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THE

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Agents employed.

Propulsion of Ships and Aquatic Animals. In a paper recently read before the Society of Arts of London, by J. MacGregor, on the paddle wheel and screw propeller, it was observed that in the modes of propulsion employed by aquatic animals may be found almost every plan which has been used by man with machinery. Thus, water is ejected for propulsion by the cuttlefish and "paper nautilus ;" sails are used by the velella and water birds; punting and towing by whelks and some others; a folding paddle by the lobster; feathering paddles by ducks; and oblique surfaces by fish of all kinds. A screw-like appendage is found in the wings of an Australian fly, but it is supposed to be shaped thus only when dried after death. These are well known instances of similarity of natural and artificial means of propulsion; but the author of the above-named paper mentions a remarkable animal which propels itself by a rotary movement, acting on the water by means very similar to those of the paddle wheel and screw propeller combined. This is the infusorial insect " paramecium," which is of an irregular oval or egg-shaped form, with a sulcus or furrowed groove or depression running obliquely round its body. A wave-like protuberance passing along this sulcus (with or without cilia) causes the body to rotate on its longer axis, and thus propels it by the fore and aft stroke of the paddles which the cilia on its surface form, as well as by the screwlike progress induced by the spiral groove.

Method of Preparing Kid Leather.

Yelk of egg is largely used in the preparation of kid leather for gloves in France and on the continent of Europe, in order to giveit the requisite softness and elasticity. The treatment of the skins with yelk of egg, which is called by the French glovemakers nourriture, is daily becoming more costly, in consequence of the large consumption and increased price of the material used. It has recently been proposed to substitute for the yelk of egg the brains of certain animals, which in chemical nature closely resemble the yelk of egg. For this purpose the brain is mixed with hot water, passed through a sieve, and then made into dough with flour and alum, and used in the same manner as yelk of egg. The inventor of this substitute states that the

NEW YORK, JUNE 5, 1858.

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BARTHOLOMEW'S IMPROVED SAWING MACHINE. Fig. 2 Fig. 1

tholomew, of Lancaster, Pa.-has produced a | tached to A'. To the guides, a, there are in . compact arrangement of parts that will enable any one to have a good sawing machine in their workshop, not only at a low price, but also one which requires but little power, as he makes them from small enough to be operated by hand, up to any size required.

That it is more advisable to cut with a saw which has a regular and equable motion must be apparent to every one; and this machine gives this advantage without much more labor than if a hand-saw was used ; besides, it will cut stuff much thinner than could be | is being sawed.

The inventor of this machine-D. B. Bar- | attached to the frame, A, and guides, b, atclined coverers, that prevent the sawdust choking the guides, and throw it on each side, In the guide, b, there slides a piece, H, on the lower end of which is a roller, and from the upper end a screw, d, projects, to which a weight can be attached. There is also another piece, H', on the other side of the saw, provided with a screw, d', also for carrying a weight; these are kept up by pins, c and c', which being withdrawn, the bars press upon the stuff, and hold it down on the feed rollers while it The feeding apparatus is operated by means of a cone pulley, I, on the shaft of B, and by means of the belt J, cone pulley K, belt K', pulley L, and belt M, the feed roller, N, is moved. This feed roller is provided with teeth, and as the machine is represented in Fig. 1, it is suitable for sawing stuff of general thickness. O, O, O, are rollers on which the stuff runs, and the bar resting in the ends P, P, is a gage bar that can be fixed to any gage by the set screws, e. For sawing thin stuff, the feed roller N, is removed and also the guide bar, and the frame, S R, is placed on in front of the saw instead. In this frame the stuff to be sawed is placed between the feed rollers,

g, which have a positive motion given them from the belt M, by gearing. The toothed rollers g, are pressed up to the stuff by the handles and gearing h, and they are mounted in pieces, i, which slide on the cross-pieces, j, and j', of the frame S. The other rollers. g_{j} , which press against the other side of the stuff are kept against it by springs, k, which are kept in the proper state of tension by the screw shafts, l, rotated by the crank handle, m.

This machine was patented by the inventor December 29, 1857, and any further information can be obtained by addressing him as above.

