been remanded to the Court below (the U. S. Court of the Northern District of New York) it becomes the duty of this Court, without discretion, to execute the injunction and decree of the highest court in the land. At its next term, probably in June next, there will be an examiner or commissioner appointed, to enforce the injunction, and examine into the profits made by Corning, Winslow & Horner, by the use of Burden's patent, and the amount of "damage sustained by Burden, in consequence of the unjust and unlawful violation and infringement by the defendants."

**BRICK PRESS.**—In this city on Saturday (23rd) in the U. S. Circuit Court, Judge Nelson presiding, a verdict was given in favor of Alfred Hall, vs. J. Strang, for the infringe-

ment of a patent for making bricks. The verdict was \$1,000 damages.

The trial of a similar suit against Daniel Weed was commenced.

**The People's College.**

A meeting of the "People's College Association" met in the City of Brooklyn, on Wednesday last week, for the purpose of transacting business. We have more than once directed the attention of our people to this project. It is a laudable one in every sense of the term, and should receive the support and assistance of those who are possessed of means to establish it on a firm and secure basis. "The People's College" was chartered by our Legislature at its last session, and measures will soon be matured by its Trustees for an appeal to the people of this State for establishing the College at an early day. We want to see our farmers, mechanics, and artisans elevated above their present position in society, and they never will be unless some means are provided like this People's College for the better education of our "working youth;" that is, those whose occupations embrace much manual toil. The safety of the property of the rich is dependent upon an intelligent and virtuous population. Every scheme like this, therefore, should receive the countenance and encouragement of those who have means to devote to such objects, namely, to take stock in such a laudable scheme. The education is to be thorough in chemistry, engineering, and all the useful branches. Many small countries in Europe greatly surpass ours in effective institutions of useful learning, this should not be, for our liberties and progress, depend on the energy, virtue, and intelligence of our people; let our people then, have a People's College.

**Deaths in the City Prison.**

Five men were put into one of the cells in our City Prison last week in a state of intoxication, and four of them died. The cell was examined and the doctor reported that it was healthy, and that the state of the prisoners, not the cell, had everything to do with their deaths. Others did not think that the report of the doctor was correct, but believed that the state of the cell was accessory to their deaths. An exchange has the following on the subject:—

"Yesterday, the District Attorney, accompanied by Dr. Chilton, the eminent chemist, visited that prison, and tested the condition of the cell in which the unfortunate men were confined. Upon examination, they discovered the presence of carbonic acid gas, of sufficient strength to set on fire a liquid which was placed on the floor of the cell. The whole affair has been placed in the hands of the Grand Jury, who will probably remain in session until to-morrow morning. In the meantime, Dr. Covil and Dr. Chilton will be summoned before the inquest, and some action will be taken respecting the erection of a prison in a more healthy part of the city. The action of the Grand Jury in the matter will be given in their presentment."

How the carbonic acid gas could have set fire to any liquid whatever is more than we can divine. The discovery that carbonic gas can set fire to a liquid is one of the wonders of the age, as carbonic acid gas extinguishes fire.

On the next day after which the above extract appeared the same paper said in reference to the same matter, that "when a stone of the floor was raised a stream of carbonic acid gas which had been generated underneath rushed out and extinguished the flame of some alcohol." No apology was made for the first blunder. In all likelihood the gas was either carburetted or sulpho-carburetted hydrogen generated below the prison which stands on the site of an old pond.

**Death of an Eminent Chemist.**

Dr. Lewis C. Beck died at Albany, N. Y. on the 21st inst. He was professor of Chemistry in the Albany Medical College. He was a good chemist and a gentleman in every sense of the term.

The Prussian Minister of war has approved of a proposal to educate a certain number of officers and soldiers from every regiment, as engineers, in order that they may be enabled to work locomotive engines.