JOHN H. B. LATROBE.

Born May 4, 1803, Mr. Latrobe, of whom our engraving presents an excellent likeness, is still an exemplar of physical and intellectual vigor in competition with whom many men half a hundred years younger would decline to enter the lists. He has been from the first, and is now, counsel of the Baltimore & Ohio Railroad, and rode on the first locomotive tested on the line, in 1830; he aided in promoting the first telegraph line built by Morse, between Baltimore and Washington; and has been actively engaged, thoughout his long life, in the most exacting labors, partaking somewhat of an engineering as well as of a legal character.

Mr. Latrobe was entered as a cadet at West Point in 1818, but, owing to his father's death two years later, was obliged to resign before the completion of his course, although he was then at the head of his class, and would in a few months, according to Gen. Thayer, have received "the highest honor and prize for distinguished scholarship and merit." He then entered a law office in Baltimore, and was admitted to the bar in 1825. At first he eked out the means afforded by a limited practice by various literary labors, among which were some school books, with a work on "Infantry and Rifle Tactics," and he then began "Latrobe's Justices' Practice," which superseded previous works on the subject in Maryland, and later editions of which are still an authority.

In 1828, Mr. Latrobe was employed by the Baltimore & Ohio Railroad Company, his first work being the obtaining of rights of way on the Potomac River, and it was here, in 1830, that he assisted at the trial of Peter Cooper's locomotive, the Tom Thumb. The road was at first built with short curves, around which it was impracticable to run locomotives then built in England, but Peter Cooper built an experimental engine for the purpose, which proved entirely practicable in principle.

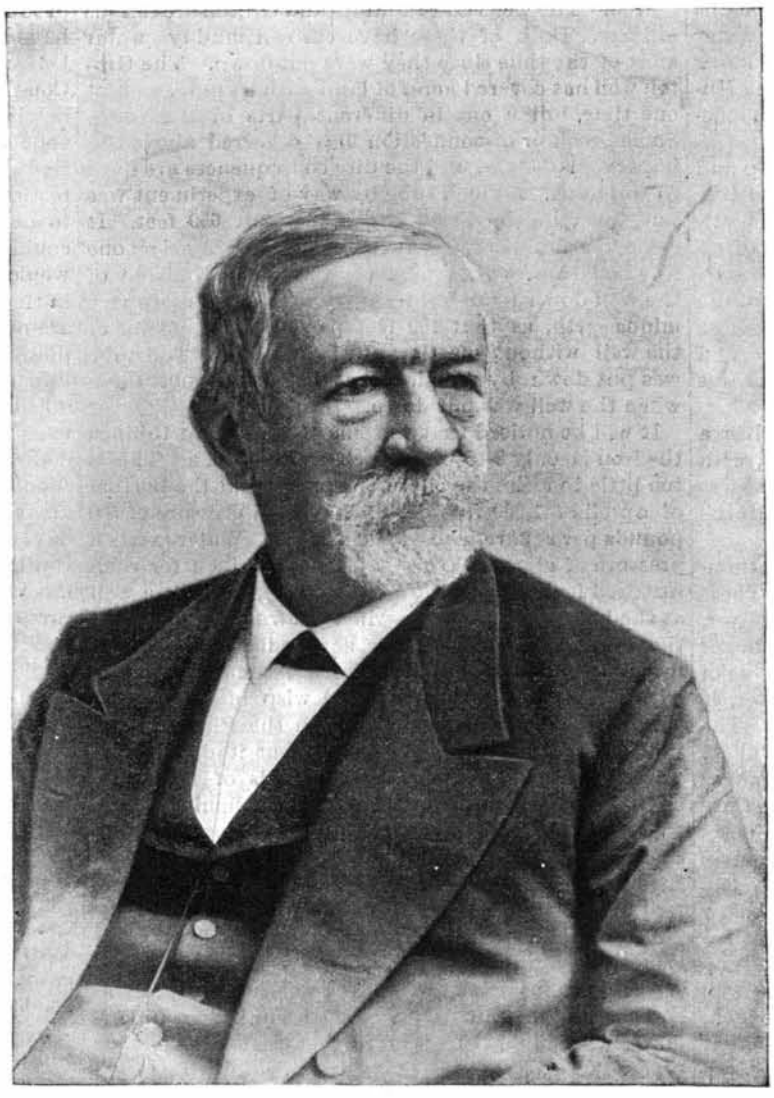
In 1843, after Congress had appropriated $30,000 to enable Morse to test his telegraph, the inventor applied to Mr. McLane, president of the Baltimore & Ohio, for permission to establish a wire upon the line of the road. Mr. McLane did not approve of the project, which he deemed chimerical, and referred the inventor to Mr. Latrobe. The latter became thoroughly imbued with the inventor's enthusiasm, and reported to President McLean that "numerous and exalted as had been the positions he had held, his name would be forgotten, while that of Morse would be echoed throughout the ages." Mr. Latrobe has lived to see the sure promise of the fulfillment of his prophecy.

