

or threatening to commence or prosecute, any suit against any vendee of this defendant, or any vendee of a vendee of this defendant herein, for any alleged infringement of the reissued letters patent involved in this case, and on which this case is brought, based upon a use or sale by said vendee of any clover machine purchased of this defendant.

Provided said defendant shall within thirty days file a bond in this case in the sum of five thousand dollars, with securities to be approved by the court, for the payment of any damages that may be adjudged against the defendant in the above entitled suit, and that defendant shall file in this court a sworn monthly statement of the number of clover machines herein-after made and sold by them.

#### Inventions Patented in England by Americans.

From May 8 to May 14, 1877, inclusive.

BUTTON HOLE SEWER.—W. Randel et al., Troy, N. Y.  
 CAR FARE REGISTER.—H. E. Towle, New York city.  
 CLEANING GUNS, ETC.—B. L. Budd, New York city.  
 GLOVE STRETCHER.—J. Herts, New York city.  
 LAMP BURNER.—Benedict & Burnham Co., Waterbury, Conn.  
 MOTIVE POWER FOR VESSELS.—T. S. Seabury, New York city.  
 PAINT OIL.—G. Walker et al., Chicago, Ill.  
 ROLLING LEATHER, ETC.—A. F. Stowe, Massachusetts.  
 SCREW, ETC.—H. A. Harvey, Orange, N. J.  
 SHOE-FASTENING.—F. G. Farnham, Hawley, Pa.  
 SPEED GOVERNOR, ETC.—G. Westinghouse, Jr. (of Pittsburgh, Pa.), Liverpool, England.  
 WINDING REEL.—W. Grover et al., Holyoke, Mass.  
 WOOD PAVEMENT.—F. C. Taylor, Chicago, Ill.

#### Recent American and Foreign Patents.

##### Notice to Patentees.

Inventors who are desirous of disposing of their patents would find it greatly to their advantage to have them illustrated in the SCIENTIFIC AMERICAN. We are prepared to get up first-class wood engravings of inventions of merit, and publish them in the SCIENTIFIC AMERICAN on very reasonable terms.

We shall be pleased to make estimates as to cost of engravings on receipt of photographs, sketches, or copies of patents. After publication, the cuts become the property of the person ordering them, and will be found of value for circulars and for publication in other papers.

#### NEW MECHANICAL AND ENGINEERING INVENTIONS.

##### IMPROVED BLACKSMITHS' TONGS.

James H. Gregory, Columbia, Tenn.—These tongs are so constructed that they may be used for holding two pieces of iron together, either straight or at any desired angle, for welding. They may be used as a clamp, for holding the two ends of a tire with any desired lap, for holding a piece or splice to be inserted in a tire, or for holding various kinds of blades and cutters to be ground, and for other similar purposes.

##### IMPROVED MILL SPINDLE BUSH.

Harvey T. Ashworth, Chatham, Va.—This consists of a bush for the eye of the bedstone, which is made of a block of hard wood or metal, and recessed for the reception of the cushioned journal blocks or followers. The latter are recessed near the upper end, and filled with a suitable lubricating mixture. The top of the journal block is tightly closed by a rubber cap fitting tightly around the spindle.

##### IMPROVED RAILROAD SIGNAL.

Charles Haise and Frank Haise, Atlanta, Ill.—This is an improved device to enable an approaching train to be signaled from the office, so that there may be no delay in making the signals when promptness is necessary. Wires and levers are so arranged that a lantern can be turned through a quarter of a revolution, so as to show a white or a colored light, as may be necessary.

##### IMPROVED CAR COUPLING.

Gurdin D. Lease, Jeffersonville, Vt.—This coupling couples in automatic manner by the entrance of the link. It consists of a longitudinally slotted drawhead with centrally pivoted and weighted lever bar, and curved or hook-shaped coupling pin, that is pivoted to the rear end of the lever bar, and dropped with the same by the action of the coupling link into a top recess and bottom pinhole of the drawhead, coupling thereby the link.

##### IMPROVED APPARATUS FOR CARRYING RAILROAD RAILS.

Andrew J. Gustin, St. Albans, Vt.—This is an improved apparatus by which the rails are taken up and conducted to the cooling bed, after having been passed through the bending rolls that impart the proper camber, so as to compensate for the unequal shrinkage of the rail while becoming cold. The device may also be used for moving the rails *en masse* from the position where they are left to cool to the end where they are taken off to the straightening machine. The invention consists of a bed frame with lateral chains and rail carrying shoes, the chains and shoes being guided in grooved rails, flush with the bearing rails of the bed, and the chains automatically adjusted to expansion and contraction by movable and weighted pulley bearings; also, two long screws with suitable bearings at the ends, and dogs shaped to fit the screws, and guided in grooves to hold them in position. The dogs are provided with trip latches, and the screws are connected with reversible driving shaft with gears.

