

Scientific American.

NEW-YORK, FEBRUARY 9, 1856.

American Climatology.

A recent number of the New York *Tribune* contains an interesting article on the above-named subject. The main idea which the author endeavors to present is the dependence of a country for its agricultural products on the quantity of its rains. The amount which falls annually in different parts of our country is given, and the fertility of the Mississippi valley—where no less than sixty inches fall—is described correctly. The causes of those rains, however, and of their unequal distribution over our continent, are not mentioned.

A country without rain, unless it possesses some compensating substitute, must be a barren waste. A plant cannot grow without water, any more than a human being can live without it. Egypt is, indeed, "a land without rain," but its well-known fertility is due to the river Nile, which regularly overflows its banks and saturates the soil, and affords it at all times a supply for artificial irrigation. Rains are produced by evaporation from large bodies of water—seas and lakes. The atmosphere which holds the vapor in suspension is drifted towards mountains, where it is condensed, and then becoming heavier than the air, it falls down in showers to cheer the thirsty ground. Cold atmospheric currents, when they meet warm moist currents, also act the part of condensers to produce rain. The winds of a country, therefore, have much to do with its climatology.

The geographical features of North America exercise a marked influence in the atmospheric disturbances which take place in various parts of it. The Appalachian range of mountains—3000 feet high—running parallel with the Atlantic from Maine to Alabama, give a peculiarity of climate to the country east of them, from that which lies west—the vast valley of the Mississippi. This great basin is bounded on the west by the Rocky Mountain range, which has an average elevation of 10,000 feet, stretching from the Arctic regions to the Isthmus of Panama, and it has a gentle descent from the northern lakes to the Gulf of Mexico, where it opens its arms to the warm moist winds of the Caribbean Sea. These warm breezes, freighted with moisture, flow up, and are confined in the valley, where they are expressed by a cold upper current from the west, and drop down in fertilizing showers on the land beneath. This is the reason why so much rain falls in the Mississippi valley, and it is, and always will be a land of great fertility.

A cold upper west wind flows steadily across the Rocky Mountains and towards the east. This current, owing to the geographical features of our country, is nearly a due west wind in the Southern States, while it forms the piercing north-west wind of the Eastern States and Canada. It was the cause of the severe cold which lately prevailed over such an extent of territory, and explains the reason why the cold visited our Western States before it was felt in the east. The exceeding coldness of this wind arises from its being robbed of the moisture it carries from the Pacific Ocean as it crosses the Rocky Mountains, and this furnishes a solution of the cause of those large rainless tracks on this side of these mountains. A vast quantity of rain falls in Oregon, by these west winds leaving their moisture behind them on that side of the mountains, just as the "Ghauts" of Madras express the moisture from certain sea winds, making them pour down rains on their one side, clothing all nature with the richest fruitage, while on their other side rain seldom falls, and as a consequence, vast tracks become barren wastes there.

The Mississippi valley seems to be formed by nature to be the granary of the world. Its soil is of unequalled richness, and its clouds drop down fatness—there is no other country equal to it. The future of this great valley—the richest on the globe in fuel and fruitage—who can contemplate without being deeply impressed with visions of unrivalled power, greatness and wealth?

Fire Proof Floors.

A great number of fires take place in all our cities; by these much valuable property of all kinds is consumed annually, and a dead loss of real wealth is thereby caused to our country. Great quantities of grain, cotton, and merchandize is often destroyed in stores having good fire-proof walls and roofs, but which have timber floors. When a fire breaks out in one of such stores or warehouses, it cannot well be confined to the department in which it originates, but spreads throughout the entire building, and destroys everything from the lowest story to the roof.

