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[Reported officially for the Scientific American.]

APPARATUS FOR GRAIN AND GRASS HARVESTERS.—J. W. Baitly and Wm. Hobson, of Pana, Ill. : We claim the reciprocating teeth, C, constructed as shown at Fig. 3, in combination with the stationary cutting plates, c, in the fingers, B, for the purpose set forth.

[The novelty of this device consists in the peculiar construction of the cutting arrangement, whereby the grass or grain, as the sickle vibrates, is prevented from being thrown outward from the fingers by the action of the cutters.]

GAS BURNERS.—Wm. W. Batchelder, of New York City : I claim the improved method of burning gas described, viz., combining two apertures of different areas, so arranged that a flat stratum of gas issuing in the first instance from the lesser aperture shall impinge and press upon the second and larger aperture placed in the same plane with the issuing jet, and in such manner as to pass it without causing any deviation thereof.

MACHINE FOR BINDING GRAIN.—Jos. F. Black, of Lancaster, Ill. : I claim the combination of the arms, I, J, J', and hooks or clamps, V, constructed and arranged to operate conjointly as and for the purpose set forth.

[We have no doubt this will form a useful adjunct to reaping machines, as it sheaves and binds the grain as fast as cut, and requires but one attendant.]

HORSE POWERS.—G. E. Burt, Abram Wright and G. F. Wright, of Harvard, Mass. : We claim the method by which we are enabled to uncaringly give such a shape to the ends of the tracks of said machine that closely fitted platform chains may be operated upon them without producing any variation of tension or irregularity in the movement of said chains, substantially as set forth.

LIFE BOATS.—M. M. Camp, of New Haven, Conn. : I claim, first, Dividing the hold of a life-boat into sections by the bulk head, G, and having an aperture, I, in the bulk head, to be covered and closed by the swing hatch, H, in the manner and for the purpose specified. Second, Making the section, H, of the hatch to operate as a cover or valve to close the aperture, I, in the bulk head, C, as and for the purposes set forth.

Third, The combination of the movable combings with the hatch, H, and the aperture, I, in the bulk head, C, as described, and for the purposes set forth.

BEARINGS FOR MILL STONE DRIVERS.—Edwin Clark, of Lancaster, Pa. : I claim the rocking bearing, consisting of a cylindrical portion, d, inserted within a cavity in the bearing block, b, and a winged portion, E, passing through a slot in said bearing block, in combination with the bearing recess, m, in the driver, as set forth.

METALLIC PACKING RINGS FOR STEAM ENGINES.—P. Clark, of Rahway, N. J. : I claim constructing packing rings of a number of series of layers or lamina of sheet metal in the manner described, for the purpose of securing that flexibility necessary to enable me to bend around a rod a metallic ring having a sufficient quantity of material in it to ensure the requisite durability.

BURGLAR'S ALARMS.—Simeon Coon, of Ithaca, N. Y. : I claim combining the spring, E, and hammer, E, in one piece, and acting on a stirrup as above described and constructed.

EDGE PLANE FOR TRIMMING BOOT AND SHOE SOLES.—I. A. Dunham, of North Bridgewater, Mass. : I claim the new sole or welt trimmer, constructed substantially as described, that is, with a cutting blade and guard, that together forms a circle or very nearly, and with the cutter so arranged as to be set up to its guard, as fast as it becomes worn, by simply turning the said cutter on its center as specified.

REAPING AND MOWING MACHINES.—J. G. Dunham, of Raritan, N. J. : I am aware that the use of a sliding arm, or equivalent means, has been employed for changing the elevation of the sickle, and therefore I do not claim generally the application of a slotted frame and sliding arm for such purpose.

But I claim, in combination with the rear part of the rectangular frame, c, the supporting castor wheels, K, M, with the inclined sliding frame, and arms, J and I, adjustable brace, N, and inclined bar, L, furnished with a series of sockets, l, l, l, the whole arranged substantially as and for the purposes set forth.

PORTFOLIO OR MUSIC STANDS.—Augustus Eliaser, of Boston, Mass. : I claim arranging the braces or sliding frames which are hinged to and support the adjustable leaves of a portfolio stand in such a way that they shall in sliding always keep in nearly a vertical position for the better supporting the leaves and the weight upon them, by having the traversing and bolting rods move in curved grooves directly beneath them in the sides of the stand, instead of having the bolting rods of each brace or frame slide in grooves on the other or opposite side of the center of said stand, in combination with the locking devices above described, for the purpose of rigidly locking and supporting the leaves, and whereby the whole stand can be lifted by the leaves in removing it from place to place.

