Recent American and Foreign Patents.

Improved Harvester.

Andrew Jamison, Taylorstown, Pa.—The feature of this invention is a reel mounted on a pivoted lever, which tilts or raises the finger bar so that it may be adjusted to various hights, thus adapting the machine for use either as a reaper or as a mower.

Improved Steam Bell Ringing Apparatus.

Charles H. Hudson, Dubuque, Iowa, assignor to himself, Pierce R. Sutton, Edwin Smedley, and Orren F. Hodge, same place.—This is a steam engine designed for ringing bells on locomotives. When the bell is in motion, a bell crank will press a tube down on the rod and force the piston to the bottom of the stroke, and thereby close the exhaust and open the inlet ports. When the crank has passed the center of the stroke, the steam admitted by the movement of the valve ring presses the piston up and throws up the bell. The tube connection allows the bell crank to move freely upward after the piston has reached the end of its stroke, cut off the steam, and open the exhaust port. The return swing of the bell is followed by the same action of the parts.

Improved Subsoil Plow.

Ira M. Griffin, Maryville, Mo.—This plow will open a wide double furrow The subsoil plow plate is secured to a standard, which is curved upward and forward, and its forward end is bolted to the upper part of another standard, several holes being formed in the latter standard to receive the said bolts, so that the pitch of the subsoil plow may be readily adjusted as may be required. The plow standard may be adjusted at discretion. The handles are attached to the double mold board.

Improved Belgian Zinc Furnace.

Theodore Hiertz, St. Louis, Mo.—The disadvantage of the high Belgian furnace consists in the fact that, in order to have heat enough for the reduction of the ores in the upper retorts, the lower ores were exposed to an excessive temperature, which caused the too rapid deterioration and destruction of the furnace lining and the retorts. The present invention is intended to obviate these defects, and consists in the arrangement of a series of flues in the front, rear, and side lining of the furnace for drawing in cold air near the lower part of the same, heating it up during the passage through the flues, and introducing it at about the middle of the hight of the furnace through small apertures in the lining to the interior, to mingle well and thoroughly consume the gases of combustion.

Improved Door Fastener.

James Black, East Pepperell, Mass.—This invention consists of a spring bolt with projecting roller end, which slides in a socket set into the door, and fastens the door by means of an angular plate with suitable inclines applied to the casing. A catch of the socket face plate projects into a recess of the spring bolt, and retains the same inside of the socket during the time the door is open.

Improved Rein Holder.

James Lowth, Chicago, Ill.—This is a movable spring clamping bar, pivoted and supported centrally, under which the reins may be respectively drawn in opposite directions. The construction is also such that the reins together may be drawn through or between bars and only toward the driver.

Improved Burial Case.

William S. Wood, Newtown, N. Y.—This invention relates to the construction of metallic burial cases, whereby the operation of putting the parts together is facilitated; and it consists in an eyelet or short tube inserted into the screw holes of the upper surrounding stay iron for holding the stay iron and the cover of the case together and the packing in position before the screws are inserted.

Improved Spring Bed Bottom.

Francis E. Lord and Herman K. Blanchard, Readsborough, Vt.—These wire springs have their median parts resting on slats and ends passed around under cross bars, then through the latter, and, finally, bent over, made parallel with and carried up through the slats.

Improved Treadle Motion.

Julien H. Thayer, Cold Hill, N. C.—The heel and the toe portion of the treadle are both pivoted to the axis, to be worked by rocking the foot. The heel part has an arm extending about as far as the toe piece, and having the usual connecting rod for turning the crank shaft connected to it, while the toe piece has a rigid arm rising up by the side of the connecting rod to its middle, and connected at its upper end to a connecting rod by a short connecting link. The upper end of the arm swings forward and backward across the connecting rod, and delivers the pressure of the foot on the toe piece against it transversely at the time it is passing its centers, thus carrying it past the centers.

Improved Device for Drilling Water Mains.

George B. Hand and John Carroll, Scranton, Pa.—A tubular piece has a screw-threaded socket at one end and a screw-threaded stem at the other. A screw cap is screwed to said stem, and the drill spindle passes axially through both the said socket piece and cap. There is a collar upon the drill spindle, against which the cap is made to bear to feed the spindle to its work, and also to prevent gas or water escaping around the drill.

