

# Scientific American.



## [Reported Officially for the Scientific American,]

LIST OF PATENT CLAIMS Issued from the United States Patent Office.

FOR THE WEEK ENDING MARCH 21, 1855.

FOLDING LIFE BOATS-E. L. Berthon, of Farsham, Eng. Patented in Kingland June 12, 1551 : I claim hinging longi tudinal risk of the two sides to the sem and the stern post, in such manner that those ribs shall be capable of being folded down, and shall lie parallel with the keel when the boat is collapsed, as described.

SWIVEL FOR WATCH CHAINS-Elihu Bliss, of Newark, J. J. : I claim the specific arrangement of the joint of the wivel in the manner and for the purpose substantially as set forth.

WAGON BRAKE-J. E. Blodgett, of Haunibal, N. Y.: I do not claim the originating of the idea of wagon brakes, or tbeir invention, claiming only certain in provements in the construction and application of wagon brakes, as described, rendering them perfectly effectual and applicable to all kinds of lowdime.

rendering them perfectly effectual audapplicable (s allkinds ol loading. I claim the application of wagon brakes to the forward wheels of wagons by using the hounds, sway bar, block tongue, or other appendages running back from and firmly attached to the trout axle, as the trame for the support and steadying of such brakes; also the construction of a brake so light and simple as to admit of being supported by such frame, such brake having a main bar of sufficient length to receive both pads, said main bar turning upon its hastening at or near its center with the pad for one wheel firmly at-tached to one end, and the pad for the other wheels on at-tached to one end, and the pad for the other wheels on at-tached to the other end of the main bar as to turn on such attachnet, or taxtening such turning pad to be of such form as to bear against its wheel ou being turned partly round, and to bear hader on being turned lutture, and the same time by crowding back that end of the main bar to which it is attached. At othrow the other end with its pad against the other wheel, as described.

K NOS FOR FASTENING CURTAINS AND FOR OTHER LIKE PURFUSSES—W.Z. W. &J. W. Chapman, of New York City: We claim the combination of the eyelet mentioned, or its equivalent, with a shank or kuob of metal or other material that is covered, capped, encurcled, or so connected with in. dia rubber, or the equivalent thereof, that by its elastic ma-ture the said cyclet may be secured to it as and for the pur-poses fully set forth.

poses unity set form. SELF-VESTLATION FON RAILROAD CARS-V. P. Corbett, of torbeitsville, N. Y.: I claim forming a series of ventila-ing and windows, B. B. B. B, and providing m said holes ver-tocal ventilating fams, J. D. D. D. which are arranged so as to be caused to revolve by the rand inoving of the carthrough the atmosphere, and thus made to exhaust the impute air from the misside of the car.

[A notice of this invention may befound on another page.]

La notice of this invention may be rounded autoriter page. J Device For Arr CHAMPER OF PAFS-John B. Cowing, of Sencea Fails, N. Y.: 1 claim the combination and ar rangement with the air chamber or vessel, F, of the pump, having its delivery spout or outlet below, or at or near the bottom of said claimours, substantially as shown and de-scribed, of a hand air valve or perforated nut, J, at or near the top of the air vessel, for the conversion by hand with la-chity and despatch, of the close air vessel into an open water reservoir, or vice versa, above the discharge cutlet or spont of the pump, und whereby the uses of the constnon well of lift pump inty be varied with despatch, and its couvenneaces augmented as set forth.

[Seea description of this invention on another page of this paper.]

MACHINE FOR CUTTING BARREL HEADS—A. H. Crozier, of Uswego, N. Y.: I claim the described machine for cut-ting ont and forming the heads of barrels and other similar arricles, first, in arranging and operating two rotating cut-ters so as to cut scores in the opposite sides of the to theth heading at the same time, one cutter being arranged and operated so far in advance of the other that the latter cutter may cut so far nut the heading and into the score made by the former without interfering with it (the first cutter) as to sever the superfluous potions of the beading from the head, at the same much at they cut it circular, and bevel or form the edge to fit the croze in the cask, substannally as descri-bed.

d. Second. traversifg or vibrating the clamp edgewise, after Second, traversing or vibrating the clamp edgewise, after the teading is placed in it to bring the heading in contact with the cutters, and to remove the head from the cutters af-ter is formed so as to take it out of the clamp and insert material to form another bead, and bring it sub contact with the cutters without stopping them (the cutters) during the operation or time occupied in making the change. Thind, the revolving clamp in combination with the rota-ting cutters, arranged and operated substantially as describ-ed and for the pup sets set borth.

