ADDRESS OF PROFESSOR MORSE, AT THE CEREMONY OF UNVEILING THE STATUE IN CENTRAL PARK, NEW YORK.

FRIENDS AND CHILDREN OF THE TELEGRAPH: When I was solicited to be present this evening, in compliance with the wishes of those who, with such zeal and success, responded to the suggestion of one of your number that a commemorative statue should be erected in our unrivalled Park, and which has this day been placed in position and unveiled, I hesitated to comply, not that I did not feel a wish in person to return to you my heartfelt thanks for this unique proof of your personal regard, but truly from a fear that I could use no terms which would adequately express my appreciation of your kindness. Whatever I may say must fall short of expressing the grateful feelings, or conflicting emotions, which agitate me on an occasion so unexampled in the history of inventions. Gladly would I have shrunk from this public demonstration, were it not that my absence tonight, under the circumstances, might be construed into an apathy which I do not feel, and which your overpowering kindness would justly rebuke.

But where shall thanks begin, if, looking through all intervening instrumentalities, the Great Author of the gift of the telegraph to the world be not first of all acknowledged? "Not unto us, not unto us, but unto God be all the glory." When I consider that He who rules supreme over the ways and destinies of man, often makes use of the feeblest instruments to accomplish His benevolent purposes to man, as if, by grandest contrast, to point the mind with more marked effect to Him as their author, I cheerfully take my place on the lowest seat of His footstool. It is His pleasure, however, to work by human instrumentality. You have chosen to impersonate, in the statue this day erected, the invention rather than the inventor, and it is of no small significance that, in the attitude so well chosen and so admirably executed by the talented young sculptor whose work presents him so prominently and so favorably before you, he has given permanence to that pregnant and just sentence which was the first public utterance of the telegraph: "What hath God wrought!" Little did that young friend, 27 years ago, (and whose presence here to-night I most cordially greet,) in the artless innocence of a devout heart, dream of the far-reaching effect of that first telegram which she indited, upon him who transmitted it. While, as if by inspiration, she struck the key-note of the invention, placing its real Author upon the throne, it at the same time struck a responding chord within this bosom which still vibrates to temper, with its ringing note, any proud aspiration of a selfishness that, unchecked, might be disposed to exclaim: "Is not this great Babylon which I have built by the might of my power?" Yes, little did that young friend dream that she had thus furnished me a substantial retreat from the conflicting elements, which public and private praise at home, and the gratulations of foreign nations, stir into activity in the human heart unless is kept in just prominence the Supreme Author of the gift.

You have chosen to impersonate in my humble effigy an invention which, cradled upon the ocean, had its birth in an American ship. It was nursed and cherished not so much from personal as from patriotic pride. Forecasting its future, even at its birth, my most powerful stimulus to perseverance through all the perils and trials of its early days—and they are neither few nor insignificant—was the thought that it must inevitably be world-wide in its application, and, moreover, that it would everywhere be hailed as a great American gift to the nations. It is in this aspect of the present occasion that I look upon your proceeding as intended, not so much as homage to an individual as to the invention "whose lines" from America "have gone out through all the earth, and their words to the end of the world." In the carrying out of any plan of improvement, however grand or feasible, no single individual could possibly accomplish it without the aid of others. We are none of us so powerful that we can dispense with the assistance, in various departments of the work, of those whose experience and knowl edge must supply the needed aid of their expertness. It is not sufficient that a brilliant project be proposed, that the modes of accomplishment are foreseen and properly devised; there are, in every part of the enterprise, other minds, and other agencies to be consulted for information and counsel to perfect the whole plan. The Chief Justice, in delivering the decision of the Supreme Court, says: "it can make no difference whether he" (the inventor) "derives his information from books or from conversation with men skilled in the science,"—and "the fact that Morse sought and obtained the necessary information and counsel from the best sources, and acted upon it, neither impairs his rights as an inventor nor detracts from his merits."