Improved Boot and Shoe.

Michele Derosa, New York city.—The uppers of this boot or shoe, which is intended for summer wear, are of straw or analogous vegetable material, braided or plaited so as to assume the proper shape. The material is attached to a leather inner and outer sole, so as to form a durable connection

Improved Burglar Alarm.

Adolphus Reimers, Lowden, Iowa.—An arm is applied to a block, which is placed in such position that the slightest motion of the door or window may produce the dropping down of the block and, thereby, the release of the parts for giving the alarm, which are arranged at the front side of said block. They consist of a spring hammer, a projecting pin for setting the hammer end thereon, and one or more paper percussion caps, which are held by a band spring firmly on the block. The dropping of the device releases the hammer and discharges the percussion caps, the detonation of which gives the alarm.

Improved Fireproof Safe.

Edward H. Parker, Poughkeepsie, N. Y.—A top reservoir is called into action at a certain temperature, by fusible metal melting in a valve, so that water therein rushes through connecting Z tubes and valves into a main tank, and, after filling the latter, into the door tank. Inside valves allow the gradual escape of the steam formed in the tanks, but retain the water on whatever side the safe may be thrown. When the safe remains in its upright position, the steam of the main tank escapes through the top part of the vertical valves and the reservoir, that of the door tank through the tubes opening at the bottom of the door. If the safe falls in any direction, the reservoir is detached and the steam makes its exit directly through the entrance tubes. If the safe falls on its top, the steam escapes through the tubular stem of the vertical tank valves, while the water is prevented from escaping by the conical plugs being seated in the funnels of the casings; and generally, in whatever position the safe may fall, suitable arrangements admit of the escape of the steam while preventing that of the water.

Improved Tug Buckle and Hame Clamp.

James Wilcoxen, Morrisonville, Ill.—The clasp surrounds the hame, and takes the place of the old staple and hame hook. It is movable on the hame, up and down, so as to bring the draft at the proper point. A catch is secured to the joint pin, which closes into a recess in the clasp to secure and hold the same in the desired place on the hame. When the hame is on the collar, the catch is held in place by the latter. By this arrangement, the tug can be lengthened or shortened at the hame, and the point of draft can be brought to bear in the proper place on the collar or shoulders of the horse.

Improved Whip Tip Ferules.

Edward B. Light, Westfield, Mass., assignor to Edward B. Light & Co., same place.—This is a device for connecting a whip tip with the stock, consisting in a ferule having teeth formed in the sides thereof and adapted to be driven the whip tip and stock.

Improvement in Process and Apparatus for the Manufacture of White Lead.

Ludwig Brumlen, Hoboken, N. J.—This process of manufacturing white lead from metallic lead consists in moistening the material in a suitable revolving cylinder with a solution of acetate of lead, oxidizing it by the introduction of heated air, combining the oxide with heated carbonic acid by the introduction of the same, and of removing and precipitating the white lead by a solution of acetate of lead and the uncombined carbonic acid from the cylinder.

Improved Machine for Cutting Roll Paper.

Ignatz Frank, New York city.—A ring-shaped cutter-carrying plate is rotated by a crank handle. Two cutting knives are pivoted at diametrically opposite points to the base plate and guide bands, which are attached by fastening screws to said plate, in such a manner that the cutting blades slide between them and the plate, being secured in open position sidewise of the central aperture by pivoted spring catches, which are forced with their hook ends through holes of the guide bands into holes of the knives. Strong spiral springs on the knives force the same toward the center of the aperture when released from the hook catches. Projecting handle ends of the knives serve to carry the same back into side position, to be held by the catches for adjusting the roll in the central aperture. The rotation of the cutter-carrying plate, in connection with the action of the springs on the knives, cuts the roll paper in rapid and even manner.

Improved Mold for Sugar.

A. H. William Schrader, Hoboken, N. J.—This mold has its top, body, and double bottom detachable, the inner bottom being perforated. An air passage is made through the center for the purpose of cooling the sugar during the process of crystalization.

Improved Corn Planter.

