Scientific American

NEW-YORK, APRIL 2, 1853.

The Credulous and Incredulous Respecting Inventions.

When any of your feather literati writes about the opposition which had been made to certain inventions (when they were first brought out) which have become famous, and of such great value to the world, they are sure to mark the opponents of them as having been men of scientific reputation, such as Dr. Lardner and his alleged opposition to Atlantic navigation. Now it is not true that men of real scientific reputation have in general been the opponents of new inventions, but the very reverse. The most incredulous and yet most credulous of men respecting new discoveries and inventions, are your light literati, your would-be great men in all things. These are the men who are always at the ear of the public, and who both ridicule and extol useful, and worthless new projects, without either rule or reason. And it always happens when an invention or a discovery which they had denounced turns out in spite of all opposition to be a grand and useful improvement, they are sure to turn round, spangle it with praise and bear false witness against scientific men. When corrected for making erroneous statements they have not the honesty to publish the truth, consequently their falsehoods go on among community like rolling snow-balls, increasing in the magnitude of their evil according to the space over which they travel. When any new project which they had lauded to the skies, turns out to be a worthless, useless, piece of trash, or has been proven to be a deception, they are the very men who happened to see through it all from the very first—they were the true prophets, and some scientific men were the deceivers or deceived. When they make false statements about inventions and inventors, thereby doing great injury sometimes to the fame of honest men, they have not candor enough to correct themselves for fear the public would be led to doubt their sagacity and veracity. Those who examine beneath the surface of society, know how to estimate such characters, they look upon them as the moths of literature.

With respect to a new invention—its usefulness and practicability, or not—an opposing candid opinion with reasons annexed, should always be esteemed of more value than indiscriminate praise. At the present day, when men of all characters rush out with alleged new discoveries and inventions, universal laudation of everything is the greatest evil that can be inflicted on community. Candid opposition and prudent praise, respecting what is apparently bad, and what is reasonably good, are the qualities which we like to see displayed in any man, and these qualities of character are always exhibited by those who are competent judges of new inventions and discoveries—those who have devoted their time and attention to such matters.—Why? because their reputation in respect to the opinions they advance on such subjects is at stake; they, of necessity have to be honest, cautious, and discriminating; if not, sooner or later, they will be the losers. In these days of false lights and false pressures, the public should be exceedingly cautious of those who express opinions about new inventions and discoveries lest they be deceived by credulity in bad projects, and incredulity in good ones.

The Power of Heat and Cold.

It has often surprised us to see what an amount of clap-trap and deception there is in a name. For a great number of years heat had been employed in combination with water to form—a useful agent—steam, which for a long time had driven our engines, looms, steamships, and locomotives, and has done good service, but then it was nothing but *steam*, a plain old fashioned name. Well all at once there has arisen a great rival in fame to it, which has been called *caloric* (in common language *heat*) which no sooner has made its appearance under such a cognomen, than straightway the whole race of light literati—the lovers of long names, fall down and worship it, and not only speak lightly of the services of such a faithful old servant as steam, but deny their value. We were amused in reading in one of our daily papers last week, a slap-dash article on steam and caloric in which the editor writes the epitaph of the former and the prologue to the reign of the latter. The caloric of the said paper was nothing more nor less than hot air—heat and air combined, and no more caloric in reality than steam is.

The power of steam is developed by a chemical action, viz., simple combustion, hence we cannot obtain power from a steam engine without burning fuel. It is this application of chemical force to move machinery, which has changed the whole face of society, in respect to commerce, travel and mannufacture during the last century. It is this action which now unites far distant lands by a few days' ocean journey. The quantity of coal consumed to move a machine may then be considered the exponent of power to propel machinery. The power of a certain quantity of coal must be definite—it cannot have the property of developing infinite force, because the heat which is developed by the combustion of a certain quantity of coal is definite. By no plan but the hocus-pocus of humbug (excuse the term, we would not use it only it is the best for the purpose) can it produce but a certain quantity of motion—mechanical power. There are men, however, who pretend to know something about science and logic—but they never surely studied philosophy nor consulted reason—who have asserted that a certain quantity of heat once developed by the combustion of a certain amount of coal, will produce an infinite quantity of motion. They say, "heat produces motion, and when a certain quantity of it is developed in steam and then condensed, it is *annihilated* and lost, but the heat of hot air is given out, taken up by wire gauze, given out again, and so on, never lost, but going on producing an infinite amount of force.' Their principle of logic may be thus defined mathematically. $a \times b = c - b = a \times b = 2c - b = a \times b = 3c$, &c., a is a certain amount of heat, b is a certain amount of air, and c the stroke of an engine. The above is absurd, and points out clearly the reasoning of the hot air philosophers, who assert that a definite amount of heat can produce an infinite amount of motion—any number of strokes of an engine by multiplying and subtracting the same quantities of heat and air to and from one another alternately.