PUMP-C. G. Curtis, of Springfield, Mass.: I am aware that induction and eduction valve chambers and valves, with their case, have been arranged on the side of a horizon-tal pump barrel, midway between its two ends, the barrel being made to communicate with the valve case by two pipes leading from the said case respectively into the two ends of such barrel.

Euds of such barrel. I am also aware that valves and their chambers have been placed at the lower end of a vertical pump barrel, and a teading pipe used to connect the valve case with the upper part of the pump barrel, the first of these arrangements only requires the removal of a cover plate to obtamaccess to the valves (such cover plate that ving no connection with or form-ing part of the cover plate of the end of the barrel, while the arcsored theorem removered to the cover valves (such cover the arcsored of these a transport of the end of the barrel), while ang part of the cover place of the end of the barrel,) while the second of these arrangements rendered it necessary to raise from the valve case the whole pump barrel and cap plate of the valve case, in order to obtain access to the valves. I therefore do not claim enther of such arrange-ments, my invention having reference to an upright pump barrel.

claim arranging the eduction and induction valve cham I claim arranging the eduction and induction valve cham bers concentrically around the upper end of the pump bars tel, and with respect to one another, substantially as speci-fied, they being provided with valves and pas-rayes connect-ing them together, and with the two ends of the pump bar rel, as described, the said arrangement adouting one cag plate to be employed both for the valve cases and the pump banel, and at the upper end of said pump barrel, as ex-

SHOT CARTRIDGE-Abbot R. Davis, of East Cambridge shor trarringe-Abbot R. Davis, of East Cambridge, Mass. : f an nware that a shot cartridge has been with a woven wire frame filled with shot and loose sand, and cov-ered by paper pasted around it, I thereforedo not claims the a mode of making a cartridge. But I claim an improved shot cartridge made by mixing the shot in a plastic insterial or compound, of the character described subsequently reducing the mass to the shape re-quired lor the cartridge and covering its external surface with fibers of wool or other material, lelied or applied there to substantially as speched.

of the inger being removed from J, the cartridge is firmly griped by l, and carried forward toward the chamber by the action of K and J, pushing before it also the next preceding cartridge ready to be deposited in the chamber upon the raising of the breech piece; which operation being repeated after each discharge in connection with raising the breech age secures a measured supply of charges from the maga-ine in the stock to the chamber to an extant and with a faction of the breech piece is a second to the second second of a circle, having the concave space, o, for the bottom of the chamber with its central point of depression in the line of the activers, one front the other back, with the rounded swell between, operating as well to hold the cartridge in its place, as to cut of the ada and move the parts thuscut off, as described.

EXTENSION TABLES—Joel Haines, of West Middlebury, Obio; I claim the construction and arrangement of the top so as to wind up in the case, substantially as described; it being understood that I do not claim in general the device of the chain of slats to wind up, as that has already been used in window blinds and slatters, but only the peculiar purposes for which it is applied to the table top, as set forth.

VALVE FOR HYDRAULIC RAM-Thomas Hanson, of New York Uity : I claim the mode substantially as specified, o forming the connection between the driving chambers and arvessel of water rams, the tube, and flexible cup placed within it, substantially as and for the purpose specified.

LAMI'S-Elbridge Harris, of Boston, Mass. : I claim using whin glass lamps of any form, reservoirs of metal which winnin glass lamps of any form, reservoirs of metal which are provided with the usual tubes for burning common oils, or adapted by means of protectors to burn any fluid com-bustible.

onstible. I also claim the mode of ornamenting such reservoirs, contained within glass, by means of paper with metal or or namental surfaces.

SHIP AUGERS, 'dc. - I. W. Hoagland, of Jersey City : N. J.: I do not claim 'haking' the cutting portion of the auger detached from the screw portion irrespective of the precise mode of attachment shown. I claim attaching the cutting portion, B, of the auger to the screw portion, as shown and described, viz., by means of the dovetail notch formed by the shoulder, b, and inclined end, d, dowel, f, f, and screw, e.

