MECHANICAL INVENTIONS.

Messrs. E. and H. T. Anthony, of New York city, are the assignees of an invention by Mr. W. H. Lewis, recently granted for a plate holder for photographic cameras, the object of which is to facilitate the insertion and removal of the sensitized plate from the plate holder.

A novel saw mill dog has been patented by Mr. George F. Knight, of Hicksville, O. The invention consists in an apparatus for dogging logs in a very simple and effective manner, and is an improvement on a previously patented dogging device, issued to the same inventor October 26, 1880.

A machine for adding numbers, intended for counting houses, bookkeepers, etc., is the subject of a patent recently granted to Mr. Wm. H. Beatley, of Humansville, Mo. A cylinder is provided within a case, with figures of an almost indefinite number marked on its surface. Finger keys with numbers on them from 1 to 9 actuate the cylinder when pressed upon, similar to the action of a type writing machine.

Mr. Theodore A. McDonald, of New Albany, Ind., is the patentee of a new and improved gauge for rip sawing. The new gauge is intended especially for circular saws used for ripping boards into strips. The distance the gauge bar is moved toward or from the saw is indicated by a graduated bar attached to the gauge bar. The invention is very simple, and evidently a very useful improvement for saw mill owners.

An improved rug making machine has been patented by Mr. Orison Huff, of Goodwin's Mills, Me. The machine relates to the manufacture of rugs in which a piled surface of yarn or worsted is formed upon a backing of canvas or similar material; and the invention consists in novel mechanism for forming the loops or stitches, and for changing the yarn so as to vary the colors.

An improved saw setting and jointing device has been patented by Messrs. Millard E. Beach and Albert Burch, of Cadillac, Mich. At one end of the implement a slot is provided for passing upon the saw teeth in setting them. For jointing the teeth a file is inserted in a slot at the other end of the instrument, and fastened by a set screw, so that the instrument is made to serve as a handle to the file. The invention is very simple, and seems practical.

Messrs. Josiah Austin and Rossco Chamberlain, of East Liberty, O., are patentees of an automatic double gate which is opened and closed by the pressure of the wheels of the passing vehicle upon a very simple arrangement of devices. The advantage of providing a double gate lies in the possibility of lightening materially the weight of the gates upon the driving gear, which is very important when they are to be operated by the weight of the vehicle solely.

A stop chamfer plane, designed to facilitate the cutting of chamfers of all kinds on the edges of boards, posts, etc., has been patented by Mr. Joseph Lee, of Garnerville, N. Y. The stop chamfer plane is formed of two parallel bevel guides united by adjustable cross rods, and carrying a cutting blade which is locked in position by a binding screw. A transverse gauge is also provided for facilitating the adjustment of the implement.

A machine for renovating feathers is the subject of a patent recently granted to Mr. George F. Tallman, of Deposit, N. Y. A jacket cylindrical case for holding the feathers is provided with steam heated arms, which are made to revolve, stirring up, beating, and renovating the feathers in the most thorough manner. It is claimed that by this machine feathers can be purified and renovated in a better manner than by the machines heretofore used for this purpose.

A delicate scale for weighing diamonds, balance screws for watches, etc., is the subject of a patent issued recently to Mr. Ferdinand F. Ide, of Springfield, Ill. The importance of a simple weighing machine for precious stones and like valuable and delicate articles which shall be weighed accurately is well understood. Mr. Ide, in his newly patented scale, claims to accomplish this, and certainly his mechanism is very simple.

A guard for band pulleys, to prevent accidents from persons' clothing being caught in the shafting, is the subject of a patent granted to Mr. Charles E. Frick, of Cincinnati, O. A cap is fitted over the hub of the shaft and held to it by an elastic band, which is attached to hooks on the inner surface of the cap, and passed around the screw which holds the pulley on the shaft. This guard also protects machinery belts from catching on the screws which fasten the pulley to the shaft.

Messrs. E. and H. T. Anthony, of New York city, by assignment from E. B. Barker, have recently obtained a patent on a photographic camera box, so constructed as to enable pictures to be taken in either horizontal or vertical positions, without moving the lens frame. The same inventor and same assignees as the above have also patented a photographic shield, the novelty consisting principally in a latching device for holding and securing the end gate of a septum in the shield.

