Scientific American.

NEW-YORK, JUNE 21, 1856.

American Inventive Genius and Patent Laws

Up to the present week, no less than about twenty-three thousand American patents have been issued, averaging three hundred and sixty-two annually since the first general patent law was enacted in February, 1793. It has proved a blessing to our country, that soon after the Federal Government was formed, the great and wise men then at its head—Washington, Jefferson, Hamilton, and others—adopted measures to give an impetus to the inventive genius of our people by the passage of a patent law. Jefferson, who had a great taste for mechanical inventions, was then at the head of the Patent Board, and was very liberal in encouraging inventors. His far-reaching sagacity saw, in the future, his native country—then weak in power, and far behind in the arts—rising gradually into inventive grandeur and greatness, unsurpassed, if not unequalled, by any empire or kingdom. And were he now to awake from the tomb, he would perhaps exult more at the great improvements invented by his countrymen, and which have been fostered by the Institution which he founded, than any other of the acts of his life. Since then, the fame of American inventive genius has passed into a general proverb; while, before that period, our manufactures were rude, and our inventions, could almost be written with a cypher. Then our agricultural implements were either imported or copied from foreign models, now they lead the world. Our reaping machines and thrashers, are the admiration of Europe, and they reap the fields and tribulate the grain of Gaul and Albion.

The invention of the cotton gin has made an American product the clothing king of mankind. The steamboat has proved a civilizer of nations; and the American telegraph is fast banding all men in a community of interests. We might go on and specify invention after invention of our people, until we filled several columns, but *our* readers do not require us to be thus particular.

Our mind was directed to this subject by seeing "No. 15,000,"—(the number granted since the re-organization of the Patent Office, in 1836,) on a patent issued this week, and we have but thus briefly glanced at the subject, to put us all in remembrance of what our Patent Laws have done for our country. Most of those American inventions which now cause the hearts of our citizens to exult with honest national pride, never would have come to light but for the encouragement given to inventors by our patent laws. And since the present patent code—which is but the old one amended—came into existence in 1836, affording greater security in obtaining patents, improvements have increased in a greater ratio than before. The laws which fostered so many good and useful inventions, and warmed them into existence, form a noble national fabric. We do not say it is perfect, but it would be a sad thing for our country if it were uprooted and subverted by such a substitute as the new Patent Bill lately introduced into the Senate. Our people will never permit such a national calamity to occur.

American Life Boats and Military Wagons in Europe.

Major Vincent Eyre, of the Bengal Artillery, recently delivered a lecture in the United Service Institution. London, on Francis' Metallic Boats and Military Wagons, in which he passed a very high eulogium on their qualities and utility. Capt. Bevis, R. N., had experimented with one of the boats, and pitched it from a considerable hight upon a stone pavement, in Liverpool, where it was rolled by several men, and then battered with hammers, to damage it, but all in vain. It was afterwards set afloat, and with four men pulling, run against a stone pier several times, but suffered no further injury than a few dents and bruises. Capt. Bevis then made a most favorable report on it to the Admiralty Board.

One of Francis' Military Wagons was also brought before the British Ordinance Department by Col. Tulloch, R. A., and experimented with at Woolwich. It was first placed in the water with the whole of its running gear attached, weighing 700 cwt., and sixteen men got into it, weighing 2500 cwt., which brought it within one foot of the top. They tried to upset it, but could not. Many other experiments were tried, and all with astonishing success. These wagons were also favorably reported on to the British Government chief officials, but so stupid were they, that no notice was taken of them. This was not the case, Major Eyre said, with the French Emperor. He had heard of the favorable reports on their qualities made to the British Government, sent for Mr. Francis, examined his models, had experiments made in his presence, and at once ordered the establishment of a factory to build both the Life Boats and Military Wagons to supply the army and navy of France; and the British Government will soon, from necessity, be compelled to adopt them also.