[A description of this invention may be found on page 316, Vol. 9, Sci. A M.]

RAILROAD CAR BRAKES—Gideon Hotchkiss, of Windsor, N.Y.: I do not claim the mere application of the brake to the top of the wheels; nor do I inited to contine my claim to the application of the brake, by the means described, to the top of the wheel only, because by a slight modification and change, the principle and means claimed as oi inal may be applied so as to press the brake to other parts of the wheel and accomplish or tend to accomplish the same ob-iect.

ject. But I claim the method of operating a railroad car brake by obtaining the leverage from the axles and boxes by means of the bridges, keys, and clutches, or their equiva-ient, sub-tantially as set torth. I have described my improvements as applied to trucks for wide gauge roads having axles with inside bearings, but will be obvious that they are annificable to tucks having

for wide gauge roads having axless as applied to trucks to wide gauge roads having axless with inside bearings, but it will be obvious that they are applicable to tucks having axles with outside hearings, and also to cars without trucks, and I therefore claim my improvements when applied to axless with outside or inside bearings, and also to cars with-out trucks.

HAND PRESS FOR PRINTING-Chas. Keniston, of Boston, Mass. : I claim the arrangement and construction of the press described.

SEED PLANTERS—Ebenezer Morse, of Walpole, N. H.: 1 claim the scrapers, J. J. the cant, n. and sliding back board. B. as arranged, combined, and operating couplintly with theseed box, A. for the purpose of depositing beed in hills, covering it with earth, and pressing the earth upon the

seed. Also the oscillating motion of the horizontal handle con-nected to the front and back part of the seed box by a hinge j int at each end of the hamile, substantially in the manner described.

FIRE ARMS-Frederick Newbury, of Albany, N.Y.: I class the ratchet plate with its ratchet indeptations and its Solution to the second second

of the cylinder and the barrel, substantially as set forth. I claum the arrangement and combination of the tumbler with the lummer and cocking synup, to enable the hammer to act undependently of the tumbler in the act of bring. Al-so the arrangement of the hammer to ite within the stock and to act in such line of direction upon the inppers as to press and hold the cylinder bringly against the barrel in the act of hring : the whole substantially as set forth. I claim the arrangement of the exploratus for disengaging and astaching the barrel with the cylinder to the stocks, yza, the thumb councering plate or detent with the spring to hold it in place and the notch in the mandrel to receive the detent, substantially as set forth.

CARTRIDGES-A. N. Newton, of Richmond, Ind. : I claim the arrangement of the percussion priming with a metallic rod, in the manner specified, whereby said priming is igni-ted within the chamber of the gun between the ends of two metallic rods, as set forth.

SEED PLANTERS—D. H. Phillips, of Greenville, III.: I do notclaimopening the seed delivering shids by a cog or pro-jection on the carrying wheel or roller, straking against a lever to openate the shide; neither do I claim closing the seed shide after theroller has censed to openate it by the ac-tion of the apring.

seed side after the roller has ceased to openate it by the ac-tion of the spring. But I claim, hrst, the employment of a spring lever, f, to open and close the seed slide in such a manner that while it serves to open the slide by the direct action of the revolving wheel or roller, as specified, the same lever by its elasticity closes the side after the discharge has been made, as set forth. Second, providing both ends of the carrying and leveling roller which operates the seed slide lever with cogs or pro-jections so arranged that by revening the roller as described aslower or quicket movement is, iven to the delivering slide according to the description of grain to be plauted.