Heat produces great changes; it causes bodies to move with great rapidity, but cold is as much the source of such a power as heat, it produces as great changes. If the earth, sea, and air, and the whole universe were of one temperature there would be no motion.—It is the exhaustion of the hot steam and hot air into a colder medium, which makes their respective engines move; they could not exhaust into mediums of the same temperature. How absurd then, to talk of heat being the cause of all motion in machinery. It requires both heat and cold to produce motion (by chemical forces) in machinery. Heat heaves up rocks from the depths of burning craters; cold splits rocks to pieces, and bursts hollow balls of iron into fragments. The currents of the ocean, and the whirlwinds in their wrath are not produced by heat alone, but heat and cold, they are the effects of combined causes.

These principles of mechanical philosophy as set forth, we hold to be incontrovertible; there is a philosophy falsely so called which has recently been propagated in this and other cities, and which we have endeavored to controvert, because we believe that the promulgation of any error in science and art hinders the progress of truth and retards the march of discovery.

Commissioner of Patents.

The Hon. Charles Mason, of Iowa, a brother of Senator Mason, of Virginia, has been appointed and confirmed Commissioner of Patents.

Mr. Mason is understood to possess high legal qualifications, and it is confidently expected that his administration of the affairs of the Office will prove highly satisfactory to the whole country. It gives us much pleasure to bear testimony to the ability and courtesy of Mr. Hodges, the late incumbent. His appointment was most judicious and highly complimentary to Mr. Fillmore's judgment. We predict for Mr. Mason, also, a popular career.

The Crystal Palace.

The attention of our readers is particularly directed to the following correspondence between Messrs. Wood, Light, & Co., manufacturers of machinery, Worcester, Mass., and the managers of the Crystal Palace:

"WORCESTER, 21st March, 1853.

To the Association for the Exhibition of the Industry of all Nations, No. 53 Broadway, New York City:

GENTLEMEN.—We observe this morning an article in the "Scientific American," headed "The Crystal Palace," the perusal of which has led us to the following conclusions, viz., that if the article referred to be true, we do not consider ourselves bound to forward for exhibition the machine we intended for that purpose, it being so entirely different from what was represented to us by your agent when he visited our works. We remain most respectfully yours very truly,

WOOD, LIGHT, & CO.

[ANSWER]

Association for the Exhibition of the Industry of all Nations, Office No. 53 Broadway, New York, 22 March, 1853:

MESSRS. WOOD, LIGHT, & Co., Worcester, GENTLEMEN.—In answer to your letter of yesterday, I enclose you your application for space, which is considered as withdrawn.—The Committee was disposed to consider it as favorable as possible but in view of the very hasty conclusion at which you have arrived, they have no reluctance in assigning the space relinquished by you to some other of the many worthy applicants who would otherwise have been excluded. I have the honor to be your very obedient servant,

WM. WHETTEN, Sec.

P. S.—Mr. Joseph E. Holmes, who called upon you, desires to express his surprise that you should have paid so much attention to a publication not only not authorized by the association but in manifest hostility to it, and growing out of a sentiment of personal resentment, the source of which was made public some months since."

[The above correspondence between Messrs. Wood, Light, & Co., and the Crystal Palace Association resulted, as most of our readers will understand, from an article which appeared in number 27, headed "The Crystal Palace," wherein we commented upon the injustice of compelling exhibitors to pay for admission, which we learned it was their intention to do.