We are now supplying the Army of England with American rifles, and we will, no doubt, soon be supplying it with American Military Wagons, and her Navy with American Life Boats.

As many of our readers may not be acquainted with the construction of these famous Life Boats, a description of them will be both instructive and interesting.

A thin sheet of galvanized iron, or copper, of the full half size of a boat, from stem to stern, is placed between two great dies of the proper form, and subjected to an enormous pressure by a hydraulic press. The sheet of metal is thus pressed into the shape of half a boat, and is corrugated fore and aft. The two opposite halves of the boat are thus first made, then rivetted together, and the boat is complete. It is to the corrugations of the metal that these boats owe their great strength, for they have no framework—no ribs, no timbers. The body of the Military Wagon is constructed on the same principle, and is water-tight, enabling it to float over rivers, transport guns, and form pontoon bridges. A factory for building such boats of all sizes has been in successful operation for some years, in the vicinity of New York, and from it has gone forth those boats and wagons which have astonished the best military and naval men of France and England, and opened their eyes to the inventive genius and "go-a-head" spirit of Brother Jonathan.

Patents.

The official report of claims of patents granted last week embraces a large number of inventions. Nineteen patents, or more than one-third of the whole number, were obtained through the Scientific American Patent Agency.

We propose to publish, from time to time, reports of the *sales of patents*, and we should be glad to have our readers lend us their aid. Whenever they hear of the sale of a patent right or portions thereof on terms of any importance, we should be glad to have them report the fact to us for publication, that is, if private interests are not likely to suffer thereby.

We believe that the publication of such reports has a tendency to increase the public confidence in good inventions, and also to lessen the difficulties of inventors in engaging the assistance of capitalists.

Accidents from Lightning, and Volatile Fluid Explosions.

Mr. E. Merriam, of Brooklyn, is a valuable man to the community. He is a great observer of natural phenomena, and a recorder of useful statistics. He has kept a record of deaths and accidents from the use of camphene and kindred articles for the purpose of illumination, since 1850, inclusive. From that time to the present 169 persons have been killed, and 279 wounded. He has also kept a record of those killed by lightning for the past 14 years. During that period this record gives an aggregate of 750 deaths by lightning on land, only one person being killed in a building furnished with lightning conductors.

Early Wheat.

New wheat of excellent quality has been brought into the market at Augusta, Ga.

Notes on Patented Inventions.—No. 10.

India Rubber Manufactures.—Caoutchouc, also called gum elastic and india rubber, is produced from the syringe tree of South America. The substance was first brought to Europe in 1735 by some French astronomers, who were sent to Brazil to make astronomical observations. It is found abundantly in Para, Brazil, and Quito, and has recently been found in Asia. Considerable quantities of it are now obtained in Java, Penang, Singapore, and Assam. In some places hundreds of miles are covered with the trees. The caoutchouc oozes out of them in the form of a milky juice. The sap of the tree is laid on a mold in successive layers, which are allowed to dry, and are formed into bottles and cakes, in which form it is exported. The natives of South America make boots, syringes, and tubes of it. The tubes are used as torches; they burn with a good light, and emit but little odor.—According to Faraday, its composition is, Carbon, 87·2, hydrogen, 12·8—a hydro carbon. It melts when exposed to a heat of 248°, is resolved into vapor at 600°, and may be condensed into the liquid *caoutchousine*.

On page 118, this volume, SCIENTIFIC AMERICAN, there is an article on this subject by Chevalier Claussen, in which he describes the india rubber tree as belonging to the same species as that which produces gutta percha, and that compounds of the same nature may be made by mixing starch and gluten with tannin and some resinous substance.—Caoutchouc is dissolved in ether, in sulphuret of carbon, in warm naphtha, turpentine, and rectified empyreumatic oils. It is also soluble in many of the fixed oils. Alcohol will precipitate the caoutchouc in a pure milky form from an ether solution.

