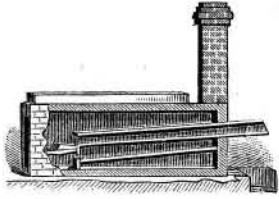


REGENT INVENTIONS.

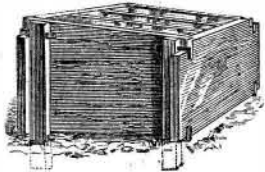
Bagasse Furnace.

We give an engraving of a furnace in which green bagasse may be burned as a fuel in the manufacture of sugar and molasses in the localities where fuel is scarce and expensive. The invention consists of a chute or chutes contrived, in connection with the furnace, for feeding the fuel along where it is exposed to the heat of the furnace or the flue leading therefrom to the chimney a suitable distance, and for a length of time enabling the fuel to dry and heat, so that it will burn with good results when it finally discharges into the furnace. In evaporating and other furnaces the inventor proposes to arrange the chute to enter the furnace from the back, where the fuel will have the benefit of the whole length of the run of the flame under the evaporating pans from the furnace to the chimney. This invention has been patented by Mr. John Hill, of Independence, Kas. (Box 224).



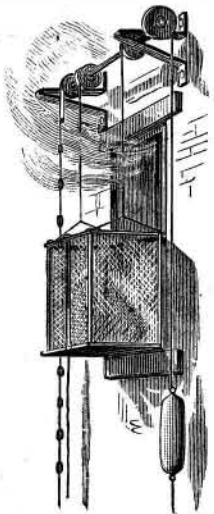
Hot Bed Frame.

This is a frame for plants, and is to be used for either hot or cold beds. It is shown as applied to hot bed frames. Such frames are usually made of front, back, and end boards, all nailed or permanently secured together to receive within or on them a given number of glazed sashes. The invention shown in the engraving consists in a knock-down frame, having its ends adjustable toward or from each other to suit different widths of sashes. The frame is made for better protecting the plants in the bed of the frame from frost. The end pieces are provided with metal hooks which engage the side pieces and hold them firmly in their places. This invention has been patented by Mr. John A. Tracht, of Galion, O.



Improved Fire Escape.

The engraving shows an improved fire escape recently patented by Mr. Michael Collins, of Pittsfield, Mass. At any convenient point along the front of a building, preferably at the roof coping or cornice, are fixed strong brackets supporting bearings in which is placed a shaft carrying grooved drums, on which are wound ropes or chains for supporting the cage or platform of the escape. The cage is counterbalanced by a weight suspended by a rope wound on a drum on the shaft in a reverse direction, a rope or chain having hand grasps is attached to the weight to secure a quick elevation of the cage, and a rope is attached to the cage for pulling it down. There is a friction drum on the shaft having a brake, which is operated by a rope hanging alongside of the cage, and provided with hand grasps, so that the descent of the cage may be easily controlled by any one in it. The cage carries a platform which may be let down on any window or door sill to facilitate the entrance to the cage. This entire apparatus is to be made of metal, and is therefore practically fireproof. It may be used to great advantage for other purposes than that of a fire escape.



Stirrup for Riding Saddles.

The improvement shown in the engraving consists in a toe guard and tilting arranged to insure a certain and ready escape of the feet of the rider, in case of accident, so that should the rider be thrown from the horse he will not be dragged by the stirrup. In this stirrup a thin strip of metal is connected with the top of the yoke at the back, and extends to the front of the bottom plate, where it is secured. The foot plate is pivoted to the rear of the bottom plate, and is capable of tilting with the foot, while the thin metal strip above mentioned prevents the toe from catching in the yoke. A novel spur is attached to this stirrup. It consists of a sliding rod carrying a rounded and perforated button, behind which are the spurs, which cannot touch the horse unless the button is pushed back by pressure of the stirrup against the sides of the horse. When pressure is exerted on the bottom the spurs are protruded, and the horse is pricked more or less according to the amount of pressure applied. Fig. 1 is a perspective view, and

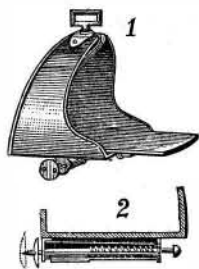
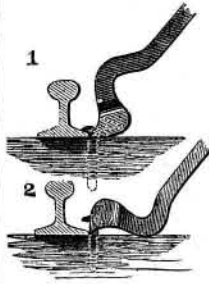


Fig. 2 is a sectional view of the stirrup and spur. This invention has been patented by Mr. Philip Ganzhorn, of Washington, Ill.

