

2,993.—HORSE RAKE.—Horace B. Hawkins (assignee of Davis B. Woodward), Akron, Ohio. Patented Feb. 19, 1868.
 I claim, 1st, The combination of the free extension ends of the rake teeth of guides which allow the extended ends to rise and fall, and also to move longitudinally, but prevent them from moving laterally, for the purposes stated.
 2d, The combination, in a horse hay rake, of curved metal teeth, with their support of fulcrum bar, in such a manner that the teeth shall be convertible into a frame, for the purposes stated.
 3d, The combination of the rake teeth with their main supporting or draft bearings, in such a manner that their upper or forward ends shall extend forward of the draft bearings or fulcrum connections, and serve as springs to keep the lower ends of the teeth down in proper position for raking and gathering the hay, substantially as stated.
 4th, The combination, for the purposes stated, in a horse hay rake, of the following elements, viz: first, a rocking frame, for elevating and depressing the teeth to discharge the hay; second, a series of metal teeth, without coils, having single draft connections or attachments in rear of the forward ends of the teeth; third, a series of bearings for the free ends of the teeth, forward of their draft connections, which admit of an up, down, and longitudinal movement of the extended ends of the teeth during the operation of raking.
 5th, A rocking frame in a horse hay rake, having the rear end pivoted turned up for supporting the piece which elevates the teeth to discharge the hay in such a manner as to give proper room below it for the accumulating hay to form a windrow while at the same time preventing the hay from working forward upon the teeth.
 6th, The combination, with the raking frame and ratchet wheels, C C, of the cams or eccentric necks or rings, K K, straps or clamps, ec, bar, J, shaft, L, and lever, M, substantially as and for the purposes set forth.
 7th, The combination of the sliding bar, J, with one or both of the ratchet wheels, substantially as and for the purposes set forth.
 8th, The combination with the bar, J, and axle, A, of the fingers, n n, and arms, o o, substantially as and for the purposes set forth.

2,994.—HORSE RAKE.—George Whitcomb, Port Chester, N. Y. Patented October 5, 1858.
 I claim, 1st, The combination and relative arrangement of the rake head, E, and axle, B, substantially as and for the purposes set forth.
 2d, The combination and relative arrangement of the hinged rake head with the supporting axle and carrying wheels, substantially as shown and described, whereby the head is supported above the rear upper edge of the axle, as shown, and the lower ends of the teeth, when gathering the hay, occupy positions in rear of the tread of the wheels, and forward of a vertical plane on a line with the rear edge of the wheels, substantially as shown in the accompanying drawings.
 3d, The combination of the rake head, E, thills or shafts, C C, hinges, c, and axle, B, substantially as described.
 4th, The arrangement of the rake head, E, and foot treadles, H J and G K, or either, in relation to each other and the axle, B, substantially as and for the purposes set forth.
 5th, The arrangement of the rake head, E, foot treadles H J G K, and hand lever, I, in relation to each other and the axle, B, substantially as and for the purposes set forth.

2,995.—HORSE RAKE.—George Whitcomb, Port Chester, N. Y. Patented October 5, 1858.
 I claim, 1st, The combination with the teeth of an adjustable hay guard, L, or equivalent device, substantially as and for the purposes set forth.
 2d, The combination with the teeth of a horse hay rake, of a hay guard which moves with the teeth when the head is raised or lowered, but which permits each of the triangular brackets to be strained equally when the brackets are held from springing laterally in opposite directions, thereby preventing wide, open, and increased spaces between any two teeth for the escape of hay while the rake is in operation.
 3d, The arrangement of the upwardly and inwardly inclined seat supports, b b, with the cross piece, a, and angular braces, a' a', substantially as and for the purposes described.

DESIGNS.

3,069.—CENTER PIECE.—Henry Berger, New York city.
3,070.—PRINTERS' TYPE.—Andrew Little, New York city.
3,071.—TRADE MARK.—Geo. S. McKenzie, Cleveland, Ohio.

EXTENSIONS.