In 1770, a cubic inch of india rubber was sold in London for 75 cents, to rub out pencil marks. It was not used to make water-proof fabrics until about the year 1800. These were first invented by Charles Mackintosh, of Glasgow, who applied a naphtha solution of it to the surfaces of two pieces of cloth, then laid them together, passed them between rollers, and thus cemented them together. A "Macintosh" was the name applied for many years to a water-proof coat. Dr. Ure, although well aware of Mr. Macintosh's invention, coldly passes it over in his Dictionary. It is supposed that personal feeling was the cause of this, as Dr. Thomson and Ure were once rival chemists in Glasgow, and Macintosh was the friend and pupil of the former. The fabrics of Macintosh had a most disagreeable smell, still he was the first person who established india rubber manufactures in Britain, and perhaps the world. He afterwards removed his factory to Manchester, England. Various kinds of goods made of india rubber soon afterwards began to be manufactured in England, but they were all decidedly objectionable to use, until the grand discovery of sulphurization was made; for this, the world is indebted to an American inventor.

This substance, or rather, compounds of it, is now manufactured into so many articles of beauty and usefulness, that it forms an object of no small wonder to witness the rapidity with which such manufactures have sprung into existence.

The first American patent for india rubber manufactures only dates back to 1831. It was granted to George H. Richards, of Washington, D. C. He claimed obtaining the india rubber in its native fluid state (the juice from the tree) and applying it to articles to render them water-proof. In 1834, Patrick Mackie, of New York, secured a patent for covering ropes for railroad inclined planes with india rubber. Such ropes had been in use in England before that date. He also obtained a patent in March, 1836, for dissolving india rubber in naphtha and sulphate of zinc. This appears to be the first patent taken out for mixing a sulphate with india rubber.

In January, 1835, George D. Cooper, of New York, obtained a patent for covering ships, and houses (under the shingles) with sheets of india rubber, to prevent leakage. This invention has been proposed a thousand times since.

In October, 1835, Wm. Atkinson, of New York, was granted a patent for cutting india rubber in a paper cutting machine preparatory to dissolving it.

In August, 1836, E. M. Chaffee, of Roxbury, Mass., obtained his important patent for softening india rubber, and applying it to cloths without dissolving it, by pressing it between heated rollers. This was a great improvement for cheapening the manufacture.

In June, the succeeding year, 1837, Charles Goodyear, of New York, received the first patent for depriving such goods of their stickiness, by washing their surfaces with an acid metal solution, such as copper dissolved in strong nitric acid. This was applied to the surfaces of the fabrics, and after it had acted on them for a certain period it was washed out The specification states that this rendered india rubber fabrics capable of resisting solar and artificial heat at the ordinary atmospheric temperature, and that they might be washed afterwards in turpentine, and not rendered *tackey*. In the same patent the use of lime combined with india rubber was also claimed for bleaching the material and rendering it white.

In December, 1837, Stephen C. Smith, of New York, obtained the first American patent for the manufacture of india rubber boots, shoes, and overshoes. It simply embraced covering leather boots and shoes with a thin sheet of india rubber cemented with a solution of the same substance; they were not vulcanized.

In July the succeeding year, 1838, Charles Goodyear was granted a patent for the same kind of manufactures—boots, shoes, &c. They differed from Smith's boots and shoes in being wholly made of gum elastic and fibrous material, and were tanned or cured by the metallic nitric acid solution, according to his patent of June, 1837. These shoes were, no doubt, a very great improvement upon those made under Mr. Smith's patent.

