

The United States is represented by Rev. Dr. Washburne, Rev. C. L. Brace, General Pillsbury and others, of New York, Hon. Mr. Chandler of Pennsylvania, Dr. Wines and Governor Haynes of New Jersey, and Mrs. Julia Ward Howe of Boston. Among the members from the countries of Europe are Count Sollohub, director of a large prison in Russia, Count Scalia, Director of Prisons in Italy, Privy-Councillor Steinmann of Germany, Professor Marquardsen of Erlangen, Baron Von Holtzendorff, the great authority on criminal law in Prussia, and Miss Carpenter, one of the most celebrated philanthropists in England.

Various questions relating to the subject of reform and punishment have been discussed at considerable length. Corporal punishment, and especially the use of the "cat," met with hearty condemnation from the American and continental authorities, but the English, with some exceptions, advocated it as a means of discipline. The Austrian, Bavarian, and Swiss delegates stated that corporal punishment had been totally abolished in their respective countries with the best effect. The argument on the British side took the ground that the lash was a necessary requital for crimes of brutality, such as wife beating and garrotting. The latter species of robbery, which had become alarmingly prevalent in London, had almost disappeared since its perpetrators were punished by severe castigations.

The "treadmill," a most useless and degrading penance, was found to be still in use in British prisons, although it has been abolished for over forty five years in those of America. The continental delegates affirm that it is unknown in their countries. Several English members were eloquent in its denunciation. Colonel Colvill, a prison director, states that he had been obliged to employ the mill on an average of 600 prisoners yearly for eighteen years past, and that he had never known a human being to be benefited by it. On the contrary, its only effect was to harden and depress.

The question of the prevention of crime was also brought up, several members making reports of the labors of societies for that purpose. Reformatories of different types were discussed, the general conclusion being that the "Family Reform School" was superior in every way to the "congregated" system.

It was considered that the best mode of aiding discharged prisoners was by obtaining for them co-operative employment. Thirty-four aid societies are in existence in England, which have yearly provided for about 5,500 discharged convicts. Regarding the rehabilitation of the latter, the system of placing them under the surveillance of the police was condemned.

Mr. Sergeant Cox, in reference to the repression of criminal capitalists, stated that in his opinion the receiver of stolen property should receive double the punishment imposed upon the thief.

The industrial school system of New York was fully explained, and the value of the institution shown by the fact that 2,200 children had been sent to honest employment in the West. Compulsory education was defended and generally considered a valuable auxiliary in the prevention of crime. Baron Von Holtzendorff stated that, by the law of Germany, no child could come before a magistrate for crime until above the age of twelve, but all cases of crime under that age were reported to the schoolmasters, who punished. In that country, also, the children of prisoners who are without friends are taken care of by the State in the same manner as orphans. In the United States, it is customary to consider a child as a "ward of the State," and the prisoner, when his sentence has been served, can only regain control and possession by order of court.

A correspondent of the New York *Times* says that "the British delegates were amazed to hear from General Pillsbury, of Albany, that he had carried on various prisons not only without expense to the public, but saving a handsome surplus for permanent purposes; and that, in his experience, teaching a man a trade saved him from repetition of crime. Similar experiences, from Massachusetts, of self supporting prisons, were detailed, and produced a deep impression. Count Sollohub, director of a large prison in Moscow, stated that in three months he could give a man a trade; that the prisoner became better under it, and out of the thousands he sent forth annually, less than one per cent repeated their offenses, or came under the law again."

The results of the deliberations of this congress of philanthropists, composed of men and women who are thoroughly familiar with the darkest side of life and with the statistics of crime in both the old and new worlds, cannot but be of the greatest importance. By this interchange of views, the many and grievous faults of our present system of prisons and reformatories, which in a great measure are due to adherence to old and obsolete ideas, may be clearly seen and remedied; while valuable improvements and innovations will be suggested through the contrast of our methods of repression and prevention of crime with those adopted by other nations.

NEWSPAPER BENEVOLENCE.

Among the benevolent enterprises lately put in motion in New York was a subscription to pay the expenses of giving the poor children a holiday excursion. This was set on foot by the New York *Times*, and the holidays have been very properly designated the "Times excursions." Nearly twenty thousand dollars have been contributed, and perhaps forty thousand ragged youngsters have enjoyed the luxury of a steamboat ride, a romp in the woods, and a good time generally, with refreshments.

