

Scientific American

NEW-YORK, FEBRUARY 14, 1852.

The Croton Water—Its Action on Lead, &c.

The President of the Croton Water Aqueduct Department (Mr. Dean), has presented his yearly Report, and a very interesting one it is. It states that a small jet of a fountain, discharging only half a pint in every ten seconds, wastes as much water as will supply a family of twenty persons, with twenty-seven gallons of water each, daily. It has been shown that there is an annual waste of one hundred millions of gallons by private fountains alone. Millions of gallons are wasted in flooding our streets and washing our pavements, instead of merely sprinkling them; this is particularly the fault among our most wealthy classes, who water their pavements when they should merely sprinkle and sweep them—they really show a want of good judgment, quite inexcusable for educated people. A synopsis of Prof. Silliman's Report on various waters, is presented, and the salubrity of the Croton water, in New York, clearly demonstrated. Prof. Silliman instituted his examinations on the action of the Croton water on lead, as follows:—he took a pint bottle and placed in it a slip of lead half an inch wide and ten inches long, clean and bright, which had passed through the rolling mill but a short time before; its weight was carefully noted before the experiment, and the bottle was then filled and tightly corked, so as to try the effects of the water upon the lead, under the same conditions as upon lead water-pipes.

The only condition of lead in water-pipes, running full bore, which was not met in this arrangement, was in the fact, that as leaden pipes are soldered together, and to the pumps, or brass cocks, and as the solder and brass fixtures are more highly electro-negative than lead, chemical action is more likely to take place on it than if not thus situated. It would, therefore, have been well had there been an independent series of comparative experiments instituted to determine this point, (by imitating the exact condition of the lead), but the time allowed to the research was too limited to allow of a repetition for this purpose.

A bottle of pure distilled water was, at the same time, placed aside with lead, under the same conditions, for the sake of comparison. After five weeks the bottle was opened and examined, when the lead was found as bright and fresh as on the day it was put in, and the water was quite clear. The weight of the lead was precisely the same as when put in, thus showing that no chemical action had taken place.

During the past summer the Department had occasion to take up from the street a lead service pipe, which had been in use 8 years; it was sawed in pieces, very carefully examined (without chemical tests), and no change by oxidation or other action could be detected.

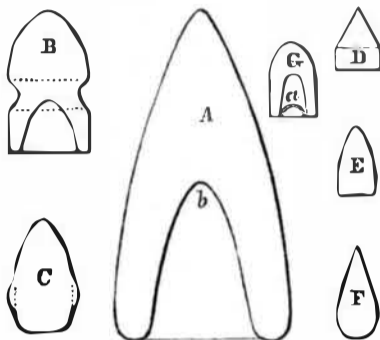
In respect to the cautionary measures to be observed by people having lead pipes in their dwellings, the Report says:—

"The Department is aware of but a single case in which any precautions can be necessary in the use of Croton water for drinking, and these only at elevations, where the supply is not constant. In the upper stories of buildings, where the pipes are alternately wet and dry, caused by the daily variations of head in the Distributing Reservoir, it is possible that the interior of the pipes, by the united action of air and water, may be so oxidized, as that particles of the carbonate of lead might be carried off, held in suspension by the water, and received in the stomach by drinking it; it would be imprudent, therefore, habitually to drink water from taps so circumstanced."

The information presented respecting the action of the Croton water upon lead, is to allay any anxiety respecting the employment of lead pipes. Dr. Chilton's opinion, we believe, differs from that of Prof. Silliman, and even in the analysis of Prof. Silliman it was found that the Croton water contained far more carbonic acid gas than the Philadelphia or Boston waters, and Dr. Thompson considers the carbonate of lead to be the only compound of lead which has poisonous properties. Neither

Christison nor Taylor, however, agree with him. We should like to have more extended experiments on the subject, for it has been found, by the two chemists last referred to, that if water does not contain the requisite amount of sulphates and muriates, it is not considered safe to use, if allowed to come in constant contact with lead. The Croton water, we believe, is safe, good for domestic use, and not liable to corrode lead. We have used it for a great number of years, and never have, to our knowledge, suffered a pain by it, nor have we known any other person who was ever injured by its use.

Rifle Shooting, Bullets, &c.



