

**ENGINEERING INVENTIONS.**

A glass tube for water gauges has been patented by Mr. Auguste Guilbert-Martin, of St. Denis, France. It has a longitudinal colored strip or strips on a white or bright strip, the colored strip being arranged nearer the inner surface of the tube than the white or bright strip, whereby the upper end of the column of liquid can be more easily distinguished.

A track and wheel cleaning and lubricating device has been patented by Mr. Francis G. Tuttle, of Portland, Ore. It is intended to be operated by the ordinary locomotive injector, combining with a pipe leading therefrom a series of pipes leading to the front and rear of the locomotive, having nozzles for discharging hot water upon the track, and jets of water upon the drive wheels.

A car truck has been patented by Mr. Arthur M. Wellington, of New York city. This invention covers a check chain so made and applied as to absolutely prevent the swiveling of the truck through a greater angle than is necessary to enable the car to pass through or over curves of such radii as are encountered in ordinary service, doing away with the coils of check chains having excessive slack.

A railway track has been patented by Mr. Jacob Frysinger, of Rock Island, Ill. The cross ties are of metal and the stringers of wood, seated in the cross ties, the fastening bolts passing through both and the rail, the bolt holes in which and in the stringers are elongated, whereby the strain of the bolts on the stringers is relieved, and the rails cannot spread unless the metal be torn apart.

A car coupling has been patented by Mr. Adrian T. Lott, of Coldwater, Miss. It comprises a drawhead with a pivoted and spring pressed coupling plate having an inclined downwardly projecting hook, allowing automatic coupling, together with a screw rod adapted to be operated from the top of the car, to tilt the coupling plate to lift its hook for uncoupling the cars.

An electric time signal for railways has been patented by Mr. George Cornell, of Crystal Run, N. Y. Combined with a clock mechanism, stationary magnets, and armature lever, are a sliding hand, weight, and studded arm, connecting the hand with a wheel of the clock mechanism, with other novel features, the device being especially designed to automatically indicate the time elapsed between trains passing the station.

A metallic piston packing has been patented by Mr. Nicholas Plaum, of Port Jervis, N. Y. This invention covers an improvement on a former patent, and provides for such a construction that, as the outer surface wears away, the packing will always retain its circular form, and remain in close contact with the cylinder, while the interior is calculated to feed melted tallow to lubricate the inner surface of the cylinder.

A hydraulic forging machine has been patented by Mr. Charles Davy, of Sheffield, York Co., England. This invention has for its object to lessen the friction on the rams, guides, etc., from the expansion of the parts by heat from proximity to the ingot, and also to more effectually guide the moving cross head, and provide improved valves and method of working the main and lifting rams by high and low pressure water, obtaining a quick motion of the moving cross head toward and from the work.

**MECHANICAL INVENTIONS.**

A taper and pulley turning attachment for lathes has been patented by Mr. Thomas H. Worrall, of Meredith Village, N. H. Combined with the bed and a carriage thereon is a tool holder fitted in ways on the carriage, a lever pivoted to the carriage and to the tool holder, and a bar connected to the lever and to a fixed arm on the bed, with other novel features, whereby the tool holder is automatically shifted to turn a convex face on the rim of a pulley or to turn a bevel.

**AGRICULTURAL INVENTIONS.**

A cylinder plow and pulverizer has been patented by Mr. Samuel M. Neely, of Smith's Turn Out, S. C. It is so constructed as to be readily adjustable to work at any desired depth in the ground, and to pulverize the soil as fine as desired, while it automatically clears the teeth of the soil.

A sugar cane harvester has been patented by Mr. Charles H. Lee, of Centralia, Kansas. It has an endless chain of knives, two pairs of vertical shafts, and a horizontal shaft with chain wheels, with other novel features, whereby cane and sorghum can be cut and topped, and the cane or stalks deposited in wagons drawn at the side of the harvesters.