An improved machine for sawing match cards has been patented by Messrs. Gilford Flewwelling and Gilbert J. Harris, of Hampton, New Brunswick. A disk with a series of holders for the blocks or cards to be sawed, is mounted on slides, which are moved up to and away from the saws by a cam device located under the disk. A series of grooving saws, and a series of slitting saws, also a cutting off saw, are so combined and arranged as to enable making match cards in a rapid and expeditious manner.

Mr. William E. Williams, of Dodgeville, Wis., has patented an improvement in windmills, which has for its object to enable rigid wheel windmills to be regulated by the varying force of the wind, and without the use of vanes. By the arrangement of a weighted lever the wheel is forced into the wind as the force of the wind decreases. Vanes can be used for the better control of the wind wheel under certain circumstances, but are used as an auxiliary arrangement to the weighted lever appliance.

An improved pig iron breaker has been patented by Messrs. William R. Havens and John W. Nesmith, of Denver, Col. A pair of stationary jaws are provided with breaking dies, arranged so as to receive the pigs and hold them between two or more points each side of the middle, while a movable jaw with a single die is made to press against and break the pigs in the most approved manner. The grooves for the breaking dies are so formed that they may be readily removed and others replaced when too much worn.

An improvement designed to facilitate the opening and shutting of a gate has been patented by Mr. Amon W. Chilcott, of Mattoon, Ill. The invention consists of a gate sliding on rollers, and so arranged as to be easily manipulated by elbow levers which project some way on each side of the gate. The gate and its operating mechanism is so constructed that when the gate is closed the arm of the lever mentioned, and a bar connected with it, are brought below the pivot line connecting the pivoted centers of this lever and bar, whereby a lock will be formed which prevents the gate from being opened.

Mr. William E. Harris, of New York city, is the patentee of an improved amalgamator for separating fine gold from pulverized ore or sands. An amalgamating pot is set in a case, which is made steam tight in the upper part of it. The quicksilver is deposited inside the pot, and steam at a pressure of about forty pounds is conducted in contact with the ore, as the latter is fed through a funnel-shaped conductor, a stream of water flowing with the ore through the same funnel, which ore is forced by the steam into the quicksilver, where the particles of gold are taken up, and the refuse is permitted to run to waste.

To provide a better means for producing and distributing heat into dwelling apartments and offices from stoves than has been heretofore employed, is the subject of a patent recently granted to Mr. Wm. H. Pratt, of Rondout, N. Y. The device substituted by Mr. Pratt for the ordinary drum and base burning stoves does not interfere with the primary use of the stove, and it is claimed that a great saving is effected in the combustion of coal by the use of his steam heating attachment, which may be applied at very little expense to most kinds of stoves other than the base burning kind.

A novel grain and seed cleaning mill has been patented by Mr. William Bowen, of Edina, Mo. the object of which is to separate the chaff and poor seeds from the good seeds. The inventor provides a cylinder with a series of inclined plates, upon which the grains or seeds are fed, which cylinder is vibrated, so as to cause the light grains and seeds to pass to one corner of the plates and through apertures, while the heavy grains and seeds pass over the front edge of the plates into a chamber surrounding the cylinder. The cylinder is geared to vibrate, and the plates are made of highly polished hard wood, glass, or other smooth material.

Mr. Robert C. Snowden, of Elizabeth, Pa., has obtained a patent on a metal bending machine for tin roofers, which is intended to save much hard work, time, and expense to tin roofers. A great deal of work has been heretofore done on the roof which this machine is intended to do in the shop. By this machine each sheet of tin is bent upward at a right angle on one edge, and on the other edge is bent up at a right angle and then down again to lap over the standing edge of the adjacent sheet or plate, thus rendering them ready to lay when taken upon the roof. The interlocked edges of the plates are hammered down, and form a water tight joint without the use of solder.

