NEW YORK, DECEMBER 18, 1847.

Modern Invention.

The inventions of the present day occupy altogether a different place from those of ancient times. Articles of domestic economy, were expunged from the ancient philosopher's text book. Mechanics and Artisans were mere appendages to the State, not component parts of it This is the reason why the ancients excelled so much in the execution of great national works, and were so barbarously ignorant of domestic comfort and domestic economy, and this is the reason why the miserable hovel in old times afforded so sada contrast with the awe inspiring temple or the gorgeous ampitheatre The great difference in the condition of the working classes of our Republic from those of the ancient Roman Republic, is in the estimate of their relative value and their domestic condition. The working classes are now something, they are no more *pro nullis, pro animabis*—they are now men. The Mechanic at the present day, lives as comfortably as the great patricians of old, although there is much suffering still, and we are often struck with the Scriptural injunction, withold not thy hand "for the poor shall never cease out of the land." But in reference to estimating the comfort of the working classes now with those of the olden time, the mechanic who has, a carpet on his floor, has more than Thomas Becket, the great Archoishop of Canterbury could boast of, as he had to use straw for want of better capeting, and as for knives and forks, there were no such instruments used in the days of the Eighth Henry. Much as some have stigmatised machinery and modern inventions as evils, for having destroyed many occupations, still no wise man, no reflecting man, no intelligent man can look upon modern invention in any other light, than as part of the grand design of Providence, "a wheel within a wheel," for a higher destiny and the elevation of the whole human family.

We are indebted for our modern advantages over the ancients, not so much to the greatness of our undertakings as to the usefulness of them. We now look more to comfort and less to fame, and we estimate men now and their labors by a different standard than was used to measure the men of old. The man who invents a washing machine, or a churning machine, or any other kind of a machine, which destroys severe physical labor, is considered in a degree a benefactor to the whole human family, and justly is he considered as such. When there is an abundance produced, the greater ease by which it is produced, the greater benefits accrue to all. There are no doubt inequalities in the distribution —in this then is the only evil. Could this be remedied—were this remedied, the voice of happiness would be heard in every domicil.

The great advantages which we enjoy over the ancients, is in the progress of physical science and its devotion to useful purposes — We have not yet arrived at perfection—there is much yet to be done, and to those plodding, studying, reflecting men, whose minds are always bent on seeking something new and useful, we say, work on, toil on, ye sons of invention, ye are the reformers of social society- Many of you may never have your reward here, but like Fulton and Fitch and Evans, when slumbering in the tomb, your works shall exert an influence on generations yet unborn.

Cotton Manufactory.

By a notice in the Canada Gazette, we perceive that application will be made at the next Meeting of Parliament to incorporate at St. Catharines, a Manufacturing Company of the above description—to be known as the Saint Catharines Cotton Manufacturing Company.

The Canadians are bound to be manufacturers also. Capitalists from England find less competition there than at home.

Steam Chronology.

The following information relating to steam engines, will probably be new to most of our readers :—

1649—First steam engine invented by Edward Somerset, Marquis of Worcester. Steam power was known (imperfectly) to the ancients ; Hero of Alexandria, a philosopher who lived 130 years before Christ, describes two instruments, moved by steam of heated air.

1769—Cast iron first used in mill work, by Mr. Smeaton, at Carron in Scotland.

1769—James Watt, of Glasgow, Scotland, obtained his first patent for a steam engine.

1783—First steam cotton mill built in Manchester, by Arkwright & Simpson.

1785—Steam mills first constructed in England, by Bolton and Watt, at the Albion Mills in London, for grinding wheat ; two engines worked twenty pair of stones.

1792—First steam woollen factory built at Leeds, England, by Gott.

1793—Spinning flax at Leeds, by steam.

1811—First steamboat, at New York, by Fulton.

1829—First locomotive at Liverpool.

Mechanic Arts In Baltimore.