One or two of these excursions was exclusively devoted to poor mothers and their young children. Another notable ex-

ursion was that of the newsboys, of which the *Times* says: "The party was composed entirely of newsboys and boot-blacks, than whom there is not a rougher and more irrepressible class in New York. Large posters announced the picnic and called for a thousand boys. When the manager of our picnics reached the *Times* office at 6¼ o'clock A. M., he found it besieged by boys clamoring for tickets. The crowd was quickly transferred by him to the City Hall Park, where the smaller boys were all picked out and badges pinned on their jackets, if they had any, but on their shirts as a general thing. Shortly before 7¼, the superintendents of the various newsboys' lodging houses with their contingents marched into the Park; and till the order for the column to march was given, a scene went on such as perhaps has never before been witnessed in New York or any other city."

Hundreds of little ragged urchins, few of them possessing shoes and stockings and many having nothing to protect their close cropped heads from the sun, were dashing about in a high state of glee if they had secured a badge, or in a state of great anxiety if they had not yet done so. Those who were too big to go would beg and pray for a ticket. The boys danced, stood on their heads, turned somersaults from pure exuberance of spirits, and many a bit of roguish satire was sent at those who could not be taken. The steps of the City Hall were crowded with interested spectators of the scene; in fact the whole of the south side of the Park was crowded. At last the boys were formed in line, in three separate divisions, wearing red, white, and blue badges respectively. At 8 o'clock the band from Governor's Island entered the Park, and taking up their position, the order to march to the steamboat was given. The scene at this moment was really exciting. As division after division, each headed by its own banner, left the Park, the crowd cheered and waved their handkerchiefs, ladies appeared at the windows of the Astor House, every store on Broadway and Park Row was emptied in a moment, and the sidewalks were thronged. As the little fellows passed the *Times* office, they sent up cheer after cheer. Every moment the number of spectators increased, so that in Chatham street and up East Broadway the little army of ragamuffins was escorted by a crowd as large as that which attends the Seventh Regiment on dress parade days. The boys were carried to a fine grove on Long Island Sound, where they had a day of most hearty enjoyment.

WAVE POWER PROPELLERS.

Some fifteen or twenty years ago, we published in the *SCIENTIFIC AMERICAN* the drawings of a self propelling vessel, in which the sides of the ship were provided with hinged propelling blades, so arranged that by the roll of the boat the blades would alternately open and close, giving the vessel a forward push at every lurch.

This was a novel idea at the time, but it involved the attachment of considerable mechanism to the outside of the vessel, which, under the rough usage of the billows, would be likely to breakage or disorder. It is obvious that the use of ordinary masts and sails is a much better plan of propulsion. The flapping blade system, we observe, has lately been revived, and notices thereof are circulating through the press. It makes a good newspaper item, but has no other value.

WATER VAPOR NOT VESICULAR.

A recent experiment by T. Plateau disproves the commonly received theory respecting the vesicular nature of aqueous vapor. He provided a column of water, contained in a glass tube and held therein by atmospheric pressure, the bottom of the water column being exposed; small air bubbles, on being brought from the point of a small tube into contact with the exposed water surface, immediately rose through the water column. If water vapor is vesicular, it should do the same. But experiment shows that it will not. On directing a current of ascending vapor from boiling water against the bottom of the water column, no appearance of rising vesicles through the water could be detected.

INCLINED RAILWAY IN SAN FRANCISCO.

The steep elevation of the lands immediately adjoining the city of San Francisco and the desirability of providing convenient access thereto have induced some enterprising individuals to attempt the construction of an inclined railway. The incline will be 2,800 feet in length, traversed by cars drawn by steel wire ropes and stationary engines. The cars are to be provided with clutches whereby the rope may be grasped or released at the will of the conductor. At the top of the incline, the cars are delivered over to the horse railway.

Wood Carpeting.

A correspondent recently suggested that a substitute for matting for covering floors, cheap, durable, and cleanly, was desirable. The wood carpeting, made and laid by the National Wood Manufacturing Company, 942 Broadway, New York, is the best, cheapest, and handsomest material for halls, dining rooms, and kitchens that we have ever used. The expense is not so much as that of carpeting, and but little more than that of matting; and when properly laid, it will last a number of years. We have substituted it for matting in a summer residence, and find that it possesses all the advantages of a solid hard wood floor.

