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### Geological Discoveries.

At a meeting of the London Geological Society, held in the 7th of last month, Prof. Owen, the eminent Zoologist, read a paper on the remains of a new species of mammal obtained from the Eocene tertiaries of the Isle of Wight.

The Professor founded his description of the animal chiefly on the jaw and teeth, which presented characters intermed ate between those of the hog and the sheep. The Professor remarked on the immense void which existed between the pachydermata of Cuvier, and the ruminantia of the same author. Amongst animals of nearly the same size, the pig may be taken as a type of the pachydermata, thick skinned animals, and the sheep of the ruminantia, or ruminant quadrupeds. Although both these orders are hoofed, yet there are many striking distinctions between them, and judging only from the living creation, nature seems to have jumped at once from the sheep with its four stomachs, and harmless grasseating teeth, to the pig with its omnicarnivorous habits and truly canine teeth. Many fossil forms which have been brought to light by Cuvier and others, from tertiary formations have supplied links which are wanting between these two classes of animals.

Professor Owen described this intermediate form under the name of Dochodon arspidatus. Several jaws of this quadruped had been found, one jaw being in the collection purchased from the Marchioness of Hastings, for the British Museum, and another having recently been discovered by Dr. Wright, of Cheltenham. The earlier specimens had caused the animal to be classed with the hog tribe, but the immature jaw discovered by Dr. Wright completed our knowledge of the dentition, and showed the animal to be intermediate between the pig and the sheep.

Hitherto no traces of a ruminant animal had been discovered in older strata than the Miocene, and Cuvier, in the Paris Basin, had brought to light no ruminant of a date so old as the Eocene or lower tertiary. Hence the interest of the present discovery, which affords ground for believing that animals closely allied to the ruminants were in existence in the lower tertiary period.

### Steel from Oxyd of Iron.

At a recent meeting of the Cleveland, (O.) Academy of Natural Sciences, Colonel Whit tlesy presented specimens of steel manufacd directly from pure iron oxyd, at the Sharon Iron Works, Mercer county, Penn.-This steel presented a finer fracture than that of blister steel. Col. W. stated that this article could be made at an equally low price with common wrought-iron, or nearly so.

### Cultivation of Chicory.

Great quantities of chicory root, ground and prepared for use, are now imported from Europe. All the Germans in our cities use t in their coffee, and, it is said, to improve is flavor, while it is, at least, as healtby, and is much cheaper. It can be cultivated in almost every State, and no doubt would be a profitable crop.

and figure 2 is a section of part of the ma- wherein are placed the dies or types of the chine, representing the shipper arm, L, and a characters desired. In rear of the cylinder, U, part of the carriage.

The hoops made in this machine are forme with a chamfer at each end. All kinds of hoops-broad, narrow, short, and long-can operator occasionally to revolve the same and also be made by it, and they can be formed printed on one side.

The machine consists of the following parts, indicated by letters of reference. A A is the carriage frame, which may be made of iron or wood. B B is the bolt carriage, and a a are ways on which the carriage B is placed, and moves freely back and forth. C is a circular saw on an arbor D, which runs in bearings on the saw frame, E E. F is a sliding frame on the saw frame, E; it slides back and forth thereon, and is kept in its place by brackets or studs, H H. G is an upright rotary planer, in frame F. I is a lever placed under the carriage, B, and pivoted near its center on the cross-piece J. K is an arm attached at one end to the lever, I, and passing through the frame, A, and is made fast to sliding frame F. On each end of the lever, I, a beveled or oblique projection is placed, seen at a' b. L (figure 2) is an arm attached to the innerside of carriage B. M is a cross-piece or headblock of wood, made fast to and across the carriage. N is a bar of wood placed on and lengthwise of the carriage, to which two transverse racks are attached at one side. O is a shaft, on which two pinions, e e, are keyed, and which gear into these racks. P is a lever or a hand wheel on the end of shaft O. Q is a rest placed in front and parallel with carriage B. This rest is hinged at the bottom, the carriage. R, h, g, i, and f, are pulleys,and gear wheels, with belts, for feeding up and running back the carriage, B. j is a rod on the side of frame A, with a handle, j', by which a driving belt, under the machine, is shifted, to give a forward or reverse motion to pulley R, to feed or run back the carriage, B. S is a small upright arbor between the planer, G, and saw, C. On this arbor several small saws are placed, about three inches in diameter, and adjusted at any distance apart that may be desired. This arbor is supported in

