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USEFUL RECEIPTS.

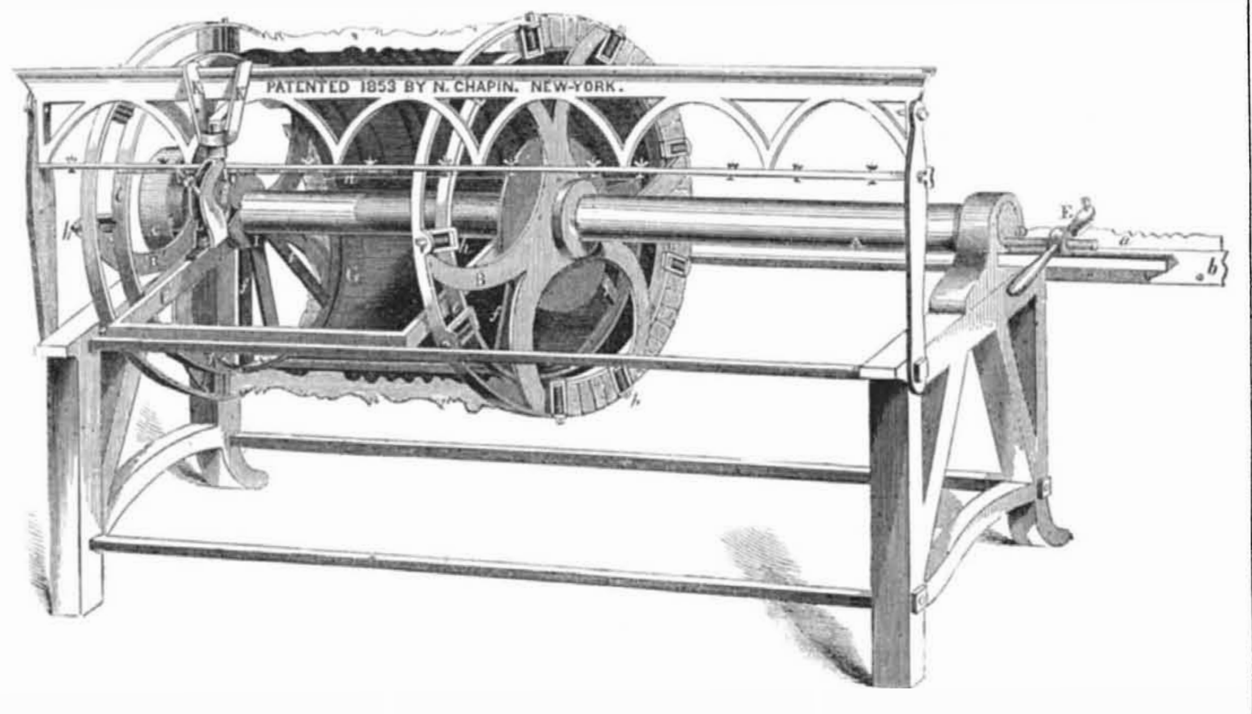
To Coagulate Blood.

A new process has been lately invented by Dr. Pravaz, of Lyons, for coagulating the blood in the arteries, which he proposes to apply to the healing of aneurisms. The operation consists in injecting into the arteries a few drops of the perchloride of iron in its most concentrated state. The injection is effected by introducing a very fine trocar of gold or platina obliquely through the coats of the artery, to which a syringe is adapted. It is necessary to stop for the time the circulation in the artery. Of the three experiments noticed in the account made by the discoverer to the French Academy of Sciences, the first was performed on a full grown sheep; the carotid artery having been exposed, the circulation was interrupted by pressure of the thumb and finger at two points an inch and a half distant, intercepting about a spoonful of blood; a few drops of the styptic were then injected by the means above indicated. Immediately after the operation an increased density of the blood was perceptible to the touch; the rapid formation of the clot or coagulum could be felt. After the lapse of four minutes the compression was removed; at the end of eight days the mass of curdled blood had not been driven from its position by the impulsion of the arterial blood. The two other experiments tried on horses confirmed the satisfactory conclusions drawn from the success of the first. Dr. Pravaz finds that about two drops of the perchloride of iron are requisite to the coagulation of a teaspoonful of blood. In applying the process to aneurisms, he would inject the percoloride into the aneurismal cyst, after arresting the circulation by compression of the artery beyond the tumor, that is between it and the capillary vessels, in this way a compact clot of curdled blood may, he thinks, be found, acting like a cork to obstruct the artery and producing the effect of a ligature.

To make Pure White Soap.

Take soda in crystals and put it into a barrel with layer about of quick-lime, and pour warm water upon it, suffering the liquor to leach out in the same manner that ashes are leached in the woods for making crude potash. This liquor should be filtered through straw so as to have it pure and clear. Its specific gravity should be 1·040 in the hydrometer. To every gallon of this lye 11 lbs. of melted suet or white tallow should be added, and it should be kept boiling gently in a clean kettle for four hours. It should then be completely saponified, which can easily be tested by immersing a flat knife in it. When completely saponified it will shake on the spatula. The fire should then be drawn from the furnace, and a handful of salt dissolved in cold water thrown in. This is to cool the soap and separate it from the water. It can then be run off into frames, and when cool cut into proper cakes. This is a good soap and is well adapted for making into toilet and other soaps

DUPLICATE TURNING OF PROFILE WORK.---Figure 1.



The annexed engraving, figure 1, is a perspective view of the lathe and machinery for turning duplicate profile work for window-blinds, &c., invented by Nathan Chapin, of this city, and for which a patent was granted on the 11th of last January, 1853.

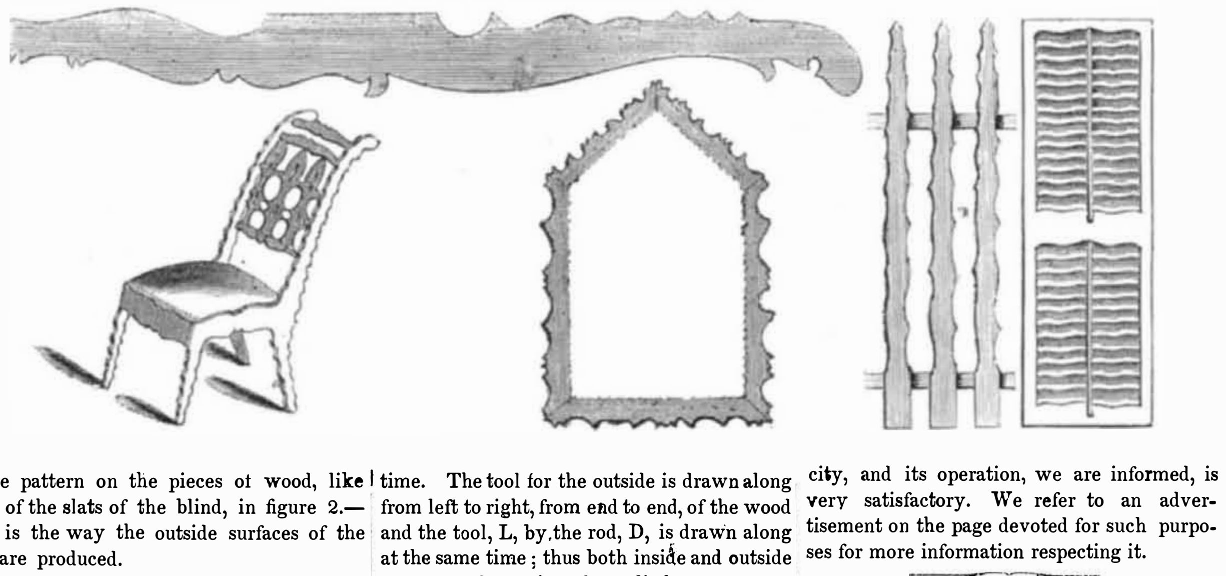
Figure 2 is a view of the work produced by the lathe, and for which a *design* patent was obtained by Chapin & Driggs, on the 30th of Nov., 1852, for the blind slats.

The work produced is waved work and it is adopted for various ornamental purposes, as shown by its application to the chair, blinds, &c., in said figure. The machine may be said to consist of a revolving cylinder, formed by the pieces of wood to be operated upon, and a tool and pattern frame in front of it for turning the outside of the wood, also a tool for acting upon the inside of the wood in the cylinder, through the shaft, to turn both surfaces of the wood according to the desired patterns.

In figure 1, one half of the wood which would comprise the cylinder is removed in order to show the tool which operates inside.

A is a stationary shaft. On it are placed the double rings or open discs, B B', which have centre collars fitted around shaft, A, so as to revolve said discs on the shaft; C is the driving pulley; it is secured to a collar of the disc, and rotates them on the stationary shaft, A. All the pieces of wood to be turned are placed between the two open end discs, B B' like the staves of a barrel, and they are clamped up by screws, *h*, which draw the section rings, *e e*, close to the outer ring of the discs, and bind the pieces or slats of wood between them. When the two discs are all fitted with the pieces of wood forming a cylinder, it is made to revolve by the pulley, C. To turn the faces of the wood the desired pattern, a gouge or tool for that purpose, is made to act on the face of the wood by the guidance of a pattern; *n* is the stationary pattern on the outside frame in front of the rotating discs; K K are the arms of the tool or gouge, L.—This tool is hung, as it were, in a knuckle stirrup and the upper part, K K, is made to slide along the track forming the bar of the upper part of the frame. The screw, O, is the guide, is like that of a pentagraph, it runs along the pattern, *n*, as K K are moved by hand along the frame, and thus the pattern guides the tool, L, in and out, over its inequalities, so as to produce surfaces the reverse

Figure 2.



of the pattern on the pieces of wood, like those of the slats of the blind, in figure 2.—This is the way the outside surfaces of the slats are produced.

The inside surfaces are acted upon and produced as follows:—In the lower part of the shaft, A, there is a rod, D, extending along it the whole length in a recess for that purpose. This rod carries an arm, I, on its inner end; this arm carries the gouge, J, for acting on the inside. The rod, D, on its outer end, has a guide, E. which lies on the surface of the pattern, *a*. By an attendant drawing the guide, E, along on the slide, *b*, the pattern, *a*, will so direct it by its inequalities, to vibrate the rod, D, and consequently the arm, I, and the gouge, J, so as to act upon the wood inside, and thus turn both surfaces at the same time. The tool for the outside is drawn along from left to right, from end to end, of the wood and the tool, L, by the rod, D, is drawn along at the same time; thus both inside and outside of the wood forming the cylinder, are turned at one operation, as the open discs carrying said pieces of wood are revolved. By this description, any mechanic, we believe, will be able to understand the operation of this machine. The discs are from 6 to 8 feet in diameter, and a man can enter through the open spaces to trim off any deficiencies inside. A saddle, G, for this purpose is hung on the shaft; it is supported by arms, *f f f f*. This machine does a great quantity of such work very rapidly, and produces it in a completely finished state.

It is now working successfully in this city, and its operation, we are informed, is very satisfactory. We refer to an advertisement on the page devoted for such purposes for more information respecting it.

The next number of the "Scientific American" closes the first half of the present volume, and we hope our friends will be prompt in renewing their subscriptions, as there are a great number whose time will then expire.

Having no travelling agents to canvass, we always—and not in vain—rely upon voluntary subscriptions, and in accordance with a long established custom, we notify all our subscribers three weeks before their time expires and unless the subscription is renewed, we invariably discontinue the paper. This regulation has generally met the approbation of our subscribers, and is the only true system.

MISCELLANEOUS.

Foreign Correspondence of the Scientific American.

The "Arabia," and Cunard Steamships.

LIVERPOOL, FEB. 8th, 1853.

MR. EDITOR—Having just made the voyage from New York to Liverpool in the bran-new steamship "Arabia," lately built by the Cunard Company for the express purpose of beating all creation—Brother Jonathan in particular—perhaps some of your readers will be interested in a few particulars relative to the vessel, her performances &c.

The Arabia's speed, on her trial trip, was reported to have been very great, which gave rise to a general belief that she would prove herself the fastest steamer afloat. She left Liverpool, on her first voyage to New York, Jan. 1st; encountering strong head winds for several successive days, her fuel gave out, and she was obliged to put into Halifax for a new supply. Stopping there for 19 hours she sailed again for New York, where she arrived Jan 16th, after a voyage of about 15 days, including the detention. The Collins' steamer Baltic, which sailed from Liverpool three days before the Arabia, occupied 13 days on the same voyage—without stopping at Halifax for coal.

On her late return voyage, the Arabia sailed from New York, Jan. 27th, and arrived here on the 6th, passage 10 days 3¼ hours: the weather was of the most favorable description,—with a fair wind and smooth sea for nearly the whole distance, she had every opportunity of showing her powers of speed, and the result of the voyage undoubtedly exhibits it. It is not probable she will ever make a much quicker voyage. As a superior to the Collins' boats she is a dead failure, but as a specimen of naval and mechanical architecture she is unsurpassed by any vessel in commission. Her cost, £130,000 sterling ($650,000), shows that money was not wanting to make her perfect.

The Arabia is a vessel of 2500 tons burthen, with machinery of 1000 horse-power. Her engines were constructed by that great mechanician, Robert Napier, of Glasgow: they are side levers, and cost $370,000. The appearance of the engines, while in operation at sea, and the coaling at the furnaces below, possessed, for me, peculiar interest. Leaving the deck, and descending into the engine room, one seems to enter a new kingdom,—to have suddenly disembarked from the tossing ship. You enter a large apartment, about 40 feet long by 25 feet high, filled with machinery of ponderous proportions, all alive with motion, yet working with the utmost regularity. Descending to another landing you reach the central portions of the machinery, where, protected by a railing, you may pass around the room and leisurely survey the various parts of the mechanical giants as they labor before you. Further down you come to the furnace floor, and passing between the massive side levers, enter what at first sight seems to be a large ore-smelting establishment. Here are twenty-four great roaring furnaces, whose voracious mouths are constantly being stuffed with coal, and yet are never surfeited. Near the furnaces you pass through an iron door, into what appears to be a coal mine, excavated beneath the ground. All idea that you are still on board a ship, plowing through the waves, has utterly vanished. You are in a large and gloomy cavern where coal is mined. Flickering lights hung around in different parts reveal the miners, delving at their work, —some are digging, others carrying the coal away to the furnaces.

