

## RECENT AMERICAN INVENTIONS.

The following inventions are among the most important of those for which patents have recently been granted, and which will be found recorded in our List of Claims.

**Hand-Mowing Machine.**—The object of this invention, patented by L. M. Doudna, of Amherst, N. H., is to obtain a simple and efficient mowing machine, to be operated by hand; one that can be operated or shoved along by a single person with facility and perform good work. The invention is more especially designed for mowing lawns and meadows containing trees, around which an ordinary mowing machine drawn by a team could not be made to operate to advantage. The invention consists in mounting an ordinary hand frame on wheels, the axis of which is provided with a serpentine cam, said cam, as the machine is shoved along, operating or vibrating a bar, having a segment cutter at its outer end, and which works over a segment cutter plate.

**Machine for Pegging Boots and Shoes.**—This invention, patented by Moses Marshall, of Lowell, Mass., relates to a device for pegging boots and shoes by manual operation, and has for its object the facilitating of the work, enabling the same to be performed much more expeditiously and perfectly than by the exclusive manual process of punching the soles and driving the pegs therein. The invention consists in the employment and use of an awl, punch and feeder, combined and arranged to operate in such a manner as to effect the desired end.

**Improvements in Ordnance.**—The principal object of this invention, patented by William Page, of New York city, is to obtain in a gun of smooth bore the advantages derived from a rifle bore, viz., the rotary motion of the projectile about its axis, with a less costly combination of the gun and projectile, less wear and tear of the gun, and less liability to windage; and to this end this invention consists in furnishing a gun, at or near its muzzle, with one or more pins or short protuberances projecting from the surface of the bore toward the axis thereof, to enter spiral grooves in the exterior surface of the projectile, which is to be of sufficient length to reach from the charge of powder or packing to the muzzle, or to a point in front of the said pins or protuberances.

**Applying Fuse to Projectiles.**—This invention, patented by R. P. Parrott, of Cold Spring, New York, is more especially intended for the explosive projectiles of elongated form usually thrown from rifled cannon, and which move with the point forward; and it has for its principal object to make the same fuse serve either as a time fuse or a percussion fuse, as may be desired, the fuse employed being the paper fuse commonly used in shells, or of any other suitable kind, and the use of fulminates being dispensed with. The said invention consists in providing in the projectile, on each side of the hole, commonly known as the fuse hole, a hole for the reception of the fuse intersecting or meeting the first-named hole in a transverse direction. In connection with this transverse hole for the reception of the fuse, there is employed in the first-mentioned hole to effect the explosion of the projectile by percussion, a movable plug, plunger or other piece of metal suitably applied to break the fuse when the projectile strikes, so that the fire from the fuse, which is ignited by the fire of the gun, may communicate with the charge of the projectile; but this plug or piece may be omitted when the fuse is to be used as a time fuse.

**Water Closet.**—This invention, patented by F. H. Bartholomew, of New York city, relates to an improved water closet of that class which are provided with metal hoppers attached directly to the trap. The object of the invention is to so combine and arrange a hopper, trap, trap screw or opening and floor flanch that the trap may be screwed to the floor and made to serve the double function of a trap and stand or support for the hopper, the trap at the same time admitting of being cleansed when necessary with the greatest facility. The invention also has for its object the attaching of the wooden seat to the hopper in such a way that no other support will be required, and the whole device thereby rendered capable of being put up or adjusted for use independent of extraneous fixtures or framing hitherto required to sustain the seat. The invention has farther for its object the concealment of the contents of the trap, a desirable feature in using the water closet.



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Reported Officially for the Scientific American.

## PATENTEES, READ THIS.

The new Patent Laws which went into force on the 2d of March last, authorized the Commissioner of Patents to have all the specifications which form part of the Letters Patent printed.

This is a wise provision, and it renders the documents much handsomer than the old system of engraving them on parchment; besides, in passing before the printer and proof reader, the clerical errors, which were often made by the copyist, are mostly obviated, thus rendering the patent more likely to be correct.

But to afford the printer and proof reader an opportunity to do their work properly, the Patent Office is obliged to withhold the Letters Patent after granting them, from four to six weeks after the claims are published in the SCIENTIFIC AMERICAN.

\* \* Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, a 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.

2,624.—Benjamin Andrews, of Philadelphia, Pa., for Improvement in Army Trunks:

I claim the folding platform, B, in combination with the mattress, A, tray, D, and drop leg, F, the same being constructed and arranged to operate together in combination with a trunk, whether closed or opened, substantially in the manner described and set forth for the purpose specified.

And in combination with the said platform, B, mattress, A, tray, D, and drop leg, F, constructed and arranged to operate as described, I claim the legs, h, h, attached thereto, so as to operate in the manner described and set forth, and for the purpose specified.

2,625.—John P. Avery, of Norwich, Conn., for Improvement in Trusses for Bridges:

I claim the combination of two sets of braces standing upon two base chords, and terminating at the top in one chord, forming a truss. And also the combination of two or more trusses thus formed by making one set of braces in each truss unite or stand on the same base chord, the whole being constructed substantially as described and for the purposes set forth.

