

## ENGINEERING INVENTIONS.

A car brake has been patented by Mr. Edward Gardner, of Allegheny City, Pa. This invention covers a novel construction and combination of parts for operating the brakes of a car by hand levers connected with the brake bar in a simple way, so the brakes can be operated from either end of the car, and can be locked in place when set.

A switch stand has been patented by Mr. David Bowen, of Topeka, Kan. This invention provides a separable construction of parts in a railway switch stand, so that the operating spindle and its connections may be readily reached for repair and renewal, the shifting mechanism be protected in the base of the stand, and admit of direct parallel motion of the shifting bar.

A steam boiler has been patented by Mr. Joseph Ferrando, of Genoa, Italy. Combined with a boiler furnace are fire boxes upon which are the grates, a fire wall, and an air box, connected with the front ends of the fire boxes, the construction being such that pulverized or granulated fuel may be fully consumed, and not too rapidly drawn to the rear end of the furnace.

## AGRICULTURAL INVENTIONS.

A self-cleaning plow has been patented by Mr. Allen Jones, of San Marcos, Texas. By this invention a blade is made to work on the plane face of the mould board by a wheel journaled in the plow between the mould board and the landside, so the wheel rolling upon the ground revolves the blade in the opposite direction, and intermittently cleans the mould board.

A combined band cutter and grain feeder for thrashers has been patented by Mr. Charles Grover, of Kansas City, Mo. This invention covers a novel construction and combination of parts to make a machine not liable to get out of order, for cutting the bands of bound grain, and for feeding the bound and headed grain to thrashers in uniform quantities with such rapidity as the thrashers may require.

## MISCELLANEOUS INVENTIONS.

A self-binding harvester has been patented by Mr. George W. Blakeslee, of Perry, Iowa. This invention covers a novel construction and combination of parts intended to secure compactness and efficiency in self-binding harvesters, and promote simplicity and cheapness in their construction.

A sad iron has been patented by Mr. Horace S. Pease, of Portage, Wis. It is an improved ~~another iron which can be used for polishing, fluting, and pressing, and easily adjusted for either purpose, a curved fluter being secured to the handle, and the smoothing iron having a fluted surface.~~

A hair clipper has been patented by Mr. Walter H. Underwood, of Denver, Colo. The clipper device has an abrading wheel in contact with the cutter, whereby the cutter is automatically sharpened as it revolves, and the device has other novel features of design and construction.

A stock releasing device has been patented by Mr. Theophilus Arndt, of Florin, Pa. This invention covers novel features of construction of a device adapted for operating independently or collectively, so the animals secured thereby may be released separately or all at once, as may be desired.

A carpet stretcher has been patented by Mr. Charles Grover, of Kansas City, Mo. It is made with a main lever and a bar, with a head carrying points at both edges, so the user can both pull and push the carpet to stretch it, and the device can be folded in small compass when not in use.

A slate pencil sharpener has been patented by Mr. John Putnam, of Philadelphia, Pa. It is made of pressed glass, with its abrading surface formed by impression in the mould, making it virtually indestructible, while it does not absorb moisture or grease, and may be made of any desired shape or size.

A pick attachment for dredge buckets has been patented by Mr. John McSpirit, of Jersey City, N. J. Combined with the frame of a dredge bucket are picks pivoted thereto, and a hook to hold them out of the way when not required for use, so the bucket can be used to loosen hard ground when desired.

A quoin and side stick for printers has been patented by Mr. Marshall J. Hughes, of Jersey City, N. J. It is composed of an oblong metal band inclosing a wooden block, with projections from the top plane for use in driving, the different sections being adapted for use both as side sticks and quoins.

A bench clamp has been patented by Mr. Franklin P. Hish, of Shelbyville, Ill. This invention covers a novel construction and combination of parts to provide a simple, inexpensive, and easily handled bench clamp, for use in holding the work to the bench while being jointed or otherwise finished for use.

A safety gate for elevators has been patented by Mr. George T. Fallis, of St. Joseph, Mo. The construction is such that the gate may be automatically opened and closed, and locked when closed as the carriage passes the gate in either direction, and so the gate may be prevented from opening.

A barn door fastening has been patented by Messrs. William L. Bliss and George F. Kopp, of South Egremont, Mass. It consists of a vertical shaft placed in suitable bearings on the barn door, with latches and a spring lever, and triangular latch plates on the barn, to automatically lock the door at top and bottom when it is closed.

A saw gummer has been patented by Mr. James R. B. Hunt, of North Troy, Vt. By this invention the cutter head for cutting out the throat of the saw tooth may be operated against the side of the saw instead of against the edge, to the end that the operation of gumming may be done quickly and without danger of drawing the temper of the saw plate.

Saw mill set works form the subject of a patent issued to Mr. Charles W. Metcalfe, of Hopkinsville, Ky. This invention covers improvements in

works in which the movement of the knees of the head blocks is automatically effected to set the log up to the saw for each slice sawed off, this automatic set being made by the progressive movement of the carriage.