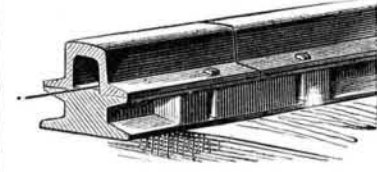
Improved Claw Bar.

The engraving shows an improved claw bar recently patented by Mr. Aron Hamm, of Sayre, Pa. This implement is used for drawing nails and spikes, and is more especially designed for drawing spikes from railroad ties. The invention consists in bending the bar and recessing it at the claw end as shown in the engraving, so that the spike may be started with the point of the claw as shown in Fig. 1, and afterward entirely removed by the reverse side of the claw, as shown in Fig. 2. This invention permits of withdrawing the spike without the use of a baté and without bending the spike. All communications regarding this device should be addressed to Mr. James N. Weaver, of Sayre, Pa.



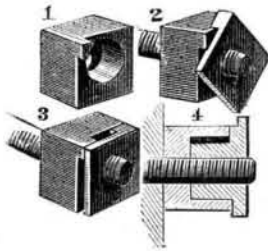
New Railroad Rail and Rail Joint.

This rail consists of a hollow steel cap of less height than the ordinary rail, with a base of about the usual breadth. The bottom part of the rail is of iron having a flange at the upper and lower side, and having along the upper side a rib over which the steel part of the rail fits. There is in each side of the lower part of the rail a deep groove in which are placed steel splice bars at the rail joint. These bars are slotted to admit of fastening them by means of spikes driven through both members of the rail. It is designed to arrange the two parts of the rail so as to break joints, and the reinforcement of the rail at the joints by the splice bars makes it as strong, if not stronger, at these points than anywhere else. This invention has been patented by Mr. Peter A. Locke, of Silver Cliff, Colo.



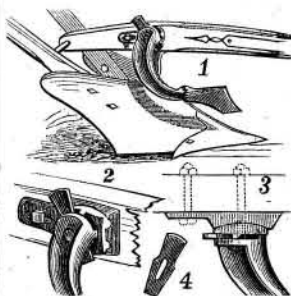
Improved Nut Lock.

This invention consists of a nut of two parts, one having a cavity in the face or top eccentric to the bolt hole, and a stud projecting from one corner of the face, together with another part, forming a check nut by having a boss eccentric to the bolt hole, and also having a projection or raised part on its face, which engages with the stud on the nut first named when the parts are in the non-interlocking position, and can be both together screwed on to the bolt. Then by turning one part of the nut while the other part is not turned, the eccentric boss of the one binds in the eccentric cavity of the other nut, thereby locking the nuts on the bolt securely. Fig. 1 is a face view of the nut; Figs. 2 and 3 are detail perspective views, the former showing the position of the studs when the nuts are ready for being screwed on the bolt; while Fig. 4 is a sectional view, showing the position of the two nuts when the check nut has been turned to lock the cam surfaces. This invention has been patented by Mr. John Ford, of Portneuf, Quebec, Canada.



Improved Plow Jointer.

This is an improved device for connecting the plow jointer to the plow proper, for facilitating the adjustment of the jointer, and also for facilitating the discharge of the sward, manure, or rubbish into the furrow to be properly covered, and to cause it to escape from the supporting arm of the jointer and prevent clogging thereon, as is common with jointers attached in the ordinary way. A curved arm is employed connecting the jointer to the plow, so contrived, by connecting to the back of the mould board of the jointer and curving therefrom toward the furrow side and thence upward to the furrow side of the beam, that any sward, straw, manure, and other matters rising up with the furrow slice, raised by the jointer and tending to pass over the mould board, will pass on to the arm, which is smooth and oval in form, and is so curved that such matters cannot lodge and clog on it, but will be drawn by the furrow slice from the arm and discharged into the main furrow, so as to be effectually covered up. This arm is made to terminate in a rose clutch, and the jointer is provided with a counter part and is bolted to the arm, making a substantial connection,



which is readily adjustable. To connect the arm to the beam, so that it can be readily shifted to swing the jointer up and down, and also to shift it laterally to the main plow, the arm has a disk head, firmly bolted against a wedge which is interposed between it and the flat face of a washer the back of which is made convex, and it is fitted in a plate having a concave front face, and being adjustable along the plow beam to alter the pitch of the washer, which is confined in its position by a bolt. Fig. 1 shows the attachment applied to the plow. Fig. 2 shows the disk end of the curved arm. Fig. 3 is a horizontal section of the beam connection, and Fig. 4 shows the wedge. This invention has been patented by Mr. David Woodward, of Clinton, Mich.