The novelty is chiefly in the feed rollers, for in other sawing machines the feed has been irregular and unsteady, but in this form of the feed apparatus, receiving positive motion from the same shaft as the saw, both are equally steady and reliable.

Culture of Fish.

Some very excellent information on the above subject, by Robert L. Pell, President of the American Institute, has been published in the New York Evening Post for the benefit of farmers. The following are a few extracts :-

Fish eggs may be transported to great distances, without fear of failure, particularly the salmon and brook trout, which require from sixty to ninety days to mature. When two black specks are seen through the membraneous cuticle that covers the egg, they may be packed for exportation. The best plan is to place them between wet woolen cloths, about fourteen inches square, and pack in alternate layers in boxes, perforated at the top and bottom, so that the water used to moisten them at stated periods, may pass off, after having saturated them sufficiently.

If intended to be sent to a very great distance, you may place a layer of coarse sand, partially wet, in the bottom of a box four inches in depth; on this lay the prepared eggs separately, and cover them with an inch of sand-then eggs and sand alternately until the box is full; before the cover is screwed on, place the whole for two hours in water and ship it.

I once transported twelve hundred trout, of all sizes, to one of my ponds with perfect safety, from a distant brook, without changing the water, making four journeys, thus :-A large tierce was put upon a spring cart, and filled with pure spring water, into which an abundance of ice was placed. As the trout were caught by treading the brook, and thus driving them into a net, they were imprisoned in the tierce without handling, and arrived at the pond in safety; without ice, they would have perished in half an hour.

You may carry young salmon or trout in glass jars by railroad any distance without changing the water, by placing a few aquatic plants in with them.

I am convinced that with judicious care, and ponds suited to the purpose, a branch of industry might be formed that would increase the wealth of the party attending to it unparalleled by any other business. Let me, then, recommend all gentlemen living near the coast on Long Island and in New Jersey, wherever facilities offer, to make salt water ponds, by calling to their aid a portion of the sea, which may be carried inland by means of a short canal, and therein place fish to fat, besides breeding oysters.

quality of inferior skins may be so much improved by this treatment as to be fit for making gloves.

The Indians of our forests employ this very agent (brains of animals) for preparing their skins for mocassins, &c. They employ the brains of deer and buffalo, mixed with a weak lye of wood ashes, and after this they smoke the skins; the pyroligneous acid of the wood in the smoke accomplishes the same object as the alum used by the French skin dressers. Indian prepared skins stand the action of water in a superior manner to French kid. Furs dressed in the same manner resist the attacks of insects.

done by a hand-saw, and of greater thickness, that is, with the same precision.

Our engraving is a perspective view of one of these machines, Fig. 2 being an additional portion.

A is a framing of wood, well secured together, and having a supplementary framing, A', rising from it by two uprights. B' is a crank, by which the band wheel, B, is rotated; and C is a belt passing around it, and communicating motion to the pulley, D, on the shaft of a fly wheel, E. To this fly wheel, E, there is attached a pitman, F, that gives a vertical reciprocating motion to the saw, G. The saw, G, moves up and down in guides, a.

It is possible to stock every stream in the state of New York with all the desirable varieties of fish in.a single season, and all the waters in the United States in a single year.



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Issued from the United States Patent Office FOR THE WEEK ENDING MAY 25, 1858.

[Reported officially for the Scientific American.]

VALVE COCK-Seth Adams, of Boston, Mass. : I do not claim any of the stop cocks to which I have had occasion to refer in the explanation of the difference between them and **my improved disk** valve cock. But I claim my **improved disk** valve cock, made sub-stantially as described, viz, with one coupling pipe, a valve sead; disk valve, and valve chamber, arranged and applied together essentially as specified, so that when the valve may be raised above the bore of the coupling pipe, and a column of fluid may be passing through the said pipe, such column shall flow through the pipe and valve chamber, in a line with the axis of the pipe, or in a straight line, and enterthe valve cham-ber at oneside, and pass out of its bottom, or enter at its bottom and pass out of its bottom, or enter at to, or greater than, that of the bore of the coupling pipe.

BRECOLLOADING RIFLE-C. W. Alexander, of Moore-field, Va. : I claim the replaceable rifled cylinder, with its dovetail for cap, and notch for holding it in its place, in combination with the revolving chamber that bears it, and holds it to its place.