A large meeting was held on the 1st inst., in Baltimore for the purpose of forming an institute for the encouragement of the mechanic arts. The following resolutions which were passed explain their objects and designs.

Resolved, That this meeting cordially approve the plan of forming an association in the city of Baltimore for the promotion of the Mechanic Arts, the members of which shall consist of manufacturers, mechanics, and persons who are friendly to the objects of the Assosiation.

Resolved, that in the opinion of this meeting, the leading features of the Association should be, the establishment of popular lectures, the formation of a school of design, the collection of a library, with cabinet of models and a philosophical apparatus, and the opening of a reading room, all having relation to the improvement of manufactures and the mechanic arts, and those who are engaged in them.

Resolved, that in the opinion of this meeting one of the objects of the Association will be the holding of an Annual Exhibition and Fair, such as take place at the cities of New York, Boston and Philadelphia, at which premiums should be offered for excellence in the various branches of manufactures and the mechanic arts.

Free Public Library.

A movement is in progress in Boston to establish a Free Public Library for the citizens and the Common Council have agreed to provide accommodations as soon as $30,000 is raised. Cannot New York go and do likewise. It would be a great benefit to our working men, especially mechanics. The best works on Mechanics, are positively out of the reach of the most of our working people to purchase. Yet all would subscribe a little we believe to a Free Public Library.

Revenue of Mexico.

The maritime custom houses in 1832 yielded to the government the sum of 12,000,000. It is calculated that $30,000,000 of revenue could now be raised. Our government is going to try it. The expense of collecting will be about as much as the sum collected.

Colony of Twenty Thousand Blacks In Canada.

This colony settled in the fertile country between Lake Huron and Erie, appear to be flourishing. They have a manual labor school —the British American Institute—at Dawn Mills, the head of navigation on Sydenham river, 60 miles from Detroit, with a tract of 300 acres attached and 7 building. Some 80 pupils are engaged for the winter. Among the new secular enterprises now in operation is a steam mill.

Shoemaker's Strike.

The shoemakers of London, Canada West, had a strike recently for the purpose of raising wages. The operatives were brought before the presiding magistrate of that place, L. Lawrason, who dismissed them with leniency, as they had exercised no violence, and had promised not to violate the laws.

Electro-Gilding.

PART III.

In our last article we closed with an allusion to the Voltaic Condenser, an invention of Professor de la Rive, by which a secondary current was conveyed through the solution to be decomposed. To illustrate its use, by selecting a gold solution, metallic connections are applied between both ends of the coil and the two terminations of a Daniel's battery.—These connections are continued to the vessel with the gold solution something like the figure ∞. The generating cell to the right, the coil in the centre and the decomposition cell on the left. The current on leaving the battery, always selects the coil to travel by, which when passing through, it converts the soft iron into a magnet, the which is so arranged as to attract a piece of iron which breaks off the communication between the coil and the generating cell, except by means of the cell containing the solution, passing through it, and by this arrangement it is found that the actual power of the battery is much increased and what is very singular, there is a continual losing and gaining of power in the magnet and a continual breaking and making of contact with the piece of iron spoken off, as it is made to rise and fall with the strength of the magnet.

The deposition of metals in electrotype manipulations is often assisted by means of the application of heat. Experiments in electrotyping and gilding are quicker accomplished by a sand bath, or by steam from a glass retort.