The Bottom of Lake Winnipiseogee.

Captain Eugene Sullivan, a submarine diver, from Boston, who recently made an unsuccessful search for the body of E. L. Dunklee, drowned in Lake Winnipiseogee, saw some things of an interesting character while under water. What is known as Eagle Island, he says, is really the top of a hill, which rises some 100 feet from the bottom of the lake, with just the brow of the hill protruding from the water. This hill is very steep, and is covered with cliffs and ledges, many of which are from 30 to 40 feet high. At some distance from Eagle Island is a vast plain, thickly covered with eel grass and literally alive with eels of all sizes. Captain Sullivan also encountered large shoals of horn pouts near this plain, and, in fact, reports fish of all kinds to be very numerous and in some cases very large.

The "finny denizens of the deep" seem to take kindly to the human intruder on their domains, and swarmed around him in large numbers, nibbling at his armor and carefully inspecting every portion of "the rare curiosity from up above." The diver also discovered a spring of very cold water bubbling up from the bottom of the lake, and surrounded with quicksands, into which he walked and commenced sinking, but was promptly pulled out by his men above when the proper signal was given. Of course, if the body of a person who has been drowned should rest on the quicksand surrounding one of these springs, it might speedily be engulfed never to appear again, and perhaps this will stand for one reason why bodies of many persons lost in the lake have never been recovered.

A New Pass through the Andes.

The recent discovery of a pass, hidden for centuries, in the mountains between Chili and Argentine Republic, near Lake Nahuelhaspi, may have a powerful influence upon the development of a region which has been one of the world's neglected corners. By this pass the route from the extreme western outpost of the Argentine Republic, across Chili at its narrowest part, to the Pacific coast, is only seventy miles long, so that a railway can be built directly across the point of South America from the Gulf of San Matras, through the pampas, to a Chilian port at the head of the gulf which lies between Chiloe Island and the mainland. A railway is now in process of construction from Buenos Ayres, in a north-westerly direction, by way of Mendoza to Santiago, but the route made available by the Barilochi pass is less than one-half the length of that one. Perhaps this discovery and the explorations of Chilian and Argentine soldiers will open to improvement the region which corresponds in respect to the climate with the United States. We are apt to forget that the greater part of South America lies in the hot zone, and only the southern point, which is owned partly by Chili and partly by the Argentine Republic, lies in the latitude of the New England and Middle States, and the route through the newly discovered pass is in the latitude which corresponds to the latitude of this city. Vast plains there await development. — *New York Times.*

Bleaching Sponges.

The following process was, says *New Remedies*, devised by Mr. John Borham, and has been in use in Bellevue Hospital for a considerable time:

Soak the sponges, previously deprived of sand and dirt by beating and washing, in a one per cent solution of permanganate of potassium. Then remove them, wash them thoroughly with water, and press out the water. Next put them into a solution of one-half pound of hyposulphite of sodium in one gallon of water, to which one ounce of oxalic acid has been added, and leave them in the solution for fifteen minutes. Finally, take them out, and wash them thoroughly.

By this treatment the sponges are rendered perfectly white. Many sponges contain a more or less dark-colored, brownish core. If treated only with permanganate and acid, the core is either not bleached at all, or if it has been somewhat bleached, the tint is apt to grow again darker. By the above modification, every portion of the sponge is rendered white, and remains so.

Proposed New Ship Canal in England.

A ship canal is projected from Bristol Channel across the peninsula of Somerset and Devon to the English Channel. The length of the canal will be 62 miles; the waterway will be 125 feet wide at the surface, 36 feet at the bottom, and 21 feet deep, the dimensions being similar to the grand ship canal of Holland from Amsterdam to the Helder. Such a canal will accommodate ships of 1,500 tons drawing 18 feet. The cost of the new canal is estimated at about fifteen millions of dollars; and twelve per cent annual dividends on this cost are expected.