We believe that every room and every story in city buildings of all kinds, ought to be fire-proof, and the time will yet come when this will be the case. We use too much wood in our buildings, and for common and cheap houses we will have to do this for many years to come, but when we see a large new store in the course of erection, witness its thick fire-proof walls, and then see its floors (as we often do) made of the most combustible materials, we cannot but conclude that some person is responsible for want of wisdom and forethought in designing and erecting it. Every store and building containing valuable property should be so built, that if a fire were to break out in any apartment it might be confined there. Fire-proof floors are necessary to effect this. Why, therefore are not all our stores built with rolled iron or other incombustible floors, so as to render them fire-proof. Some, we know, are thus built, but not many. We look upon the French as a volatile people, but nearly every house in Paris is fire-proof, and in this respect the French exhibit more forethought than we do. Let our people see to it that they put up fire-proof floors, as well as walls, in all new buildings designed to contain valuable property.

Steamboats.

FIREs—From the annual report of the Supervising Inspectors of steamboats, we learn that no less than nineteen steamboats were burned last year, involving an estimated loss of \$1,105,500. Such a destruction of valuable property is a great loss to our country.

Every means should be adopted to prevent the fires, because such a loss as that mentioned is equal to the labor of 1515 men at \$2 per day, for 365 days,—a vast amount of labor; and what is wealth but the fruits of labor?

The steamer *Herald* took fire in Chesapeake Bay, when the engineer immediately opened the steam valve for letting the steam into the hold, then set the fire pumps to work and extinguished it in a few minutes.

Just before the passage of the Steamboat Law, the steamboat *Columbus* took fire in the Chesapeake Bay, and by not having fire pumps it was entirely consumed. The good service done by the fire pumps, which the new law compels boats to have, is gratifying, still the loss from fires given above is so great, that we hope the Inspectors will hereafter exercise as severe a scrutiny into the safety of boats from fires, as from explosions. A positive fire-proof paint for wood work is something yet to be discovered; a solution of lime, glue, and alum, or common salt, is that recommended in the Report; it is a very good composition. An improvement in its use, we would add, is to employ the glue and lime in one solution, then before it is quite dry, wash it over with a strong solution of alum and the sulphate of copper.

INFLATED LIFE PRESERVERS UNSAFE—The Inspectors condemn the use of inflated life preservers for steamboats, because they are stated to be unreliable. The steamer *Bulletin*, which was destroyed last March, by fire at Tompkins Bend, involving a loss of the boat, 3,500 bales of cotton and 23 lives, was provided with inflated life preservers, which proved to be entirely useless. When new life preservers are required on any boat, the local Inspectors are not to pass any of the inflated kind.

Cheap Sewing Machines.

Some few weeks since, in noticing the sales of a number of valuable patents, we alluded among others to a ten dollar sewing machine, and distinctly stated that the machines were being manufactured by Messrs. Jerome & Co., Co., New Haven, Conn. We were very particular to give the address of the parties in or-

der to save our readers the trouble of sending to us for information. There appears to be an extraordinary demand for the invention, and we have been flooded, greatly to our annoyance, with letters and inquiries relative to the same. We have concluded that we will not be annoyed any longer. We repeat the address of the makers for the benefit of all those who want the machines or information respecting them, and hereby give notice that we shall consume no more time, paper, or postage money, in replying to letters upon the subject.

Copper and its Uses.

This ancient metal—named *Cuprum*, from the Isle of Cyprus, where it was once obtained in considerable quantities—exists native in the metallic state, as an oxyd, chloride, carbonate, sulphuret, arseniate, and phosphate. The metal is obtained abundantly from the sulphuret ores, by roasting and repeated smeltings. In color it is ruddy; it is malleable, fusible at a yellow heat (about 1996,) and it boils and volatilizes at a white heat; and burns in oxygen gas with a green flame. It was the principal metal used by the ancients for armor, instruments of war, and domestic utensils before the discovery of malleable iron. It has great tenacity, and can be beaten into thin leaves, or drawn out into fine wire. It oxydizes slightly in a moist atmosphere, and becomes covered with a thin green crust, after which it is almost proof against the action of the weather, hence it makes the most durable covering for houses, and were sheet copper as cheap as tin plate, it would be used exclusively for roofing purposes.