The time required for plating or gilding depends always on the nature and uses of the article, as the thickness of the deposite depends on the duration of the action. For medals and such things as are not to be exposed to wear, a few minutes immersion may be enough, but for spoons and plated goods, subject to wear, ten hours is not too long a period, with careful watching to prevent oxidisation. Large objects should be occasionally withdrawn and their positions altered, so that there may be a uniform deposite, and to move the articles during the process, in the liquor, is also requisite. In silver electrotyping, the surface obtained is what is called "dead." It is very beautiful, but if a bright surface is wanted, it is polished with a leather and powder. A steel, or agate burnisher is used, and in jewelry some parts are burnished and some left dead. There is one thing, however. to he observed particularly, viz. a preparation, a right preparation of surface before applying the metals, a point which if not correctly attended to, renders all the operations vain, as the deposit, beside being liable to oxidise, and rising up in blisters so that the least rub brings it off. There are two methods of preparing metals for the reception of other metals, to wit, the wet and the dry. The dry way is the most approved. The main object of preparation is cleanliness in the first place, so that the contact between the two metals may be perfect. To do this all grease and oxides must be absent from the mould. To cleanse by the dry method metal figures, &c. for gilding, they should be scoured with emery paper, or fine pumice stone, always keeping a piece of paper in the left hand to avoid the moisture of the hand.

To cleanse by the wet method, the articles to be subjected to the electrotyping process, should be washed in a strong alkali, to remove grease, and then washed well in water, then submitted to a weak solution of acid and then washed quickly and well in cold water, and then dipped in boiling rain water and dried.—There are several other compositions for cleansing, such as a pickle of 4 parts of water to 4 of sulphuric acid, 2 of nitric acid and a few drops of muriatic acid. This pickle is used by a wire or other instrument tied round the article and immersing it for a few seconds. A bath of nitric acid is often used, and nitric acid and salt is often rubbed on the article, or hydrochloric acid and a little chalk are often used to rub on the article for cleansing. Boiling in potash, is also good to remove grease, as alkalies remove oily substances by making soap in the combination with them ; in every case, at any rate, the articles to be plated must be well finished in boiling rain water and then dried. It is also necessary to let the articles intended to be gilded or plated, or for a real metal deposit—after they are perfectly clean and soldered or attached to the wire, for the operation of electric manipulation, to let them hang in a dry situation one day exposed to the air, before entering into the process of electrotyping. This caution operates to prevent too close an adhesion between the plates and the deposition. This is only of course for copying moulds, and would act otherwise for gilding.

For the Scientific American.

Calculas.

The following concise rule may be advantageously used by farmers corndealers, &c.

If solid feet be multiplied by 45, and the product divided by 56, the quotient will be bushels of 2150 2-5 inches each, (one solid foot is 45-56 of a bushel in Indiana.)

EXAMPLE :—How many bushels in a box 10 feet long, 4 feet wide and 6 feet deep ?

10, 4 and 6 multiplied together make 240 solid feet in the box. Then 240 feet multiplied by 45 make 10800, which divided by 56 gives 192 6-7 bushels in the hox. If the box contain ears of corn, you can subtract what you wish from 192 6-7 for the space occupied by the cobs.

The above rule may be applied to the number of solid feet in a wagon bed, crib, granary, or to that of any of the solid bodies.

Bentonville, Ia., Nov. 1847.

Curious Case.

A child about four years old son of Mr. J. Sweet of South Reading Mass., swallowed a copper cent some two months since. Several physicians were called, and he was made to vomit at intervals, after the accident. Subsequently he was pretty well with the exception of a difficulty of swallowing. Mr. Sweet, suspecting that the cent was still lodged in the throat, took the child to Dr. Wyman of Cambridge, who passed a probing instrument down the little sufferer,s throat, and distinctly felt the cent. The doctor then made a double hook of common covered bonnet wire, which he passed into the throat, and on the first trial sueceeded in hooking up the cent, which was lodged in the aesophagus, standing edgeways. The child is now very well.

Daguerreotype Scene.

Three views of the ceremony of laying the corner stone of the great Reservoir of Boston were taken by the Daguerreotype apparatus, as a preliminary to a great painting that is to be made of the scene. One of the views was taken when the procession halted at prayer ; another when the corner stone was being laid, and the third in the midst of the Mayor's address. The views are said to be well done. The likenesses of the most conspicuous persons are easily recognised.

An edifice is now in the course of erection in Cincinnati. The marble for the front has all been shipped from Italy at the cost of $200,000.