HARVESTERS.—A. B. J. Flowers, of Greenfield, Ind. : I claim guiding the machine by means of the castor wheels, K, K, upright shaft, i, and the horizontal shaft, M, in combination with the peculiarly constructed castor plates, L, L', said parts being arranged to operate in relation to each other, in the manner set forth.

[This invention adds an endless apron to an adjustable frame carrying the sickle, and a new discharging device, so that the grain may be cut at varying heights as desired. The grain may be discharged in sheaves or not.]

STEAM HEATING APPARATUS.—Edmund Gibbs, of Madison, Wis. : I claim the boiler, E, with its trough, F, operating in combination with the coil of pipe, O, and its prongs, P and Q, or their equivalents, arranged for the purpose specified.

APPARATUS FOR LOADING LOGS ON WAGONS.—Philander Gilbert, of Alexandria, O. : I do not claim any of the parts separately considered; but I claim the peculiar construction and arrangement of the portable frame herein described, when combined with a windlass, and its appurtenances capable of being shifted to either side of a wagon, in the manner and for the purpose specified.

LOCKS.—J. L. Hall, of Cincinnati, O. : I claim, first, The construction and arrangement of tumblers, B B', B'', &c., in the described connection with the block, L, back plate, M', the whole serving as a screen or curtain between the hole and the more interior parts. Second, The described construction and arrangement of bit, C, c, lever, D, d, and tumblers, B B', B'', &c., whereby the bolt is held securely to its locked position, until the withdrawal of the key. Third, The described arrangement and combination of the bit, C, c, dog, I, and arm, H, h, for the purpose of tightening the springs in the manner set forth.

MAKING WHITE LEAD.—Henry Hannen, of Dubuque, Iowa : I claim subjecting the lead and compounds formed therefrom by the agents employed for this purpose to the action of steam and air, vapor of acetic acid, and carbonic acid gas, alternately and successively until the process is complete, in the manner substantially as and for the purposes set forth.

SAFETY CLASP FOR BRACELETS, &c.—Isaac Hermann, of New York City : I claim the application of the two inclined plane surfaces, I' and G, Figs. 2 and 3, and the plate, B, attached to the rod, L, for the purpose set forth, to secure more safely clasps on bracelets, and for other purposes.

And I also claim the combination of the standing plate, B, with the parts above mentioned, which plate prevents the catches, E E, Fig. 1, from turning aside, the whole is in combination—that is, plate B, Fig. 1, inclined planes, F G, on rod L, Figs. 2 and 3, as set forth.

STIRRUPS FOR RIDING SADDLES.—James Neil, of Yorkville, N. Y. : I claim the extension piece, or lever, D D', F, arranged and applied to the stirrup so that when the rider falls, his foot (if it remain in the stirrup) shall operate the said extension piece or lever, D F, so as to free one end of the bar, A, and thus release the stirrup from the stirrup strap, substantially in the manner set forth.

SLEEVE FASTENER.—David C. Peacock, of Brooklyn, N. Y. : I claim the construction of a sleeve button secured by a bar affixed thereto at one end by a joint or hinge, passing through holes in the sleeve, and being secured or fastened at the end opposite to the affixed end, in the manner set forth and described.

JOURNALS OF AXLES WITH FRICTION ROLLERS.—Geo. A. Prentiss, of Cambridge, Mass. : I claim securing journals applied to the said axle and friction rollers.

HAND STAMP.—T. J. W. Robertson, of New York City : I do not claim, broadly, the employment of revolving type wheels for making impressions, for I am aware that such wheels have long been known and used. They are seen, for example, in nearly all book-binding machines. But to the best of my knowledge and belief, no hand stamp like mine has ever before been known or used.

I claim the construction of hand stamps in the manner described and represented.

[Letter and other stamping is now an important matter, and the invention is a hand stamp for this purpose, being especially applicable where the letters or numbers have to be repeatedly changed.]

FILING AND SETTING SAWS.—Ansley C. Smith and Joseph K. Creighton, of East Birmingham, Pa. : We are aware that several saw-filing and setting machines have been devised, and that files have been placed in reciprocating frames. We therefore do not claim, broadly, the employment or use of reciprocating files, irrespective of the arrangement shown.

Neither do we claim the setting device, irrespective of its construction, and also of its arrangement with the filing device.

We claim the combination of the filing, setting, and feeding device, the whole is arranged and operated conjointly and automatically, as shown, for the purpose set forth.

