

ENGINEERING INVENTIONS.

Mr. E. C. Galentine, of Bourbon, Ind., has recently patented an automatic car coupling, in which a gravity hook is adapted to be lifted by the impact of the link. The simplicity of the invention should recommend it to railroad men.

An improved door and door attachment for grain cars has been patented by Mr. Charles C. Duffy, of Newport News, Va. The inner doors of grain cars are so hung that they are pressed open by the lateral pressure of the grain when the cars are to be unloaded, thus facilitating the discharging operation.

Messrs. Samuel H. Scott and George J. Talmage, of Chanute, Kas., have recently patented an improved car coupling which consists in a drawhead carrying a swinging link, and adapted to receive the link of an opposite head, and in devices for holding and uncoupling the link and for operating the swinging link from the top or the side of a car, to obviate danger to the life or limbs of the operator.

Mr. James E. Sinclair, of Baltimore Co., Md., is the patentee of an improved valve which is designed mainly for pumping or hydraulic purposes, but is applicable to all uses in which a check valve may be employed. It belongs to that class of valves in which an elastic or flexible tube is secured at one end to a circular shell or ring, while its other end is collapsed or flattened, which tube will allow fluids to pass in one direction, but acts as a check for the reverse flow.

A patent has recently been issued to Mr. J. E. Sinclair, of Baltimore County, Md., for a superheating steam engine, in which the steam is reheated after it leaves the boiler, and its expansive force thus greatly increased. Heretofore separate superheating chambers interposed between the boiler and cylinder have been used. The present invention dispenses with separate superheating chambers and superheats the steam in the cylinder in which it is used.

An improved station indicator has been patented by Mr. G. F. Robertson, of Taylorsville, Ky. The mechanism consists in a case containing endless chains upon which are attached slats bearing the names of the stations upon the line of travel. One of the rollers is provided with a pawl and ratchet, by means of which the rollers may be rotated and the several names of the stations brought to the view of the passengers in the opening in the case.

Mr. James Barrett, of Beallsville, O., has obtained a patent for a car coupling which is an improvement upon a patent granted to same inventor June 20, 1882. This invention consists in the employment of a coupling pin pivoted in the upper forward end of the drawhead and inclining downward and backward into the throat of the drawhead, the pin being suitably notched for engaging with the connecting link.

An improved gold washing apparatus has been patented by Messrs. Charles S. Betts and H. E. Wilson, of Salt Lake City, Utah Ter. The gold bearing material is washed from the flume upon a screen where the gravel, dirt, and lighter materials are carried over the screen and discharged. The heavy screenings are caught upon a platform, from whence they pass on to a series of mats which serve to catch and retain the gold, after which the mats are washed out in tanks and the gold secured.

Mr. Charles C. Duffy, of Newport News, Va., has recently obtained a patent for an improved dumping car for use in constructing railroads and for other purposes where earth is to be transferred from one point to another. The car is provided with a series of chutes of varying capacity, located on either side of the car. A rod extends the entire length of the car for opening the doors of all the chutes at one operation. The doors are secured by spring bolts, and between the latter fastenings and the rod are connecting chains.

An improved car coupling has been patented by Mr. Charles E. Appell, of Harrisburg, Tex. The invention consists in the combination with a drawhead of an L-shaped lever pivoted in the same and provided at its angle with a lug, which lever has a coupling pin suspended from the end of the long arm, and has its short arm passed into an aperture in the inner end of a bar sliding in the bottom of the drawhead, whereby when the lug is depressed the coupling pin will be raised and the bar in the drawhead will push the link out from the end of the drawhead.

Mr. William Emmett, of Logansport, Ind., is the patentee of an improved car coupling. The drawhead is provided with a coupling hook which slides vertically within the drawhead, and it has a hook at its upper end. Both these hooks are beveled at their forward edges to admit of the ready entrance of the coupling link. A crank shaft is connected with the coupling hook and at the end with a shaft which reaches up to the top of the car, and is joined there with a horizontal rod which extends along the side of the car, and communicates with the tender of the locomotive, whereby the raising of the hooks couples the car, and may be effected either in the car itself or from the locomotive.