Soon after the organization of the Franklin Institute in Philadelphia, Mr. Latrobe undertook to get up a similar institution in Baltimore, the attempt resulting in the founding of the Maryland Institute for the Promotion of the Mechanic Arts. In 1853 he was elected president of the American Colonization Society, a cause in which he was for many years zealous and untiring, subsequently being connected with the International Association for the Exploration of Africa, organized by the King of the Belgians. His general law practice has always been large, and he has also been actively engaged in the patent law branch of the profession. He was also the patentee himself of an invention which has become noted, the well known "Baltimore heater," known throughout a large section only as the "Latrobe stove."

Mr. Latrobe, in 1857–58, was the counsel of Messrs. Winans, Harrison & Winans, spending the winter in St. Petersburg in looking after the interests of his clients in their great contracts with the Russian government, and in 1868 published a volume entitled "Hints for Six Months in Europe." He was commissioner from Maryland at the Centennial exhibition, and at its close received the thanks of the "Society for the Better Observance of the Sabbath" for the part he had taken in closing the exhibition on Sunday. He was one of the founders of the Maryland Historical Society, of which he is the president, and as one of the Regents of the University of Maryland has been very active in bringing its Law School to its present prosperous condition. He was chairman of the Public Park Commission, and has, since its organization, borne a prominent part in its work. While the Maryland Academy of Art was in existence, and until its collections were transferred to the Peabody Institute, he was its president, and he was one of the original purchasers of the Greenmount estate for the establishment of the present cemetery, and has for many years been the president of the Proprietors. He is the elder brother of the distinguished engineer, the late Benjamin H. Latrobe, who was educated a lawyer and became an engineer, while the subject of our sketch was educated an engineer and became a lawyer.

Mr. Latrobe has never taken any active part in politics, but in all projects for promoting the industrial good and social advancement of Baltimore and of Maryland, in the originating and carrying into execution of enterprises of great value to the present and future, he has ever been one of the foremost citizens of that commonwealth.

Mr. Latrobe has several children, among them F. C. Latrobe, mayor of Baltimore, who is now occupying that office for the fifth term.



JOHN H. B. LATROBE.

Funeral Cars.

The Brill Car Works, of Philadelphia, have just finished three street cars, designed to transport the dead in Buenos Ayres. The cars are unique in construction and are the first of the kind made in this country. They are first, second, and third class, the first being designed to carry the body of a wealthy individual, the last the corpse of a pauper.

The first class car is very handsome. The body is a rich black toned with purple, with passion flowers painted on the sides. The windows are of French plate glass. The seats, folding up against the sides, are upholstered in black plush, and the window curtains are of black cloth trimmed with gold bullion. In the forward end of the car is an altar, with silver cross and candelabra, while on either side the altar are cathedral purple stained glass windows. The interior of the car is finished in white and gold. The metal work is nickel plated and handsome in design. On the top nine large sable plumes are placed. The other cars are much simpler and plainer in design, and the third class car has merely a row of shelves for the coffins.

These cars are intended to run on the street car tracks in Buenos Ayres, and will be switched off on a side track nearest the house of the dead person. The body is carried on a bier to the car, placed inside, the mourners seat themselves around, horses are attached and the car proceeds on its way to the cemetery. This custom is adopted in the city of Mexico and in some cities of Central America. The only parallel among northern nations is the dead train which leaves the Gard du Nord in Paris at 5 o'clock every morning, carrying the bodies of paupers and unrecognized persons of the morgue.—*Philadelphia Times.*

Decision of the United States Circuit Court on Storage Battery Patents.—Both the Parties Satisfied.