[This is a general improvement in saw-sharpening and filing. It consists in files set in reciprocating blocks, which are moved by hand or other power; also an arrangement of hammers to give the set to the saw, and a peculiar feeding device.]

CONNECTING AND DISCONNECTING THE BLOCKS OF IRON OR OTHER PAVEMENTS.—Barzillai C. Smith, of Burlington, N. J. : I do not claim securing plates together by means of dowels and channels, or strips or bars and grooves to receive them.

But I claim the mode set forth of locking the plates or blocks of iron pavements, the same consisting of the locking bar, c, and grooves, d, one of which is of sufficient depth to cover the entire width of the bar, e, while the other is of half that depth, and in combination therewith I claim the grooves, s and m, in the manner and for the purposes set forth.

RAILROAD CAR SEATS.—J. H. Swan, of New York City : I claim the combination of the reversible back and seat by means of the lever, a", substantially in the manner and for the purposes set forth. I also claim the combination of the levers, a", the arms, b', and segments, a", with their attachment for reversing the back, as specified.

TRUSSED BRIDGE.—Abram S. Swartz, of Buffalo, N. Y. : I claim the arrangement of the parts described, so that the tower, A, the tension bars, B, and the suspension rod, C, when taken together, will present the distinctive feature of a triangle with the foot of the arch, D, resting upon the tower within the triangle, substantially as set forth.

CARRIAGE PROP.—Chauncey Thomas, of West Newburg, Mass. : I claim an improved carriage prop, as constructed with a screw shoulder cap, D, combined with a joint bar standard, A, and arranged between the leather, L, and the joint bars, G H, and so as to screw upon the said standard, substantially in manner as described.

ROTARY STEAM ENGINES.—D. C. Turner, of Axtell, Wis. : I do not claim making the engine with two sets of pistons working in separate steam channels.

But I claim the valve, K, in its recessed seat, and the protuberant rim, f, f, arranged with the steam channels, floating abutments, and hinged pistons, as fully specified.

[A principal feature in this engine is the floating abutment, which, although answering all the requirements of a fixed one, will adjust itself to the changes caused by the wearing of the fans, or other parts.]

RAKES FOR HARVESTERS.—Isaac Van Doren, of Somerville, N. J. : I claim operating the rake, A, when arranged in relation to the platform as described, by means of the double-gear shaft, G, in combination with the rod, D, and rock shaft, E, or their equivalent, the whole arranged and operating substantially in the manner set forth.

CARDING ENGINES.—Wm. H. Walton, of Brooklyn, N. Y., and G. H. Phinney, of New York City : We claim the application and use of a rotary brush for stripping the main cylinder in combination with the lever, K, or its equivalent, by which the main cylinder is stripped and cleaned when running at the speed given by shifting the driving belt from the driving pulley to the loose pulley as fully described and shown in the specification for the purposes set forth.

NET MACHINE.—S. H. Whitaker, of Cincinnati, O. : I claim the use of the preparatory punch, b, and die, N, in the described combination with the shearing and finishing die L, punch or mandrel, J, and counter die, K, whereby a net of definite thickness is formed by first partially punching the blank while joined to the bar, and confined on every other side, then separating the blank and completing the punching and shaping, the whole being constructed and operating substantially in the manner set forth.

VALVE GEAR FOR OSCILLATING STEAM ENGINES.—N. W. Wheeler, of New York City : I am aware that the "eccentric throw" and "piston head," and that "oscillating throw" and "eccentric" or "cam lead" have been used before. These I do not claim.

But I claim actuating the valves of oscillating steam engines, by the combined movements of the cylinder and piston rod, substantially as described.

FLY TRAP.—S. R. Wilnot, of Watertown, Conn. : I claim a fly trap constructed substantially as set forth, and consisting of a receptacle which is constructed and operated in such manner that when it is swept over a table or other object, the mouth is open to receive flies, and when the sweeping movement is finished, the mouth is closed to prevent their escape.

DIVING APPARATUS.—Geo. Williamson, of Brooklyn, N. Y. : I do not wish to be understood as limiting my claim of invention to the special construction specified, as my invention of improvements may be applied by the substitution of equivalent means.

I claim the employment, in combination with the nautilus, of the channel ways for the escape at the sides of the compressed air from the working chamber, substantially as described, the said channel ways being made in the thickness at the bottom of the nautilus—that is, between the floor of the working chamber, and the outer bottom surface of the nautilus, as set forth and for the purpose specified.

I also claim combining the nautilus with, and suspending it to, a float or buoy in the manner substantially as described, so that the apparatus for operating the connecting rope or equivalent may be worked from the inside of the nautilus as described, and for the purpose specified.