A direct acting steam pump in which the water and steam cylinders are arranged both within the case, has been patented by Mr. James E. Sinclair, of Baltimore County, Md. An outer cylindrical case has a central ring containing steam ports and packing ring, combined with a shell of smaller diameter arranged concentrically therein, and provided with open ends and a valve, and having at its ends flanges that form annular piston heads, which fit with a tight sliding joint in the outer cylinder, by which construction steam is admitted to the annular spaces between the inner shell and outer case or cylinder, alternately on opposite sides of the central ring, causing the inner shell to reciprocate, and the water to flow straight through the center.

MECHANICAL INVENTIONS.

Mr. James M. Bryan, of Guthrie, Ky., is the patentee of a fishing reel which is so constructed that the fish, when hooked, is drawn in by the line, which is wound upon the spool of the reel automatically without any effort on the part of the fisherman.

An attachment to windows for allowing flies and insects to escape from a room, and to improve the ventilation, has been patented by Mr. Milton L. Edmunds, of Danbury, Iowa. This invention consists in a valve of circular form with a groove cut in the side, which valve is located over the panes of glass, and so arranged that the aperture over the panes may be left open or closed by rotating the valve appliance.

A novel apparatus for filling target balls has been patented by Messrs. Pierre J. Jarre and Etienne A. Jarre, of Paris, France. The object of this invention is to provide a machine which will fill rubber balls partly with air and partly with water, and will so regulate the proportion between these two that the balls will be of suitable weight relatively to their size for projection into the air, and further the machine is provided with a device for clamping and hermetically sealing the mouths of the balls after they have been filled.

A very simple device for ascertaining and regulating the inclination of the spindles at the end of an axle to correspond with the bevel of the wheel has been patented by Mr. William Buckridge, of Port Huron, Mich. To the supporting standards at one end is arranged a metallic square which is adjustable by means of set screws, and is provided with a plumb line for regulating the placing of the same. In securing the set of the spindle of the axle the bevel of the wheel is first ascertained, and then the long arm of the square is moved a corresponding distance out of plumb line, so that the short arm will indicate the desired inclination of the spindle of the axle.

An improved windmill which is self-regulating according to the force of the wind has been patented by Mr. W. C. Sickle, of Dallas, Texas. The shaft of the wheel is provided with two collars, one of which is loose and the other fixed. A spiral spring which surrounds the shaft is placed between the two collars, and to the peripheries of these are flexibly connected a series of blades which are arranged in such a way as to oscillate toward a feathering position in a strong wind. In this way when the wind is strong the blades will assume a feathered position, and will present very little surface to the wind, while if the wind is low the wings will resume their normal position, and in both cases the same speed will be approximately attained by the wheel. The same principle with modified construction may be applied to water wheels.

An automatic brake for hoisting machines has been patented by Mr. William W. Wythe, of Red Bank, N. J. The object of the invention is to provide a brake mechanism for pulleys, derricks, and other hoisting machines which shall be brought into operation automatically by the weight of the load, but will be released by the movement of the operating shaft when power is applied for raising or lowering the weight. The same inventor has also obtained a patent for an improved mechanism for raising heavy weights, which mechanism is so constructed that the loss of power by friction is reduced to a minimum, the whole being operated by means of a hand wheel and rope, or by a crank handle, and further, with this construction a wheel of much smaller size may be used for elevating the same weight than would be possible with a hoisting apparatus of the ordinary gearing.

AGRICULTURAL INVENTIONS.

An improved mowing and reaping machine which is very simple in operation, economical in use, and is readily adjustable as to the height of its cutter bar has been patented by Mr. Isaac Branch, of Adairsville, Ga. The shear blades in this machine are caused to oscillate upon individual pivots, by means of a scalloped wheel on the main axle of the machine acting through several levers.

Mr. Hiram L. P. Pool, of New Edinburgh, Ark., is the patentee of a combined scraper, plow, and cultivator. This implement consists in a beam provided with adjustable handles and with adjustable standards, the first and last being provided with plows and the intermediate one with a scraper. The plow standards are secured to the beam by bolts, and the distance laterally between the three standards may be regulated for adapting the machine to various uses.