A Mr. C. A. Holdstock, in a letter to the London Mechanic's Magazine, describes various kinds of rifle bullets and advocates making them with a hollow chamber at their butt end. A letter recently published by an officer in the English army, describes the terrific fire of the French rifle. We propose to present all that has lately been brought forward as now on the subject of the bullet, but first of all let us give a few extracts from the letter referred to on French rifle shooting.

"I find that Mr. Delvigne, the inventor of the now celebrated rifle of the Tirailleurs de Vincennes, had to contend against the ignorance and prejudices of all the civil and military authorities of France from 1836 to 1837, although he pointed out how the best troops of France, under the most experienced officers, had been beaten by the rifle of the peasantry of the Tyrol. The loss, however, of officers and men in Algeria was so great that in 1838 the Duke of Orleans, before going to Africa, organized a battalion of Tirailleurs de Vincennes (then called Chasseurs d'Afrique) to take with him. As an instance of the perfection of this weapon, even in 1838, it may be mentioned that the Duke, while reconnoitring, was annoyed at the pranks played by an Arab Sheik at a distance of about 650 yards. He offered five francs to any soldier who would knock the Arab down. A soldier (M. P.) stepped out of the ranks of the Chasseurs d'Afrique and instantly shot this Arab chief through the heart.

There are now in the French army a force of 14,000 men armed with this "1846 model rifle"—this unerring and murderous weapon, with its cylindro-conique hollow ball.

Capt. Minie, the inventor of the hollow conical bullet, will undertake to hit a man three times out of five at 1,400 yards distance. The French recruits, beginning at 200 yards from the target, and increasing by one hundred yards finish at 1,150 yards. It is found by calculation that at 328 yards a man has the appearance of one-third his height, at 437 yards one-fourth, at 546 one-fifth. By a very simple instrument of the size of a penknife, called a stadia, distances can be measured accurately to 500 yards, and the sights of the rifle can be adjusted to the space indicated by the stadia. I have tried this stadia and measured the distances indicated, and pacing the ground round it correct.

The barrel of the rifle is about 2 feet 10 inches long. The breech is smooth with a small piece of steel of cylindrical form screwed into its centre, and on the proper adjustment of this piece of steel (tige) depends the precision of the firing. When the bayonet is fixed the length is about 6 feet, and its weight about 10 lbs. This sabre bayonet is admirably adapted for attack and defence, and can also be used as a bill hook. The interior of the barrel has four spiral grooves, deeper at the breech than at the mouth. The old French ball weighs 26 grammes, this ball 47½ grammes, (a gramme is 15.43 grains). The ball is of lead, of cylindro-conique shape, but

hollow towards the thicker end, into which hollow is put a piece of iron (culot) slightly fixed in the ball, and resting on the powder. When fired this piece of circular iron (culot) is forced into the interior of the leaden ball, and consequently presses its parts outwards against the sides of the barrel, and produces a more certain aim than if the ball had been forced down with a heavy ramrod and mallet. This rifle can be loaded with the same quickness as the common musket."

This writer praises the French riflemen beyond measure, and says the British are very far behind them. He recommends that the troops sent to fight the Caffers be armed with them. Since his letter was published, we see that the British Twelfth Lancers are to be armed with doubled-barrelled rifles, and that a number of officers and privates have been practising with the new arms, and are to proceed to the Cape of Good Hope to teach the regiment there the use of the same.

The balls used in the doubled-barrelled rifle carbines are of the conical description found so effectual at long ranges, doing great execution at 600 or 800, and in many instances at 1,000 yards' range.

Mr. Holdstock, spoken of, in 1843, after a train of experiments extending through the ten preceding years, says:—"I suggested that the rear of a projectile should contain a parabolic chamber, because all rays parallel to a parabola, after impinging on the curve are discharged into the focus. This principle is applied to the patent chamber in guns, and shortly after the publication of the paper, the French adopted the suggestions in it, and added a little fancy of their own in an iron capsule to expand the lead." This is mentioned in the extract we presented above. In the annexed figure, A is a conical bullet with a butt chamber, b, and is proposed by Mr. Holdstock for cannon shot. It is expected that great changes are about to take place in the British army in respect to artillery and small fire arms.

It is contemplated to have rifled cannon made ready for experiments during the present year, some beautiful self-acting machinery having been invented for grooving the cannon in the most perfect manner. It is expected that with rifled cannon and conical-shaped shot, the field artillery will attain a great range.

