ENGINEERING INVENTIONS.

A car axle has been patented by Mr. George W. Wilkinson, of West Rutland, Vt. The construction is such that the wheels are keyed upon the points of the axle and permitted to revolve independently of each other, the arrangement being calculated to avoid wear and tear upon the oilers and excessive friction in rounding curves.

A car coupling has been patented by Mr. George W. Hoover, of Keithsburg, Ill. Combined with a drawhead is a top plate having downwardly projecting bars, an angle piece with side lugs pivoted in the drawhead, and other novel features, the whole being an improvement on a car coupler formerly patented by the same inventor.

A switch stand has been patented by Mr. Charles W. Widney, of Wymore, Neb. There are vertical notches in the top of the head plate to receive a throw lever pivoted to the shaft which connects to the switch rails, with special details of locking mechanism for the throw lever tending to promote safety and security in the adjustment of railway switches.

An oscillating engine has been patented by Mr. Douia C. Putnam, of Wayne Center, N. Y. This invention consists in certain special features of construction of the valve motion, and in its connections to the valves and the starting, stopping, and reversing lever, providing for running the engine crank shaft in opposite directions, and for reversing the motion at will without the use of eccentrics.

A speed governor for steam engines has been patented by Mr. Ebenezer Hill, of South Norwalk, Conn. With the cylinder and its piston connected with the stem of a throttle valve is connected a second piston and a safety valve connected with the compression chamber of an air compressor, whereby an excess of pressure in said compression chamber will raise the pistons and close the throttle valve to check the speed of the engine.

A system of ventilating, cooling, heating, and lighting railway cars, and cooling their axle boxes, has been patented by Mr. George Van Duzer, of New York city. A separate car with independent boiler and motor operates an air purifying and cooling apparatus, from which flexible pipes carry the air to the cars of the train, and from which pipes also lead to the axle boxes for cooling hot journals; this independent car also provides steam for heating the train, and space for storage of illuminant, either gas or electricity, to be distributed by suitable arrangement of pipes or wires.

MECHANICAL INVENTIONS.

A method of making twisted boring tools has been patented by Mr. Charles Robin, of Chester, Conn. It consists in swaging a blank with a plane and a concave side and then twisting the same to form a bit, with a deep spiral groove on one side and a shallow spiral groove on the opposite side, making a bit which requires but little grinding.

AGRICULTURAL INVENTIONS.

A cutting apparatus for harvesters has been patented by Mr. Charles Galle, of Columbia, Mo. The sickle bar is made rectangular in cross section, the sickles sliding thereon, and consisting of blades with box ends adapted to fit the bar, and being held upon it by a nu..screwed upon the end of the bar, thus making a durable and economical device.

A combined hay rake and loader has been patented by Messrs. Thomas Kirby and Robert Shea, of Emmetsburg, Iowa. This invention covers a specially devised mechanism, which may be connected with the rear axle of a wagon upon which the hay is to be loaded, or it may be drawn by a team at the side of the wagon, to facilitate the gathering and loading of hay.

A grain sacking and weighing attachment for thrashing machines has been patented by Mr. William H. Barber, of Ward, Ohio. With an elevator scale is a suspending crane, branched bag, filling spout, and automatic valve shifter and registering counter, to spout grain directly into bags, from the machine, and weigh and register the number of bags, simply and economically.

A corn harvesting machine has been patented by Mr. Elias M. Aikin, of Dawson, Dakota Ter. It is for harvesting the ears of corn from the stalks standing in the field, and is intended to be drawn along the rows, at the side of the wagon, so the stalks will be gathered by arms into a V-shaped guide, whence plates nip the ears off, and they are so delivered as to fall into a wagon box or other receptacle.

A harrow has been patented by Mr. William F. M. Ricketts, of Colton, Washington Ter. This invention covers novel features for giving increased flexibility to the harrow and varying the angular position of its teeth, with facility for removing and replacing the teeth as required, and for supporting the harrow frame in front, with or without sulky attachment in its rear.