An invention for indicating to the engineer or conductor of a railway train, when approaching a station, the time the previous train passed is the subject of a patent recently granted to Mr. Orry M. Shepard, of Boston, Mass. Attached to the station house is a lantern, which is not only provided with dials for denoting the time the preceding train had passed, but has provision for exposing transparencies on which is indicated the nature of the train last passed—freight, express, local, etc. The station master exposes the appropriate sign to the incoming train from inside the station, so that the conductor may not only see the time the last train passed the station, but the nature of the train, if it were passenger, freight, etc.

An improvement in davits for boats, designed to economize space and promote convenience in the raising and lowering of boats, has been patented by Mr. John F. Mumm, of Brooklyn, N. Y. The davit arm, which is curved outwardly, is provided at its outer end with a tackle in the ordinary manner. The lower extremity of the davit arm is pivoted in the lower portion of the davit socket, which is formed of two parallel plates, the upper edges being curved in the arc of a circle, and provided with shoulders at their ends. The movement of the davit arm is limited by the said shoulders. By this construction of the davit, the boat is held either over the water or over the deck of the vessel by gravity.

Improvements in evaporating pans for saccharine juices have been made by Mr. Jacob Shoemaker, of La Crosse, Wis., for which he has received letters patent. The invention consists in forming the pan of a number of plates, which are joined together by turning up a flange on the edge of each plate and uniting these flanges by solder, so that the solder will not be subjected to the direct heat, whereby the pan is rendered much more durable. The furnace is located directly underneath the pan, and is provided with two flues and connecting valves for regulating the heat of the furnace. An inclined trough is mounted upon crank supporting rods directly over the pan, and is so arranged that it may be swung from over the pan out of the way when it is not required for use.

An improved shingle machine has been patented by Mr. John P. Bowling, of Guthrie, Ky., the object of which is to provide a planing device for a shingle machine, which may be conveniently geared with a riving device. The shingles are planed to a uniform bevel by transferring them from the riving device to the planing device while both devices are in operation. The same inventor has likewise obtained a patent, bearing the same date as the above, for riving bolts out of hard woods. By an ingenious arrangement of the apparatus the weight of the bolt causes the balanced frame on which it rests to dip to the thickness of the shingle below, insuring each shingle of the same thickness. Gauges are provided, which are set to regulate the thickness of the shingle.

An improved machine for weighing and measuring grain as it is delivered from the thrashing machine or elevators is the subject of a patent recently granted to Mr. Freeman C. Mason, of Ransom, Mich. A weighted hopper or receptacle is suspended on pivots, which receptacle is divided by a board forming an upper and lower compartment. The grain is deposited in the first compartment, and when it is full is discharged into the second compartment by the tilting of the receptacle, which is operated automatically by the weight of the grain. The alternate movements of the box operate a pawl and ratchet, which conveys to a dial plate the number of times the receiver discharges its contents, and thus the amount of grain that passes through the machine is accurately denoted, and may be seen at a glance.

A novel musical instrument called a pianoviolin is the subject of a patent recently issued to Messrs. J. Parsons and J. W. Trinkle, of Kent, Ind. A case is provided containing two sounding boxes, one resting behind and connected to the other. To the front side of the inner sounding box is secured a bridge transversely to the box. To the front of the bridge a series of jaws are secured, between which the string bars are passed, the latter of which are provided with a spring tongue. An endless belt is made to pass by the strings in the instrument by means of a treadle, and as the keys are depressed, the corresponding strips will be drawn upward, bringing the lower end of the corresponding string bar toward the belt, which coming in contact with the string produces a vibration and sound as long as the belt is kept in contact with the string.

AGRICULTURAL INVENTIONS.

A useful garden implement in the form of a combined plow, planter, and cultivator has recently been patented by Mr. G. Glidden, of Buchanan, Mich. It is a hand machine, and accomplishes a number of objects, such as marking the ground, planting and covering the seed, and cultivating the plants, and is withal simple and cheap in construction.

A harrow provided with a seat and otherwise so arranged that the attendant, by means of a lever, can raise or lower the harrow without leaving his seat, has been patented by Mr. Thomas Van Ostrand, of Kinsley, Kan. Provision is made for changing the angle of the teeth, when desired, by means of another lever, and this may also be done without the driver leaving his seat. Taken altogether, this new riding harrow seems to transform the ordinary process of harrowing from tiresome labor into a pleasant pastime.