Public Exhibitions for 1883.

The following is a list of the principal public exhibitions for 1883, at which the most recent improvements and new inventions will be shown.

STATE, PROVINCIAL, ETC.

Table listing public exhibitions by state/province with dates. Includes American Institute, New York; Arkansas, Little Rock; California, Sacramento; Canada Dominion, St. John, N. B.; Canada Western, London; Cincinnati Industrial, Cincinnati; Colorado, Denver; Connecticut, Meriden; Delaware, Dover; Illinois, Chicago; Indiana, Indianapolis; Iowa, Des Moines; Kansas, Lawrence; Kentucky, Lexington; Louisiana, Lousville; Maine, Lewiston; Massachusetts, Provincial, Portage la Prairie; Maryland, Baltimore; Michigan, Detroit; Minnesota, Owatonna; Missouri, St. Louis; Montana, Helena; Nebraska, Omaha; New England, Manchester, N. H.; New Jersey, Waverley; New York, Rochester; North Carolina, Raleigh; Nova Scotia, Truro; Ohio, Columbus; Ontario Provincial, Guelph; Oregon, Salem; Pennsylvania, Philadelphia; Rhode Island, Providence; St. Louis, St. Louis; South Carolina, Columbia; Texas, Austin; Toronto Industrial; Tri-State, Williams Grove, Pa.; Vermont, Burlington; Virginia, Richmond; West Virginia, Wheeling; Wisconsin, Madison.

COUNTY AND LOCAL-NEW YORK.

Table listing public exhibitions by county/locality in New York with dates. Includes Alleghany, Angelica; Broome, Whitney's Point; Carthage, Union, Carthage; Cattaraugus, Little Valley; Chautauque, Jamestown; Chemung, Elmira; Columbia, Hudson; Cobleskill, Cobleskill; Cortland, Cortland; Delaware, Delhi; Dutchess, Washington Hollow; Erie, Hamburg; Essex, Westport; Franklin, Malone; Fulton, Johnstown; Genesee, Batavia; Greene, Cairo; Herkimer, Herkimer; Jefferson, Watertown; Lewis, Lowville; Livingston, Genesee; Montgomery, Fonda; Moravia, Union, Moravia; Niagara, Lockport; Oneida, Rome; Onondaga, Syracuse; Ontario, Canandaigua; Orange, Middletown; Orleans, Albion; Oswego, Mexico; Otsego, Cooperstown; Putnam, Carmel; Queens, Mineola; Rensselaer, Lansingburg; Rockland, Spring Valley; Rushville, Union, Rushville; St. Lawrence, Canton; Sandy Creek, R. O. & B., Sandy Creek; Saratoga, Ballston Spa; Schoharie, Schoharie; Schoharie, Schoharie; Schuyler, Watkins; Seneca, Waterloo; Sinclairville, Sinclairville; Steuben, Bath; Suffolk, Riverhead; Sullivan, Monticello; Tioga, Owego; Tompkins, Ithaca; Washington, Sandy Hill; Wayne, Lyons; Western New York, Rochester; Wyoming, Warsaw; Yates, Penn Yan.

MAINE.

Table listing public exhibitions by county in Maine with dates. Includes Aroostook, Houlton; Cumberland, Portland; Franklin, Farmington; Kennebec, Readfield; Knox North, Hope Corner; Lincoln, Damariscotta; Oxford, Norway; Oxford West, Fryeburg; Penobscot, Exeter; Piscataquis East, Milo; Sagadahoc, Topsham.

NEW HAMPSHIRE.

Table listing public exhibitions by county in New Hampshire with dates. Includes Grafton, Plymouth; Oak Park, Greenfield.

VERMONT.

Table listing public exhibitions by county in Vermont with dates. Includes Addison, Middlebury; Caledonia, St. Johnsbury; Dog River Valley, Northfield; Franklin, Sheldon; Lamoille Valley, Morristown; Mad River Valley, Waitsfield; Orange, Bradford; Poultaey, Poultaey; Rutland, Rutland; Union, Bellevue Park; White River, Bethel.

MASSACHUSETTS.