In the accompanying illustration, figure 1 | is a small upright roller, placed in rear of the ually inward, so as to cut the rear end of the is a perspective view of a machine for manu- saw, C. Close to this is placed a larger roller | bolt in taper form. As the cut strip passes facturing sawed hoops from bolts of wood; or cylinder, U, having in its surface a recess, the saw, C, it enters between the roller, T. and are placed three small rollers, for inking the dies or types, in the cylinder. On the top of these rollers is a small crank, t, to enable the spread the ink; or a motion for this purpose with characters, names, brands, and numbers may be given to them by a small band. V is a small upright rod, passing down through frame, E, to the upper end of which a socket, holding a pencil, is made fast. W is a small lever, placed snugly against the inside of frame A, and pivoted at or near its center. One end of this lever is bent at right angles, and passes through a slot in the frame A at m. On this end, so projecting, the pencil-rod, V, rests. X is an inclined plane, on lever W, and X' is a similar one on the under side of the carriage B. Y is a catch pivoted to frame, A, and pressed up by a spiral spring, m. z and z' indicate a small lever and rod attached to catch, Y. On the rod, z', is a dog, n, adjusted by a set screw.

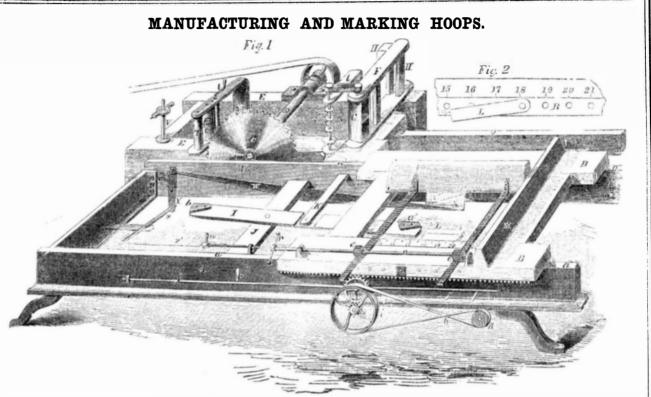
The operation is as follows :- The bolt from which the hoops are to be cut, is got out the proper thickness, and placed on the carriage, B-its rear end against the head-block, M, and in front of and against the bar, N. The rest, Q, being now turned upright, the operator moves the hand wheel, P, and by the action of the pinions, e e, on the racks, the bolt is moved snugly against rest Q. Feed motion being now given to the carriage, the bolt is moved towards planer G, and as the carriage is thus moved, the planer consequently makes a deep cut at its commencement ; the arm, L, then immediately strikes against the projection, a', and moves the lever, I, and-through to admit of its being turned down out of the the arm, K-the sliding frame, F, and the way, to facilitate the placing of the bolt on planer, G, are gradually thrown back a certain distance. This movement of the planer causes the inner end of the bolt to be cut of a taper form. The saw, C, now enters the bolt, and cuts a strip the necessary thickness therefrom; the planer. G, has now no lateral movement, but it rotates and planes the side or face of the bolt, which is, of course, the outer side of the strip when sawed off from the bolt. As the rear end of the bolt approaches the planer (and at the proper time) a pendant, on the front end piece of carriage brackets, l, which are bolted to frame E. T of the lever, I, and the planer is moved grad- letter.

the type cylinder, U. This cylinder, by the forward movement of the carriage, and at the proper time, is caused to turn, bringing the dies against the face of the hoop, and thus impressing thereon the characters desired. When the hoop has advanced the proper distance, the arm, L, according to the point at which it is set (fig. 2,) strikes the dog, n, on the rod, z', and throws back the catch, Y, when the end of lever W, with the pencil-rod, V, drops, whereby the pencil mark (which is requisite in bending the hoop to the size desired.) is made with the utmost exactness. The saw, C, finishes its cut, the hoop is removed, and the carriage, with the bolt, returns to its former position. As the carriage runs back, the type cylinder, U, is turned to its first position, bringing the dies against the inking rollers. At the same time the pencil rod is raised by the action of the carriage on the incline, on lever W, and held up by catch Y. When narrow hoops are wanted, such as barrel hoops, &c., the arbor. S, is used, and as the bolt passes the planer, G, these saws cut a trifle into the side or face of the bolt, and when the saw, C, completes its cut, as many hoops as the width of the bolt will allow, are finished at once. When wide hoops for cheese boxes, bushel and other measures, sugar boxes, &c., are wanted, the arbor, S, with its slitting saws, is removed. A scale of the different sizes of hoops made is placed on the carriage, as a guide in adjusting the arm, L; and thus the tapering and marking is insured at the proper time to form a hoop of the size corresponding with the number on the scale at which the arm is set. The saw, C, is driven by the belt, A', and the planer, G by a belt applied at the bottom or top, as may be most convenient. The little arbor, S, may be driven from the planer, G, as shown.

NUMBER 23.