THE Fourth Annual Fair of the Carroll County, Md., Agricultural Society is to be opened at Westminster, Md., on September 30, and will continue till October 5. Among the premiums to be awarded are several subscriptions to the *SCIENTIFIC AMERICAN*, rewards which are always acceptable to the recipients and welcome to their homes and families.

[Special Correspondence of the Scientific American.]

LETTER FROM PROFESSOR R. H. THURSTON.

CINCINNATI, Ohio., July, 1872.

Cincinnati and its approaches. The great suspension bridge of Roebling. The iron railway bridge over the Ohio. The Danks puddling furnaces; interesting particulars concerning their operation. The Cincinnati water and gas works.

The route to Cincinnati via the "Panhandle" line of railroad, although not presenting as many beautiful landscapes and such a panorama of picturesque scenery as the Pennsylvania railroad in crossing the Alleghanies, exhibits to the traveler not a few exceptionally fine views in the neighborhood of Pittsburgh. That of the confluence of the Alleghany and the Monongahela rivers to form the Ohio, and the long stretch of the latter river that can be seen just after leaving Pittsburgh, are especially attractive, possessing such beauty, when seen by the light of a sun just setting among gorgeously colored clouds in the west and throwing no less beautiful though quieter colors over the eastern clouds and along the further river bank, that those who have been fortunate enough to witness it will long hold it in remembrance.

En route, we pass through the city of Columbus, Ohio, a pleasant town with wide streets, having some fine public and many fine private buildings. The capitol would be a noble structure except for what seemed to us its very ugly dome. The city hall is a very neat building. There is not very much manufacturing done here, and we only remained long enough to see something of the city and to take the next train for Cincinnati.

This latter city can hardly claim to be a manufacturing place, although its manufactures, in the aggregate, employ a considerable amount of capital. The business of manufacturing furniture is becoming its leading branch of industry. The comparative low price of walnut and other kinds of wood used in the business enables it to reach profitably for its market as far east as Pittsburgh and all over the West and Southwest. Some of the furniture made here is extremely neat in design, well made and of beautiful finish, fully equal to any thing made east of the Alleghanies. Prices are not very far from New York figures.

THE GREAT SUSPENSION BRIDGE AT CINCINNATI.

In Cincinnati, we were particularly interested in the great bridges over the Ohio river and in the now well known Danks' revolving puddling furnace.

Entering the city by rail from Columbus, one of the first and most striking objects that catches the eye is the great suspension bridge stretching across the river to Covington, Kentucky. This immense structure has a greater span than any bridge yet built in the world.

It was built by the late John A. Roebling, the builder of the two suspension bridges at Pittsburgh, and of the almost equally wonderful structure at Niagara Falls. Considering the time at which it was designed and the difficulties with which he contended, its successful completion justly entitles its designer to be considered one of the boldest and most talented engineers that the world has yet known. At first view, the bridge impresses the observer by its magnitude, as well as by the neatness of its general design, and by the graceful sweep of the great wire cables which support the roadway; but a second visit is even more impressive than the first, and, after studying it from different standpoints, and after walking across it several times, one feels that, after all, the mind was quite incapable, at first sight, of appreciating this great engineering wonder of our age, or of understanding what difficulties are met in the general plans, to say nothing of those of detail, by the engineer who attempts to sustain a bridge like this between piers separated by a distance of nearly a quarter of a mile. Those who are now watching the progress of the East River bridge at New York—which was designed by the same great engineer, in the light of all the experience gained by a life time devoted to such work, and the construction of which is proceeding under the directions of a son who profits by his own special scientific and practical training as well as by his father's experience and teaching—can hardly appreciate the talent, the hard work and the mental anxiety and activity that must have been demanded of the engineer during the progress of the Cincinnati bridge, which has but about a hundred feet less span.

THE IRON RAILWAY BRIDGE.

Further up the stream is the great iron railroad bridge built by the Keystone Bridge Company. At the channel span, the bridge is 400 feet from pier to pier, and, were it not so near the great suspension bridge, it would at once awaken in the spectator the greatest interest and admiration. It is a beautifully proportioned and well made bridge. The members carrying a compressive stress are formed of the peculiarly strong and readily constructed built columns used by some of our leading constructors; and the tension members are rods and links with ends upset, to secure full strength at what are usually their weakest parts, and to distribute the extension of the metal throughout the whole length of the piece. The importance of this last advantage is too seldom understood and attended to by constructing engineers. It is a point of special consequence, in mechanical engineering and wherever structures are exposed to sudden strains and heavy shocks.

