

Correspondence.

American Made Goods Exhibited as European Manufactures.

To the Editor of the Scientific American:

"A good copy is better than a poor original," says the proverb. What, however, shall be said of a Continental firm which buys locks or takes samples made in New Haven, United States, and exhibits them in the Austro-Hungarian Department?

Let us examine them:

1. On the hasp and key of one are the figures "23," the private number of that particular padlock, made by Mallory, Wheeler & Co., of New Haven, Conn.

2. The stamp "2 tumblers" has been so far removed from the varnished face of the padlock that it can only be seen by glancing it in the light so as to present a certain angle. It is doubtless one of a set of samples on which the inscription, "2 tumblers," has been put with white lead, which has been removed by turpentine, but left an impression on the asphaltum varnish.

3. Another padlock has "3 in." yet visible; and a third has "in." "20," both of the Mallory, Wheeler & Co.'s marks.

If made in Austro-Hungary, they would hardly have inscriptions in English.

4. The scutcheon of the keyhole has been ground down thin in removing the stamp of the firm.

I can only account for the substitution of American locks on one of two suppositions:

1. They could not make any so good.

2. The name of the company—Eisenwaren-industrie und Handels-actiengesellschaft, Moravia in Olmütz—was too long to go on such locks.

The American juror in this class, No. 43, Prof. William P. Blake, detected the fraud and had the award of a medal canceled.

EDWARD H. KNIGHT.

Corundum.

To the Editor of the Scientific American:

My attention was called to an article in your issue of September 28, on "Corundum, its Occurrence and Distribution." Within the past two years there have been such extensive developments of this mineral in the South as to warrant the correction of a part of your article.

The deposit at Unionville, Chester Co., Pa., I understand, was abandoned for want of mineral of marketable purity. The veins at Chester are worked for emery, and it cannot be classed as corundum. The belt of this mineral is more than 250 miles long, but there are only a few places in the whole of this distance that will warrant working. The mine you mention at Corundum Hill, as opened by Col. Jenks and others, has lately been sold to the Hampden Emery Company, of Chester, Mass., who are now mining in a small way, but are making preparations for extensive work in the spring. This mine displays some very interesting features; in one part the mineral is inclosed in chlorite, ripidolite, and smaragdite, and in another portion the crystals have a gangue of albite.

Col. Jenks while working there, I am told, took out crystals of considerable value, one of which sold in Amsterdam for \$7,000; and it will not be surprising to hear of more being found of equal value.

The extent of the mineral in this mine is all that the owners can desire. Heretofore the production has been so limited and uncertain that manufacturers could not rely on it; but now the outlook is very different.

In a few days an article will be given to the public on the corundum belt of the South and the uses of the mineral, also how the gems rank with the diamond.

W. J. L.

New York, October, 1878.

Nitrite of Amyl in Sea Sickness.

To the Editor of the Scientific American:

Referring to an article in your paper of October 5th, on the use of nitrite of amyl in sea sickness, I have to report a number of experiments made by myself in the same direction, with results more or less gratifying in every case where the treatment was fairly tried. The use of the preparation in question to prevent or allay sea sickness was suggested to me by my friend and quondam preceptor, Professor Carl Binz, of the University of Bonn, Prussia, who claims that the nausea occasioned by the motion of a vessel at sea is due to a largely diminished supply of blood to the brain, a theory which many known facts of pathology and physiology seem to bear out.

As a majority of your readers are more interested in facts than in speculative theories of medicine, I shall pass at once to the results of my experiments. My first application of the drug was in my own case, on the occasion of a very rough passage in a small screw steamer, from Port Rush, near the Giant's Causeway, in Ireland, to Glasgow. I had prepared a mixture of nitrite of amyl and alcohol, as the inhalation of the former in a pure state is often attended by somewhat unpleasant effects, and as soon as the vessel began to roll and pitch in the seaway I found the expected opportunity to try the effects of the remedy at hand, as I am very easily made seasick. After about a dozen deep inhalations from the bottle the feeling of nausea began to pass away, and did not return for perhaps half an hour, when a repetition of the same proceeding again restored "confidence." After an hour or two I found myself no longer called upon to inhale the fumes of the nitrite, and slept the

night through in comfort. A month later I came out in the National steamer Greece, from London to New York, and kept off sea sickness whenever it began to come on by inhaling as above described. Several of the other passengers were similarly benefited, but some who first tried the remedy when in the most severe agonies of the disease failed to derive any benefit, because, as I believe, they did not persist, being in that condition described as the second stage, when a man does not care whether he lives or dies, and has neither faith in anything that may be offered him nor the will to try it. (The first stage is when a man is afraid he is about to die, while in the third he is only afraid he will not die.) These experiments were made in 1876. I used about equal parts of nitrite of amyl and alcohol.