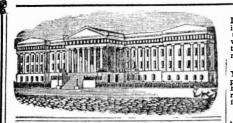
The machine is simple, and not liable to get out of order, and does its work in the most accurate and expeditious manner, and will work timber that cannot be used by the ordinary method. As these hoops are of equal thickness throughout, they are conse sequently of an uniform strength.

A patent was issued for this machine to C. H. Brown, of Forest Port, N. Y., on the 16th of December last, from whom more informa-B, strikes the projection, b, on the other end tion may be obtained by addressing him by



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# Scientific American.



[Reported officially for the Scientific American.] LIST OF PATENT CLAIMS Issued from the United States Patent Office FOR THE WEEK ENDING FEBRUARY 3, 1857.

SEWING MACHINES-Elia Alexander, of New York City: I claim combining the mechanism of the guiding and c niveying rollers, a and c, with the mechanism oper-ating a sewing mach.ne having an independent iced, in suce a manner that the s. id rollers shall guid a automati-cally the finished work away from the machine in a straight ine, by revolving in opposite directions with a speed regulated by that of the machine.

EXCAVATING AND DREDGING M (CHINES-Jonathan R. Andersen, of Chicago, I 1. : 1 caim the so arrang ng of the dipper with a traveling carrage, as that they may be automatically moved in and out on the arms, for the purpose of ensuring the filling of the bucket when the material to be excavated is hard, as set forth and ex-plained. anned. Islo claim, in combination with the lever, p, the slid-; piece, U, clutch bar, T, and pawl, r with their sev-ai appliancet, so that by a shing lever the attendant sentice control of the machine, as set forth. in; piece,

COUPLING FOR R. R. CARS-Edward H. Anderson <sup>6</sup> Mittord, Del.: 1 do not claim spring catches for coup

ling. Nor do I claim the principle of self-separation when th: cars get off the track is tt i claim the special mode set forth of effecting the self-coupling and self-uncoupling by the combined action of the foll-wing parts, to wit, catches a a, b it, b, with its runded end bolt, c, with its concave end, jointed arms, d, and spring catches or jaws, e e, all constructed and operating as set forth.

FILING SAWS-A M. Beardsley, of Constantine, lich. I claim the two files, 11 i, arranged as shown, nd atta-hed to the reciprocating bed plate, E, which works between guides on a movable or adjustable plate, B, the bod plate, B, being operated by the lever, F, rr 1's equivalent. End the plate, B, by the lever, J, substan-tially as shown for the purpose specified. [fwo files are employed in this machine, one for

sharpening the under, and the other-which is inclined upper sides of the saw teeth. The saw is sharpen \_th el by merely operating the bed to which the files are attached. Guides are employed to direct each file to operate correctly This improvement is simple and good. Both sides of the saw tooth are rapidly operated upon at once, and with great precision.]

SEED PLANTERS-Levi Beemer, of Libertyville, N. J. I claim a combination of triangular seed boxes loca-ted upon the sid: orthe drive wheel, at specified, with the measuring keys, E E. operated by the carm, J J to admit the seed into the depositing cups, G G G.

COUPLINGS FOR WAGON-Jacob Boyers, of Grand-Ville, Va. I claim in combination with the ordinary coupling pole, C, of a wagon the rad, bar, or pole, H, con-nected to the front axle, and passing through the bow or hounds, G, and through the rest axle. for the purpose of causing the rear wheels to track at ler the front one, and so that the two axles can be coupled shorter or longer, without in any way affecting the proper tracking of the wheels, as set forth.

LARD LAMPS-J. S. Brown, of Washington, D. C., as-signor to Joseph Kent, of Balumore, Md.; J claim the lossering, d. in combination with the brush of wires, for the purpose set forth.

Avvits-Otis Brigham and Seth E. Brigham, of Fitch-burg, Mass.: We claim combining with the anvil the secondary movable grooved horn and mechanism for confining the latter to the (ormer, the grouved horn be-ing for purpose as specified.

ing for purpose as specified. CLEANING COTTON-Francis A. Calvert, of Lowell, Mass., and Charles G. Sargent, of Westlord, Mass. : We claim, first, the described arrangement of the cylinders, D E and E, the guard, G, and the diaphragm. L, where-by the motes and dirt remyred by the guard, G, are thrown back upon the first cylinder, in the manner and for the purpose set forth. Second, the grating, P, beneath the brush, I, which takes the material from off the fine tooth cylinder when the brush is placed over the cylinder, E, whereby the fy is either again carded onto the cylinder. For is re-covered upon the surface of the per frated cylinder, fi, the dust all passing through this cylinder, in the manner substantially as set forth.