The immense pecuniary cost of running such a boat as the Arabia may be judged of, from the amount required for the supply of this one item—coal: she burns ninety tons per day, and carries thirteen hundred tons for a voyage.

The running expenses of each boat is not all that the Cunard Company is subject to in transporting their passengers: besides their docks and buildings at Jersey city, opposite New York, they have a much larger establishment at Liverpool, consisting of a foundry, wharves, and other works, employing altogether about one thousand men, and one or two river steamboats.

The rapidity with which one of these ocean steamers can be prepared for sea is remarkable. On arriving, the vessel is immediately boarded by a few of the small river boats, bringing coal, water, provisions, clean linen, &c. Nearly all the movable furniture of the Cunard steamers is duplicated, so that all the bedding, carpetting, &c., used on a voyage, is removed for renovation, and replaced by a fresh assortment. Within 36 hours after arriving, one of these ships could be cleared from top to bottom, supplied, and made ready for a new voyage.

The "Persia," another large Cunard steamer, to run to New York, is now building: she is to be constructed of iron, and to have a length of 350 feet. This is nearly 50 feet more than the length of any of the Collins' steamers; indeed, there is no steamer in the world of such dimensions, and if the Persia does not outstrip all rivals, it will be because John Bull is too dull or too old to learn.

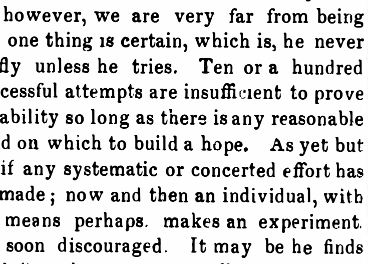
A. B.

For the Scientific American

Flying.

This subject is one of great importance—an easy and safe mode for man to go through the air would be productive of immense changes in human society; and who can doubt that those changes would be beneficial.—Among them would probably come free trade, cheapness of food and clothing, extended geographical information, increased intercourse and dissemination of knowledge, amelioration of all despotic influences,—a contraction, as it were, of the whole earth,—bring all men more fully into communion with each other, and thereby promoting the arts and sciences, and the cause of freedom, with peace and good will among mankind. It may be that God has intended that man should never fly. Of this, however, we are very far from being sure: one thing is certain, which is, he never will fly unless he tries. Ten or a hundred unsuccessful attempts are insufficient to prove his inability so long as there is any reasonable ground on which to build a hope. As yet but little if any systematic or concerted effort has been made; now and then an individual, with small means perhaps, makes an experiment, but is soon discouraged. It may be he finds himself "on the wrong track," and gets nothing but sneers and laughter for his pains Much the largest portion of men deem it folly to give the subject any serious thought; but the present age has shown "impossibilities" to be both possible and practicable. Why may not our ideas change in regard to flying? Let all men who think that they have one or more good thoughts relating to it publish the same; and if concerted measures, by means of associate bodies or otherwise, are applied in good earnest, success is pretty sure to follow. Why may it not be accomplished in the present age? To make a beginning, the writer of this article will cheerfully submit a proposition of his own. For many years he has believed that balloons must be in part, if not altogether, dispensed with: their great bulk will always make them the sport of the winds. Of dangerous and expensive materials, a bullet or a spark may easily destroy them, and the difficulty of alighting from them is very great.

As something which may answer the purpose, an arrangement as follows is proposed:



A Parachute of light and strong materials, made somewhat in the form of an open umbrella. The shaft which supports it to be firmly attached to the car or boat below; but in such a manner as to allow it to turn round easily without turning the boat. The machinery in the boat or car to give a rapid motion to the shaft, which, as it turns round, carries the Parachute around with it. Outside of the Parachute wings are to be firmly and immovably fixed, and braced in such a manner as to cause it—the Parachute and all connected with it—to rise in the air whenever it is turned in the proper direction, with sufficient rapidity.

The objects of the wings on the Parachute is merely to raise the apparatus and keep it suspended in the air. A few feet above the heads of the passengers, on each side of the car, are the propelling wings, fashioned, and somewhat like a single turn of a screw (many turns are worse than useless). By these propellers, which are supported from the car, and do not revolve around the shaft, the whole is made to go forward or backwards. In the engraving they are partly hid by the Parachute. The place for passengers may be a light car, or, as in the engraving, a boat. In mild weather the boat may alight and sail along upon the water, from which there would probably be but little difficulty in rising at pleasure. It may be advisable to place an oval screen or cover just above the passenger's heads, and even to enclose them entirely or in part, to shield them from winds and the sight of whirling motions. If left open on the sides such cover would also assist the Parachute in descending. The shaft should be a stout hollow tube, having a strong rope running through it, inside, from top to bottom, tense, and well fastened to it at each end, so that if the shaft at any time should break, the rope will still hold the Parachute and car together. The Parachute will let the car gently down to the earth if the machinery should stop, or the wings break. A hoop attached to it, inside, of some little weight, will stiffen it, and also answer the purpose of a fly-wheel. It may be braced, inside, somewhat like an umbrella, by supports so formed as to cut the air, and united firmly to the shaft at a point some distance down it, and just below that point a stout ring (in which the shaft must revolve, and which ring should bear upon an enlarged portion of the shaft), must be placed, from which ring stout rods should extend down to the sides of the boat or car. The boat being much the heaviest part of the apparatus, and firmly fixed below the centre, and parallel with the under part of the Parachute, it cannot upset while in the air. A slow revolution of the Parachute would let the car gently down. Some kinds of springs, if desirable, may be fitted to the bottom of the car or boat, so as to ease the jar of alighting. All once fairly up in the air, the Parachute would not require a continuance of very rapid motion, because the propelling wings, by their horizontal action, would help to sustain it, particularly when the rudder or tail caused the stern of the boat to be slightly lower than the forward part. Experience must show the proportionate sizes of the different parts, and also the best form, number, and position of the wings. The wings must force the air against the surrounding air, and not against any part of the apparatus, as that would injure the desired effect; and, where many are used, do not let all play in the same circle The larger the circle or sweep of the wings, the less rapidity of the shaft is required. If on trial the car is found inclined to a revolving motion a long tail or rudder will probably prevent it. If not, many Parachutes, with their wings, may be placed along the car all worked by the same machinery. This will no doubt prevent such revolving motion, if any; but such arrangement for a perfectly safe balancing of the car is not so good as when but a single Parachute is used. Now the question is, what power shall be applied? Is there any motive power having in itself sufficient force and durability and yet not requiring too heavy materials to give it life and application? Experiment must decide this. If no such power is known who will find one? Possibly a crank, with proper gearing, in the hands of a man of good muscular strength, may be sufficient to enable one person thus to fly for a short distance. Use cog-wheels for the main shaft, bands and pulleys for the side propellers.

The writer has strong belief in the feasibility of this proposition, and would, with pleasure prosecute the subject further if it were not rather inconsistent with his other duties. He has only considered it as a leisure-hour amusement, hoping for useful results; and, being unwilling to cover the invention with letters Patent, though it is original with himself he opens it to others, and all men are freely at liberty to make and use it if they please. May we not reasonably expect to be able to say shortly and with truth:—

See the gay cars in safety fly
Majestically through the sky,
Now near the earth, now high in air,
Birdlike they're coursing everywhere.

New York. W. D. G.

[It is perfectly impossible for any man to move himself in the air by any known mechanical means, without being buoyed up by a gas much lighter than the atmosphere. One cubic foot of hydrogen, the lightest of all gases, will not buoy up an ounce weight. The atmosphere is composed of oxygen by weight 23; nitrogen, 77; their atomic weight, as related to hydrogen, are $(23\times8)+(77\times14)\div100=12.62$. There is also some carbonic acid gas in the atmosphere, but we may set it down at about 13 times lighter than hydrogen gas If one cubic foot of hydrogen cannot buoy up a one ounce weight, no man can force himself into the air by any machine, for if he could he would be able to jump over a mountain. Some new power must be discovered before we can fly—such a discovery may be near at hand; we would rejoice to behold it.

Miscellaneous News of the Week.

A lecture on Axial Forces was lately given at Sandusky, Ohio, by Dr. Bronson. The lecture was intended to popularize the modern atomic theory of matter, and account for all the phenomena of the material universe by changes in the polarity of the particles, and their consequent position relative to each other.

The "Manchester (England) Examiner" mentions having seen a specimen of cotton grown in Trinidad, by a planter who emigrated from the United States.

A joint stock company is advertised in London under the name of "The American and British Timber and Cotton Land Company," with a quarter of a million sterling, to trade on a tract of land situated near Darien, Geo., Shares a hundred dollars.

The City of Dublin Steam Packet Company have notified to Mr. Foy, United States Consul, that they will forward, free of charge, from Dublin to Liverpool, all goods and packages from Dublin and the surrounding district, for the New York Exhibition.

At Calcutta three thousand chests of indigo had been sold from 44 to 55 rupees higher than last year.

"A ten hour movement" for a limitation of factory labor to ten hours daily, is progressing in the manufacturing districts of England.

An effort is about to be made to create a continental depot of cotton irrespectively of Liverpool.

Vast beds of lead ore have been discovered in Sinking Valley, Blair Co., Pa.

There have been thirteen wrecks upon the reefs in the vicinity of Key West since the 1st of January.

The cost of putting the Michigan canal in order for 1853 is estimated at $6 500.

The Land Department has paid into the State Treasury, during the past year, $78,554!

A mint is to be established in Australia.

A workman was scalded to death by melted metal spilling over him, last week, at Mr. Rider's foundry, in this city.

Bills to amend the charter of the World's Fair Association, and to form a police force for the Building have been passed by the N. Y. Senate.

The varnishers and polishers of New York have had a mass meeting preparatory to a demand for an increase of wages.

An extension of Goodyear's india rubber patent has been refused by the Commissioner at Washington.

The air line railroad bill has been defeated in the N. J. Legislature.

The first exhibition of the Metropolitan Mechanics' Institute at Washington was opened on the 24th inst.

It has been decided at Baltimore that railroad companies are not liable for personal injuries where the same occur to passengers while standing on the platform of the cars, against the warnings of the conductor.

Machinery and Tools as they are.—Stamping Presses.

(Continued from page 187)

The elementary parts of machinery are but few, it is in their multifarious combinations that the mechanical inquirer finds such an unbounded region for research, and the class of machines specified above is not the least among the achievements of the mechanic. Be that as it may, it is certain that the term "press" is common to a myriad of contrivances, which resemble each other only in their adaptation for the process whence they derive their generic title. At present, however, we will abstain from commenting upon those presses that perform their office by a rolling contact, and rather direct attention to those whose operation is by a direct impact. In nearly all these, however dissimilar they may otherwise be, either a screw or a cam, and in some instances both is the agent employed for transmitting and regulating the power. The cam is an element of machinery well worthy the attentive consideration of all interested in mechanics, and who, at the present day is not? It is a contrivance in which sliding contact is employed to communicate motion from one part of a machine to another, but its chief peculiarity and advantage is the ability that it confers of timing its effective action, although it is intermittent, so that the cam may act in unison with the rest of the mechanism, and thus, when several mutually dependent processes are being carried on by the same machine, the whole are effected with automatic precision. The skill of the contriver is displayed in giving a suitable shape to the cam, which it is scarcely necessary to remark, is a revolving disc, part of whose periphery is more distant from the axis than other parts, the varying distances being united by a curved line. In its most simple form, the shape of the cam is that of an eccentric, when one complete double stroke of a sliding bar is made for each revolution of the axis, and the effect is similar to that of a crank. When the bar or follower is to make a number of strokes during each rotation of the axis, the cam has, on its periphery, a series of projections or lifts, and these are united by a curve more or less abrupt, according as the stroke of the follower is to be given more or less suddenly. But if it is to be uniform and constant, an involute curve will effect it, and where the movements are more complicated it is necessary to make the curve of a more complex shape. A beautiful example of this arrangement is given in a recent Envelope-Folding Machine, where, as it is of advantage to give equal impetus to the machine, the law of falling bodies is followed in the extent of motion given by the cam to a lever, but if this were to operate until the end of the motion a considerable shock would be given to the machine; it is therefore arranged that after maintaining this velocity a certain time it then gradually decreases in the same ratio as it before increased. The large class of machines employed by stationers are well worthy of remark, and the majority of them are intended for stamping and embossing processes,—many of these presses being exceedingly powerful. But diverging from these we will glance at the common fly press, an instrument that is used in so many occupations. It is a most useful machine, which, independently of the punch or dies, may be considered as a means of giving a hard, unerring, perpendicular blow. The precision of the blow is caused by the slide, by which the punch is guided and its force is imparted by the heavy revolving fly attached to the screw of the press. When steam power is used to work these it is variously employed, in the case of a mint, twelve presses for cutting out the blanks for coin were arranged in a circle around a heavy fly-wheel, which revolved horizontally, it had one projecting cam, which caught successively the twelve radial levers fixed in the screws of the presses, and the screws were forced back by springs. Sometimes a crank motion is used, or in lieu, an oscillating air cylinder with its piston. The lever is often suspended by a contrivance well known as the "toggle" or knee joint, and frequently by another superior arrangement, as employed in Dick's Anti-Friction Press, in the most powerful form of which a central roller is made to revolve, and carries with it two eccentric wheels or cams, one on each side, and having their bearings on the faces of sectors which are likewise made to partake of their motion, and so give the necessary pressure.