The letter of the Association if construed strictly in accordance with the language held forth, fully confirms the impression expressed in our article, because the firm did *not wish* to be considered as bound to forward a machine providing they were to be charged for admission to the Palace, and without hesitancy their application for space is returned to them, thus virtually acknowledging that the charge would be made.

If, however, such is not their intention, then we say that the treatment of Messrs. Wood, Light, & Co., is beneath the dignity which ought to characterize the management of so important an enterprize, and must draw forth the condemnation of all high-minded men; why had not these gentlemen a right to enquire into a matter in which they were interested, and why should they not have been treated with common civility? The public must and will doubt the motive which prompts an association to acts so small and contemptible.

The motives attributed to us in the postscript are simply false and ridiculous, and would not elicit any remarks did we not wish to still further illustrate the spirit which pervades the management. We have repeatedly asserted that we hoped the exhibition would prove successful; we have no other wish at heart and never had after it was fully settled that it was to take place.

We intended from the first and still intend to keep an eye upon the manner in which it is to be conducted, and we are bound as independent journalists to express our disapprobation of all attempts to disregard the rights and interests of contributors, who alone are able to render it an affair creditable to the nation. Our position is, and we hope always will be above the influence of place and power, and we intend that the public shall not suffer by our applause of objects doubtful in their character.

The Association did "not authorize" the publication of our remarks; well really this is quite cool, we are happy to inform the public that the Scientific American is not the official organ of the company, we are the organ for the people—the exhibitors—in whose welfare we feel much interest.

Events of the Week.

VALUATION OF INDIGO.—As a great deal of indigo is used for dyeing in our country, and as the imported kinds (Bengal and Guatemala) are very high in price, a method of estimating the comparative value of different samples, must be very acceptable. The following is a method for estimating the same proposed by Dr. Penny, the eminent chemist in Glasgow:—

Ten grains of the sample very finely powdered are carefully rubbed with 2 measured drachms of fuming sulphuric acid, and the mixture allowed to digest 12 to 14 hours with occasional stirring, the air being excluded.—A small flat bottomed flask, with a tight cork answers best for this operation. Some fragments of broken glass should be added to prevent the indigo from clotting.

The temperature should be from 70° to 80° Fah., if it rises higher sulphurous acid may be generated and the whole operation rendered worthless. When the indigo is perfectly dissolved the solution is gradually poured (constantly stirring) into a basin containing a pint of water; by measure ¾ of an ounce of hydrochloric acid is instantly added. An alcimetre of 100 equal parts is made up with 7½ grains of pure dry bichromate of potassa dissolved in it, and this is gradually added to the indigo in the basin, until a drop of the mixture, let fall upon a slip of filter paper presents a light brown or ochre shade, without any mixture of blue or green. The number of measures of bichromate solution used, is then read off, and this shows the comparative value of the sample. In applying the test drop to the paper, the best results are obtained by bringing the end of a glass rod in contact with the indigo solution, and then gently pressing it against the surface of the paper. It is advisable to keep the indigo solution gently warmed while the bichromate is being added, and the mixture should be well stirred after each addition. Towards the conclusion the bichromate should be added very slowly and carefully, as one or two drops then produce a great effect. The changes of color in the mixture clearly indicate the advance of the operation. The original blue color of the sulphate of Indigo becomes lighter and lighter, then acquires a greenish shade, then greenish brown, and almost immediately after an ochre brown. Ten grains of pure indigo require nearly 7½ grains of bichromate of potash. For dyers and color-makers in print works, the above mode of testing good indigo (we have not tried it) by Dr. Penny, if correct, is invaluable, at the same time we can say, that long experience enables a good practical chemist to judge very closely of the quality of indigo by the eye.

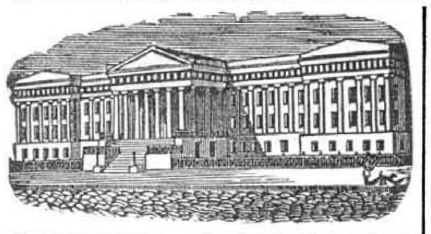
Patent Law Case---Sewing Machine.