The inventor must seek and employ the skilled mechanician in his workshop to put the invention into practical form, and for this purpose some pecuniary means are required, as well as mechanical skill. Both these were at hand. Alfred Vail, of Morristown, N. J., with his father and brother, came to the help of the unclothed infant, and with their funds and mechanical skill put it into a condition creditably to appear before the Congress of the nation. To these New Jersey friends is due the first important aid in the progress of the invention. Aided, also by the talent and scientific skill of Professor Gale, my esteemed colleague in the University, the telegraph appeared in Washington in 1838, a suppliant for the means to demonstrate its power. To the Hon F. O. J. Smith, then Chairman of the House Committee of Commerce, belongs the credit of a just appreciation of the new invention, and of a zealous advocacy of an experimental essay, and of the inditing of an admirably written report in its favor, signed by every member of the committee. It was nevertheless thrown aside among the unfinished business of the session; and now commenced days of trial. Years of delay were yet before it. It was not till 1842 that it was again submitted to Congress. Ferris, and Kennedy, and Winthrop, and Aycrigg, McClay, and Wood, and many others in the House, far-seeing statesmen, rallied to its support, and at length, by a bare majority, the bill that was necessary was carried through the ordinary forms, and sent to the Senate, where it met with no opposition, and was passed the last night of the session.

Now commenced a new series of trials, to which it is unnecessary here to more than allude. To Ezra Cornell, whose noble benefactions to his State and the country have placed his name by the side of Cooper and Peabody, high on the roll of public benefactors, is due the credit of early and effective aid in the superintendence and erection of the first public line of telegraph ever established. Notwithstanding the success of the experimental essay, another important step was necessary ere the invention could demonstrate its vast utility. It was not until the skill and experience of the best Postmaster General that ever held that office, the Hon. Amos Kendall, were brought into requisition, that, amid many discouragements, the various companies were organized, and in the hands of such enterprising men as Sibley, who united the Atlantic and Pacific, and Swain, and Wade, and a host of determined men whose names would read like the pages of a dictionary, this vast country, from the northern boundaries of Canada to the Gulf of Mexico, and from the shores of the Atlantic to the Pacific, was webbed with telegraphic wires.

Another grand stride was yet to be taken ere international communication could be established. In October, 1842, the first submarine telegraph cable was laid by me in one moonlight night, in the harbor of this city, which proved experimentally the practicability of submarine telegraphy, and from the result of this success I ventured, the year after, in a letter to the Secretary of the Treasury, to predict the certainty of the Atlantic Telegraph. It was then believed to be a visionary dream; and had the individual carrying out of so bold an enterprise depended upon me alone, it might still have been a dream. But at this crisis another mind was touched with the necessary enthusiasm, admirably fitted in every particular, by indomitable energy and perseverance and foresight, as well as financial skill and influence, to undertake the novel attempt. To Cyrus W. Field, more than to any other individual, belongs the honor of carrying to completion this great undertaking. Associating with himself Cooper, and Taylor, and Roberts, and White, and Hunt, and Dudley Field, and others on this side the Atlantic, and, two years later, Peabody, and Brett, and Brooking, and Lampson, and Gurney, and Morgan and others in Great Britain, making the ocean but an insignificant ferry by his repeated crossings, undaunted by temporary failures and unforeseen accidents, he rested not till Britain and America were united in telegraphic bonds—the Old and the New World in instantaneous communication.

If modern progress in the arts and sciences has given unprecedented facilities for the diffusion of the telegraph throughout the world, back of all are the former discoveries and inventions of the scientific minds of Europe and America—Volta, Oersted, Arago, Schweigger, Gauss and Weber, Steinheil, Faraday, Daniell, and Grove, and a host of brilliant minds in Europe, with Professors Dana and Henry in our own country, in the past, and the more modern discoveries and inventions of Thompson, of Whitehouse, of Cooke, of Varley, of Glass, and Canning, and numerous others. These all, in a greater or less degree, contributed to the grand result. There is not a name I have mentioned, and there are many whom I have not mentioned, whose career in science or experience in mechanical and engineering and nautical tactics, or in financial practice, might not be the theme of volumes, rather than of brief mention in an ephemeral address.

Tonight you have before you a sublime proof of the grand progress of the telegraph, in its march round the globe. It is but a few days since that our veritable antipodes became telegraphically united to us. We can speak to and receive an answer in a few seconds of time from Hong Kong, in China, where ten o'clock tonight here is ten o'clock in the day there, and it is perhaps a debatable question whether their ten o'clock is ten today or ten tomorrow. China and New York are in interlocutory communication. We know the fact, but can imagination realize the fact? But I must not further trespass on your patience at this late hour.