A fastening for egg carriers has been patented by Mr. Thomas W. Wells, of Gunn City, Mo. It has a spring catch or lock, beveled cleats attached to the case and to the lid to prevent the ends of the egg case from being laterally strained, with other novel details of construction to make an improved fastening for cases for carrying eggs.

A blotter has been patented by Mr. Homer L. Williams, of Lind Grove, La. According to this invention, a forked roll carrier has two rolls properly journaled, and with suitable handle to hold the rolls above the writing desk when not in use, one roller taking the ink from the fresh writing, and the other taking the ink from the first roller.

A tin can has been patented by Mr. Thomas C. Adams, of Brooklyn, N. Y. With a can and cover formed with an angular hollow rib in its flange is an annular wire cutter beveled to form a cutting edge to engage the hollow rib at the apex of its angle, thus furnishing with the can a cutting device to sever the top of the cover from the can.

A cover for milk cans has been patented by Mr. Daniel F. Crippen, of Riverside, Cal. It has conical ventilating tubes extending upward from the outside, and a removable screen inside to exclude foreign matters, so the animal heat and impure air may escape from the milk, and a constant circulation of air be maintained within the can.

A pencil or crayon holder has been patented by Mr. Frederick Froeschel, of Nuremberg, Germany. Combined with a tube for holding the crayon is a sliding tube acting on spring jaws which hold the crayon, so that the crayon is released by pressing on the butt end of the holder, and is held as soon as the pressure is removed.

A fence has been patented by Messrs. Aaron Zimmerman and John Q. Shipley, of Disko, Ind. This invention covers a new form of metal post, in which the base consists of a blade or fin of cast iron with a socket in its upper edge in which the post is held, in order to make a durable fence, and one which can be easily erected or taken down.

A velocipede has been patented by Mr. John W. Burroughs, of Salt Lake City, Utah Ter. This invention relates to vehicles adapted to be propelled upon common roads by the power obtained from a coiled steel spring, which unwinds as the vehicle moves along, and provides a novel construction and combination of parts for such vehicles.

A thread cutter has been patented by Mr. Benjamin F. Walker, of Allentown, N. Y. It is an attachment for a thimble, and the invention consists in relative construction and arrangement of the cutter and guard, the thread being passed between the guard and the blade, and a sidewise or downward movement of the fingers cutting the thread.

A bee hive has been patented by Mr. Lorenzo S. Cook, of Borden, N. Y. This invention covers a novel construction and arrangement intended to facilitate the removal of the honey frames, so the bees can be controlled in relation to the part of the hive in which they are to deposit the honey, and so the hive can be easily ventilated.

A machine for treating ramie and sugar cane has been patented by Mr. Louis U. Fasnacht, of New Orleans, La. It consists of a degorticator with revolving and stationary knife blades, rollers for pressing out the water from the fiber, and a drier with a hollow steam chamber under its bottom, over which the fiber is passed, with various other novel features.

A harness attachment has been patented by Messrs. Thomas G. Hanbery and John D. Wall, of Newstead, Ky. This invention consists of an improved loop, intended especially for use on dray and heavy wagon harness, to take the place of the ring and leather cup now commonly used, providing therefor a more simple, economical, and durable device.

A removable egg tray for incubators has been patented by Mr. Frank Rosebrook, of Elmira, N. Y. It consists of a frame with wire netting bottom, beveled strips in the frame and dividing the tray into compartments, the strips being separated from each other a distance equal to the length of an egg, the arrangement being such that eggs can be reversed easily, and are fully exposed to the action of the heat.

Gold and other metallic amalgams form the subject of a patent issued to Mr. Solomon P. Buatt, of Bastrop, La. This discovery relates to amalgams suitable for dental fillings, whereby gold and silver may be reduced to a plastic mass with mercury, and a crystallized solid obtained free from excess of mercury, chemical impurities, or metallic oxides injurious to health.

A saw swage has been patented by Mr. William C. B. Hummel, of Winfield, West Va. It is for upsetting the points of saw teeth to broaden the points, and is intended to guide the swage relatively to the plane of the saw, so its action shall not tend to cant the teeth to either side, and so the swage may be quickly placed properly on the tooth without special care on the part of the operator.

A wagon jack has been patented by Mr. John F. Eastman, of Triumph, Ill. Combined with a hollow standard in which is a toothed bar, is a clutch plate through which the toothed bar passes, a lever pivoted on the standard having a curved cam part on its upper end adapted to act on the clutch plate, the device being easily adjustable for wagons of different heights.

An automatic oiler for lubricating wool has been patented by Mr. John C. Thickins, of Hinsdale, Mass. Combined with a tank for holding a lubricating agent is a sprinkler and measuring device for supplying only measured quantities, with other novel features, the whole apparatus being designed to be arranged in the upper part or immediately over an automatic feeder of the wool to the first breaker cards.