2,626.—H. W. Ball, of New York City, for Improved Cook Stove and Camp Chest Combined:

I claim a cook stove, C, and boiler, D, when constructed and arranged to fit one within the other, and to contain the necessary culinary vessels, dishes, &c., when said stove is used in connection with a camp chest, A, and combined therewith, substantially as and for the purpose set forth.

[For description of this invention see page 286 of the current volume.]

2,627.—C. H. Ballard, of Worcester, Mass., for Improvement in Breech-Loading Fire Arms:

I claim, first, The breech, B, composed of a long block with shoulders, a, b, fitted to corresponding shoulders, e, f, within the breech supporter, A, and arranged in combination with a lever, D, to move upward and downward, as well as longitudinally within a parallel-sided cavity in the said supporter, under the control of guides, d, d, above and below its rear portion, all substantially as described.

Second, The arrangement of all the parts of the lock of breech-loading rifle or other small arm within a slot in the movable breech, substantially as specified.

Third, The link, E, having a protuberance, e, applied in combination with the lever, D, the breech and the hammer, for the purpose of bringing the hammer to half cock by the act of opening the breech, substantially as specified.

Fourth, Combining the lever, F, with the hammer, H, by means of a horn, n, or its equivalent, substantially as and for the purpose specified.

[This invention consists in a novel construction and mode of applying a movable breech for breech loading; also in the arrangement of all the parts of the lock of a breech-loading firearm, within a slot in the movable breech; also in certain novel means of bringing the lock to half-cock by the act of opening the breech; and further in certain means whereby the cartridge-drawing device, after having drawn the discharged cartridge case, is returned to a recess within the barrel, out of the way of the movable breech and lock, by the force of the main spring of the lock acting through the hammer.]

2,628.—F. H. Bartholomew, of New York City, for Improved Water Closet:

I claim, first, The combination of the trap, A, hopper, B, opening, h, provided with the cap or lid, j, and the flanches, e, f, either or both, at the lower part of the trap, all being arranged substantially as and for the purpose set forth.

Second, The flanch, C, for the attaching of the seat, E, directly to the hopper, B, when said hopper is attached to a trap, A, which serves the two-fold purpose of a trap and stand or support, as set forth.

Third, Constructing or casting the trap, A, in the form substantially as shown and described, to wit, having it so curved that a screen or partition, d, will project forward in front of the lower or discharge end of the hopper, B, for the purpose of concealing the contents of the trap, as described.

2,629.—J. D. Boedicker, of New York City, for Piano-forte Action:

I claim, first, The arrangement of the levers, n and m, in combination with the hammer shank, I, and acted upon by the jack, B, in the manner and for the purpose substantially as described.

Second, I claim the use of the spring, S, between the end of the lever, n, and the hammer shank, I, operating the levers, n and m, and in combination with the jack, B, the hammer, H, in the manner and for the purpose substantially as set forth.

Third, I claim the screw, v, or its equivalent, acting upon the levers, m and n, substantially as specified.

2,630.—John Bruckshaw, of Oakley, Henry Bruckshaw, of Market Drayton, and Wm. S. Underhill, of Newport, England, for Improvement in Machines for Elevating Grain:

We claim the elevating or raising grain from one level to another by means of a blast and fan, as more fully set forth and specified.

2,631.—E. B. Butterfield, of New York City, for Improvement in Breech-Loading Ordnance:

I claim combining with the breech of a breech-loading cannon, a movable breech pin and a movable breech piece, the breech pin being arranged and constructed so as to screw into the breech, at the end of the bore or chamber and the breech piece having a socket in which is a screw corresponding with and forming a continuation of the screw in the bore or chamber, substantially as and for the purposes described.

2,632.—A. H. Dixon, of San Francisco, Cal., for Improvement in Grain Separators:

I claim, first, The employment or use of a series of adjustable screens, e, and stationary chutes, f, placed in a vibrating or reciprocating box, D, connected at their outer ends by strips, g, of leather or other suitable material, and placed relatively with the fan-box, C, to operate as and for the purpose set forth.

Second, The employment or use of the slides, G, placed beneath the screens, e, at their outer ends, substantially as and for the purpose set forth.

[This invention relates to a new and improved machine, designed for separating wheat from oats, as well as from straw and other foreign substances. The object of this invention is to obtain a machine which may be adjusted to suit the condition or quality of the grain, and to leave the blast in a more efficient manner than hitherto on the former.]

2,633.—Lewis Dungan, of Philadelphia, Pa., for Improvement in Apparatus for Preserving and Discharging Malt Liquors:

I claim the tube, M, with its detachable air-tight cap, N, when combined with the piston, D, of the described apparatus for preserving and discharging malt liquors, substantially in the manner and for the purpose specified.