In the U. S. Circuit Court, Boston, Monday March 21st, in a suit at equity, plaintiff, Elias Howe, Jr., defendants, John Woolredge et al., the court granted a preliminary injunction against the use, sale, and manufacture of "Singer's Sewing Machines," and the defendants were required to give bonds to account for the use of the machines in case of a verdict for the plaintiff in the future trial at law.

Galls on Horses.

In France it is the practice when horses get their hair rubbed off, or the skin scarified, to apply a blister to the part at once. This, if applied as soon as the injury is done, will it is said, restore the growth of hair; it has never been known to fail when applied in time.

[The above is from the "Spirit of the Times." We have been informed that a poultice of honey and ley made from woodashes is the best substance for restoring the hair; it looks more rational than applying a blister.



Reported Officially for the Scientific American.

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING MARCH 22, 1853.

HYDRAULIC STEAM PUMPS—By H. N. Black, of Philadelphia, Pa.: I do not claim a double cylinder pump or water engine, nor opening a valve at the end of the stroke of a steam piston, and injecting water into a steam cylinder, for producing a partial vacuum; but I claim the combination of the double slotted water and steam cylinder, double pistons, and slotted piston rod, arranged and operating in the manner set forth.

SEPARATING PAPER BY SINGLE SHEETS—By J. P Comly, of Dayton, Ohio: I claim, first, a table or range of tubes, connecting with an exhaust pump or vacuum, for separating the edge of a sheet from a heap of paper, by atmospheric pressure, in combination with a roller, or its equivalent, traversing to and fro on the upper sheet, for the several purposes of lowering and admitting air between the leaves, presenting the edge of the top sheet to the tubes, and, on its backward stroke, serving to straighten the pile.

Second, the tube or tubes aforesaid, in combination with the vibrating supporting bar, for upholding the forward edge of the sheet when dropped by the tubes, presenting it properly to the fingers, and supporting it from the heap, while being drawn away.

TANNING—Roswell Enos & Bela T. Hunt, of St. Charles, Ill.: We claim the process of tanning with the use of lime, salt, bran, sumac, and cutch, or any other tanning in room of cutch, substantially in the manner described, whereby we commence tanning, at the same time that we commence reducing, as the salt and bran overpowers the lime, the tan takes the place of the lime, and converts the hide into more perfect leather, and in less time than can be made in any other way.

Hides are not liable to get damaged by our process, as we do not use an article that is injurious to leather

It is not on the materials used that we claim letters patent, but on the manner of applying them to the hide, as set forth.

CHEESE PRESSES—By Mills A. Hackley, of Belleville, N. Y.: I claim the turning table or its equivalent, in combination with the roller in such manner, that whenever the table is adjusted for turning the cheese, there will be a corresponding adjustment of the roller for facilitating the process of turning the same.

KNITTING MACHINES—By Wm. Mansfield, of Dracut, Mass: I claim forming the loops, in knitting ribbed fabrics, by the combination of two sets of needles, made to operate together, as set forth, the same enabling me to give important advantages in the construction and operation of the loom.

DISTILLING ROSIN OIL—By James Riley & Wm. Allen, of Southfield, N. Y.: We claim the process by which we manufacture oil from rosin, by passing it from an alembic, through expanding worms, or their equivalents, surrounded by a jacket of fire-brick or clay, whereby we prevent destructive distillation, carbonization, and greatly economize time, as set forth.

HARNESS—By James Stanbrough, of Newark, N. Y.: I claim the forming of rounds, raises, or rolls, on the different parts of a harness or other leather work, by doubling and stitching together a strap of leather, at its edges, and then binding these edges by a separate piece, and connecting the stitching of such binding, by drawing up and fastening by the side thereof, folds of the strap; and this I claim, whether the single strap only be used for forming a single roll, or a secondary strap be used for forming two or more rolls, as described.