I cannot close without the expression of my cordial thanks to my long known, long tried, and honored friend Reid, whose unwearied labors early contributed so effectively to the establishment of telegraph lines, and who in a special manner, as chairman of your memorial fund, has so faithfully and successfully and admirably carried to completion your flattering design. To the eminent governors of this State and the State of Massachusetts, who have given to this demonstration their honored presence; to my excellent friend, the distinguished orator of the day; to the mayor and city authorities of New York; to the Park Commissioner; to the officers and managers of the various. and even rival, telegraph companies, who have so cordially united on this occasion; to the numerous citizens, ladies and gentlemen; and, though last, not least, to everyone of my large and increasing family of telegraph children. who have honored me with the proud title of "Father," I tender my cordial thanks.

IMPROVEMENT OF THE MISSOURI RIVER AT ST. JOSEPH, MO.

A preliminary survey of the Missouri river, in the vicinity of St. Joseph, with a view to determine the practicability of constructing a bridge with a draw, and of protecting the banks from the action of the current, and controling the direction of the channel, in such a way as to secure a constant steamboat channel along the levee, in front of the city, has been made by Mr. E. D. Mason, C. E., whose report contains some interesting information relative to the character of the river at this point. As a navigable river, the Missouri is one of very great importance, affording an outlet for the products of an immense area of great fertility, and rich in mineral wealth. Such a work as this survey anticipates is of more than local importance, and we therefore give place to some facts concerning it.

The area drained by the river is over a half million square miles, and four fifths of the water collected from this water shed passes St. Joseph. The average annual rainfall, on that part of the basin drained by the river above the city, is nineteen and a half inches; but six tenths of this water passes during the months of June and July. The river is, therefore, during these months, a swollen, rapid torrent, making havoc in its banks, cutting out new channels and filling up old ones, and, it is needless to say, so changing its channels that, in the subsequent low water, navigation is interfered with, and the approach of steamboats to the levee is difficult. Mr. Mason states that, during an ordinary spring flood, 170,000 cubic feet of water pass per second, with a velocity of three and eight tenths miles per hour, while, at low water the mean flow is reduced to 18,000 cubic feet per second, and the velocity to two and six tenths miles per hour.

The following extract from the report will serve to exhibit better the necessary results of this enormous difference in flow, and the engineering difficulties to be overcome in the proposed improvements:

A survey was made of the river, from the rock bluffs near Belmont, extending seven miles, to a point below the city, and its low and high water channels carefully examined. The fall in the low water channel, for that distance, was found to be uniformly 82-100 of a foot per mile. This channel is very tortuous, crossing the bed of the high water channel four times within the space surveyed. The axis of the current at high water is much shorter than at low water, and has a fall of over one foot per mile. Although the mean velocity is as stated above, there are threads of the current which probably flow with nearly double that speed, at both high and low water. At low water, the channel opposite the city is from 400 to 500 feet wide, and from fifteen to thirty feet deep The difference of level between extreme high and low water is found to be twenty-three feet. At the greatest flood, the narrowest channel opposite the city will be 1,420 feet wide. Rock is found at an average depth of forty-three feet below low water, and at no point deeper than forty-eight feet. The bed of the river is fine sand on top, with layers of clay or mud and coarser sand nearer the bed rock. The Missouri shore, in the vicinity of the hereinafter proposed bridge site, is composed of tough clay, or "gumbo," having considerable power to resist the action of running water. Its line has changed comparatively little within the memory of the oldest settlers. The Kansas shore is alluvium, in alternate layers of fine salt and silt, of small specific gravity, and very easily moved by an impinging current. The sand in the bed of the river is almost as easily moved by running water as is the material composing the Kansas shore; and trifling obstructions to the current are sometimes the beginning of important changes in the direction and depth of the channel, making a rapid river with its bottom but a few feet above the rock where a few days before was dry land at ordinary high water. With these facts in view, any bridge across the Missouri river at St. Joseph, to be considered permanent, must be built upon the hypothesis that the river is at flood the whole width, from bank to bank, its channel bed on the rock, and the current running at its swiftest speed.

In connection with the improvements designed to maintain a channel along the levee, the protection of the Kansas shore, to prevent the destruction of valuable arable lands, is considered. Mr. Mason thinks this might be accomplished by sloping the bank and covering it with rip-rap, constituting a paved levee the whole distance from St. Joseph to Wathena; but he thinks piers to deflect the current from the shore a better plan, as well as cheaper. These piers would not only protect the Kansas shore, but accomplish the desired end of throwing the current over and along the levee at St. Joseph, keeping the channel clear and open.