MISCELLANEOUS INVENTIONS.

Mr. John H. Solis, of New York city, has patented an improved compression basin cock, constructed in such a manner that it can be closed by turning the valve stem through a quarter of a revolution in either direction. The invention seems to be a valuable improvement over the ordinary basin cock.

Mr. J. L. Clingman, of Cynthiana, Ky., has added to the list of railway supply appliances a new nut lock for rail joints. It is a very simple device, cheap to make, very strong, and at the same time it is capable of removal and reapplication without damage to any of its parts.

A patent for a gas seal for blast furnaces was granted a few weeks ago to Mr. E. A. Uehling, of Sharpsville, Pa. The newly patented gas seals are opened and closed automatically in the charging of furnaces by a system of levers, which are so fitted as to be operated by either steam or compressed air.

A steam radiator of novel construction has recently been patented by Mr. A. A. Griffing, of Jersey City, N. J., the object of which is to so construct a radiator tube and its interior air pipe that a maximum of heat will be applied to the air as it circulates through the interior pipes.

Mr. Peter Dickman, of Defiance, O., has patented an improved rub iron to fasten on the side of carriages to prevent the wheels from scraping the body when cramping or turning around. The iron being nearly the same form as the wheel on its wearing surface, there is no possibility of the wheels locking.

An improved furnace door latch which closes automatically, and holds the door perfectly closed against the action of the heat, has recently been patented by Mr. E. J. Shields, of Elizabethport, N. J. The simplicity of this invention is very great, and it can be applied to stoves as well as to large furnaces.

Mr. F. T. Knauss, of Scranton, Pa., has recently patented improvements on his knock-down table, which was originally patented May 2, 1882. The invention relates principally to certain details of construction of the frame, mode of attaching the legs to the table, etc.

A novel clothes pin has been patented by Mr. Richard B. Perkins, of Hornellsville, N. Y. The pin is of the usual clothes pin shape with slot, and the invention consists of a spring wire which is inserted in the pin, to prevent the clothes pin from dropping from the line, and also to prevent the garments from blowing away.

Mr. F. A. Curpen, of Upper Sandusky, O., has patented a hair spring protector for watches, which is intended to prevent the liability of the second curl of the spring being caught by the pins. To obviate the difficulty heretofore experienced, Mr. Curpen provides a device for closing the space between the pins after the spring is applied.

An improvement in sheet metal elbows for stove pipes, etc., has been patented by Mr. Alexander F. Peters, of Millbury, Mass. The inventor produces a very strong, smooth, and durable elbow for stove pipes by making it in longitudinal sections, which parts are closed by lap folded seams at the outer straight portions and by flange joints at the curved parts.

A patent for a very simple boiler cleaner has recently been issued to Mr. G. A. Chapman, of Strawberry Point, Iowa, which, it is claimed, will not only prevent the formation of scale, but by the action of the heat and water will remove what has already formed, and carry off the particles of both the scale and sediment from the boiler through a discharge pipe.

Mr. O. C. Retsloff, of Winnebago City, Minn., has patented an improved pendulum, the object of which is to provide for the accurate regulation of pendulum clocks by adjustment of the length of the rod. A bob is fitted to the pendulum and rotated by an adjusting nut with a pointer attached, to indicate on a dial the extent of the movement.

An improvement in that class of ornamental chains in which a large number of units are joined together by pins to form a band of any desired width, and known to the trade as "roller chains," is the subject of a patent recently granted to Mr. N. P. Carter, of Brooklyn, N. Y. By countersinking the outside edges of the units, and using rivets that head within the rim, a strong and well finished chain is produced.

Messrs. William Oldroyd, of Columbus, and George H. Smith, Jr., of Lancaster, O., have patented an improvement in hair spring studs for watches. The object of this improvement is to effect the necessary lengthening or shortening of the hair spring, and putting the watch in perfect beat without detachment of parts or changing the collet at the center of the balance wheel.