OCT DATE OF BEICKS-L. E. RANSOM, of Havana, O.: I make ao claim to any portion of the processes of man-ulacturing bricks set torth in the French patents of Cap-gias & chanon, June 21st, 1643, and Charles Henry Mari-gret, May 27, 1840. But I claim the manufacture of bricks substantial

uncerumg bricks set forth in the French patents of Cap-guss & chanon, June Zist, 1843, and Ubarles Henry Mari-gret, May 22, 1840. But I chan the manufacture of bricks, substantially as described; that is to say by first spreading the tempered mortar or clay at once upon the ground where the bricks will be left to dry, and in beds of certain desired length, width, and therkess, and then while the motar is in a soft state, or before it shall crack by too nuch drying, producing therein lines of weakening or separation dehuming the dimen-sions of the bricks, without regard to their smoothness or inal finish, and siter the bricks in drying shallhave separa-ted from each other along the lines this formet turning them on edge, and squaring and polishing their edges, and defining the tlickhows of the same by rubbing over them the metallic tool, P, or otherwise, substantially as setforth it.e.ds.ired thickness of the lead being produced by means of guida bars ormolds and scraper or fute, substantially as specified, whereby 1 am enabled to dispense with of hear-ers and otherwise to simplify the manufacture r bricks. Mowing Machines-Fisk Russell, of Boston, Mass. : I claim arranging the secondary suppording wheel and the cutter trame in fond of the driving shaft, when arranged what and the driving wheel are arranged and connected by gears as specified, the same serving to lesses the field draft or pressure on the horses or draft animals in comparison to what it would be, were the secondary wheel and the cutter trame disposed back of the draving shaft, when arranged with respect to the driving wheel as specified. I also claim the combination of two knives so that they shall project in opposite directions from one center plate or bir, in order that either of the knives may be used in connec-tion with the guard teeth, and either the made to serve as a lever to the other whenever circumstances may require. Phyloidabba Ha at the ord proving shear a vestory or

in the manner set forth for the purpose of depositing seed in the prepared soil without the objection of an open furrow.

---e prepared sont without the objection of an open furrow. SELF-LOADING CART-J. A. Sprague and Bernard O'Con-nor, of Dayton, Ohio: We do not claim the combination of a large scoop or scraper, undivided, with the ordinary cart by suspension, in such a manner that the scoop or scraper may be raised or lowered by a windlass or lever, forthis has been done before; neither do we claim dividing the scoop transversely near the middle, as such a device has been known and applied in dredging machines. We claim, first, the combination of a large divided scoop constructed as described, with an ordinary cart in the mut-ner and for the purpose substantially as specified and set forth. Second, the angle irons. J. on the under side of the cort

forth. Second, the angle irons, J, on the under side of the cart shafts near tha forward ends, for the purpose specified and described.

MORTISING AND TENONING MACHINE—Elihu Street, of Montville, Conn.: I claim the improvement on a machine formortising, tenoning, sawing, antudsmoothing by combin-ing certain tools together, used by carpenters in the manu-facture of doors, sashaad blinds, sas described.

facture of doors, sash and blinds; as described. VALVE GEARING FOR STEAM ENGINES-H. Uhry & H. A. Luttgens, of Paterson, N. J.: We do not desire to confine our claim to any precise manner of construction or applica-tion of the improvement, as from its capability of being ap-plied to steam engines of different designs and purposes, its adaptation muy, as already stated, call for modifications of parts connected to the improvement. But we claim the differential rocker, G, operated sub-stantially as described, in connection with the stationary or stifting link motion for the purposes of increasing the open-ing of the steam ports, at the higher grades of expansion, and retarding and varying the time of exhaust, without in-curring enrly compression, attending increase of inside lap on an ordinary valve. We also claim the duplicate valve seats, B'' and B', being grranged parallel to each other, provided with steam ports

The second state of the s er twosteamports, i' and f', leading thesteaminto one pa sage, K', towards the back end of the cylinder.

Looms-Lewis Van Riper, of Spring Valley, N. Y.: I claim, frat, intertwining the warp threads in the manufac-ture of gauce fabrics by the employment of needles having a compound motion, substantially as described. Second, constructing the needles for working the warps with flat or thin and crooked ends, substantially as de-scribed.