Presses with the toggle-joint are perfectly suited to cutting out works with punches and bolsters, provided the relative thickness of the work and tools is such as to bring to bear the strongest point of the mechanical action at the moment that the greatest resistance occurs in the work; but as the fly-press with a screw is in all cases powerful alike, irrespective of such proportions, the screw-press is more generally useful. The presses used to punch boiler plates afford a surprising proof of the power developed by this tool, and in its simplest form a long lever, moved by the hand, gives the requisite intensity to the descent of the punch. The saw-gumming machine is a trifle more complex, but when more powerful presses are required, the lever becomes a massive beam which is lifted by a cam in a manner analogous to the tilt-hammer. This last-named tool may likewise be classed as a press, as may also another machine which is rapidly replacing it. This latter, namely, the steam hammer, is merely a piston moving in a covered cylinder where steam is admitted, the piston rod is attached to a heavy hammer so that when the piston is forced to the top of the cylinder, and the steam then withdrawn, the hammer falls violently on the mass of hot iron placed on the anvil directly beneath the cylinder. The press has been employed to rivet boilers, when the pressure is given by a knee-joint impelled by a cam, and the forging of spindles and similar articles is another of its recent applications. In this latter instance the machine is quite portable, occupying a space of 3 feet by 4 feet, and contains five or six sets of anvils and swages. The anvils are arranged in a row in the frame at the usual height from the ground, and each swage is fixed to the lower end of a vertical bar, moving between proper guides, so as to be capable of rising and falling through a small space above its anvil. Its horizontal axis passes across the upper ends of these swage-bars, and has an eccentric for each, so that the uniform rotation of this axis causes every one of the swages to rise and fall periodically in order. The workman has merely to heat the bar in the fire and hold it under the vibrating swage turning it or otherwise changing its position according to the form he wishes to produce. It is stated that the machine will perform the labor of three men and their assistants or strikers, and will complete its work in a very superior manner and with great rapidity. Thus a piece of round iron 1¾ inch in diameter was reduced to a square of ⅜ inch, 2 feet 5 inches long at one heat.

(To be Continued.)

The Patent Office Safe.

On Thursday, the 17th inst, the House of Representatives, in Committee of the Whole, while considering the House Bill, making appropriations for the civil and diplomatic expenses of government for the year ending June, 1854, an attempt was made to insert a clause in the bill whereby the Secretary of Interior could construe it to take possession of the east wing of the Patent Office, and thus divert it from its legitimate object, a movement against which we have always spoken on every proper occasion. The present attempt met with a signal and well merited defeat, and resulted in an amendment made to the bill, which is prohibitory of the Patent Office being used by the Secretary of the Interior, until directed so to do by law.

The question came up in this way:—

"The last clause of the section, providing for the expenses of the Department of the Interior, was then read as follows:—

'Contingent expenses of said building, viz.: For labor, fuel, lights, and incidental expenses, two thousand two hundred dollars'

Mr. Houston said, I move to strike out the word 'said,' and insert in lieu thereof the words 'east wing of the Patent Office.'"

Mr. Stanton asked of Mr. Houston, the Chairman of the Committee of Ways and Means, what was the meaning of the amendment. He was answered. The proposition is, "that as the Secretary of the Interior will occupy the east wing of the Patent Office, and the proposition is that the fund shall be applied to that purpose." Mr. Stanton stated that he knew of no law that allowed the Secretary to enter and take possession of the building. Mr. Cartter, of Ohio, Chairman of the Committee on Patents offered the following amendment.

Provided, That neither the office of the Secretary of the Interior, nor any bureau thereof, other than the Patent Office, shall be located in the Patent Office Building until directed by law.

Mr. Houston asked the Chair if this amendment to his amendment was now in order. The Chairman, Mr. Orr, decided that it was not. Mr. Cartter said:—

"I appeal from that decision. This is an insidious attempt to divert the Patent Office Building from the purpose for which it was designed. I ask for the reading of my amendment.

The Clerk read the amendment.

The Chairman. The Chairman decides that that amendment is not in order. From that decision the gentleman from Ohio appeals. The question is, "shall the decision of the Chair stand as the judgment of the Committee?"

Mr. Sweetser. Upon that question I demand tellers.

Tellers were ordered, and Messrs. Polk and Hart were appointed.

The question was then taken, and the tellers reported—ayes 39, noes 83.

So the decision of the Chair was overruled, and the amendment to the amendment was decided to be in order.

Mr. Cartter. I wish simply to remark, without detaining the committee, that my sole object is to preserve the Patent Office Building, to answer the necessities of this self-sustaining Department until Congress shall by law say that they shall not have it. That is the whole object of the amendment.

The question was then taken on the amendment to the amendment, and on a division there were—ayes 74, noes 48.

So the amendment to the amendment was agreed to.

Last year an attempt was made to get a law passed for the Secretary of the Interior to have the east wing of the Patent Office; it was defeated, and here comes up a second attempt, and an *insidious* one, as stated by Mr Cartter to obtain it again. The movement exhibited a remarkable want of political sagacity.

Messrs. Stanton, of Kentucky, and Mr. Cartter, were the principal defenders of the rights of inventors. Messrs. Stephens and Jones were the advocates of Mr. Houston's amendment. We believe that both Mr. Stephens, of Georgia, and Mr. Jones, of Tennessee would have spoken otherwise than they did if they had understood the question in all its details. They no doubt thought they were in the right upon the information which they had received respecting the Patent Office. The following are a few of Mr. Cartter's remarks:—

The gentleman says that the object of the amendment is to make sense of the clause. No sir, it is to plaster the Department of the Interior upon the Patent Office Building, and that is a kind of sense that I do not want made of it.

Now, let me say a word or two in reference to the precise attitude of the Patent Office to the Government. In the first place, it is a Congressional office—an office created for a specific purpose, maintained by its own funds, and accountable directly to this body with the co-ordinate branch of the Legislature. To whom are the reports of the Patent Office made? They are made here and to this body directly. How is the machinery of the Patent Office maintained? It is maintained out of the funds contributed to it by the artisans who take out patents—a peculiarity that the inventors and mechanics seek to maintain for it. How are the appointments made? They are made directly by the President.

But, sir, in reference to the capacity of this building. My colleague says that this building is sufficiently large for the accommodation of both of these Departments. Now, there are something like one hundred and fifty clerks in the Department of the Interior.—Stow them away in the Patent Office, and there will not be room for a solitary Examiner. But my colleague says that the building is abundantly sufficient, or that it has surplus room. Why sir, is my colleague aware that the damp from the walls of that building is to-day moulding away the models of patents granted to the genius of this country?

On the 21st inst. the House took up this Bill to act on the amendments reported from the Committee of the Whole, and the amendment offered by Mr. Cartter was carried by a vote of 104 to 69.

We understand that the Secretary of the Interior gave an order two weeks ago for the Commissioner, S. H. Hodges, to vacate the two new rooms now occupied by him; this amendment to the House Bill, keeps him out of the Patent Office.

We have intelligence from Washington stating that the new government will retain the new building of the Patent Office, for its legitimate purpose, and that the new Commissioner of Patents will have a higher salary, and an independence of the Secretary of the Interior. If the Democrats carry out this sensible and just policy, they will retain and make many friends. We hope they will do so for the promotion and advancement of science and art.

Suspension Bridge.

We have received, says the "Montreal Herald," a copy of "a report on a Railway Suspension Bridge over the River St. Lawrence, near Quebec, made for the City Council, by order of N F. Belleau, E q, Mayor of Quebec, by William Serrell, Civil Engineer."—The report reflects the highest credit on Mr. Serrell. It has been most carefully prepared. Three sites for the proposed bridge were surveyed—one near the river Chaudiere, about four miles from the mouth of Cape Rouge Creek, another from Durham Terrace to Point Levy, and a third from a few hundred yards above Cape Diamond to the opposite shore. The result of which surveys or examinations is, that Mr. Serrell sees the entire practicability of a bridge for railway and other travel, and "that too, within the means at your (the City Council's) command." The site selected near the Chaudiere will require a bridge of three thousand four hundred feet. The plan proposed is a wire suspension bridge, consisting of two massive towers of masonry, built in the river in twelve feet deep of water at average low tide; these towers to be in total height from their base about 330 feet, and 52 by 137 feet square at the base, battering regularly upwards; and they will be 1,610 feet apart at their centre. The height of the roadway above high water is to be 162 feet; the roadway will consist of two carriage ways, each ten and a half feet wide in the clear, and a railway track of such width or gauge as to match the railways which may connect with it; the entire width of the road being 32 feet in the clear inside the parapet.

Port Wine Adulteration.

The following curious statement about port wine is taken from a late English journal:—

"A pipe of port wine is sometimes compounded in London of fifty gallons of cider, sixty gallons Cape Pontac, paying a duty of only 2s. 9d, five to ten gallons of British brandy, and cider added to keep the cask full, till all the ingredients, are well blended together. Eight pipes of port wine, of one hundred and fifteen gallons each, which can be sold for £70 a pipe, are manufactured at an expense of £401, out of the following materials:—two pipes of Beni Carlos, at £38 a pipe; two hundred and thirty gallons of Figueras, costing £60; a pipe and a half of Cape Pontac, costing £48; a pipe and a half of good port, £109; a pipe of common port £68; twenty gallons of mountain, £11 8s. 7d.; washings of brandy casks, elderberries, salt of tartar, gum dragon, &c, in proportion, costing in all £401, including the payment of duties for eight pipes of duty paid port wine, which are then worth £560. The revenue and the wine drinkers are both defrauded by such concoctions.

Gold has been discovered in a cliff in Pine Creek, Va.

NEW INVENTIONS.

Ship Boring Machine.

An improved apparatus for the purpose of boring treenail holes in ships' bottoms has been invented by Samuel T. Sanford, of Fall River, Mass., who has taken measures to secure a patent. This machine very much lessens the difficulty experienced by shipwrights when boring treenail holes in the bottoms of ships. The auger stock is connected by a ball and socket or other universal joint, to a long pole, which is supported by a standard, but capable of motion in either a horizontal or vertical plane. A couple of pullies and a band transmit the motion of a shaft resting in the standard, to the auger so that it revolves. This plan allows the tool to be brought to any required point, and will permit it to bore in any direction, whilst the power to do so can be applied on the ground or wherever the standard can be readily placed. The workman can quickly remove the auger from the stock by a neat arrangement of a screw-thread and tongue, and a stock guard having small sharp pins at its end serves to maintain the position of the tool.

Improved Wagon Brake.

A self-acting brake for wagons on common roads has been invented by W. D. Williams, of Raleigh, N. C. This brake is intended for retarding the velocity of a wagon while going down hill, and is so arranged that the action of the horse in drawing, when arrived at the bottom, will restore the brake to its former position, where it will remain while the wagon is on level ground. The arrangement consists of two iron clamps encircling the front axle, and each connected to a front hound by a link and two joint pins. The hounds are secured to the sides of the reach as well as to a cross-piece, and the latter by rods is connected to a similar piece, which carries the bar for actuating thr brake blocks. An additional advantage of this brake, due to its capability of swinging on a centre, is, that it can be thrown forward when it is desired to dump the load, and then replaced in its former position.

Power Loom Shuttle.

An improved shuttle motion of a simpler kind than that generally employed in power looms, has been invented by William Crighton, of Fall River, Mass., who has taken measures to secure a patent. The improvements consists in connecting the two pickers by means of a rigid rod, so that it is made imperative for both to move together, the motion being imparted by a picker lever, which is operated upon to throw the shuttle in both directions by a single cam on a short shaft at one side of the loom. The results obtained by this improvement are the giving of the pickers a perfectly parallel motion by simpler mechanism than that commonly employed for the purpose, and thus dispensing with the long shaft and with one cam, the invention being altogether less complicated and expensive than the separate mechanism employed in most looms to drive the shuttle in each direction.

Race's Self-Acting Blast Regulator.

The annexed engravings are views of an improvement in regulating the blast in pipes, &c., invented by George Race, of North East, Duchess Co., N. Y., who has taken measures to secure a patent for the same.

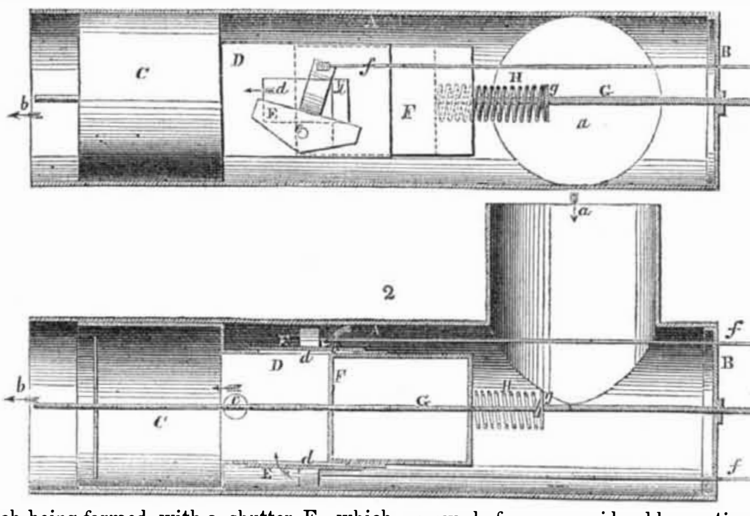
Figure 1 is a longitudinal section of part of a blast pipe, showing the improved regulator inside, and figure 2 is a transverse section of the pipe with an end view of the regulator. The same letters refer to like parts.

In the manufacture of iron by the blast furnace, it is of the utmost importance that pressure of the blast should be as nearly uniform as possible, but the apparatus now in use for regulating the pressure of the blast does not produce the desired uniformity. The object of this invention is to produce a more uniform pressure.