The breeches of cannons for this shot must be made stronger than the common kind, but it will require a long train of experiments before artillery can approach to a practical solution of the precise form, to a certainty, of a projectile. It is time, however, that our army was up and doing on this question. The figure B is the heavy Prussian rifle bullet used in the late Holstein war. The deep circular groove of dotted lines was packed with an oiled stuffing to fit the rifle like the piston of a steam cylinder. The centre of gravity is in front of the parabolic chamber in this bullet, which is a self-evident bad arrangement, but which could not be made better on account of the packed groove. The figure C is also a Prussian bullet, with outside packing. The figure D is a cylinder bullet surmounted by a cone, which, although it would fly very true, has a resisting angle to the passage of a bullet through the air, and to be of a proper form it must have a curvature continua—like a ship's lines. The figure G is the French bullet spoken of in the extracts quoted. a is the iron capsule in the chamber. It is fired from a four-grooved rifle. The capsule, a, is driven down the chamber of the bullet by the explosion, which thus expands the bullet and makes it fit the barrel perfectly tight. This iron capsule, however, sometimes passes through the bullet, which makes it go wide of the mark, therefore it is not worthy of the praises it has received in the letter quoted. Mr. Holdstock proposes to fill the chamber with gun cotton, and cover it with thin paper, or to fill it with rocket mixture. The Prussians set up their targets at 800 yards; the English rifle is good at 1,200 yards. The question of the best curve for the bullet is one of importance, and about which there are different opinions. It appears to us that a bullet made on the principle of Schiele's anti-friction curve, (see pages 289, 292 Vol. 5, Sci. Am.)

would be the best, as every part of it is tangential to the circle of the barrel.

Europeans are not acquainted with what has been done in America—the greatest country for rifle shooting in the world. The best work on the subject is that of "the American Rifle," by our friend Mr. John R. Chapman, of Oneida Lake, N. Y. The figure E is the conical bullet of a beautiful curve described by him, and F is the old American picket bullet. It is our opinion that the bullet, E, is the best, and if it had a very small parabolic chamber at the butt, and this left empty, covered with a thin patch, a decided improvement would be the result. The small chamber would leave room for a greater expansive powder effect upon the bullet in the barrel. In Mr. Chapman's work, there are samples of American target shooting at 220 yards, the target being 20 inches diameter. In one sample, 10 shots can be covered with a man's hat around the bull's eye. Our crack rifle shooters employ telescopes on their rifles. Edwin Wesson, who is now mouldering in the dust, used to make fine rifles. We understand that since his death, the factory at Hartford, Conn., has broken down. Mr. James, of Utica, N. Y., makes splendid rifles, and there are a number of excellent rifle makers among us. We would call attention to Mr. Chapman's work. He says that a first rate American rifle, with a telescope, will, in still time, throw all its shots, at 220 yards distance, into a circle of 1½ inches diameter, and at 440 yards into a circle of 8 inches diameter. No European shooting, we believe, can compare with this. He advises the arming of select riflemen with telescopic rifles; a thousand of them would destroy an invading army of 30,000 men armed with muskets before they could advance very far into the interior.

Reward for Inventions.

Letters are pouring in upon us from all directions, since the appearance of F. M. Ray's Card in No. 19, submitting sketches and asking our advice as to whether such and such plans are useful, or likely to receive the reward. Now, notwithstanding our willingness to afford advice to our correspondents upon matters relating to invention, we are compelled, respectfully, to decline attending to any communications upon this subject. We would gladly do so could we afford the time, but our legitimate duties are urgently demanding our attention, hence the reasonableness of our refusal.

The Pennsylvania Railroad.

The Managers, Directors, &c., of this railroad are in a sad state of ill feeling towards one another. We regret to see it, there must be something wrong. We hope the whole truth of double-dealing will be dug out, and those who deserve the blame be held up to public rebuke.

On Tuesday last week there was an election for officers, and no less than 52,000 shares were voted upon. There was a tremendous excitement in Philadelphia. J. E. Thomson, the well known Civil Engineer, was elected President. He has succeeded Col. Patterson. The Superintendent, Mr. Haupt, has been at loggerheads with the late President, and Mr. S. V. Merrick. The stockholders, it seems, have sustained Mr. Haupt. We hope the road will now go on and prosper.

Skins of Raisins.