MISCELLANEOUS INVENTIONS.

A truss has been patented by Mr. Pha Tefft, of Oriental, Col. Combined with a slotted belt and leg strap pivoted to it is a lever with buttons and carrying a pad, all contrived to furnish an easy wearing, self-adjusting, and reversible truss.

An earth scraper has been patented by Mr. William H. C. Goode, of Sidney, Ohio. This invention relates to a class known as wheel scrapers, and covers improvements to facilitate the scraping up of the desired amount of earth, transporting the same, and dumping the load, with the least expenditure of work.

A window screen has been patented by Mr. James W. Bachus, of New Windsor, Ill. This invention is more particularly for guiding and holding the window screen at any desired elevation, for which U-shaped strips are used with inwardly projecting tongues integral with the body of the guides.

A friction roller for wire cables has been patented by Mr. Thomas W. Flynn, of Pottsville, Pa. It is formed with a plain cylindrical surface to allow lateral play to the cable, with spring boxes for supporting the ends of the rollers, all so devised as to prevent rapid wear on either the cable or roller.

A sifter for flour, etc., has been patented by Mr. Abraham Wolf, of New York city. It is made with a scoop provided with a sieve, and has a stirrer which can be readily attached and detached, the whole constituting a sifter which is simple in construction, easy to be used, and effective in operation.

An apparatus for gathering cranberries has been patented by Mr. William C. Trahern, of Elm Lake, Wis. Combined with a float especially constructed to strip and gather the berries is an endless cable operated by power from a boat, so as to draw the picker back and forth over the marsh.

A pole and shaft coupling has been patented by Mr. George E. Thomas, of Abingdon, Va. This invention provides means for attaching a pole or thills of given width to a carriage having any length of axle, or for attaching the same to a sleigh, either to draw centrally or to one side of the center.

An umbrella has been patented by Mr. Giovanni Gilardini, of Turin, Italy. Combined with the stick and ribs is a sliding tube or rod, connected with the handle, or a ring near it, by a lever, in such way that an umbrella or parasol may be automatically opened or closed thereby as desired.

A churn has been patented by Mr. Finis M. Barney, of Kearney, Neb. It is made in the form of a cross, boxes diagonally joined being made to revolve with a crank, and when opened the two boxes in each half are fully exposed, so they may be readily washed after the contents have been poured out.

A sash holder has been patented by Mr. Cris Lee, of Paducah, Ky. Combined with the casing is a bolt and spindle in the same, and an eccentric plug on the spindle for operating the bolt, making an improved device for holding the sash at any desired elevation, or locking it to prevent its being raised.

A driving rein spur has been patented by Mr. Fielding B. Bever, of Ottawa, Kan. It is attached to the rein line, and so made that on slapping the horse with the rein the attached spur is projected into or against the flank or rear portion of the animal, obviating the necessity of using whip or other spur.

A fireplace heater has been patented by Mr. Thomas J. Bartlett, of Colorado, Texas. It is made with apertures in its back and side walls, with various special features, to adapt it to heating two or more rooms on the same floor of a building with a single fire, so as to economize fuel and labor of attendance.

An eye glass holder has been patented by Mr. Samuel F. Merritt, of Springfield, Mass. It is made from a single piece of wire, flattened and bent at one end to form a hook, and at the other end a pin, and so made as to prevent the holder from swinging against the garment and resting on its side as hooks usually do.

A kitchen cabinet has been patented by Mr. Thomas Nicholas, of Calumet, Mich. This invention covers a special construction and arrangement of such cabinets, especially adapting it for holding the implements and materials required for making bread, pie, cake, etc., one which is simple and compact, and will protect its contents from dust.

A cuff has been patented by Mr. William Frank, of New York city. The side edges are overlapped and sewed together, and a tab is attached to the underlapped end, thus making cuffs which can be readily put on and secured in place, are easily taken off, and require less labor and material to manufacture than the ordinary styles.