THE DANKS PUDDLING FURNACES.

A part of a day was spent at the mill of the Cincinnati Railway Works Company, examining the Danks puddling furnaces and watching their operation. These furnaces have attracted the attention of iron manufacturers both here and abroad, for, although by no means the first "rotary puddlers," they are the first whose operations has been suffi-

ciently satisfactory to induce proprietors to substitute them wholly for the old furnaces in even a single mill. The Danks patent is upon details; but the inventor is certainly entitled to much credit for skillfully proportioning them, and even more for his perseverance and tact in overcoming those difficulties that usually impede, for many years, the progress of the most meritorious inventions.

The ordinary process of puddling consists in melting cast iron upon the hearth of a reverberatory furnace and stirring it until the carbon has been burned out, and other impurities have passed into a slag; and malleable or wrought iron then remains. Many attempts have been made to substitute machine for manual labor in the process, but none have been hitherto successful, and, all over the civilized world, puddling is done by the same old process; and the severity of the labor, together with the intensity of the heat to which the workman is exposed, makes the life of the puddler a short one and the process comparatively expensive.

The Danks puddling furnace has an ordinary furnace grate, but, instead of the large chamber of the reverberatory furnace, a barrel shaped vessel receives the charge of pig metal, and through this the flame passes to the chimney. The metal once melted, the barrel is caused to revolve by steam power, and as the fluid metal flows around the interior, the carbon which it contains and the accompanying silicon are oxidized by contact with the passing oxygen in the furnace gases, and with that of the iron ore with which the barrel is lined. Gradually it loses its fluidity, becomes viscous and finally puggy, and is then malleable iron. One end of the barrel is movable, and that being removed, the great "ball" of spongy iron, weighing 600 to 700 pounds, several times the weight of an ordinary puddle ball, is taken out, carried, by tongs suspended from an overhead railroad, to the squeezers, where it is rolled and compressed into a billet of quite compact iron, and thence to the "muck train" of rolls in which it is given the shape of a long rough looking bar, which only requires additional rolling to convert it into such "merchant bar" as we see in the market. The process was a very interesting one to us, and the contrast between this and the ordinary method, so far as the comfort of the workman is concerned, was very marked and very gratifying. So satisfactorily have these furnaces done their work here that they have displaced all of the old furnaces in these works. English iron masters have considered the improvement so important and desirable that they some time since sent a commission to this country to determine the real value of this furnace.

The commission brought over many tons of the worst, as well as of some of the best, British irons and puddled them here. Their report is one that will interest and please every friend of American manufacturing industry. We saw very good iron which had been made from Yorkshire pig, and from even worse Welsh cast iron; and, during our visit, the furnaces were working with *stove scrap*, which is, probably, generally about as poorly adapted for the purpose as any iron that can be found; judging from the appearance of the bars produced, it made a good iron. Whether this particular furnace will ever become generally used is uncertain, and even a matter of little consequence to the world; but it is eminently desirable that, in some form, a machine may perform this very simple and yet essential detail in the process of iron making, and, at the same time, reduce its cost and relieve the workman from one of the severest tasks known in the arts.

THE CINCINNATI WATER AND GAS WORKS.

After visiting the water works, where we found five steam engines engaged in supplying the city with water, and where we were especially interested in the working of the largest—a great machine, 100 inches in diameter of cylinder and of 12 feet stroke of piston—we accepted the invitation of Mr. E. M. Breese, the engineer of the city gas works, and, under his guidance, examined that great establishment very minutely. Space will not, however, allow of a description of this or of other interesting establishments which may be found at Cincinnati. Some idea of the magnitude of the city itself is afforded by the facts, learned at the gas works, that they consume annually about 1,250,000 bushels of coal, making 700,000,000 of cubic feet of gas. Such a quantity of coal would warm, for the winter, the houses of about 6,000 New York mechanics, and the volume of gas made annually is perhaps four times as great as that of the 6,000 houses taken together.

R. H. T.

SLICING APPLES.

