

## ENGINEERING INVENTIONS.

A car-axle-box brass has been patented by Messrs. Daniel Reynolds and Joseph S. Murray, of Allegheny, Pa. It covers only about one-fifth of the surface of the axle journal, instead of almost one-half, as the common broad brasses do, and is intended to reduce friction and wear, make the lubrication more effective, and economize the hauling and driving power.

A car coupling has been patented by Mr. George H. Lipe, of China Grove, N. C. This invention has for its special object to provide for easily uncoupling cars jammed or crowded together when they stop, the coupling pin being supported by an apertured sliding plate which is forced back by the approaching car to allow the coupling pin to fall to coupling position.

A cable traction for street cars has been patented by Mr. Orlando H. Jadwin, of New York city. This invention relates to the gripping attachments and covers improvements on former patented inventions of the same inventor, relative to relieving the cable of the weight of the gripping attachment by a counterbalance and the means of attaching the grip to the car by links, so the gripping attachment was made to lift with the cable away from its supporting pulleys.

## AGRICULTURAL INVENTIONS.

A cultivator has been patented by Mr. Norris H. Shephardson, of West Halifax, Vt. It is so made that it can be readily extended or contracted in width, and can be conveniently turned around and moved from place to place, the invention covering a novel construction and combination of the various parts.

A plow has been patented by Mr. Wellington Shaver, of Medusa, N. Y. The construction is such that the plow can turn a furrow up hill more effectively than an ordinary plow, while it is also designed to prevent sods, clods, lumps, or other rubbish from passing over the mould-board into the central part of the plow, and thus clogging or choking it.

A plow has been patented by Mr. Andrew McLean McGregor, of Moss Point, Miss. This invention provides for such a construction of plows that they can be readily adjusted for use as a right or a left plow, or a right and left plow, as may be required, which will be strong and simply made, while the various parts can be made small and the implement used as a hand plow.

A self-clearing breaking plow colter has been patented by Mr. Benjamin C. Brownell, of Center Junction, Iowa. A spindle-like roller with an outwardly flaring top extends upward and backward from the point of the colter, and operates so that when the plow catches obstructions they are forced up and catch the roller, which revolves and discharges itself.

A rotary colter has been patented by Mr. John Feger, of Lenzburg, Ill. The object of this invention is to make a colter for plows in which the cutting plates will be held securely in position, and the parts subject to wear can be readily taken out and replaced by new ones.

## MISCELLANEOUS INVENTIONS.

A latch has been patented by Mr. Francis Keil, of New York city. The invention consists of novel locking devices in connection with the dog by which the bolt is retracted by a key from the outside, and in a peculiar form of key for the outside locking mechanism, with other special details.

A chimney support for telegraph wires has been patented by Mr. Albert Potts, of Philadelphia, Pa. It consists of a frame clamped to the chimney top and supporting a short telegraph pole suitably braced, the frame and the pole carrying insulators for supporting the electrical conductors in the usual way.

A wrench has been patented by Mr. Michael S. Weller, of Charlestown, W. Va. It has a novel construction by means of which a face section is removably held to one of the jaws of the wrench, being an improvement in that class of wrenches known in the trade as "alligator wrenches."

A washing machine has been patented by Mr. Elmer E. Allison, of Hillside, Pa. It consists of a tub with a rubber to be operated to rub and squeeze the clothes on the bottom of the tub, the rocking of the rubber rubbing and squeezing the clothes between rubber disks and cleats in the tub.

A folding music stand has been patented by Mr. Oswald S. Vaughan, of Glasgow, Mo. It is an arrangement of tubes and rods so pivoted and joined together that the stand can be folded very compactly for carrying conveniently by a handle, and can be quickly set up as a strong and durable stand.

A sash fastener has been patented by Mr. Robert Kemper, of Foster, Ky. This invention consists in a special design of a lever, to which is pivoted a brace lever, making a simple device for locking sashes so they cannot be raised from the outside, and for holding the sash at any desired elevation.

