Recent American and Foreign Patents.

Improved End Gate for Vehicles.

John C. Hawker, Pana, Ill.—This is a convenient fastening for the end boards of wagons. Plates are riveted to the side boards, which hook under and support the bottom board. Hook recesses in the plates receive the ends of fastening bars, which are screwed to the end board. The parts which enter the recesses project and have each a flat bolt head, which prevent the side of the wagon body from spreading. From the two upper heads button pins project, to which are attached the ends of the chains which hook to the side boards. In unloading the wagon, in order to deliver the contents back from the wagon body, the end board is adjusted on a level with the bottom, and supported by the chains and by the two lower fastening bars, which are dropped into the hook recesses. When the end board is closed, its top is brought to a level with the top of the side boards.

Apparatus for Removing Oils fr Animal and Vegetable Substanc

George N. Phelps, Brooklyn, N. Y., assi to himself and Conrad Braker, Jr., New York city.—This is an impro apparatus for removing oils, fats, resins, etc., from solid material, by treating it with bisulphide of carbon or other suitable solvent. Shelves are arranged in connection with semi-cylindrical plates inside of a high case, so as to form a continuous zig zag passage, through which, over pulleys placed at the ends of the shelves, travel endless chains. To the latter are attached buckets made of perforated sheet metal, so as to allow the liquid to pass through them, while they retain the solid material. The oil is extracted from the solid material by bisulphide of carbon, which is introduced through an inlet pipe and withdrawn through the outlet in the lowest compartment of the zigzag passage. The inflow of the solvent is regulated to fill the lower part of the case nearly to the inlet. The solid material is carried by the buckets down through the solvent, and up from one shelf to another through the zigzag passage, and is discharged through a discharge spout. By this construction the inflowing stream of the solvent meets the solid material as it rises above the water line of the solvent, and thus removes any oil that may remain in it after passing through the solvent. The solvent and the solid material pass through the lower part of the machine in opposite directions, and the solvent flows out as it meets the solid material, as said solid material reaches the lower end of the vertical part of the passage, so that the solvent may be as near saturation as possible when it flows from the machine. The solvent and oil, as they escape from the machine, are conducted to a still, where they are separated, and the solvent may be again used.

Improved Car Coupling.

Morris E. Bromeling, Leroy, Minn.—The drawhead has two cavities for coupling links, separated by a vertical slide piece. One cavity is larger an the other, and is arranged with tapering mouth for the entering of the ree end of the coupling link, the smaller cavity taking up the head of a second coupling link. The separating slide piece runs in grooves of the drawhead, being attached to the same by a pin. A recess of the slide allows the insertion of the common coupling link, so that, on fastening the slide by its pin, cars with the common pin-and-link coupling may be attached. The links are constructed with a heavy tapering head, which is introduced into the smaller cavity and fixed there by a pin. The larger cavity serves to take up the round end of the second link, producing a twofold coupling of the cars. The automatic coupling of the links is produced by pivoted pins of the larger cavity, which are pushed back by the entering links till the pins slide over the links, and, dropping, couple the same.

Improved Hay Tedder.

James Taylor, De Kalb Junction, N. Y.—A rod passes through a coil formed in wire teeth near their forward ends, and serves as a fulcrum to said teeth. The teeth are kept in proper relative position upon said rod by tubular washers. The forward ends of the teeth project nearly to the axle, so as to be struck by cams attached to the said axle, and raised to drop the hay caught by them. The cams are so arranged that the teeth will not be operated in consecutive order, and that but one or two of them will be operated at the same time.

Improved Stamping Mill and Furnace for Roasting Ores.