The wholesomeness of the apple as an article of food is not as widely known as it deserves to be. The fruit not only contains large quantities of nutritive matter, but has valuable antiseptic qualities which exercise the most beneficial effects on the system. In order to prepare apples so as to have them available for use at any time, a correspondent suggests the following method: A hole of about the size of an ordinary apple is cut in a block of wood. On the under side of the orifice, seven shoe knives are arranged, edges up, in such a manner that the middle blade is the lowest, the pair on its either side on a higher plane, the next pair higher and so on—so that the edges form a curve. The knives are also inclined so that the edges are nearer together than the backs. A follower is fitted into the curve thus made, and is attached to the block of wood by a hinge on one of its sides; to the other, a handle is affixed. To make the plan clear, we should judge that the instrument, as described by our correspondent, resembles a lemon squeezer, with knife-blades substituted for the perforated cup in which the lemon is usually placed. The apple, being placed in the orifice, is pressed down by the follower upon the knife edges. It is

thus cut into slices which fall through the openings between the blades. In this manner, we are informed, a bushel may be sliced in two or three minutes. The slices are then spread upon a grass plat and "hayed" in the sun—covering them or raking them together at night. When thoroughly dried they may be stored away, when they will keep without spoiling for any length of time.

RECIPES AND EXPERIMENTS.

The following recipes and experiments have not been practically tested by the editor of the SCIENTIFIC AMERICAN, but are published for the benefit of readers who may desire to try them. The editor would be glad to be informed of the results of such trials.

BLEACHING FEATHERS.—First clean from greasy matter, then place the feathers in a dilute solution of bichromate of potassa to which a small quantity of nitric acid has been added. The greenish deposit of chromic sesquioxide which ensues may be removed by weak sulphurous acid, when the feathers will be left perfectly white.

RENDERING CLOTH WATERPROOF.—Put half a pound of sugar of lead and a like quantity of powdered alum into a bucket of soft water. Stir until clear and pour off into another bucket—into which place the cloth or garment. Soak for twenty four hours and hang up to dry without wringing. This process is said to be very effective.

FILTER FOR CISTERN WATER.—Perforate the bottom of a wooden box with a number of small holes. Place inside a piece of flannel, cover with coarsely powdered charcoal, over this, coarse river sand, and on top of this, small pieces sandstone.

ZINC WASH FOR ROOMS.—Mix oxide of zinc with common size and apply it with a brush, like lime whitewash to the ceiling of a room. After this, apply a wash, in the same manner, of the chloride of zinc, which will combine with the oxide and form a smooth cement with a shining surface.

HARDENING WOOD FOR PULLEYS.—After a wooden pulley is turned and rubbed smooth, boil it for about eight minutes in olive oil, then allow it to dry, after which it will ultimately become almost as hard as copper.

TO CLEANSE WOODEN FLOORS.—The dirtiest of floors may be rendered beautifully clean by the following process: First scrub with sand, then rub with a lye of caustic soda, using a stiff brush, and rinse off with warm water. Just before the floor is dry, moisten with dilute hydrochloric acid and then with a thin paste of bleaching powder (hypochlorite of lime); let this remain over night and wash in the morning.

MUCILAGE.—Glue, water and three per cent of nitric acid adheres well to metallic surfaces.

PRESERVING STUFFED ANIMALS WITHOUT ARSENIC.—Rub the flesh side of the skin with a composition of 1 lb. tobacco ashes, $\frac{1}{2}$ lb. alum, 2 lbs. dry slaked lime.

CLEANING OIL PAINT.—Whiting is better than soap. Use warm water and a piece of soft flannel. Afterwards wash clean and rub dry with chamois.

MAKING CITRIC ACID.—Treat fresh lemon juice with powdered chalk until all the acid is neutralized. Citrate of lime will be precipitated, which wash and then decompose by means of diluted sulphuric acid. A precipitate of sulphate of lime will then be formed while the citric acid dissolves. Filter, and the citric acid will deposit itself in crystals when the concentrated liquid cools.

VERMILION PAINT.—The tendency of paint made from vermilion (cinnabar or sulphide of mercury), when mixed with white lead, to turn black or brown in a short time may be obviated by mixing with the dry paint, before adding the oil, one eighth of its weight of flowers of sulphur.