And I also claim combining a spring balance or scale with the combined nautilus and float, substantially as specified and for the purpose set forth.

FIRE ESCAPE LADDER.—Henry Lowenberg, of New York City : I am aware that ladders with long sacks to convey the occupants of a building to the ladder have been long in common use, but the application of baskets or their equivalent, operated as above set forth, and the manner of elevating and packing the ladders I believe to be new and useful.

I do not claim the extension ladders, neither do I claim the use of ropes passing around or over windlasses for the purpose of drawing or extending the ladders after they have been elevated to the desired angle ready for extending.

I claim the manner of regulating or adjusting the trucks, f, f', Figs. 2 and 3, by means of the hinged guide pole, k, Fig. 2, or guide bars, Fig. 3, arranged and operating in the manner and for the purpose of supporting the ladders when secured by the rope, I, I', at any desired angle, substantially as described.

COOLER.—W. F. Messenger and Henry Rehahn, of New York City : We claim the refrigerating saddle, A, substantially as set forth.

[These coolers are adapted for casks, and more especially those containing liquids on draught, or those that are drawn through a tap, and are made to fit on the upper half of the cask or bar rel.]

MACHINE FOR DISTRIBUTING TYPE.—Wm. H. Mitchell, of Brooklyn, N. Y. : I claim, first, The inclined check block, I, in combination with notches in the sides in the types, so placed that notch of the first type comes in contact with the said inclined check block when the type is projected its thickness beyond the end of the slide containing the line of types, so that only one type at a time is separated from the line of types, as specified.

Second, I claim the use of studs or pins uniformly placed to take notches variously placed in the types, thereby sustaining the types in various positions to be dropped or distributed. When said types reach receptacles adapted to the peculiar positions of said types.

Third, I claim the method described of distributing types by the revolving wheel, l, with its grooves and pins N, when combined with the stationary inclines or offsets, substantially as specified.

Fourth, I claim distributing types from uniformly placed and moving pins, or their equivalents, by the use of a second notch in the type, combined with suitable offsets or inclines to disengage the first notch of the type, and then allow the type to be suspended by the second notch for distribution, substantially in the manner specified, thereby providing for distributing greater varieties of types without requiring extreme accuracy in the position of the notches as specified.

Fifth, I claim the oscillating spring, y, and connecting rods, Z, in combination with the pushers, z, for the purpose and as specified.

PENCIL SHARPENERS.—J. W. Strange and Samuel Delling, of Bangor, Me. : We do not claim the mere multiplication of cutters of various sizes in the same stock or holder, but the combination of two cutters, constructed and arranged to reduce the wood and the lead separately, substantially as set forth.

WRENCH.—H. D. Blake, of New Hartford, Conn., assignor to W. H. Warren, of New Britain, Conn. : I claim the combination with a vibrating stock or handle, arranged for action, substantially in the manner described of the two or inner and outer sliding jaws of the wrench, joined on opposite sides to said stock or handle, and both jaws operated or expanded and contracted in reverse directions, to effect and release gripe by the lateral throw or motion proper of said handle, in both directions of its swing essentially as set forth.

Also, while not claiming a projecting thumb-piece to a single sliding jaw to lock or release the gripe of the same by means of a cam or its equivalent connected therewith, I do claim providing the one with a projecting thumb piece, f, arranged to overlap the jointed attachment of said jaw to the stock and forming a rigid extension as it were of said jaw to facilitate the action or movement of both jaws, substantially as shown.

HARVESTERS.—Samuel Pennock, (assignor to himself and Morton Pennock) of Kennett's Square, Pa. : I claim adjusting and regulating the position of the crank shaft, E, by means of mechanism constructed, arranged and operating in the manner set forth.

[This invention consists in placing the crank shaft within a frame, which is pivoted to the main frame, and operated by an eccentric, so that the shaft guiding the frame may be easily thrown in and out of gear.]

LATHES FOR THE MANUFACTURE OF CLOTHES PINS, &c.—John Humphrey, of Keene, N. H., (assignor to himself and Amos E. Perry, of Harrisville, N. H.) : I claim the method of feeding the pieces to be turned to the spindles, when their relative positions are changed as shown, and in combination with the above, removing the finished pieces from the spindles, the whole being arranged and operated in the manner and for the purposes set forth.

RE-ISSUES.

