

RECENT AMERICAN INVENTIONS.

Harvesters.—This invention, patented by G. W. Richardson, of Evansville, Indiana, relates to an improvement in the construction of the frame of the harvester, whereby the finger bar and sickle may be readily adjusted to any desired height, and the finger bar at the same time be well braced and supported, so as to be perfectly capable to withstand all strain to which it may be subjected. It also relates to an improved arrangement of the sickle driving mechanism, whereby the same is brought in quite close proximity to the driving wheel, and much side draft prevented, and a longer pitman than usual allowed to be used in order to facilitate the operation of the sickle.

Gas Carbureter and Regulator.—This apparatus, patented by J. A. Bassett, of Salem, Mass., consists of a vessel containing a series of annular passages, arranged concentrically one within another, around an upright axis, and communicating with each other on opposite sides alternately, and a second vessel, filled with a porous material, arranged above the first-named vessel, and communicating therewith by means of an interposed valve attached to the same stem, with an inverted cup-shaped float, arranged in the lower vessel, and with a valve at the mouth of the inlet, by which the gas enters the latter vessel from the main. Both of the vessels contain naphtha or other hydro-carbon liquid, and the lower vessel serves partly to effect the naphthalizing process, but mainly as a cooler, to cool the gas before its advent to the upper vessel, in which the naphthalizing is mainly performed and completed. The regulation of the flow of gas is effected by the inverted cup and the valve at the inlet, and the valve interposed between the two vessels serves by nearly shutting off the gas when the liquid in the lower vessel gets very low, to give notice that the said vessel requires replenishing.

Improvement in Projectiles.—This invention, patented by Charles W. Small, of Bangor, Maine, consists in furnishing an elongated projectile with a packing formed of a number of strips of wrought-iron, copper or other tough but flexible metal or material, partly imbedded in the metal of which the projectile is composed, and lapping each other on the outside of the projectile, in such manner as to form around the rear thereof, a tube, which is divided into sections, and capable of being expanded against the bore of the gun, by means of the pressure of the gases of the gunpowder against its interior, and so made to prevent windage, and, in the case of rifled guns, made to fit the rifle grooves, and obtain for the projectile a rotary motion, which is preserved in a great degree during the flight of the projectile by the further expansion of the sections of the tube after the discharge from the gun has taken place, and the consequent pressure of the spirally-formed edges of the said sections against the atmosphere.

Calendar Clock.—This invention relates to the construction of the wheel generally known as the day-of-the-month wheel, carrying the index which denotes the day of the month upon the dial or calendar. This wheel has been variously constructed, and had various devices attached to it to provide for its making $\frac{1}{31}$, $\frac{2}{31}$, $\frac{3}{31}$, or $\frac{4}{31}$ of a revolution at the expiration of every month, according as the month has thirty-one, thirty, twenty-nine or twenty-eight days, but its construction and attachments have been generally either complicated or liable to get out of order. The invention consists in the construction of the wheel with three of its thirty-one teeth progressively shorter than the remaining twenty-eight, that by the use of a properly-operated click to move the wheel and a properly-controlled detent to stop it, one, two, three or four teeth, as may be required, may be caused to pass the detent at the expiration of the month, and so permit the movement of the day-of-the-month index from the position which indicates the number 31, 30, 29 or 28 of the last day of one month to the position which indicates the number 1. Patented by Eugene M. Mix and James E. Mix, of Ithaca, New York.

Hub-Turning and Mortising Machine.—The object of this invention is to obtain a machine by which hubs may be turned, and then mortised to receive their spokes, the turning and mortising being performed at one operation. The invention consists in combining with an ordinary turning lathe, a slide rest provided with a cutter, and also with a mortising tool, the

parts being so arranged that the cutter may, by a simple manipulation, be first made to act against the work, and turn the hub in proper form, and the mortising tool then made to act and mortise the hub. Patented by Edwin M. Scott, of Auburn, New York.



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. Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

34,555.—J. S. Atterbury, J. Reddick and T. B. Atterbury, of Pittsburgh, Pa., for Improvement in Molds for Glassware

We claim, first, The means and manner, substantially as described, of pressing articles of glassware in bas relief.