FUENAOR GRATES—A. J. Allen and W. S. Hudson, of Paterson, N. J.: We claim the combination together of the vertically moving furnace bars, C, furnished with projections, I, when arranged and operating substan-tially as shown and described.

[A notice of this invention will be found on another

page. DRIVING WHEELS FOR PORTABLE STRAM ENGINES, AGRICULTURAL IMPLEMENTS, &c.—George W. Barnett, of Springfield, Ohio: I claim providing a wheel with one or more series of radial elastic feet, in the manner and for the purposes substantially as set forth.

STEAM OFLEEG-George W. Barnett, of Springfield, Ohio: I claim, in combination with a furnace arranged centrally within the boller, the smoke flues and ex-haust pipes, when so arranged that the smoke and waste heat of the furnace, as also the exhaust steam, shall be conducted together downward through the water in the boller in the same pipes, for the purposes set forth.

COMPOSITION FOR VARISHING LEATHER-O. S. Boy-don and M. C. Fredericks, of Newark, N. J.: We claim the employment in the compounds used in the mann-facture of glazed, japanned, or painted leather, cloth, silk, and paper—either wholly or in part as a subsitute for camphene or spirits of turpentine—of a paste made of the glutinous properties of flax seed, substantially as and for the purposes set forth.

[A notice of this improvement will be found in another column.]

SOUNDING APPARATUS-Richard F. Bridewell, of St. Louis, Mo. : I do not claim, broadly, the application of a lever to the bow of a vessel to indicate the depth of water beneath the bottom. But I claim the use of a lever applied to the bow of a vessel, so constructed, combined, or arranged as to vi-brate in either direction, substatially in the manner described, for the purpose specified.

described, for the purpose specified. MAGHINE FOR HOISTING LOZ-William G. Brower, of Stoutsburgh, N. Y.: I claim the receptacle or box, D, connected with the drum or windlass, H, by the chain or rope, G, the drum or windlass being fitted loosely on the driving shaft, I, and connveted with and detached from it at the proper time by means of the clutch, J, actuated through the medium of the sliding bars, K N, spring, L, and lever cate es, O, O, the whole being ar-ranged substantially as shown, so that the several parts will operate automatically by a continuous motion of the driving shaft and for the purpose set forth.

LATHER-Jared T. Bunce, of East Haddam, Conn. : I do not elaim the screw, F, and a nut, E, nor the pinion g, and r k, i, for moving or feeding the slide rest, for these are well-known devices, and in common use for moh numer.

Biele at we were a work of the state of two parts, But I claim constructing the slide rest of two parts, C D, arranged as shown, so that the part, C, may have a movementindependant of the other, in combination with the nut, E, formed of the parts, I &, operated as shown, and used in connection with the worm wheel, s, which is actuated simultaneously with the parts j k, of the nut, substantially as described.

This invention consists in having the slide rest formed of two parts, so connected that one part is allowed a movement independent of the other, and the whole so arranged that the tool may be easily adjusted to its work, the nut readily thrown in and out of gear with the driving screw; and the wear of the seat is compensated for, so as to ensure the perfect operation of the device.]

VAPOR LAMP BUENERS-Daniel H. Carpenter. of New York City : I claim the device set forth of regulating the quantity of air to be mixed with hydro-carbon va-por, consisting of the screw stop placed in the tube at such distance below the exit aperture as shall leave the requisite space for the mixing of the gasesbefore reach-ing said aperture. I also claim the described improvement in the con-struction of the valve for the vapor passage, whereby the said passage is kept free at all times, without in-creasing the size thereof, substantially as set forth.

HARROWS-Vasco M. Chafet, of Grayville, III.: I claim the combination of the side pieces, D D', cross bar, C, or their equivalents, with the rotary harrowing wheels, the parts being so arranged in connection with each other, substantially as described, to produce the result stated.