We see it stated in some papers, that Dr. Devees, of Boston, has said that raisin skins are indigestible, and that nothing but the stomach of an ostrich can master them. He mentions the deaths of three children, caused by skins of raisins not digesting in their stomachs. Well, Dr. Devees, what about their digestibility when cooked? Raisins are fruit, which from time immemorial, have been used as a nourishing and healthy food by all Orientals.

Our Steamships.

It is believed that the petition of E. K. Collins, for a further increase of government support to his splendid line of steamships, will meet with a most favorable consideration in Congress, and that the whole amount of relief requested will be granted.

That veteran clergyman, Rev. Dr. Nott, saw his 98th birth-day on the 23rd ult.



Reported Officially for the Scientific American

LIST OF PATENT CLAIMS

Issued from the United States Patent Office
FOR THE WEEK ENDING FEBRUARY, 3rd, 1852

HEMP BRAKES—By L. S. Chichester, of Williamsburgh, N. Y.: I claim making two or more breaking and cleaning cylinders, with fixed rods at or near their peripheries, and radial plates, made to slide radially, (or some of them fixed), operated substantially as described, in the spaces between the rods, substantially as described, the two or more cylinders being geared together, so as to turn with equal velocities, and so placed, that in their rotation the rods and plates of one cylinder shall come opposite to those of the other cylinder, for the purpose and in the manner substantially as set forth.

And I also claim the combination of springs, substantially as described, with the sliding plates of the cylinder or cylinders, operated substantially as described, for the purpose of rendering the plates self-adapting to the material introduced, and insure its being properly gripped, and held so as to admit of slipping without undue strain on the fibres, as described.

GRASS BURNERS—By Jno. A. Craig, of Columbia, Ark.: I claim the application to the surface of the ground, flame, for agricultural purposes, using, for that purpose the described machine, or any other substantially the same, which will, by heat, produce the intended effect.

FEEDERS FOR PLANING MACHINES—By Jno. Cumberland, of Mobile, Ala.: I claim the described combination of a bed-piece with the spring lever, connecting rod, arm, tumbler, and clicks, and its grooves, guides, and rack, with a movable platform, with the adjusting levers and ratchets, for the production of a lateral traverse and lost motion, with its adjustable table, adjusted by springs, weights, screws, or other known means, with its hand-wheels, rollers, vertical ratchets, and balance clicks, and of a frame with its pulley and half wheel, for the purpose of delivering or receiving material hereon, the whole being constructed, combined, and operating as set forth.

STREET SEWERS—By Willard Day, of Brooklyn, N. Y.: I claim the combination of the basin placed at the bottom of the inclined drain and at the side of the sewer, with a single man-hole, so placed as to give access to the basin and sewer.

DOOR SPRING—By Henry Hochstrasser & Abram Masson, of Philadelphia Pa.: We do not claim the straight piece of steel for a spring, as new; neither do we claim having the spring act most powerful when the door is closed. But we claim the application and mechanical arrangement of a curve in connection and combination with a spring and rollers, for the purpose of a door spring, whose power will be exerted more strongly when the door is closed, or about closed, than when open entirely, or partially, as described.

GAS PURIFYING APPARATUS—By Abram Longbottom, of New York City: I claim purifying the gas by passing it through a mixture of equal measures of quick-lime and of animal charcoal, in the same retort in which the gas is generated, but at a temperature so regulated that at the lowest point, or where the gas enters the composition, the mass is at a lowered heat, and at the top, or where it leaves the composition, the heat is below redness, substantially as set forth.

METHOD OF KEEPING THE VALVES OF OSCILLATING ENGINES UPON THEIR SEATS—By Ephraim Morris, of New York City: I claim the pressure of plugs, or their equivalents, acting against the caps or their equivalents, in combination with the steam chest, valve, and valve seat, vibrating with the steam cylinder: said plugs operating to keep the valve or valves on to the seat or seats of the same, as described.

AXLE-TREE ARMS—David Philips, of Sharon, Pa.: I claim constructing metallic arms for axle-trees, with sockets and ribs, as set forth, so that the arm can be attached to the wooden stock or body of the axle-tree, without the employment of the hoops, clips, and screw bolts heretofore employed, even when the stock is as small or of less diameter than the arm.

CONCENTRATED BEER MATERIAL—By Franz G. Rietsch, of Rudolfs, Austria: I claim the new and useful preparation of matter described, termed Zeilthoid.