A is part of the blast pipe into which the blast enters at *a*, and from which it passes at *b*, towards the tuyere; B is a movable cap for the introduction and withdrawal of the regulator, which is as follows:—

C is a short tube which fits tightly in the blast pipe; it supports the valve socket, D, which is a tube of such size as to allow of a considerable space between it and the blast pipe. The valve socket may be of any suitable metal and form, but perhaps the square form allows of the best arrangement of shutters to vary the form of the passages. On opposite sides of the socket, D, there are small apertures, *c c*, and on the other two opposite sides are passages, *d d*, of oblong or square form. The small apertures, *c c*, are always full open; *d d* are the regulating passages,

Figure 1.



each being formed with a shutter, E, which consists of a flat plate turning on a pivot, *e*, in such a way that it will leave a parallel or taper opening through the passage. The shutters are adjusted by rods, *f f*, which pass through the cap, B. The regulator valve, F, consists of a hollow metal box fitting easily in the socket, D, but it is only made hollow for lightness; it slides freely upon the rod, G, which passes through its centre. This rod is screwed for a considerable portion of its length, and the thread part works in a nut in the centre of cap, B. The valve is attached to rod, G, by a spring, H, which is connected to the valve, and to a disc, *g*, which fits easily to the rod, but is prevented from moving beyond a certain point by a nut, *h*, on the rod. When there is no pressure upon the valve its front edge is always nearly even with the back eyes of the passages, *d d*, when, it is held by a stop piece, *i*, attached to it. The blast enters the pipe in the direction shown by the arrow, in figure 2, and a portion always escapes towards the tuyeres by the holes, *c c*, which are independent of the regulators, and which may be dispensed with altogether; the remainder passes through, *d d*. The valve is acted upon by the pressure of the blast, and, and as the said pressure increases or decreases, the valve is forced farther into or recedes from the socket, D. As the pressure increases and acts with more force upon the valve, the spring yields and allows the valve to enter the socket and thereby reduce the area of the passages, *d d*. and as the pressure decreases the opposite effect is produced. The area of the passage may be made to vary in proper relation to the varying pressure at the back of the regulator, in order to make the quantity passing through *c c*, *d d*, correspond inversely with its density, by properly adjusting the shutters so as to regulate the width of the front and back parts of the passages. The working pressure may be increased or diminished at pleasure, by means of the screw-rod, G, which serves to increase or decrease the tension of the spring, H. By increasing the tension of the spring the pressure of the blast is made less effective; by closing the valve, and by decreasing its tension, the opposite effect is produced, and thus the blast is rendered more uniform than by any of the plans now in use.

More information may be obtained by letter addressed to the inventor.

KETCHAM'S PATENT LOCK.

Figure 1.

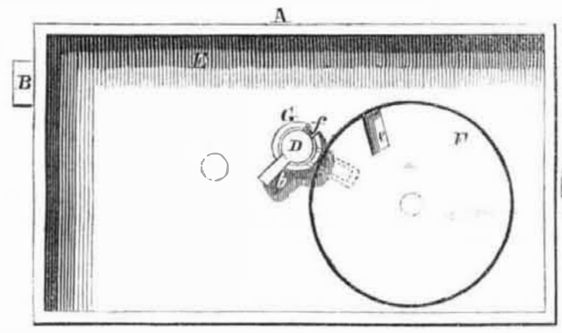


Figure 2.

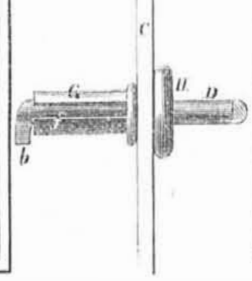
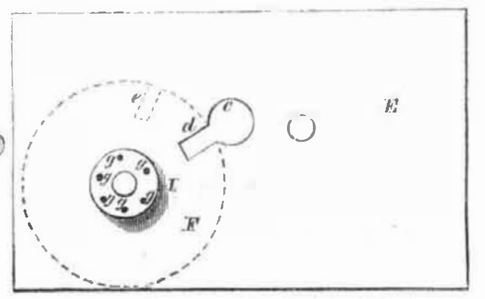


Figure 3.



The annexed engravings are views of an improvement in locks, for which a patent was granted to the inventor, Richard Ketcham, of Seneca Castle, Ontario Co., N. Y., on the 7th of last Dec., (1852.)

Figure 1 is a back view of the lock, the back plate being removed for the purpose of showing the circular tumbler, slotted collar and the end of the spindle, and the manner in which the spindle may be released, so that it can be made to act upon the bolt; figure 2 is a section of the slotted collar and spindle; figure 3 is a front view of the centre plate; figure 4 is a back view of the lock with the back plate removed and the centre plate taken from within the lock; figure 5 is a transverse vertical section of the lock, the centre plate and circular tumbler not being bisected. The same letters refer to like parts.

A is the case of the lock; B is the bolt placed against the inner side of the front

Figure 4.

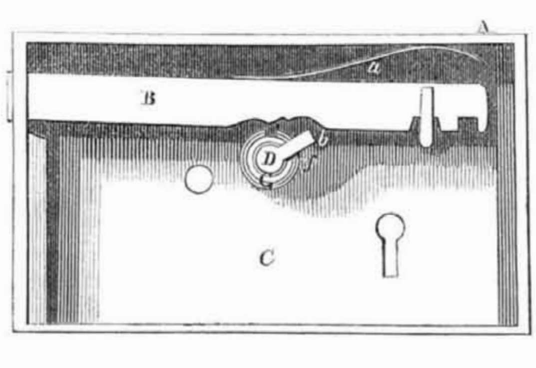
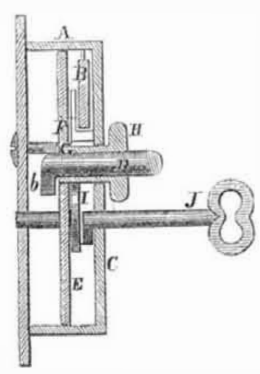


Figure 5.



plate, C, of the case. The bolt has the usual spring, *a*; D is a spindle, to the outer end of which the usual knob is attached. The inner end of D, is bent so that the bent portion, *b*, forms a right angled triangle with the other portion; E is a plate fitted within the case, A, dividing it longitudinally, into two parts. Near the centre of plate, E, there is a circular aperture, *c*, and slot, *d*, adjoining it, through which the spindle, D, and crook, *b*, passes. This crook, *b*, is really the key, it acts upon the bolt, B, to move it according to the direction in which the spindle is turned; F is a circular tumbler placed on the back side of the centre plate, E; this tumbler has a recess, *e*, on its edge, large enough to allow, *b*, of the spindle, D, to pass through; G is a collar which passes through the front plate, C, of the case. This collar has a slot, *f*, to allow the spindle to be drawn in it, the slot, *f*, being for the crook, *b*, to work in. The collar has a small circular projection, H, on its outer end, on the outer side of the front plate, C. When the bolt, B, is thrown out, it is in a locked state, and the object of the invention is to prevent the crook, *b*, from acting upon the bolt, and to keep it from being withdrawn. In order to do this, the crook, *b*, is passed through the centre plate, E, the crook, *b*, passing through the slot, *d*, in the plate, E, and also through the recess, *e*, in the tumbler, F. When this is done the tumbler is turned, and also the collar, G, so that the slot, *f*, of the collar, the recess, *e*, of the tumbler, and th slot, *d*, of the centre plate, E, are not in line While the slots, *f d*, are in this position, and the crook, *b*, on the back side of the centre plate, the crook, *b*, cannot act upon bolt, B; it must first be drawn through the centre-plate and slots. The dotted lines, figure 1, show the position of the parts when the bolt B, is forced outward. In order to withdraw the bolt, the slots, *f d*, and recess, *e*, must be brought in line, to allow, *b*, to be drawn through the centre-plate, E. To do this, the key, J (not properly the real key) is inserted into the lock, and acts upon a disc, I, on the front of the plate, E, said disc being perforated with apertures, *g*, around its edge. The point of the key fits in either of these apertures, and as the said disc is attached to the axis of the tumbler, F, which turns with the key, the collar, G, is turned by operating the projection, H, and the spindle turned by the ordinary knob. The slots in the collar and the recess, *e*, in the tumbler, are brought in line by means of turning the collar to letters, figures, or secret marks, on the face plate of the lock. These characters are not represented in the figures, as they can be varied for different locks. When the slots, *f d*, and recess, *e*, are in line, the spindle, D, is drawn through the centre-plate, and made to act upon the bolt by turning the spindle, as before mentioned.

More information may be obtained by letter addressed to the patentee.

Banvard's Panorama of the Holy Land.

This beautiful Panorama has for some time been on exhibition at the Georama, 596 Broadway. To the christian, the scholar, and all others having any interest in the Holy Land, (and who has not), this exhibition presents uncommon attraction and interest. We advise all to visit it before it leaves the city.

More than four millions of acres have been redeemed from the Mississippi in Arkansas.

Scientific American

NEW-YORK, MARCH 5, 1853.

Scientific Papers---Dr. Lardner and Newspapers.

In the "Louisville Journal" of the 12th ult., we find the leading editorial article devoted to a discussion of the "Caloric Ship Ericsson," the arguments of which are founded on incorrect information. It says:—

"We perceive that some of the scientific papers doubt the success of Mr. Ericsson's application of caloric to the propulsion of vessels. This verdict, rendered by some scientific men, might be very discouraging did we not remember that other scientific men have heretofore made sad blunders in relation to navigation. In 1835, Dr. Lardner, who was considered very competent authority on all matters appertaining to science, *demonstrated* the impracticability of crossing the Atlantic in vessels propelled by steam. There were some thick-headed fellows about Bristol, who, not having sufficient reverence for the dicta of science, profanely proceeded to build the steamship Great Western, and actually undertook to do what Lardner had proved impracticable, and actually did it. The steamer, in the face of the demonstration, crossed and re-crossed the Atlantic, thus showing that even a scientific demonstration may be prostrated by the perseverence of resolute men."

We suppose that the allusion to scientific papers was intended for us, as no paper nor magazine in our country, ostensibly devoted to science or art, but the "Scientific American." has openly committed itself—not doubting, but asserting, and giving good reasons for it, that the Hot Air Ship can never supersede the steamship. Prof. Silliman, Editor of the "American Journal of Science," in a recent lecture delivered in this city, said a few words about the Ericsson, but did not commit himself fully, he only said,—"he was not yet prepared to speak the elegy of steam, but would believe it a motive, still-existing power, and one likely to continue such for a long period yet to come."

It is perfectly easy for some men to doubt and scout the success of any new experiment; this we have not done about the "Ericsson;" we have only presented our reasons, founded on scientific knowledge and a consideration of the subject, why hot-air, as a motive agent, cannot compete with steam. Any professedly scientific man, who cannot give a reason for a favorable or unfavorable opinion, is a sham; there are too many men of this stamp among us. They stand mum, look wise on new subjects, and are always able to predict events (after they come to pass). We speak thus of ostensibly scientific, but really superficial men.

For one mistake, which a *real scientific man* makes about scientific matters, an unscientific man makes a thousand. Who, then, is most to be trusted in expressing an opinion about the merits of steam and hot-air as motive agents, the mere newspaper men, or the scientific papers? The former, according to the opinion of the "Louisville Journal," because Dr. Lardner had *demonstrated the impracticability* of Atlantic navigation. We say the latter, because many newspapers cannot even be trusted with matters of fact; they are more likely to report the false than the true, and they are not qualified to express a correct opinion respecting matters of science, or even what they see with their eyes. We will now adduce proof in support of these assertions.

Dr. Lardner never made any such statements as those attributed to him by the "Louisville Journal." The assertion that "he had demonstrated the impracticability of Atlantic steam navigation," is an untruth which has been floating about from newspaper to newspaper, and from tongue to tongue of superficial lecturers for years, to the great injury of the reputation of scientific men. We contradicted this floating untruth about Dr. Lardner more than a year ago, on page 117, Vol. 7, yet here we see it again repeated,—it still floats on, doing its mischievous work. We do not say it has been thus wilfully employed by the editor of the "Journal;" we believe far otherwise of him—he has honestly believed it to be true, because, it has been a common rumor; but Dr. Lardner believed, and so expressed himself, that ocean steam navigation was practicable from the time it was first proposed. His speech made in Bristol in 1837, on this subject, as published in the "London Times," represents him to have said,—"he considered the voyage practicable, but almost all depended on a first attempt; its failure would retard the ultimate consummation of the project." What Dr. Lardner did affirm about the success of Atlantic ocean navigation, was, "that long sea voyages by steam could not be maintained with that certainty indispensable to commercial success, without a government subsidy of a considerable amount." He was a true scientific prophet, as our government increase of subsidy to the Collins' line of steamers has shown. As truth should be the object of all discussion, if the editor of the "Louisville Journal" will examine the last edition of Lardner on the Steam Engine, pages 295–97, he will find what we state to be true.

Let us now present the reasons adduced by the "Journal" for coinciding with the general Daily Press of New York, in the opinion "the days of steam are numbered, and caloric triumphant." The "Journal" says:—

"We have taken a very lively interest in the discovery of Capt. Ericsson, and have been of those who confidently believed in its success. Our faith is founded on the descriptions given of the Ericsson by those intelligent editors of New York who accompanied her on her trial trip. These gentlemen examined the machinery of the ship and watched its operations, and how they could be deceived is what we cannot understand. There was a huge ship going against wind and tide at the rate of nine miles an hour, with a far less amount of fire than is used on steamers, propelled by an engine of great simplicity which was operated altogether by caloric. Now, how is it possible that a man of sense, with good eyesight, could be placed in a position so favorable for observing what was going on, and yet be imposed on and deluded as the New York editors must have been if the Ericsson did not accomplish as much as they described?"

These reasons are precisely the very ones that would lead us to a different conclusion. Here we see a steamship moving at the rate of 16 miles per hour (the Baltic passing the Ericsson), and a new ship, driven by hot air, moving at the rate of six or seven—not nine—knots an hour—nor with wind or tide against it, as stated; and a number of New York editors, on witnessing such a feat, when warm with wine, shout aloud, "the days of steam are numbered." Why, if we so acted in the face of hard facts and common sense, we would expect the public to be setting us down as demented.