The proposed bridge will be 1,450 feet in length, having four fixed spans, each 260 feet in length, and a draw of two spans 225 feet each. Its estimated cost is $765,000.

SCIENTIFIC INTELLIGENCE.

QUANTITATIVE DETERMINATION OF IODINE.

William Reinige proposes a new method for the quantitative determination of iodine, founded upon the decomposition of the permanganate of potash by iodide of potassium. As neither chlorine nor bromine exhibits the same reaction, this method would appear to be the best for the quantitative analysis of iodine compounds. Take a solution of an iodine salt, add a little sulphuric acid to neutralize the excess of alkali, or render slightly alkaline by means of carbonate of potash or soda; then heat to gentle boiling in a beaker glass, and gradually add a solution, composed of 2·5 grammes permanganate of potash dissolved in 497·5 grammes distilled water, until all of the iodide of potassium is decomposed. The quantity of permanganate consumed will give the amount of iodine, for every gramme of it represents two milligrammes of iodine. The accuracy of the analysis is not destroyed by the presence of bromine or chlorine in the solutions.

A NEW GAS BURNER.

A new lamp, similar to a Bunsen burner, and called a forge lamp, has been introduced in London, by Delheid & Bergé. It consists of a candle burner, over which is put a tube as in the Bunsen burner, but with this difference, that the cylinder is larger and always ends below the opening of the gas jet, so that the air enters below the jet, and on all sides of it. As soon as the gas mixed with air is lighted at the top of the cylinder, a powerful draft is at once produced, giving the effect of a blowpipe flame. To obviate the flickering of the flame, an outer cylinder is soldered to the inner, in such a way that the air, before it reaches the inner tube, must pass through the outer. This serves the double purpose of keeping the apparatus cool and of heating the air before it mixes with the gas, by which the caloric effects are largely increased. The gas is entirely consumed, and the draft of air is said to be as great as if produced by a bellows. The heat is much greater than in an ordinary Bunsen burner, and the apparatus is remarkably simple.

SUITABLE MUCILAGE FOR PABCHMENT PAPER.

The difficulty of pasting edges of parchment paper together has seriously interfered with the employment of this material for many purposes. The enormous consumption of the celebrated pea sausage during the recent war in Europe, occasioned an unusual demand for suitable packing cases. As 100,000 sausages were manufactured daily, the supply of entrails was wholly inadequate to meet the demand, and many experiments were made with parchment paper, until Dr. Jacobsen succeeded in inventing a glue that would withstand hot water, and was entirely suited for the purpose of making watertight joints. One firm is reported to have made more than a million cases in the course of a few months, and as many as 150 workmen are kept constantly employed. Several layers of parchment paper are placed upon each other, and in this way imitation parchment is prepared for bookbinding. It is also probable that elastic gas tubing could be made of the same material, and that an extensive use would at once arise for paper bags impervious to moisture, and for wraps for all kinds of delicate goods. It would be well for some of our inventors to study up this subject.

IN recompense for the short duration of life entailed by some occupations, it must be regarded as a consoling, almost a sublime fact, that labor, in general, does not tend to shorten life, but rather, by strengthening the body, to lengthen it; while idleness and luxury are productive of the same results as the most unhealthy occupations.

Improved Feed Cutter.

The combination of devices, shown in the annexed engraving, renders the machine illustrated a most efficient, as well as simple and durable, implement. We have seldom met with an agricultural machine which seemed, in all respects, more adapted to the purpose it was intended to subserve. The feed cutter is a machine that should be on every farm, and the inventor of the one we are about to describe has evidently comprehended the requirements of farmers in this respect. The feeding apparatus is one of the principal features of the invention. Its operation is as follows:

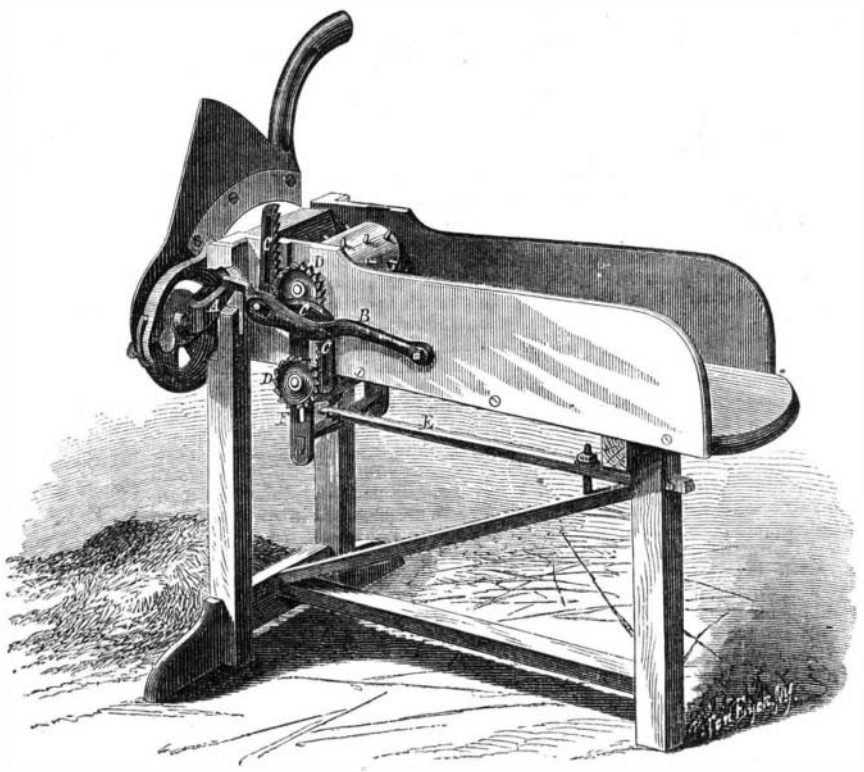
A lug, A, is attached to the knife plate. As this plate is actuated by the hand in cutting the forage, the lug lifts the end of a pivoted bar, B. To the bar, B, is pivoted a ratchet bar, C. This bar is bent at right angles and toothed, as shown, so that the teeth of one end engage the upp r ratchet wheel, D, and the lower teeth actuate the lower ratchet wheel. These wheels are respectively attached to the feed rolls. The effect of this arrangement is, that the operator can gage his feed exactly as he wants it while cutting, the amount of feed being regulated by, and depending upon, the motion of the knife plate. The higher the latter is lifted, the greater will be the feed, and *vice versâ*.

The upper feed roller is held down upon the hay or other material to be cut, by means of a wooden spring, E, which acts through a crosshead and vertical bars, F.

The feed rollers are furnished with suitable blades and points with which to grasp and carry forward the materials to be cut, and also to hold them firmly so that they will not be drawn out of place by the pressure of the cutting knife.

The cutter bar, at the point where it is pivoted to the fulcrum, is compressed between an armed washer of large size secured by a nut, and a friction compress tightened by a thumb screw, so as to force the knife always to move close to the face plate, allowing no chance for it to spring off from the substance to be cut.

The advantages gained, in addition to those already stated, are, a broad guide plate for the knife; the closeness with which the knife holds itself to the face plate; and the automatic feed arrangement, by which the danger and labor of feeding by the hand of the operator is avoided.



GARTH'S FEED CUTTER.

The machine is covered by two patents, obtained through the Scientific American Patent Agency, dated respectively Dec. 1, 1869, and Nov. 15, 1870. Address the patentee, G. S. Garth, for territorial rights and further information, at Mill Hall, Clinton Co., Pa. Pa., Md., and D. C., are not for sale.

RE-VACCINATION--GLYCERIN LYMPH.

The great prevalence of smallpox in Europe and this country, at the present time, has led to a re-examination of the statistics of vaccination. It has been found that no re-vaccinated person has been admitted into the London hospitals, a fact which speaks volumes in favor of the practice.

Another peculiarity is now recognized, and that is, that vaccination previous to the age of puberty cannot be relied upon as a protection afterward, and that therefore children should be re-vaccinated when they have passed the boundary between childhood and adult age.