PEGGING BOOTS AND SHOES—By Seth D. Tripp, of Rochester, Mass. (assignor to E. L. Norfolk, of Salem, Mass.:) I claim the combination of each frame, with its supporting shaft, by means of a rocker frame, the same being for the purpose of allowing a free vertical, as well as other movements, as described, by either of the frames, so that it may be guided, in its vertical movement, by the curvature of the upper surface of the sole of the boot or shoe, and horizontally by the cam wheel, substantially as specified.

Also the manner of combining the awl and driver with one carrier, made to operate as described, whereby they are alternately presented or brought down against or towards the sole, by the revolution of the carrier, as specified.

Also the combination of the guide with the knife or chisel, and so as to operate therewith, in the manner and for the purpose of guiding said chisel properly against the peg wood, as described.

Also the improvement in the construction of the charger, viz, the making of the same, with two or more separate compartments for holding the strips of peg wood, which compartments are to be successively brought forwards under the operation of the piston slide, as the several pieces or strips of peg wood are successively cut up into pegs, meaning to claim a combination of a series of compartments, in the one single piston slide, made to operate as set forth.

Also the combination of mechanism by which the charger is moved, the same consisting in the operating spring, rack, click or pawl, and spring, applied to the upright part of the pawl, the whole to act in conjunction with the piston slide, as described.

Also the combination of mechanism for operating the slide, the same consisting of the rack or ratchet thereof, impelling pawl, spring lever, cam, ratchet wheel, and spring hook pawl, as applied to the frame and the bar, and made to operate substantially as set forth, the same causing peg wood to be shoved through the charger, and keeping the pegs in advance of the peg wood, and successively forcing them into the correct position over the hole made in the sole by the awl.

And, in cambination with the pressure spring, I claim the lever, with its bent projection, spring, bent lever, and cam, the same being for the purpose as set forth.

The public debt of the United States due 1st July, 1853, and which the Secretary advertises will be paid on presentation, amounts to within a fraction of six millions of dollars.

Artesian Well.

An artesian well of great depth is being bored at present at St. Louis, for a sugar refinery in that city. It was begun in 1849, and has been worked 1,590 feet, nearly half the depth of the celebrated artesian well in Westphalia, Germany, which is sunk 2,385. The object is to obtain a supply of other than limestone water which is the only sort that can be found by the ordinary channels in that vicinity. At the present depth of 1,590 feet a pretty copious stream of sulphur water flows from the well, having precisely the taste of the Blue Lick water in Kentucky, although perhaps it is not quite so thoroughly impregnated with sulphur. It is, however, concluded from recent indications, that a supply of pure sweet water will be now obtained. The following is a list of the different strata bored through in the course of operations.

1st. Through limestone, 28 feet; 2nd, shale 2; 3rd, limestone, 231; 4th, chertz rock, 15; 5th, limestone, 74; 6th, shale, 30; 7th, limestone, 75; 8th, shale, 1½; 9th, limestone, 38½; 10th, sandy shale, 7½; 11th, limestone, 128½; 12th, red marl, 15; 13th, shale, 30; 14th, red marl, 50; 15th, shale, 30; 16th, limestone, 119; 17th, shale, 66; 18th, bituminous marl, 15; 19th, shale, 80; 20th, limestone, 134; 21st, chertz rock, 62; 22nd, limestone, 134; 23rd, shale, 70; 24th, limestone, 20; 25th, shale, 56; 26th, limestone, 34; 27th white soft sandstone, 15 feet.

The well was first commenced as a cistern. From the surface of the ground, where it is fourteen feet in diameter, it has a conical form, lessening at the depth of thirty feet to a diameter of six feet. Thence the diameter is again lessened to sixteen inches, until the depth of 78 feet from the surface is attained. From that point it is diminished to nine inches, and this diameter is preserved to the depth of 457 feet. Passing this line the diameter to the present bottom of the well, is three and a half inches.

The lowest summer stand of the Mississippi river is passed in the first stratum of the shale, at the depth of twenty-nine or thirty feet from the surface. The water in the well however, is always higher than the water line of the river, and is not affected by the variations of the latter. The first appearance of gas was found at a depth of 566 feet, in a strata of shale one and a half feet thick, which was strongly imbued with carbonated hydrogen. When about 250 feet below the surface of the earth at the beginning of a layer of limestone, the water in the well became salty.