G. FARRAR PATTON, M.D.

Mississippi River Quarantine Station, October, 1878.

Patent Law.

Those who decry conferences and congresses on principle can hardly deny that the formation of clear ideas on patents and patent law has been greatly helped by the ample discussion of the subject at Vienna, and more recently at Paris. Previously to the Patent Congress at Vienna there prevailed, even among enlightened administrators, some curious ideas as to patents, nearly all of which were based upon the fundamentally erroneous proposition that man works for the benefit of the human race in general, instead of that limited portion of it beneath his own hat or his own roof tree. In the present stage of civilization, average man is not advanced sufficiently to pass laborious days and sleepless nights for the benefit of other people, and if he choose to occupy the unhappy place of an inventor it is to the end that he may make a fortune thereby—a sensible and honorable ambition. In spite of this obvious truth, there was actually, a few years ago, a band of theorists who held that the general interest of any given country or of mankind was opposed to a patent law, and that, therefore, patents should not be granted. Luckily for individuals, nations and mankind, these theoretical cosmopolitans have been brought to naught by the proof, abundantly supplied at the Philadelphia Exhibition, that the nations without patent laws invented nothing; while those which, like the United States, enjoy a patent system which, if not perfect, is at least facile, have largely contributed to the comfort and profit of the world.—Iron.

The Benefits of Patent Rights.

In a recent popular address, Col. Carroll D. Wright, of the Massachusetts Labor Bureau, said:

"Government has protected our inventions. To the mechanic of the United States is due the whole progress of our mechanic arts. How does the government protect these matters? By her letters patent. Now, while there are many things in our patent laws which I cannot consent to, which I cannot agree with, and which I believe from experience in that particular line needs adjustment, still the foundation idea is that the mechanic of the United States shall receive for his brain labor that monopoly to which he is entitled. The product of his brain, under the laws of this country, becomes absolute property, just the same as any other property which he might acquire by purchase; and the courts of this country protect his title to this property. To this protection of the inventive genius of her citizens is largely due the civilization which the United States has reached. It does not do, my friends, to cry out against machinery. It does not do to urge that the hard times which prevail now are the results of over-production, because over-production is rather the result of stagnation than stagnation the result of over-production. Labor-saving machinery—the term is a misnomer—means the elevation of the mechanic, always. It means educated labor, it means raising the workingman of any country, who lives under a patent protective law, to a higher plane, to a better condition, to a nobler civilization; and therefore the government which stands in the advance, in regard to the protection of the inventive genius of mechanics, is entitled to the support and well wishes of the mechanics of that country. The government of the United States is such a government."

The Mariner's Compass.

Many people look upon the compass as an introduction of the fifteenth century, but it seems to have been well known in a primitive form in the twelfth and thirteenth centuries. In one of the popular songs written in the time of King John, it is said that the sailors who go on long voyages to Friesland or to the East know their way by observing the *tramon-tane*, or polar star; but, when the sky is covered with clouds, and they could no longer see the stars of heaven, they had a contrivance which was this: they took a needle of iron and put it through a piece of cork, so that one end remained out, which they rubbed with the loadstone, and then they placed it in a vessel full of water, and, whichever way the end of the needle pointed, there, without any doubt, was the polar star. This formed a primitive but fairly perfect mariner's compass.

Crude Sulphur from Iron Pyrites.

A mode of treatment of iron pyrites by which one equivalent of the sulphur is obtained as sulphur, and the other in the form of sulphureted hydrogen for precipitating sulphide of copper from cupreous solutions, has just been introduced by an English inventor.

The process is to fill with pyrites a retort set in a furnace, and after heating it to a dull redness, to introduce through

the charge a current of superheated steam; then the temperature of the vessel is raised, and the steam carries over in suspension about one equivalent of the sulphur. A stream of sulphureted hydrogen is also evolved, which continues throughout the operation; the relative proportions and quantities vary according to the temperature and the length of the operation. A temperature of 1,500° Fah. and upward is most favorable to the production of crude sulphur.