Pentecost J. Mitchell, Salt Lake City, Utah Ter., assignor to himself and Joseph E. Gay, New York city.—This stamp is made in any of the known forms used in stamp mills. In the shaft are toothed racks, between which is an adjustable clutch, which receives a cam secured upon a revolving shaft, by means of which the power and motion are communicated. The form of the cam and contrivance of the clutch are such that, no matter how much or little the stem may fall, the fall of the clutch will always be the same, so that, if at one blow the stamp is checked by a large piece of ore, it will be raised, at the next operation, the hight of a full stroke. The object is to secure uniform blows from the stamp upon the material to be crushed. The same inventor has also devised and similarly assigned a furnace for roasting ores. It is an oven of rectangular structure, of fire-proof material, on the side walls of which are arranged hoppers of iron, with a movable side, to be opened or closed by means of a shaft and chain. The materials for calcination are placed within the hoppers, where they remain a few hours, when they are dropped through the action of the sliding doors upon the calcining floor, which is constructed of cast iron plates supported upon brick flues, through which the heat is conducted from the furnaces and returned over the working floor through a flue, receiving an additional supply of heat. The gases are carried on by the draft of the chimney through the flues and condensers, the latter consisting of a showering apparatus, through which water is let fall, by which a portion of the escaping sulphur, arsenic, etc., are deposited in the pans and removed at pleasure.

Improved Pump.

Samuel H. Warner, Darbyville, O.—This invention consists of a double acting pump with two cylinders and alternating plungers, of which each plunger slides in a narrower tube or telescope, while its piston forms, with the tube and outer cylinder, a varying space, in which a constant body of water acts, by a communicating pipe of the pump cylinders, on the plungers, and accelerates the raising and lowering of the same. The action of the plungers and valves is claimed to be expedited, and an increased lifting capacity of the pump produced.

Improved Plow.

John W. Thomas, Silver Springs, Tenn.—This invention relates to the combination of pivoted blocks or rollers and cross bars or plates for connecting the plow beams and standards, whereby the plows are allowed movement in any direction, one relative to the other. By suitable construction, and by reversing the plows, two shovel plows may be connected with the turn plows for plowing out the row. This construction also enables two right hand plows to be used for throwing the first two furrows. The same construction enables the plows to be arranged for breaking out the middle of the row. By detaching the connecting device and attaching another handle, each plow may be used as a single plow.

Improved Mainspring Attachment.

James C. Edwards, Binghamton, N. Y.—This is an eccentric notch in the face of the arbor of the barrel to which the mainspring of a watch is connected, the notch being as deep as the thickness of the spring, and terminating with the end of the spring by a radial wall, extending to the true circumference of the arbor. The object is to so shape the arbor that the spring end will not form an abrupt projection for the first coil of the spring to wind over, which produces an extra strain and bend at that point, and weakens it so that it breaks, moreover causing an irregular action of the watch, which it is desirable to avoid.

Improved Foot Mat.

Theodore W. Ellis, Macon, Ga.—This invention consists in a number of parallel bars, either of wood or metal, confined by iron bolts or rope, and securing the necessary filling for a mat. The filling, when worn out, may be replaced.

Improved Cotton Bale Tie.

William C. Banks, Como Depot, Miss.—This invention consists in the combination of a band and buckle, the former crimped near one end and the latter having a tongue bent below the plane of side pieces to form an improved tie.

Improved Stove.

M. C. C. Church, Parkersburgh, W. Va.—This invention relates to and consists in means whereby a heating stove may be made to economize fuel and supply heat by radiation, reflection, and convection in a more thorough and effectual manner than has been heretofore used.

Improved Copying Press.

Philander S. Abbott, Bowling Green, O.—This invention relates to copying presses, and contemplates the manufacture of an article that will be less expensive and may be brought within the reach of persons in the smallest business and of ordinary private individuals. It consists in a copying press composed essentially of base and slotted standards, together with a spring retracted and driving wedge.

Improved Waterproofing Compound.

A. C. McKnight, Philadelphia, Pa.—The basic or primary compound consists of iodine, wheat starch, alum, oil, and soda. This is combined with a preparation known as acetate of alumina. Leather treated with this compound is rendered perfectly waterproof without discoloration or stiffening or other injury of fiber.

Improved Medical Compound.

J. P. Dyer, Lynchburgh, Va.—This compound is a salve for application to sores, ulcers, cancers, tumors, etc., composed of red oak bark, sarsaparilla, belladonna, hyoscyamus, honey, spirits turpentine, camphor, beeswax, and beef or mutton suet.

Improved Type Distributing Machine.

