

## ENGINEERING INVENTIONS.

A balanced slide valve has been patented by Mr. William G. Smith, of New York city. Steel plates are interposed between the tops of the parts of the valve and the tops of the valve boxes, so arranged as to protect the top of the valve from steam pressure, the wear being taken up automatically, and the friction being lessened.

A railway joint and nut lock has been patented by Mr. William M. Jenkins, of Defiance, Iowa. The invention provides means for locking nuts upon bolts used at rail joints, and at the same time hold the fish plates against the webs of the rails with yielding pressure, thus making a yielding joint, but so the nuts cannot turn of their own accord upon the bolts.

A car coupling has been patented by Mr. Thomas E. Buckman, of Jacksonville, Fla. This invention covers a coupling which operates automatically to couple cars and then lock the coupling, while, when they are to be uncoupled, a hand lever, which extends to the side of the car, may be swung into position to effect this, and locked.

## MECHANICAL INVENTIONS.

An adjustable nut bearing has been patented by Mr. George Edmonds, of Brooklyn, N. Y. The invention provides for such special construction of nut bearings that the wear can be taken up and rattling prevented, preventing the more expensive parts of the bearings from wearing out, and especially adapted for drop-stay coupling, king bolts, top props, axles, cocks, faucets, etc.

## AGRICULTURAL INVENTIONS.

A horse hay fork has been patented by Mr. Joseph S. Gochner, of Abbottstown, Pa. The object of this invention is to improve the construction of horse hay forks hitherto patented in such manner as to make them more convenient and reliable.

A grain measuring machine has been patented by Messrs. Joseph and Andrew Nafziger, of Hopedale, Ill. This invention covers a novel construction of measuring device for grain, adapted to be attached to and operated from the separator of a thrashing machine for automatically measuring the grain as it is thrashed.

A combined cotton scraper and chopper has been patented by Mr. Columbus J. Morrison, of Hawthorn, Fla. This invention covers a special combination and arrangement of parts to facilitate the scraping and chopping of cotton plants in bringing them to a stand, and one which is effective to shave or scrape off the top soil and the grass and weeds, and reduce the row of plants to the desired width.

## MISCELLANEOUS INVENTIONS.

An envelope opener and paper cutter has been patented by Mr. Charles E. Hochstetter, of Kansas City, Mo. This is a simple device, of novel form, suitable to carry in the vest pocket, or for use at a desk.

A pin tag has been patented by Mr. Oscar J. Cohn, of New York city. This is a cheap, practical, and durable fastener, made of one piece of wire, but having two points, for attaching and holding tags to goods.

A weather board gauge has been patented by Mr. Dwight H. Finch, of Aurelia, Iowa. This is a simple and easily worked device of novel construction, to facilitate the operation of weather boarding buildings.

A bobbin winder for sewing machines has been patented by Mr. Henry M. Dixon, of New York city. This invention facilitates the winding of bobbins and provides a mechanism for cutting the thread automatically when the bobbins are filled.

A device for attaching and detaching horses has been patented by Mr. Cicero C. Ferrill, of Shubuta, Miss. It is intended, by this invention, to make it possible to dispense with the ordinary harness except collar and a pair of hames.

A back strap check hook for harness has been patented by Mr. William M. Wilson, of Shippenville, Pa. This invention consists in providing the back strap with a check hook for holding the check rein, and combining the check hook with the back strap buckle.

A clasp for traveling bags has been patented by Mr. William J. Large, of Brooklyn, N. Y. This invention consists of a spring clasp made of a single piece of metal, with suitable stops or detents for holding the clasp in open and closed position.

A padlock has been patented by Mr. Chas. W. Judson, of Terryville, Conn. It is made in a way not likely to get out of order, is economical, and calculated to afford much greater security than locks of this character heretofore used.

An end cap for paper rolls has been patented by Mr. Frederick W. Dunnell, of Tompkinsville, N. Y. It is a sheet metal cylindrical band, with an inwardly projecting scalloped edge, and with an end fastening to adapt it to be applied to the end of a paper roll.