The World's theater for smelting copper ores is the valley of Swansea, in the Bay of Bristol, England. The smelting foundries in that place are seventeen in number, and to them nearly all the copper ores raised in England, Wales, Scotland, Ireland, Australia, Chili, Mexico, Cuba, New Zealand, and many parts of the United States—yea the whole world—are brought to be smelted. The ores are purchased by agents of the works, who are very skillful in determining their quality. Anthracite coal mixed with one-fourth of its weight of bituminous, is the fuel used for smelting, and about 750,000 tons of it are consumed annually at Swansea. The ores are reduced in reverberatory furnaces, which are kept in full blast day and night, and never suffered to cool. The workmen, or smelters, have a somewhat terrible life of it, owing to the deleterious gases—arsenious, sulphurous, copper, &c.—which impregnate the atmosphere when they are drawing their charges. The sulphur expelled into the atmosphere from the ores smelted in Swansea, amounts to 188 tons per day. The country around gives sad evidence of their deleterious effects. They are continually rising in thick white clouds, which, when condensed, drop down and injure vegetation, and give to the very sheep and cattle in the neighborhood peculiar diseases. Various plans have been tried to render the copper ore smoke innocuous, such as tall chimneys, and the showering of the gases with water where they escaped. Tall chimneys did not effect the object, and the showering plan was found too expensive. As the business prosperity of the place is dependent on the copper works, the inhabitants put up with the evils attending them.

From the rough ore, until the copper comes forth cast into malleable ingots, it undergoes no less than ten different smelting operations, all of which are troublesome, expensive, and unhealthy; and require great skill and care on the part of the superintendents and workmen. It would naturally be inferred that if great deposits of metallic copper existed anywhere, that the expensive and troublesome smelting of ores at Swansea and all other places would cease; but such an inference has not yet been found by experience to be correct. In the Lake Superior region there are immense beds of the metal, and yet we have been told that copper can be obtained cheaper from some ores by smelting, than the pure copper can be mined. It is said that the expense of cutting and blasting it exceeds the cost of smelting the ore, which is easily mined. This to us appears almost apocraphal. If the expense of mining the metal is really greater than smelting the ore, it appears to us that the copper

regions of Lake Superior present a fine field for the exercise of the inventive genius of our country, in devising improved plans for facilitating cheap mining. Last year, a single copper foundry in Swansea produced, from ores, 6250 tons of saleable copper, or about double the quantity of copper mined in all the Lake Superior region. It is our opinion, however, that America will yet throw England all into the shade in the production of metallic copper. As the metal can be obtained in our country in exhaustless quantities, we cannot but believe, it will yet be mined much cheaper than it can be smelted from the ores. Copper is extensively used for making large kettles or pans for many purposes, such as distilling various kinds of spirits, boiling sugar cane juices, dyeing silk, cotton, and woolen goods, in processes where acids are employed. It is also used in sheets for sheathing ships, to prevent the attack of barnacles; and although yellow metal or brass is also much used for this purpose, because it is cheaper at first, we believe that copper is cheapest in the end, because the yellow metal is liable to become rotten (the best term we can use) in a few years, when exposed to salt water. For worm-tubes, to boil liquids by steam, copper is superior to iron, and is almost exclusively used for this purpose. Copper rollers are employed for printing calicoes. The pattern can be partly engraved and partly rolled in with steel dies, or it can be electro-plated. Copper is used in strips to make the patterns on blocks for hand calico printing—a very intricate and peculiar art.—It is used in engraved plates for printing, an art now practiced to but a limited extent in comparison to what it was a half century ago. All electrotype plates are deposits of pure copper, from solutions. The impressions which present the ideas embraced in this article to the reader's mind, were produced by copper deposited on the face of common type. Many boilers for steamships were at one time made of copper. It was believed they could generate more steam from the same quantity of coal than iron boilers; but the latter have entirely superseded them. Iron tubes, for boilers, are also superseding copper and brass ones.