John A. Reynolds, Danville, Pa.—This invention relates to that class of machines which are used for distributing into appropriate cases the type that has been printed from, and is a new and improved arrangement for doing the same, by which the operator is enabled to effect said distribution by simply reading his matter and operating appropriate keys. It consists in an arrangement of keys which operate upon arms attached to a shaft, which is provided with a loose sleeve, pinion, and ratchet wheel. Upon the pinion moves a rack which is connected with a bar, which in turn is attached to a secure bar that presses against the line of type in the galley, and, each time a key is touched, forces a type over a passage, where it is held in suspension by a spring-seated tongue until a vertical ejector plunges down and relieves it. The type then falls of its own weight through a curved chute which brings it to a horizontal position upon the table. To a hinged sectional metallic belt, revolving around pulleys and running in grooves with its upper surface level with the table, is attached an arm which, as the belt revolves, passes over the surface of the table to the finger of the key which brought it out; said finger, having been drawn by the action of a cam groove in the hinged belt across the table, grasps the type, and, by the action of the same cam groove, draws it back over the open end of its case, into which it falls. When a line has thus been distributed, the bar which pushes the line of type out is run back, and the column of type in the galley advanced by the automatic operation of levers, cams, and pulleys. The operation of this machine is thus reduced to five mechanical sections: 1st. Forcing the type into suspension above a chute. 2d. Driving it down the same. 3d. Carrying it along the table. 4th. Depositing it in its case. 5th. Advancing the column of type in the galley when a line has been distributed.

Improved Can for Oil, etc.

Francis E. Josel, Freeport, Ill.—This invention consists of a spout, turning in a socket of the body of the can, both being provided with corresponding apertures, through which the oil is discharged when both are brought into connection with the interior of the can, closing the same when separated. The end or nozzle of the spout is placed under an angle, corresponding to the body of the can, to its lower part, turning in the socket and provided with a projection which catches into a groove of the can top, so as to be retained firmly thereon, and there closed by a small cap hinged to the can top.

Improved Slate Frame.

Joseph W. Cremin, New York city.—The common method of holding the slate by one corner of the frame, and pressing the opposite diagonal corner against the breast or stomach, the inventor has found, by thirty years' experience in the school room, to be very injurious to young children. Hence, he makes a curved notch in the frame, by which the slate can be held resting on the arm. He also uses metal caps for fastening the corners of the frame, and rivets, having projecting heads, for receiving said caps, said rivets having projecting heads to receive the shock and protect the slate from breaking when it falls.

Improved Combined Work and Spool Holder.

William W. Tunis, Easton, Md.—This invention relates to that class of devices which are intended to facilitate the holding of ladies' work, so that it may be gradually and intermittently moved in an easy and convenient manner.

Improved Ruffler for Sewing Machines.

John Irvine, Ickesburgh, Pa.—This invention is an improvement on the class of rufflers in which motion is derived from the needle post, and the feed may be changed or adjusted while the machine is in operation without interrupting the work. It relates to pivoted and parallel spring bars, combined or operating with a notched vertical plate for changing the feed of the ruffler.

Improved Ice Plow and Ram Attachment for Vessels.

D. Conrad Grant, Houghton, Mich.—The ram is constructed with a pointed, inclined, or rounded front prow, and is bifurcated to fit exactly the shape of the stem of the vessel, extending backward along the same. The whole attachment is easily adjusted from the deck of the boat. A recess in front contains a torpedo, which may be used for breaking heavy masses of ice which are not penetrable by the plow and the power of the vessel, and also, in times of war, for the purpose of destroying the vessels of the enemy.

Improved Machine for Nailing Shoe Soles.

Elton F. Richardson, Reading, Mass.—This invention has for its object to furnish an improved machine for nailing shoe soles and heels, and for various other similar purposes, with a continuous wire driven into the article to be nailed before being cut off. The invention consists of an extensible guide for the wire, which is composed of a series of bars adapted to close together, and thus support the wire in its descent into the leather.

Improved Wagon Jack.

James S. Rowland, Senecaville, Ohio.—This implement consists of a base, an upright bar and an inclined bar connecting the two. To the last and above the standard is pivoted a lever; to the same and below the standard is pivoted another bar. The ends of the lever and the bar last mentioned are pivoted to a notched bar. In using the jack, the free end of the lever is raised, and the jack is moved forward until the axle rests in one of the notches. The lever is then lowered until the load has been raised to the desired hight. The hook on the lever is then swung forward until it catches upon one of the teeth of a ratchet bar which holds the load suspended. To lower the load, the load is lowered slightly, which allows the hook to drop away from the ratchet, when the load can be easily lowered.

