

ENGINEERING INVENTIONS.

An improved car coupling has been patented by Mr. Abel W. Robinson, of Anna, Ill. A drawhead is provided with a bent plate, having a flange on its upper edge to support the coupling pin and kept in place by guide rods and pushed forward by springs, and the swinging apron hinged to the recessed forward end of the drawhead and resting against the guide rods. The coupling pin is held erect, when withdrawn from the coupling link, by a bent plate attached to the top of the drawhead.

A snow plow for removing snow banks from railroad tracks and designed to be attached to the front end of the locomotive has recently been patented. This plow is mounted on wheels and is provided with transverse and vertical cutters, which are driven into the side of the drift by the engine, and thus cut the bottom and sides of the bank of snow, after which a large hoe-shaped implement which is connected to the frame of the truck and operates similarly to a trip hammer is let fall and evers the block of snow, so that when the locomotive is backed the snow is loosened and will be thrown to the side of the track when the locomotive is again driven forward. Mr. Fielding Snedigar, of Elkader, Iowa, is the patentee.

MECHANICAL INVENTIONS.

Mr. John Schofield, of South River, N. J., has recently patented a signal car intended to run back from the rear end of a train to signal another train which may be following, and thus prevent accident. The signal car is also provided with a device for drawing it back to the railway car after it has performed its signaling mission.

Mr. Horace Woodman, of Saco, Me., is the patentee of an ingenious machine for stripping the top flats of carding machines. By the new machine the use of cams in the machinery for stripping the flats of carding machines is entirely done away with, and it is believed to possess several other advantages over the ordinary methods of treating fibrous substances before weaving them into cloth.

Messrs. J. A. Lesourd and James Lotan, of Portland, Oregon, have recently patented an endless chain carrier and distributor, etc., mainly designed for conveying and distributing coal; but it is equally applicable for conveying and distributing other materials. It consists in an endless chain carrier and distributing devices connected, whereby a continuous floor surface and easier running action are obtained for the carrier. Provision is made for varying the places of distribution.

An improved straightway valve has recently been patented by Mr. Bartholomew J. Kelly, of Troy, N. Y. This invention relates to straightway valves for controlling the passage of water, steam, and other gases or fluids in which opposite gates or valve disks are used, which are capable of being raised or lowered and of being forced apart against their seats. By this construction of independent gates the wear is distributed all around the surfaces of contact of the seats.

A machine which is designed to improve the quality of felted hat bodies and lessen the cost of manufacture has been patented by Mr. C. G. W. Purdy, of Brooklyn, N. Y. The chief advantage of this machine is that the felt becomes so thoroughly worked that there is comparatively little loss. Several rollers are mounted upon a vibratory carriage, and a roll of hat bodies is placed in one of the compartments of the carriage, each one of which is provided with a roller, and the felt is then rolled back and forth upon the slotted platform by the vibrating movement of the carriage.

Mr. Erastus Hibbard, of South Barre, N. Y., has recently patented a machine for finishing staves, so that when the barrel or tub is set up and trussed it is ready to receive the head without the use of the usual hand tools for leveling, chamfering, and crozing. Further, the object is to give uniform depth of croze in barrels having staves of varying thickness, instead of making the croze too deep in thin staves and too shallow in thick ones, as is generally the case in hand work. A revolving mandrel carries the tools, and a feed bed with traveling belts carries the staves. The parts are made adjustable and self-adjusting, according to the thickness of stave.

A very simple machine for cleaning and separating wheat, corn, oats, etc., has recently been patented by Mr. D. P. Motley, of Rexburg, Va. The wheat passes from a hopper into a sieve which is shaken laterally, and which is provided with thin strips which rise and fall between the wires of the screen and serve to separate the wheat from other matter, the dust and imperfect seeds falling through into the fan chamber below, while the worthless material is carried above the grain to the outlet, where it is discharged. The perfect grain in the mean time has fallen on to a secondary sieve where it is further cleaned by a blast from the fan blower. The seed is then passed into a scouring fan chamber and a polishing device, which finishes the separating and cleaning process.