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FLOURING MILLS-Edwin Clark, of Lancaster, Pa. Ante-dated February 2, 1858 : I am aware a series of valves and a circular division has been used in bolting machines ; these I do not claim. But I claim the valve orseries of valves, b, with their perforations, **c, in combination** with the apertures, **d** e, in the bolting **chamber**, so as to make said valves com-mon to the three different transits of the ground ma-terial, substantially as described. I also claim in combination with the circular division, **r**, the inclined Llanes, **i**, for properly conducting con-ducting that portion of the material that falls upon the space between them, into its proper channel, as set forth.

MACHINE FOR GENDING SAWE-William Clemson, of East Wohurn, Mass. : I claim the employment of a re-volving friction clamp, applied to the saw in the man-ner substantially as described, to receive rotary motion from the saw, and to control the revolution of the saw by the momentum it acquires by such rotary motion, as fully explained.

[See notice of this improvement on another page.]

LUBBIOATING CAE AXLES-John W. Cochran, of New York City: I claim the arrangement of the rollers up-on the coil, e, said coil having within it a shaft or rod of metal or wood with the rods, d, attached to studs, e, in their relation to each other and to the box and axle, as and for the purposes set forth.

VALVE PROFELIES—AATON Colton, of Le Roy, N. Y. : I claim the connection of the paddles with the sliding frames, C.C., and the flat plates, E, in combination with the stops, i, constructed and operated substantially as described.

This invention relates to paddles placed in horizontally sliding frames, and it consists in attaching the same by means of pivots between their centers and their upper edges, to these frames; the upper edges being guides by loops, which are attached to horizontal plates that are placed on the top of the sliding frame in such a manner that they assume a sliding motion, independent from the motion of the frames, whereby the pad-dles are inclined either one way or the other; and it further consists in a peculiar arrangement of stops, so onstructed that by placing the same either on one side of the paddles or on the other, the latter are made to propel the vessel forward or backwards, and that by releasing the stops altogether, the paddles move both ways with the sliding frames, and have no propelling effect.1

BURGLAR'S ALARM LOGER-Addison Corey, of Cass-town, Ohio: I claim the application to door locks of the insulated knob, these extra bolts, levers, and springs in this arrangement with any lock, and these several galvanic attachments in combination with the lock, as described, or any others substantially the same, and which will produce the intended effect.

and which will produce the intended emet. HARVESTERS-J. H. Conklin, of Rockford, Ill.: H claim, first, The vibrating divider, G. in combination with the cutting apparatus, substantially as described, whereby the grain is gathered into the cutters, in order that the parts of the machine following after may per-fectly clear the standing grain, as described. Second, The curved or turned up and slotted ends of the finger bar, e, as set forth, in combination with a vi-brating lever, S, as and for the purpose specified.

CARPET FASTENEE-Warren Filkins, of Lancaster, N.Y.: I claim the arrangement of the horizontal swinging slotted cap, a, with the plate, e, and the spur, b, in the manner specified, and for the purpose set forth

A, in the manner specified, and for the purpose set forth. WATEE WINERS-John Custer, of Finley, Ohio: 1 do not claim, broadity, so forming the buckets of hori-zontal water wheels that the percussive force of the water, as well as that caused by gravity, are obtained, for buckets have been devised and arranged in various ways to accomplish this purpose. But I claim, first, Placing the plate, loosely on the shaft, B, and rendering the same adjustable thereon by means of set screws, b, or their equivalents, in connec-tion with the adjustable mouth, F, in the sluice, D, the parts being arranged substantially as shown and de-scribed, for the purpose set forth. Second, The buckets, C, constructed of the form shown and described, so that the percussive force of the water is obtained, and also the force produced by its weight, as it passes from the buckets, and the water at the same time allowed to pass in a very direct and un-interrupted manner through the buckets, os as not to occasion much loss of power by friction.

[The wheel and shute of this wheel are arranged in such a manner that the wheel is capable of being raised and lowered as circumstances may require, and the wa-

ter properly directed into the buckets at any point or portion of the wheel within the range of its adjustment. The buckets are constructed so that a large percentage of power is obtained, and the wheel is rendered simple

WIND WHEELS-William H. Derrick, of Stockton, Cal. : I claim the movable or traversing vane, G, with weight, H, attached in combination with the perma-nent or stationary vane, F, arranged as shown, or in an equivalent way to operate as and for the purpose set forth. and economical.]