A corn planter has been patented by Mr. Edward Burkholder, of Glendale, Ky. The object of this invention is to afford such construction that the planter can be readily controlled, will adapt itself to uneven ground, and can be conveniently adjusted to plant three rows at a time, or a single row, while packing the soil upon the seed and smoothing the tops of the rows.

**MISCELLANEOUS INVENTIONS.**

Suspenders for men's trousers form the subject of a patent issued to Mr. George H. Boyd, of Marysville, Cal. They are so made as to be attached to the waistband at the front and sides only, and do not interfere with stooping and bending, so the suspenders and buttons are not subjected to undue strains.

An envelope has been patented by Mr. Samuel H. Smith, of New York city. It has two checks on its flap, and a gum line on the back of the flap above the checks, with a gum line at one end, being designed for keeping money or valuables, and also to serve as a receipt for one with whom it has been left.

A combined truss and supporter has been patented by Mr. Henry A. Schulz, of Brooklyn, N. Y. It unites a rupture pad and an abdominal supporter in such a manner as to relieve the rupture pad from the abdominal weight, and thus allow it to do its work effectually while exerting a light pressure.

A hot air fireplace has been patented by Mr. Doyel Pearson, of Memphis, Tenn. This invention covers a novel construction and combination of parts for open fireplaces where wood is burned, to save waste heat and conduct the heated air where it is wanted, or more effectually diffuse it throughout a room.

A water tank has been patented by Mr. Francis J. Kearney, of New York city. It consists of two independent compartments, one within another, with space between them, and suitable inlet and exit valves and overflow pipe, the whole making a novel construction of a safety tank.

A swing has been patented by Mr. William S. Brown, of Pine Hill, Ky. Combined with front and rear swinging rods and seat bars are pivoted levers, whereby in swinging the seat is always kept level, and when the swing is once in motion but little power is required to operate it.

A rotary escape movement has been patented by Mr. William D. Chapman, of Theresa, N. Y. This invention covers a novel mechanism adapted to effectively give reciprocating motion to a column carrying articles in showcases, or to perpendicular and horizontal movements in clocks, watches, etc.

A window curtain has been patented by Mr. Frederick H. Goodyer, of Nottingham, Eng. It has an extension at one end, festooned from side to side to form a lambrequin, the latter being made in one continuous piece with the curtain, and there being a continuous border extended around both the curtain and lambrequin.

A check hook has been patented by Mr. Neil McGoldrick, of Brooklyn, N. Y. This invention covers an improvement on another recent patent, and provides for a construction by which the horse may be unchecked and checked up again from the vehicle, without stopping the horse and without getting out of the vehicle.

A filter has been patented by Mr. William L. Johnson, of Hackettstown, N. J. This invention relates to covered overflows and double filters connected with reservoirs, and the construction is such that the overflow may be arranged to prevent, in time of high water, muddy and impure water from entering the filters and reservoir.

A nut lock has been patented by Mr. James B. Law, of Darlington, S. C. The nut has an unslotted end extension of reduced thickness, with a thread corresponding to and communicating with the thread of the nut proper, formed of malleable metal and compressed into an elliptical cross section shape, so the nut itself furnishes the lock.

A bottle washing apparatus has been patented by Mr. Alfred L. Bernardin, of Evansville, Ind. The leading feature of this invention is the projection of shot upward into the bottles, with a discharge of water, the shot being projected by plungers that work in vertical guides, and forced upward by spring hammers actuated intermittently by suitable mechanism.

A churn dasher has been patented by Mr. John B. Swain, of Newbern, Ind. It has an annular base plate and circular top plate, inclined slats connecting them, with a handle having a conical knob on its lower end secured in a hole in the top plate by a key in such manner that the dashers may be easily moved through the milk and quickly bring the butter.

A reservoir window washing brush has been patented by Mr. Thomas McCabe, of St. Joseph, Mo. Combined with a brush having holes at the top to admit water to the bristles is a reservoir of water hinged to the top of the brush, with tubes to feed the water through the holes, the supply of water following the brush when in operation on a window.