SHIPS' BLOCKS—By Wm. & S. G. Coleman, of Providence, R. I.: We claim the method of making ship's blocks, by placing the metal straps edgewise, that is, with its greatest breadth in the direction of the plane of the axle of the sheaves, and extending from the sides of the sheave to the outside of the cheeks, substantially as specified, when this is combined with the attachment of the cheeks, in segments, to the wide faces of the straps, substantially as specified.

And we also claim making the cheeks of ships' blocks, in segments of a ring, substantially as specified, whereby the elongated form is obtained, by simply turning in a common lathe, whilst apertures are left each side of the straps, to give admission for cleaning and oiling, and for checking or stopping the sheave, as set forth.

RUNNING GEAR OF RAILROAD CARS—By Henry Davis Taylor, of Newark, N. J.: I do not claim the grooved inclined wheels fitting to the rails; but I claim the lower truck or frame supported upon the rails, and prevented from rising by grooved inclined wheels fitting to the edge of the rails, and connected to the truck and body of the car, by series of links and rods, substantially as described, and operating for the purpose set forth.

And I also claim the forked guards, provided with elastic bands, and attached to the lower truck, so as to move up and down freely, but formed so as to take a firm bearing, or rest, on the front axle, or any stationary part of the front truck, when brought into contact with any obstruction, substantially as set forth.

RUNNING GEAR OF CARRIAGES—By Chas. F. Verleger, of Baltimore, Md.: I claim the combination of the segment plate and the perch sliding thereon, and connected with the axle, as described, with the segment plate, forming a part of the perch, and the plate attached to the perch block of the body, and sliding on the plate, in connection with the rods, by which the other parts are regulated and governed in

their action, constituting an arrangement of running gear, constructed substantially in the manner set forth.

STEERING APPARATUS—By N. W. Wheeler, of Buffalo, N. Y.: I claim the combination of fast and moving circular racks of different diameter, with corresponding planet wheels or pinions, connected together and actuated by the hand wheel, as set forth.

BRIDGES—By Ammi White, of Boston, Mass.: I do not claim, separately, as new, the mode of constructing the stringers, by splicing and securing planks, in the manner set forth; nor yet do I claim, separately, the use of diagonal planking, crossed in layers, as described; nor yet again do I claim, by itself, increasing the width of the roadway and other parts of the bridge at the ends: neither the mere employment of side guards or braces—as all these, or similar devices, or applications belong to common carpentry, or ordinary bridge building—they, however, are necessary details, or certain principles, essential to the construction of my bridge, involving a combination having the effects and advantages specified. But I claim, first, the combination of parts, constructed and arranged as described, in formation of a wooden tubular suspension bridge—that is, the several suspension stringers, D D, of catenary form, and constructed and united in pieces, as explained (the outer ends of the extreme stringers being locked as in the back stays) the stringers, H H and I, for construction thereto, or thereon, of the inclined roof, made of diagonal planking; the roadway stringers, connected by suspension rods to D D and H H, the direct arch united by suspension rods and further direct arch, N, bearing under the upper stringers, together with the transverse floor timbers and roadway; the bridge thus constituted, being formed—that is, its stringers, arches and coverings, of short pieces of wood united, and having their fibres running in appropriate directions, as shown, and the bridge being, in form, wider at its extremities, gradually narrowing towards the centres by which combination and arrangement of parts the tensile strength of the wood, in the suspension stringers, is fully employed, vertical, and lateral vibration are reduced, the roof more than assists towards the support of its own weight, and the bridge may be extended over a considerable space.

Second, the continuous angular side guards, formed by fender-raves, inclined rafters diagonal plank covering, and extensions of the transverse roadway timbers, the said side guards projecting most and being of greatest extent at the extremities of the bridge, gradually diminishing towards the centre, and the specified side guards, serving not only as braces to reduce the lateral motion, but as a covered roadway, and to break the effect of wind upon the structure.

[See engraving of this Bridge in No. 3, present Vol. Sci. Am.]

DESIGNS.

MANTLE, GRATE-FRAME AND SUMMER-PIECE—By J. L. Jackson of New York City.

GRATE-FRAME AND SUMMER-PIECE—By James L. Jackson, of New York City.

GRATE-FRAMES—By James L. Jackson, of New York City: two designs.

HAIR COMBS—By James Shields, of Fishkill, N. Y.

[For the Scientific American.]

Houses in Towns.