A novel steam road vehicle has been patented by Mr. George A. Long, of Northfield, Mass. This invention consists in a tricycle or similar vehicle, in which steam is employed as the propulsive power, the large wheels being used as the drivers and the two small wheels as the guide wheels. The power is applied directly to the periphery of the driving wheels, by means of differential friction wheels, which work interchangeably on the periphery, and by this arrangement the inventor claims that a great amount of work may be accomplished with a minimum of power. The fuel used for generating the steam is preferably gasoline, but other substances may be used. The vehicle is provided with seats, and the invention seems to provide a very comfortable, efficient, and inexpensive mode of traveling.

An amalgamating apparatus to be used in either wet or dry placer diggings has been patented by Messrs. William Hawkins and Henry R. Hawkins, of Oregon, Mo. The amalgamator is provided preferably with two flumes which are arranged within the frame of the machine, and are oscillated by a crank and rack and pinion movement. The flumes are fur-

nished with a series of troughs, supplied with the mercury for gathering the gold. These pans are furnished on the upper edges with projections, which prevent the mercury from being forced out of the pans by the reciprocating motion of the flumes. A blower is provided, which, in case the machine is to be used as a dry amalgamator, blows all quicksand and other light matter out of the mercury pans, and keeps them clear and unobstructed; and in the wet amalgamator the blast of air serves to agitate the pulp and carry away all light refuse matter, leaving the blacksand, gold, and mercury in the pans.

AGRICULTURAL INVENTIONS.

Mr. Rufus R. Tugwell, of Brownsville, Tenn., has recently patented an improvement in hand power cotton presses which is both simple in construction, easily operated by one or two persons, and without cheaply made. The principal parts of the machine are of wood, and the press may be constructed by a carpenter or by one even quite unpracticed in the use of tools.

Judging from the drawings and description in a patent recently issued to Messrs. G. J. Contancin, J. M. Scott, and J. Stumpff, of Blue Mound, Ill., for a corn stalk cutter, we should imagine that they have a machine which will prove valuable to all corn growers, and especially in the West, where such immense fields are planted. This machine cuts the stalks while standing in the field into such lengths that it will not interfere with the subsequent cultivation of the land, and is so arranged as to cut two rows of stalks at a time.

An improved cotton chopper and scraper has recently been patented by Mr. William R. Russell, of Big Valley, Tex. The plows are so arranged that the ground will be scraped upon each side of the row of plants. A stock is provided for enabling the rider to raise the plows from work when not required, and holding them above the ground in turning corners, etc. The choppers are mounted upon a longitudinal shaft, which is rotated by the hind axle of the machine. The machine is very simple in its construction and operation.

A cotton chopper has recently been patented which embraces some improvements over those heretofore in use. The machine consists in a chopping wheel which has two or more wide radial slots, so that when the machine is passed over the plants the latter will be left standing at certain equidistant intervals, while the plants between will be crushed by the roller. Side rollers are likewise provided for crushing the straggling stalks, and plows are arranged at the rear of these to throw up the soil around the standing cotton plants. The inventor is Mr. Richard R. Pace, of Lineville, Ala.

A light, cheap, and simple steam plow, in which rotating screw-shaped pulverizing blades are used, has recently been patented by Mr. G. W. Roes, of Bluffdale, Ill. The front and rear pulverizers are driven from a shaft which carries the driving wheels of the machine at a greater velocity than is due to their mere travel over the ground, and they are so arranged as not to interfere with the use of the engine for thrashing or general purposes, when not required for plowing. By setting the points of the blades of the pulverizers at a slightly acute angle of rotation, they will be kept sharp by friction with the ground.