##### IMPROVED PLATE PRINTING PRESS.

Horatio W. Browne, Philadelphia, Pa.—This consists in a novel device for moving the bed under the impression roll, the object being to increase the rapidity with which the impressions may be taken from the plates.

##### IMPROVED ROCK-DRILLING MACHINE.

Aaron J. Mershon, Warsaw, Ind.—This invention consists in the combination of a disk secured to a shaft, and having an arc-shaped slot, in the end of which is journaled a concave roller, with an arm placed loosely on the drill rod, and extending through the slot of the disk, so as to be engaged by the concave roller as the disk is revolved. It was fully described and illustrated on page 358, current volume.

##### IMPROVED REVOLVING ORE ROASTERS.

John Howell, Benton, Cal.—This is an improved rotary tubular furnace for chloridizing silver ores and desulphurizing copper, gold, lead, tin, and zinc ores. There is a revolving tube with a furnace at the receiving end, having the chambers, and a furnace at the lower end having a pit, into which the ore is discharged after treatment.

##### IMPROVED IRON MOULDING.

Joseph Hursh, New York city.—To the pattern is secured a male screw, projecting sufficiently to allow a key to be firmly screwed upon it. The screw is covered with a small slightly tapering cap, while the sand is being packed upon it, and which protects the threads of the screw from being filled with sand. When the cope is raised from the pattern the cap is either left upon the screw or taken off with the sand, and can then be drawn, in either case leaving a smooth hole in the sand, which can be easily filled. By this construction no time need be lost in freeing the screw threads from sand, and the same will not be worn by the latter.

##### IMPROVED SQUARE.

Charles A. Schrier, Holyoke, Mass.—The object is to so improve the universal square in general use that a line may be drawn along the whole length of the tongue or blade without removing the square from the roll or other object. To this end the square has a crossbar with curved or raised portion above the central edge of the tongue to admit the continuation of the line along the same.

##### IMPROVED GRAIN CRUSHER.

Joseph Reid and Robert Reid, Philadelphia, Pa.—This is a machine for crushing and pulverizing grain. Grain to be crushed is delivered to a hopper, and the machine being in motion, it is caused by vibratory motion to flow rapidly down a chute to the rolls by which it is crushed and delivered to another chute, through which it passes to a suitable receptacle.

##### IMPROVED PIPE TONGS.

Christian States and Harry I. Cook, Topeka, Kan.—This combines the advantages of a pipe tong, wrench, and screwdriver. It consists of a double jaw, with curved end and notches, in connection with a single jaw and lever sliding in the double jaw, and having projecting pivot pins for entering into the notches. This invention was illustrated and described on page 310, current volume.

#### NEW HOUSEHOLD INVENTIONS.

##### IMPROVED PICTURE FRAME.

Samuel Sargeant, Brooklyn, N. Y.—This consists in a frame formed of metal tubes, halved to each other, and secured to a back frame or board by screws passing through said back frame or board, through the inner sides of the said tubes, and screwing into pieces of wood placed within said tubes.

##### IMPROVED BOOT-JACK.

John Niver, Sherman, N. Y.—This is an improved bootjack designed to be attached to a wall, and to be turned up against the wall when not in use.

##### IMPROVED LAMP BURNER.

Jonas Rasch, Christiania, Norway.—This is an improved round burner for petroleum lamps, on which the chimney may be adjusted to different heights, for the purpose of obtaining a more perfect combustion and better light. The chimney is quickly set at the proper elevation above the aperture of the burner by a simple mechanism.

##### IMPROVED SHIRT-DRYING APPARATUS.

John McCartan, New York city.—This is an improved apparatus for drying starched shirts, formed of a hollow metal plate, made of such a shape and size as to be passed into a shirt, which is spread out smoothly upon it. Hollow metal cylinders are made of a proper size for the cuffs of the shirt to be spread out upon them. The hollow plate and cylinders are each provided with a steam inlet pipe, through which steam is introduced from a boiler or other steam generator, and a steam outlet pipe, to enable the said plate to be brought to and kept at a suitable temperature to dry the shirt and cuffs quickly.

#### NEW MISCELLANEOUS INVENTIONS.

##### IMPROVED COMBINED LETTER SHEET AND ENVELOPE.

Leo Ehrlich, St. Louis, Mo.—This invention consists of a sheet of suitable size having sealing flaps that extend at one corner along a portion of the sides, so as to close in the nature of an envelope when the sheet is folded up.

##### IMPROVED PROCESS OF FINISHING CARDBOARD FOR PERFORATING.

Bernard Dreyfuss and Samuel Sachs, New York city.—This consists in coating a suitable quality of cardboard with a mixture of powdered metallic zinc, glue, starch, and wax. The board is given a bright silvery surface, which is very hard, and well prepared for perforation in the usual way.