Judge Cox, in the United States Circuit Court for the Southern District of New York, on March 19, 1889, handed down an opinion in the suit of the Electrical Accumulator Company vs. the Julien Electric Company.

The Julien people say the Court does not sustain any of the claims of the complainants. The Accumulator Company, on the other hand, say the decision fully sustains their patents.

Deep Gas Wells.

The question of deep drilling in gas wells, says the New Albany (Ind.) *Ledger*, in localities where the rock strata are deeply sunk, as they are at New Albany, has caused a good deal of interesting discussion in connection with the theory entertained by some that natural gas cannot be found below the sea level. This latter theory has certainly been disproved in many instances in this country, and it is almost universally disproved in the gas wells in Russia and China, nearly all of which are deep wells, far below sea level.

The Westinghouse well at Pittsburg is 4,618 feet deep, over 2,000 feet below sea level. The gas well at St. Catharines, Can., is 4,000 feet deep. The Presque Isle gas well developed a small flow of gas at over 4,000 feet, but at 4,300 feet the tools were lost in the well. The Trenton rock which always underlies the Hudson River rock in the Lower Silurian was not struck till the drill reached nearly 4,300 feet. The big gas strike at Kingsville, Ont., was made at a depth of 3,200 feet, and the company holds the well at $104,000, and will get that for it. At Thorold, Ont., the drill went down to 2,700 feet before gas was struck. At Fort Smith, Ark., where sea level is reached at about 600 feet, gas was struck at 2,700 feet, and the well developed a pressure of 250 pounds to the square inch. Near Harrisburg, Pa., are two gas wells, both of which are 3,000 feet deep. At McKeesport, Pa., there is a very productive well that is 2,500 feet deep. The gusher at Dowegiac, Mich., is 2,709 feet deep. The most successful well at Lucknow, Tenn., is 3,000 feet deep. The Zoar well, an immense gusher, in Cattaraugus County, N. Y., is 3,100 feet deep. When gas was struck in it at that depth, the volume was so great that the tools in the well, weighing 3,100 pounds, were thrown into the air 300 feet and the derrick utterly wrecked. There is a very strong and probably well founded probability that a well from 2,300 feet to 3,000 feet in depth at or in the vicinity of New Albany would reach the gas reservoir. It is certain that natural gas will not be found in quantity to be utilized in this part of Indiana until the Hudson River strata have been passed through by the drill. It is safe to say that every well drilled in this city or vicinity has been stopped in the Hudson River strata, where the drill pump was sending up flour-white accretions.

Be Prompt in Appointments.

The *Manufacturer's Gazette* thinks there is nothing more damaging to a business than to be found wanting in the matter of promptness in filling orders. A great many firms will promise to have an order at a certain time, when they are confident in their own minds that it will be almost an utter impossibility to do so. This is done to secure the orders, but cannot fail of a damaging effect in the future. It is just as important that an order be filled at the time agreed as that any other engagement or appointment be kept. The man who arranges for a meeting with another at a certain time is expected to be on time. In these days of great enterprise and push, every business man has his time fully taken, and promptness in keeping an appointment is an important matter to him. Just so it is in filling orders. Promptness is as much to the credit of a concern as is the quality of the work or the material used.

Cotton and Wool.

The crop of cotton is reported as being very large, possibly greater than that of any recent year. Yet the demand for the staple continues, and the size of the crop seems justified by the demand. The manufacture of cotton goods is now profitable, and new mills are in course of erection in all parts of America, and in this movement the South is conspicuous. Soon the raw material will be manufactured on the large scale near the place where it is grown, and the New England mills will be handicapped by their distance from the cotton fields, in the competition with their Southern rivals. The outlook for cotton is therefore a bright one. Wool, the other great textile staple, cannot be so well placed in the economic sense, owing to the great deficiency of reliable statistics. At a recent convention, the National Association of Wool Growers took steps for establishing a better system, including the organization of a central bureau of statistics. When this is carried out, the wool producer will be greatly benefited, not only by accurate statements and forecasts of the market, but by a better gradation of qualities. It is proposed to have this matter, the grading of wool, taken up by the Association. Few staples need grading more imperatively, as wool suited for one branch of manufacture may be quite unadapted to another; the carpet maker needs a material totally different from that required by the manufacturer of zephyr worsted.