Third, the arrangement of the needles in two series and

Third, the arrangement of the needles in two series and giving to one or both series a compound lateral and longitu-dinal motion, to intertwist the threads which the two car-ry, and at thesame time open a sheed for the insertion of the weft thread, substantially as described. Fourth, the metbod described of working the needles so as to cause them to raise and lower, and intertwine the warps, alternately, with simply raising and lowering them to adapt them to weaving gauze and plain fabrics alternate-ly. ly. Fifth, the combination of the needles and heddles opera-

Fifth, the combination of the needles and heddlesopera-ting automatically, substantially as described, so as to form a web of reticulated bars or strips of plain labric with the spaces between the bars or strips filled with gauze. Sixth, the combination of the yielding reed, 3, the lever, with the pin, 5, on its longer end, the pin, y, on the sword of the lay, the ratchet bar, K, with its double inclined planes, x', for the pins to as a strips of which gup the woven fabric at a variable of the mechanism for winding up the woven cloud of the mechanism for winding up the source of the different of the strength of th



devices for the the variable Eighth, th the near, T, for the purpose of changing the needles, as set forth, to adapt them to ad-gauze fabric, alternately set forth.

the operation with meedics, as set torth, weaving plan und-gauze fabric, alternately set forth. PUMPS-Wm. T. Vose, of Newtonville, Mass.: What I PUMPS-Wm. T. Vose, of Newtonville, Mass.: What I Purs - wm. T. Yose, of Newtonville, Mass.: What I claim consists in connecting the two pump barrels at two ad-jacent ends, as described, in combination with not only ar-ranging the valves of their respective pistons, so that one of them shall be applied to one or the upper side of one pis-ton, while the other is applied to the opposite or lower side of the other piston, as stated, but applying the eduction and induction pipes, respectively to the disconnectedends of the barrels, substantially as specified.

PRINTING PRESS-L. T. Wells, of Cincinnati, Obio : I chaim the platen, U, hinged or pwoted to viorating muns, V, in combination with the stationary pin or puns, u, and re-tracting springs, X, or equivalent devices for the purposes explained.

explained. CENTRIFUGAL WATER WHEEL-O, Willis, of Dizardville, N.C. : I do not claim a curved bucket; nor do I claim bevel-ing the nut and rim individually; nor do I claim bewel-combined in such a formas to facilitate, the escape of the water only, as this has beendone by Fontaine Jouval and others previously. But I claim, first, the peculiar double curved buckets in combination with the beveled rim and hub, or nut, in the memory and for the purposes set forth. Second, I also claim ranging in dvance of the radial line, substantially as and for the purposes specified. Third, I also claim forming the smualls water space on the

Thire, substantially as and for the purposes specified. Third, I also claim forming the annular water space on the upper side of the wheel, substantially as and for the purpos

upper side of es specified.

es specified. GRAIN AND GRASS HARVESTERS-W. A. Wood, of Hoos ick Fails, N. Y. : 1 am aware that a conical track clearer separate and independent of the bearing wheel has been used in mowing machines; this 16 on ot claim. But I claim making the inner face of the supporting wheel conical, for the purpose of clearing the track for the next or teturn swath of the machine, as described. I do not claim a reserved space in general on the platform between the end of the cutting point and the frame. But I claim the forming of a quadrangular space on the platform between the end of the cutting point, and the frame of the machine sufficient to hold as much grain as will make a bundle or sheaf, before it is raked from the machine, as described. Councered G W N. Yort of Port Gibson Miss : I

described. CULTWATORS-G. W. N. Yost, of Port Gibson, Miss. : I am aware that cultivators and scrapers have been used which were laterally and perpendicularly adjustable, therefore I do not claim such devices. But I chains the combination of the adjustable scraper, E, with the bar point, &c., D, as described, for the purpose of usring off the row and rapping up thenuidle, also forscrap-ing off the row, and rolling the scrapings over into the fur-row opened by the plow, substantially as set forth.

ARRANGEMENT OF WHEELS AXLES, AND FRICTION ROLL ERS-G. A. Prentuss, of Cheshire County, N. H.: I cian the combination, substant ally in the manner described, o the following elements, viz., a load axle with a baster sec-cured thereto, a securingakle concentric therewith or near Ity so, and a ring or series of friction rollers, the whole be ing applied to a pair of wheels, substantially in the manne and for the purposes specified.

SEWING MACHINES-Geo. W. Stedman, of Vienna, N. J. I claim feeding the cloth along by means of the needle acting

taper hole, a, made through the handle and tube, and a me-tailic baud. C, placed around the tube, B, and turning loose-ly thereon, said band having slots, c d, made through it, a part of the slot, d, being of tweer form. The shank of the auger being placed in the hole, a, and through the slots, c d, in the band and secured in the handle by turning said baud and causing the edges of the taper portion of the slot, a d, to pass in the notches or recesses, ft, in the shank, as shown and described.