Lafayette E. Askew and William H. Sangster, Greenville, Ky.—In this planter, the seed-delivering devices are operated through the medium of a star or rimless wheel, which is turned by the advance of the machine. To the shaft, within the hopper, is attached a cross bar, the arms of which are cam-shaped. These agitate the seed in the hopper and enter alternately a slot in a plunger, so as to raise said plunger twice at each revolution of the wheel. The plunger, when released from the cams, is forced down by a bent spring. Plates are so formed that, when the plunger is raised, a cavity will be formed between them and the lower end of the plunger of such a size as to contain enough seed for a hill. As the plunger descends, its lower ends forces the plate apart, and allows the seed to drop to the ground.

Improved Running Gear for Wagons.

William L. Booth, Concord Station, Pa.—The rear bolster and the rear end of the reach are pivoted to the rear sand board and rear axle. The forward bolster and the forward end of the reach are pivoted to the forward sand board and the forward axle. The pivoted rear bolster is connected with the reach by two chains, so as to be always held at right angles with said reach. The rear hounds receive the rear ends of braces which pass beneath, and are secured to, the axle, and their forward ends are secured to the said hounds. The upper braces pass over the sand board and along the upper side of the hounds, to also serve as a facing for said hounds. The front fifth wheel frame is provided with a swiveled perforated ball, and the connection between the forward hounds and the axle is strengthened by brace straps.

Improved Double-Acting Pump.

James Robertson, New York city.—The tube with which the pipe is connected is separated from the lower valve chamber by a valve. From this tube a passage leads to the upper valve chamber, from which it is separated by a valve. From the lower valve chamber a passage leads into the lower part of the piston chamber, and from the upper valve chamber a passage leads into the upper part of the said piston chamber. The upper end of the lower valve chamber is closed from a valve, from which a passage leads to the head of the pump. The upper end of the upper valve chamber is closed by a plate, which is held down to its seat by a screw, which passes through a screw hole in the bar, the ends of which are placed beneath lugs cast upon the head. As the piston moves upward, a vacuum is formed in the lower valve chamber, which causes the water to pass up through the passage, raise the valve, pass into said chamber, and thence through another passage into the lower part of the piston chamber, to be forced out by the next downward movement of the piston. The same upward movement of the piston forces the water in the upper part of the piston chamber to raise the valve, pass into the head, and flow out through the spout.

Improved Bag Fastener.

Scott Wellington, East Saginaw, Mich.—A strap, the ends of which are attached to a plate, passes around the mouth of the bag. At points upon the strap are eyes through which a cord passes. Spring clutches attached to the plate receive the cord and hold it when the ends are drawn together. By compressing the springs, the cord is readily released.

Improved Paper Pulp Screen.

John S. Warren, Fishkill on the Hudson, N. Y.—The essential feature of this machine is a revolving cylinder, formed of segment plates of a larger circle than the completed cylinder, united at their edges and working in connection with the screen, which revolves in a contrary direction, thus producing a pulsating current, the whole operating in the vat.

Improved Bucket Ear.

Julius F. Vogt, St. Louis, Mo.—The ear is made with the ordinary bail eye, below which it is forked to straddle the stave, in which position it is fastened by a single rivet beneath the upper hoop. The ear is thus directly on the top of the bucket stave, and allows the bail to be connected in such a manner that the bucket dips, when lowered to the water, with greater facility than when attached by the ordinary ears.

Improved Fishing Tackle.

Henry L. Sprague, Tottenville, N. Y.—This invention consists of a spiral spring secured and contained in a hole passing through the sinker. The line is attached to each end of the spring, and the degree of expansion of the latter is limited by a cord. When the hook and line is set, the elasticity and yielding of the bait caused by the spring gives the fish courage to endeavor to obtain a better hold, and thus secures the hook, which leads to his own capture.

Improved Toy Attachment for Childrens' Carriages.

John D. McAnulty, Philadelphia, Pa.—This is a little contrivance whereby two dancing and one revolving figure may be operated for the amusement of children while riding in a child's carriage, the apparatus being attached to the front of the carriage and the mechanism geared with one of the wheels of the carriage by a belt.

Improved Cotton Bale Tie.