A lath attachment has been patented by Mr. Edward J. Bracken, of Columbus, O. It consists of a wire and fastening plate device for stiffening the lathing or joining the ends of the lath, so that it will not be necessary to uniformly space the joists of a building, and the lath need not be of uniform or regular lengths.

An ice plow has been patented by Messrs. John G. and Henry Bodenstern, of Staatsburg, N. Y. Its frame consists of two bars or plates of unequal width, with their forward ends curved or bent upward, and provision is made for the escape of chips when the plow is working at its full depth, the frame being permitted to pass over projections.

An automatic flushing water closet has been patented by Mr. William B. Parsons, Jr., of Elmira, N. Y. This invention covers a trough formed with a series of basins located on different levels, each basin having a weir or dam, in combination with a flushing attachment, all corners of the trough being rounded or sloped.

A self-holding screw driver has been patented by Mr. John W. Richardson, of Park City, Utah Ter. It has an outer casing in which is held by pins a skeleton piece and ring with an inner shell and jaws for holding the screw to be inserted, so that the screw may be placed, started, and driven home without using the hands and without starting with a hammer.

A churn has been patented by Messrs. Henry Brown and Andrew Bushnell, of Lamar, Mo. It consists of a peculiar form of agitating and butter gathering frame, with a top ring and ribbed sides dependent therefrom, with plates connected therewith, to provide for the rapid making and separating of the butter and easy cleaning of the parts of the churn.

A water gauge has been patented by Mr. William Young, of Easton, Pa. It has two concentric glass tubes, with a space between them, the inner one communicating with the steam passages, with stuffing boxes for securing the inner tube to the elbows, whereby sudden changes of temperature will not break the glass tube.

A combined galley rest, copy holder, and copy guide for the use of printers has been patented by Mr. Joseph Silbernink, of New York city. It is so made as to be readily applied to the lower case to hold a galley, when correcting proof, and to the upper case for holding copy, without obstructing any of the compartments of the case.

A refrigerator has been patented by Mr. John Falkner, of Orange, N. J. It is a peculiarly constructed ice box and provision chamber, with communicating openings arranged to be closed by the lids to the provision chamber when the latter is opened, and vice versa, thus effecting economy in the consumption of ice and rendering the refrigerator very convenient.

A fastening for double doors has been patented by Mr. George W. Wright, of Leavenworth, Ind. It is a combination and arrangement of bolts and a guiding plate on one door, operated by levers, rack, and pinion, with devices for locking the levers when the doors are closed or opened, and so that the bolts of one door will lock or unlock the bolts of the other door.

A suspender strap clasp has been patented by Mr. Charles R. Harris, of Jersey Shore, Pa. It is formed of a metal plate bent upon itself to make the front and rear portions, having prongs and slots to receive them, and inwardly projecting teeth, making a strong, neat clasp, more securely fastening the straps than the common leather loop.

A lumber measurer has been patented by Mr. Emmet N. Barber, of Kent, Ohio. It is a device that can be set for boards of different lengths, measuring them by being rolled across them, and registering the measure accurately and rapidly, being also adapted for making different registrations of different grades of lumber.

A sight for firearms has been patented by Mr. Walter G. Owen, of New York city. It is a sight bar with its ends similarly shaped, but having contrasting colors, mounted on a plate adapted to be rotated on a base plate, with stops for limiting its movement, making a sight for use in dark or cloudy as well as fine weather, and in the night.

An automatic dam has been patented by Mr. Horace Harding, of Tuscaloosa, Ala. It is designed for maintaining navigation when the water of a river is low by automatically making slack water levels, stopping the water when it is running low, and automatically removing the dam to permit the passage of boats when the water is running high.

A tidal power mechanism has been patented by Messrs. Felix R. Bussard and Martin Gates, of Hays City, Kan. It consists in a float supported by the water, carrying a rack bar which engages gearing for winding weights by the rise and fall of the float, thus storing power in the weights to be given out gradually in doing work.