An extension table has been patented by Mr. George Schmitt, of New York city. This invention covers improvements on a class of extension tables formerly patented by the same inventor, and consists in a novel construction and combination of the various parts of the table.

A saw mill dog has been patented by Mr. Nathaniel J. Cushman, of North Paris, Me. This invention covers a special construction and arrangement of parts to provide for the carriages of saw mills a dog for clamping green frozen logs upon the saw mill carriage while being sawed into boards, planks, or joist.

A riving machine has been patented by Mr. Israel A. Davis, of Englewood, Cal. Combined with a series of frows or knives is a rotary shaft passed loosely through their upper ends, with arms mounted on the shaft between the frows and constructed to remove the split material, with other novel features, making an improved machine for splitting boards, shingles, etc.

A flood gate has been patented by Mr. John Dailey, of Van Wert, O. It is intended to prevent animals from passing up or down a stream, but is so arranged that when struck by any heavy debris it will swing and be automatically raised to allow its passage, the gate being so mounted that it may be raised quite a distance above the bed of the stream if desired.

A shipping tag has been patented by Mr. John A. Pegg, of Jonestown, Miss. It is a metal tag or label through which the shipping marks are to be punched, the metal plate having serrated edges on two opposite sides, and flanges, the tag to be secured to a tie by springing the flanges with a pair of pliers with wide jaws.

A lead for setting stained glass has been patented by Mr. Jacob Pfleging, of New York city. It is a lead having grooves formed in it in combination with stiffening strips made of plates of tin or other metal, both edges of the strips being grooved, such plates rendering the panels sufficiently firm and rigid without separate braces or rods.

A coffee roaster has been patented by Mr. Mathias A. Laska, of New Orleans, La. The stirring arms or blades are placed loosely on the revolving shaft, and held in contact on the bottom of the roasting pan by a spiral spring, preventing the coffee beans from clogging up the arms, and roasting them equally and effectually.

A stove pipe damper has been patented by Mr. George C. Fraser, of Port Sanilac, Mich. The pipe has semicircular partitions and pivoted semicircular damper valves arranged therein, so the smoke and draught must pass through the pipe on a zigzag line, and the partitions stop the sparks, permitting the easy government and regulation of the fire.

A churn has been patented by Mr. Peter Hauerperger, of Urbana, Ill. The cream box is rectangular in horizontal cross section, and is formed with a wedge-shaped bottom, which permits a small quantity of cream to be churned with as much care as a larger amount, the churn being an oscillating device which may be constructed of either wood or metal.

A wood carrier has been patented by Mr. Charles G. Fransson, of Norway, Mich. It consists of a strip of canvas so folded as, with gores, to form a pocket, the ends being provided with bars, the canvas having hand holds to grasp the bars, and the bars also having hooks and eyes by which the canvas can be fastened around the bundle of wood.

A sheep protector has been patented by Mr. William L. Lewis, of Sweet Springs, W. Va. It has about the shape of a horse coat or covering, and is made of oiled sail cloth or rubber fabric or other similar material, and is specially cut and fitted so it will not hold snow and moisture, and will thus be an effective protector for animals against the weather.

A velocipede has been patented by Mr. Samuel Martin, of Mill Rock, O. It has two driving wheels actuated by hand and foot levers, a swinging frame and seat, a guide wheel in turning bearings, and a specially devised brake, and it is to be propelled by one, two, or more persons, being adapted to attain a great rate of speed, and to carry passengers and freight.

A windmill has been patented by Mr. Jules R. Desjardins, of Burlington, Vt. It has a novel mechanism for adjusting the stops that regulate the position of the hinged fans or sails, to provide for checking the speed of the wheel automatically when the wind pressure is excessive, and when the wheel is not in use it can be arranged so that the fans offer no resistance to the wind.

A book clasp has been patented by Mr. Jacob Monch, of Offenbach, Germany. It consists in a hollow slotted pintle containing a threaded spindle, one-half of which is threaded with a right handed thread and the other half with a left handed thread, by which specially devised arms can be spread or contracted, so a book, album, or file fitted therewith will be adapted to contents of variable quantity.