Substantially as set forth. WINDOW BLINDS-Alexander M. Cochran, of New York City: Iclaim, first, the fitting of the tenons in one side of the blind to oblique slotted mortises, b b, and se-curing them all in place by a long rod or wire, d, sub-stantially as and for the purposes described. Second, effecting the connection between the slats, D D, and rods, E E, by making the rods of metal tubing, with slits, s, providing ears, if, to enter the said slits, s s, and passing a wire, g, through the tubular rods and the ears, f', sudstantially as and for the purpose specified. Third, the confining of the slats in a closed or open con-olition by means of ball shaped bars, F F, applied and operating as described, in combination with notcnes, h i, in the backs of the rods, E E, as set forth. [The object of this invention is the construction of iron

[The object of this invention is the construction of iron blinds with movable slats, like those in common use,-Ingenious means are embraced in the patent for fitting and securing the slats in the frame for connecting the slats and rods, for locking them when closed, and securing them in an open position, also for putting them in and taking them out with facility for repairing This useful invention applied to houses, while it has the same advan tages as the common blinds, is superior to them, because these iron blinds are fire-proof, and have slats that can be easily repaired if injured.

SHAKER BARS-George V. Gardner, of Troy, N. Y. : I claim the shaker bar,  $E_{i}$  with the fulcrum,  $f_{i}$  or its equivalent, as described, for the purpose of revolving the grate without the usual slot in the stove, and confin-ing the ashes in the stove, as set for th.

Sowing GRAIN AND FERTLIZERS-J. C. Gasion, of Beading, O.: I claim the arrangement in machines for sowing grain and fertilizing materias, of a reciprocating feed bar, D, at the required distance from the bottom of the hopper, for equalizing the supply d grain or fertili-zing substance to the escape valves, c. and securing to sa'd bar, hooks or slides, by which the grain or compost is agitated and caused to escape, either in a continuous supply or at intervals, substantially as described.

Supply of a finite vals, substantially as described. SEED DRILLS—OliverC. Green, of Worcester, Ill.: I claim the arrangement of the occillating armed disks F, concave, h, and guide ways, i, in combination with the aperture, g, of the hopper, in the manner substantially as set forth.

as set forth. PUDDLING FURNACES—Jacob Green, of Philadelphia, Pa. 1 do not desire to confine myself to any particular length of furnace, or to the number of openings, a a a, as four or even five on each side might be employed. But I claim the constructing of pudding furnaces with any convenient number of openings or working holes on each side, and a fire place at each end, the bed of the urnace being common to both fires, and the whole being arranged and constructed substantially in the manner set forth and for the purpose specified.

FORGING GUN LOCK SPRINGS-George P. Foster, of Bristol, R. I. I claim operating the rolls by means of the cogged segment, D, wheel. (°, and spring, F, in the manner and for the purpo e substanially as set forth. th

Ser.

ADJUSTABLE SEATS FOR CARRIAGES—George and David Cook of New Haven, Conn. We claim construct-ing, attaching, and locating the seats so as to preserve the perfect symmetry of the carriage whether it be used with one or two seats, without any necessity of securing the movable seat, when the whole is constructed and ar-ranged and made to operate substantially as described.

CUTTING VENERS—Peter Cook, of Tonawanda, N. Y.: I claim the swinging box or head formed of the plates, i, said box or head working over concave beds,  $\beta$  is, and cutters, C C, when the above parts are ar-ranged substantially as shown, to allow the bolt, F, to feed uself to the cutters by its own gravity.

[In this machine for cutting veneers the bolt of wood to be cut is fed to the cutters by its own gravity on a swinging frame, thus saving a great deal of power in feeding the timber, while at the same time it cuts out the veneers or thin boards with great facility.]

Harkers of Harks-Homer Compton, of Wells' Corner, Pa.: I am aware that spring plates, catch plates, and bolts of various forms have been and are used on raircoad cars for coupling the cars together, and I therefore dis-tinctly disclaim such parts in themselves considered, or in combination with each other. Examples of such devices may be seen in the rejected applications for patents of B. Joslin, V. Mitchell, and J. McCallum

Applications for patents or D. outside McCallum. Neither do I claim the indiscriminate fastening togeth-er or coupling of otjects by means of spring bolts, spring the and catch plates.

er or coupling of oljects by means of spring bolt, spring plates, and catch plates. Neither do I claim the substitution of such devices for straps and buckles in harness is the combination with the hame of a spring bolt, a catch plate and a spring plate, a described, is, to the best of my knowledge and belief, a new combina-tion with a harness hame, A, of a spring bolt, h, a catch plate, e, and a spring plate, m, substantially as set forth. [This improvement affords greater facility for clamp

ing and unclamping hames on horse collars. A spring olt, catch, and a spring slide plate.are ingeniously s arranged as to effect the object stated.]