A street car heater has been patented by Mr. Freeman S. Hunter, of Fort Ritner, Ind. It is made with heating drums in a case held to the car floor below an opening, with a guard and grating, with draught openings at one end, and connections at the other end, with smoke flues passing through the floor and roof of the car.

A window frame and sash has been patented by Mr. John E. Jones, of New York city. The sashes are provided with packing strips at their vertical surfaces, combined with parting strips having ribs against which the packing presses, so the upper and lower sashes are packed at all sides, and the window made tight and prevented from rattling.

An apparatus for bleaching liquids has been patented by Messrs. Melancthon and Clarence C. Hanford, of Boston, Mass. By this invention the liquid to be bleached is forced through an atomizing nozzle, where it meets the acid bleaching fumes in the form of fine spray, so that each portion of the liquid is subjected to the action of the gas.

A curtain cord holder has been patented by Mr. Melville M. Moore, of Oxford, Miss. A rack with a pulley in its upper hooked end has also a lower hooked end, in combination with a plate having a pocket with a spring tongue and a clamping or wedging device, making a device especially adapted for drawing and holding taut curtain cords.

A machine for cross grooving axle trees has been patented by Mr. George Watson, of St. Charles, Minn. This invention covers a machine for simultaneously cutting the three cross grooves or gains in the axle trees and bolsters of wagons, giving to the side grooves either a straight transverse cut or an oblique cut, according to the lay of the hounds.

A foot boat has been patented by Mr. Sivert Hagen, of New Brighton, N. Y. Each foot boat consists of a water tight long box, which can be strapped on the foot in the same manner as a shoe, and can be used to travel on the water, while two of them can be united and provided with a paddle wheel to form a catamaran velocipede.

An artist's panel or plaque has been patented by Mr. Edward de Planque, of Hoboken, N. J. It is made of pasteboard covered on both sides with shellac, on which a layer of whiting is applied and then a layer of japan, the whiting preventing the japan from passing into the pores of the pasteboard, and the shellac preventing the peeling off of the whiting and japan.

A saw tooth swage has been patented by Mr. John M. Ryan, of Vicksburg, Miss. With a saw swage and set is combined a grooved bed plate, a swiveled base piece, so the latter can be turned axially and moved lengthwise of the slot, a die stock and saw arbor, with other novel features, for easily and efficiently swaging and setting saw teeth.

A gate has been patented by Mr. John W. Sims, of Jamestown, Ark. This invention covers a special construction of gate having for its object to stop the passage of hogs or other animals going one one way while permitting them to go the other way through, and may also be so arranged as to be operated by a cord by a person from a distance.

A machine for shaping chain hooks has been patented by Mr. Benjamin McKillen, of Verona, Mich. This invention consists in the combination, with a forked stock, of a lever pivoted in the same, and a die held on the forked end of the lever, constituting an improved device for making and shaping chain hooks of all sizes.

A lantern has been patented by Mr. Forrest Reichard, of Easton, Pa. It consists of a base with a candle holding device and flange to hold a lamp chimney, in which also are secured the ends of the bent wire handle, which extends up through the chimney, the device being very cheap and not liable to get out of order.

A gate has been patented by Pollie C. Cesna, of Macon City, Mo. The device consists in a combination of levers with a rock shaft provided with a slotted arm, to which the levers are connected by a slide piece, the levers extending from opposite sides of the gate so they may either be grasped from a carriage or have ropes suspended from their outer ends.

An evaporator for cane juices has been patented by Mr. William E. Butler, of Newbern, Tenn. The pan has grooves between its partitions below their bottom edges, with pipes in the grooves, skimming chains and water tank, to accomplish the whole work of reduction in one evaporating pan, so the juice can be run from the mill, passed through the evaporator, and then discharged direct to the striking pans.

A wick adjuster has been patented by Messrs. Charles A. Fletcher and William H. Wilder, of Gardner, Mass. Longitudinally grooved spindles operate in unison, so each rib on either spindle registers in the groove on the other spindle, instead of having opposite teeth which bite or hold on the wick, the new device giving a positive motion without obstructing the flow of oil through the wick.