A vehicle brake has been patented by Mr. James L. T. Linson, of Johnson County, Mo. This invention covers certain novel features of construction and combination of parts, so that when the draught is applied the brakes will be taken off the wheels, and so held, and when the vehicle moves suddenly forward on a down grade, the brakes will be automatically applied to the wheels.

A chain bolt for doors has been patented by Mr. James B. Hawes, of North Tarrytown, N. Y. Combined with a sliding bolt and its chain applied to a door and casing or a double door is a supplementary chain with one end connected to the other chain or its support, and the other end detachably connected to the bolt or its chain, the device being also for use as a door fastening when the doors are fully closed.

A whale shaped museum building has been patented by Mr. Anthony Ward, of Brooklyn, N. Y. It has a movable lower jaw, with movable teeth, to admit spectators, and gravity cars to carry them out, while there are ventilating openings in the back, and above the back are placed perforated pipes, whereby a fine spray of water can be showered upon the back of the whale to keep the main chamber cool.

A shingle has been patented by Mr. Robert C. Snowden, of Elizabeth, Pa. It is formed of sheet metal, having interlocking portions and provided with a lateral horizontal flange terminating short of the end of the shingle, whereby to form a stop for the adjacent shingle, with other novel features, to combine ornamentation with strength and ease of application and removal.

A tension mechanism for spindles of metal working machines has been patented by Mr. James Hartness, of Torrington, Conn. Combined is a cross pin or key, a spring acting on the key, and a cam plate on which the key is turned, with other novel features in an improved spindle, intended to allow the tool to yield as the strain approaches the breaking point, but not to yield until this point is almost reached.

A safety attachment for watches, etc., has been patented by Mr. Otto G. Faber, of Washington,

D. C. Combined with a chain swivel having a supplemental hook and a latch for closing the same is a back plate with perforations, supporting bail, and other novel features, to prevent watches from being dropped out or stolen from the pocket, while the attachment is one which can be conveniently applied to a garment.

A stove has been patented by Mr. Frank Brielmair, of Nashville, Tenn. It has a partition on one side of the firebox, between which and the outer wall is a compartment having slides, and a perforated outer casing through which a lug on the slide passes, the partition having apertures at its top and bottom, with other novel features, for the more perfect regulating of the draught.

A machine for making lead pipe has been patented by Mr. Christopher C. Tracy, of Brooklyn, N. Y. This invention consists principally in a movable receiving reservoir, which can be moved to and from the point of alignment with the die holder, thus facilitating the removal of the mandrel as desired for replacing it with others for different sizes, and also the pouring of the molten metal.

A beer and water cooler has been patented by Mr. Joseph F. Shomate, of El Dorado, Ill. There is a refrigerating box for receiving the barrel or keg, and another box with a cylinder, the liquid being conducted from the barrel through this cylinder, which is surrounded by broken ice, and the whole being mounted on castors for ready moving from place to place.

A gas regulating burner has been patented by Messrs. Joseph J. Butcher and Johann H. Wuster, of Newcastle-upon-Tyne, England. A small permanent flame is used, beside the larger burner which has to be lighted, and the working part of the apparatus consists of a valve actuated by the pressure of the gas, the edges of the valve being sealed by mercury, there being a pressure governor, which may or may not be used with the apparatus.

## NEW BOOKS AND PUBLICATIONS.

THE AMATEUR PHOTOGRAPHER. By Ellerslie Wallace, M.D. Philadelphia: Porter & Coates.

The art of photography has, of late, attracted so many enthusiastic amateurs, that a large and increasing literature has sprung up to meet the inquiries of the beginner. Of the host of writers who have thus endeavored to throw some light on dark places, probably none has succeeded better than Dr. Wallace. His convenient little manual presents a clear and concise description of the different apparatus and processes. An ardent amateur himself, at a time when the mysteries of the art were little known outside of the professional studio, the author has had an excellent opportunity to study the development and merits of recent methods. So well has he availed himself of this opportunity, that he is now a recognized authority on the subject. While the size of the book prevents it from being at all exhaustive, it covers as much ground as the ordinary amateur will have time to master, and can be recommended to him as a trusty guide.

