

## RECENTLY PATENTED INVENTIONS.

## Engineering.

**ELEVATED RAILWAY STRUCTURE.**—David D. Toal, New York City. A structure combining lightness with strength has been devised by this inventor, a series of arches instead of straight supports being used, and the structure being designed not to interfere materially with the light of stores and dwellings. The sound is deadened by laying the rails upon a lead bed, and there is a lead cushion in their under-flanged surfaces, the cushions being virtually an integral portion of the rails. The abutting ends of the rails are made with interlocking ends or tongues, and instead of the usual spikes, bolts are employed for attaching the rails to the track beams or sleepers, all the parts being of metal. It is also designed that the body of the car shall have a lead casing to deaden the sound.

## Railway Appliances.

**CAR FENDER.**—Montgomery Queen, Brooklyn, N. Y. According to this invention the car platform is extended forwardly beyond the dashboard by sills, and the fender, which is preferably made of sheet iron, extends over the space beneath the platform and forward of the steps, shielding the latter from striking an obstruction. The front of the fender is made on the arc of a circle, but it is pointed at its forward central surface, the design being to throw to one side anything in the path of a moving car. By means of links and a drum mounted on the platform the fender is readily raised, being readily dropped to lower position by the movement of a lever, springs assisting its downward movement. The invention also provides for the employment of side fenders to prevent persons falling or being drawn under the car.

**CAR FENDER.**—Prentis E. Law, Santa Barbara, Cal. This improvement consists of a truck frame in front of the car and movable along the track, being adapted for lateral and vertical movement to accommodate itself to curves and inequalities, and the truck frame carrying a fender adapted to move obstructions to one side out of the path of a moving car. On the front of the fender is a buffer whose front face is inclined and normally held pressed forward by springs, and on contact with an obstruction the buffer is moved rearward and down close upon the track, breaking the force of the blow and moving the obstruction sidewise off the track.

**CAR TRUCK BEARING.**—William J. O'Byrne, Pontonsuc, Ill. This bearing consists of two plates adapted to be connected by bolts to the adjacent faces of the body bolster and swing beam, the plates being made cup-shaped to form small, oscillating tables with a circular retaining marginal flange, where a large metal ball is placed and is free to roll in all directions, forming a sensitive bearing between the body bolster and swing beam at each end, allowing the trucks to readily adjust and readjust themselves in all directions. As the table surfaces are flat, and the ball is not retained to any curve, the lateral swaying or lunging of the car body on curves is readily provided for.

## Electrical.

**OUTLET BOX FOR ELECTRIC WIRES.**—Charles A. Mezger, Brooklyn, N. Y. Two patents have been granted this inventor for outlet boxes for electrical conductors and conduits, to take the place of the old form of outlet boxes, in which the box was formed with the openings to suit the particular location of the conductor or conduit, the improvement allowing an opening or openings to be readily produced at the requisite point. The box is made in two main parts or sections, joined together edgewise, and it has a number of partly or wholly completed openings in its sides and bottom wall, or a readily removable plate covers each opening, the box having openings at all convenient points. The patented devices afford convenient and reliable means for receiving and supporting the ends of electric wire conduits in wiring buildings, avoiding the necessity of providing a special box for each location, and permitting the boxes to be ordered in any required number previous to the commencement of the work. All the boxes may thus be placed in position before the plastering is commenced. These boxes are also well adapted to be placed in places formed to receive them in the finished walls of a building.

**SECONDARY ELECTRIC CLOCK.**—Jasper H. Wilson, Rockwood, Tenn. This invention is for a clock to be operated by an electric motor, and comprising a circuit closer within another clock, the improvement calling for but few operative parts, whereby the clock is not liable to get out of order, and may be cheaply made. Any desired number of clocks may be located in a single circuit controlled by one circuit closer, the invention being particularly adapted for use in railway stations, factories, etc. All of the clocks in a circuit are under the control of the clock in which the circuit closer is located, so that there can be no variation of the several clocks as to time.