I cannot look around me, in any town through which I may happen to pass, without being struck with the heterogenous masses of brick and wood which disgrace its appearance,—here is a brick house struggling into respectability of exterior; there a row of marble fronts, giving the splendor of a palace to a few square yards of front walls, while the rear ones are rough, ragged, and tottering. In another part are to be seen wooden tenements of respectable appearance, but ready to be ignited by every wandering spark, and among all these, like rooks among doves, are to be seen hovels, occupied by those whose means are limited, and by their dwellings afford evidence of poverty and suffering. I think we can do better than this; can every man have a house of his own? Yes, say both the philosopher and the selfish man, though facts and common sense are against them. Can every man build a suitable, healthy, and well ventilated tenement, fit for the moral and intellectual man to live in? Yes, say all, in the teeth of the absurdity. Practical life disproves both of these expectations, yet the world hopes to accomplish what I may call a natural impossibility. It has always struck me, that, as we want two things—solidity and beauty—solidity for its manifold advantages of warmth in winter and coolness of summer; and beauty as a moral principle for elevating the mind—the residences of many should be constructed in a different manner and on different principles. Looking at some of the miserable cages in which I see vast numbers huddled together, one cannot but be humiliated at the idea of their near approach to the condition of the mere animal. In some places in Europe there is a nearer approach to the proper system, though it is not carried out as it ought to be: a large "Hotel,"—a palace in appearance and extent, will contain apartments for twenty, thirty, or a hundred families, and these of all classes. The poorest person who enters its magnificent portal, may find that he resides in a palace, although his room or rooms may occupy but a very small portion of it. I see no reason for not improving on this system.

Yesterday, as I surveyed our noble Patent Office, I fancied I saw in its mode of construction and form, something that might be fol-

lowed out in the construction of edifices for the dwellings of all classes. The system appears to me to be more republican, and would be more commodious to both rich and poor than the general system of isolated houses. Such a building might be fire-proof,—heated on a general scale in winter, well ventilated, and have a magnificent entrance, like that of the Patent Office; or a central hall, as in some square buildings, and which should be a public one for meetings, soirees, &c. This public hall might be splendidly decorated, fitted with galleries, and the floor inlaid with wood of various colors. As a specimen, I would mention that of the Reform Club, in London. The intelligent architects of this country, employed by associations for building edifices worthy of the people, would soon devise a thousand beautiful and different plans. I merely throw out the suggestion, because buildings, elegant in form and architecture, solid in construction, commodious and well ventilated, would not only be an ornament to our cities, but a blessing to the people. Associations could get them up economically, taking all things into consideration. The money now spent in constructing a hundred houses of every size, inconvenience, and ugliness, might rear a gorgeous pile—a pleasure to those within and a picture to those without. To those of limited means, a comfortable residence at a cheap rate, in an apartment warmed in winter, at a charge borne by the general rent, would be inestimable. How many gentle people, born and bred amid luxuries, and unable, by the greatest energy, to turn the tide of fortune, are driven to perish in the vilest haunts, paying dearly even there for a lodging. There are philosophical as well as economical considerations in the suggestions which I have thrown out. Our present system of building houses, in general, is a selfish error, and costs us dear in purse, health, and morals. I do not suggest that all the world should be forced to live together in edifices of a uniform character. I propose profitable, convenient, sociable, and picturesque styles of residence for rich and poor—one worthy of imitation in the Model Republic, and conducive to public health, wealth, and morals. C. L. A.

Washington, D. C.

Anchor Ice.

MESSRS. EDITORS—Your correspondent's remarks about anchor ice being found only in swift shallow places of water, is clearly a mistake, as I should be able to show him if he were at this place; it is quite common, in drawing my fish in the morning, after their being sunk in twenty feet water, and that too where it does not move at the rate of half a mile an hour, to find them almost a solid mass of anchor or bed ice, and sometimes other fish are found encrusted and fastened in the mass, which leads me to the conclusion that it forms in almost any depth of water and at a very rapid rate, the cause of which, to my mind, has never been satisfactorily explained. The rising or rather the letting go of the bottom, is equally rapid; I have known it to be a foot thick all over the bed of the river, or as far as we could ascertain, and from some cause yet unknown, would entirely disappear in less than an hour. B. M. DOUGLASS.

East Springfield, Conn.

Selling a Patent that is no Patent.