[A brief description of this invention may be found on nother page.]

ORE SEPARATORS-Reuben Shaler, of Madison, Conn. : I

ORE SEPARATORS—Reuben Shaler, of Madison, Conn. : I disclaim the use of the screen, m, except when used in com-bination with the two sets of shelves, 3, 3, and the blower, a, which produces two blasts of unequal force. I disclaim also the use of two sets of shelves when used in combination with a blower of common construction. I claim the described combination of mechanism which separates the fine e.rth and small particles of gold from the coarse, and exposes the finer portion of impurities and gold to a moderate blast, and the coarser portion to a more pow-erful blast. The said combination embraces the blower, a, which produces two blasts of unequal force, the two sets of shelves or inclined planes, 3, and the screen, m, or its equivalent. This combination I claim when the several parts are used substantially as specified.

parts are used substantially as specified. SEWING MACHINES—T. J. W. Robertson of N.Y. City : I do not claim in itself as new. the arrangement of the feeding dog and spring clamp separately operating upon the cloth on its one or outside surface, as such has before been done by the alternate action of these devices. Neither do I claim of itself aseparate and constant spring pressure applied to the outside surface of the cloth when the feeding bar or dog is otherwise arranged to operate in con-nection with the spring clamp, or hold, as specified. But I claim the combination of the spring clamp, D, with the feeding bar or dog, f, constructed, arranged, and opera-ting together against the cloth on its one side or surface, substantially as set forth.

CASTERS FOR FURNITURE-G. L. Bailey (assignor to G. L. Bailey and Mighil Nutting.) of Portland, Me. : I claim the pin, B. or oval guide puttbrough or applied io the spin-dle, A, in any manner, or its equivalent, and attached to a straight truck frame, G, with a socket hole, E, larger than the spindle, A, in the manner and for the purpose substan-tially as described.

DESIGNS. TABLE FORKS-J. W. Gardner, of Shelburne Falls, Mass.

COOKING STOVES-Jacob Beesley and Edward J. Delany, of Philadelphia, Pa.

#### French Railways.

The number of main lines of railroad in France, independent of branch lines and prolongations, is set down at sixteen, and as giving on the 31st of December last a total length of 1169 French leagues. Of this distance the four great lines of Orleans, Strasbourg, Lyons, and the North, comprise of themselves three fourths. The total receipts of these sixteen main lines amounted for the past year to 196,534,813 francs, showing an increase of about thirty millions of francs over the receipts of the previous year, which latter had also exhibited about the same progressive movement over 1852. The report is defective, however, in one principal ingredient in such documents, inasmuch as it fails in giving the nature of the trafficthe number of travelers and weight of goods, that is, which has produced the above results.

# Size of London.

London extends over an area of 78.029 acres or 122 square miles, and the number of its inhabitants, rapidly increasing, was some 2,362,239 on the day of the last census. A conception of this vast mass of people may be formed by the fact that, if the metropolis were surrounded by a wall, having a north gate, a south gate, an east gate, and a west gate, and each of the four gates was of sufficient width to allow a column of persons to pass out freely four abreast, and a peremptory necessity required the immediate evacuation of the city, it could not be accomplished under four and twenty hours, by the expiration of which time the head of each of the four columns would have advanced a no less distance than seventy-five miles from their respective gates, all the people being in close file, four deep.

## A New Boiler.

A new form of boiler has recently been tried in its application to locomotives, in England, with great economy in fuel, and time -it is said-in getting up steam. The improvement consists in piercing the sides and top of the fire-box, and the crown plate of the boiler flue, with a number of holes about three inches diameter, into each of which, projecting into the water space, is rivetted a malleable cast iron cup, from four to six inches deep, those on the sides being cylindrical, while those on the crown plate are spherical. These cups are, of course, covered in every direction by the water in the boiler, and the inside being exposed to the heat of the fire and concentrating the temperature, present so much additional heating surface, that the boiler is enabled to get up steam in a vast deal less time, with a diminished quantity of fuel. Several stationary horizontal boilers of this description, have been in use in London for the past twelve months with success, which, being worked by gas coke, have avoid-