**ELECTRIC BLASTING MACHINE.**—James Macbeth, Brooklyn, N. Y. This invention provides a simple and effective machine for electrically igniting charges of explosives, the invention consisting in a dynamo electric machine mounted in a case, with the axis of its armature vertical, while combined with the armature are a propelling screw and a sliding nut. A device is provided for detaching the propelling mechanism, so that the armature may revolve by its own momentum, and there is an automatic circuit breaking mechanism. By the improved construction cog gearing and springs are avoided, and the necessary impetus is given to the armature by a simple push of the handle, interrupting the short circuit and allowing the self-induced current to flow out through the conductors connected with the binding posts, thus igniting the fuse charge.

## Mechanical.

**BEVELING MACHINE.**—Henry M. Loud, Anable, Mich. For quickly and accurately forming bevels at the ends of pieces of wood intended for bicycle

rims, and for other similar work, this inventor has devised a machine in which is a revoluble cutter in combination with a slidable table, there being pivoted on the table a rest on which is adapted to rest the piece of wood to be beveled. The machine is of very simple and durable construction, and accurately forms the desired bevel on the wood, so that the beveled ends may be readily overlapped in forming bicycle rims and like articles.

**ENGRAVER'S BLOCK.**—Henry Straw, Garner, Iowa. For firmly clamping and holding articles to be engraved, this inventor has devised a simple tool that may be easily and quickly adjusted and adapted to the work in hand, comprising clamping blocks which rotate on substantially horizontal axes, and have on their several faces means to receive and hold the articles to be engraved. The block consists of a base with upwardly extended portion in which are the trunnion bearings of a ring, while a bed piece has trunnion bearings in the ring at right angles to the ring trunnions, a spring providing a yielding anchor for the trunnion parts.

## Agricultural.

**CORN PLANTER ATTACHMENT.**—Alfred J. Thomas, Carbondale, Kansas. This is a simple and inexpensive improvement adapted for use as a check-row marker and fertilizer dropper, the marking being effected by dropping the fertilizer, such as lime, plaster, etc., on the hills. The fertilizer is contained in a box carried on a frame attached to the axle of the planter, the box being behind the dropping devices and leaving an opening in its lower part. The opening is controlled by a valve arranged to be operated from the moving parts of the planter to drop the fertilizer on each hill, or on alternate hills, as desired.

**SIEVE HOLDER.**—Jefferson Tollefson, St. Ansgar, Iowa. The sieve holder and its sieves designed by this inventor are adapted for thrashing machines, etc., the tailboard being adjustable with the top sieve and the tailings sieve forming a part of and being adjustable in combination with the top separating sieve, the combined upper sieve being adjustable with the tailboard, and dispensing with the loose tailboard and tail rack ordinarily used. The adjusting devices are so connected with the sieves that the upper and under sieves are operated from different centers, the upper sieves being adjustable independent of the under sieves, and different sieves moving during adjustment to different planes.

## Miscellaneous.

**SCALE BEAM.**—Gaylord C. Worcester, Rulo, Neb. According to this invention a detachable beam is arranged parallel to the main scale beam and graduated with several horizontal series of marks for different commodities, and figured reversely to the main beam, there being a separate poise, screw stem, balance weight and hanger for the detachable beam. The scale is for use in weighing commodities where a second or tare weight is to be deducted from the first weight, the net weight being immediately indicated as soon as the tare is placed on the scale platform. The net weight is indicated both in net pounds and in bushels and fractions of a bushel, of any given weight per bushel, without any mathematical calculation.

**HAT CLEANING MACHINE.**—Conrad S. Schwarz, Philadelphia, Pa. A simple and easily operated machine to facilitate the cleaning of men's hats has been devised by this inventor, the machine being designed to be a great convenience in public places, as hotels, barber shops, hat stores, etc. In a table of light construction, similar to that of a sewing machine, a treadle is arranged to rotate a friction disk on the lower end of a vertical shaft which carries at its upper end a hat carrier adapted to fit and readily conform to the inside of a hat crown. The hat is placed on this carrier, which is set in rapid motion by operating the treadle, and by holding a cloth or suitable brush on the hat it will be thoroughly cleaned and brightened.