Inventions Give Employment to More than they Throw out.

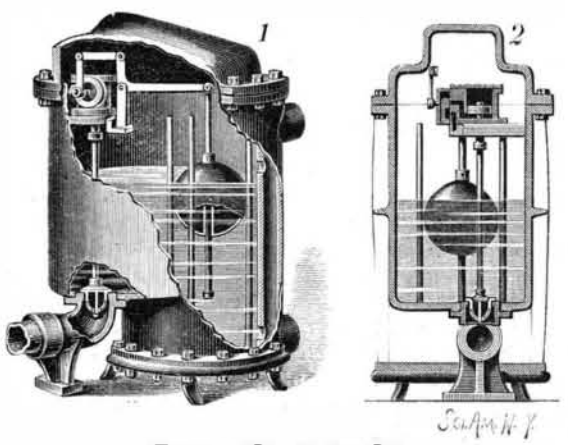
Frequently one sees appalling computations of the vast number of workmen who are constantly thrown out of employment by new mechanical inventions that take the place of human hands. But along with the displacement of hand labor there has gone a replacement, in consequence of the increased production that always follows a cheaper process of manufacture. Especially is this observable in all artistic matters. Pictures that are now produced and given away as advertisements could not be bought except by the well-to-do people a century ago. Art has been applied to a thousand articles of daily use, and artistic forms thus perpetuated have come to the homes even of the poor. Cheaper processes of engraving are now in use; but instead of causing the employment of fewer artists this requires the services of more and better artists, and they are paid now more than they ever were. A new class of artists have sprung into existence. They are known as pen and ink draughtsmen, and it is they who have made the illustrated newspapers of to-day far superior to those of even a quarter of a century ago. They command a salary of from $5,000 to $15,000 a year.

But it is not alone in picture making that the progress of invention gives new employment for artists. There is an immensely wide field for designers in wall papers, carpets, all sorts of textile fabrics, silverware, furniture, and hundreds of other departments. There are armies of artists engaged in making patterns and designs that were never needed in the world until new processes of duplication created an almost insatiable demand for variety.

Other fields of employment have also been opened in the present generation for vast numbers of workmen. In the construction of electrical apparatus, of watches, of machinery and tools, and the thousand and one products of invention, there is room for the laborer. There are more women employed even at sewing, and at better wages than ever for the skilled. The typewriting machine has already its army of wage earners. The discovery of crude oil has put legions at work, and, looking at the whole subject, it must be admitted that though mechanical inventions have put a great many persons out of work, they have also put a great many persons into work, besides producing for the multitude an endless variety of beautiful and useful as well as cheap products.—*Baldwin's Textile Designer.*

AN IMPROVED DRAINAGE-TRAP.

The accompanying illustration represents a drainage-trap for automatically discharging the water of condensation whenever a certain quantity has accumulated, Fig. 2 being a transverse sectional view. It has been patented by Mr. John Shaw, Sr., of Bayonne, N. J. In one side of the casing is a channel connected at its upper end with an inlet pipe leading to the steam supply, this channel being connected with the interior of the casing by apertures near the top and bottom, and there being opposite the bottom aperture a blow-off pipe with suitable valve, by means of which the casing may be cleaned of sediment. A short distance above the bottom of the casing is an offset, in which opens a water outlet pipe having a valve opening inward, the valve being on the lower end of a piston rod moving vertically in a cylinder supported on a bracket in the upper part of the casing. On this cylinder is formed a valve chest, the valve opening and closing ports leading to the top and bottom of the cylinder, and also controlling an outlet port through the bracket. The valve stem carries an arm pivotally connected bya link with the short arm of a bell-crank lever fulcrumed on the bracket, and pivotally connected with a rod pro-