Improved Lamp Pendant.

William M. Underhill, Oconto, Wis.—This invention consists of a piece of wire bent in triangular form, with the base bent up in the form of two sides of a triangle toward the apex, at which point there is a little notch to hold the pendant when suspended for use. The contrivance is to be used for lowering a lamp to clean it, and for other purposes, by shifting the pendant out of the notch in the base wire of the triangle, and letting it drop down in one of the angles between the base and one of the side pieces, by which the lamp will be lowered considerably from its normal position.

Improved Sewing Machine.

Johannes Bühr, Hamburg, Germany.—The object of this invention is to provide for family and other purposes a sewing machine which allows the direct use of the common spools without requiring the spooling of the thread on the bobbin, performing the work with equal exactness and dispatch. The invention consists of the arrangement of a pivoted lever arm at the needle bar, which takes up or feeds, in connection with suitable tension devices, a sufficient quantity of thread to the thread catcher pivoted below the throat plate, so that the larger shuttle containing a common spool of thread may freely pass through the loop of the needle, and form, with the shuttle thread, the stitch.

Improved Wheel for Vehicles.

Oliver Lundin, Richland, Iowa.—By suitable construction, by screwing up a band nut, disks will be pressed against the ends of the spokes, securely clamping them in place. This construction allows any of the spokes to be removed and replaced by new ones without taking off the tyre.

Improved Horse-Detaching Device.

William Rosenbaum, Cheyenne, Wyoming Ter.—This is a device for detaching horses at any moment from carriages, buggies, wagons, reapers mowers, or other vehicles, so that not only the individuals, but also the vehicles, are protected against injury from runaway or vicious animals. The invention consists of a lever attachment to the pole or tongue of the vehicle, which may be operated from the seat so as to detach a clevis with wedge-shaped end, to which the double tree is applied. In case of any accident or danger, the horses may be instantly detached by pulling the hand lever back, which forces the sliding bar beyond its guide recess and gives sufficient play to the wedge clevis to slide out. The horses carry then the double tree along with them, leaving the vehicle behind.

Improved Liquid Vent.

Hiram W. Love and James Talley, Jr., Kansas City, Mo.—This invention relates to means by which air may be readily introduced into a barrel, keg, or vessel of liquid, in order to counterbalance the air pressure at the outlet, and thus admit a free flow of liquid from the vessel. It produces a very neat, simple, and effective device for the purpose.

Improved Derrick.

Charles Roberts, Mattoon, Ill.—This invention consists of an inclined sweep mounted on a frame pivoted on the top of the post, and also pivoted to said post at or about its middle, and braced in a simple and efficient way, so that the weight may be raised higher than the post, and the sweep may revolve entirely around the latter. The apparatus is adapted for loading and stacking hay, handling coal and the like, and may be made portable, by having the post mounted on a platform instead of on the ground.

Improved Sink Trap.

George Miller, Johnston, R. I., assignor to himself, Henry Miller, and Alfred B. Irons, same place.—This invention consists of revolving scrapers in the trap for stirring up the sediment to be carried away by the water. The scrapers are turned by a thumb bit above the strainer, and are fixed on the lower edge of the inverted cup of the trap. The cup is arranged to revolve either with or without the strainers. This contrivance saves the labor of unscrewing the strainer and screwing it down again every time the trap needs cleaning out.

Improved Drawers.

Emil Weil, New York city.—The object of this invention is to furnish for general underwear drawers which fit not only more completely to the body, but keep also the stomach warmer by taking the place of the abdominal band. This end is effected by extension flaps, which form, when applied, a double layer over the stomach.

Improved Compound for [illegible] otton Yarn.