**EYEGLASSES.**—Franz Heilborn, Breslau, Germany. According to this improvement a perforated plate, preferably of thin sheet glass or German silver, is pivoted or hinged to the margin of the glass proper, and adapted to be swung clear of or against either the front or the rear side of the glass, the plate having a series of fine holes. The holes are preferably in concentric or radiating series, and need not be of equal sizes or distances apart. The improvement is designed to enable persons with strong myopia to read with weak glasses at a distance of about a foot, while those suffering from primary irregular astigmatism may read at the same distance without glasses.

**RECEPTACLE FOR MUCILAGE, ETC.**—Walter D. Gregory, Newark, N. J. For mucilage, blacking, etc., to be applied with a brush or swab, this invention provides a receptacle and a brush or swab designed to be always pliable and ready for use, and yet free from excess of liquid when not in use. The bottle or receptacle has an aperture cover through which a tubular handle of the brush projects, the brush or swab having one or more openings establishing communication between its outer or delivery end and its inner or receiving end. A cap covers the brush end projecting from the bottle when the device is not in use.

**COMB.**—Heinrich Traun, Hamburg, Germany. This invention provides a device for protecting the teeth of a comb, the device being formed by a bow which is rotatable, and arranged on the comb in such a manner that in one position it allows the free use of the comb, while in another position the teeth are protected against hooking in and breaking when the comb is put into a case. The comb and its protecting bow are preferably manufactured by one pressure, and the protecting bow may be applied to any kind of comb.

**CUSPIDOR.**—George A. Wolff, Lafayette W. Johnson, and James F. Wallace, Winslow, Arizona. This improvement is especially adapted for use in palace cars, coaches, club rooms, etc., its construction being such that when not in use it will be entirely concealed, but its gate or door will be opened by the pressure of the foot upon a knob, the cover automatically restoring itself to normal position after having been carried to one side.

**FENCE STAY.**—John S. Martin, Baughman, Ohio. In a fence formed of running wires, the uppermost and lowermost wires are formed with kinks bent inwardly toward the center of the fence, and these wires are connected with each other and with the other fence wires by links, thus retaining the fence wires at spaced distances apart, and allowing a limited amount of elasticity at the interlocked connections of the links with each other and with the fence wires.

**PORTABLE WIRE FENCE.**—James W. Hammett, Eureka, West Virginia. This invention contemplates the providing of permanent anchors about three feet underground at the corners or intersections of the fence, the anchor parts being left in the ground, so that the fence may be readily returned to its original position after it has been taken down and moved to another point. The fence strands are preferably formed in sections, the wires being secured by stays and strut braces, and a gate panel is made like any other section except that it has a bare board and a wire strut brace.

**MANUFACTURE OF GLASS JARS.**—Anthony Kribs, Brooklyn, N. Y. This invention provides a method whereby the mouth and neck of the article is moulded, and the body is blown in a mould. When the mouth and neck are moulded in the form of a cup, a lump of molten glass is placed in the cup to melt its bottom and sides, and the filled cup is inserted in the body mould and blown to form the body of the article from the mouth and neck.

**TEMPORARY BINDER.**—James A. Roberts, Chicago, Ill. This is a binder in which the sections may be conveniently adjusted to suit the work to be held. It has two sections, from one of which two rods project, the other section being slidable on these rods; the latter section has two clamping arms connected to operate as toggle links, and adapted to engage the rods and bind them against the section on which the arms are carried.

**HEATING AND VENTILATING STOVE.**—John D. Barrier, Mount Pleasant, N. C. This stove has double walls surrounding the fire pot, and the outlet for the discharge of the products of combustion is surrounded by a drum connected at its lower end to the space between the double walls, the upper end of the drum communicating with the air of the room and having a damper. A hot air tube extends across the fire pot and is adapted to draw air from the room. The construction is simple and inexpensive, and is designed not only to heat but to purify the air of a room.