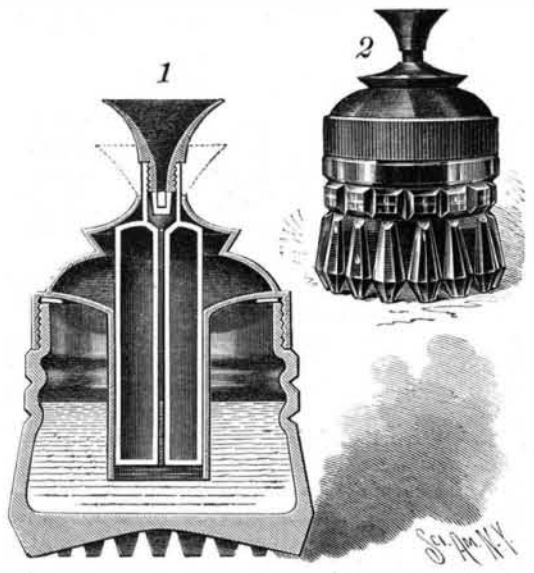


SHAW'S DRAINAGE-TRAP.

vided with collars between which travels a float, guided in vertical guide rods. As steam passes to the interior of the casing, the water of condensation finally closes the bottom opening from the side channel, and the float rises until it presses against the top collar on the vertical rod. As this rod is moved upward by the further accumulation of water, the bell-crank lever is turned to operate the valve and admit steam into the bottom of the cylinder, lifting the piston and opening the valve in the water outlet pipe. The sinking of the float as the water goes out, pushing on the lower collar of the vertical rod, swings the bell-crank lever to uncover the upper inlet port of the valve, whereby steam is admitted to the top of the cylinder, forcing the piston downward and again seating the valve in the water outlet pipe. The valve seat of the water outlet pipe is located somewhat above the bottom of the casing, to prevent sediment passing into the pipe.

AN IMPROVED INKSTAND.

An inkstand designed to almost altogether prevent the evaporation of ink is shown herewith. It has been patented by Mr. Emry Davis, of Kane, Pa. The inkstand is closed air-tight by a cover, formed of an inner



DAVIS' INKSTAND.

annular concaved disk of soft rubber and an outer ornamental metal cover, flanged and threaded to the stand. In the cover is fitted a tube reaching nearly to the bottom of the ink well, the tube having a flange fitting closely the central opening of the rubber disk, and making an air-tight connection between the tube and cover. In the tube is placed a float, in which is placed a funnel or dip tube which reaches up through the annular cover, the lower end of the tube being open at the bottom to receive the ink. If desired, a light coiled spring may be used at the bottom of the float to lift it suddenly in the tube. In use, the float is held up by the buoyancy of the ink, as shown in full lines in Fig. 1. To fill the pen with ink, it is placed in the upper end of the dip tube and pressed down, as shown in dotted lines. The pressure lowers the float, and the air confined above the surface of the ink causes the ink to rise in the dip tube and fill the pen. On removing the pen, the float rises and the ink recedes in the dip tube, so that there can be practically no evaporation.

Electric Welding.

It was at a meeting of the Boston Society of Arts in the fall of 1886, where Prof. Elihu Thomson, the inventor of electric welding, first explained and illustrated by practical experiments the art of electrical welding, discovered by him, to a large and interested audience who could scarcely believe their eyes when they saw copper and iron rods one-half inch in diameter welded in a few seconds, together with other equally startling experiments.

Professor Thomson, like every great and original inventor, was impressed by the discovery which he had made, and eagerly followed up his experiments, conscious that he had solved the problem of how to spare human strength a large share of the extravagant waste expended to meet the requirements of an increasingly exacting and fastidious civilization. By careful study and patient perseverance, supplemented by elaborate facilities for experimenting, rapid and striking improvements were made in the mechanical and electrical apparatus employed in the art, until now, when the process may be, in a sense, considered perfected, or at any rate rendered in every way fit to be placed on the market as a great labor-saving device, and a method by means of which results in metallurgical art and science can be achieved which were utterly impossible until now.

It was to see these devices in practical operation that representatives of the scientific and daily press, numbering about 50, in response to the thoughtful invitation of General Manager H. A. Royce, of the Thomson Electric Welding Company, were recently given a reception, at the Malden, Mass., Electric Light Company's station, where three transformers, a 30-unit welding dynamo, and specimens of work in riveting, shaping, and welding were shown.