A paper perforating device has been patented by Mr. Cortland Carlton, of Kalamazoo, Mich. This invention covers novel features of construction in perforating or cutting devices for separating or partially separating paper at the time of printing.

A process for rendering goods and fabrics waterproof has been patented by Mr. Robert S. Forbes, of New York city. The articles are soaked in a water-proofing solution, dried, and then steamed, whereby the solution is fixed on the fibers and the odor thereof removed.

An adjustable shade hanger has been patented by Mr. Julius Wagner, of Silver City, N. Mex. In combination with a rack is a sliding block or carrier, with a pawl for locking it in place, and the shade roller is journaled in two carriers held on racks in opposite sides of the window frame.

A quilting attachment for sewing machines has been patented by Messrs. George O. Houck and

Charles Smith, of Springfield, O. This invention provides a new and improved frame for supporting, holding, and adjusting the material to be quilted on a sewing machine.

A folding bathing cabinet has been patented by Mr. Robert A. Horning, of Lanark, Ill. It is made of a folding sack or tube attached to a base board with a perforated sprinkling tube at its upper edge, and can be held raised by lazy tongs, which can be locked in position.

An ale pump and ice box has been patented by Mr. William Gardner, of New York city. This is a simple and economical combination arrangement for best utilizing space and getting all the frigorific effect of the ice in cooling ale, keeping kegs of beer, and such other things as may be desired.

A tag fastener has been patented by Mr. George N. Buck, of Mattoon, Ill. This invention relates to an improvement in the form of tag fastener patented by the same inventor last year, the loop being arranged longitudinally with the plane of the prongs, with other modifications in construction.

A carpet stretcher has been patented by Mr. Russell F. Truslow, of Huntington, Tenn. A cam is so made to work on a baseboard lying on the carpet as to extend from itself an arm in which are pins or studs that press into and take hold of the carpet, to stretch it as the cam is turned.

A boot or shoe sole has been patented by Mr. Aaron J. Mott, of Fulton, Kansas. This sole contemplates the use of a metal shank which also extends back for a heel base, and on which a leather heel is fastened, the shank having a scarfed front edge and a hole in the center of the heel base.

A folding cash box has been patented by Mr. Benjamin C. Foster, of Baltimore, Md. It is made in a number of divisions, hinged together and adapted to be folded one upon another, the several boxes being equal in size and depth, and capable of being so folded together that one shall rest horizontally upon another.

A dumping boat has been patented by Mr. Michael S. Coleman, of New York city. It has flat top and bottom, with upper and lower air and water tight compartments on one side, with stern openings closed by lever operated gates, the latter of which can be readily opened and closed, as the boat is turned over for dumping, or held in its upright state with a load.

An oiler has been patented by Mr. Andrew J. Spicer, of Portland, Oregon. The nozzle pipe is made separately from the can, and fitted to slide freely in a stuffing box therein, when, pressed in, being normally held out by a spring around it, thus making it easier with a flexible bottom to force out thick or sluggish oil.

A windmill has been patented by Mr. James B. Foster, of Parsons, Kansas. This is a combined windmill with pumping and automatic starting and stopping apparatus, to set the wheel in motion when the water is low, and stop it when the tank is full, the fans being turned edgewise to the wind, or sidewise, by very simple means.

A cuff fastener and adjuster has been patented by Mr. Theodore B. Wilson, of Whitewater, Wis. The invention consists of a strip with a shallow right angled bend at one end and a clasp at the other, the clasp to attach the cuff to the sleeve, while the opposite or bent end of the strip is passed through both button holes of the cuff.

A bobbin winder has been patented by Mr. George W. Clapp, of Alleman, N. C. A knife edge of the traversing guide bears on the bobbin, and a tension device on the guide, through which the thread passes with sufficient tension to cause the knife edge to bear on the bobbin, so that thus any size of thread will be automatically guided.