We would be glad could we conscientiously say, "steam is now superseded by a superior and more economical motive agent,"—but we must speak that only which we believe to be true. We believe that the overlauding of new projects, by men incapable of expressing correct opinions respecting them, tends to retard the advance of science, art, and invention. Men of capital, who have been deceived by an inefficient invention once, become prejudiced against all new projects, and look upon good ones in as unfavorable a light as they do upon poor ones. It is our duty to correct wrong opinions upon such matters.

The Hot Air Ship left New York on Tuesday, the 15th ult.; it went out a short distance to sea and then returned to the Bay and anchored all night. It moved out again next day, and on Monday, the 21st ult., it was telegraphed to New York that it had arrived at Alexandria. Next day, the 22nd, it was telegraphed—by some friend no doubt—from Washington to the daily papers in New York, that after the Ericsson left New York Bay at 9 A. M., on Wednesday morning, she went, in the face of a gale, for 80 miles, the wind then changed and she turned and came back in its teeth, and then proceeded on her trip to Alexandria, and arrived at the mouth of the Potomac on Saturday morning. This was strange manœuvring, and it has a strange look about it. At any rate, from the time she left New York to go to Alexandria, it took her nearly six days. If we allow 27 hours for her anchorage in the Potomac, and one day lost at New York, she was 93 hours on her passage—the six days amount to 144 hours; her friends say she made the passage in 73 hours. Well, let us institute a comparison between what she did and what was performed by the Baltic on her passage to Washington in the month of February, last year. The Baltic steamship, Collins' line, left New York on the 26th of Feb., 1852, at 11 A. M., and arrived at Alexandria in 48 hours exactly. She anchored all night in the river below, and was detained for three hours on a sand bar, thereby losing 15 hours out of the 48, making her sailing time 33 hours. Being of much larger tonnage than the Ericsson, she had to feel her way up the river, and could easily have made the trip in 30 hours. But allowing her to have taken 33 hours and the Ericsson 73; the latter took 40 hours more to do the same thing, seven hours more than double the amount of time. If we take the whole time of the Ericsson—6 days, or 144 hours—and the Baltic, 48 hours, we have 144÷48=3, or three times longer than the Baltic. A New York clipper can beat this by a day or two at least, and not use any coals at all; and if speed cannot be obtained what is the use of being at the great expense of engines when sails can do better?

The "New York Times;" in reference to this trip, says: "It must go far towards establishing in the public mind, the success and importance of this remarkable invention." If this trip goes to establish the success of the caloric engine, upon the same principle of reasoning, if it took one week longer still to make the trip, it would be a still stronger proof of its success. What logic and what a want of common observation. Well, does this trip look as if "the days of steam were numbered?" We trow not. Proposals have been made to the United States Government to construct vessels of war to be propelled by hot-air engines; they are not adapted in form nor mode of action for war vessels.

In making the foregoing remarks we have looked facts in the face, and have not drawn our conclusions from fancy. It appears to us that if the owners of the Ericsson have such confidence in her powers and economy, they can easily set steam competition at defiance, and put the question beyond a doubt. Would it not be wiser and more common-sense and business like for them, then, to set her at once on a voyage to Liverpool or any other port, and make her pay her way, instead of being at the great expense of mugging around the New York and Chesapeake Bays for a month or two, to show her off? That this is not done, does not look well in our eyes, nor in the eyes of rational business men.

Events of the Week.

Art and Taste—The artist who can paint a good hand is fit to achieve any work requiring care, skill, and taste; while, on the other hand, it makes no matter what the kind of an imagination a painter has, though it be as gorgeous as that of Fuseli, if he cannot draw correctly, or if he does not paint carefully—that is, bestowing all his attention upon one part, such as the face, and exhibiting gross carelessness about the other parts—he is sure to fail, and can never rise to the first rank of artists. In painting a full-length portrait, many suppose that the face is the only part which should be painted true to life. It is also true that many artists can paint a face well, who cannot paint a hand or a foot. Hence it is that we often see portraits of persons that we know, with the bodies, hands, and feet of people we never saw, stuck on to them. It is more difficult, we suppose, to paint a hand and a foot than a face; or, being more familiar with the hand, every person is better qualified to exercise the office of a critic with respect to its true delineation on the canvas. Be that as it may: we never were more strongly impressed with carelessness in respect to the execution of female hands, by any artist, than those of the Empress of France, on the first page of the "Imperial Marriage Supplement of the London Illustrated News." The artist has drawn a very good figure, and a tolerable face,—but such hands, especially the left hand why it is not a hand at all, but looks like the huge paw of a Spanish wolf-dog. We hope these few words will not be lost on our artists:—be careful of every part of your pictures.

Parker's Water Wheel.—We have received a letter from J. Sloan, of Sloan's Mills, Ky., directing our attention to the error of one figure in Vol. 6, page 272, Scientific American, where an experimental wheel of Mr. Parker's of 10 inches diameter, is stated to have had "six discharging apertures of 9 square inches aggregate section." It should have been "6 inches," instead of 9. He has a copy of 186 experiments made by Mr. Parker, and he has made many himself and has found that the best effect is produced when the area of inlet is the same as that of the wheel. He asserts that the articles on Water Wheels, in Vol. 6 are valuable and recognized as standard authority, and that every error, however small, should be carefully noted. This is true: those millwrights who have proportioned their wheels, with an inlet of 10½ square inches to 9 of the discharge areas, will therefore get a better effect by narrowing the inlet area to equal those of the wheel.

Carpenters—We have received a letter from L. M. Parker, of Shrewsbury, Mass., on the subject of the condition of the "Carpenter's Trade." He served an apprenticeship at his business, learned draughting, and was indentured to learn the trade complete. He has noticed a great decline in the learning of the trade thoroughly, hence there is too great a quantity of wretched carpenter work to be seen in most of the houses erected at the present day. He attributes much of this evil to the general appetite for "cheap work, and a great deal of it" to the preference given to that made by men incapable of producing good work. Mere botches are now found to be contractors—men who can neither design nor execute, but they do their work cheap, and produce a great quantity of it. This is too true, —the general carpenter work executed in this city is exceedingly poor, and a discredit, unjustly, to the trade, which comprises many thoroughly skilled and ingenious men.

The India Rubber Case—The Decision.—The Commissioner of Patents, S. H. Hodges, gave his decision on the application for an extension of Hayward's patent, on the 23d inst. His conclusions were, that he must dismiss the application for the extension of the patent prayed for by Goodyear and Hayward, the applicant having, with a full knowledge of the value of the patent, sold it for the valuation fixed by himself, and therefore that there is no good reason, either from the ingenuity of the invention or its utility to the public, to warrant the extension of the patent for seven years farther. We cannot see what other decision the Commissioner could have made; it is strictly according to law, as noticed by us recently, on page 181, when discussing this case. The objections against the extension were made in writing and read in his hearing.

The Ether Case in the Senate.—Mr. Walker, from the Select Committee to which were referred memorials from the claimants of etherization, has reported as follows:—"that the credit and honor of the discovery belongs to one of the following-named persons, all cizens of the United States, viz., W. T. G. Morton Horace Wells, or Charles T. Jackson; but, as to the particular one to whom the discovery should be awarded, the testimony before the committee is not sufficiently clear, and they think the point should not be settled by Congress without a judicial inquiry. The committee has no hesitancy in saying that to the man who has bestowed this boon upon mankind, when he shall certainly be made known, the highest honor and reward are due compatible with the institutions of the country to bestow. The discovery is eminently meritorious, and its use by the Government of vast and incalculable value and benefit, they recommend to the favorable consideration of the Senate an amendment to the army appropriation bill, giving $100,000, when a decree of the court of the northern district of New York is obtained, showing the person entitled to be regarded as the discoverer."

This resolution has been passed, and we hope it will settle this controversy for ever, by the examination of testimony adduced by all the claimants.

The business of putting provisions in hermetically sealed cans has become an important one in Portland, Me.

Reported Officially for the Scientific American

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING FEBRUARY 22, 1853

SEPARATING ORES OR OTHER SUBSTANCES—By Hezekiah Bradford & Elisha Fitzgerald, of New York City: We claim giving to the reciprocating pan the peculiar motion described, by the means described.

Also, giving the back movement to the said pan, in a less period of time than the forward movement by means of a crank or cranks, whose axis of motion is below or above the plane of motion of the rear end of said pan, or by equivalent means, as described, and for the purpose specified.

Also, in combination with a pan, having the motions, or either of the motions, substantially such as specified, and on which the ore, &c , mixed in water, is supplied at some point towards the middle or back, the employment of a current or currents of water descending the inclined or curved surface of the said pan, as specified.

Also, making the rear end of the said pan with an inclination or curve upwards, as set forth.

Also, making the said pan, as specified, with apertures back of the place where the substances to be separated are applied, for the purpose set forth.

Finally, making the front and rear ends, or either, of the pan having a vibratory motion, with a gradual curve downwards, as specified, when the same is employed, in combination with currents of water, as specified.

GAS METERS—By A. A. Croll, of London, Eng.: I claim the mode of arranging movable partitions, or plates, so that the flexible material at the circumference of the plates, shall not be bent but in one direction, asset forth.

Also the arrangement and combination of the arms with the valves and movable plates, of a dry metre, as set forth.

SEWING MACHINES—By W. A. Johnson, of Greenville, Mass. (assignor to W. G. Bates, of Westfield, Mass.): I claim the making of the double loop stitch, having the loops upon one side of the cloth, by means of two needles combined and operating as described.

Also, the making a seam, or uniting two pieces of cloth, by means of the double loop stitch, consisting of a plain stitch from a single thread on one side, and on the other, of a continuous chain, formed of a succession of double loops from the threads.

SCYTHE FASTENINGS—By Alpheus Kimball, of Fitchburgh, Mass.: I claim the method of securing the blade of the scythe to the snath, by passing its shank through the end of the stationary metal cap, and securing it by means of the upward pressure of the screw, in combination with the claw and bush piece, constructed and operating as described.

SUSPENDING, LOWERING, AND LIBERATING SHIPS' BOATS—By Wm. S. Lacon, of Great Yarmouth, Eng. Patented in England Feb. 23, 1852: I do not confine myself to the precise arrangement of apparatus described for carrying out my invention; but I claim suspending ships' boats by having the chains or ropes so connected with drums or barrels, substantially as specified, that the two ends of the boat shall descend together, and with equal or nearly equal velocity, and so that the chains or ropes shall be free to disengage themselves from the barrels, in combination with the mode of controlling the turning of the barrels, by the weight of the boat, &c., as specified.

MORTISING MACHINES—By James Moreland, of Adrian, Mich: I claim the combination of the cross bar on the cross head, with the projecting dog on the movable way, for the purpose of withdrawing the chisel from the wood, on the back motion of the cross head, as set forth.

CUT-OFF MOTION FOR LOOMS—By A. B. Taylor, of Mystic, Conn., & Stephen Wilson, Jr., of Westerly, R. I: We do not claim the roller against the warp, by which the position of the weight is regulated; neither do we claim the ratchet wheel and worm pinion, moved by a pawl or click, from the lay, as these have before been used.

What we claim is, effecting and regulating the let-off motion by the variable counterpoise lever, in combination with the sliding worm pinion, when said worm pinion is acted on by the yarn beam through a direct strain communicated to it by the tension of the warp, the whole arranged and combined as specified.

TURNING IRREGULAR FORMS—By Lauren Ward (admr. of Richard Ward, deceased), J. B. Hubbell & H. C. Hubbell, of Naugatuck, Conn.: We are aware that machines have been made for turning irregular shapes, by means of sliding centre grooves, guides, patterns, cams, &c., and that cutters have been so formed and arranged as to assist the cams, &c., in giving the shape to the article, we therefore do not claim either of these, as such, as our own invention, but we claim the use of a cutter wheel for turning irregular forms, the cutters being so arranged that the pattern may be disclosed in reverse, on its surface, when combined with the feed motion described, so that in turning said cutter wheel, the desired irregular shape will be given to the article, without using guides or patterns, when the whole is combined and made to operate as described.

DESIGN.

CRADLE—By Alex. Edmunds, of Mount Pulaski, Ill.

The French Institute.

The astronomical prize given yearly by the above society has been divided for 1852 between the five astronomers, who have discovered seven planets in the course of the past year, viz., Hind of London, de Gasparis, Naples; Luther, Blik, near Dusseldorf; Chacornac, Marseilles; Herman Goldschmidt, Paris; a medal being conferred on each of the above; the prize for mechanics was awarded to M. Triger, civil engineer, for the invention of a process for expelling water out of swampy grounds, by means of compressed air, the operation having been for the first time effected in 1839, in forming a shaft 25 metres deep, through the quicksands on an island in the Loire, near Chalonnes, to get at the under surface.

A large number of pecuniary rewards were bestowed in the various departments of medicine and surgery; among the successful competitors we notice the name of Orfila, the celebrated writer upon Poisons and their Antidotes.

Riddle's Report of the Great Exhibition.

[Continued from page 190.]

It will be seen that each distinct formation gives rise to a great variety of fertility, even where the basis remains the same; but it is of great importance to the farmer to ascertain the general nature of the rocks and strata on which his farm lies. In these soils which we have mentioned, no notice has been taken of organic matter, because this does not seem in any way connected with their formation. The primary strata are distinguished by having no traces of organic remains in their composition. It is in the tertiary strata, especially those which have been formed by the destruction of animal and vegetable substances, that organic matter becomes a peculiar object of attention; and it is doubtless from this reason alone that the alluvial soils formed by the deposit of a variety of earths in a state of great division, and mixed with a portion of organic matter, form by far the most productive lands. They will bear crop after crop with little or no addition of manure. These soils are found along the course of rivers which traverse extensive plains, and which have such a current as to keep very fine earth suspended by a gentle, yet constant, agitation, but not sufficiently rapid to carry along with it coarse gravel or sand. Wherever there is an obstruction to the current, and an eddy is formed, there the soil is deposited in the form of mud, and, gradually accumulating, forms these alluvial soils which are so remarkable for their fertility. In these soils the impalpable matter greatly predominates; but the intimate mixture of the earths with organic matter, in a state which has been called humus, prevents their consolidating into a stiff clay, and the gases which are continually evolved from the organic matter, keep the pores open, and give scope to the growth and nourishment of the root.