The level of the sea—reckoned to be five hundred and thirty-two feet below the city of St. Louis—was passed in the same layer—two hundred feet lower still, in a bed of shale, the water contained one-and-a-half per cent. of salt. At a depth of 950 feet, a bed of bituminous marl 15 feet in diameter was struck. The marl nearly resembled coal, and on being subjected to a great heat, without actually burning, lost much of its weight. In the stratum of shale which followed, the salt in the water increased to two-and-a-half per cent. The hard streak passed was a bed of chertz, struck at a depth of 1,179 feet from the surface, and going down 62 feet. In this layer the salt in the water increased to full three per cent. The boring at present is, as appears by the statement above, in a bed of white soft sand rock, the most promising that has yet been struck for a supply of water, such as is wanted.

Observations have been made with a Celsius thermometer of the temperature of the well. At the mouth of the orifice, the thermometer marks 50 degrees; at the depth of 45 feet, the heat is regular, neither increasing nor diminishing with the variations above, and at the distance of 351 feet, the heat has increased to 60 degrees. The calculations in the books give an increase of one degree in the temperature, for every additional 100 feet of depth, so that at the depth of 5,000 feet, the heat is supposed to be so intense as to melt iron.

[The greater part of the above is extracted from the "Missouri Republican," we therefore do not take upon ourselves to endorse the opinion therein mentioned of a gradual rise of temperature on getting deeper from the earth's surface, such hypothesis is a favorite one among some geologists, but we must have something more than theory before we can affirm that the phenomenon last mentioned is sure to occur at the depth indicated.

Poison Fang of Serpents.

The instrument with which the cobra and other venomous serpents are armed in so deadly a manner, consists of several parts, namely, the tooth or poison fang, the movable stock or handle in which it is fixed, called the jaw, the muscles or moving powers of the jaw, the bag containing the deadly liquid called the poison sac, the pipe which carries the venom into the tooth or poison duct, and the squeezer or muscle that drives the venom from the bag, along the duct, through the tooth into the wound which the latter inflicts. The tooth is not implanted in a socket like ordinary teeth, but is firmly soldered, as it were, to the jaw bone, which commonly has no other tooth to support, and is singularly modified in size and shape, to allow of the movements requisite for the deep plunge of the tooth into the object aimed at. The tooth, in structure resembles what is called the canine tooth, which consists of a hard, pointed, long and slender cone, with a hollow base, and if we suppose such a slender and partly hollow cone to be rolled out flat, the edges then bent towards each other, and soldered together so as to form a canal open at both ends, we shall form a good idea of the general form and structure of a poison fang. The edges of the flattened tooth wheel we have supposed to be so approximated, are bent round the end of the poison duct, which closely adheres to and lines the canal, and the line of union of the two edges runs along the front and concave side of the slightly curved fang. The barrel aperture of the poison-canal is oblique and its opposite or terminal outlet is still more so, presenting the form of a narrow elliptical longitudinal fissure at a short distance from the fang's point, this is left solid and entire, and fit for the purpose of perforation. It is only the upper jaw that is so armed, and it is so formed that the upper jaw of the venomous serpent is not fixed, but plays or rotates backwards and forwards, having special muscles for those movements which, when they push forward the jaw bring the tooth attached to it into a vertical position, ready for action, and when they draw back the jaw, replace the tooth in a horizontal position, where it rests, with the point backwards, hidden in a bed of soft and slimy gum. The wound is inflicted by a blow rather than by a bite, the poison fangs, when erected, are struck like daggers into the part aimed at, and as the action of the compressing muscles of the bag is contemporaneous with the blow by which the wound is inflicted, the poison is, at the same moment, injected with force into the wound from the apical or terminal outlet of the perforated fang.

The New Silver Coin.

The weight of the new silver coinage authorized by the recent act of Congress, which goes into operation in June next, as compared with that coinage since the passage of the act upon the same subject in 1837, is as follows:

Silver.	Act of Jan., 1837.	Act of Feb., '53.
Dollar	412½ grains.	No change.
Half Dollar,	206¼ "	192 grains.
Quarter do.	103⅛ "	96 "
Dime,	41¼ "	38·40 "
Half Dime,	20⅝ "	19·20 "

Spiders' Thread.