arranged as to enect the object stated.] SMITH'S FORGE-John W. Crannel, of Olivet, Mich.: I claim the use of two hollow sectional nozzle pieces, H H, moving at right angles in a two-way groove formed by the channelred this G G G fig. I in combination with the two-wayed slotted opening. K, in the hearth plate, fig.2, formed and bounded uy the stationary rims, J J, and the cham.ered corner block, L, whereby the mov-int nozzles can slide past each other and form a continu-ous joint in any position.

oui joint in any position. TENONING SPOKES-John J. Croy, of Caledonia, Mo. ; I do n t claim the use of a screw to hold the spoke again the inerior of a tube or other surface. Neither d) I claim broadly the use f a revolving cut-ter hoad to cut tenons upon spokes, the spoke being held stationa. y. Neither d) t claim any portion of my device, as de-scribed, which is seen in John McCune's patent of June 6, 13 7, or any part which exists in any other machine or instrum nt for cutting spokes. But I claim, first, the employment of a tube, A, for holding the spoke while the tenon is being cut. Second the combination of an adjustable clamp cutter-hoad, if K', all the parts being constructed, arranged and operating as set iorth. [In this machine the spoke to be tenoned is held in a

[In this machine the spoke to be tenoned is held in a tube, which affords a solid bed, whereby the spoke is held firm to the action of the revolving cutter, no matter how small its diameter or how hard may be the timber

A proper dish shape is given to the shoulder of the teno by the adjustable end-piece. The improvement is an excellent one indeed.]

SHERT BOSOM STUDS—John P. Derby, of Cavendish, Vt.: I do not claim the use of a single coil of wire with a single lock for the purpose of securing the stud to the bo-on as that is well known. I claim the side pieces, b and e, passing the one above and the other beneath the cross piece, d, forming a dou-ble coil and double lock operating in the manner and for the purpose substantially as set forth.

for the purpose substantially as set forth. CUTTING TENONS ON BLIND SLATS—Seth C. Ellis, of Albany, N, Y. . I claim the arrangement of the rotating disks, if it, with their alots, a a, disposed in reference to and in combination with the saws, for the purpose of reg-ulating the revolution of the slat so as to direct the saws in cutting perfectly cylindrical axis or tenons to it, sub-stantially as set forth. I further claim the feeding apparatus, to wit, the slid-ing box N, disks, M, with the wheel, L and R, lying within the jaws, J, and the lever, P, with the eccen tric on W, acting together and in combination with the disks, II H, and saws, substantially as set forth. The row Burgerser UR Astarce Watter Prov

disks, II H, and saws, substantially as set forth. TILTING BUCKETS IN RAISING WATER FROM WELLS — Daniel P. Farnham, of Milton, Wis. I do not claim atta.hing bucket to endless chains for raising water, for that is an old and well-known device. But I claim the isstening formed of the rods, e, attach-ed to the cross-pieces, d, of the links. C, and the loops, g, on the buckets, F, in combination with the pendent cr swinging rod, ii. placed within the framing or curb, A', the above parts being arranged as described and for the purpose set forth.

[By this arrangement of buckets on endless chains, in combination with the devices mentioned, the buckets are tilted so as to discharge their water in a superior manner to the Persian wheel, common chain pumps, and other hydraulic engines of the same class.]

HYDRANT -- Wm Fields and Solomon Gerhard, of Wil-mington, Del. : We claim, first, the combination of the lever, I., with the rods, R and r, operating the plungers, B and p, in the manner specified. We also claim the plunger valve. V, when arranged in relation to the bent pipe, P, and construct edin the man-ner de cribed, and when operated in connection with the plunger, B, and not otherwise, substantially as set forth.

Sowing SEED BROADCAST—George Hall, of Morgan-town, Va., I claim in a broadcast seed-sowing machine the cumbination of the hinged and a dijustable dash-board with the working fingers, n and exit openings, c, for the purpose of taking the grain from the hopper and scatter-ing it broadcast, substantially as set forth.

ing it broadcast, substantially as set forth. FORMING FELT HAT BATS-Washington G. Hagaman of Philadelphia, Pa.: I do not claim the removal of the bat from the surface on which it is formed before har-dening, such having been done by A. Rankin, as shown in his patent of October 3d, 1864. Nor do I claim the mere employment of a flat surface on which to form the bat, But I claim the combination of the flat rotary sieve, I, with the deflector, B, arranged and operating substantial-ly as and for the purposes set forth.

GAS GENERATING APPARATUS—James Hansor, of the Wandsworth Road, England. Patented in England, March 21, 1352 : I claim the pipes, I and J, and the dampers, L, as combined with the retorts, C and E, oper-ating in the manner substantially as described, for the purpose of readily accertaining and regulating the pro-gress of the operation of gas making, as set forth.