Organic matter is no doubt essential to great fertility in a soil, but some soils require more of it than others. Humus, which is the form organic matter naturally comes to by slow decomposition in the earth, gives out certain elements which the roots can take up in their nascent state, and from which they obtain the carbon so abundant in all vegetable productions. But organic matter, in every stage of its spontaneous decomposition, keeps the pores of the soil open, and admits, even if it does not attract, air and moisture to the fibres of the roots.

Professor Liebig, however, takes a different view of this subject. He says:—"Land of the greatest fertility contains argillaceous earth and other disintegrated minerals with chalk and sand, in such a proportion as to give free access to air and moisture. The land in the vicinity of Mount Vesuvius may be considered as the type of a fertile soil, and its fertility is greater or less in different parts according to the proportion of clay or sand which it contains.

The soil which is formed by the disintegration of lava cannot possibly, on account of its origin, contain the smallest trace of vegetable matter; and yet it is well known that when the volcanic ashes have been exposed for some time to the influence of air and moisture, a soil is gradually formed in which all kinds of plants grow with the greatest luxuriance."

This fertility is owing to the alkalies which are contained in the lava, and which, by exposure to the weather, are rendered capable of being absorbed by plants. Thousands of years have been necessary to convert stones and rocks into the soil of arable land, and thousands of years more will be required for their perfect reduction—that is, for the complete exhaustion of their alkalies.

Air, water, and the change of temperature, prepare the different species of rocks for yielding to plants the alkalies which they contain. A soil which has been exposed for centuries to all the influences which affect the disintegration of rocks, but from which the alkalies have not been removed, will be able to afford the means of nourishment to those vegetables which require alkalies for their growth during many years; but it must gradually become exhausted, unless those alkalies which have been removed are again replaced:—a period, therefore, will arrive, when it will be necessary to expose it from time to time to a further disintegration, in order to obtain a new supply of soluble alkalies; for, small as is the quantity of alkali which plants require, it is nevertheless quite indispensable for their perfect development.

The first colonists of Virginia found a country, the soil of which was similar to that just mentioned; harvests of wheat and tobacco were obtained for a century from one and the same field without the aid of manure; but now whole districts are converted into unfruitful pasture land, which, without manure produces neither wheat nor tobacco. From every acre of this land there were removed, in the space of one hundred years, 12,000 pounds of alkalies in leaves, grain, and straw. It became unfruitful, therefore, because it was deprived of every particle of alkali which had been reduced to a soluble state, and because that which was rendered soluble again in the space of one year, was not sufficient to satisfy the demands of the plants. It is the greatest possible mistake to suppose that the temporary diminution of fertility in a soil is owing to the loss of humus; it is the mere consequence of the exhaustion of the alkalies.

Let us look at the condition of the country around Naples, which is famed for its fruitful corn land. The farms and villages are situated from eighteen to twenty-four miles distant from each other, and between them there are no roads, and consequently no transportation of manure. Now, grain has been cultivated on this land for thousands of years, without any part of that which is annually removed from the soil being artificially restored to it. How can any influence be ascribed to humus under such circumstances, when it is not even known whether humus was ever contained in the soil?

The method of culture in that district explains the permanent fertility. A field is cultivated once every three years, and is in the intervals allowed to serve as a sparing pasture for cattle. The soil experiences no change in the two years in which it lies fallow, further than that it is exposed to the influence of the weather, by which a fresh portion of the alkalies contained in it are again set free or rendered soluble. The animals fed on these fields yield nothing to these soils which they did not formerly possess. The weeds upon which they live spring from the soil, and that which they return to it as excrement must always be less than that which they extract. The fields, therefore can have gained nothing from the mere feeding of cattle upon them; on the contrary, the soil must have lost some of its constituents.

Experience, has shown, in agriculture, that wheat should not be cultivated after wheat on the same soil, for it belongs, with tobacco, to the plant which exhaust a soil. But if the humus of a soil gives it the power of producing grain, how happens it that wheat does not thrive in many parts of Brazil, where the soils are particularly rich in this substance?

The cause is, that the strength of the stalk is due to silicate of potash, and that the grain requires phosphate of magnesia, neither of which substances a soil of humus can afford, since it does not contain them. The plant may, indeed, under such circumstances, become an herb, but will not bear fruit.

Potash is not the only substance necessary for the existence of most plants; indeed, the potash may be replaced in many cases by soda, lime, or magnesia. But other substances beside alkalies are required to sustain the life of plants. Phosphoric acid has been found in the ashes of all plants hitherto examined, and always in combination with alkalies or alkaline earths. Most seeds contain certain quantities of phosphates. In the seeds of different kinds of corn, particularly, there is abundance of phosphate of magnesia.

The soil in which plants grow furnishes them with phosphoric acid, and they in turn yield it to animals, to be used in the formation of their bones, and of those constituents of the brain which contain phosphorus. Much more phosphorus is thus afforded to the body than it requires when flesh, bread, fruit, and husks of grain are used for food; and this excess is eliminated in the urine and solid excrements.

A Western Silk Factory.

The editor of the "Cleveland Herald," being on a visit to Wheeling, thus describes a large silk factory there:—

Not the least interesting of Wheeling manufactories is the silk factory of John W. Gill, Esq. He commenced the culture and manufacture of silk at Mount Pleasant, Ohio, some twelve years ago, and removed his establishment to Wheeling in 1845. His establishment is the largest of the kind in the United States, employs a capital of $20 000, and Mr. G. manufactures about $15,000 worth of silks per annum. He would manufacture much more extensively, but for the difficulty in obtaining stock. He buys all the American cocoons and reeled silk he can get, but can only keep his looms in operation about three months of the twelve. Mr. G. attributes the slow progress of silk growing in this country to the morus multicaulis speculation, which disgusted everybody with the business. He regards the morus multicaulis as worthless. The White Mulberry is found to be the best for feeding silkworms, and it is hardy and of rapid growth. Mr. G. says an acre of the mulberry will net a family $100 a year for raising cocoons, and the labor can be performed by women and children in six weeks. The worms do not need artificial heat, and no extraordinary attention in the Ohio Valley climate. The quantity of cocoons raised is now increasing, and Mr. G., who is an enterprising gentleman of great wealth, is resolved to continue the manufacture of silk, not as a matter of profit, but, if possible, to induce a more general attention to the American silk business, we can and should become independent of Europe in silk fabrics.

Mr. Gill has thoroughly tested the capacity of the United States to produce and manufacture silk, and he is satisfied that no country is better adapted to the business than the valley of the Ohio. He has manufactured every variety of staple silk, embracing satins, velvets, dress silks, hat and coat plushes, brocades, vestings, levantines, surges, florentines, flag silks, handkerchiefs, scarfs, cravats, gloves, stocks, shirts, sewing silks, coach lace, and trimmings, tassels, twist buttons, &c., to the value some seasons of $25,000, and the first premiums have been awarded to his goods wherever they have been exhibited.

We are confident that it but a very little attention was devoted by our farmers to the raising of silk worms, it would be a great benefit to our country. We can raise as fine silks and grapes in the United States as in any country, and there is no occasion for importing raw silks or manufactured wines.

Extension of a Patent.

On the petition of Enoch Hutchinson, of New York, praying for the extension of a patent granted to him on the 20th of May, 1839 for an improvement in ships' gallies, for the distillation of salt water, for seven years from the expiration of said patent, which takes place on the 20th day of May, 1853.

It is ordered that the said petition be heard at the Patent Office on Monday, the 18th of April, 1853, at 12 o'clock M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specifically set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

S. H. HODGES, Com. of Patents.

Washington, Feb. 5, 1853.

The Geanga Iron Works, Ohio were burn ed down on the 23rd ult.

TO CORRESPONDENTS.

B. B L, Ohio—You must send us on a model if you wish a patent to be taken out; no doubt it would be of sufficient importance,

S D. P., of N. Y.—The law of fluids pressing in all directions, would scarcely apply in the case of steam with an ordinary constructed cylinder, because the sides are rigid and fixed, and therefore, however great might be the amount of pressure, it could not be made available in the manner you indicate. Besides, as the piston does actually yield and therefore permits the expansion of the steam, the whole of the power is, in fact, exerted by the engine

H L, of Ga—There is no hand press made of such dimensions, the only plan would be to have one made for the purpose, by which, of course, you would incur additional expense; even then we do not think that a hand-press would be at all advisable; an adaptation of the cylinder press might, perhaps, answer your purpose. The best work on Lithographic Printing is by Hulmandel, 8vo., price $2,25: London; sold by Putnam, New York.

H. S W, of Ohio—Your plan is new and patentable, and therefore you are entitled to a patent, but we think it would induce "priming," which is a very great evil.

J W. F, of Pa.—$20 are the government fees for a caveat.

J G. B., of New York—We have received three articles on the same subject; we cannot publish them.

O. P S, of Ohio—We have before presented the ideas embraced in your letter.

L. D. P., of Ind.—We never publish engravings but once, therefore cannot accede to your request.

S. A. of Vt.—We do not think the agate button is made in this country.

L. M. C., of Canada—There is nothing new in a Thermometer which will show what degrees of heat or cold have been during the past 24 hours. The same thing was shown us some months since.

J. G. S, of Mass—We would want a more complete description of treating specimens of natural history.

J. F N, of N. Y.—The same thing has been presented to us a number of times, and is perfectly fallacious; try the experiment, which you can easily do, and you will find out.

J. B. C., of Tenn.—The subject is so abstract that perhaps, not three or four others besides ourselves would be interested in the discussion; we are much obliged to you for your kindness.

G. M., of D. C—Your last came in time; you will find the article about oxygen being a compound on page 112 Vol. 4, Sci. Am., not Vol. 5, as stated.

W, A., of Pa.—There is no good work on the subject, nor can you find a process for dyeing wool and cloth combined in any book; for some receipts we would charge $1 but not less than $5 for others.

J O M., of Albany—The same proposition for beds has been proposed to us, you will find that they will not make good cushions; some element more compressible and yet elastic is better.

A. D. S., of Conn.—We suppose that pine, prepared with an aluminous solution, and submitted to a heat of 400 degs., would, after that, stand steam heat of 300 degs.

R. G., of N. Y.—The subject is not worth the time you have expended upon it.

W. K. P., of Mass.—The oxygen of the air would combine with the red hot iron, and soon destroy your cylinders; it would not result in any advantage to employ hot air along with steam.

H. M. H., of N. Y.—It is not so much the oil as the gluten in ivory which gives it a yellow color you cannot remove it by chemicals without injuring its quality; by boiling it in soda the oil will be removed.

C. M., of New York—The gentleman you inquire about lives in the interior of this State; you will find the said volume in the "Society Library," we believe; if not it cannot be found out of Philadelphia

J. J. L., of N. Y—We cannot publish your letter, it is too long, and its composition and penmanship exhibit carelessness.

M. L. P., of Texas—From the very nature of the propelling element which you use, an elastic gas, it is not adapted for propelling a vessel.

E. S., of Me—It should be 1 gallon of water.

F. S. C., of Boston—If the water moves at the rate of 16 feet per second, its pressure will be equal to 15 lbs., on the square inch

S. H M, of Pa.—Your criticism upon our remarks on Keeler's Smut Machine are evidently captious and disingenuous. We cannot publish the engraving of your machine; it may merit all the encomium bestowed upon it, but it is too old an invention to be published in our columns.

C. G. E, of N. Y.—You will do well to show your improvement so long as you are in the city.

Money received on account of Patent Office business for the week ending Saturday, Feb. 26:

P. C., of Mo., $45; J. A, of Ct, $30: G. D, of N Y, $25; G. M, of Ind., $40; B. & D, of N. Y., $67; F B B, of Me., $10; E. J. B., of N Y., $35; F F., of N Y., $50, R F., of N. Y., $30; S T S, of Mass., $30; W. V. A., of N Y, $35; W. D W, of N C., $25; D. T., of N. Y., $30; F. O. D, of Pa., $25.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday Feb. 26:

G. & Co., Paris; P C, of Mo.; G. D., E. M., W. V. A E J., and E. B., of N. Y; F. O D, of Pa; S. T. S., of Mass; W D. W., of N.C.: A B. D., of Pa.

A Chapter of Suggestions, &c.

BACK NUMBERS AND VOLUMES—In reply to many interrogatories as to what back numbers and volumes of the Scientific American can be furnished, we make the following statement—Of Volumes 1, 2 and 3—none. Of Volume 4, about 20 Nos., price 50 cts. Of Volume 5, all but four numbers, price, in sheets, $1. Of Volume 6, all; price in sheets, $2; bound, $2.75 Of Vol. 7, all; price in sheets. $2; bound, $2,75. Of Vol. 8, none.

ADVERTISEMENTS.

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☞ All advertisements must be paid for before inserting.

CHAPIN'S PATENT DUPLICATE TURNER, —For Turning Exterior and Interior Surfaces. The public are hereby informed that the subscriber has obtained Letters Patent from the U. S. P. O., for fourteen years from January 11th, 1853, and that he is now prepared to dispose of rights for any of the States or Territories of the U S., or for certain districts, cities, towns, or counties, or rights to run single machines, on reasonable terms. This machine is adapted to cutting all kinds of serpentine or irregular surfaces: such as ornamental pickets, bannisters, chairstuff, bedsteads, &c &c., at an immense saving on the old plan of cutting them with scroll saws; also for cutting Driggs & Chap n's Patent Wave-line and Serpentine Venitian Blind Slats. All orders for the Duplicate Turner must be addressed to Nathan Chapin, and orders for rights to manufacture the Wave-line Blinds, to Driggs & Chapin, Patentees, No 124 Amity street, New York City. Driggs & Paton, assignees for the City and County of New York, will receive all orders for their district, at Paton's School Furniture Factory, 24 Grove street, or at Driggs' Sash and Blind Factory, 124 Amity st., where they have one of the Turners in operation, and are prepared to execute any of the above work, and where the public are respectfully invited to call and examine for themselves its immense utility.
NATHAN CHAPIN, J. F. DRIGGS, ROBT. PATON. 25tf.