William H. Tillery, St. Helena Parish, La.—The band for baling the cotton is provided at both ends with side recesses, preferably alternating at the sides. These are inclined at one end, and curved in semicircular shape at the other end, in such manner that they form, with the edge of the band, hooks. The recessed band ends are slipped over each other, and tied by a link-shaped clasp, which is carried over in lateral position, and then diagonally into the connecting recesses, until two corresponding hooks catch at each side around the side pins of the clasp, cross over the same, and lock the band firmly thereto.

Improved Millstone Dress.

Madison Vandegrift, Cincinnati, O.—This invention consists in an improved millstone dress, formed of a circle furrow and two circles or sets of straight furrows, the inner or eye furrows being made with a greater draft or inclination than the outer or skirt furrows. This greatly facilitates the passage of the chaps from the eye to the skirt of the stone, and at the same time improves the ventilation.

Improved Paddle Wheel.

Henry Reynolds, Albany, N. Y.—This invention consists of two wheels made fast at a short distance apart on the same rotary shaft, having their respective sets of buckets arranged obliquely thereacross, and having the opposite points of corresponding buckets of the two wheels arranged above or below and at an obtuse angle to each other. It is claimed that by this construction the same amount of bucket space will be constantly submerged so that the action of the wheel will be uniform.

Improved Watch Case Back.

Henry Birnn, Jersey City Hights, N. J.—A blank of the size and thickness required is punched out of any sheet metal commonly used for watch cases, and first struck up with an outer flange. The blank is then transferred into a die whose punch has a tapering rim, with a slightly-projecting central spring piston, which together form an angular recess with inclined side. The stroke of the punch on the flange of the blank carries the same to the inside, under the same inclination as that of its rim, and produces thereby a solid snap of triangular shape, which increases in thickness toward the outer circumference of the cap or back, and strengthens the same at the point of greatest strain.

Improved Furnace for Burning Kilns.

George C. Surls, Rochester, Pa.—This invention relates to a heating furnace for brick, drain pipes, and earthenware kilns, in which an intense and regular degree of temperature is required for burning the wares, and in which the cheapest kind of fuel may be used. The furnace has double arches placed over the fire box, which form an air space, connecting with front air flues for heating up the air and conducting the same by rear flues to flues connecting the furnace with the kiln, so as to produce the intermixture and complete combustion of the fire gases on their entrance to the latter.

Machinery for Washing, Bleaching, and Dyeing Skins.

Thomas Golden, Cutchogue, N. Y.—This is a drum formed, as to its periphery, of bars, which are V-shaped on the inside to scrape the skins open the pores. The bars are attached at their ends to the heads of the drums. There are also similar V-shaped bars on the inside for scraping the skins. The drum has a door at the side for putting the skins into it and taking them out, and is provided with gear to swing it up out of the tank and over one edge of the latter to dump the skins out into a cart to save the labor of taking the skins out by hand. Pipes are attached to introduce steam and water to the bottom of the tank to regulate the temperature. The machine is to be used in the several processes of tanning and dressing such skins as calf, sheep, deer, goat, seal, and all kinds of light skins and hides, known as washing, liming, tanning, raising, aluming, and softening with water, lime liquor, or pure drench, tan liquor, alum, soft liquor or sumac, or any of the liquors used in tanning or dressing leather. It is also useful for bleaching and dyeing of cloths.

Improved Portable Post for Tents, etc.

Henry D. Goldsmith, New York city.—The two parts of the post are made tubular, and of such sizes that the upper part may be inverted and passed into the other part. Upon three sides of a short sleeve, into which the lower tube fits, are formed lugs to which are pivoted stakes, which are readily forced into the ground. Plates are provided which limit the depth to which the stakes can enter the ground, and at the same time adjust themselves to any unevenness of the surface. At the upper end of the highest tube is a cap having a hinged clamp and plate for holding the horizontal rod which supports the tent.

Improved Sheathing for Buildings.

Rowell Colby, Freeport, Ill.—This invention consists in a fireproof roofing or sheathing for buildings, which is formed of metallic or paper sheets and a filling of mortar. The sheathing is placed along the lowermost part of the surface, and a cleat is tacked along the upper edge. A coat of mortar is then applied, so as to fill up the space above the cleat. The sheathing is next folded over cleat nails and mortar, and another strip is placed along the upper edge, and fastened in a similar manner by a cleat and nails along and with the edge of the lower strip. This operation is continued until the whole surface is neatly finished, the upper course being fastened by a cleat or strip of the paper or other material nailed over the same.