TRUNK LOCK HASPS.—Conrad Liebrich, of Philadelphia, Pa.—Letters Patent No. 10,862, dated May 2, 1854.
 I claim, 1st, The combination of a spring with a hinged hasp as that the lower or hinged portion thereof shall stand off from the trunk, substantially in the manner and for the purposes described.
 2d, The design of the hasp catch in a solid projection which enters the lock with the hasp catch, and takes all the strain incident upon the tendency of the lock to open, and thus protect the catch itself, substantially as described.

BRIDGES.—Albert Fink, of Louisville, Ky.—Letters Patent No. 10,887, dated May 18, 1854.
 I claim, 1st, The method of combining the different systems of triangular bracing, above described, so that a weight coming upon one of the systems of the truss, is not only transferred over one or more other systems before it is carried back to the abutments, but the foot of the post in each triangle being unconnected with the tension rods of the other triangular bracing can settle vertically as well as move to the side, so that the tension rods of each system of the triangular bracing will be strained equally when the bridge settles under the superincumbent weight. This would not be the case if the foot of the post in the second system of triangular bracing rested on the tension chord of the post in the first system, as heretofore used; and herein consists my improvement, for which I ask letters patent.

MACHINERY FOR CUTTING PAPER.—Nelson Gavitt, of Philadelphia, Pa.—Letters Patent No. 10,889, dated May 9, 1854.
 I claim the method, substantially as herein described, of adjusting the cutting of sheets from a web of paper, whereby the length of the sheets can be varied by way of requiring a proportion of the whole range of variation to which the machine is adapted, however small or however large, the same may be, thus rendering it possible, with a continuous feed of the web of paper under an intermittent cutter, to sever the sheets half way or thereabouts between water marks, nearest together at one part of the web than at another.

CLOVER AND GRASS SEED HARVESTERS.—Thomas A. Steadman, of Lyon, Mich., administrator of Thomas S. Steadman, deceased.—Letters Patent No. 10,967, dated May 23, 1854; reissue No. 356, dated June 19, 1860.
 I claim in combination with the main frame or box, A, and arm, or supplementary frame, F, on which is formed or secured the master wheel axle, the employment of a retaining arc, H, or its equivalent, the whole constructed and arranged in such a manner that the main frame or box, and arm or supplementary frame, with its master wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as and for the purposes herein set forth.

CLOVER AND GRASS SEED HARVESTERS.—Thomas A. Steadman, of Lyon, Mich., administrator of Thomas S. Steadman, deceased.—Letters Patent No. 10,967, dated May 23, 1854; reissue No. 357, dated June 19, 1860; again reissued No. 2,009, dated June 20, 1865.
 I claim, 1st, The combination of the holding plate, c, or its equivalent, with the shaft of the driving cog wheel's pinion, and that end of the coupling arm or supplementary frame, G, or its equivalent, which is hung and vibrates on said shaft.
 2d, The combination or arrangement of the following elements in a harvester, viz: a frame or box, having the cutting apparatus connected to and drawn forward by it, the shaft of the main driving cog wheel's pinion, also connected to it, and about a right angle to its forward movement, a coupling arm or supplementary frame, or its equivalent, having one end hung and vibrated on said pinion shaft, and near the other end connected to the main axle of the main driving cog wheel, and holding devices whereby the attendant can have the inner end of the cutting apparatus held at different heights in respect to the axle of the main driving cog wheel.
 3d, Connecting the main bearing and driving wheel of a harvester with the frame to which the cutting apparatus is attached, in such a manner that the attendant can, while riding in the machine, vary the height of the inner end of the cutting apparatus while the outer end of said apparatus remains unchanged, substantially as described.
 4th, The combination of the retaining and guiding arc, g, or its equivalent, with the axle end of the coupling arm or supplementary frame, H, or its equivalent, the outer end of a harvester's cutting apparatus, and the wheel that carries this outer end, or its nearest to it.
 5th, The combination of the axles, f, and g, the wheels, C, and D, the projecting ends of the shaft of the main driving cog wheel's pinion, the frame or box carrying this shaft, the coupling arm or supplementary frames, G, and H, the holding plates, c, c, and the retaining and guiding arcs, g, and g, or their equivalents.
 6th, The combination or arrangement of the following parts or elements in a harvester, a frame or box which carries the shaft of the cutter's main driving cog wheel's pinion; a coupling arm or supplementary frame, having the axle of the same cog wheel connected to it, at or near its outer end, and the inner end hung upon the main shaft; a holding device by which it is properly held in that place; a guiding and retaining arc attached to the main frame of the machine, and maintaining the supplementary frame or coupling arm in place; cutters driven by a crank motion, and an automatic rake, which, as well as the cutters, receives its motion through the main driving cog wheel's pinion shaft.
 7th, Connecting the axle of the cutter's first driving cog wheel, and said wheel's pinion shaft by the coupling arm or supplementary frame, G, or an equivalent thereof, which has one end hung on said pinion shaft, and therefore holds the said cog wheel's axle always at the same distance therefrom, so that the connection of the said cog wheel and its pinion will always remain the same.
 8th, The combination of the retaining and guiding arc, g, or its equivalent, with the main frame or box of a harvester, the axle end of the cutting apparatus is secured, and the axle end of the coupling arm or supplementary frame, G, or its equivalent, which has the other end hung on the pinion shaft, connected to the main frame about parallel with the axle of the cutter's ground and driving wheel, so that the said axle and pinion shaft are always at the same distance apart and substantially parallel, and the axle end of said coupling arm rises and falls, vibrating on said pinion shaft, while the machine is in motion.