I deem it my duty to inform you how the Patent Laws are disregarded. I made a machine for loading logs on a wagon, by placing timbers lengthwise of the wagon and the bolsters, and to be even with the top of the wheels. I placed a windlass on the side by a slide meshing through the side timbers. A rope passed around the barrel of the windlass, over the log and back to the wagon. Azra Lyman came to me and got an assignment to try and obtain a patent. He made the application and failed. He then went to Indiana and sold rights. The first I knew about it, was the reception of a letter sent to me by a man in Indiana. He stated he had bought a right, and I obtained the certificate he received from Ezra. It is stated in it, that I obtained a patent in September 1849, which is unfounded. The machine is the best I have seen for the purpose, but people should be prevented from imposing on the public.

PHILANDER GILBERT.

Alexandria, Licking Co., O., Jan., 1852.

Scientific Memoranda.

"POCKET STOVES.—The Milwaukee Advertiser says that a gentleman of that city has invented a spirit stove which, while only a foot square, will warm any ordinary sized room. It weighs less than ten pounds, is convenient for carriages, cars, and even small ones may be carried in one's pocket of a cold day, and producing neither soot, smoke, nor ashes, might be made as ornamental a piece for personal wear as a watch or breast pin."

[We know such portable stoves were employed twenty years ago, and were used by hunters for cooking when in the wilds, chasing the wild deer and driving the roe.

BURSTING OF A STOVE BOILER.—The New Orleans Delta gives an account of a young Irish girl, named Nolan, who was employed at the house of Mr. Charles Bridge, at the corner of Prytania and Third streets, Lafayette, and was killed by the accidental explosion of a stove boiler. The boiler was in a kitchen range, under which the girl had made a fire a short time previous to the accident, and either in consequence of too short a supply of water, or improper confinement of the steam which was generated, the explosion took place. A fragment of the broken stove cut off all the front part of the poor girl's head, and death was, of course, the almost immediate result.

THE QUADRANT SUPERSEDED.—The San Francisco Pacific states that the Rev. Tyler Thatcher has discovered a new and superior method of determining the latitude and longitude.

"His method of determining the latitude, by a single observation of any heavenly body, seen by night or by day, either on the meridian, or at any angle with the meridian, is perfectly geometrical, and as obvious and certain in its results as any case whatever in spherical trigonometry. He employs the same observations also to fix the longitude. The method by which this is done is partly geometrical and partly arithmetical, but as plain and certain as any demonstration in Euclid's Elements, or any sum in the Rule of Three."

We hope this will prove all that is claimed for it; but we are tardy to believe in such things, for we know that a great many discoveries have been brought forward, claiming the very same things.

COMPREHENSIVE MINDS.—The Rev. Henry Ward Beecher recently delivered a lecture in the Tabernacle, this city, on the "Law of Precedents." In respect to mental qualities of races, he adduced the following:—

"In a recent report of English education, it is proved that one nationality is distinguished from another, in the sphere of mind. Men of all nations have been tested. French, Italians, Germans, English, Scotch, and Irish. In each nation men are to be found of equal capacity to do a thing, to execute a plan which they see before them. But no nation can plan like that of the Scotch. They have, above all others, the faculty of comprehension."

WINE.—The Western Horticultural Review contains a letter to the Wine-Growers' Association, by N. Longworth. He says there are three kinds of wine, in Ohio, that are extensively made for sale. One is the pure juice of the dry Catawba, fully fermented; another is made from the Isabella grape, to which is added 1½ lbs. of loaf sugar to the gallon, then it undergoes fermentation, and keeps sweet for a number of years. The third is the sparkling Catawba (champaigne) made from the grape of that name, after it has undergone full fermentation, and has a certain quantity of rock candy added to give it sweetness and effervescence. In Madeira, a sweet wine is made by adding one-third of brandy to two-thirds of grape juices, as it comes from the press; it is a pleasant wine, but is not healthy on account of not being fermented. Mr. Longworth says, "we intend, in a few years, to render portions of the Ohio River as celebrated for its wines as the Rhine." After all, it seems that sugar is to the wine-growers what putty is to the glaziers, and those who talk about the pure juice of the grape, and unfermented wines, are very ignorant of the subject.

Louis Napoleon has ordered five-franc pieces to be struck off with his likeness; "Louis Napoleon Bonaparte" are the words which encircle his moustached profile.