BRIDGEWATER PAINT MANUFACTURING COMPANY DEPOT, 125 Pearl and 78 Beaver streets, New York, have on hand a large supply of this paint, and are prepared to receive orders for dry packages of 200 lbs. and upwards, and in oil of assorted colors in kegs of 25. 50, and 100 lbs. For wood, iron, stone, and brick work, it has no equal. Painters are using it with great success on brick buildings (the natural color resembling brown stone), on tin, canvas, or shingle roofs, villas, barns, fences, depot buildings, railroad cars, bridges, &c.; also for decks and bottoms of vessels. The black has been found superior to any other, for hulls of vessels, being more durable, possessing a greater body and cheaper. From its spark and cinder-proof qualities, it is well adapted to all kinds of wood work, where there is danger from fire. Testimonials of its virtues, and specimens on wood, tin, canvas, &c, may be seen at the depot. Letters must be addressed to
25 4* R. BOGERT, General Agent.

THE PEOPLE'S PAPER—A Mammoth Monthly of 40 long columns, at only 25 cents a year, or five copies for $1. Affidavit—76,800 circulation. City and County of New York, SS: Charles S. Stearns and Joseph H. Toone, being each duly sworn, depose and saith, that Seventy-six Thousand Eight Hundred copies of a paper called "The People's Paper" have been printed for the months of January and February, 1853. CHARLES S. STEARNS, JOSEPH H. TOONE, publishers Sworn to this 15th day of Feb, 1853, before me, ISAAC O. BARKER, Commissioner of Deeds. 1*

PALMER'S PATENT LEG—Manufactured by Palmer & Co., at 5 Burt's Block, Springfield, Mass, for New England and New York State, and 376 Chestnut street, Philadelphia; in every instance of competition in the Fairs of the various Institutes of this country, has received the highest awards as "the best" in mechanism, usefulness, and economy. At the 'World's Fair," London, 1851, in competition with thirty other varieties of artificial legs (by the best artists in London and Paris), it received the Prize Medal as the best.
25 20* (16e3w)

SPILLARD AND DODGE—Arch Street Hall Brass Foundry, and manufactory of plumbers' brass; water, steam, and gas cock constantly for sale upon reasonable terms; 213 Arch street, Philadelphia, Pa. 25 8*

AARON KILBORN, No. 4 Howard st, New Haven, Conn., manufacturer of Steam Engines, Boilers, &c. Noiseless fan blowers and machinery in general. 25 10*

NEW PATENT RIGHT FOR SALE—State rights to make and sell the premium machine for Paring, Coring, and Quartering Apples, &c.; patented on the 25th Jan'y, 1853, and illustrated in No. 23, present volume Scientific American, can be had at reasonable prices by applying, post-paid, to the sole proprietors. SMITH & FENWICK,
25 4 14 Vandam st., N. Y.

NOTICE TO FOUNDRIES—The subscriber informs his patrons and the public that he is prepared to furnish FACINGS of every description for Foundry purposes, at the shortest notice and on the most reasonable terms. Facings delivered in Boston free of charge Orders directed to him at Neponset, Mass, will meet with prompt attention.
4eow* CHARLES ALDEN.

CLOCKS FOR CHURCHES, COURT HOUSES AND OTHER PUBLIC BUILDINGS, Time-Pieces for Session and Vestry Rooms Hotels, Rail-Roads etc., Regulators for astronomical purposes, Jewellers, and others, when the most perfect time is desired The improvements introduced by the subscribers, enable them to warrant an accuracy of time-keeping, unequalled (so far as they can learn) in Europe or America. Glass dials, for illuminating and other kinds, furnished. Address SHERRY & BYRAM, Oakland Works, Sag Harbor, Long Island. "At the Oakland Works of Sherry & Byram there are made some of the finest clocks in the world."—[Scientific American. 19 13eow

COCHRAN'S CRUSHING MACHINE—Can be seen in daily operation in Thirteenth street, between 9th and 10th avenues. Parties in want of a machine for crushing and pulverizing quickly and cheaply Quartz Rock, Iron, Lead, Copper, and Silver Ores, and other mineral substances equally hard, are invited to witness the operation of these powerful and simple, but yet effective machines. For further particulars apply to E. & J. BUSSING & CO., No. 32 Cliff st, Y. N. 23tf

TO ARCHITECTS, BUILDERS, AND OTHERS—Messrs. WATSON & HODGSON, Modellers, Designers, &c., respectfully intimate that since they have commenced business they have completed a house, the property of Charles Morgan, Esq, Mo. 4, Madison Square, north side; any of the above parties may call and see their first essay before the New York public. Decorations of every period, style, and character, accurately executed to order. Place of business 494, basement, and 374 Broadway, up stairs. 23 3*

WANTED—A Pair of Second hand Mules, of modern construction, of 500 or 600 Spindles each. They must be in complete order. Address DAVID FRAINER, Marcus Hook, Pa. 24 2*

HOE PLATER WANTED—One having a thorough knowledge of the Solid Shank, Cast Steel Hoe Business, can have constant employment, by immediate application to the undersigned, Ballston Spa, N. Y. WHALEN & CO.
24 2*

CHILDS, TAINTER & CO., Worcester, Mass., Builders of Daniel's Planers, with Read's feed motion, and J. A. FAY & CO's. celebrated Wood-working Machinery. 24 8*

SAND PAPER, GLUE—Excelsior Sand and Emery Paper. ABBOT'S Manilla Sand and Match Papers. Emery Cloth, Emery, Emery Grit, Pumice Stone ground and in lump, of very superior quality; also Glue of all grades, and in quantities to suit purchasers at the lowest manufacturers' prices, for sale by WILLIAM B. PARSONS, 284 Pearl street.
24 8*

PATENT FOR SALE—HALLING'S Improvements in Hose Pipes, issued Jan. 4, '53, titled Regulating Water-spread for Fire Engines, &c. The above Right, &c, will be sold cheap as the owner is about leaving for Australia. All communications addressed to box 39 Chelsea P. O., Mass., will be promptly attended to. 24 4*

FOR SALE—A Bargain—A Good Second-hand Steam Engine of twenty-four horse power, with all the appurtenances; will be sold for about one-third of the price of a new one. Inquire of J. B. BEERS, 49 John street. 24 3*

COTTON MACHINERY—Of the most approved plans, from the best shops in the country:—drawings, specifications, and general arrangements for the machinery, furnished at the lowest rates, by W. B. LEONARD, and E. W. SMITH, 75 Merchants' Exchange, New York. 23tf

BLACK LEAD CRUCIBLES and Melting Pots of any form, size and quality, made to suit customers, for 3 cents per number, and warranted equal to any of the kind manufactured in the world, by D. H. PURINTON, Somerset, Mass. 23 10*

WANTED—A second-hand Surfacing Machine, in good working order—Woodworth's Patent. Any person having such a machine for sale will please address STARR & STEVENS, Danbury, Conn.
23 3*

WOODWORTH PLANING MACHINES, ON hand and manufactured to order, of superior quality, at reduced prices, warranted perfect. Also steam engines and other machinery, by JOHN H. LESTER, 57 Pearl street, Brooklyn, L. I. 22 8*

MORTISING MACHINE—"Dear Sirs, I received the Portable Mortising Machine about three weeks ago; I have used it, and am very well pleased with it; it is the best plan of a machine of the kind I have ever seen. W. R. McFARLAND.
Nashville, Tenn, 1851."

"Since I have been a subscriber to your paper I have purchased one of your Mortising Machines, for which I would not take double its price and do without it. WM M. FLEMING.
Elizabethtown, Tenn., Jan. 8 1853"

This machine is simple, durable, and effective, and is boxed and shipped for the low sum of $20
MUNN & CO.

8 HORSE STEAM ENGINE FOR SALE—We offer for sale an Engine and Boiler, as follows 8 horse, horizontal, cylinder 7 inches bore, 16 inch stroke, on a cast-iron bed, fly wheel, driving pulley, governor, pump, pipes, etc.; has never been used. The Boiler has been used by the maker about one year. It is cylinder, horizontal. 16 feet long, 30 inch diameter, has a steam chamber, try-cocks, check and safety valves: price, $600 Address
MUNN & CO.

E. HARRISON'S UNEQUALLED FLOUR AND GRAIN MILLS—Their frames and hopper are cast-iron, and the stones French Burr, 30 inches in diameter; grinds of wheat and corn 20 bushels an hour, weighs 1400 lbs.; cash price $200. These mills, constructed upon a new principle, have become widely known, and are producing a revolution in milling. Cash orders promptly supplied, and the mills warranted to work in the best manner. The patentee offers $500 reward for any mill which will do an equal amount of work with the same power and dressing Made and for sale at the corner of Court and Union streets, New Haven, Conn, by
20 12* EDWARD HARRISON.

PATENT DRAFT BOARDS—With extension scales, sheet fasteners, and T rule. See Reports of Worcester Fair, Maryland State Fair, &c. &c, with their awards. $10 complete. Sent by express Address, post-paid, CHAMBERLIN & CO., Pittsfield, Mass. 16tf

THE TROY IRON BRIDGE CO. are prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or under, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address BLANCHARD & FELLOWS, Troy, N. Y. 7 20*

SHINGLE MACHINE—WOOD'S PATENT—JAS. D JOHNSON, of Bridgeport, Conn., proprietor of this justly celebrated machine, is now on a tour through the South western States, and will exhibit the machine in operation in the principal towns and cities. Notice will be given in the local papers where and when it may be seen; he will dispose of machines and rights upon reasonable terms. 20tf

BEARDSLEE'S PATENT PLANING Tongueing and Grooving Machines—These celebrated machines have now been generally introduced in various portions of the United States. More than thirty are now in successful practical operation in the State of New York alone. As an illustration of the extent of work which they are capable of performing, with unrivalled perfection, it is sufficient to state that, within the last six months and a half, over five millions of feet of spruce flooring have been planed, tongued and grooved by one of these machines at Plattsburgh, N. Y., never running to exceed ten hours a day. The claim that the Beardslee machine was an infringement upon the Woodworth patent, has been finally abandoned; and after the proofs had been taken, the suit instituted by the owners of that patent was discontinued, and the whole controversy terminated on the first of November last. Applications for machines or rights may be made to the subscriber, GEO. W. BEARDSLEE, 57 State street, or No. 764 Broadway, Albany.
15tf

W. P. N. FITZGERALD, Counsellor at Law has recently resigned the office of principal Examiner of Patents, which he has held for many years, and is ready to assist, professionally, in the preparation and trial of patent causes before the U. S. Courts in any of the States, and before the Supreme Court of the United States. He also acts as Counsel in cases before the Patent Office, and on appeals therefrom, but does not prepare applications for Patents Office corner of E and 8th sts., Washington, D. C. 18 tf

APPLICATION will be made to the Commissioner of Pensions for a duplicate of Land Warrant Certificate No. 63,062, issued by the Department in 1849, to Roxena, widow of Silas Salsbury, late of 2nd U. S. Infantry; said warrant was assigned by her to E C. Church, and by him to me Oct. 1st, 1849, and was stolen from me the 16th January, 1852, at the Hudson R. R. Depot, New York City.
CHARLES L. NIMS.
January 24th, 1853. 21 6*

WOODBURY'S PATENT PLANING Machines —I have recently improved the manufacture of my Patent Planing Machines, making them strong and easy to operate, and am now ready to sell my 24 inch Surfacing Machines for $700, and 14 inch Surfacing Machines for $650 each. I will warrant, by a special contract, that ONE of my aforesaid machines will plane as many boards or plank as two of the Woodworth machines in the same time, and do it better and with less power. I also manufacture a superior Tonguing and Grooving Machine for $350, which can be either attached to the Planing Machine, or worked separately. JOSEPH P. WOODBURY, Patentee, Border st, East Boston, Mass. 13tf

MACHINERY.—S. C. HILLS, No. 12 Platt-st. N. Y. dealer in Steam Engines, Boilers, Iron Planers, Lathes, Universal Chucks, Drills; Kase's, Von Schmidt's and other Pumps; Johnson's Shingle Machines; Woodworth's, Daniel's and Law's Planing machines; Dick's Presses, Punches and Shears; Morticing and Tennoning machines; Belting; machinery oil, Beal's patent Cob and Corn mills; Burr mill and Grindstones; Lead and Iron Pipe &c. Letters to be noticed must be post-paid. 13tf

A. B. ELY, Counsellor at Law, 52 Washington st., Boston, will give particular attention to Patent Cases. Refers to Munn & Co., Scientific American. 16tf

LEONARD'S MACHINERY DEPOT, 109 Pearl-st. and 60 Beaver, N. Y.—Leather Banding Manufactory, N. Y.—Machinists's Tools, a large assortment from the "Lowell Machine Shop," and other celebrated makers. Also a general supply of mechanics' and manufacturers' articles, and a superior quality of oak-tanned Leather Belting.
7tf P. A. LEONARD.

PAINTS, &c. &c.—American Atomic Drier Graining Colors, Anti-friction Paste, Gold Size, Zinc Drier, and Stove Polish.
QUARTERMAN & SON, 114 John st.,
1tf Painters and Chemists.

LATHES FOR BROOM HANDLES, Etc.—We continue to sell Alcott's Concentric Lathe, which is adapted to turning Windsor Chair Legs, Pillars, Rods and Rounds; Hoe Handles, Fork Handles and Broom Handles.