CLOVER AND GRASS SEED HARVESTERS.—Thomas A. Steadman, of Lyon, Mich., administrator of Thomas S. Steadman, deceased.—Letters Patent No. 10,967, dated May 23, 1854; reissue No. 355, dated June 19, 1860; again reissued, No. 2,273, dated June 5, 1866.
 I claim, 1st, The combination with the main frame of a harvester, an axle upon which the cutter's driving wheel revolves that derives all its connection with the main frame through one end, and which does not cross a vertical plane parallel with and touching the side of this frame nearest to it, a plate from which this axle projects, and a holding mechanism that holds this plate and frame together and prevents any essential variation in the distance between this axle and the cutter's driving pinion shaft, or in their parallelism, while the frame is being raised or lowered in respect to this axle, substantially as and for the purposes set forth.
 2d, In combination with the main frame of a harvester, an axle upon which

the cutter's driving wheel revolves that derives all its connection with the main frame through one end, and which does not cross a vertical plane parallel with and touching that side of this frame nearest to it, and a plate from which this axle projects, a holding mechanism which prevents any essential variation in the distance between this axle and the cutter's driving pinion shaft, or their parallelism, while the main frame is being raised or lowered in respect to this axle, and another holding mechanism by which the attendant is enabled to have this main frame held at different heights in respect to this axle, substantially as and for the purpose set forth.
 3d, In combination with the main frame of a harvester, an axle plate, which is connected with one end of the axle of the cutter's driving wheel, said plate being wholly between the plane of said wheel and a plane parallel with and touching that part of said frame nearest to said wheel, a holding mechanism which prevents any movement of this plate other than its movement in the arc of a circle concentric to the axis of the shaft of the cutter's driving pinion, and a holding mechanism having one portion further forward than said axle, between each of which and the frame is a portion of said axle, and by which said plate is held to the frame while it is being raised or lowered in respect to said axle, substantially as and for the purpose set forth.

MACHINERY FOR COMPOSING TYPE.—William H. Mitchell, of New York city.—Letters Patent No. 10,925, dated May 16, 1854.
 I claim, 1st, The combination of the lip, 51, with the lifting bar, 52, and with the 53d, as specified, the said lip, 51, acting as a stopper against which the line of type comes in contact, and over which the bar, 52, lifts the bottom type so that it falls on the bed, m, as specified, and the said bar, 50, being so adjusted as only to admit of one type at a time being lifted as specified.
 2d, I claim constructing the composing wheel of thin circular plates with teeth thereon, so as to receive the type from the conductor, q, in combination with the pinion shaft, or other power, of the conductor plate, and receive the type, preventing their further descent, and passing them in line into the groove, as specified.
 3d, I claim the tongue, 57, to prevent the type jumping over the teeth in the composing wheel as they pass down the inclined conductor, as specified.