A process of making cut nails has been patented by Mr. John Young, of Wheeling, W. Va. After the blanks are cut, the sides are clamped with dies short of the place where the head is to be formed, then swaging the end into a flat head, and swelling the neck by crowding a portion of the surplus metal longitudinally down toward the body of the nail.

An album has been patented by Mr. Lester Goodwin, of Newton, Mass. Combined with a cover having corrugated front and back edges, and a piece of sheet material secured thereto with slits to hold cards, a part of each of the slits is adapted to cross a portion of the card to be held, and another part to lie parallel to one edge, with other novel features, so that few or many cards can be held closely.

An earth auger has been patented by Mr. Thomas A. Porter, of Cameron, Tex. It is made funnel-shaped, with side cutting edges, and adapted to be inverted for emptying the auger, the arrangement of the cutting edges being such that the head of the auger fills as rapidly at the top as at the bottom, so that the cutting is not against a pressure of the dirt within the head.

A consecutive numbering machine has been patented by Messrs. James H. Reinhardt and Charles S. Ellis, of Memphis, Tenn. This invention covers improvements on the mechanism of numbering devices adapted to be set up in a printer's type form, where the action of the platen causes the numbers to change at each consecutive impression, and so number tickets, checks, etc., in serial order.

A syringe has been patented by Mr. William Molesworth, of Brooklyn, N. Y. Combined with a tube which has prongs at one end and a head at the other is a tapered tube adapted to be screwed into the pronged end, provided at one end with a head and a neck projecting therefrom, making a dilater which can be used as a drainer for washing wounds and as a syringe tube.

A top roller for drawing frames has been patented by Mr. John Brierley, of East Hampton, Mass. Combined with two or more series of bottom rollers are clothed top rollers coupled together in each series at their ends, and geared with the bottom rollers, over which they are arranged to operate in unison therewith, whereby the coupled rollers are positively driven by the bottom rollers.

A piano sounding board has been patented by Mr. John Brinsmead, of London, Eng. The sound board is fixed to the bracings or frame by a fulcrum between the sound board and bracings and distant from the edge of the former, and by screws bearing against the overhanging edge of the sound board, producing a leverage action intended to give increased purity of tone.

A harness has been patented by Mr. Charles F. Shedd, of Fairfield, Neb. The harness has side pieces or plates for conveniently attaching the horse, and the construction is such that the harness will keep its place, whether the horse kicks or plunges, being specially adapted for breaking vicious horses, and the invention being an improvement on a former patented invention of the same inventor.

A show case for cooling oysters, etc., has been patented by Mr. Alexius T. Lundqvist, of New York city. Within a wire case is a wire cage or basket, and within the inner apartment is a removable ice basket, making an improved case or box for showing oysters or other shell fish upon the counters of eating houses, etc., and at the same time keeping them fresh and cool.

A device for picking up and affixing stamps has been patented by Mr. Gerard W. Schimmel, of Amsterdam, Holland. It is a hand device with elastic rubber face, penetrated by sharp pins, for picking up and placing stamps, labels, etc., having adhesive backs, the pins holding the stamps sufficiently to enable them to be first dampened on a pad and then fixed where desired.

A loading winch has been patented by Mr. Favour Locke, of Bristol, N. H. The invention consists in a frame, with hooks for attaching it to a sleigh or wagon, a drum mounted on the frame, with a rope, ratchet lever and pawls for winding the rope around the drum, and a device for fastening a skid to the sleigh or wagon, to facilitate the loading of logs, stones, etc.

A lamp burner has been patented by Mr. Edwin Lawrence, of Brooklyn, N. Y. This invention provides an annular burner which will admit air to its interior from below without a tube through the lamp, or to adapt an annular burner to be screwed into the body of a lamp like a flat wick burner, and to control the size of the blaze without raising or lowering any part of the wick.