This Lathe is capable of turning under two inches diameter, with only the trouble of changing the dies and pattern to the size required. It will turn smooth over swells or depressions of 3-4 to the inch and work as smoothly as on a straight line—and does excellent work. Sold without frames for the low price of $25—boxed and shipped with directions for setting up. Address (post.paid) MUNN & CO.
At this Office.

FALES & GRAY (Successors to TRACY & FALES), RAILROAD CAR MANUFACTURERS—Grove Works, Hartford, Connecticut. Passenger, freight, and all other descriptions of railroad cars and locomotive tenders made to order promptly.
1tf

C. B. HUTCHINSON'S PATENT STAVE Cutting Machines, the best in use, and applicable alike to thick or thin staves; also his Head Cutting and Turning, and Stave Jointing Machines.
For machines or territorial rights, apply to C B. HUTCHINSON & CO., Syracuse, N. Y. 9tf

J. D. WHITE'S PATENT CAR AXLE LATHES —also Patent Engine Screw Lathes, for boring and turning tapers, cutting screws, &c. We manufacture and keep constantly on hand the above lathes; also double slide Chuck and common Hand Lathes, Iron Planers, S Ingersoll's Patent Universal Ratchet Drill, &c. Weight of Axle Lathe, 5,500 lbs; price $600; Engine Screw Lathe, 1400 to 7,000 lbs; price $225 to $675, BROWN & WHITE,
15tf Windsor Locks, Conn.

NEW HAVEN MANUFACTURING COMPANY, Tool Builders, New Haven, Conn., (successors to Scranton & Parshley) have now on hand $25,000 worth of Machinist's Tools, consisting of power planers, to plane from 5 to 12 feet; slide lathes from 6 to 18 feet long; 3 size hand lathes, with or without shears; counter shafts, to fit all sizes and kinds of universal chuck gear cutting engines; drill presses, index plates, bolt cutters, and 3 size slide rests. The Co are also manufacturing steam engines. All of the above tools are of the best quality, and are for sale at 25 per cent. less than any other tools in the market. Cuts and list of prices can be had by addressing as above, post-paid. Warehouse No. 12 Platt st., New York, S. C. HILLS, Agent N. H. Man'g Co. 19tf

SCIENTIFIC MUSEUM.

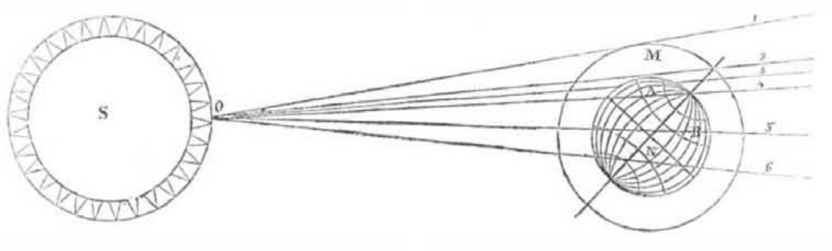
Dr. Antisel on the Cause of Volcanoes.

The following are Dr. Antisel's views respecting the cause of volcanoes, which we promised to present three weeks ago but which we have not been able to do before now.

After referring in advance to the internal heat of the earth, the lecturer observed that volcanoes were nothing more nor less than so many vents through which the contents of the interior ot the earth were passed to the outside. There are about 270 of these vents active, though all of them are not in operation at the same time. One hundred and sixteen of them are on this Continent. Some ninety of them are in the Pacific, and the remainder are scattered over Europe and the islands of the Indian Seas, Sumatra, Java, &c., and along the islands of the Chinese coast. Volcanoes, in fact, are scattered all over the globe from the furthest north to the extreme south.—Those within the tropics, however, outnumber the others. There are about twenty volcanoes in action every year, so we have 250 of them quiescent—their action appears reciprocal, as one became silent another comes into operation. The lecturer pointed out upon diagrams the general features of the volcanic system, and went on to speak of the enormous amount of matter upheaved from the bosom of the earth by the force of volcanic action. Thus, in the eruption of Etna, 1659, the quantity of lava thrown out was twelve times the mass ot the entire mountain itself. Vesuvius in 1780 emitted a stream of lava nine miles in length; and in 1805 a stream some three miles long and forty feet deep. In the year 69 an eruption of the same mountain utterly overwhelmed the cities of Herculaneum and Pompeii, as most know. These eruptions from time to time made in the appearance and configuration of the surface ot the earth vast changes, as might naturally be expected. Dr. A. then went into a minute detail of the peculiarities of phenomena attending eruptions, and described in a graphic manner the terrific sublimity ot the celebrated volcano of Kiranca, in the Island of Owyhee, and touched upon, in this part of his lecture, the difference which the Vesuvius of the present day presents when compared with that of the time of Strabo. This part of the subject was very intelligibly illustrated by several spirited diagrams. With regard to the source of the heat which occasioned the throwing out of such vast quantities of matter from volcanoes, there were many hypotheses advanced; but only two of them were tenable. The idea advanced by Sir Humphrey Davy was that the centre of the earth was composed of metals in a pure state, which, when coming in contact with water, evolved an expansive gas, and so produced earthquakes and volcanoes. The more probable theory, observed Dr. A., was this:—Our earth derived its heat from the action of the sun's rays upon it only. The action of the sun's rays was to produce an electrical current. When this current passed along a body that conducted well, no result was observable, but if we placed at the end ot the wire a non-conductor—a charcoal point for instance—intense heat was the result. The sun's rays then passing through the atmosphere produced electrical currents which passing into the earth ignited the interior like the charcoal point. This he considered the most reasonable mode ot accounting for the discharge of igneous masses through volcanoes. Were the earth heated interiorily by artificial means—as suggested by Davy—it might readily be supposed it would soon cool, seeing that its interior was exposed in 270 places, or the masses within would be consumed like coal by the ordinary mode of combustion. Though much destruction of life and property and many lesser evils resulted from the development of volcanic phenomena, yet they were not unattended by many advantages. Were it not for earthquakes, the land would not rise above the level of the sea. If it were otherwise we would have no dry land distinctively—no hills, consequently no rains, no rivers—of course no navigation, and everything ultimate would be reduced to one great horizontal surtace—in fine, chaos would be once more produced. Volcanic eruptions in themselves were beneficial. They throw within the reach of the hand of man copper, and silver, and platinum. Note for instance the vast quantities of copper found in the volcanic basalt on the shores of Lake Superior. Our porphyry, marbles, and finer descriptions of stone were all the result of volcanic action, and he need not add, that to the same origin we owed the exposure of that most valuable and deservedly prized of minerals—coal.

The Sun—Actinism.

An article in the "Scientific American" of Feb. 12th asserts that M. Niepce de St. Victor, has presented the third memoir on Heliochrome, or sun-colored Daguerreotypes, to the French Academy of Science. M. Niepce states that the morning light has a much greater photogenic action than the evening light. For example, if a prepared plate be exposed in the camera from nine o'clock till noon, the colored impression will be obtained in a much shorter time than if the same experiment were made from noon till three P. M. I am pleased to see this fact mentioned by M. Niepce, and presume that every observing daguerreotypist has noticed, more or less, this curious phenomenon of the sun's rays, while to all external appearance the light presents no difference. I found, trom a number of experiments for several years, with very sensi-



tive preparations, that the sunlight possessed the strongest operative power from half-past nine o'clock till eleven A. M. Half an hour before or half an hour after the sun enters the meridian the operative power is much decreased, but continues steady until three o'clock, in the months of June, July, August and September.

Now, I could not reconcile this phenomenon with any of the popular theories upon light, and therefore sought to account for it in some other source, and I will proceed to lay betore you what I consider to be the true cause. I suppose the sun to be composed of pure electricity—a cold invisible body—its electricity travelling to the earth in never-ceasing streams, striking our atmosphere by friction, thereby producing light and heat. I believe this to be the only theory that can explain this and other phenomena equally curious, which, until the discovery of M. Daguerre, escaped observation.

We will suppose S, in the accompanying engraving to represent the sun, and O the rays of light or electricity issuing therefrom, striking upon the atmosphere, M, and the globe, N, the globe moving in the direction from A to B. It will be evident that the rays between Nos. 1 and 3, will afford the most powertul light, by travelling against the momentum of the atmosphere, No. 2 will remain stationary, while Nos. 4, 5, and 6 will travel with the atmosphere, minus the momentum. Now, if two persons are operating, one at A, with the ray No. 4, the other opposite A, with the ray No. 3; now No. 3 will be using those rays which travel against the velocity of the atmosphere, and with the globe, being of course the most powerful operative light, while No. 4 will be using those rays which travel with the atmosphere, and, meeting much less friction, possess a less operative power.

I have detected a marked difference in the intensity of colors in the prismatic spectrum, between the hours of ten and two o'clock, those in the forenoon being higher toned and fuller than those in the afternoon.

R. V. De Guinon.

Williamsburg, Feb. 26, 1853.

[If the above theory is correct, the heat should also be greatest before noon.—Ed.

Adulteration of Teas.

In "Hooker's Journal of Botany," 1852, is an interesting account by Mr. Bershold Seeman, naturalist of H. M. Ship Herald, containing some particulars of the processes of converting, by means of a facing or glaze, the low qualities of black tea, (Bohea Saushung,) valued at 4d to 6d per pound into high quality, green teas valued at 1s. to 1s. 6d. per pound, a traud practised openly at Canton. The following is his own account:—

"I heard so much about tea, copper plates, picking the leaves, rolling them up with the fingers, boiling them in hot water, &c., that I became anxious to see with my own eyes the process of manufacture, of which the various books had given me such a confused idea.—One of the great merchants conducted me not only to his own, but also to another establishment, where the preparation of the different sorts was going forward. There was no concealment of mysterious proceedings, every thing was conducted openly, and exhibited with the greatest civility; indeed, from all I saw in the country, I was almost inclined to conclude that either the Chinese have greatly altered, or their wish to conceal or mystify every thing, of which so much has been said never existed.

The tea is brought to Canton unprepared. After its arrival it is first subjected to cleaning. Women and children are employed to pick out the pieces of twigs, seeds, and other impurities, with which it happens to be intermixed. The sorts which may be called natural are those gathered at different seasons; the rest are prepared solely by artificial means.

Without entering into a description of all those processes, it may suffice to take one as an example. A quantity of Bohea Saushung was thrown into a spherical iron pan, kept hot by means of a fire beneath These leaves were constantly stirred about until they were thoroughly seared, when the dyes mentioned below were added, viz., to about 20 lbs. of tea one spoonful of gypsum, one of turmeric, and two or three of Prussian blue. The leaves instantly changed into a bluish green, and having been stirred for a few moments they were taken out. They of course had shriveled and assumed different shapes from the heat. The different kinds were produced by sifting. The small, longish leaves fell through the first sieve, forming Young Hyson, while those of a roundish granular shape fell through the last, and constituted Choo-cha or gunpowder.

[The blue was no doubt an inferior kind ot indigo and not Prussian blue, as the former is much cheaper. Black teas, as retailed now are highly adulterated; we suppose there can be no doubt about this. More black tea is now used in the United States, than there was five years ago; it therefore becomes imperative that something should be done to prevent the sale of adulterated tea.

Cravats.

Professor Hamilton's remarks at the Buffalo College on asphyxia, and particularly that form caused by wearing tight cravats, may be of interest to the general reader.

Cravats were first worn by the Croats in the sixteenth century as a part of their military dress.

Public speakers, Members of Congress, and clergymen hang themselves by wearing cravats and stocks, high and tight, thereby impeding the return of blood from the head; this can be explained on physiological principles. The brain in speaking, is excited to increased action, a larger quantity of blood is sent to it, and unless it can find a ready return, produces congestion and apoplexy.

Students are not altogether free from the effects of litigation of the neck. It is surprising how little pressure is necessary to prevent the ready flow of blood from the head. Those who bend their heads forward in writing or studying, are apt to feel a dizziness and heaviness in the head, which loosening their cravats or collars, altogether relieves, and the mind returns to its original clearness. In clergymen who are particularly prone to bundle their necks with large cravats, bronchitis is induced, and the vocal chords become relaxed as the consequence. Men who speak extemporaneously can speak longer and with greater ease than those who read, as their voice is not confined so much to one key, and can be modulated with greater freedom.

Tubular Bridge.

Speaking of a bridge near Montreal, the "Montreal Witness" says:—

"We have heard it whispered that the great English Company, which has contracted for the Canadian Grand Trunk Railway, may probably build a bridge across the St. Lawrence opposite Montreal, and that the said bridge will, it is thought, be tubular.

Fatal Camphene Accident.

Coroner Hilton held an inquest, on Friday last week, at the New York Hospital, upon the body of Mrs. Jane Bredner, who died from burns received on the preceding Saturday, at her residence, No. 20 Leonard street, her clothes having taken fire from the explosion of a camphene lamp which she was engaged in trimming. A verdict of accidental death was rendered by the Jury.

An Old Bible.

Mr. John Tregaskis, ot No. 80 North Moore street, this city, informs us that he has in his possession, an older Bible than the two which have been mentioned in our columns. His Bible is dated 1599, with marginal notes by Beza. It was printed in London by the deputies of Christopher Barker, printer to the Queen's most excellent majesty.

The annual loss of human life from tigers at Singapore, chiefly among the Chinese settlers, is perfectly fearful, averaging no fewer than 360, or one per day.

LITERARY NOTICES.

Shipbuilders' Manual—No. 2 of this exceedingly useful monthly periodical, intended as a Nautical Referee, by John W. Griffiths, author of the excellent work on Naval Architecture, is now published and can be had at 333 Broadway. This is a work to which every ship carpenter should be a subscriber.

Minifie's Mechanical Drawing Book.—No. 4 of this work, of which we cannot speak too highly, is now ready, and for sale by Dewitt & Davenport, this city.

"Graham's American Magazine," for March is a fine number. This publication shows much spirit and enterprize in its management, and enjoys a great and deserved degree of popular favor. Dewitt & Davenport, agents, Tribune Buildings, New York City.