MACHINE FOR SAWING THIN BOARDS, ETC.—John Meyers, and Robert G. Hanson, of New York city.—Letters Patent No. 10,955, dated May 23, 1854.
 We claim, 1st, The employment or use of the deflecting plates, E E', one or both placed at the side of the saw, as herein shown, for the purpose of preventing the sawed stuff from bearing against the side of the saw and expanding the saw kerf, and also for the purpose of allowing a thin veneer saw to be deflected by the plates, D, one or two as desired.
 2d, We claim the employment of one or more of the clamps, I I', arranged as herein shown, or in an equivalent way, so as to have a lateral elastic movement independent of the roller beads, to which said clamps are attached, for the purpose of compensating for the varying thickness of different pieces of stuff and keeping them in proper relative position to the saw.
 3d, We claim the knives or cutters, O O, placed in the roller beads, F F, and arranged substantially as herein shown and described, and for the purpose specified.
 4th, We claim the employment of an adjustable head, F, with clamps, as described, in combination with the saw, C, when the saw has a stiffened plate, E, in line with said head, by which the stiffened or rounded side of the saw is made the "line side."

HAY ELEVATING FORKS.—Thomas T. Jarrett, of Horsham, Pa.—Letters Patent No. 10,989, dated May 30, 1854; reissue No. 1,939, dated April 18, 1865.
 I claim, 1st, The employment or use of a weight on the cord attached to the catch, which shall operate to discharge the hay from the fork at any desired height, substantially as and in the manner described.
 2d, The combination of one or more pulleys with a hay elevating fork, for the purpose described.
 3d, The pulley, J, at the back part of the head, operating as and for the purpose described.
 4th, Securing the handle or ball to the head by means of loop eyes, which are secured to the head and project therefrom.
 5th, Securing the tongue or brace lever to the handle or ball by means of a spring catch attached to the saw handle or ball, for the purpose described.
 6th, A spring catch turning upon a pin or bearing, the functions of which are to keep the tongue or body of the fork in position to retain the load to discharge it whenever desired.

MACHINE FOR MAKING HINGES.—Edward Brown, of Waterbury, Conn.—Letters Patent No. 10,943, dated May 16, 1854.
 I claim, 1st, The slides, G G', regulated by set-screws, substantially as described.
 2d, I claim the eccentric rods, E E', sliding within the hollow rods, F F', and connected with the slides, G G'.
 3d, I claim the sliding punching, J J', with adjusting-screws, arranged as set forth.
 4th, I claim the sliding gaze, O, with its longitudinal motion and set-screws, for the purpose of securing the hinges while turning the knuckle, in the manner substantially as set forth.
 5th, I claim the catch, which is used to prevent r.
 6th, I claim the slide, P, with the catches, v, and the spring-catchers, w w'.
 7th, I claim the gage, U, in combination with the preventer, r, for the purpose of preventing the hinge from returning with the feeding-slide, the whole being arranged and combined in the manner set forth, or in any other manner substantially the same.

GRINDING-MILLS.—Edward Harrison, of New Haven, Conn.—Letters Patent No. 11,040, dated June 6, 1854; reissue No. 625, dated November 16, 1858.
 I claim the improved method described of securing the runner-stone on the driving-sprocket in a grinding-mill, by means of a metallic band or its equivalent, embracing the periphery of the stone by combining said band with a nut and a back plate of steel, or other material, of great diameter, and rigidly attached to the spindle, such combination operating to secure the stone firmly in its place, in the manner and on the principle substantially as specified.

CLAPBOARD JOINTS.—William Baker, of Utica, N. Y.—Letters Patent No. 10,903, dated May 16, 1854; reissue No. 1,541, dated September 23, 1863.
 I claim, 1st, The construction of the joint of clapboards, or jointed swing for houses or other buildings, in such manner that the boards when laid on the frame shall lie flat and solid for their whole width against the frame of the building, and at the same time shall preserve the appearance and advantage of clapboarding in front by the outer lip of the upper board at each joint overlapping outside the board next below it for shedding the water, as described.
 2d, I claim the combination of the lock, a, in the rear of the joint for holding the board to the frame at the lower edge, as described, with the extended lip, c, (fig. 1), in front for covering the head of the nail, as described, the whole being constructed, combined, and arranged substantially in the manner and for the purposes herein set forth.