At a temperature of 1,400° Fah., cupreous iron pyrites, containing 47.96 per cent of sulphur, has yielded 23.7 per cent of free sulphur—practically one half of the amount originally combined in the pyrites—and nearly the whole of the remainder was evolved as sulphureted hydrogen.

To free the sulphur from arsenic that may be carried over with it, it is digested with a dilute solution of alkali or alkaline sulphide (preferably cold), and the arsenic thus rendered soluble, so that by decantation or filtration it can be removed.

In applying this treatment to pyrites containing copper, but about one half of the sulphur is distilled off, when the residue is exposed to air and moisture, whereby sulphate of copper is formed, from which metallic copper is obtained by any of the well known means.

This process seems to possess many advantages for working pyrites and poor copper sulphurets, and could, we think, be very profitably applied in many parts of the country.

New Agricultural Inventions.

Mr. Columbus M. Crossley, of Rutledge, Ga., has patented an improved Plow Stock, which is simple, light, and strong, easily made and repaired, which may be readily adjusted to work deeper or shallower in the ground, and to accommodate a taller or a shorter plowman.

An improved Plow, Harrow, and Seed Planter has been patented by Mr. Nelson M. Fowler, of Beloit, Kan. This invention consists in a novel arrangement of devices, whereby provision is made for plowing in opposite directions and turning the team without turning the machine, for changing the direction of the wheels with relation to the plows for adjusting the height of the plows, for harrowing the ground, and for planting seed.

An improved Cotton Cultivator has been patented by Mr. William W. Harvey, of Clarksville, Texas. This implement takes the place of the plow usually employed for throwing the soil from or toward the row of plants. It consists in a frame carrying two forward rollers, provided with cutting flanges for loosening and separating the soil, and two plows or scrapers for turning the soil to or from the row, according to their position.

Mr. Kenneth P. Grant, of San Buenaventura, Cal., has patented an improved Weeder, which is designed to be attached to the frame of a gang plow or cultivator, and which shall be so constructed as to cut off and destroy the weeds without turning the soil.

An improved Cultivator has been patented by Mr. Francis M. Cropp, of Platte county, Mo. This invention relates to the class of cultivators known as "wheel cultivators;" and it consists in a coupling, of new and peculiar construction, for connecting the cultivator plow beams with the axles.

An improved Sulky Plow has been patented by Mr. James E. Alexander, of Neosho, Mo. The object of this invention is to provide a simple and efficient adjustment of a sulky plow to allow for deep or shallow plowing.

Mr. Clark T. Barton, of Tusculum, Ala., has patented an improved Cultivator. The object of this invention is to furnish a cultivator which may be readily adjusted as a three plow or two plow cultivator, and as a two horse cultivator. It is so constructed that the plow plates may be adjusted as a shovel, a half shovel, a scraper, and a sweep, as may be required.

Hop Picking by Machinery.

We have the authority of a correspondent in the *Ironmonger* for saying that a successful hop picking machine has been employed this season in the hop growing districts of England, and will do the work of from thirty to forty expert pickers. It consists of two rubber rollers, so constructed as to draw in the branch, while two steel rollers, having an opposite action, pick the hops from it. The machine is about the size of an ordinary clothes wringer, is propelled by means of a treadle, and runs as easily as a light sewing machine. From the picker the hops run into a sack, which, when filled, is taken to the separator, which sorts the hops from all leaves or stems which may have gone into the sack, and thence to the hop house. One separator is ample for a large number of machines.

Antimony for Batteries.

Mr. R. J. Munn calls the attention of electricians, in the *Journal of the Society of Arts*, to the use of antimony as a negative element to replace carbon in some galvanic batteries where sulphuric acid is used as the exciting fluid. This metal, after a trial extending over five years, he claims, has yielded most excellent results. Among its advantages he mentions its low price, the absence of scaling and disintegration, and the fact that galvanic action begins almost immediately on immersion.

The well known defect of brittleness of antimony, when used in thin plates, is overcome by Mr. Munn by casting the metal on a core of copper or by alloying it with a small percentage of some other metal. Antimony, perhaps, does not form as perfect a negative element as carbon, but its great conductivity and its other qualities may render it valuable in many cases.