A device for lifting kettles has been patented by Mr. Lucius H. Goff, of Richford, Vt. A lever is provided with an elongated handle loop at one end, while the opposite end is bent at right angles and terminates in a head, another lever being pivoted to the first near the head in such way that the jaws or prongs may be pressed against the sides of the kettle to facilitate lifting, carrying, etc.

A fat cutter has been patented by Mr. Theodore Raeke, of Baltimore, Md. Combined with a slotted trough and a head carrying blades is a carriage fitted to slide in the trough, a shaft carrying a series of radial arms, and other special features of construction, making a machine particularly adapted for cutting up fat into pieces small enough to be easily reduced by heating.

A saw tooth swaging machine has been patented by Mr. Alexander Jacobs, of Cheboygan, Mich. The dies are contrived to shift forward on to the point of a saw tooth pinch and swage it as required, then shift back for the saw to be moved along, while there are contrivances for gauging and holding the teeth sidewise as they are required to be presented to the swaging dies, the whole making a simple and cheap machine.

A tobacco drier has been patented by Messrs. James K. Hardwicke and Edward B. Welles, of Marshall, N. C. This invention provides for such arrangement of a structure that perforated cold air pipes will be made to pass in close proximity to the hot air heating pipes, thus securing such ventilation as will facilitate the quick curing of tobacco, while contributing to its uniform color, the prevention of sweating and spotting, etc.

Stringing pianos forms the subject of a patent issued to Mr. Thomas J. Brinsmead, of 18 Wigmore Street, Middlesex County, Eng. Combined with each string is a screw threaded wrest pin in line with the string, a nut on said pin and bearing against the frame, means for preventing the pin from turning, means for carrying the string through or by the side of the pin and readily attaching it, with other novel features.

The manufacture of starch, glucose, etc., forms the subject of a patent issued to Mr. Paul Radenhausen, of Altona, Schleswig-Holstein, Germany. The starch milk is precipitated after it comes from the separators with sulphuric acid, so ammoniacal putrefaction is immediately stopped, and the separation of solid matter rapidly accomplished, the residue being treated with dilute sulphuric acid and the liquor passed over the starch depositors.

A sash balance has been patented by Mr. George W. Arnold, of Knoxville, Ill. Cord spools or rollers and coiled springs are arranged in boxes preparatory to applying them to the window frame, and then applied by sliding the boxes into openings in the window frames, so the fitting and fastening of the spools and springs can be done more conveniently than they can be fitted directly to the frames, and they can be readily taken down.

An implement for moulding and marking bullets has been patented by Mr. Thomas Oldham, of Leipsic, Ind. The bullet mould is made of two levers, to one of which a jaw is pivoted, which, with the lever, forms the mould proper, a plate being secured to the top of one of the levers, and having an opening through which the lead is poured to form the bullet, the necks being cut off as the moulds are opened to eject the bullets.

A lantern has been patented by Mr. Charles W. Goodwin, of New York city. It is square sided, with a hinged or removable top or cover adapted to be locked, and with a flange to fit over the side frames, so that when the cover is locked it locks the door of the lantern, and the glass plates or panels in their frames, so that no person without a key can reach the light, making a lantern especially adapted for storage warehouses, etc.

NEW BOOKS AND PUBLICATIONS.

THE MODERN HOUSE CARPENTER'S COMPANION AND BUILDER'S GUIDE. By W. A. Sylvester. Boston: Cupples, Upham & Co., 1884.

This little manual on house carpentry is intended to supply in a convenient form the principal rules and information needed in everyday workmanship. It contains the simpler problems in constructive geometry, with such applications to building as will cover the ordinary methods of construction. Some details are given concerning Mansard roofs and the primary forms of truss. It also contains considerable information in regard to estimates, strength of materials, and the use of instruments of measurement. Expanded from the notes of a practical workman, the book is very good so far as it goes, but it is decidedly elementary, and will prove satisfying only to an artisan of rather limited experience. It is well illustrated with forty-five full page plates.