An improved harrow has recently been patented by Mr. John C. McDorman, of Gilbert's Mills, O. This invention consists in connecting two triangular harrows with a central draught beam, and the special advantage of this arrangement is that when a stump, stone, or other obstacle is encountered, the side of the harrow nearest the obstruction may readily be raised for avoiding the same, and further, when the harrow is to be transferred from one place to another, the central beam may be raised and retained in its raised position by passing a beam through the bars of the two side sections, so that the harrow may be dragged like a sled, without the teeth coming in contact with the ground.

MISCELLANEOUS INVENTIONS.

Mr. Henry E. Finney, of Las Vegas, New Mexico, has recently obtained a patent on a catheter which is claimed to possess several important advantages over the instruments in general use.

Mr. W. S. Foster, of Richford, Vt., has recently patented an improvement in a double pull for gong bells, for use in situations where the connections extend in opposite directions or at right angles to each other, so that the same bell may be rung from separate places.

A baggage check has recently been patented by Mr. J. A. Thompson, of Monticello, N. Y., which is made in two parts hinged together at one end, while the strap passes through in the ordinary way. By reversing the sides at the end of a journey, the same check is ready to be used for the return trip.

A burial casket has recently been patented which is constructed in sections, so that it may be readily taken to pieces for transportation or for packing away in a small compass. Messrs. G. W. Comee and Samuel S. Comee, of Waseca, Minn., are the inventors of the "knock down" burial case.

Mr. Walter T. Armstrong, of Andes, N. Y., has obtained a patent for a machine for tinner's use for notching or cutting sheet metal in the manufacture of tin or copper vessels, cans, etc., in which the sheet has to be notched for forming the corners of the article properly.

An improved rake for use on lawns has been patented by Mr. James R. Benton, of Oswego, N. Y. The rake proper is carried by a frame which is mounted on rollers, so that it gathers up leaves and other refuse without injury to the sod. The box is made of a size suitable for holding a large quantity of leaves.

Mr. Jacob Rhoads, of Watsontown, Pa., is the patentee of a removable lip for cups or bottles.

The lip is of the shape of the lip on the ordinary measuring vessel, and it is attached to the can or bottle by an elastic band, or the lip may be of itself elastic, and made to stretch over the top of an open vessel, for preventing the spilling of liquids in pouring.

Letters patent have recently been granted for an improvement in the shifting rails for wagons. This device is constructed in such a way that it may be attached to seats of different size, furnishing said seat with a comfortable back, and with devices to which may be attached a standing top when desired. The patentee is Mr. Andrew F. Shuler, of Arcanum, O.

An improvement in die and die block for forge hammers has recently been patented by Mr. J. H. Baker, of Westville, O., which consists of a locking device for holding the stock in the die while being forged, and a shifting contrivance of the die block for moving the stock under the hammer, and for widening or plating out the stock.

An oil burner for lamps where the oil is supplied from a reservoir and intended to secure safety has recently been patented by Mr. J. J. Miller, of Chicago, Ill. By this invention a continuous and uniform supply of oil to the burner is secured, the same being heated to a suitable degree for combustion by the burner through deflectors.

An improved nut lock has recently been patented for securing fish plates to railroad rails. The special feature of this improvement consists in the manner of locking the nut securely, so as to prevent it from becoming loose by the jarring of the rail. The inventors are Messrs. J. B. Greenhalgh and Henry Greenhalgh, of Blackstone, Mass.

Mr. Samuel E. Nutting, of Iron Ridge, Wis., is the patentee of an improved seal lock which is so constructed that the locking bolt may secure the door of the car. A thin metal strip or wire passes through slots in the hasp and through the locking bolt, and the hollow cylinder holding them all securely in place. The ordinary seal with the name of the station or other device stamped thereon is used.

Mr. Alonzo Chappel, of Brooklyn, N. Y., has patented an instrument which he has named a "linearscope," which is used for obtaining the correct outline of objects and forms within the space of an intended picture, thereby avoiding the uncertainty of perspective points taken by the unaided eye. This instrument will be found of great convenience for artists and amateur draughtsmen.