Second, The means and manner of uniting the bas-relief glass work to the outer surface of blown glassware, substantially as described.

34,556.—B. H. Baftol, of Philadelphia, Pa., for Improvement in Steam Boilers :

I claim the furnace, B, diving flue, H, one or more horizontal flues, J, and the return flue, M, with its vertical tubes, the whole being arranged within the casing, A, as and for the purpose set forth.

34,557.—J. A. Bassett, of Salem, Mass., for Improved Apparatus for Carbureting Gas :

I claim, first, The combination, substantially as described, of a vessel, A, in which the gas passes, continuously over the surface of the hydrocarbon liquid, to be partly carbureted and cooled by the evaporation of the liquid, and a vessel, B, containing a porous substance, and saturated with such liquid, through which the gas subsequently passes, as set forth.

Second, The gas-regulating valve, j, and float, k, combined with a gas-naphthalizing or carbureting apparatus, substantially as specified, that is to say, with the float floating in the naphtha or other hydrocarbon liquid used for the carbureting process.

34,558.—R. H. Blair and A. W. Beatty, of Saltsburgh, Pa., for Improvement in Horse Rakes :

We claim the connecting of the bar, K, of the rake, to springs, Q, Q, through the medium of the arms, J, J, rods, O, and links, P, in connection with the rods, I, I, crank shaft, F, lever, G, and rack plate, E, all arranged and mounted, as shown, to operate as and for the purpose set forth.

[This invention relates to an improved horse rake, of that class in which wire teeth are employed. It consists in the peculiar arrangement of the rake head, its connection with springs and an adjusting lever, whereby the manipulation of the rake is rendered extremely simple, and the device placed under the complete control of the operator.]

34,559.—J. M. Blake, of Madison, Wis., for Improvement in Horse Powers :

I claim, first, The endless apron, A, when constructed substantially as described, with supports, f, and connecting blocks, a.

Second, The arrangement of the large friction rollers, B, drum, C, and end roller, D, in combination with the endless apron, A, substantially as and for the purposes specified.

34,560.—Joseph Bondy, of New York City, for Improvement in Knapsacks :

I claim the straps, D, D, extending from and connecting the rear upper edge of the knapsack to the shoulder straps or strap, C, which are fixed to the front side of the knapsack, substantially as and for the purpose specified.

34,561.—W. H. Brown, of Worcester, Mass., for Improvement in Breech-Loading Firearms :

I claim, first, The peculiar method of moving the barrel in both directions, and holding it against the breech, J, by means of the locking bar, D, in combination with the parts, E, F and G.

Second, The combination and relative arrangement of the inclined or wedge-shaped adjustable packing piece, o, with the stock and front-beveled end of the locking bar, D, substantially as and for the purposes set forth.

Third, The combination and arrangement of the adjusting piece, E, with the adjusting screws, e and r, for adjusting the pressure of the barrel against the breech, substantially as set forth.

Fourth, The combination and peculiar arrangement of the connecting piece, F, with the locking bar, D, and the lever, G, as described, whereby it is allowed a longitudinal motion to facilitate the passage of the joint, c, past the plane of the axes, n and a, during the operation of locking and unlocking the barrel.

Fifth, The combination with the stationary breech, J, and the recessed rear end of the barrel, B, of the projecting hooks, m m m, constructed and arranged to operate as described, whereby the cartridge case can be placed in position by a simple downward movement of the hand, and there retained in a central position as respects the bore of the barrel, until after the charge has been fired and the barrel unlocked, for the purposes set forth.

34,562.—R. S. Chapin, of New York City, for Improvement in Lamps :

I claim, in combination with the wick tube, constructed as aforesaid, the deflecting cap, e, applied in the manner and for the purposes specified.

34,563.—W. Z. W. Chapman, of New York City, for Improvement in Fastenings for Cartridge Boxes :

I claim the clasp, f, formed substantially as specified, and applied to the lower part of the flap of a cartridge or cap box, and connecting to the bottom of said cartridge or cap box, in the manner set forth, so as to form a fastening that can be worked by the fingers in the act of opening or closing said box, as described and shown.