In February, 1839, a patent was granted to Charles Goodyear, as the assignee of of Nathaniel Hayward, of Woburn, Mass., for combining india rubber with sulphur. The sulphur is described in the specification as being mixed with the oil of turpentine, in which the india rubber was dissolved, (about a tea spoonful of the flour of sulphur to the pound of india rubber,) or it might be mixed with the pulpy mass when rendered plastic by heated rollers, or by pressing it into sheets of rubber when soft. The fabrics thus made were afterwards to be submitted to the process of Mr. Goodyear, namely, the action of a metalized acid, as already described, for removing the odor of the sulphur. None of these processes of curing or tanning india rubber embraces what is now understood by the term vulcanizing, which consists in submitting a compound of sulphur and india rubber to a high degree of steam heat. In 1839, neither Goodyear nor Hayward had discovered this. The application of the steam heat to sulphur rubber compounds is claimed as an English discovery. We do not know whether a compound of the *sulphate of zinc* and india rubber has ever been submitted to the vulcanizing process of steam heat, but we think such a compound so treated, would produce vulcanized india rubber. If so, then Patrick Mackie has not received sufficient credit for his invention, as he obtained the first American patent for use of a sulphate mixed with india rubber. Hayward, who made the valuable discovery of india rubber sulphurization does not receive credit for it, but C. Goodyear, the assignee. Dr. Ure, in his Dictionary, ascribes it to him and so does the public. The patent has expired; an extension was refused while Mr. Hodges was Commissioner of Patents.

In 1841, C. B. Rogers and E Arnold, assignees of N. Chaffee, secured a patent for manufacturing india rubber balls. The claim embraces the peculiar method of making such balls hollow.

The same subject to be continued next week.

Recent American Patents.

Improvement in Saw Mills.—By John M. Carlisle, Williamston Springs, S. C.—This is an improvement for moving the carriage, or feeding the log up to the saw; also for setting the log. The mechanism which effects these changes is self-operating, and thus much of the labor of attendants is saved.

Machine for Slotting Reed Boards of Melodeons.—By Jeremiah Carhart, of New York.—The

reed board, in melodeons, is that portion upon which the vibrating metallic tongues or reeds are placed. The reed board is slotted for each reed. The slots are all of different sizes, varying regularly with the sound to be produced.

This invention consists of a self-acting machine. It cuts the slots in the reed board at the proper distance apart, varies the length of the slots, and does the whole work with unerring precision. The impovement is applicable to various other kinds of slotted work. Mr. Carhart is the inventor of several highly ingenious and valuable improvements in machinery for manufacturing musical instruments. The firm of which he is a member, Messrs. Carhart & Needham, are extensive manufacturers of melodeons.

Novel Seed Planter.—By Geo. A. Meacham, of New York City.—This is a seed planting contrivance which is attached to the heel of one's boot, and is so arranged, that by the act of walking, the grain is dropped and planted in the ground. The seed is contained in a belt worn around the waist. A flexible tube conducts the seed down to the planting apparatus. Farmers may henceforth dispense with their cumbersome planting machinery. To plant their crops they will only need to slip on a pair of these magic boots, and leisurely stalk over the soil. Horses' feet may be supplied with shoes of the same sort, and the animals become thus converted into four-legged, self-moving, seed planters. Verily, the march of improvement is onward!

Improvement in Harness Pads.—By James Ives, of Mount Carmel, Conn.—Consists in a peculiar construction of hinge joint, whereby the journal of the pad can be confined in the bearings of the tree without the aid of a pin This is a simple and utile contrivance.

Manufacture of Gutta Percha Tubes.—By James Reynolds, of New York City.—After the percha is cast into tubes, they require to be drawn over a mandrel and through a die, in order to equalize the thickness of the material, harden it, &c.

This invention consists in a bulb-headed mandrel employed in combination with a stationary die of peculiar form. It also consists in certain means of providing for the convenient and speedy introduction of the mandrel to a long piece of tubing, and the ready introduction of the tubing to the die.

Hub Clamp.—By A. S. Macomber, of Bennington, Vt.—Consists in clamping the hub during the tenoning operation, upon a suitable bed, by means of jaws attached by pivots to bars. One of these bars is adjustable. The jaws are operated by means of worm wheels, screws, and connecting rods, arranged so that the hub may be quickly clamped and again released, at pleasure.