CLEANING GLASS.—The lenses of spectacles or spy glasses that have come scratched or dimmed by age may be cleaned with hydrofluoric acid diluted with four or five times its volume of water. The solution should be dropped on a wad of cotton, and thoroughly rubbed on the glass which should afterwards be well washed in clear water. Great care must be exercised in handling this acid, as it eats quickly into the flesh, often producing painful and obstinate sores.

PAINTING ZINC.—Oil paint may be made to adhere to sheet zinc by coating the latter with a composition of one part nitrate of copper, one part chloride of copper and one of sal ammoniac, dissolved in sixty-four parts of water; add to the solution one part hydrochloric acid. This should be left from twelve to twenty-four hours to dry. It acts also as a protection to the metal against atmospheric influences.

TO RENDER CORKS OR STOPPERS AIR TIGHT.—This can be accomplished by covering with a cement composed of red lead or finely powdered litharge mixed with undiluted glycerin.

What Fifty Thousand Dollars Will Buy.

The following advertisement appears in the daily papers, and we give it publicity, free of charge, for the benefit of all who have fifty thousand dollars to invest in perpetual motions:—

0,000 WILL BUY ONE-FOURTH INTEREST IN A NEW AND wonderful invention, self-acting Engine of great power, which I get from vacuum or air cylinder, attached to an endless chain or band, rising up through a tank or column of water from 10 to 500 feet high, or more if desired. I shall give a full explanation and give it away to all the world, and trust to its sense of justice for my recompense. If you do not find some one to take an interest in it, Address J. W. SHIVELY, Inventor, box 371 Saratoga Springs Post Office, N. Y.

This beats Niagara Falls, where we have a perpetual motion, in the form of a column of water three quarters of a mile wide and several feet thick, falling 160 feet, and presenting a force of millions of horse power. Would it not be cheaper for the inventor to avail himself of this natural column of water, and in it test the practicability of his machine, before going to the expense of erecting a special column 500 feet high, as he suggests?

Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per Line will be charged.

The paper that meets the eye of manufacturers throughout the United States—Boston Bulletin, \$4 00 a year. Advertisements 17c. a line.

Coal at wholesale. If in need, write L. Tower, 71 Broadway, N. Y.

I will purchase part or entire interest in a real practical patented invention. Will be at office of Samuel F. Bartol, 221 Pearl Street, New York city, August 9th and 10th.

Wanted—Small Rotary Engine, $\frac{1}{2}$ H. P. or less. D. C. Pierce, Portage, Cal. Co., Mich.

Machinery Paint, all shades. Will dry with a fine gloss as soon as put on. \$1 to \$1.50 per gal. New York City Oil Company, Sole Agents, 116 Maiden Lane.

For Sale Cheap—A quantity of 18 gauge iron plates, half inch wide, one inch long, with round ends and punched with a 1-16th inch hole at each end. Also, a lot of small leather scraps. F. C. Beach & Co., 131 & 133 Duane Street, New York.

Sweetser's Blacking and Brush Holder—illustrated in Scientific American, May 18, 1872. Best thing for Stove or Shoe Blacking. Needed in every household. Rights for sale. E. H. Sweetser, Box 317, Salem, Mass.

State Rights for Sale on improved Wardrobe-Bureau and Writing Desk combined. Patented June 11, 1872. Address John H. F. Lehmann, 62 Heater Street, New York city.

Hoisting, Pumping, and Mining Engines, from 5 to 40 H. P. J. S. Mundy, No. 7 R. R. Avenue, Newark, N. J.

Wanted—A Good Second Hand Box Board or Strait Stave Machine. F. R. Smith, Bennington, Vermont.

New Pat. Perforated Metallic Graining Tools, do first class work, in less than half the usual time—make every man a first class Grainer. Address J. J. Callow, Cleveland, Ohio.

Wanted—A Party to Manufacture, on royalty, Patent Self-acting Horse Holders. Those having facilities for making Carriage hardware preferred. Address Abm. Quinn, 280 Marcy Av., Brooklyn, L. I.

In the Wakefield Earth Closet are combined Health, Cleanliness and Comfort. Send to 36 Dey St., New York, for descriptive pamphlet.

Lenoir Gas Engine—Wanted, the address of any agent in this country of the Lenoir Gas Engine, or of any person who has one imported within two or three years. Address, P. R., Box 493, Newport, R. I.