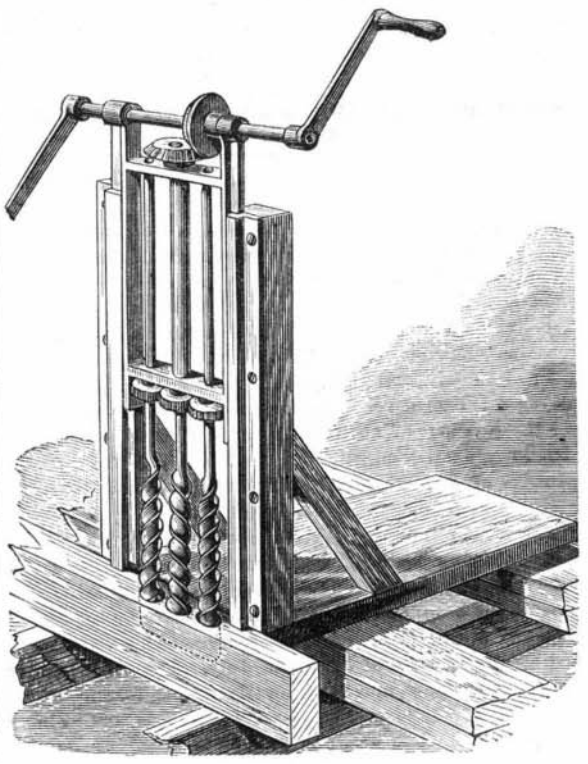
Prussia is avowedly the country where regular re-vaccination is most generally practised, the law making the precaution obligatory on every person, and the authorities conscientiously watching over its performance. As a natural result cases of small pox are very rare. It has, however been objected, there as here, that lymph is scarce. To make the most of such lymph as there is, Government has tried its application when mixed with glycerin, and the result was so successful as to lead to a public recommendation of the mixture to official vaccinating surgeons. The manner in which the glycerin lymph is prepared is thus described by the *Reichsanzeiger:* The pustules of a healthy vaccinated person are opened with a needle, and the effluent matter carefully removed by means of a lancet, the same instrument being gently applied to assist the efflux. The lymph is then best placed in the hollow of a watch glass, and there is mixed with twice its quantity of chemically pure glycerin and as much distilled water. The liquids are thoroughly well mixed with a paint brush. The mixture may be preserved for use in capillary tubes or small medicine glasses. The lymph thus procured is considered equal in effect to pure lymph; care must, however, be taken to shake it before use. As the same quantity that now suffices for one is thus made to suffice for five, the discovery ought to be extremely useful in crowded cities like ours.

Electrotypy---Imitation of Leather.

There is not a doubt but that this is an age of imitations; and the sham is so often taken for the real that even judges themselves have been misled. In manufactures there is such a constant demand for something new that the best energies are severely taxed to meet the requirements of the hour, and it is surprising to many how promptly this craving is satisfied. As an instance of the extending power of the imitator's art, we have noticed that Messrs. Elkington and Co., of Birmingham, have arranged to produce, by the electrotype process, imitations of the choicest grains of leather. They say that the system of producing leathers in exact facsimile of morocco, seal, and other skins, by means of electro deposited copper rollers, has now become an established branch of leather manufacture. The fine grain of the most rare and valuable skins can by this process be reproduced at a merely fractional cost, as compared with the ordinary inferior imitations. The system may be briefly described as follows: An ordinary machine roller is fitted with a mandrel, upon which is deposited, by a new process, the copper facsimile. The latter is an exact copy of any rare or choice skin required to be reproduced, and it is only by a recent improvement in electrotyping that the difficulty of depositing from such a substance as leather has been surmounted. An ordinary skin can thus be impressed with the beautiful surface of morocco skin, even to the finest variations of grain, and several thousand may be copied by one deposit. In all cases the actual skin required to be copied must be sent. These rollers are supplied ready for the machine; or, if preferred, manufacturers may send their own mandrels and have the facsimile deposited thereon.

BORING AND MORTISING MACHINE.

Our engraving is a good representation of a boring and mortising machine, invented by Arthur O'Neal, of Hyde Park, Mass. As will be seen, it is simply the adaptation of an old principle to driving a gang of augers instead of a



single one. The power is first transmitted to the central auger, and from its shaft to the others by means of gearing, the two outside ones having their twist and cutting edges in the opposite direction from the middle one.

Tremendous Earthquake in China.