MISCELLANEOUS INVENTIONS.

Mr. E. M. Senseney, of St. Louis, Mo., has secured a patent recently for a bicycle bell having a simple clapper, by which contrivance the bell may be sounded without any effort on the part of the rider.

An ornamental rod attached to the pole or shaft of a wagon for supporting the reins and to prevent horses from getting their tails over the latter has been patented by Mr. David McGlathery, of Havilandville, Ky.

A toy pistol, so constructed that caps may be exploded and marbles shot off simultaneously, has recently been patented by Mr. O. C. Butterweck, of St. Louis, Mo. This invention is an improvement upon a patent granted to same inventor Feb. 29, 1876.

Mr. C. E. Goss, of Lynn, Mass., has patented an attachment for shoe lasts, the object of which is to hold the block and insole in place when lasting shoes, which the inventor claims that it does in a firm and efficient manner.

Mr. N. C. Cookson, of Newcastle upon Tyne, England, has patented an improved electrode for secondary batteries, which consists in combining a folded layer of fine leaden wire with a perforated leaden sheet having a tongue, so that the tongue and wire end will be brought together and form a pole.

Mr. Oren Rubarts, of Albany, Oregon, has obtained a patent for an improved metallic saddle horn made of metal and covered with leather or any similar material, and having a removable cap secured to the body by a screw fastening, which serves to hold the leather in place on the pommel.

An improved hand sled has been patented by Mr. Joseph T. Pope, of Horseheads, N. Y. The invention consists in forming the runners of the sled with projecting shoulders for supporting and bracing the seat board, and in providing it with springs to ease the jolt of the sled in passing over gutters, etc.

Mr. Samuel H. Bell, of Mexico, Mo., has obtained a patent for an improved two wheeled vehicle. The improvement relates to the axle, which is made arched with a connecting truss, whereby the axle is materially strengthened, and the invention further relates to the manner of attaching the body to the axle.

An improved buckle has been patented by Mr. Ezra L. Packer, of Toulon, Ill., which consists of a sliding and tilting dog arranged in such a manner that the tug may be easily lengthened and shortened without bending the leather, and held with great security by the dog and frame.

Mr. Thomas Kimball, of Chicago, Ill., has obtained a patent for a reversible shirt bosom which is so made that it may be worn to show a plain bosom on one side, and when turned exhibits a laced bosom of a different pattern or material, so that the wearer may have both a dress shirt and lawn tennis or yachting shirt combined in one garment.

Mr. D. Flannagan, of Kosse, Texas, has patented a feed governor for cotton gins, whereby the feeding will be automatically decreased when the cotton is fed into the roll box faster than it is being ginned and the feed will be finally stopped when the roll increases to a certain limit, and started again when the roll is reduced to a size previously fixed upon.

Mr. P. I. Harvey, of Amsterdam, N. Y., has recently patented an improved feed guide attachment for knitting machines, whereby one of the threads can be passed above the other at will, the raised thread showing on the outer surface of the knitted fabric. This invention is an improvement on the circular knitting machine patented by Mr. Harvey in February, 1882.

Some improvements in parallel dividers have recently been patented by Mr. James B. Tetley, of Pittsburg, Pa. The points of the dividers are attached to the ends of the legs in such a way that the points of the dividers will always be kept parallel to one another, whether they be brought toward or separated from one another.

Messrs. Kaufmann and Strauss, of No. 77 Duane Street, New York city, have by assignment from Mr. Wolff Hagelberg, of Berlin, Germany, patented a very simple and convenient bill of fare or card support. A brace is joined to a disk, between which and a projection on the brace the card or menu is secured for exposure. When not in use, and for shipping, the frame may be folded into small space.

An improved top cover for kerosene, gas, and other stoves, designed to facilitate the operation of cooking, has been patented by Mr. William H. Noyes, of Newburyport, Mass. This stove top is so constructed with sliding covers and an apertured box that the heat may be admitted to any portion of the stove as desired and a vessel placed on the stove may be subjected to any degree of heat that is required.