**SEWING MACHINE RIPPER ATTACHMENT.**—Francis M. Batchelor, Portland, Oregon. This device is provided with a knife sliding in a slot in the apex of a peak-shaped rest secured on the top of a table resting on a sewing machine table. The knife has a straight cutting edge, parallel to which is a slot engaging a guide, and a vertically reciprocating motion is given to the knife when the needle bar is set in motion, the material advanced on the apex of the rest being then ripped or cut.

**FLOORING.**—Thomas Cantwell, New York City. This invention relates to hardwood or in-laid flooring, and provides for its being readily secured in place so that it will not be liable to warp. The boards have on the side a rabbet for forming a bottom flange having a transverse slot, a clamping iron passing with part of its body into the slot, while an arm extending from the body is adapted to be bent down over the board flange. No fastening devices are visible on the surface of the flooring, and the flooring boards are drawn very firmly down upon their supports, being effectively prevented from warping and longitudinal shifting.

**PENCIL SHARPENER.**—Henry M. Dixon, Brooklyn, N. Y. This sharpener consists of a group of knives held together by an elastic sleeve binding, the fastener being held in a tube or the barrel in which the end of the pencil is to be placed, which may also be provided with an eraser. The sharpener is reversible, and the knives are grouped together to receive the point of the pencil between them, when a quick and proper sharpening of the point of the lead may be made.

**BICYCLE RIDING HABIT.**—Max Diamond, Brooklyn, N. Y. This is a ladies' habit which combines skirt, trousers and leggings in one garment. The skirt and trousers are connected together at the waistband and have a divided body at the rear, where plaits extend from top to bottom of the skirt, the trousers forming an integral part of the inner edges of the plaits. The garment permits the wearer to easily mount and dismount a bicycle, the skirt not hindering the free movement of the limbs, and the garment hangs gracefully when used as an ordinary walking skirt.

**SPROCKET CHAIN AND WHEEL.**—James and Herbert Monks, Hartford, Conn. This improvement is especially designed for bicycles, the chain and wheel being designed to move with a minimum of friction, and the chain firmly engaging the wheel. On each pivot of the chain, and between the ends of each pair of links, are bearings, alternately arranged, one being substantially spherical and the other formed of two concentric rings, both bearings being designed to roll slightly on the face of the sprocket wheel.

**SUSPENDERS.**—Charles G. Mathews, Athens, Ohio. This invention consists principally of a clasp having two pivoted arms provided with spring jaws on their inner faces, the jaws being adapted to firmly engage and press the material between them. Suspenders provided with the improvement are adapted to conveniently engage and support trousers and drawers, and the suspender ends may be readily attached to the trousers when a button is torn off.

**A NON-REFILLABLE BOTTLE.**—William Laudahn, Port Angeles, Wash. This bottle has an auxiliary neck connected with the usual neck by a thin and easily breakable portion, the top being broken off when the bottle is to be emptied, and thus preventing the refilling and selling of the bottle as an original package. The stopper in the auxiliary neck supports a plate carrying a spring pressed pin, and a locking disk adapted to be locked with the neck has a recess receiving the pin, rendering it impossible to obtain access to the contents of the bottle without breaking off this top.

**LAP BOARD.**—Sophia M. Rivers, New York City. To facilitate basting and similar work, this board is made substantially in the form of a cylinder, with a cut-out portion adapting it to be conveniently held upon the lap, its inner surface being covered with some fabric or formed with ribs or corrugations. The outer face of the board is also adapted to secure a pattern upon to facilitate cutting out waists and similar garments.

**ALE PUMP.**—George R. and Hermann H. Neumann, New York City. In this pump an inverted U yoke is rigidly connected with the piston rod and a larger yoke embraces the other, their ends being pivotally connected together, while a lever mechanism is flexibly connected with the large yoke to reciprocate the piston rod. With this improvement the pump may be placed in any desired position or at any angle, and the piston rod operated without binding in the pump cylinder, no matter in what position the lever or equivalent operative device may be located.