A very simple and practical glue heater has been patented by Mr. W. C. Weatherly, of Grand Rapids, Mich. The invention consists of a glue heater or pot adapted to be used with a heating chamber and made adjustable upon it, so that the temperature of the pot may be regulated with great accuracy, by increasing or diminishing its contact surface with the heating chamber.

Mr. Watson F. Hammond, of Mashpee, Mass., has obtained a patent for an improved machine for screening cranberries. This machine consists of a hopper into which the berries are to be placed, suitable valves for regulating the discharge from the hopper, a screen for separating the perfect from the imperfect cranberries, and a delivery spout for discharging them into boxes or barrels preparatory to shipping them to market.

A practical device for turning wrist pins has recently been patented by Mr. Francis M. Hazleton, of Red Bluff, Cal. The invention consists in bearing blocks or boxes fitted with cutters, which blocks are to be applied to the wrist pin and the shaft or wheel then revolved, and thus, by the internal cutters, will true the journal in the exact position in which it has to run, the journal being revolved in the cutter box the same as it usually revolves in its own box.

A simple device for gauging weather or clap boards has been patented by Mr. J. C. McEwen, of Lochloosa, Fla. The device may be readily set for indicating the inclination and set of the board, and it is readily adjustable for boards of different widths. This implement may be provided with hooks upon which may be hung the various tools used by the workmen, which will thereby be always readily at hand convenient for use.

A simple device for ascertaining and verifying the inclination of ditches, etc., has been recently patented by Mr. Lyman F. Pontious, of Adair, Ill. A spirit level is mounted upon a stock which is supported by stakes driven in the ground. The angle is obtained by sighting with the stock, and the degree of inclination is indicated by the spirit level. When this has been ascertained, the stock may be laid on the bottom of the ditch, to gauge the inclination of the latter.

Mr. H. C. Richards, of Cincinnati, Ohio, has patented an improved stringing bar for pianos and other musical instruments. This invention permits metallic fastenings at both ends of the strings as well as connects them by certain devices which allow them to be tuned with greater facility than in the ordinary way, and doing away with all wooden support, and is consequently much less affected by atmospheric changes.

An improved leveling instrument which combines the elements of simplicity and accuracy, and which at the same time is quite inexpensive, has been patented by Mr. Jefferson A. McCurry, of Whitesville, Ga. The special object of the invention is to have a cheap instrument useful for "laying out" terraces, ditches, etc., but at the same time it is capable of performing the ordinary functions of the more elaborate and costly instruments.

Mr. Foree Bain, of Minneapolis, Minn., has recently patented an improved dynamo electric machine. The invention relates to the construction of the armature cores, the object being to prevent residual magnetism and to obtain the maximum of saturation of the armature and its quick discharge. In this invention an armature core is formed of a sheet metal ring, with a vitreous surface coat, and having outwardly extending opposite tongues, with annealed iron wire wound between them.

To protect the sole of shoes from wear, Mr. S. M. Street, of Dalton, Ga., has patented the following method. On either side lengthwise of the sole, the inventor places screws at short intervals, leaving the heads of the screws projecting from the surface of the leather; across the sole of the shoe he passes a wire back and forth around the heads of the screws, forming when completed a web of wire across the entire bottom of the shoe, protecting the leather and rendering the sole very durable.

A patent has recently been issued to Mr. W. H. Wolfrath, of New York city, for an improvement on a sash fastener granted to the same inventor on March 8, 1882. The present invention consists of an ingenious arrangement by which, in the act of raising the window by the sash lift, the sash becomes automatically unlocked; a connecting rod between the window lift and fastener operating a cam contrivance does the work. As soon as the pressure on the sash lift is removed, the window becomes locked again.

Some improvements in the process of milling flour by feeding the grain between rollers has recently been devised. Mr. Oscar W. Tresselt, of Fort Wayne, Ind., is the patentee of certain improvements in the arrangement and adjustment of the rollers, whereby grain may be ground to any degree of fineness desired. Provision is also made for allowing the rollers to separate and allow stones, or any substance too hard to be crushed, to pass between the rollers without injury to the latter.