Table listing public exhibitions by county in Massachusetts with dates. Includes Amesbury and Salisbury, Newburyport; Barnstable, Barnstable; Berkshire, Pittsfield; Berkshire Central, Lee; Bristol, Taunton; Deerfield Valley, Charlemont; Essex, Haverhill; Franklin, Greenfield; Grafton, Farmers' Club; Hampden, Chicopee; Hampshire East, Palmer; Hampshire, Amherst; Hampshire, Franklin, etc., Northampton; Highland, Middlefield; Hingham, Hingham; Hoosac Valley, North Adams; Housatonic, Great Barrington; Lancaster Farmers' Club; Marshfield, Marshfield; Martha's Vineyard, West Tisbury; Middlesex, Concord; Middlesex North, Lowell; Middlesex South, Framingham; Nantucket, Nantucket; Plymouth, Bridgewater; Union, Blandford; Westboro, Westboro; Worcester, Worcester; Worcester North, Fitchburg; Worcester Northwest, Athol; Worcester South, Sturbridge; Worcester Southeast, Milford; Worcester West, Barre.

RHODE ISLAND.

Table listing public exhibitions by county in Rhode Island with dates. Includes Washington, West Kingston; Woonsocket, Woonsocket.

CONNECTICUT.

Table listing public exhibitions by county in Connecticut with dates. Includes Chester, Chester; Clinton, Clinton; Danbury, Danbury; Fairfield, Norwalk; Farmington Valley, Canton; Guilford, Guilford; Killingworth, Killingworth; Milford and Orange, Milford; New London, Norwich; New Milford, New Milford; Southington, Southington; Tolland East, Stafford Springs; Union, Huntington; Watertown, Watertown; Westbrook, Westbrook; Willimantic Farmers' Club, Willimantic; Windham, Brooklyn; Woodbridge and Bethany, Woodbridge; Woodbury, Woodbury; Woodstock South, Woodstock.

NEW JERSEY.

Table listing public exhibitions by county in New Jersey with dates. Includes Atlantic, Hammonton; Bergen, Hohokus; Burlington, Mt. Holly; Cumberland, Bridgeton; Egg Harbor City; Hunterdon, Flemington; Monmouth, Freehold; Morris, Morristown; Salem, Woodstown; Somerset, Somerville; Sussex, Newton; Union and Middlesex, Plainfield; West Jersey, Woodstown.

PENNSYLVANIA.

Table listing public exhibitions by county in Pennsylvania with dates. Includes Armstrong, Kittanning; Beaver, Beaver; Bedford, Bedford; Berks, Reading; Bradford, Tonawanda; Butler, Butler; Canton Union, Canton; Carbon, Lehigh; Chartiers Valley, Canonsburg; Chester, West Chester; Columbia, Bloomsburg; Crawford, Conneautville; Cumberland, Carlisle; Dauphin, Harrisburg; Dayton, Dayton; Delaware, Elwyn; Doylestown, Doylestown; Eastern Farmers' and Mech. Institute; Erie, Erie; Fayette, Uniontown; French Creek Valley, Cochranton; Gratz Driving Park, Gratz; Harford, Harford; Indiana, Indiana; Jefferson, Brookville; Juniata, Port Royal; Keystone, Kutztown; Keystone and Buckeye, Sharon; Lackawanna, Scranton; Lancaster, Lancaster; Lawrence, New Castle; Lebanon, Lebanon; Leechburg, Leechburg; Lehigh, Allentown; Luzerne, Wyoming; Lycoming, Williamsport; McKean, Port Alleghany; Mercer, Stoneboro.

Table listing public exhibitions by county in Delaware and Maryland with dates. Includes Mercer Central, Mercer; Northern Montour, Washingtonville; Northampton, Nazareth; Northumberland, Sunbury; Northwestern, Corry; Oil Creek Valley, Titusville; Oxford, Oxford; Petroleum, Parker's Landing; Potter, Coudersport; Punxsutawny, Punxsutawny; Rich Hill, Jacksonville; Ringtown, Ringtown; Schuylkill, Orwigsburg; Snyder, Selinsgrove; Somerset, Somerset; Sullivan, Forksville; Susquehanna, Montrose; Troy, Troy; Union, Lewisburg; Union City, Union City; Venango, Franklin; Warren, Sugar Grove; Washington, Washington; Washington Union, Burgettstown; Wayne, Honesdale; Wellsboro, Wellsboro; Wyoming, Tunkhannock; York, York.

DELAWARE.

Table listing public exhibitions by county in Delaware with dates. Includes Peninsular, Middletown.