Henry Wegmann, New York city, assignor to H. Wegman & Co., same place.—This is an improved compound for sizing cotton yarn, consisting of tallow, soft soap, rosin, vitriol, iron, and onions. This compound is designed to be added to twenty-five or seventy five pounds of starch, or fifty to one hundred pounds of flour, the rosin, vitriol, onions, and tallow being boiled till rendered sufficiently liquid to mix freely with the other matters; then the soap is melted in a tank separately, by hot water and steam, and the above mixture added. The ingredients are thoroughly mixed with steam, and then added to the starch or flour in another tank, together with the proportion of water requisite for making the sizing more or less stiff, according to the size of the yarn for which it is intended, the starch or flour being also varied to suit the case in hand.

Improved Harvester.

John Werner, Jr., Prairie du Sac, Wis.—This invention consists of a binder's platform and tables, attached to a tongue frame, which is pivoted on the wheel frame at or near the axis of the main wheel. There is also an adjusting lever, connecting the wheel frame and the tongue frame, for adjusting the wheel frame to tilt the cutters up or down, for cutting high or low, without tilting the platform and tables out of their proper level.

Improved Composition for Artificial Stone.

Luke W. Osborn, Youngstown, Ohio.—This is an improved artificial stone, cast in slabs or blocks of any required size and shape for laying side walks, for the foundation of iron fences, for well covers, door steps drain tile, sewer pipe, and other purposes: which will not crumble or wear through, as imperfect blocks cannot be transported and laid: which shall have a light gray color upon its surface to prevent it from absorbing the sun's rays and being softened; and which may be made of different colors or may have patterns or figures of different colors upon its surface. The upper parts of the slabs for any desired depth are made of a light gray color by the application of gum turpentine, pine resin, and aqua ammonia, in suitable proportions to the cement forming said upper portions.

Improved Chimney Top.

William Hervey Connor, Muscatine, Iowa.—This invention is a conical current-guiding chimney cap, on which is placed the vane, provided with an arc strap, perforated at several points to allow the obliquity of said cap to be changed, according to the draft required.

Improved Glass Bottle.

Thomas P. Spencer, New York city.—This invention consists of a glass bottle for perfumery, made in the form of the bust of the human figure, with certain modifications of the shoulders in form and dimensions of the same and other parts, as compared with a true bust, to adapt it to a shape that is practicable to produce in glass by blowing it in molds.

Improved Plow.

Julius Hartmann, Jefferson County, Ky.—This plow may be used to open a trench or furrow, or for cultivating certain kinds of crops. By turning the share either to the right or the left, it will cause a change in the position of the wings, so that one of them will lie parallel with the beam, and the other stand at a large angle to it, corresponding respectively to the position of the land side and mold board in the ordinary plow. The greater the angle or inclination of the share to the beam, the more land taken or the wider the furrow made.

Improved Oil Can Faucet.

Frank Spinning, Steilacoom, Wash. Ter.—This invention consists of a detachable faucet for oil cans, to be used for drawing oil from the commercial cans now commonly used for packing the oil for market. The object is to enable the faucet to be shifted readily from an empty can to a full one and save a special faucet for each can. There is a flange on the end of the faucet of such a shape as readily to be slipped into a narrow hole in the can. By means of washers and a binding nut, it is then tightly secured in place.

Extracting Silver, Gold, and other Metals from their Ores.

James Douglas, Jr., Quebec, Canada, Thomas S. Hunt, Boston, Mass., and James O. Stuart, Georgetown, Col. Ter.—Copper pyrites is mixed with iron pyrites, in such quantities as will result in the most thorough extraction of silver. The ground ore is then calcined with common salt in a suitable furnace, as is usual in the chlorination of silver ores. The charge, when withdrawn, is to be treated by agitation or lixiviation in any suitable vessel with a bath consisting of a solution of protochloride of iron and common salt, as in the Hunt and Douglas patent copper process. The bath dissolves the copper, besides the zinc and the greater part of the silver which has been chloridized in the furnace, while the copper in the solution chloridizes the silver which escapes chloridization in the furnace. After digestion for four or eight hours at 120° to 200° Fah., the solution is drawn off and the silver precipitated by allowing it to remain for some time in contact with sheet copper, or by filtration through cement copper.

Improved Middlings Purifier.

William H. Todd and Ephraim C. Keyser, Utica Mills, Md.—This invention relates to the purification of middlings in a more convenient, thorough and perfect manner than has been usual heretofore or possible by the machinery employed for that purpose.