"Copper-smithing" is a peculiar art, because the metal has many peculiarities, which must be known to the artizan, or he cannot manage it. It is tempered by the very process that softens steel, and *vice versa*. Most of the craft-knowledge is hid in the workshop, and has never appeared in print. Tubal-Cain, more than five thousand years ago, no doubt knew many things concerning this metal, of which the compilers of modern encyclopedias appear to be profoundly ignorant.

(Concluded next week.)

Recent American Patents.

Improved Method of Painting Window Shades—By D. Lloyd, of New York City.—Readers are doubtless familiar with the method employed by merchants and others for marking boxes, called stenciling. The stencil plate consists of a very thin sheet of metal with letters cut out. The plate is laid upon the box, and a brush, wetted with paint or ink, is passed over the same. The ink passes through the apertures, and the box cover is thus neatly printed, in accordance with the lettering of the stencil plate.

The present improvement consists in an adaptation of the stenciling process to the production of ornamental window shades or curtains. By the employment of different colored inks and numerous stencil plates, it is said that very beautiful pictures and figures can be produced.

Universal Joint.—By Jonas Hinkley, of Huron, O.—The inventor provides each end of the shaft with a hub, through which passes a pin; each pin is provided with a peculiar shaped frame, and these are so united as to leave a certain degree of play, and thus communicate rotary motion from one shaft to the other.

Improved Pinch Bar.—By Henry N. DeGraw, of Orangetown, N. Y.—This is a railroad contrivance intended for use in and about locomotive stations. It is often necessary to move a locomotive for a short distance when there is no steam up. This is generally done by means of a crow bar, or more properly a pinch bar. If the track does not happen to be perfectly level, great care must be taken to wedge the wheels, otherwise the locomotive will be likely

to go, *volens volens*, in the wrong direction.—The present improvement consists in the application to the pinch bar of a sort of spring wedge, so arranged that the moment the locomotive wheel moves, the wedge springs under and holds the same, thus preventing any back action.

Improved Flock Cutting Machine.—By J. N. Pitts, of Blackstone, Mass.—Certain kinds of wall paper used in dwellings are furnished with raised ornamental figures, which have a beautiful velvety appearance and touch. This is called "flock paper." It is made by dusting over the figures, after printing, and while the ink is fresh, with woolen dust. The dust is thus glued to the figure, and feels, beneath the finger, somewhat like velvet. Flock dust is made by cutting up bits of cloth into minute pieces. Any desired color may be imparted to it by dyeing. Printers use flock dust in the production of ornamental placards. It has a very beautiful effect.

The improvement above noted consists of a large drum, within which two cutting cylinders, having knives upon them, rotate. The stuff to be reduced into flock being thrown into the drum will be continually carried around and dropped between the cutting cylinders, until, at last, it is sufficiently fine for use. This is a very excellent invention for the purpose. It was illustrated on page 84, Vol. IX. of our paper. It may be used for cutting up rags in paper making.

Recent Foreign Inventions.

GIRDER RAIL.—W. B. Adams, C. E., of London, has obtained a patent for a new rail which has been tested on the Great North-Western Railroad, over which a heavy coal traffic passes. The rail is similar to the ordinary one, but 2 in. deeper, being 7 instead of 5 in. deep. There is a flange at top and bottom, and on each side angle brackets, one side of which fills up the space between the flanges secured to the rail by bolts, the other extends outwards, forming a sort of longitudinal shelf at each side, level with the ballast, so that when packed all that is seen is 2-1/2 in. rising above the brackets. These form a secure bearing of 13 inches wide. The ballast is packed from each side, and thus secures the permanent way. The gauge is kept correct by the rods, about 9 feet apart, no wooden sleepers are employed, and the entire rails and appendages, consisting of rails, brackets, bolts, and tie bars, are of wrought iron; the whole, when complete, forms one compact mass.—This rail is expensive at first, but is said to be the cheapest in the end, as it endures longer than the common kind, and requires less attention for repairing, &c.