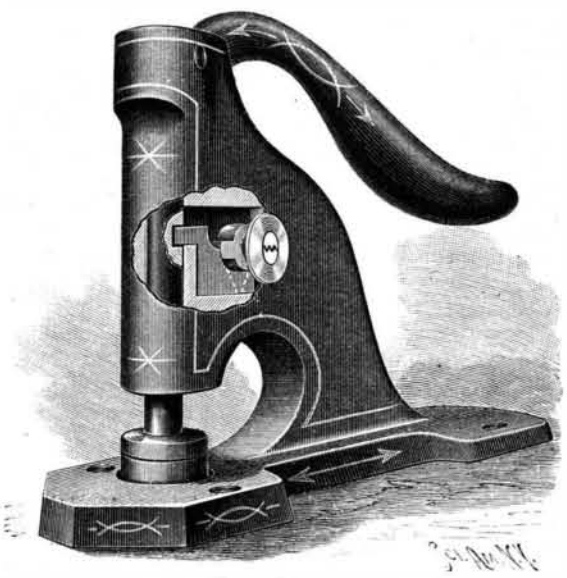
The proceedings were in charge of Manager H. A. Royce and several able assistants, well known electrical engineers. Together, these gentlemen manipulated the entire machinery and superintended the experiments, answering a multitude of questions and explaining in the fullest possible way, but in plain and unpretentious language, the entire process to the eager crowd of wondering, curious, and dazed visitors, who, almost to a man, found difficulty in expressing their astonishment, as they bewilderingly stood and watched the process of welding going on in almost every conceivable form, and between many different metals, including joints in lead, brass, and iron pipe, and quite a number of other forms of materials. The apparatus exhibited was of the indirect type, the welding being done on a transformer or "welding coil," receiving current from a dynamo. For small work the company manufactures a direct welding machine, in which the transformer is dispensed with and the current taken direct from the armature to the clamps attached to the field magnet of the dynamo. One-half inch bars of copper and iron rods from ½ to 2 inches in diameter were repeatedly welded on the three transformers, all of which were used in order to show the ease with which various types of machines can be adapted to all classes of work. The smallest transformer, weighing 500 lb., was used in welding ⅝ copper, which is four times the size of the largest overhead conductor employed for electric railways. The strength of the joint was evidently greater than that of the rest of the rod, for, on twisting, it was broken at some distance from the weld. By a still larger transformer the method of butt welding extra heavy 2 inch iron pipes was shown. An absolutely tight joint obtained in this way is of great value in the manufacture of ammonia machines. The third transformer, welding 2 inch solid iron in less than two minutes, gives a current of over thirty thousand amperes and consumes about fifty horse power. The rapidity, ease, and certainty with which the work was done, the strength and good appearance of the welds, excited the admiration of all.

Blasting Holes to Plant Trees.

"Few people elsewhere in the world may ever have heard of blasting holes to plant shade or fruit trees," said a cultivator the other day, "yet the practice is common here and shows good results. In most places there is found sufficient top soil for any purpose, but as land has become valuable, people have cast about for means to utilize lands where the coarse sand rock comes too near the surface for successful tree planting. A blast, well put in, creates a pocket for broken rock mixed with top soil, which furnishes a basin to hold moisture as well as a deeper and cooler hold for the roots. It is yet too early to say what will be the ultimate results of such planting, but in a climate like ours, where a superfluity of rainfall is not likely to occur, it will no doubt be successful."—*San Diego, Cal., Union.*

AN IMPROVED SEAL-PRESS.

A seal-press or hand-stamp, so constructed as to prevent its use by unauthorized persons, is shown in the accompanying illustration. It has been patented by Mr. John G. Strodtmann, of Petersburg, Ill. The plunger is forced downward by a cam lever, a spring lifting the plunger when the pressure is removed. A lock is embedded in the standard so that its bolt will engage a notch or shoulder upon the plunger, the notch being so located upon the plunger that, to engage with the bolt of the lock, the plunger must be in its lower position, in contact with the die, as shown in the illustration, whereby the faces of the dies are made inaccessible when the press is locked. The notch of the plunger and the lock-bolt are also concealed and protected



STRODTMANN'S SEAL-PRESS.

within the press frame, the frame of the press being preferably made in two parts, divided in a central vertical plane, and permanently riveted together, the lock being held in an interiorly recessed portion, while the rivets uniting the parts are finished flush with the surface, and the frame thereafter japanned or otherwise finished in such manner as to conceal the position of the rivets. The lock may be a multitubular one which cannot be easily picked, and presents its keyhole and the end of the tumbler barrel only to view, flush with the side face of the frame.