**MECHANICAL THEATER.**—Thomas B. Thorndyke, New York City. This is a coin-operated machine, the casing representing a miniature theater building, in which is an automatically rising and falling curtain, dancing figures, music, etc., one or more figures being adapted to be moved from the wings of a miniature stage upon a movable platform on the stage floor, to cause the figures to dance upon setting the platform in motion. The dropping of a coin into a coin chute causes the unlocking of a motor, preferably in the form of clockwork, which actuates the mechanism for manipulating the dancing figures, the platform, the curtain and other parts, as well as a music box.

**PREPARING DENTISTS' GOLD.**—Chauncey A. Flower, New Bethlehem, Pa. Two patents have been granted this inventor for preparing gold which is especially adapted to weld or cohere into a solid filling without the use of a mallet, forming beautiful, tenacious and durable contours. The gold is heated nearly to the melting point to establish its granular form, then suddenly cooled to expand the granules and render the gold soft and cohesive, then again subjected to a heat of about 220° Fah. and gradually cooled, then again heated to 350° to 550° Fah., held at that temperature for a few minutes, and allowed to cool. One of the patents provides for plunging the gold after it comes from the annealing or tempering furnace into a bath of water charged with electricity, whereby the gold is not only changed physically by the chilling effect but it is designed that the polarity of the bath shall aid the particles in assuming the form and relation best adapted to coherence, the surface being also kept clean and bright.

**MEAT BLOCK AND CHOPPING BOWL.**—David H. Brannen, Fort Scott, Kansas. This block is flat on one side and concave on the other, and has legs pivoted near one edge, and reversible to project below the block when in one position but not in the other. The device may also be used as a bread board, dough raiser, etc., and may serve as a stand or table for supporting heavy articles.

**PLAITING MACHINE.**—Bruno Kippels and William Zeller, Moorhead, Minn. This invention relates to a machine for forming coils such as used for neckwear by the Benedictine Sisters, the machine being a simple and inexpensive one, easily worked and effectively serving its purpose. The machine has a glass covered table over which a presser plate is held in which are slots accommodating the shanks of plungers detachably fastened to a plaiting blade. The blade is manipulated by means of handles, being raised from the fabric, pulled forward and lowered to engage the muslin or other thin goods at a point in advance of the last plait, the shoving rearward of the blade forming another plait.

## Designs.

**SPROCKET WHEEL.**—Oscar F. Burton, Belleville, N. J. This design consists of two concentric toothed rings, one of less diameter than the other, the two rings being so close together as to appear integral. The larger rim only is connected with the hub center.

**HASSOCK.**—William B. Shaw, Brooklyn, N. Y. The top of this hassock is of stellated form, the sides being also correspondingly shaped, and having undulations closely following the edges of the top of the hassock, while at opposite sides tabs appear extending from the top.

**NOTE.**—Copies of any of the above patents will be furnished by Munn & Co., for 10 cents each. Please send name of the patentee, title of invention, and date of this paper.

## NEW BOOKS AND PUBLICATIONS.

**F. BERGER'S FRENCH METHOD.** By Francois Berger. Paris, France; F. Berger. London; D. Scott. New York; F. Berger. Pp. 158. Price 75 cents.

Professor Berger has very excellent ideas as to how French should be studied, and the following work embodies them. We believe that it will facilitate very much the learning of the French language, and the method he advises seems to be a most excellent one.

**MODERN METHODS OF SEWAGE DISPOSAL.** For towns, public institutions and isolated houses. By George E. Waring. Second edition, revised. New York: D. Van Nostrand Company. London: Sampson Low, Marston & Company, Limited. 1896. Pp. 253. Price \$2.

Mr. Waring has done such excellent work in the practical work of sewage disposal that everything relating thereto coming from his pen will be received with much appreciation. The title page shows the scope of the work, as referring particularly to a smaller class of disposal plants. A most exhaustive index gives quick reference to all the matters in the book and by its title shows how excellently selected has been the field covered by this book. Its illustrations and the printing and general make up are beyond criticism.