NEW PAPER MATERIALS.—J. Pechlgriss de Frontin, of Agen, France, has obtained a patent for making paper from the stalks of the artichoke and the stalks of the sunflower. They are said to make a beautiful quality of paper.

A NEW ETHER ENGINE.—Henri G. Pecoul, C. E., Paris, has obtained a patent for generating power in steam engines, by passing steam from the boiler through spiral copper tubes, which converts ether in a cylinder into vapor, and it then actuates the piston to give it motion. We have seen some statements in our foreign exchanges, to the effect that a company in France formed to test Du Tremblay's steam and ether engines—and who have had some ships propelled by such engines running between Marseilles and the Crimea last year—have paid a dividend of 40 per cent on the original stock. Such immense profits as these are stated to be, afford good grounds for suspicion regarding their truthfulness.

NEW TEXTILE FABRIC.—R. Mulligan, of York, England, has obtained a patent for making a cloth or fabric which has the appearance of being partly crape and partly Orleans cloth. To effect this, the warp of the fabric is made of worsted or other suitable yarn, and a weft of woolen yarn used for some parts, and of worsted yarn for other parts, the different qualities of weft producing a different cloth in the same web. A great variety of fabrics may thus be produced in one web of cloth, for skirts of ladies' dresses, &c., by the use of alpaca, mohair, silk, and other weft. Our manufacturers may improve on this hint.

NEW BURNING FLUID.—G. H. Wilson, of London, has obtained a patent for a combined fluid to be used for artificial illumination, composed of glycerine and alcohol. Mr. Wilson read a paper on the uses of glycerine before the late meeting of the British Scientific Association. He is Superintendent, we believe, of Price's celebrated candle and soap works in London.

TRAVELING WRAPPER FOR PERSONAL WEAR.—A patent has been taken out by Phillip Levy, of Edinburgh, for a wrapper for traveling in cold and stormy weather, which is intended to protect the feet, legs, and body as far up as the waist. The inventor describes it as follows:

"I construct a sack or bag which extend upwards at the back, in such a manner that when the feet and legs are inserted therein it shall come up to the thigh of the wearer, but I construct it upwards in front to come to the waist, while the sides, which are not united at back further up than the thighs, wrap round the loins and back; I make these wrappers of warm woolen material, and line them with fur or other soft warm substances."

The patent for this garment-cost the inventor or four times more than a United States patent would have cost an American inventor, and yet we have no doubt but he has found it a profitable security. In our country such garments are more necessary than in England, and yet, we doubt if any of our furriers would have taken out a patent for a like invention. Any improvement, however small, in the line of business in which a person is engaged, and which he can manufacture, always pays handsomely for the securing of it by patent. In England they know, by long experience, the value of patents, hence, although they (patents) are more expensive there than here, as many, if not more, are secured weekly. Many men have made fortunes by obtaining patents for such improvements on articles as others would have overlooked or neglected to secure.

The Woodworth Patent Extension.

MESSEURS. EDITORS.—The remonstrance against the Woodworth Patent is still progressing.—There seems to be an interest awakened against the monopoly tantamount to the odiousness of the opposition. The outrageous demands of the Woodworth party is meeting with their desert as far as St. Louis is concerned. What are other places doing. J. J. S.

St. Louis, Mo., Jan. 24, 1856.