DRESSING AND POLISHING STONE-David Hinman, of Berea, O. : I claim the combination of the disks, A and A', attached to hollow revolving shafts, B and B', with the supporting and vibrating rods, P Q, when the same are constructed and arr\_nged as described, and for and A', attach with the supr the purpose set forth.

SHINGLE MACHINE — Wm. Huey, of Columbia, Pa., I claim the particular method of adjusting the knives within a cylindrical or other-shaped case, that they may be made to rise and fall according to the thickness of the shingle or board. And secondly, I claim attaching the sawing and plan ing machines in such a juxtaposition as to operate auto-

ing machines in such a juxtaposition as to operate au matically as described, in manner and for the purp set forth.

CORN PLANTERS-Samuel M. Perkins, of Fort Hill, III. I claim the seed chambers upon the shaft with radial depositing apparatus, in combination with the whee's and the mechanism by which said wheels are adjusted relative to the shaft, arranged and operating as set forth.

Faw BLOWER—Chester P. Marshull, of Worcester Co., Mass.: I claim the application of fixed partitions in the conducting air tubes of fan blowers in the manner and or the purpose described, or in any other way which hall be substantially the same.

shall be substantially the same. BoxEs FoR PISE-WORK WALLS-Otis and Wales Needham, of New Haven, Conn.: We claim, first, the construction of the box with the movable end plates fit-ting to grooves in the side plates, and with a roller at one end near the top, and another at the other end near the bottom, the one torun on the finished part of a course or work which is in progress, and the other on a finished course, or on the foundation of the wall, to guide the box in a horizontal line, while the plates keep it from devia-ting laterally from a straight line, substantially as speci-fied.

fied. Second, We claim the plate, m, applied and operating substantially as described, in combination with the other parts of the lox, to produce window caps, moldings, or other projections.

[Pise work consists of walls formed of stiff clay or a concrete composition, sammed down between parallel sided boxes of wood. The boxes hitherto used for this purpose have been rude affairs, and not calculated for neat work, or facility in executing it. This improvement in such boxes enables the work to be performed more expeditiously, and of a superior character, with a composi tion of lime and sand, for Luildings of a superior class.]

HOLDING AND DISPENSING SYRUPS FOR SODA FOUN. TAINS-James R. Nichols, of Haverhill, Mass. : I claim the descrited arrangement of a series of cans with their pipes and cocks, whereity they may be simultaneously charged with compressed air by a single pump, and any one of them may le isolated from the others, for the pur-pose of replenishing, as set forth.

COTTON SEED PLANTER-James T. Orr, of Crrville, Ala. : 1 claim combining an adjustable plate, F, with tho seed cy inder, D, in the manner and for the purposes set forth.

GRINDING FILE BLANKS-Robert G. Pine, of Newark, N. J. 1 claim, first, the reciprocating frame, E., attach-ed to the 'rame, A', is shown, and having springs, I, con-nected with it, when said 'rame is keed in connection with the grindstone, F', and patterns, j j, for the purpose specified. Second, I claim attaching the frame, A', to the levers, m, bars, I, and shaft, K, having the roller, L, upon it, said parts being arranged as shown or in an equivalent way. for the purpose set forth.

[By a peculiar self-adjusting arrangement of the frame that feeds the file blank, the latter is presented to the grindstone accurately, according as the diameter of the stone is reduced, and thus file blanks are always ground in proper form in this machine. This is a valuable and important improvement]

CULTIVATOR-Norman W. Pomeroy, of Meriden, Conn. 1 Iciaim the method of working the valve, c, by means of the spiratspill.g,r, and elastic disk or bottom. U when the whole is constructed, arranged, and made to operate substantially as described.

SEWING MACHINES-Sanuel F. Pratt, of Roxbury, Mass : I do not claim the particular motions of the feed bar, K, in vertical and horizontal directions. But I claim the combination with the arm, I, of the spring, f, the projections, i I, the bent lever, L, and its projection, K, or their equivalents the same being to produce the motions of the feed bar, in the manner as described.

described. 1 also claim moving the loop hook or looper, N, diagon-ally up to and away from the needle, substantially in the mauner as specified. And I also claim effecting the movements of the loop hook, N, at the proper times, substantially in the manner as described, that is to say, by means of the plate, u, at-tached to the arm, I, operating upon the arm, o2, of the looper.

looper.