MARYLAND.

Table listing public exhibitions by county in Maryland with dates. Includes Baltimore, Timonium; Cecil, Elkton; Frederick, Frederick; Harford, Bel Air; Kent, Warton Station; Washington, Hagerstown.

ENGINEERING INVENTIONS.

Mr. J. A. Wheeler, of Vandalia, Mo., has recently patented a lubricator for engine cylinders, the object of which is to provide for giving a regular and graduated supply of oil to engine cylinders and valves by automatic means operated by the engine. It consists in the combination, with an oil cup, of a plunger feed rod, acting to supply a quantity of oil to the steam pipe.

Mr. S. R. Jones, of Lacon, Ill., has obtained a patent on an improved car coupling, which possesses some features not found in any previously patented coupling. In the drawbar the inventor arranges a hook coupler which swings down to receive the link. A crank device is thrown down by the shock of the cars coming together, and engages the link with the coupler without the aid of any attendant. Arrangements are made for coupling cars of different heights with Mr. Jones' coupler.

A novel hydraulic pile driver has recently been patented by Messrs. J. W. Surprenant and J. E. Ferguson, of Astoria, Oregon. The invention consists of a bent pipe supported against the side of the pile and in a longitudinal groove in the pile. The pipe is held against the pile and in the groove, and is provided with means for raising it after the pile has been sunk. Means are provided for coupling a hose pipe with the pile pipe. If water is forced through the pipe and ejected from the lower end of the same, it washes away the sand under the pile and causes it to descend into the ground.

MECHANICAL INVENTIONS.

An important improvement has recently been patented for rendering elevator cars safe from falling in the event of the hoist rope breaking. The apparatus was designed especially for freight, coal, and mining purposes, but it may be used on passenger elevators with equal advantage. A series of stops are so arranged that, in case of accident, they fall and lodge under the car, stopping its descent immediately. Messrs. E. L. Parker and S. Peterson, of Queensville, Ind., are the patentees.

Mr. John S. Griffin, of Newburg, Cleveland, O., has patented an improved rolling mill, for rolling springs and sleigh shoes, and tapering the same on the flat sides and edges. On a shaft above the rolls double cams are mounted directly above the bearing blocks, so that when the shaft is rotated the double cams will press on the bearing blocks, and will thus depress the journal boxes of the upper roller and move the roller, so as to impart the proper form to the spring or sleigh shoe.

Mr. William Whitely, of Housatonic, Mass., has recently secured a patent for a safety stop for elevators. A frame passes across the top and down the sides of the carriage, and connected with it by cams and links, and partially supported by a weight and cord, so that the descent of the carriage within the frame will apply the cams and stop the downward movement when it is desired. Upon the bolts that connect the cam links with the top of the carriage are placed rubber blocks, to relieve the jar when the descent of the carriage is stopped by the cams.

An ore roasting furnace of the class where a cylinder is fitted for revolution within the furnace, has recently been patented by Mr. R. L. Thompson, of Boulder, Colo. The ore is fed in a continuous stream through a hopper into the cylinder, which is heated externally by a furnace. Air is supplied by a blower; in its passage into the cylinder it becomes heated, thereby effecting economy in the use of fuel. As the cylinder revolves the ore is lifted by tubes to the upper side and then dropped to the bottom, and is thus worked till discharged into a flue, through which it passes exposed to the action of a flame from the furnace, and is finally landed on a hearth.

A machine for amalgamating the gold and silver in pulverized ores, is the subject of letters patent recently issued to Mr. William E. Harris, of New York city. In using this machine, pulverized ore and heated water are introduced into a wooden cylinder in about the proportion of three hundred pounds of water to a ton of ore. When the cylinder is about seven-eighths

full, two pounds of bromine or bromide of sodium for each ton of ore is added, and steam is admitted into space between the wooden cylinder and the iron casing to keep the contents of the wooden cylinder hot. The cylinder is revolved until all the gold and silver in the ore is thoroughly bromidized, so that it will readily amalgamate with quicksilver. A suitable quantity of quicksilver is then introduced into the cylinder, and the revolution of the cylinder is continued for two or three hours, after which the contents are treated in the ordinary manner to separate the amalgam from the ore.

AGRICULTURAL INVENTIONS.