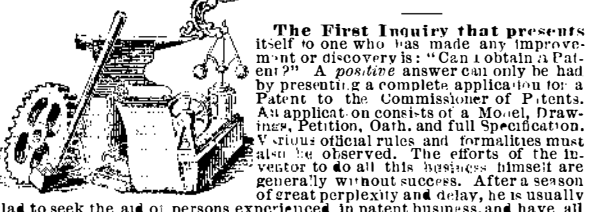
MACHINES FOR STICKING CARD-TEETH.—George W. Coats and James Russell, of Springfield, Mass.—Letters Patent No. 11,434, dated August 1, 1854.
 We claim the mode of imparting the intermittent motion to the main carriage for spacing the teeth, and also reversing the same by means of the screw-leader attached to the main carriage, and passing through a nut mounted in suitable boxes, and rotated by cog-gearing as described, when this is combined with a clutch operated by a cam to clutch and unclutch the wheel which receives motion from the wheel or wheels on the main shaft, and imparts the required and measured intermittent motion to the nut, substantially as and for the purposes specified.
 We also claim, in combination with the mode described of imparting the spacing motion to the main carriage, the employment of the cams on the main carriage, which, at the end of each traverse motion, act on a lever connected and combined with and operating the clutch to clutch and unclutch the wheel which receives motion from the main shaft to operate the nut, substantially as and for the purposes specified.
 We also claim, in combination with the mode described of operating the main carriage, the mode of operating the second carriage which holds the sheet of leather to determine the space between the rows of teeth by means of the shifting cam called the twill cam, and the shifting screw cog wheel which in turn imparts motion by the cog wheels and shaft to the cog wheel on the main carriage, and the driving mechanism on the main carriage, and which in turn imparts the required motion to the drums for lifting the second carriage at the end of each complete motion of the main carriage.
 And in combination with this, we also claim, making the nut on the screw-leader in two parts, divided by a plate at right angles to the axis, when the two parts are attached together so that they can be turned on each other, substantially as described, so that the threads can be set to any wear of the threads, and thus avoid any play, as described.
 We also claim making the arbors of the two rollers with cylindrical bosses to determine their distance apart, in combination with the mode of mounting them between boxes and without interposed boxes, the said arbors being prevented from having any play by means of V-shaped or curved fillets on the arbors fitted to corresponding cavities in the boxes, substantially as and for the purpose specified.
 We also claim mounting the bending fingers in the sliding top plate, independent of and below the slide or carrier of the former, around which the teeth are bent, the said carrier being provided with an inclined plane or cam, acted upon by a like inclined plane or cam, on the top plate of the fingers, substantially as described, so that when the fingers are drawn back the former shall be lifted up preparatory to its back motion, as fully set forth.

HOT-WATER APPARATUS.—John Brown, New York city.—Letters Patent No. 10,882, dated May 30, 1854; reissue No. 321, dated Aug. 14, 1855.
 I claim connecting the ends of the horizontal, or nearly horizontal water pipes of hot water warming apparatus by means of r, turn-benches, or elbows of less caliber, and entering within the end of each such pipe or pipes, substantially as and for the purpose specified.
 And I also claim making said horizontal, or nearly horizontal pipe, having the bend or elbow at one end of reduced caliber, with the calibers at top in the same line, substantially as and for the purposes specified, whether made in one piece, or the bend or elbow separate, and then united, the said elbow being connected with the next pipe above it by entering the end thereof, substantially as and for the purposes specified.
 And I claim the construction and arrangement of the apparatus for the purposes and substantially as specified.

VESSELS FOR HOLDING LIQUIDS.—Julia M. Colburn, Baltimore, Md., administrator of James Stimpson, deceased.—Letters Patent No. 11,815, dated Oct. 17, 1854; antedated April 17, 1854.
 I claim the double-wal pitcher, the same consisting in a pitcher with double sides, double bottom, and a hinged cover, from which the liquid contents are to be poured through or over a nose or lip, substantially as herein set forth.
 And I claim the employment of a chain or string attached to the hand and lid of the pitcher, as described.