##### IMPROVED PHOTOGRAPHIC PRINTING APPARATUS.

Oliver Sarony, Scarborough, England.—The object of this invention is to obtain by two successive exposures the title, tint, or fancy border on the same negative with the picture, so as to dispense with the use of registering presses and registering tinting presses hitherto employed, and therefore with the second printing. A print having the appearance of what is known as a chromotype may be thus produced in the ordinary printing frame at one printing instead of two, as at present.

##### IMPROVED SLEEVE BUTTON AND STUD.

Alexander Goll, Frankfort-on-the-Main, Prussia, Germany.—This sleeve button or stud has an elastic piece of metal, double or open slotted, and attached to a flat pivot at the end of its bent shank.

##### IMPROVED APPARATUS FOR WEIGHING LIQUIDS.

John G. Valentine, Florence, Mass., assignor to himself and Edward Valentine, of same place.—This is a receptacle for liquids, that is suspended from a scale lever pivoted in a frame, in the handle of which is pivoted a spring connected by a scale with the said lever, for indicating the weight of liquids contained by the receptacle.

##### IMPROVED COFFEE ROASTER.

John A. Caldwell and Adolph F. Pleitz, Brownsville, Tenn.—This improved coffee roaster is so constructed as to keep the coffee constantly turning over, so that it cannot slide upon the vessel and burn.

##### IMPROVED SUSPENDER.

Leonard V. Richmond, Sand Lake, N. Y.—The suspenders are so made that whatever position the body of the wearer may take, the tautness of some of the straps will take up the slack of the others, so that there will be no perceptible strain upon any of the buttons.

##### IMPROVED GALLEY SUPPORT.

Peter A. Kelly, Baltimore, Md.—This is a support for printers' galleys, which may be readily attached to the case, and which may be folded out of the way when not in use. The device is put into position for use by placing hooks on the edge of the case, and unfolding the brackets so that they are at right angles to the frame.

##### IMPROVED BOX AND BOX HOLDER.

Joseph A. Cotten, Thomaston, Ga.—The object is to provide a means for handling boxes upon high shelves without the use of steps or necessity of climbing. The box has its end slotted and bent inwardly and supported by the strengthening band, the whole being adapted to engage with the grapple or lifter, which has a widened head for the purpose.

##### IMPROVED STRAP FASTENER.

Wesley Hyre, Collins, Ind.—This invention consists in a flat wedge-shaped case, and a wedge provided with the points combined with each other to adapt them for use for fastening a strap. In using the fastener, the strap is passed through the case. The wedge is then placed upon the strap, and the strap and wedge are drawn forward together into the case.

##### IMPROVED WATER CLOSET PROTECTOR.

Benjamin R. Brown, Petersburg, Va.—This consists in a sheet of paper provided with two circles or lines of punctures, forming between them a ring having an inwardly projecting narrow flap and an outwardly projecting wide flap.

##### IMPROVED SPRING FISH HOOK.

John O. King, Altamont, Kan.—This invention relates to that class of fish hooks which are sprung when the fish tampers with the bait, so as to close and catch the same. It consists of fulcrumed grab hooks having outer claws and W-shaped ends back of the fulcrum, in connection with a sliding loop at the end of a coiled hook actuating spring, the hooks being opened by a swinging trip lever, connected by a link to the spring loop, and set to a fulcrumed latch of the sliding and guided bait hook.

##### IMPROVED INDICATOR.

George W. Daniels, Lexington, O.—This is an index for account books, by which the name may be more readily referred to than in the indices usually applied to such books. It consists in a polygonal drum that turns on a vertical axis, and is inclosed in a suitable casing, and arranged to receive upon each of its sides a division of the alphabet, consisting of one or more letters.

##### IMPROVED CIGAR.

James H. Campfield, M.D., Ottawa, Ill.—The object of this invention is to render the smoke of cigars made of tobacco less offensive and injurious. In the process of manufacture, a chamber or cavity is formed in each cigar and a piece of sponge or other suitable absorbent material, which has been saturated with a solution of tannic acid, is inserted therein for the purpose of extracting from the smoke drawn through the cigar the nicotine and empyreumatic oil, which are poisonous and inimical to health.

##### IMPROVED TOY SKATING RINK.

Sophie E. Bachmann, Tenafly, N. J.—The skating rink consists of a box having its top formed of paper or other thin material, representing ice, on which diminutive figures representing skaters, and weighted by means of iron shoes, are moved about by the attraction of a magnet held in the hand, and applied beneath the paper.

##### IMPROVED GRAIN-REDUCING APPARATUS.

Cyrus Bailey, Akron, O.—This consists of a perforated revolving cylinder or reel, that feeds the oats or other grain to fixed cutting knives, regulating the length of the projecting kernel portions by adjustable guard-plates. The holes through which the oats or other grain are dropped are straight at the end toward the knife, and inclined or countersunk at the other end to carry the grain into position for cutting.

#### NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

##### IMPROVED SASH FASTENER.

Joseph Hatzl, Spades, Ind.—This consists of a sash with sliding and spring-acted bolts entering between guide strips of the window casing and into sockets of the same, the sash bolts being secured into the different positions required for locking, guiding, or removing the sash, by being set into corresponding recesses of the face plates of the bolt sockets.

##### IMPROVED SASH FASTENER.

William Kemp, Jr., New York city.—This consists in the combination of a sliding bolt, placed in a suitable guide that is attached to the upper meeting rail of the lower sash, and provided with a spindle and slotted arm for moving the bolt; and two slotted bars, one of which is attached to a stile of the upper sash, and the other to the roller stile or jamb of the window. The object is to simultaneously lock both sashes by a single operation and by a single bolt.

##### IMPROVED SAW SET.

William H. Smerdon, and Baylies F. Phillips, Taunton, Mass.—This consists of an anvil with pivoted and spring-acted set piece, and a gauge and bevel plate, jointly adjustable, so that there may be simultaneous adjustment of gauge and bevel to the saw teeth.

##### IMPROVED HORSE DETACHER.

Moses Amidon and Edgar N. McKimm, Lathrop, Mo.—The object of this invention is to furnish whiffletrees so constructed that the traces may be instantly released and the horse allowed to go free should he become frightened or unmanageable from other cause.

##### IMPROVED SNOW GUARD FOR ROOFS.

George F. Folsom, Boston Highlands, Mass.—This consists of a right-angled or L-shaped strip of sheet metal that is folded to form a square face, a brace for holding the same, and wings which pass under the slate for supporting the brace. In addition to these features, the square face is slit up for a short distance each side of the brace to form prongs, that spring against the surface of the slate, and, in conjunction with the wings, clamp the slate, so that the guard will not slip from it. The object of the invention is to provide a snow guard for roofs that may at any time be attached to the same, and that will effectually prevent the snow from sliding bodily from the roof.

#### NEW AGRICULTURAL INVENTIONS.

##### IMPROVED BUTTER PAIL COVER.

Joseph G. Fisher, Grand Rapids, Mich.—A spring made of elastic wood crosses the center of a bar on the cover, and its ends project sufficiently to allow metal straps, attached to its said ends, and having elongated holes formed in their free ends, to be passed over the heads of small knobs attached to the sides of the pail, so that the cover may be held securely in place by the elasticity of the spring.

##### IMPROVED PLOW.

Anton Lauer and Julius Hartmann, Louisville, Ky.—This is an improved center draft plow so constructed that there will be no friction upon the landside, and so as to enable the point to be made of steel.

##### IMPROVED COMBINED STALK CUTTER AND HAY RAKE.

William W. Fuller, Elmira, Ill.—This machine is so constructed that it may be readily adjusted for use as a stalk cutter or as a hay rake. The stalk cutter, the stalk adjuster, and the rake can be raised and lowered by operating a lever.

##### IMPROVED POWER CHURN.

William H. Sterns, Humboldt, Neb.—By turning the crank, the churn body will be carried around through the arc of a circle, which will throw the milk contained in said churn body into violent agitation, the ribs breaking up the circular currents that would otherwise be formed in the milk.

##### IMPROVED GATE.

Israel D. Jewett, St. Omer, Ind.—This invention is an improvement in the class of gates which are supported by parallel pivoted bars, and operated by levers, so that in being opened or closed they move in a vertical plane and in the arc of a circle. The improvement relates to the use of a horizontal bar or lever, to which the bars supporting the gate are pivoted, and whose function is to assist in maintaining the gate in a horizontal position.

##### IMPROVED CULTIVATOR.

Nathan T. Brewster and Abraham D. Neher, Roseville, Cal.—This invention consists in the particular arrangement of a double wrought iron frame combined with cultivator teeth, and separating blocks located between the parts of the frame, one set of which blocks in the front, and also in the rear, of the cultivator form bearings for wheeled axles through which the cultivator is raised for transportation or lowered for use; the particular arrangement of the cultivator being such as to impart to the same great strength and durability, and to permit the same to be readily taken to pieces and used independently of its wheels if desired.

##### IMPROVED BEE-HIVING APPARATUS.

Reuben B. Oldt, New Berlin, Pa.—This consists in a pivoted case containing two inclined planes that run downward from slots in the top of the casing over which the hives are placed. One of the inclined planes is pivoted, and is capable of moving upward when the shifting of the bees changes the center of gravity of the casing, so that it turns on its pivots. There is also a new arrangement of a mica trap door, which allows bees to escape from the hive from which they swarm, but does not permit them to re-enter.