2,634.—H. G. Eastman, of Poughkeepsie, N. Y., for Penman's Assistant:

I claim the use of a spherical or other shaped instrument having finger rests or supports attached thereto, substantially as described, for supporting the hand and fingers, for the purpose set forth.

2,635.—J. Fergusson, of Dubuque, Iowa, for Improvement in Grain Separators:

I claim the wheat riddles, D, constructed and operating in the manner substantially as described, for the purpose set forth.

Second, The combination of the wheat riddles, D, pins, j, and bottomless hopper, E, substantially as and for the purpose described.

Third, The combination of the wheat riddles, D, springs, G, and eccentric, f, substantially in the manner and for the purposes described.

Fourth, The combination of the wheat riddles, D, and the cork riddle, I, substantially in the manner and for the purpose described.

Fifth, The combination of the wheat riddles, D, and fan, B, substantially as and for the purpose described.

Sixth, The adjustability of the hopper, E, relatively to the upper riddle, D, substantially in the manner and for the purpose described.

2,636.—D. K. Fishel, of Lancaster, Ohio, for Improvement in Weather Strips and Fasteners for Doors:

I claim the sliding threshold or carpet strip for the purposes set forth, substantially as described.

I also claim in combination with the sliding threshold the weather strip and door fastener described.

2,637.—Henry Francisco, of White Water, Wis., for Improved Spring Tooth for Cultivators:

I claim a spring cultivator tooth constructed and operating substantially in the manner and for the purpose described, in combination with a check brace, substantially as described.

Second, So constructing the shoulder of a cultivator tooth, that when the working point of the tooth is arrested by any sudden obstruction, strain on the tooth will be relieved by the action of the shoulder, substantially as described.

2,638.—Thomas Gates, of Worcester, Mass., for Improved Refrigerator:

I claim the refrigerator, as described, consisting of the ice case, chamber and base, with its movable table, when constructed in the manner and for the purpose set forth and described.

2,639.—D. S. Hamilton, of Elmira, N. Y., for Improvement in Rotary Pumps:

I claim the combination of the annular piston space, E, having both annular sides fixed, with the butment, G, bearing on one of the said fixed annular sides, substantially as and for the purpose set forth.

I also claim the combined arrangement of the butment, G, and induction and education apertures, J and D, so that the said aperture shall be nearly or quite radially opposite to each other, and the butment shall close diagonally between the two, and open into the education aperture, for the purpose specified.

I also claim inclining the closed butment and approaching piston toward each other, so that the piston shall open the butment in the direction contrary to that of its own motion, substantially as and for the purpose specified.

2,640.—J. W. Hardie, of New York City, for Improvement in Army Trunks:

I claim, first, The construction of the trunk, as described with the upper section of less depth than the lower, when hinged at the end, as set forth, and provided with sockets or their equivalent, and in combination therewith the U-shaped irons, for the purposes and substantially as set forth.

Second, The table hinged so as to fold and provided with ears or hooks, as specified, for the purposes described.

Third, The combination of the frame, U-shaped iron and top of the trunk, when the said frame is hinged to the trunk top, and supported by the iron, for the purpose of forming a high-backed chair in connection with the body of the trunk, in the manner specified.

Fourth, The double frame or frames, E, F, having two sets of braces, G, G, and Z, Z, for the several purposes set forth, arranged and combined with the trunk, substantially as described.

Fifth, The frame, D, hung near the main hinges, so as to swing up and permit the folding out of the double frame, E, F, as set forth.

2,641.—D. A. Haviland and A. S. Phillips, of Fort Dodge, Iowa, for Improvement in Apparatus in Handling Hides in Tanning:

We claim the arrangement of the windlass axles, D, D', cranks, F, F', movable bars, E, and standards, B, B', with the vat, A, the whole combined and operating in the manner and for the purpose described.

[This invention is designed to supersede the ordinary mode of handling skins in the process of tanning, and it consists in the arrangement of a series of movable bars and windlass with a vat, whereby a great number of skins can be simultaneously lowered into or raised out of the vat, thereby effecting a great saving of time and labor, and doing the work more uniformly than heretofore.]

2,642.—W. S. Henson, of Newark, N. J., for Improvement in Breech Loading Ordnance:

I claim the independent recoiling breech, together with the non-recoiling barrel and double vents, made and operated as described.

2,643.—B. J. Hildreth, of Philadelphia, Pa., for Improved Sash Supporter:

I claim the T-shaped shoe, c, and spring, d, with the cavity, b, and groove, a, when combined, arranged and operating in the manner and for the purpose described.

[This invention is designed more especially for railroad cars, and consists in a peculiar device, by which the sashes are kept pressed outward against the jamb of the window frame, to form a light joint, and by friction alone made to sustain themselves in any desired position.]

2,644.—A. H. Jones, of Falsington, Pa., for Improvement in Corn Shellers:

I claim the weighted arm, L, arranged in respect to the plate wheel, G, and support wheel, K, as and for the purpose set forth.