ASSIGNMENTS OF PATENT RIGHTS. Compiled and arranged by Schuyler Duryee, Chief Clerk of the U. S. Patent Office. Washington: Schuyler Duryee, 1886. Price \$3.

Numerous questions respecting the assignment of patent rights are constantly arising. To answer them intelligently, it has heretofore been necessary to search through an almost equal number of works of reference. Mr. Duryee's experience, as Chief of the Assignment Division of the United States Patent Office, gave him an opportunity to feel the urgent need of a classified digest of decisions relating to the transfer of patent rights. It is the purpose of his work to supply this want, and as far as we have been able to examine it, he has succeeded admirably. An alphabetical list of cases cited precedes the index. A digest of decisions and the statutes relating to assignments are then given. The proper forms for all deeds respecting the whole or partial transfer of patent property, or its use under specified conditions, are exhibited in full. The work will be found a valuable addition to the literature of patent law.

Education (Wm. A. Mowry, publisher, Boston) for April contains a number of interesting papers on educational subjects. "The Relation of the Secondary School to the College," by Mr. Willard, offers several valuable suggestions regarding the adoption of a uniform standard for admission of students to colleges and the establishment of some degree of co-operation between these institutions and the preparatory schools. The development of the Amherst idea, as described in Mrs. Houghton's "Evolution of a College Republic," is of particular ethical interest. Dr. Lowrey also continues his discussion of the "Philosophical Phase of a System of Education." Current events are well presented in the editorial columns.

The Lidgerwood Manufacturing Company, whose works are in Brooklyn, N. Y., and who have salesrooms in both New York and Boston, have just issued a handsome illustrated catalogue of their hoisting engines, of which they make a great variety, and of their stationary and marine boilers and general steam fittings.

Messrs. Jones & Laughlins, of Pittsburgh, Pa., present a new illustrated catalogue of their cold rolled steel and iron shafting, couplings, pulleys, pulley stands, binder frames, jib frames, etc. In this connection are appropriately added Professor Thurston's conclusions as to the advantages of cold rolled iron and steel, with a list of shapes and sizes of iron and steel supplied cold rolled by the firm.

Messrs. Guild & Garrison, of Brooklyn, N. Y., describe some of the most important of their steam pumping machinery in a recently issued catalogue. Besides making pumps for almost every known industrial use, the firm also make air and gas blowers, high speed air compressors, etc.

## Special.

## ANOTHER HOUSEHOLD NECESSITY.

Mr. Wild, the Inventor of Linoleum, notes a Discovery as Valuable as his Own.

Fifteen or twenty years ago it was found that a floor-covering could be made, looking like oilcloth and lasting as long or longer, and yet without that coldness to the tread which is one of the peculiar characteristics of oilcloth. The new article was made of very finely ground particles of cork, mixed with linseed oil and other substances in mysterious ways which need not here and now be described. "Linoleum" was the name selected for it. At first it was put before the public on a very small scale. But its merits created a great demand for it, and it is now a household institution, both in this country and in England. At the head of the Linoleum business, in this country, is the well known house of Joseph Wild & Co., of 84 Worth St., New York.

The senior partner of this firm is Joseph Wild, Esq., a resident of South Brooklyn, and one of the most hearty looking gentlemen of his age anywhere to be seen. He is considerably over seventy, with snow white hair, erect form, and a very cheerful countenance. To look at him one would suppose he never had suffered a day's illness in his life. Yet there was a time when Mr. Wild was an invalid, worn by active attention to business, and seeming to be on the verge of total nervous prostration. Concerning his invalidity and his restoration to health, one of our correspondents recently had a little conversation with him at his store.

"They tell me you were considerably run down in health, Mr. Wild?"