A speed clock for machinery has been patented by Mr. William H. Lord, of New York city. The object is to provide a means for showing the loss or gain in speed of machinery, the clock having a third hand connected by a shaft and gearing with the machinery, and a clock work with two hands, one revolving once an hour and the other once in sixty hours.

A type writing machine has been patented by Mr. Emil J. Hall, of Alexandria, Mo. This invention consists of certain improvements on a type writing machine patented in 1881, by which accidents to the machine cannot so readily happen, even in the hands of careless persons, and the carriage has an automatic catch to secure it in position when raised.

A vehicle wheel has been patented by Mr. Lyman A. Powers, of Bloomington, Wis. This invention consists in certain improvements in the construction of wheels in which the spokes are secured at their inner ends between correspondingly notched hub plates, etc., making a wheel that is light, strong, and durable, for carriages, wagons, and buggies.

A clock has been patented by Mr. Sainteme Diolot, of New York city. Visible hands are dispensed with, and movable figures used instead; there are magnets on the ends of the hands, behind the dial, on which are butterflies or other figures of magnetic material, carried over the dial by the action of the magnets, so the figures indicate the time by their positions on the dial.

A saw jointer has been patented by Mr. Hyman D. Wolcott, of Wright's, Pa. A file holding plate is adapted with a clamp to attach a file, to hold the latter in front of the teeth of a circular saw, the plate being connected to a supporting stock and having an adjusting screw, so the file may be set up to the points of the teeth of the saw, which may be dressed off by running against the file.

An improved horse collar has been patented by Mr. Charles Kiper, of Atchison, Kansas. The rim or front roll of the collar is formed with a throat section made in one piece with the leather of the rim, and bent over and around the lower ends of the shoulder pads, being secured by the same row of stitching that fastens the rim to the shoulder pads, being designed to secure flexibility and make the throat light and strong.

A wagon running gear has been patented by Mr. William H. Fanning, of Lapeer, Mich. Upright frames from the sand boards connect with the axles by

braces to support the body, and to the front upright frames are attached platform bars with a plate on their lower sides strengthened by inclined braces, with other features designed to promote convenience and safety in using wagons on farms and rough roads.

A potato parer has been patented by Mr. Gaspar A. Betancourt, of New York city. This invention consists of a closed vessel in which oblate spherical cups, fitting together, are revolved in opposite directions, said vessels having on their inner surfaces numerous projecting burrs, which quickly remove the skins from the potatoes as the latter are tumbled against the burrs by the revolving motion.

An electric bell and annunciator has been patented by Mr. John D. Gilchrist, of Ishpeming, Mich. Combined with the bell is a pointer or dial connected with a weighted block, a lever for locking the pointer in place, and an arm projecting from the armature and adapted to disengage the locking lever from the block, to permit it to swing the pointer so as to show the bell has been sounded.

A robe holder for vehicles has been patented by Mr. George H. Chappell, of Huron, Dakota Ter. The invention consists of an attachment to a sleigh or carriage of presser arms or levers to press the lap robes on the seat by the side of the rider, and also on the bottom of the body of the vehicle by the sides of his feet and legs, to save the rider the trouble of holding them, and increase the comfort of those in the vehicle.

A trunk has been patented by Mr. Edwin Wilson, of Brooklyn, N. Y. The invention relates to means of uniting the top and body of a trunk, and consists in a double balance, one-half secured to the top and the other to the body of the trunk, the two sections being united by a hinge extending the length of the trunk, and so made that when the trunk is closed the two sections enter one within the other, with other special features.

The making of artificial blocks, stones, etc., forms the subject of a patent issued to Mr. Louis Rosenthal, of Frankfurt-on-the-Main, Germany. By special combinations and a particular process, using high pressures, stone may be made, by this invention, similar to natural lithographic stone; it does not absorb water, can be polished, requires no treatment in regard to the application of colors, and can be moulded in different shapes.