A lock has been patented by Mr. John C. Taylor, of Niles, Mich. It may be adjusted as a latch to allow the door to be opened from both sides without using the key, or to unlock the door from the outside with the key, or to prevent the unlocking of the door with the key, its construction being simple, inexpensive, and durable.

A sand moulding machine has been patented by Mr. Patrick C. Smith, of Indianapolis, Ind. It has gear wheels operated by a lever and meshing into racks which carry the follower plate, with adjustable pins and a device for regulating the depth of the mould, making a device in which the patterns can be easily changed and adjusted to suit the different forms and sizes of the work.

A churn has been patented by Mr. Loren J. Wicks, of Paterson, N. J. It has a vertical central shaft, which by a bevel cog wheel and pinion is revolved in the cream, carrying blades and wheels to agitate it thoroughly, while an air tube also extends down the center, carrying a flattened nozzle, which is made to revolve near the bottom of the churn, and draw air down into the cream.

A door latch has been patented by Mr. William G. Cline, of Gallatin, Mo. Combined with a latch casing is a knob bolt with notches in its head, a sliding latch with a lug on the inner end and the front end projecting from the face of the door, the projecting end being made adjustable, so the bevel of the head does not strike the edge of the keeper, and the bolt is withdrawn as long as the door is open.

A thread waxing and heating device for sewing machines has been patented by Mr. Benjamin F. Landis, of St. Joseph, Mo. It provides means whereby the upper thread may be waxed during its passage from the tension to the needle, and shielded from cold, taking a direct course from the tension device through the waxing device to the delivery stud near the needle.

A fastener for hand satchels has been patented by Mr. Max Rubin, of Brooklyn, N. Y. Combined with the frame is a projecting slotted plate attached to one part of the frame, a projecting post with rounded end being attached to the other part of the frame, and engaging with the slotted plate, the device being simple in construction, and holding the frames securely closed.

A spring for velocipede seats has been patented by Mr. Robert E. Humphreys, of Irwin, Pa. The spring support is formed of a wire bent to have coils at the front and rear of the support, the coils being in horizontal planes both at the front and rear, and the top and bottom coils alternating both at the front and rear, the support accommodating a saddle of the usual construction.

A lowering mechanism for dentists' chairs has been patented by Mr. Levi Stuck, of Hart, Mich. Combined with uprights is a tapered sliding bar, with clamping plates at its sides, and screws acting thereon, with a lever to which the screws are attached, and various other novel features, whereby the chair may be easily raised and lowered, and locked at any desired height.

A rotary pump has been patented by Mr. Joseph F. Breux, of Philadelphia, Pa. Within the casing is a cylindrical shaped casting, to the outer surface of which are hinged three pistons that revolve in recesses in the sides of the outer casing, while there are various novel features of construction intended to lessen friction, and render the action of the pump simple and effective.

A washing machine has been patented by Mr. George G. Koschel, of Denver, Col. Combined with a clothes box and devices for washing the

clothes therein, is a sliding box held under the clothes box, and having hinged side and end pieces, while being provided with legs, the clothes being cleaned by being whirled about in the tub, and the machine being provided with a wringer.

A snow shovel has been patented by Mr. David Flack, Jr., of Toronto, Ont., Canada. It is of wood, with a metallic edge, slightly curved backward to prevent its engaging with obstructions, and has a handle hinged to the under surface of the shovel, near the center, with a fastener for holding the handle when folded against the body, with other novel features, the shovel being easily changed into a scraper.

An extension table has been patented by Mr. Siegfried E. Claussen, of Portland, Oregon. It has a roller section with a metallic frame having arms, a cross bar connecting the inner ends of the arms, a roller journaled in the arms, with extension slides joined together, forming a series or chain, connected at one end with the slide section and at its other end with the cross bar of the roller supporting frame.

A saw sharpening machine has been patented by Mr. David W. Johns, of New Albany, Ind. It has a rotary file or cutter with a notch in its edge, a plate being held at one end on the disk and extending diagonally across the recess, with a screw for adjusting the pitch of the plate, and various other novel features, the device being adapted for sharpening saws of all kinds, either straight or circular.