A latch has been patented by Mr. L. A. Randall, of Birmingham, Mich. The bolt is so contrived as to automatically shift forward by gravitation into the position by which it engages with the catch. The bolt is made reversible in different ways, and by this arrangement, in connection with the locking device, by which the spring usually employed is dispensed with, renders the lock more secure and durable.

Mr. E. S. Kingston, of Little Falls, N. Y., has received letters patent for an improvement in shoe makers' lasts. This device is made of malleable iron in such a form that it can be removed from a boot or shoe in one piece instead of in sections. A spring keeps the upper section of the last in place, which contracts when pulled upon, allowing it to leave the shoe, requiring but slight effort on the part of the workman.

A canteen, water cooler, jug, or vessel, made of metal or other stiff material, and having a portion or the whole of its body provided with perforations and clothed with a covering of cloth or other absorbent material, is the subject of a patent recently granted to Mr. C. G. Jordon, of Catlin, Colo. Evaporation is promoted and the liquid contents of the vessel are kept cool by the above arrangement of materials, and its use in hot climates must prove a convenience and luxury.

Mr. Joseph C. Cramer, of Leadville, Colo., has patented a novel improvement upon a pick for which he obtained a patent November 8, 1881. This present invention consists in forming the outer wall of the eye in the socket head with an inwardly projecting enlargement, and in forming a depression in the back of the pick to fit it. Further, the socket head is provided with a pivoted plate for locking the wedge in place, the end of the plate being adapted to enter a slot in the wedge.

Mr. Olin Pitts, of Newborn, Ga., is the patentee of a back band hook for harness, the object of which is to prevent the destruction of the lines or ropes used as reins when plowing. A plate is hooked into the harness belt, which plate is provided with two prongs or projecting hooks, through one of which the reins run on a friction roller, and the other supports the trace chain. By this device the reins are prevented from getting entangled with the traces, and are kept from the ground when the team is slackened up.

Mr. G. W. Doxsie, of Haring, Mich., recently secured letters patent for an improvement in logging wheels for carting heavy lumber. The tongue is used as a lever for raising the logs into place between the wheels. A guard against damage to the spokes from the swinging of the chains or logs in going over rough roads is provided, and a seat is attached for the driver. In the act of hoisting, the team is attached to the end of the tongue by a long chain, by which is actuated an eccentric hitch of the suspending chains on the axle.

A simple device for tightening the tires of vehicles is the subject of a patent granted to Messrs. Peter and James Young, of Monticello, Iowa. The invention consists in a novel mode of tightening the tires of wagon or other vehicle wheels, without removing the tires from the wheels. A strong metal band of the size the tire should be when tightened is heated quite hot, and while expanded by the heat it is clasped snugly over the wheel tire, which shortens it to the size desired by the contraction of the outer band, aided by the screw and nut, which are used to bring the tightening hoop band upon the tire.

A barrel adjuster is the title of a patent recently granted to Mr. William E. Foreman, of Pierrepont Manor, N. Y., the object of which is to enable a barrel to be rolled upon the frame while the latter is folded flat to the floor. The frame, or adjuster, as it is termed, is then raised into position by a lever, with the barrel upon it. The barrel is held firmly in any position desired for drawing off the contents. The frame is preferably of metal, neatly constructed, and the contrivance is admirably adapted for the dispensing of lager beer, and will be likely to come into extensive use by saloonkeepers.

Messrs. Robert B. F. Reed and George Freund, of Durango, Colo., have recently patented a safety shell for blasting purposes where high explosives are employed, such as giant powder. The material is used in sticks or candles, and for firing the charges a cap is attached to the end of the stick at the end of the fuse. The method of attaching the cap has heretofore been to bore a hole in the end of the candle and insert the cap, which is held in place by a winding of cloth. This method is both unreliable and dangerous, from the fact that as the candle has to be warmed before it can be bored the charge is liable to be exploded by the warming, and the cap to be disconnected, so that the firing of the charge is prevented or delayed so long as to result in an accident. The object of the present invention is to obviate these difficulties and to secure perfect safety in the use of giant powder and similar materials for blasting purposes.