An adjustable reflector holder for stationary lamps and other lights has been patented by

Mr. William J. Wilkinson, of Philadelphia, Pa. Its construction is such that by operating a hand screw the reflector can be raised or lowered to adjust it to the proper height, or by loosening another hand screw it can be tilted to allow the chimney to be inserted or removed, or to focus the light upon any desired spot.

A hog feeder has been patented by Mr. Ayland M. Carter, of Cincinnati, Neb. The reservoir will hold sufficient feed for two or three days' consumption, and the feed will be distributed to all the animals alike, and it may be so placed that the crank and valve handle may be reached from outside the pen or fence to stir the feed and deliver it to the trough without requiring the attendant to be near the animals.

A game apparatus for playing amusing and instructive games has been patented by Mr. Samuel L. Clemens, of Hartford, Conn. The invention consists in a player's chart with a series of rows or columns of numbers, with a hole for each number, which may represent the years of events of historical importance, in contesting the number and accuracy of which remembered by the players the game consists.

A safety brake for elevators has been patented by Mr. John W. Metz, of Manchester, Ohio. This invention covers a novel construction and arrangement of cam headed grip levers and operating levers, both pivoted to the elevator carriage, and connected by links and pull cords leading to the carriage within reach of its occupants, giving a simple means of stopping the carriage should the hoisting rope break or other accident occur.

An attachment for stop motions of knitting machines has been patented by Mr. Oliver H. Edwards, of New York city. Cutting blades are mounted on a support above the needle cylinder, the blades being held closed by a spring and open by a lever having a yarn guide in one end, so that when a knot in the yarn encounters the guide the blades will be released and the yard severed some distance from the needle cylinder.

An ironing machine has been patented by Mr. Frank Corbett, of New York city. With the end frames and hollow journals of the upper roller are connected half bearings attached to perforated plates, with loose plates between their upper ends, to which are swiveled crank screws, and between which and the half bearings are interposed springs, whereby the upper roller can be readily adjusted to give any desired pressure to the goods.

A valve oiler has been patented by Mr. Samuel D. Mershon, of Rahway, N. J. It is made with a jointed discharge rod connected with a crank pin attached to a screw wheel meshing into an endless screw, the shaft having a pulley to receive a driving band, so the oil will be made to discharge with certainty at regular intervals of time, the invention being an improvement on a former patented invention of the same inventor.

A dynamo electric machine has been patented by Messrs. Holbrook Cushman, of New York city, and Joseph P. Hall, of Oldham, Eng. This invention relates especially to the construction of the armature, which is so arranged that the conductor will be exposed to the inductive influence of the magnetic field under the most favorable conditions, as well as to promote simplicity and economy in the manufacture, and the easy renewal of parts.

An adjustable scraper for cracker machine feed rollers has been patented by Messrs. William H. Bromley and Philip J. Gately, of Brooklyn, N. Y. Combined with the feed rollers are arms having intermediate bars with grooves opening at their inner edges, plates fitting in said grooves and having eyes upon the lower rear edges, and screws working in the intermediate bars and swiveled in the eyes of the plates, to keep the feed rollers free from dough.

The manufacture of finger rings forms the subject of a patent issued to Mr. Edwin E. Hanf, of Wilmington, Del. The new method consists in upsetting the ends of the blanks, bending into circular form to bring the ends together, uniting them by fusion and rounding up the ring, condensing the metal by hammering, incidentally bringing it to size and turning off its surface, so the ring will not have distinguishable joints, and will appear as if stamped out from a plate.

A process for making sirup and beer from maize has been patented by Mr. Alfred E. Feroe, of Poughkeepsie, N. Y. Its object is to fully utilize the corn without the use of acids or chemicals, the starch of the meal being first liquefied and separated before conversion from the coarse insoluble portions and insoluble fatty acids in a specially contrived separator, the fine insoluble portions being removed after conversion by a further novel treatment avoiding filtration, it being claimed that such process improves the product and shortens and cheapens the whole work.

## NEW BOOKS AND PUBLICATIONS.

PLUMBING PROBLEMS: OR, Questions, Answers, and Descriptions relating to House Drainage and Plumbing, from the *Sanitary Engineer*. New York: The *Sanitary Engineer*, 1885.

For some time past, the discussion of problems relating to house drainage and plumbing, in answer to the queries of the correspondents, has been a special feature of the *Sanitary Engineer*, and the frequent repetition of these questions has induced the editors to reprint in the present volume a selection of those of more general interest. They have made a division of the subject under several heads, giving the first attention to a description of constructions which should not be imitated. And these, it may be remarked in passing, seem to be the sort usually found in modern houses, and quite justify their discussion at the outset. The chapters on house draining, miscellaneous problems, and the circulation and supply of hot water are of considerable interest, and furnish information in directions where experience seems to show that it is much needed. The form of the book, a collection of detached solutions, is naturally not so convenient as a well arranged treatise would be, but this is a penalty which one must pay for the latest information on almost any subject. The work is well illustrated with cuts.

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