Our correspondent also sends us an extract from a St. Louis paper, which reads as follows:

"Down With the Woodworth Monopoly.—Petitions of remonstrance against any further extension of the 'Woodworth Patent for Planing Machines,' by Congress, may be found at the office of the Missouri Planing Mill, corner of Walnut and Ninth sts.; at Moies & Co.'s, No. 16 Main street; at Hunt and Wiseman's hardware store, Third street, and at R. M. Parks & Co.'s office, corner of Washington avenue and Seventh street, St. Louis, Mo.

All interested in dethroning this 'hydra-headed monster,' are requested to leave their autographs at any of the above places."

We are pleased to observe that the people of St. Louis are waking up to action on this great subject. The same spirit is manifest in other sections of the country, but in still others, there is a listlessness and languor which is not only discreditable but unfortunate. Every branch of mechanical and agricultural industry will be more or less affected favorably by the prevention of the extension scheme. Farmers, mechanics, and people of every class, do you want the price of lumber, with which you build and repair your houses, your ships, your vehicles, your tools and implements of all descriptions, reduced? If so, then try to prevent the extension of the Woodworth Patent. In buying dressed lumber you now pay a heavy tax, amounting in the aggregate to several millions of dollars annually, to one of the greatest monopolies that ever existed. Do you want to continue or abolish that tax? If you wish it abolished, then sign your name to the remonstrance against the extension outrage.

The Woodworth Patent Extension.

MESSEURS. EDITORS.—The remonstrance against any further extension of the Woodworth Patent Planing Machine, by Congress, is being largely subscribed to here. Signatures are ob-

tained without a dissenting voice, excepting from one or two parties who are interested in the extension being granted—being owners of the patent now, and having the prospect of retaining the same for another term, should that be obtained. I confess I was not prepared to believe that such vast measures would be resorted to as are being used in the acquiring of influence and means to accomplish the continuance of so ultra a monopoly.

I have ascertained, by the admission of parties concerned, that an agent or representative of the Woodworth Patent interest, was in this place a short time ago, and conferred with the owners of the right here, soliciting their support and influence to get the extension granted, under a guarantee that they should hold the extension for the next term on very easy and reasonable terms; hence retaining an influence which would otherwise have been powerful against them. This being the case here, is no doubt the case every where, throughout the Union, wherever the machines are used or rights owned. Hence you will perceive that every owner of the Woodworth Patent is being a party to, and has a direct interest in the extension.

Thus a vast array of influence and interest is presented before Congress, from all parts of the Union; and unless a powerful counter influence is exerted, will no doubt tell to the accomplishment of their schemes.

Had these measures not been adopted, those owning the patent, in their respective localities, throughout the Union, would have been doubly interested in putting down the monopoly. For having their mills in operation, and their business established, they have little to fear in respect to growing competition. While, on the other hand, should the extension be granted, they would be subject to contend for the right against the capitalist, who, seeing the advantages arising from its protection for another term of seven years, would bid largely for the prize; hence the present owners would be compelled to pay exorbitant prizes or lose their business, and their machines rendered useless to them.

I have also been informed, through a gentleman from Ohio, who is largely interested in both the Woodworth and Norcross patents, that in Ohio the Woodworth party have petitioned the Legislature to recommend, through their Representatives in Congress, a further extension of the patent. Thus not only is there an individual, but a legislative influence brought to bear in favor of their avaricious and unprincipled demands.

Can it be possible, after having reaped a more than bountiful reward, from the liberal protection of our patent laws, to their fullest extent, and a still further bounty from Congress, by which they have become immensely wealthy, that they should seek to usurp the rights of the public, and to avert the just intent of our liberal patent laws? Has individual honor no moral power to incite to honesty and justice in this respect, or has honor and honesty been made subservient only to avarice? It would seem so, or such measures as those above alluded to, would never have been used.

J. J. S.

St. Louis, Mo.

Brief History of Guano.