Messrs. Hans F. Arff and Detlef Bornholdt, of Arcadia, Iowa, have patented a game table upon which games are played with balls and pins, something after the manner of ten pins. It is an improvement upon the form of table in which the pins, after they are knocked down by the ball, are simultaneously set up by a pull rod running to the far end of the table and connected with the pins.

A sugar evaporating pan, so constructed that the cane juice is automatically skimmed as it boils up and flows over to the finishing part of the sugar pan, has been patented by Messrs. Richard D. Shindelbower and Henry Pressler, of Louisville, Ky. The boiling section of the pan is separated from the finishing section by a partition with which are connected strainers at the ends for separating the scum from the cane juice.

A very convenient device for holding paper bags and twine for use of grocers has been patented by Mr. Arthur W. Cash, of Decatur, Ill. A wire frame is provided with suitable arms for holding paper bags, and with tags displayed at each compartment to designate the size. A wire cage is provided in the center to hold a ball of twine. The holder is intended to be suspended above the counter, convenient to the clerk.

The combination with a hair or flesh brush of an induction coil and battery, which are set in a recess provided in the back of the brush for creating and transmitting to the flesh or roots of the hair an electric current while the brush is in use, promoting the growth of hair, and claimed to be useful for curative purposes. Mr. Jos. N. Aronson, of London, England is the patentee.

A new composition has been patented by Messrs. Antonio Mucci, of Stapleton, N. Y., and Tello Deudi, of New York city, of a plastic paste for use in the manufacture of various articles of art and industry, such as billiard balls, statuary, vases, etc. The composition consists in gelatine fiber deprived of its mineral matter, varnish, oxide of zinc, terra alba, and an acid, all being mixed together, forming a hard and elastic substance which is cheap and non-explosive.

Mr. Duncan M. Buie, of Wilmington, N. C., is the patentee of an improved process of manufacturing oils from organic substances, which consists in injecting steam and carbonic acid gas into a retort heated to a high temperature and containing such material as pitch pine, sassafras, juniper, myrtle, peanuts, cotton seed, and other oil containing substances. The inventor claims that a larger quantity and superior quality of oil is thus produced.

An improved method of making button holes has been patented by Mr. James Ware, of Union Hill, N. J. The invention consists in making button holes by sewing narrow pieces of material together near the edges of their middle parts, then folding the edges down, then folding the pieces together at their middle parts, with the folded edges inward, and then sewing the pieces together along the opposite sides of the button holes and along the folded edge of the strip.

An improved fire extinguisher, intended especially for use in theaters, concert halls, etc., but which may also be used in hotels and other buildings, has been patented by Mr. G. F. Wagner, of Omaha, Neb. A system of spray pipes located in any suitable position in the building is connected with the main water pipe. Valves for regulating the flow and branches for directing the water to different parts of the building are also provided.

A contrivance to prevent the body of a wagon from being thrust upward unduly by the shocks and jolts caused by uneven roads has been patented by Mr. Oscar F. Lowe, of Hampton, Iowa. This consists in a double cranked rod pivoted in clips to the rear axle, and having two arms connected with the body of the wagon by rods, so that an undue weight on one side will bear with equal force on the other side. By this equalizing device a carriage is kept level irrespective of the position of the weight on the body.

An improvement in churns, whereby the churning operation will be expedited and the cleaning of the churn facilitated, has been patented by Mr. Edgar N. McKimm, of Lathrop, Mo. Bars for beating the cream are attached to the ends of the dashers, and are provided with holes through which the cream passes as the dasher is rotated. To the sides of the churn are attached horizontal bars, against which the cream is thrust by the dasher. Tubes are arranged in the upper part of the churn to admit a free circulation of air.

Mr. Charles Huck, of New Orleans, La., has obtained a patent for an improvement in telegraph and telephone cables designed to be run on posts or under the ground, as may be required. This consists in combining a series of bare ground wires with layers of insulated wires, the ground wires being twisted or wrapped in reverse direction to the insulated wires, and not allowed to touch, whereby the ground wires more perfectly carry off the induction, and the insulated wires are less liable to induced currents.