A dyestuff made from diazo-naphthaline has been patented by Mr. Meinhard Hoffman, of Mainkur, near Frankfort-on-the-Main, Germany. It is a new gamma-disulphonic acid of betanaphthol, whose manner of preparation has been the subject of a recent patent; it is characterized by its great tendency to crystallize, and is adapted for dyeing wool, silk, and other materials a brilliant bluish-red shade.

A hydraulic elevator has been patented by Mr. Parker F. Morey, of Portland, Oregon. It comprises a main standpipe connected with water distributing inlet and outlet valves, a telescoping ram in the standpipe having an opening and a long tapering inlet valve, to open as the ram rises, with other novel features, to insure a practically uniform steadiness of movement of the platform or carriage both ways.

A thread breaking attachment for doubling and twisting machines has been patented by Mr. Fred Haggas, of New York city. The invention consists of a special construction of the yarn holding plate or head, and the parts connected therewith, to sever both yarns in case one of the yarns breaks or one bobbin runs out sooner than the other, thus preventing waste and the formation of three or four ply yarn.

Transfer or reproducing paper forms the subject of a patent issued to Mr. David Gestetner, of London, Eng. The paper is of bamboo fiber, on one surface of which a layer of wax or paraffine is fixed, the paper being perforated with a stylus or toothed wheel to produce the desired letters or design, when, on passing an inked roller over it, the ink passes through the perforations upon the sheet below.

A wagon body has been patented by Messrs. James B. Law and Charles Mooney, of Darlington, S. C. It is of simple construction for holding the side boards and tail gate keeper firmly, avoiding all bolt or screw holes in the side boards, double armed clamps being used, and the design such that the body may be readily taken to pieces and packed for transportation.

A toy spring gun has been patented by Mr. Francis W. Goodyear, of Springfield, Mass. The barrel has a longitudinal groove in its top, the trigger is pivoted in a slot in the barrel, with its upper end projecting slightly from the groove and the lower end connected by a wire with a trigger lever pivoted in the stock, the gun being adapted to throw a dart or arrow by an elastic band or cord.

A buggy top has been patented by Messrs. Edward Carroll and Patrick Ryan, of Guelph, Ontario, Canada. Combined with the seat box are side arms and a top supporting frame pivoted to each side, between the sides of the box and the arms, whereby the top may be swung to one side for people to enter or leave the vehicle without obstruction from the bows or frame.

The embossing of plastic material forms the subject of a patent issued to Mr. Charles Schwartz, of Brooklyn, N. Y. The invention relates especially to embossing paper, and preventing the surface of the raised portion from cracking, for which the outlines of the letters or figures to be embossed are incised on the upper surface, so that when a sheet or card is submitted to pressure between the dies, the stretching of the fibers will not break or tear the surfaces.

A glove fastening has been patented by Messrs. Augustus Travers, of New York city, and Henry B. Pierson, of Brooklyn, N. Y. The edges of one flap have holes, with open spring rings held along their edges by threads, and ball headed studs are held on the edges of the other flap, so that the glove can be fastened by drawing the flaps together and pressing the ball headed studs through the spring bound holes, or it can be opened.

A machine for testing lubricants has been patented by Mr. Robert H. Thurston, of Ithaca, N. Y. This invention covers an improvement on a former patented invention of the same inventor, whereby the testing journal was made removable from the shaft, etc., and provides for making the bearing with a thin removable shell, so light that it can be taken out and weighed with great accuracy, the journal also having an outer and comparatively thin shell that can be removed for accurate weighing.

A printer's chase has been patented by Mr. Lauriston W. Hardwicke, of East Saginaw, Mich. It has long screws held adjacent to and parallel with the inner edges of a chase, with movable longitudinal and transverse bars having apertures in the ends through which the screws are passed, with nuts on the screws adjacent to the outer edges of the bars, so the latter may be moved up thereby on the screw in the direction of the length or width of the chase with a simple key.