The London *Farmer's Magazine* furnishes the following comprehensive history of Guano:—"Guano, as most people understand, is imported from the islands of the Pacific—mostly of the Chincha group, off the coast of Peru, and under the dominion of that government its sale is made a monopoly, and the avails, to a great extent, go to pay the British holders of Peruvian government bonds, giving them, to all intents and purposes, a lien upon the profits of a treasure intrinsically more valuable than the gold mines of California. There are deposits of this unsurpassed fertilizer in some places to the depth of sixty or seventy feet, and over large extents of surface.

The Guano fields are generally conceded to be the excrement of aquatic fowls, which live and nestle in great numbers around the islands. They seem designed by nature to rescue, at least in part, that untold amount of fertilizing material which every river and brook is rolling into the sea. The wash of alluvial soils, the floating refuse of the field and forest, and, above all, the wasted materials of great cities

are constantly being carried by the tidal currents out to sea. These, to a certain extent at least, go to nourish, directly or indirectly, submarine vegetable and animal life, which in turn goes to feed the birds, which in our day are brought away by the shipload from the Chincha Islands.

The bird is a beautifully-arranged chemical laboratory, fitted up to perform a single operation, viz.: to take the fish as food, burn out the carbon by means of its respiratory functions, and deposit the remainder in the shape of an incomparable fertilizer. But how many ages have these depositions of seventy feet in thickness been accumulating?

That a little bird, whose individual existence is as nothing, should in its united action produce the means of bringing back to an active fertility whole provinces of waste and barren lands, is one of a thousand facts to show how apparently insignificant agencies in the economy of nature produce momentous results."

Great Bronze Casting.

The Springfield *Republican* gives an interesting account of the casting of the parts of the great bronze equestrian statue of Washington, at Ames Foundry, in Chicopee. The statue was modeled by Mr. H. K. Brown, and is the largest of the kind in the country. The *Republican* says:—

"The immense work has been cast in fragments, and that one just finished is the largest and most difficult of the whole, namely, the entire body of the horse. As the preparation of the mold has required considerable time and great care, and as many hazards attend the execution of such a work, the hour appointed for the trial was one of no small interest to the contractors and those employed upon it.—About one hundred persons had gathered from the neighboring shops to witness the scene, wholly unprepared, however, for what followed. Soon after the hot metal began to flow into the mold it commenced spitting with great rapidity from every crevice in the mold, and in all directions. The workmen who stood upon and around it, were enveloped in a shower of liquid fire, which burned their hands and faces, and set fire to their garments, while the spectators fled in terror from the building. The foreman of the shop, Mr. Langdon, anticipating some trouble, had agreed with his workmen not to give up the object of their long endeavors if a desperate effort could save it. With courage that deserves great praise, they persevered and filled the mold, escaping with only slight injuries. We saw the monster horse, headless and limbless, lifted from his bed yesterday, and it was hailed as an entire success. The contractors may well congratulate themselves over their work, for it is the first and only achievement of the kind made in this country, and perhaps nowhere else, but in Munich, Bavaria, could so large a piece of bronze statuary be cast."

A great meteor passed over Denmark on the night of the 10th of last month. It varied at times from the size of the sun to that of a star of the first magnitude. It changed its configuration several times, having appeared now in one mass, then in two, then again in three and so forth alternately, lighting up the heavens to a considerable distance.

A mine of Epsom salts is said to have been recently discovered in Santa Cruz county, California. If it should not prove remunerating to its proprietors, it will, nevertheless, be always good for *working people*.—[Exchange.

[But how can there be Epsom salts in California? These salts are simply the sulphate of magnesia prepared at Epsom. The sulphate of magnesia is found native in South America, in various mineral springs, and may be formed direct from "bittern" sea water.

It is said that agate stones steeped in a solution of copperas for a few hours, then baked in a hot oven, acquire a fine red color.

Persons were passing on the ice, last week, between Goat Island and the Canada, above the Falls of Niagara. It is 25 years since this was done before.

A submarine telegraph has been laid down from Constantinople to Alexandria, to cross Egypt, and be hereafter extended from Suez to India.