LIFE PRESERVERS—Warren A. Simonds, of Boston Mass. : I claim a life-pre-erving float, composed of sepa rate and inde-je.et.et.is-sectional chambers or air vessels covered and surrounded upon all sides by exterior sec tional floats filled with cork or other solid buoyant ma terial, arranged in the manner substantially as set fortb.

terial, arranged in the manner substantially as set forth. LADIES' RIDING SADDLES-Robert Spencer, of New York, N. 1 do limit my claim of invention to such special modes of application, as other equivalent modes may be substituted. I claim placing the pommel or head, back of the front edge of the bars, and in a diagonal position substantially as described, whereby I am enabled to depress it to give ease of position to the rider, without interform with the trove's withers as described. I also claim connecting the near or short horn with the tree by a screw on the end fitted to a series of holes, so that is position to the arrangement of the stirrup leathor; substantially as described, in combination with what are known as the Mexican bars, ab, substantially as above described, whereby I am enabled to make a se-cure ladies' saddie, without the use of the points hereto-fore employed for embracing the sides of the hors es as set iorth. Jouring BORSE, & c. James Stimpson, of Baldwing.

JOINING BOXES, & C.—James Stimpson, of Baldwins ville, Mass. 1 claim the joining of boxes, drawers furni ture, & C., by means of rounds, the nons and mortises, and t half lap or secret joint as set forth and explained.

half lap or secret joint as set forth and explained. PUMPS-Ambrose Tower, of New York City-Patented in England July 23, 1356. I do not claim the raised or projective valve seat and ebb water as new, when the water and other fluids, substances, &c., are not discharged from the ebb water way, L, below the surface of the top of the valve seat, as it will be perceived that foreign or heavy substances will flow over the valve seat, and soon fill the ebb water way, and then come in contact with and choke the valve, therefore-What I claim is the raised or projective seat, K, and ebb water way, L, when the water, &c. is discharged rom the ebb water way below the surface of the top of the raised or projective seat, thereby allowing all foreign or heavy substances that flow over the seat to be instantly iorced out, consequently the valve at all times has iree play and cannot i ecome choked.

HANGING WINDOW SASHEr-Wm. Webster, of Mor-risania, N Y., Iclaim the constructing of window sashes with holes, c c, on their inner face, in connection with the holes and grooves, G G, in the manner described.

the holes and grooves, G G, in the manner described. COTTON Givs-Lewis S. Chichester of New York City Assignor to Henry G. Evans, of same place: I claim, first, the employment or use of the vibrating feeder plat.; U, having a movement towards and from the bite of the rollers, and provided with the curved ledge, b, at its upper end, the said ledge being serrated or provided with teeth, and placed at or near the bite of the rollers, substantially as described for the purpose set forth. Second, I claim the iteder plate, C, with ledge, b, at tached in combination with the plate or comb, c, the above parts 1 eing arranged and operating conjointly as shown for the purpose described.

[Whitney's cotton gin is not employed for ginning Sea sists of two small wooden rollers, placed in contact above one another, and revolved with equal velocity. The cottor i, fed in Letween them and drawn as it were from the seed The above process of ginning is very slow, as the rotton has to be fed in very small quantities, and very evenly to prevent an accumulation of seed near the bite of the rollers. This valuable improvement increases the ca pacity of the roller gin; by providing a vibrating feed plate, and a lateral reciprocating comb. the seed is not only prevented from accumulating near the bite of the rollers, but is fed in more uniformly, ginned more rapidly, and in a superior manner.]

SHINGLE MACHINE-Wm. A. Whiting, of St. Louis, Mo.: I claim giving an ela-tic bearing to its rest, c, or to the bearing boxes of the knife wheel, or to the equiva-lents thereoffor the purpose described.

STUMP EXTRACTOR-Jason S. Wood, of Washington township, N.J.: I claim the employment of the came, C(t), and D D, in comtination with the levers, F and G and the chains H and I, the whole being arranged sub-stantially in the manner and for the purpose specified.

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BRASE KETTLE MACHINE-Mary A Cannon, of War, ren. R. I., Admx. of John Cannon deceased, late of same place, Assignor to the New York and Brooklyn Brass Company of New York (Lity: 1 do not claim the spinning of vessels by hand pressure, when the spinning tool is both carried and pressed up against the metal by the workman, as this is the old plan, long known before any mechanism for carrying the tool was invented. I distinctly disclaim those parts in my machine which head's patent, or in any other machine for making Irass kettles.

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bras: on the slide lathe with patterns or forms, the tool was rigidly connected with the slide rest, and could not accommodate itself to inequalities in the hardness of the metal, or the least untruth in setting the forms. The results of this arrangement were, the frequent tearing of the sheets of metal, and the production of kettles thinner on one side than the other. This excellent improvement removes such defects, by giving to the operating to 1, an elastic action on the slide rest, whereby the operator can accommodate its motion and action, to lear with a suitable pressure on every part of the metal, and thus form brass kettles of a superior character.]

SEWING MACHINES-Joshua Gray, of Boston, Mass., Assignor to himself at d John Gauli, of same place : I claim the combination and arrangement of the plate, G, and alide, H, with their slots and plans, ocerating in the manner substantially as described, for the ; urpose of giv-iog the required motions to the hook as set forth.