Improved Rotary Pump.—By John Broughton, of Chicago, Ill.—The distinguishing characteristic of this pump is, that it is composed of a solid eccentric piston fitted within a barrel, which barrel has an oscillating movement derived from the rotary movement of the piston. The piston, by its rotation, combined with the oscillation of the barrel, is caused to move reciprocally towards and from each end of the barrel, and thereby, without the aid of valves, alternately to form a vacuum to draw water through a suitable inlet, and force it out again through a suitable outlet.

New Tool for Watchmakers and others.—By William Hart, of Mayville, Wis.—This is a neat and curious combination tool, so formed that when arranged in one position it may be used as a hand vise, in another, as a pair of callipers, and in another, as pair of plyers.

Blind Opener.—By Hiram Collins, of Salisbury, Mass.— his is a contrivance for opening and closing window blinds from the inside of an apartment, without raising the window. On the window frame, within, there is an ornamental knob, by turning which, in one direction, the blind opens, and in the other, it closes. Nothing can be more convenient. The operation is effected by means of a rod, which extends from the knob in a downward oblique direction, through the frame to the blind; the end of the rod is here bent up into a hook shape and enters the blind. This is a very simple and effective invention for the purpose.

Novel Improvement in Pocket Books.—By J. O. Dickinson and Robert Bate, of Hudson, Mich.—Consists in attaching a number of small sharp hooks to the outside of the pocket book, so that if a rogue attempts to steal the purse the hooks will catch in the cloth and defeat the trick. Genius has, in all ages, proved herself superior to villainy. This example of her supremacy is the very latest.

Improvement in the Manufacture of Gutta Percha.—By James Reynolds, of New York City.—This invention is for covering telegraph wires with gutta percha, making ropes, &c. It is a rotary force pump of peculiar construction, so arranged as to draw in the gutta percha when heated to a liquid state, and then force it out through suitable dies. The machine operates with a uniform forcing movement, and is so arranged that it cannot become clogged up with the percha.

Head Block for Saw Mills.—By J. Kurtseman, of Lancaster, O.—Consists in operating the dogs and head block from one and the same shaft, by means of gearing arranged so that the head block may be adjusted to set the log properly to the saw, and the dogs also adjusted at the same time, the parts being all self-acting.

Improvement in Car Wheels.—By Wm. R Thomson, of Cleveland, Ohio.—The inner ends of the spokes, where they meet together in the center, are enlarged or clubbed, so as to form a hub; they are also made to dovetail firmly together. Thus arranged, they are placed in the fire, heated, and firmly welded at the center. Great strength and solidity is thus obtained.

Shingle Machine.—By Jason Palmiter, of Jamestown, N. Y.—In this improvement there is a large wheel, the surface of which is angular or polygonal in form. The blocks of wood, from which the shingles are to be cut, are fastened to carriages on these polygonal surfaces, and revolve with the large wheel. The blocks, as they revolve, are carried against a circular saw, which cuts off the shingles. There is a self-acting arrangement for feeding the blocks.

Potato Digger.—By Amos L. Grinnell and John Z. Williams, of Willet, Wis.— Consists of a series of iron prongs or forks pivoted together like a pair of scissors or oyster rakes. The prongs are open when thrust into the ground, but in the act of pulling them out, their lower ends come together, and the potatoes are thus lifted from the hill.

Implement for Drawing the Teeth of Circular Saws.—By M. L. Parry, of Galveston, Tex.—Consists in having an adjustable stop or mandrel fitted in the upper part of an adjustable arm. Said arm is attached to the frame in which the saw arbor is fitted, and so arranged that the stop or mandrel may be introduced between the teeth of the saw, so as to form a rest or anvil on which to hammer the saw.