- Inventions Patented in England by Americans.**
 [Compiled from the "Journal of the Commissioners of Patents."]
 PROVISIONAL PROTECTION FOR THE PATENT
 1,888.—METHOD OF PREPARING AND REFINING GLUE.—Andrew Dutz, New York city. April 28, 1868.
 1,889.—MACHINERY FOR NICKING AND DRESSING THE HEADS OF SCREW BLANKS.—John Howard, New York city. April 29, 1868.
 1,405.—PRESERVING MEAT.—Chas. E. Richardson and Geo. T. Waterman, Boston, Mass. April 29, 1868.
 1,406.—MACHINERY FOR MAKING CUT NAILS.—Cyrus D. Hunt, Fairhaven, Mass. April 29, 1868.
 1,420.—MACHINERY FOR SPINNING FIBROUS MATERIALS.—Charles J. Harris, Warren, R. I., and Edwin H. Bugbee, Killingly, Conn. April 30, 1868.
 1,525.—COMBINATION TYPE, AND CASES TO CONTAIN THE SAME.—Wm. H. Wilkinson, Southwick, Mass. May 9, 1868.
 1,533.—NAIL MACHINE.—Jacob B. Kingham, Dorchester, Mass. May 11, 1868.
 1,535.—MACHINE FOR SEWING BOOKS.—Amos Holbrook, Jr., Lynn, Mass. May 11, 1868.
 1,537.—DEVICE FOR HOLDING SCRUBBING BRUSHES.—T. J. Strong, Brooklyn, N. Y. May 11, 1868.
 1,544.—FAN.—Otto Brück, New York city. May 12, 1868.
 1,557.—RASP.—Hiram Nickerson, Boston, Mass. May 13, 1868.
 1,566.—SUSPENDERS.—A. H. Jacobs, New York city. May 13, 1868.
 1,568.—AXLES AND AXLE BOXES.—J. Finlay, New York city. May 13, 1868.
 1,580.—FELT HATS.—Wm. B. Lodge and Hiram Fletcher, Danbury, Conn. May 14, 1868.
 1,581.—STEAM ENGINE.—Kellogg H. Loomis, New York city. May 14, 1868.
 1,588.—LIQUID METER.—Joshua Mason, Paterson, N. J. May 15, 1868.
 1,602.—EMBALMING OR PRESERVING DEAD BODIES.—Chas. A. Seely, C. J. Eames, W. R. C. Clark and Mary L. Booth, New York city. May 15, 1868.
 1,609.—APPARATUS FOR COOKING, BOILING, MELTING, AND EVAPORATING PURPOSES.—Sarah E. Saul, New York city. May 16, 1868.
 1,638.—FURNACE FOR OXIDIZING LEAD OR MANUFACTURING LITHARGE.—Clarence Delafield, Factoryville, N. Y. May 22, 1868.
 1,721.—HORSES' HARNESS.—John B. Folger, Boston, Mass. May 25, 1868.

PATENTS.



The First Inquiry that presents itself to one who has made any improvement or discovery is: "Can I obtain a Patent?" A positive answer can only be had by presenting a complete application for a Patent to the Commissioner of Patents. An application consists of a Model, Drawings, Petition, Oath, and full Specification. Various official rules and formalities must also be observed. The efforts of the inventor to do all this business himself are generally without success. After a season of great perplexity and delay, he usually glad to seek the aid of persons experienced in patent business, and have all the work done over again. The best plan is to solicit proper advice at the beginning. If the parties consulted are honorable men, the inventor may safely confide his ideas to them; they will advise whether the improvement is probably patentable, and will give him all the directions needful to protect his rights. Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN, have been actively engaged in the business of obtaining patents for over twenty years—nearly a quarter of a century. Over Fifty Thousand inventors have had benefit from our counsels. More than one-third of all patents granted are obtained by this firm. Those who have made inventions and desire to consult with us are cordially invited to do so. We shall be happy to see them in person, at our office or to advise them by letter. In all cases they may expect from us an honest opinion. For such consultations, opinion, and advice, we make no charge. A pen-and-ink sketch, and a description of the invention should be sent together with stamps for return postage. Write plainly, do not use pencil or pale ink; be brief. All business committed to our care, and all consultations, are kept by us secret and strictly confidential. Address MUNN & CO., 37 Park Row, New York.

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