BLAST FURNACE—Henry Weissenborn, of New York City. I claim the mechanical arrangement of feeder. B, in combination with a surrounding gas chamler D, with an open bottom placed alove the furnace throat, where-by the gas is prevented from escaping from the throat of the feeder, B, without 1 eing covered, and then forced into the gas chamber by the dense body of coal and ore always contained in the feeder, and therefore delivers a regular supply of gas which can be carried descei ding to any heating furnaces placed on the botom ground o' the blast furnace, with the same adva: tages as if appled on the top of it for the purpose and in the manier as specified.

BRICE MACHINES—Wm. Wood, of Hartford, Conn.: I laim constructing the front of the press box, c, with the ront of the grate, L, a tiached thereto, so that by means if slides S, and, wing front, J, a portion or all of the 110nt f both press, box and grate can be raised in the manner ud for the purpose set forth.

Alu for the purpose set form. WASHING MACHINES—Amos Jacobs, deceased, late of Ithaca, N. Y. I claim the combination of an oblique beater or dasher with a tub, constructed sulstantially as described in such a manner that the stroke of the dasher or beater causes the tub or vessel to revoive for the pur-poses of washing, cleaning, stamping and rinsing clothes.

ACORLERATING FIRE ARMS-AZOIS. Lyman. of New York City, Assignor to the Accelerating File Arms Com-pany of same place I claim the employment of the ac-celerators or additional charge chaubers in the manner and for the purpo e substantially as described. I also claim covering the muzz: I and exhausting the air through an appropriate aperure. whereby the atmos-pheric resistance is removed from the front of the pro-jectile while passing along the bore, as .et forth.

JOINER'S PLANE-J. F. Palmer, of Auburn, N. Y., Assignort, S. W. Palmer, of Detroit, Mich.: I claim the two plates, C D, and plane iron, E, arranged relatively with each other as shown, and used in connection with the screw rod, E, and rod, H, as described for the pur-pose set forth.

The method of setting the plane irons of common planes by wedges is very troublesome, and far from being accu-rate. In this improved plane, the planing iron is set by simply turning a screw. It can, therefore be adjusted with the utmost exactness and with facility. By the employment of a spring and plate combined with the plane iron, it (the iron) is kept up from the work while being drawn back, and its cutting edge thus prevented from being rounded and rendered dull.

CUT-OFF VALVES OF STEAM ENGINES—Geo. II. Rev. nolds.of Mediord, Mass., Assignor to himself and D. B. Hinckley, of Bangor, Me. 1 claim operating the cut-off valves, F F, in connection with an ordinary slide valve by the inclined sliding dogs, H H, or their equivalents, in the manner substantially as set forth.

PisroLa-Wm. S. Builer, of Rocky Hill, Conn. As-signor to Builer, Suyden & Co., of same place: I claim constructing the plistol I y casting the barrel, the frame or main part of the stock and guard all in one piece, when the whole is constructed, arranged, and made to operate substantially as described.

IMPROVED BRIDGE...Thomas W. H. Mosely, of Coving-ton, Ky: I claim, first, the compound arch constructed ubstantially as set forth. Second, the saddle pieces in combination with the stirrups and said compound arch. Third, The slidingsupension plate in combination with the chord. M. and radial supermision rods as set forth. Fourth, The corrugated shoes, k k, as set forth.

### RE-ISSUE.

RE-ISSUE. DRIVING BECIPROCATING SAWS-Isaac Brown, of Pal-timore, Md. I claim the mode described of applying the power of the engine to the s: w gate or frame without being permanently connected therewith, so that the pis-ton shall be in a great measure relieved from any lateral motion which the gate may have, which cause it to bird or cut in the cylinder substantially as described. I also claim driving one or more saws between two cylinders, as well as' driving one or more saws on each side of a single cylinder, and the self adjustable p ston rod or the self adjustable sildes which accomplish the same result, as are before described.

RAENS ATTACHMENT FOR REAPERS-Moses G Hub-bard, of Penn Yann, N. Y. I claim the comlination of the jointed rake arms. b and c, with the disk, C, by which the arm, B, is actuated, when the above parts are con-structed and arranged for joint operation, in the manner and for the purposes set forth.

A large steam frigate exploded recently in the harbor of Naples. The vessel went down almost immediately. Very few such explosions have occurred in naval history. This explosion was similar to that of the old frigate Fulton, which exploded at the Brooklyn Navy Yard in 1823, when all on board perished.

Burr stone has recently been discovered by Sir William Logan, the geologist, in Ottawa District, Canada, which is said to be equal to the French. Very doubtful if the quality will compare.

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