Improvement in Harvesters.—By J. C. Pluche and L. C. Pluche, of Cape Vincent, N. Y.—Consists in dove-tailing the teeth to the sickle bar, so as to give additional strength. The back ends of the teeth are furnished with cleets, and the sickle bar is grooved to receive said cleets. The cleets and groove are made in dove-tail form. Thus the teeth are firmly secured to the sickle bar, and may be readily attached or detached for sharpening or repair.

Seed Planter.—By C. O. Luce, of Freeport, Ill.—The seed is sown by centrifugal action. It is introduced into the center of wheelshaving hollow arms, like a turbine water wheel. The improvements consists in the employment of valves placed in the conveying tubes, and used in connection with the distributing wheels whereby the discharge of grain during the planting operation may be accurately regulated.

Recent Foreign Inventions.

Hardening the Surface of Porous Stones.—W. A. Gilbee, of Paris, has secured a patent for impregnating porous stone with a silicate of potash, which, when dried, renders the stones hard and of a glassy surface. The solution is first applied at a strength of 7 degs. Baume's hydrometer—and finished with liquor of 12°. Care is taken not to stop up the pores of the stone suddenly; therefore, for some stones, the solution is applied at first by sprinkling, then finished by steeping the stones for a few hourr in a tank containing the liquor. After being saturated, the stones are dried in an oven heated up to 300° Fah. The stones are also heated and thoroughly dried before being operated upon. The silicate of potash is formed by dissolving pure white sand in a strong potash lye—it is soluble glass.

Machine for Blacking Boots.—F. Ayckbourn, of London, has invented a machine for the foregoing named purpose. It is made of a framework of wood, with concave brushes on spindles surrounding a step on which the boot is placed. A trough containing blacking is set beside each brush to supply it, but which are moved out of reach by touching a rod when sufficient blacking is put on. The brushes are made to do their work of blacking and polishing, by simply turning a crank handle, by a person while standing. He has but to place his booted foot on a step and turn a crank, and by a few whirlabouts, his boot from a muddy brown hue, will be developed into a black shining mirror.

Winding Silk from Cocoons.—R. A. Brooman, (Editor of the London *Mechanics Magazine*, has taken out a patent for some foreign inventor, for winding silk freely off cocoons, which appears to be a good improvement. A neutralizing agent to the stickiness of the silk, is applied, which permits the various fibers to be easily wound upon bobbins, by removing their adhesiveness. This agent consists of alcohol, or glycerine, water, or oil mixed with ox gall. It is applied in the water in which the cocoons are generally placed for winding, or in any other suitable manner.

Hoof and Horn Dust for Manure.—William A. V. Macduff, of Scotland, dries horns and hoofs slowly, until they are brittle, in a heated or close chamber, and then grinds them into dust between rollers, or between stones, and uses the product for manure, either alone or mixed with bone dust. This manure is rich in nitrogenized matter, but it cannot be produced cheap. Macduff has obtained a patent for a manure for which which it will be very difficult to find material enough.

New Construction of the Cornish Pumping Engine.—Cornish mine owners, by rewards and premiums, have brought out those improvements which have given the Cornish Engine its high character for economy in the consumption of coal; and yet there are one or two evils connected with its operations, which, up to the present time, have never been surmounted, and continually involve great expense. The steam in the Cornish engine simply raises a heavy plunger, which then descends by its own gravity, (single strokes,) and with a terrible velocity when the stroke is long. Appliances are therefore necessary to obviate the evils of great concussions, and besides, the engine has to be set on a mass of solid masonry of a considerable hight in order to withstand the shocks.

W. Fairbairn, of Manchester, Eng., has recently introduced a new engine for pumping purposes, which, from an entirely novel form of construction of some of the arrangements, thoroughly obviates the expense of high buildings and massive masonry. In place of the single working beam above the cylinder, there are two placed below, one on each side the engine, resting on a platform level with the ground, and in some instances below the mouth of the pit. In case the engine should miss a stroke through an accident in the pit, the shock is received upon a massive oak transverse spring beam, which passes under the cylinder, and rests upon the foundations of the engine house on each side. A corresponding spring beam is fixed in the pit, to receive the fall of the pump rods, whenever they happen to pass beyond the limits of the stroke in their descent. This modification in the arrangement has the advantage of making the foundations sustain the weight and shocks of the engine direct, and causes a great saving in the original cost. The principle of the engine itself presents no material difference from those of ordinary construction, and the arrangement is compact, simple, and effective; it is worked by double beat valves, and is so arranged as to cut off the steam at any part of the stroke.