Improved Watchman's Time Check.

Carl Pfisterer, Ehingen on the Danube, assignor to Theodore Hahn, Stuttgardt, Germany.—This control apparatus is set by placing a pointer indicating the number of stations against a starting figure on the dial. Another pointer showing the number of rounds is also set against the highest figure on the dial. The several keys are secured in the places or stations to be visited by the watchman, who carries the clock with him, introducing each key in the regular order into the case till all stations have been visited. The rounds will be indicated on the second dial as each trip is completed. Should any station be omitted, the next key will not work the instrument, and will compel, therefore, the watchman to return to that station for bringing the time check in regular motion.

Improved Tool Handle.

George Carlisle, Attleborough, Mass.—A tip, made of horn or similar hard material, is attached to the handle, and has a broad shoulder and a central tenon, the tenon being of less diameter at the shoulder than at its end, and tapering or curved from the end to the shoulder. The hole in the handle is made of the size of the end of the tenon. A ring of steel, with its ends of equal diameter outside, but with the inside to correspond with the shape of the tenon, is inserted in the handle outside of the tenon mortise, so that, as the tip is forced down, the wedge section of the ring causes the wood about said mortise to hold the tenon tightly.

Improved Hydrant Cover.

James McKnight, Brooklyn, N. Y.—Spring catches are provided on the cover extending down in the hydrant, and are held out in notches in the latter by a cam suspended on a spindle projecting from the under side of the cover. The upper end of the spindle terminates in a socket on top of the cover, and is turned by a wrench. The cam is held in position for keeping the catches in the notches by friction.

Improved Earth Auger.

Washington Smith Jones, Meridian, Miss.—A lower borer plate is formed of two symmetrical halves of cast iron connected around the recessed part of the shaft by means of semicircular collar extensions which embrace the shaft, and are firmly attached thereto by a sleeve. The sleeve is slipped over the collars and keyed to the shaft by a cross pin. A second screw plate is attached to the shaft, at a suitable distance above the end plate, being also made of symmetrical halves, and which serves mainly to take off the weight of the earth from the lower plate, and lift a greater quantity on hoisting the auger. The detachable guide drum or band is also produced of two equal parts, constructed of V-shaped plates with collar extensions, and applied consecutively to the various recessed parts of the shaft above the plates by a sleeve and cross pin. Strong radial arms are applied to each plate, and a semicircular band, having the same radius as that of the lower plates, is suitably and firmly connected to their ends. The ends of one half drum are provided with stationary sleeves, into which projecting parts of the ends of the corresponding half drum fit, producing thereby on the attaching of both parts a full drum for guiding the auger in the required straight direction. The guide drum is transferred with the increasing depth of the borer plates to the upper part of the shaft, and the straight direction of the auger easily controlled.

Improved Well Auger.

Robert J. Gardner, Carlisle, Ark.—This invention consists in combining, with a shaft having a radially slotted bottom and edge-turned knives, a sliding top-closed cylinder and fast ring, whereby an earth auger is formed whose cutters take off successive shavings or thin slices of soil which are rapidly transferred into the cylinder. The latter continues to rise on the shaft until it strikes the fixed ring, when the auger is withdrawn and emptied of its contents. By this peculiar construction and combination of parts, the auger is enabled to do its work with singular neatness, efficiency, and economy of labor.

Improved Wood Bending Machine.

Augustus F. Marshall, Black River, N. Y.—This is a machine for bending wood for chair backs and the like by the use of a movable crosshead and screw for working it. It is an improvement on the patent granted to same inventor September 5, 1871. It consists in the combination of two screws with the crosshead for working it, in a manner calculated to avoid the cramping and binding of it with the ways. The screws are geared with a countershaft, and are both turned alike, so that one will not overrun the other. The invention also consists of such arrangement of the stirrups, the former, its carrier, and the die in which the back is bent, that the arms are bent while the former is being moved out of the die for bending the back to adjust it for receiving the next bar.