A very convenient household fixture consisting of a water reservoir, a warming oven, and a shelf to be used in connection with the pipe of a stove has been patented by Messrs. E. C. Strayer and Valentine Strayer, of Calmar, Iowa. This invention consists in an ordinary heating drum of oval shape and connected with the pipe of the stove, and of a pan or reservoir for holding water, which fits within this heating drum, the top of the covered reservoir forming a shelf upon which may be placed the food or plates to be warmed.

A composing stick for compositors, so constructed as to enable columns of different width to be set in the same stick, has been patented by Mr. Adolph Danziger, of New York city. The composing stick is provided with a transverse partition on its upper surface and between the ends, dividing the stick into two parts. An adjustable end piece is held on the stick at each side of the partition, thus permitting the stick to be adjusted for setting type for two columns of different widths on one stick.

An improved single tree for either single or double vehicles, to enable the horse or horses to be readily detached therefrom, has been patented by Mr. John F. McDaniel, of Letart, W. Va. This single tree is provided with swinging trace hooks, which are set free for liberating the trace by pulling a strap which passes into the interior of the carriage. In case, therefore, the horse becomes unmanageable, he may be immediately set at liberty, and injury to the occupants of the wagon avoided.

Messrs. C. S. Cummings and C. A. Shank, of Gloversville, N. Y., are the inventors of an improved process for converting leather scraps into paper or pasteboard. In the manufacture of paper or pasteboard from leather scrap or waste, the scraps are subjected to a bath of water, chloride of lime, and carbolic acid, and to successive drenches of lime water with potash, concentrated potash with water, and rinsing water, and the mass is ground into a pulp, either for use separately or to combine with straw or other vegetable matter as desired.

Mr. James Wilkes, of Winnipeg, Manitoba, Canada, has obtained a patent for a nut lock formed of two plates, one of which is provided with two squared apertures for receiving the nuts at the ends of the fish plates, and with a central tongue pressed out of the plane of the plate. The other locking plate has two recesses formed by prongs for receiving the middle nuts, and a tongue also pressed out of the plane of the plate, which tongue is passed in between the tongue of the former plate and the fish plate for the purpose of locking the middle nuts, which hold the locking plate against the fish plate.

Mr. Eugene E. Oudin, of New York city, has obtained a patent for imitation stained glass, which consists of a glass plate having imitation leads applied to one side, and the surface of the glass between the imitation leads coated with transparent colored varnish or lacquer. The imitation leads and the varnish or lacquer may be covered by a second glass plate of the same shape and size as the first plate, so that the imitation leads and the varnish or lacquer will be protected from the weather. By this invention a very good imitation of stained glass is produced at very moderate cost.

Mr. Adam Stierle, of Philadelphia, Pa., is the patentee of an improved dumping scow. This scow is divided longitudinally into two equal parts, which parts are firmly hinged together at the bottom and are held together at the top by a chain which passes over a windlass, and thence over pulleys on the opposite section from the windlass, and is attached at its end to a staple on the same section as the windlass. When the chain on the latter is unwound, the two sections will immediately open and careen in opposite directions, whereupon the material on the scow will slide off into the water. The sections as soon as they are relieved of their load will shut together automatically, and by the aid of the windlass may be held firmly together.

Mr. Clement E. Purdy, of Wooster, O., has obtained a patent for an improved skate which is so constructed that it may be used as an ice and parlor skate. The skate is provided with a series of grooved rollers, over which an endless belt is passed when the skate is to be used in the parlor, to prevent injury to the floor or carpet, and also to prevent the rollers from slipping on the floor. When the skate is to be used upon the ice, a runner is securely attached to the rollers of the skate by a hook point which passes over the front roller of the skate, and by a thumb screw which fastens the runner over the hind roller. The clamps which secure the skate to the sole of the shoe are so arranged that the skate may be adjusted to fit the shoes of persons differing in size.