Photography under Water.—In the *Journal of the Society of Arts*, W. Thompson, of Weymouth, Eng., gives an account of the means he adopted for taking a photograph of the bottom of the sea, in Weymouth Bay, at a depth of three fathoms. It appears that the camera was placed in a box, with a plate-glass front, and a movable shutter to be drawn up when the camera was sunk to the bottom. The camera being focussed in this box on land for objects in the foreground, at about ten yards or other suitable distance, was let down from a boat to the bottom of the sea, carrying with it the collodion plate, prepared in the ordinary way. When at the bottom the shutter of the box was raised, and the plate was thus exposed for about ten minutes. The box was then drawn into the boat, and the image developed in the usual manner. A view was thus taken of the rocks and weeds lying at the bottom of the bay. Mr. Thompson anticipates that it will be a ready and inexpensive means of arriving at a knowledge of the condition of piers, bridges, piles, structures, and rocks under water.

The Prejudices of Tradesmen.

A very common opinion, existing among all classes of tradesmen, is, that a person not practically acquainted with any certain branch of mechanical art, is incapable of improving it. Such opinions have been the means of fixing trade prejudices in the minds of practical mechanics not at all times creditable to their general intelligence and good sense. Thus, while lately reading some accounts of the transactions of the old "Society of Mechanics and Tradesmen," in this city, the very discreditable record is left to make posterity sneer at the exclusiveness of its ancient members, viz., that Robert Fulton applied to be admitted a member and was *refused*, because he was not a practical mechanic. We believe this prejudice is not so exclusive, as it was in bygone years, and it is becoming less so every year. So many excellent improvements have lately been made by persons not practically engaged in the trades to which their inventions related, that they have extorted general admiration as real practical men, by the practical usefulness of their improvements.

In conversation, recently, with a very ingenious and intelligent molder, respecting some very desirable improvements required in his trade, he stated that in all likelihood, they would be invented by persons not practically engaged in the trade, and the reason he gave for this opinion was a very good one. "Those engaged in the trade," he said, "being educated to certain methods of operating, were less likely to devise entirely original improvements." This opinion, however, cannot be taken as a rule, but such results have occurred many times to our knowledge. In what we have said, we wish to inculcate the lesson, that trade prejudices, oftentimes, do injury to very worthy men, and should therefore be eschewed Robert Fulton was an amateur artist, but he could sketch and devise machinery, and he had original qualities of mind, without which the mere mechanical skill of hand, would never advance science or art a single step; and yet he was refused to be recognized as a practical mechanic by a New York Association, although he laid the foundation of that mechanic art for which New York is more distinguished than any other, namely, constructing steamboats.

To Take Ink Stains out of Linen.

There are various chemicals, capable of extracting ink stains from linen, but the most simple and convenient, when the stain is comparatively fresh, is the juice of lemons, applied to the spots, then washed out with warm water. Some use common salt with the lemon juice, but this is of no use unless the salt is decomposed by the citric acid of the lemon uniting with the soda of the salt, thereby setting its chlorine free, which is a most powerful bleaching agent.

Lemon juice was long used (and is by some yet) by straw hat bleachers, for removing iron stains from leghorn hats, but oxalic acid has nearly superseded it The latter is much superior but is dangerous to keep in families where there are children, as it is a poison. Muriatic acid (old spirit of salt) is a more powerful extracter of ink stains than either citric or oxalic acids, but it is unsafe in the hands of others than experts.