"It is very true, sir. I was not bed-ridden, nor was I entirely laid aside from business, but I had given myself very closely to my business affairs, and my duties in connection with the church and some of the Baptist benevolent societies had weighed heavily upon me. A younger man than I might not have felt these burdens as I did, but at my time of life they began to make their mark on my constitution. I felt a lack of vitality, and realized that my nerve power was about to fail me. My appetite was not as it formerly had been, and my digestion was somewhat disordered. I needed, in fact, revitalization. About this time I heard of Compound Oxygen, and I made inquiry of Dr. Turner, in charge of the New York office of this remedy, to see if it could be applicable to me. Learning from him that others who had been run down as I was had been benefited by the Compound Oxygen, I procured a 'Home Treatment,' with considerable doubt as to whether or not it would do me any good. This was about two years ago. Since that time I have been taking Compound Oxygen, not all the time, but frequently at intervals, when I have felt the need of it."

"Then you received decided benefit from it at the outset?"

"Very soon after I began to inhale I found that I was receiving new strength. And I was glad to note that it was real strength, and not a mere stimulus. I noted also the steadiness of my improvement. There was no falling back, but a constant and reliable advance. Daily I could feel an increase of vitality. My spirits were better and my power of action was greater. I was able to attend to my business and to all my other duties with far less strain on me than I had for some time previously experienced."

"And so you now find yourself as well as ever, and beyond the necessity of medicine?"

"For a man of my years I am as hearty and vigorous as I can expect. I am free from disease and pain, and am attending to as much detail of business as if I were only fifty years old. As to medicine, I have no use for it, drug medicine I mean. I do not call this Oxygen exactly a medicine; certainly not in the sense that drugs are medicinal. I regard it as a wonderful vitalizer and invigorator. And it is as such that I even now occasionally resort to it when I feel the need. I keep it in the house and intend to continue doing so."

To the many gentlemen of advancing years who are overworked and weary, and who feel themselves in need of revitalization, Compound Oxygen is, as in Mr. Wild's case, a valuable helper. Thelate T. S. Arthur, of Philadelphia, was brought almost from the grave by this means when he was quite an old man, and by it his life was prolonged for a number of years. The Hon. Wm. D. Kelley, of Philadelphia, who is beyond seventy, attributes to Compound Oxygen his recovery from what had been pronounced a fatal disease. He still uses the Oxygen as a vitalizer, and is in vigorous condition, attending to his legal and congressional duties as actively as if of old.

For a valuable treatise on what Compound Oxygen is and what it does, write to Drs. STARKEY & PALEN, 1523 Arch Street, Philadelphia. The treatise will be mailed free of charge.

## Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

Carbon Plates. Bowe, 26 Harmon St., Jersey City, N. J.

For Sale—2d hand Daniels Planer (24 in. wide, with 15 ft. carriage), just put in thorough repair. Price \$150 (a bargain). Address Witherby, Rugg & Richardson, Worcester, Mass.

For Sale—Patent for Keyless Combination Alarm Door or Drawer Lock.—T. Mabbett, Jr., 130 Dock Street, Philadelphia, Pa.

Wanted—A mechanical engineer of experience to take charge of the mechanical department of our shops. Address, with references, U. S. Cotton Harvester Co., Room 68, Cotton Ex. Building, New York City.

Wanted—An experienced foreman for a machine shop in the West, employing an average of 50 hands; must be thoroughly conversant with engine practice and general machine work, with experience in the economical management of men. Give reference and salary expected. Address "J. M. H.," P. O. Box 773, New York.

Send to the Railroad Gazette, 73 Broadway, New York, for a catalogue of Locomotive, Track, and other railroad books.

Emery Wheels of unusually superior quality for wet grinding. The Tanite Co., Stroudsburg, Monroe Co., Pa. Guild & Garrison's Steam Pump Works, Brooklyn, N. Y. Pumps for liquids, air, and gases. New catalogue now ready.

Wanted—To correspond with a practical door, sash, and blind maker; one who would be fully competent to take full charge of a factory and could give correct estimate of machinery needed, cost of manufacture, probable demand and margin. One that could take an interest would be preferred. Address Mr. H. H. Durkee, 43 Broad St., New York.