Platina Plating—Alb. Lovie, 729 N. 3d St., Philadelphia, Pa.

Steam Boiler and Pipe Covering—Economy, Safety, and Durability. Saves from ten to twenty per cent. Chalmers Spence Company foot East 9th Street, New York—1202 N. 2d Street, St. Louis.

Gear Wheels, for Models; also Springs, Screws, Brass Tube, Sheet Brass, Steel, &c. Illustrated Price List free by mail. Goodnow & Wightman, 23 Cornhill, Boston, Mass.

Brick and Mortar Elevator and Distributor—Patent for Sale. See description in Sci. AMERICAN, July 20, 1872. T. Shanks, Lombard and Sharp Streets, Baltimore, Md.

The Berryman Manf. Co. make a specialty of the economical feeding and safety in working Steam Boilers. Address I. B. Davis & Co., Hartford, Conn.

The Berryman Heater and Regulator for Steam Boilers—No. one using Steam Boilers can afford to be without them. I. B. Davis & Co., Hartford, Conn.

Wanted—Melter. Permanent situation, at good wages, to a good, experienced Iron Melter. Address C., Iron Founder, Cleveland, O.

Brown's Coalyard Quarry & Contractors' Apparatus for hoisting and conveying material by iron cable. W. D. Andrews & Bro., 414 Water St., N. Y.

Dickinson's Patent Shaped Diamond Carbon Points and Adjustable Holder for dressing emery wheels, grindstones, etc. See Scientific American, July 24 and Nov. 20 1869. 64 Nassau St., New York.

It is better to purchase one of the American Twist Drill Company's Celebrated Patent Emery Grinders than to wish you had.

Flouring Mill near St. Louis, Mo., for Sale. See back page.

State Rights on improved Cigar Moulds for Sale. Patented June 25, 1872. Inquire of Isaac Guthman, Morrison, White Side Co., Ill.

For Machinists' Tools and Supplies of every description, address Kelly, Howell & Ludwig, 917 Market Street, Philadelphia, Pa.

The best recipes on all subjects in the National Recipe Book. Post paid, \$2.00. Michigan Publishing Company, Battle Creek, Mich.

Mining, Wrecking, Pumping, Drainage, or Irrigating Machinery, for sale or rent. See advertisement, Andrew's Patent, inside page.

We will Remove and Prevent Scale in any Steam Boiler or make no Charge. Two Valuable Patents for Sale. Geo. W. Lord, Phila., Pa.

Peck's Patent Drop Press. For circulars address the sole manufacturers, Milo, Peck & Co., New Haven, Ct.

For Hydraulic Jacks and Presses, New or Second Hand, send for circular to E. Lyon, 470 Grand Street, New York.

For Marble Floor Tile, address G. Barney, Swanton, Vt.

Old Furniture Factory for Sale. A. B., care Jones Scale Works, Binghamton, N. Y.

Steel Castings to pattern, strong and tough. Can be forged and tempered. Address Collins & Co., 212 Water Street, New York.

Portable Baths. Address Portable Bath Co., Sag Harbor, N. Y.

All kinds of Presses and Dies. Bliss & Williams, successors to Mays & Bliss, 118 to 122 Plymouth St., Brooklyn. Send for Catalogue.

For Steam Fire Engines, address R. J. Gould, Newark, N. J.

Williamson's Road Steamer and Steam Plow, with Rubber Tires. Address D. D. Williamson, 32 Broadway, N. Y., or Box 1809.

Belting as is Belting—Best Philadelphia Oak Tanned. C. W. Arny, 301 and 303 Cherry Street, Philadelphia, Pa.

Boynton's Lightning Saws. The genuine \$500 challenge. Will cut five times as fast as an ax. A 6 foot cross cut and buck saw, \$4. E. M. Boynton, 80 Beekman Street, New York, Sole Proprietor.

Better than the Best—Davis' Patent Recording Steam Gauge Simple and Cheap. New York Steam Gauge Co., 46 Cortlandt St., N. Y.

For Solid Wrought-iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburg, Pa., for lithograph, etc.

For hand fire engines, address Rumsey & Co., Seneca Falls, N. Y.

To Ascertain where there will be a demand for new Machinery, mechanics, or manufacturers' supplies, see Manufacturing News of United States in Boston Commercial Bulletin. Terms \$4.00 year.