34,564.—C. W. Clewley, of Providence, R. I., for Improvement in Watch and Locket Cases :

I claim a rim for lockets and similar metallic cases, formed of sheet metal, in such manner that the face of the field piece within the case and the exterior surface of the rim are both formed from the same side or surface of the original sheet metal, and that the field piece and rim are of one piece of metal.

34,565.—F. H. Cuyppers, of Newark, N. J., for Improvement in Hinges and Hooks :

I claim, first, The combination of the wedges, B, casing, C, and tongues, E, constructed and operating as set forth.

Second, The combination of the projecting flange, F', with a hinge, having tongues expanded or deflected by wedges, as explained.

[By means of this invention hinges may be attached to wood, stone, iron or other material, without the aid of screws or any of the customary modes of fastening, and are more securely held than by the means in common use.]

34,566.—W. H. Doane, of Chicago, Ill., for Improvement in Machines for Cutting Veneers :

I claim the combination of the cast-iron concave and curved-grooved

ribs, with the brass faces or other equivalent metal, arranged and connected in the manner and for the purpose specified.

34,567.—G. A. Dabney, of San José, Cal., for Improvement in Apparatus for Operating Churns :

I claim the arrangement of the vibrating frame, J, arm, m, and connecting rod, m', in combination with the cord, f, dasher, I, j, tub, F, and swinging frame, E, a, b, constructed and operating in the manner and for the purpose shown and described.

34,568.—Alexander Douglas, of English Neighborhood, N. J., and S. S. Sherwood, of Acquackanonck, N. J., for Improvement in Ladies' Skirts :

We claim, first, The combination, in the manner described, of the hoops, 1, 1, tapes, 2, 2, and braids, 3, 3.

Second, The combination with the waistband, 8, and with each other of the metal plate or strap, 6, and the eyelets, 7, 7, substantially as set forth.

Third, The construction of the slides for expanding the skirt, with continuous bars upon the outer side of the hoop, or side furthest from the sliding portion, and with pointed teeth upon the inner side instead of continuous bars, in the manner and for the purpose described, the pointed teeth alternating with the bars, as shown.

Fourth, The combination with the upper continuous hoop of the stay, 4, and eyelet, 5, substantially as described.

34,569.—Daniel Fitzgerald, of New York City, for Improvement in Tents :

I claim, first, Constructing a tent in the calèche form, so that it may fold compactly together, vertically in a flat form, and be readily erected, substantially as described.

Second, The use of the flanged collars to hold the radial braces, constructed substantially as described.

34,570.—F. B. Franklin, of Appleton, Wis., for Improved Spring Bed Bottoms :

I claim the combination of the coils, F, F, loops, G, G', rods, H, H', and eyes, E, all constructed, arranged and connected in the manner shown and explained, so as to constitute a continuous elastic web.

[The object of this invention is a bed bottom, formed of a series of wirecoils and loops, and its superiority consists in so constructing and connecting the coils that they shall form a continuous web of greater elasticity than spring bed bottoms in common use.]

34,571.—W. O. Grover, of Boston, Mass., for Improvement in Sewing-Machine Needles :

I claim an eye-pointed needle, having an interrupted groove on one side and a continuous groove on the other, substantially such as is described.

34,572.—O. B. Hatfield, of New York City, for Improved Elevator :

I claim the construction of an elevator or dumb waiter, supported wholly upon one side, ascending and descending in a vertical course, substantially in the manner described.

34,573.—W. G. Hermance, of Albany, N. Y., for Improvement in Straw Cutters :

I claim the combination of the bell crank lever, G, link, E, knife, F, and standards or arms, C, D, cast or secured to the mouthpiece, B, substantially as and for the purposes set forth.

34,574.—G. B. Hicks, of Cleveland, Ohio, for Improvement in Telegraph Apparatus :

I claim, first, The employment of an adjustable magnet, m' m', as and for the purpose set forth.