An apparatus for sampling ore, concentrates, tailings, placer gravel, or other minerals for ascertaining their value has been patented by Mr. George S. Andrus, of Columbia, Colo. A series of chutes arranged within a case beneath the pulverizer, and so arranged one above the other, that half of the material will pass to the inside of the case and thence to the hopper, and the remainder drops into the second row of distributors, and so on, until the lower chutes are reached.

Mr. J. Edwin Giles, of Hazleton, Pa., has obtained a patent for an improved dynamo electric machine. In machines as heretofore constructed a large increase or decrease in the strength of the current is necessary before there is any action of the regulating mechanism, while by this improvement the mechanism acts automatically and maintains the current at its normal strength. The inventor locates the commutator entirely or partly within the core, thus economizing space, and permitting a core of greater length and hence of greater strength being used.

Mr. Oliver Pelkey, of Arnot, Pa., is the patentee of an improved brake for sleds. The fore part of the sled is provided with a horizontal tongue-roller furnished with pivots which slide in horizontal slots, so that when the sled is on an incline and slides ahead of its own gravity it overruns the pivots on the tongue-roller, and the brakes are thereby automatically set; the metal nose on the lever extending from the brake impinges in the ice. The action is very simple, and the brake is as applicable to a pair of tandem bob sleds as to any other.

The ordinary charcoal furnaces used by plumbers are among the most dangerous articles used about houses. They have been the cause of a great many disastrous fires. To obviate the dangers attendant upon the usual plumber's furnace, Mr. Leopold Bowsky, of New York city, has patented an improvement by which greater security against fire is insured, while its construction warrants a quicker heat and better combustion. The inventor claims that his furnace may be set upon the finest rug or carpets while in use without doing them injury.

A boiler hoe intended to scrape a large surface of a boiler (at once is the subject of letters patent recently issued to Mr. James Preston, of New York city. The hoe consists of two wings pivoted to a block attached to a rod, whereby the wings can be passed into the boiler through the hand hole while folded and spread out when within the boiler. This is accomplished by drawing the blocks toward each other and locking them in position by a nut, thus forming an effective instrument for cleaning the inner surface of boilers.

Among the recent improvements in dumping scows is the patent of Messrs. John Smith and John P. Rhodes, of Rockville Center, N. Y. The body of the scow is made in two halves which are hinged together at the upper edges, the receptacle for the garbage having inclined sides, so that when the two sections are unlocked the weight of the load will press the two sides open and discharge it into the water. A locking device is also provided for holding the sections apart while the load is being discharged, and when this is accomplished the buoyancy of the sections will bring them together again as soon as the lock is released.

Mr. Mason L. Cope, of Denton, Texas, is the patentee of an improved gate so constructed that it may be opened without the necessity of the driver descending from the carriage. The gate is mounted at the middle on a vertical post pivoted at top and bottom in suitable bearings, which enables the gate to swing open and shut on its vertical axis. One of the bars of the gate is made to serve for the latch by being fitted to rise and fall, and being connected with levers mounted on the central post to be conveniently reached by persons riding in carriages for opening and closing the gate without the necessity of dismounting.

A cheap paint for roofs and like purposes consists of Venetian red mixed with petroleum tar, cod oil, lime water, resin oil, pulverized copper, ground alum, glue, and China clay. These ingredients form a mixture which it is claimed will last well and resist the action of heat, and protect buildings from burning embers. Mr. A. G. Peuchen, of Toronto, Canada, is the patentee. The same inventor has also obtained a patent, of same date, on another paint composition consisting of boiled linseed oil mixed with silicate of soda, naphtha mixed with alum, a potash solution, raw linseed oil and resin, and cod oil mixed with brown japan. The patentee claims for this paint cheapness, quick drying, hard finish, easy to work, and not liable to crack or peel.