[The object of this invention is to render the wind wheel, by a very simple means, self-regulating and self-adjusting, so that the wheel will rotate with equal, or nearly equal speed, during variable degrees of velocity of the wind, or made to veer in accordance with it.]

LEVELING DEVICE ATTACHED TO HAND SAWS-Henry Disston and Thomas L. Morss, of Philadelphia, Pa.: We claim placing the two spirit tubes, or levels, a a, in thehandle, B, of the saw, relatively with each other, and the back edge, c, of the saw, substantially as and for the purpose set forth. [On one side of the handle of a saw two spirit levels

are placed at right angles to each other, and in such a position relatively with the back of the saw, that the same may be used as a plumb and level indicator as well as a saw, and used in eithercapacity equally as

well as separate tools for the respective purposes]

GANG PLOWS—Jesse Frye, of Mendota, Ill. Ante-dated March 18, 1858: I claim the attachment of the tonguesto the forward and rearward plow-stocks, and the connections between the various plow-stocks, so that when the team is turned, the plow shall be turned so as to point towards a common center, substantially in the manner and for the purpose described. I also claim the connection of the forward furrow wheel with the tongue by means of the curved slotted arm, R, and bolt, i, in combination with the cranks, and connecting rods between the wheel shafts, so that when the team is turned, the forward wheels shall be turned in the same direction, and the rear furrow wheel shall be mancer and for the purpose set forth. I also claim hanging the hinged coulter, t, to the rear of the front furrow wheel by means of a chain, which, when the team is turned will raiss said coultor out of the furrow, substantially in the manner and for the purpose set forth.

APPARATUS FOR CATCHING FISH-Jacob Garl, of Suffield, Ohio: I claim the sliding trigger, E, the notch, B, key, F, nut, g, as applied to a machine for eatching fish, and described in my specification for that purpose.

MAGEINE FOR TURNING IRREGULAR FORMS-Newtor J. Glover, of Waveland, Ind. : I claim two traversing and vibrating cutters arranged to work on the optosite sidee of the piece of wood turned in the way and man ner described.

ner described. I claim arranging the nuts or racks of teeth (upon which the screw, E, acts to traverse the cutters) upon the cutter bars in such a way and manner that when the cutters are brought into action, the racks will be brought to the screw so as to traverse the cutters, and when the cutters are thrown out of action the racks which traverse them are released from the screw, as described.

CUTTER HEAD AND TABLE REST FOR CUTTING IR-REGULAR FORMS-J. P. Grosvenor, of Lowell, Mass. : I claim, first, The rest, H, in combination with a cut-ter head, operating in the manner set forth for the purpose specified. Second, I claim securing the cutters to the head by means of grooves in the collars, as set forth, when the cutters are set in planes forming angles with each other as described.

cutters are set as described,

CHEEKE PRESES-Jacob Hibbard, of Weathersfield, N. Y.: I am aware that progressive power presses have been previously used for compressing hay, cotton and other substances, and I do not claim therefore, broad-ly, such operation. But I claim the combination, as described and shown of the levers, I G, connecting rods, F H, weight, L, and follower, D, for the purpose set forth.

[This invention consists in operating the follower of the press by a system of levers, and a weight arranged as shown, whereby a progressive power is obtained, and the cheese or curd so acted upon or subjected to such a pressure that all the whey and uscless sub stances will be expelled or expressed from it, and all the cream or oily and essential substances retained.]

MANUFACTURE OF DESTRIN AND SUGAR-T. A. Hoff-mann, of Beardstown, Ill. : I disclaim the separate ac-tion of steam and acids for converting starch, corn, or other grain into destrin, or sugar, and alcohol there-from by the usual boiling point of one atmospherical pressure

The pressure. But I claim the combination of steam and acids for converting starch, corn, or other cereals into dextrin gum, or sugar, when said grain is subjected to the action of diluted acids, and the temperature of the mass is elevated to 225° or 300° Fah.

THERMOSTAT-Simeon Holton, Jr., of Middlebury, Vt.: I claim no part of the instrument, but the means of adjusting the movement of the pointer relatively to the expension and contraction of the compound bar. But I claim the slotted plates, I and J, carrying the pin, K, and the notch in which it works applied to the compound bar, and the lever, G, substantially as de-scribed, to vary the effective length of one arm of said lever, and yet preserve its proper relation to the com-pound bar, and operating as set forth. [So a description in another Dervice of this neuron 1

[See a description in another Portion of this paper.]