Second, I claim the double armature lever, M, with the attached armatures, a2 a3, arranged and operating as specified.

Third, I claim the employment of the local battery, number 1, in combination with the helix, m' m', the conducting wires, w' w', and the points, o and e, arranged and operating as and for the purpose described.

Fourth, I claim the employment of two points, one on each end of the sounder armature lever, L, by means of which circuit through two magnets on opposite sides of the same armature, may be closed or broken simultaneously, and thus the armature lever held still for the purpose described.

Fifth, I claim the combination of the adjustable local magnet, m' m', with the receiving and recording instruments, when arranged and operated as and for the purposes specified.

34,575.—J. P. Hillard, of Fall River, Mass., for Improved High and Low Water Detector for Steam Boilers :

I claim the combination of the valve, B', with two ports and detector, A', with one port, and adjusting arm, J', attached to B', and float, F', constructed and arranged to operate, so that when the water falls to a certain line in the boiler the float, F', resting on the water will open the valve and allow the steam to escape through port, D', to give alarm, and when the water rises to a certain line in the boiler, the float, F', will rise and open the valve, and allow the water to escape through port, C', and give alarm, substantially as and for the purposes set forth and described.

34,576.—W. H. Holbrooke, of New York City, for Improved Silicated Soap :

I claim the combining of a soluble alkaline silicate with rice flour, or an analogous flour by the process before described, or its equivalent, to be used as an ingredient in soap making.

34,577.—Samuel Jarden, of Baltimore, Md., for Improved Odorizer of Kerosene Oil :

I claim the manner of odorizing kerosene oil, as stated, or by combination with said essential oils in greater or less proportions, if the said manner of odorizing be substantially the same.

34,578.—W. H. Kelly, of Onondaga County, N. Y., for Improvement in Cultivators :

I claim the combination of the central beam, made as described, with the shares, 5, and shanks, a, when constructed and operating as set forth, and attached to the beam by means of clasps and bolts, as shown by Figs. 7, 7.

34,579.—Benedikt King, of Providence, R. I., for Improvement in Cartridges Adapted to Breech-Loading Firearms :

I claim the use and employment of a cartridge having its base formed substantially as described, in combination with the groove, V, and plate, J, when said plate forms a part or one side of the groove or hole, V, being constructed and operating substantially as set forth.

34,580.—Lewis Kirk, of Reading, Pa., for Improvement in Brick Machines :

I claim, first, The formation of solid building brick by compressing the clay in and forcing it out of forming tubes and by subsequently trimming the ends by the means and substantially in the manner as described.

Second, Gradually condensing the particles of clay and expelling the air therefrom by compressing the clay in a separate chamber previous to its being forced in and through the forming tube by the means substantially as described and for the purposes set forth.

Third, In combination with the mechanism described for compressing the clay by forcing it in and through a forming tube, I claim a mechanism constructed, arranged and operating substantially as set forth for dividing the compacted mass of clay into bricks of suitable length and for simultaneously trimming both ends.

Fourth, In a brick machine constructed to operate as described by forcing the compressed clay in and through a forming tube, I claim the mechanism for regulating at will the supply of clay into the compression chamber, substantially in the manner and for the purpose set forth.

Fifth, The mode described of dividing transversely the mass of clay compacted into shape by the employment, in combination with the revolving trimming knives, or their equivalents, of a fixed and movable platen and tray, constructed to operate as set forth, so as firmly to hold the mass of clay to constitute a brick, around its longer sides while it is being cut at its ends.

Sixth, The construction of the hopper with curved grate bars at the bottom thereof when said bars are provided with projecting teeth shaped and combined with revolving triturating blades, as described, the whole arranged substantially in the manner to operate as set forth.

34,581.—A. S. Lyman, of New York City, for Improved Process of Separating the Fibers of Wood and other Substances for the Manufacture of Paper Pulp :

I claim, first, Effecting the separation of the fibers of wood, hemp, flax, or other vegetable matters by subjecting them, in a close vessel or vessel, to the combined simultaneous action of a whipping, beating, rubbing, grinding or picking apparatus, and of water at a high temperature and pressure.