Mr. James F. Miller, of Spring Station, Ind., has patented an attachment to mowing and reaping machines to prevent the knives and knife bar from becoming clogged with dirt in the groove of the finger bar. The attachment consists of a plate attached to the finger bar in such a way as to effectually cover and close the joint between it and the back of the knife bar. The said plate serves also as a substitute for the cleats commonly employed to hold the knife bar down in its place.

A simple and effective device for use in barns to distribute hay to the outer parts of the loft as it is discharged from a carrier, has been patented by Mr. Frank Baylis, of Amenia, N. Y. An apron is hinged at its lowest part to the beams of the barn by an iron rod, and it is supported at its upper part in an inclined position by bars attached to the rafters. The hay when dropped from the carrier slides down the apron and is projected to the outer part of the mow.

MISCELLANEOUS INVENTIONS.

A simple and convenient ribbon holder has recently been patented by Mr. John Mellette, of Winamac, Ind. A wire having its ends bent passes into the center of the ribbon holder, and is folded over to rest on the ribbon in such a way as to prevent its unrolling except as desired for use.

A roll for ribbons, tape, etc., which is both light and inexpensive, has recently been patented by Mr. John Mellette, of Winamac, Ind. A strip of veneer or thin sheet of wood is cut out by a die or otherwise, in such a form as when folded and glued they make a complete roller much lighter and stronger than the ordinary solid wood or pasteboard ribbon roll and costing less.

Mr. M. W. Newcomb, of Marysville Kas., is the patentee of a new improvement in photographic plate holders, by which accuracy of focus and rapidity of work is accomplished. The plate holder is reversible to receive different sized plates on opposite sides of the holder. This invention is important to photographers who have several persons to photograph on different sized plates about the same time.

An ornamental napkin holder, to take the place of the ordinary ring holder, has been patented by Mr. C. S. Dikeman, of Waterbury, Conn. The napkin when folded rests in a U-shaped receptacle having feet for its support. Within the napkin receptacle is a chain on which the napkin rests. To remove the napkin the chain is drawn down and the napkin is raised. The new holder combines ornamental as well as useful qualities, and may be made of almost any material.

A patent for protecting wooden piles of bridges, docks, etc., from worms and insects or from the effect of alternate wetting and drying, has been patented by Mr. D. H. Valentine, of Brooklyn, N. Y. A mould is placed around the pile which is to be treated, after it has been driven into the ground. Portland or other cement is then poured into the mould after the water has been pumped out. After the cement becomes hard the shield is removed, when a canvas shield is stretched around the pile to protect the cement.

An apparatus for heating barrels after being set up in truss hoops, so that the staves will retain their curvature and not straighten out when the hoops are removed, has been patented by Mr. Paul Weidmann, of Brooklyn, N. Y. The barrel to be heated is placed on a metal stand perforated with holes, through which hot air is forced from a furnace or heater by means of a blower; a cylindrical drum covers the barrel to prevent the escape of the hot air.

An invention to facilitate the removal of the carbon deposited upon the inner surfaces of the stand pipes of gas works, has recently been patented by Mr. John Clark, of New York city. The invention consists in a pipe cleaner, made with a cutter having a central perforation to receive a rod, which is provided with collars above and below the cutter. The rod serves as a hammer to force the cutter through the pipe. The rod is also provided with a cap to keep it in the center of the pipe while the tool is being used.

A spring bed bottom, constructed in such a manner as to be strong and durable, and in which the springs will not be liable to get out of place, has recently been patented by Mr. Charles J. Mengel, of New York city. With cross springs are connected reinforcing springs, the ends of which rest upon the middle bends of the cross springs, and are held from lateral movements by longitudinal connecting wires placed above and below. The cross springs are kept in place by passing the lower wires through loops formed upon the upper wires and passed down through perforations in the said springs.

A new process for the manufacture of beer, sirup, distilled liquors, etc., has recently been patented by Messrs. A. E. & W. E. Feroe, the former residing at Albany and the latter at Poughkeepsie, N. Y. The principal feature of the invention consists in the process of forming a mash from corn meal by boiling it for about an hour in water, and letting it cool down to a temperature of 150° to 160°, adding a small quantity of malt flour, and putting the material through sundry other simple processes, producing, it is claimed, a substance equal to barley malt. The inventors show in their patent drawings an apparatus which may be used in preparing the new material, but the invention is not limited to the machinery described, for other appliances may be used for producing the same yeast-like substance.