CAST IRON CAR WHEELS.—Anson Atwood, of Troy, N. Y. Patented May 15, 1847 : I claim connecting the rim of a wheel cast in one piece with a solid hub, by means of a single waved plate, in combination with the diehed flange or flanges of the hub, forming a ring concentric with the rim of the wheel, substantially as described, whereby the several parts can yield to the unequal contraction in all directions without serious strain of the metal.

CAST IRON CAR WHEELS.—A. Atwood, of Troy, N. Y. Patented May 15, 1847 : I claim a cast iron disk, corrugated in the manner substantially as and for the purpose described, when used in connection with the chilled rim of a cast iron wheel.

SEED PLANTERS.—Solomon T. Hooley, of Rockford, Ill. Patented June 16, 1857 : I claim first, In combination with a machine that drops its seed automatically, a hand lever and clutching apparatus, that enables the operator to quicken or retard dropping, so as to bring it to the exact spot, substantially as described, and without disarranging or injuriously affecting the automatic movement.

I also claim, in combination with the wheel, s, having its center of motion at e, and furnished with openings, i, the lever, m, with its plate, p, and hung or pivoted at a point eccentric to the point, e, so that the plate, p, can cover or be drawn within the range of the openings, q, at stated intervals, substantially as set forth.

I also claim the employment or use of the indicator, b', connected with the valve V, and arranged and operated as shown, and for the purpose set forth.

REMOVING PHOTOGRAPHS FROM GLASS TO PAPER.—Edward Howell, of Ashtabula, Ohio. Patented May 19, 1857 : I claim the described use of beeswax, or its equivalent, laid upon the surface of the glass plate previous to applying the collodion film, chemicals, and colors, as described, for the purpose of facilitating the removal of

the picture, together with the manner of causing the backing paper to adhere to the finished picture, thus giving it strength to overcome the adhesion of the wax, or its equivalent, to the plate of glass, in the manner specified.

DESIGN.

GAS BURNER SHADES.—George B. Foster, of Boston, Mass.

Activity at the Patent Office.

Within two weeks past, the Examiners at the Patent Office, under the supervision of the new Commissioner, have evinced a marked degree of alacrity; and at the rate they are now progressing, the back work of the Office will soon be brought up. The Chief Examiner of the Agricultural Class has recovered from his illness, and is back at his post again; and we are assured that those who have had cases long pending in this department will speedily obtain decisions.

There is not the usual number of applications made, at present, owing, probably, to the closeness of the money market; but we can assure inventors that there never was a better time to apply for patents, and to get justice done in the examination at the Patent Office, than the present.

Advice concerning the patentability of inventions is freely given, without charge, at this office. Specifications, drawings, &c., are also prepared on the most reasonable terms, at the Scientific American Patent Agency, No. 128 Fulton street, New York, or at our branch establishment, opposite the Patent Office, Washington.

All communications should be addressed to "Munn & Co., New York." See advertisement on another page.

Crystal Palace Visitors.

We are pleased to be able to state that a greater number of visitors than at any previous fair have entered the building this season. Every evening the whole of that vast space is thronged; and we have it from good authority that on Friday the 25th ult., no less than \$1000 was received at the doors, and allowing about 1000 free admissions for exhibitors, etc., there would be an attendance of 5000 persons. This is a good beginning; we hope it may be kept up throughout the season.

The Cotton Crop.

The cotton crop of the United States for the present year, is estimated at 3,000,000 bales. Allowing 600,000 bales for domestic consumption, and there will remain 2,400,000 bales for export. The present prices warrant an average of sixty dollars per bale, which would give an aggregate value of exports, from this source alone, of nearly one hundred and fifty millions of dollars.

Frederick Sauvage.

Frederick Sauvage, whom the French claim as the first person to conceive the idea of applying the screw as an auxiliary of steam, died a few weeks ago in Havre, France. His fortune and health had been ruined by his labors in scientific discoveries, and his reason had left him in consequence of his chagrin of different kinds.

On the 11th of September last, the first locomotive ever run in the State of Arkansas traveled over the track of the Memphis and Little Rock Railroad, for a distance of three miles—as far as the road is completed from Memphis.

A good antidote for poisons, and one which it is useful to know, is, when poison has been swallowed accidentally, take two teaspoonfuls of ground mustard mixed in warm water. It will operate as an instantaneous emetic.

The ant is said by naturalists to produce 86,400 eggs each day, which continuing for a lunar month, gives the astonishing sum of 2,419,200. This being about one egg in two seconds, very little time is consumed in cackling.

The use of steel axles and tires is common on the German railroads. We understand that they are also being introduced into this country, in a limited measure.