Austrian papers state that a merchant of Vienna has lately presented to the Industrial Union of that capital the details of a series of experiments made by him to manufacture spiders' thread into woven tissues. The thread is wound on a reel, and two dozen spiders produce in six minutes a beautiful and delicate thread, two thousand feet in length. The stuffs manufactured are spoken of as being far superior to those of silk in beauty and delicacy of fabric.

Cotton in Africa.

Thirty varieties of cotton have been found growing spontaneously in Africa. A missionary says he has stood erect under the branches of a cotton tree in a Goulah village so heavily laden with bolls that it was propped up with forked sticks to prevent it from breaking under its own weight. The cotton was equal to that of any country. The natives manufacture cotton goods extensively.

Miscellaneous Items.

The block of marble for the Washington Monument, ordered by the Common Council of New York is now finished, and is larger than any that has yet been sent, being eight feet wide, and five feet six inches in height. It weighs about four tons. The design is the arms of the city of New York, cut in very high relief, surrounded by a beautiful wreath of oak and laurel leaves. The whole is surmounted by a large eagle standing on a globe. The block bears the following inscription in raised letters:—"Corporation of the City of New York." The border is composed of bundles of rods, encircled by a ribbon, to denote that in union there is strength. The cost of the block will be about $2,500.

The Pacific Railway in Missouri, has one of the most remarkable (though not the longest) tunnels in the world. For 930 feet in one part, and 400 in another, it is cut through the solid rock. The approaches to it, for long distances are cut fifty feet in depth, faced with the rock. The tunnel itself is sixteen feet high, arched over.

No less than 40,000 pine logs have been cut, and 25,000 have been put into the river at a point sixty-five miles from Potsdam, St. Lawrence Co. A quantity sufficient to make 25,000,000 feet of lumber, which, to be brought to market, will pay a toll of $9,000 to the State.

The annual amount of lead produced from the Wisconsin Lead Mines, is about 40,000,000 pounds, which, at five cents a pound (a low enough estimate now,) amounts to $2,000,000.

The Pennsylvania Railroad Company have reduced the rate of freight on bacon, beef, pork, whiskey, lard and lard oil, to 50 cents per 100 lbs. from Pittsburg to Philadelphia or Baltimore.

The Manchester (England) Chamber of Commerce have advanced a loan for experimenting in the culture of cotton in Trinidad, for which purpose a model farm is to be laid out.

The deliveries of tea recently in London, for one week were 509,218 lbs.

The ice merchants say there will be a large deficiency in the supply of that article the coming summer. Only about half the average annual crop has been stored. But about 100,000 tons are said to be stored. Last year it was 200,000 tons and over.

One Hundred Miles Per Hour.

"A Maine Yankee" announces through the "National Intelligencer," the invention of a form of road and improved locomotive, which, he says, will safely transport the mails and passengers at the rate of one hundred miles per hour! The writer further says he has been made acquainted with the details of these improvements, "which are so palpably correct in theory, and feasible in practice, that every civil engineer and railroad man will, on examination, at once recognize them as the desideratum, even to the extent of safety and speed above indicated." The next Congress, it is said is to be invited to secure its adoption, and give to the world the result of the first experiment.—[Exchange.

[Let us know the plan and then we can form some opinion of its correctness. It may be good and may be perfectly futile. We would state that 100 miles per hour have been run by a locomotive already.

The Great Chestnut Tree.

On one side of Mount Etna there is a famous chestnut tree, which is said to be one hundred and ninety six feet in circumference, just above the surface of the ground. Its enormous trunk is separated into five divisions, which gives it the appearance of several trees growing together. In a circular space formed by these huge branches a hut has been erected for the accommodation of those who collect the chestnuts.

New Iron Works.

The furnaces at the Mt. Savage establishment, Md., are now in blast, and the rolling mill continues, as it has done for some time, to turn out daily a large amount of superior rails. Over nine hundred hands are now kept busily employed, and the population of the place is not far from five thousand.