The neighborhood of Bathang, in the district of Sechuen, the central western province of China, has been devastated by one of the most appalling earthquakes of modern times. On April 4th, the earth trembled so much that houses and public buildings were thrown down and destroyed. Volcanic fire burst forth from fissures in the ground, and tempests of wind increased the destructive power of the flames. The subterranean thunder continued to be heard for three days, and the whole district was rocked like a vessel at sea. The disturbance lasted for ten days, after which the motion subsided. Besides large public buildings, a temple containing 350 rooms, and six smaller ones, as well as nearly 2,000 houses, were utterly broken in pieces. The deaths are known to amount to 2,398 people. The influence took a circular direction, and covered 400 miles of ground. Our readers will understand the effect of this visitation on such a people as the Chinese, whose superstition and credulity are proverbial.

THE GOVERNMENT OF NEW YORK CITY.

The rapidity of the growth of population and wealth in New York city naturally makes its inhabitants anxious that its administration be conducted in the best, wisest, and most economical manner. All Americans are proud of the Empire City, and we natives especially hope to see it the best governed city in the United States.

Of the importance of the city, and the magnitude of its interests, the annual message of the Mayor, just published, gives us opportunity for judging. The population is declared to be 942,252 souls, the amount of property, real and personal, valued for taxation is $1,075,000,000, and the taxes for the year, $23,300,000. The imports fromother countries amounted to over $300,000,000, and the customs duties collected to over $140,000,000. The exports from the port of New York were about $300,000,000. These are imposing figures, showing that the commercial interests of New York will alone suffice to place the United States high in the category of nations.

For the comfort and well being of its vast population, 460 miles of streets, 340 miles of water pipes, and 275 miles of sewers, have been constructed; 19,000 gas lamps have been erected; and nearly 1,300 cars and omnibuses, and 94,000 carriages, licensed and private, traverse the streets daily.

The area of New York city comprises about 22 square miles, with a frontage to the Hudson and East Rivers of 29 miles. Of the necessity for the reconstruction of the whole water frontage, we have spoken at length in a recent article, as well as of the plans under consideration, and the manner of carrying them out. In respect to public improvements generally, the Mayor states that the city could be liberally ornamented and beautified, as well as rendered more subservient to the public convenience, by an expenditure of $20,000,000 during the next three years, and that the increased value of property would lighten the pressure of taxation by better distribution of its incidence. The property belonging to the city is stated at $267,000,000, while the outstanding debt is only about $80,000,000. There is no wonder, then, that the savings banks and other monetary institutions in search of unquestionable investments, which are accustomed to prefer securities that are backed by real estate, invest largely in bonds of the City of New York.

The Marks from Small Pox.

The painful and malignant disease, which has lately, thanks to uncleanliness and the disregard of the most ordinary precautions for the preservation of health, made such a change in the bills of mortality in this country and in Europe, calls to mind several of the remedies which are reputed to have the virtue of preventing the disfiguration of the skin. Among others, the *Sarracenia purpurea* was introduced into England. This plant is familiar to the natives of South Carolina, and is used by them internally, in the form of infusion, or decoction, for the cure of the same disease. It is a tonic, slightly stimulating, and is useful in cases of dyspepsia, waterbrash, and abdominal distension. There is another, well known in India, the leaves of which are used by the natives to cover the bodies of sufferers for the above mentioned purpose. Dr. Wright says that "the leaves, beaten into a pulp and externally applied, act like a charm in removing the most intractable form of psora and other pustular eruptions." This plant is the *Melia Azadir-achta* of Linnæus, and is called *pride of India, pride of China,* or *bead tree.* It is found, also, in our Southern States. It is, when taken internally, cathartic, emetic, and a powerful vermifuge; but its use, as described by Dr. Wright, does not appear to be known in this country. We look with interest for the results of experiments with it for the purpose of lessening the terrors of small pox.

SINGER'S SEWING MACHINE IN ENGLAND.—Arrangements have been made for the extension on a large scale of the Singer Sewing Machine Company's manufactory in James street, Bridgeton. Building operations have already been commenced, and the additions contemplated will give about 25,000 square feet of extra floorage, thus affording employment to 300 additional hands. The new premises are expected to be finished and ready for occupation by August. The factory will then be capable of turning out fully 1,400 machines per week, being nearly double the present average production; while the total number of hands employed will be very little short of 1,000. These extensions will necessarily involve a large addition to the existing plant, and a lot of new machinery is about to be introduced for the medium or No. 1 machine. It is said that the Singer machine factory at Bridgeton is now the largest in the United Kingdom, and, in its enlarged form, it will compare favorably with some of the colossal establishments on the other side of the Atlantic. —*Engineering.*