A fire escape has been patented by Mr. Charles R. S. Curtis, of Quincy, Ill. A carriage is suspended from a drum arranged upon a shaft journaled in the upper part of a building, combined with a piston working in an air cylinder and connected to a drum on the shaft, the connecting ropes of the carriage and piston being wound in opposite directions on the arms, and the cylinder with stop cocks in its upper and lower parts. Lever cams, governed by springs, hold the carriage against guide posts, and regulate its descent.

A side bar vehicle has been patented by Mr. Jackson Taylor, of Newberry, S. C. Two springs are combined in one for each end of the wagon, the individual springs being attached at one end to the rockers of the body, and extended nearly to the other rocker, where they are doubled back and extended in a suitable curve to the side bars on the same side of the body that the upper ends are connected to, the horizontal portions of the springs being clamped together to stay each other.

## NEW BOOKS AND PUBLICATIONS.

THE ART OF ORATORY, DELSARTE SYSTEM. From the French of M. L'Abbe Delamoune and Madame Angelique Arnaud. By Francois Delsarte. Edgar S. Werner, Albany, N. Y.

Delsarte's reputation as a teacher of elocution and oratory, from about 1830 to the time of his death, in 1871, was probably unequalled by that of any other professor of modern times in the same department. He taught Madame Sontag and Rachel, and his ideas of aesthetic oratory were, for a third of a century, the guiding lights of criticism in the most critical capital of Europe. The author in this volume gives us a clearly arranged abstract of the system of Delsarte which cannot fail to be of great value to all readers or speakers ambitious of attaining a high degree of excellence.

A HISTORY OF ELECTRIC TELEGRAPHY, TO THE YEAR 1837. By J. J. Fahie. E. & F. N. Spon, New York and London.

It is only investigators of really solid attainments who are aware how much of a history there is in the long line of research and experiment, before the actual success of the telegraph came as a veritable surprise on the world. To point out the facts in relation thereto, to give due credit to many whose labors have hitherto had but scant recognition, is the leading idea of this volume, whose author, an experienced telegrapher in the British India service, has been for years hunting up the facts and comparing data with a keenness of scent like that of an enthusiastic bibliophile hunting for some rare old print. He hopes to "give the coup de grace to many popular errors," and gives authorities to show that "Watson, Franklin, Cavendish, and Volta did not first suggest electric telegraphs; that Galvani was not the first to observe the fundamental phenomenon of what we now call galvanism; that not Daniell, but Dobereiner and Becquerel first employed two fluid cells with membranous or porous partitions; that not Schilling, but Salva first suggested a submarine cable;" with many other statements calculated to attract wide attention in the electrical world.

The catalogue of practical and scientific books published by Henry Carey Baird & Co., of Philadelphia, cannot fail to be of great convenience to any intending purchaser wishing to obtain text books on industrial subjects. It is indexed topically and by authors' names, and for many of the works abstracts of the contents are given. The intelligent and ambitious mechanic of these days, in whatever trade he may undertake, has it in his power to obtain a wonderful amount of assistance from such books as Messrs. Henry Carey Baird & Co. have for several years made a leading specialty, both as publishers and importers.

## Business and Personal.

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If an invention has not been patented in the United States for more than one year, it may still be patented in Canada. Cost for Canadian patent, \$40. Various other foreign patents may also be obtained. For instructions address Munn & Co., SCIENTIFIC AMERICAN Patent Agency, 361 Broadway, New York.

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Curtis Pressure Regulator and Steam Trap. See p. 286.

Woodwork'g Mach'y. Rollstone Mach. Co. Adv., p. 286.

C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 286.

Drop Forgings. Billings & Spencer Co., Hartford, Conn.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 301.

Stephen's Vises. Special size for amateurs. See p. 301.

Munson's Improved Portable Mills, Utica, N. Y.

We are sole manufacturers of the Fibrous Asbestos Removable Pipe and Boiler Coverings. We make pure asbestos goods of all kinds. The Chalmers-Spence Co., 419 East 8th Street, New York.

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The Porter-Allen High Speed Steam Engine. Southwark Foundry & Mach. Co., 430 Washington Ave., Phil.Pa.

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