FEEDING FUEL TO FURNACES—Howard Delano, of Syra-cuse, N. Y. : I clam the combined use of the feed box and grate bars or cut-off for feeding in fuel into the under part of the burning mass, in the me box, or their mechanical equivalents, as described.

equivalents, as described. I also claim the combination of the crank shaft, I, slotted piece, G, lever, F, and trgger, H, or ther mechanical equiv-alents for sliding the feed tox and grate or cnt-off, and for raising and lowering the bottom of thefeed box, substantial-ly as described.

RAKES AND ELEVATORS—A. H. Gaston and Jos. Smith, of Sundury, O. : We claim the endless belts, D D, rakes, L, in combination with the rollers, x, revolving forks, Y P, for the purpose of raking and loading hay, as set forth.

BREECH-LOADING FIRE ARES-A, T. Watson, of Castle-ton, N. Y.: 1 claim the mechanical combination and ar-rangement of the cylinder, G, the bent lever, H, and the forked standard, j J, acted upon by the rost, J, and spiral pring, K, also the spring, i, by which J, being diawn back, the cartridge constructed and arranged as described, is released from the pressure of I, and the cylinder is made to pass over the next succeeding cartridge, and the pressure a

Polisuing Daguers whenever circumstances may nequire, Polisuing Daguers provide the provident of the polishing of Philadelphia, l'a.: I do not caim effecting a gyratory mo-tion of the pad for polishing the surfaces of daguerreotype plates, or other like surfaces, by means of machinery, as such has been so effected before for similar purposes. But I claim the shart, E, with its sims, f, cranks, G, the pieces, C and D, or their equivalents, and the eccentric, H, with its spur whicel, I, in combination with the unied spur wheels, M and N, and the spur wheel, K, when constructed and arranged substantially, and for the purposes as de-sciled.

SEED FLANTERS-B. M. Snell, of Hancock, Md. : I do not wish it to be considered that I claim novelty in the devices of my plow when c-usidered separately. But I claim the construction of a plow wherein a double share, D, is used to open the soil, in combination with a seeding tube, H, hopper, G, striker, a, wheel, K, operating

SEWING MACHINES-Geo. W. Stedman, of Vienna, N. J. : I claim feeding the cloth along by means of the needle acting as a lever against it over a fulcrum, t, the needle contier be-ing driven for the purpose with a crank motion or its equiv-alent, substantially as set forth. In connection with the above motion of the needle, I also claim regulating the length of stitch by the combined ac-tion of the slot, 1, of adjustable length, and the slight spring, 1, or its equivalent, for throwing the needle away from the fulcrum when disengaged from the cloth, substan-tially as described. I also claim the construction of the finger, M, with a thin pointed back, n, for entering the loop, with a wedge-shaped shoulder, n, for spreading the loop open to receive the needle in turn, and with a spring, p, for retarding the motion of the loop, an sanged and operating in combination with the needle, substantially in the manuer and for the purposes set forth. torth

forth. PRESS FOR MAKINE CYLINDRO-CONICAL HOLLOW PRO-JECTLIES BY PRESSURE—W. M. B. Hartley, of New York City: 1 do not claim the manner of operating the dis sec-tions. But I do claim the collar, R, in combination with the sec-tional parts of the die, constructed, arranged, and operating substantially as and for the purposes set forth. I also claim the arrangement relative to the punches, P P' of the die, A, with a norizonts motion of sufficient amp-tinde to admit of the successive action of the punches, sub-stantially as and for the purposes set forth. I further claim chapmeng the ball while inits die, and while held firmly at its base, by a panch, which, on the opening of the sections. will, by a subseduent or continuous mo-tion discharge the ball, cappedand ready for use. Arracenue, Aurgers 70 HANUES-C W. Cotton of Shell.

ATTACHING AUGERS TO HANDLES-C. W. Cotton, of Shel-burne Falls, Mass. : I claim attaching or securing augers to burne Falls, Mass. : I claim attaching or securing augers to handles by having a metallic tube, B, placed around the center of the handle, and having a transverse rectangular ed the smoke nuisance.



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