OWNERS REGISTER. R. House, of Binghampton, N. Y. I claim the combination of a step protected substantially as described resting on a yielding support, such a spring or its equivalent with recording mechan-ism to be operated by the step, substantially as and for the purpose described.

WIND WHERE A. I. B. Johnson, of San Francisco. Cal.: I do not claim operating the adjustable sails, i, by means of the sliding head or plate. I, actuated by a governor through the medium of the levers, as shown, for this has been previously used. Nor do I claim the manner of attaching the rotating plate. C, to the framing, A, for this has also been pre-viously done. But I claim constructing the wind wheel, G, with sta-tionary and adjustable sails, h, substantially as and for the purpose as set forth.

[This invention consists in a peculiar means employed for giving a uniform speed to the wheel, during variable degrees of velocity of the wind, and also in a peculiar means employed for stripping the wheel when desired.

APPARATUS FOR SEPARATING THE COMBUSTIBLE FROM APPARATCS FOR SEPARATING THE COMBUSTICLE FROM THE INCOMBUSTIELE GASES OR FRODUCTS OF COMBUSTION IN FORMACE, &c. --Wm, D. JORE, of Hagaman's Mila, N. Y. : I do not claim the returning of the combustible portion of the volatile or gaseous products of combus-tion to the fire. Nor do I claim, broadly, the separation of the com-bustible from the incombustible products by the diffe-rence in their specific gravity. But I claim, the box, A, with its inlet, a separating diaphragm, b, chambers, B, and C, pipe or passage, f, and two fan blowers, D and F, arranged in the manner substantially as described and operating as set forth. [See description of this invention on another nase 1]

[See description of this invention on another page.]

Ison GATE on FEROR POST-F. E. Alex. and Edwin King, of Cherry Valley, Ohio : We claim a fence post composed of the parts, G and K, provided with toothed or serrated edges, a K, arms, B, and keys, C, and in combination therewith the wings, i, and stud, o, when constructed and arranged substantially in the manner and for the purpose specified. We also claim the manner of securing the gate hinges, D, by means of the lugs, cc and notches, a s, the same to be held in place by the keys, C, as described.

PERPARING PAPER PULP FROM REEDS-Henry Lowe of Baltimore, Md. : I claim the described process o making paper pulp from reeds by first disintegrating the reeds by boiling in a solution of caustic soda, ac-companied by agitation, and then reducing them di-rectly to pulp without reducing to half stuff by the ma-chine technically called the old rag engine.

SEEDING MACHINES-Joseph McCammon, of Dayton, Ohio: I do not claim separately the adjustable slides, F G H, having apertures made through them and at-tached to the underside of the hopper, for the purpose of varying the size of the discharge apertures for they have been proviously used. But I claim the blades, b, attached to the rotating shaft, D, which is placed within the hopper or seed box, A, and **arranged substantially** as set forth, in combina-tion with the adjustable slides, F G H, and concave bottom, E, the whole being arranged to operate as and for the purpose set forth.

[A peculiar means is employed for distributing the eed in this invention, whereby the seed is prevented from "arching" in the hopper or seed box, and preented in a proper manner to the discharge apertures, the size of which may be graduated so as to sow a greater or less quantity of seed in a given area or space.]

SEEDING MACHINES-G. M. L. McMillen, of Dayton, Ohio: I claim the omployment or use of the shaker, G, placed between the rotating flanches, B E, and operated by the curved rod, F, and cam. C, the sliding plates. J M, gage, K, and cylinders, D D, the whole being com-bined and arranged to operate as and for the purpose set forth.

This invention consists in the employment of regulating slides, a gage, and a shaker, arranged and operated so that the discharge of the seed may be regulated as desired, and the device effectually prevented from being choked or clogged,]

For CLEANEE-Allan McKeachnic, of New York Growt CLEANEE-Allan McKeachnic, of New York City: I am aware that brushes have been previously combined with scrapers for the purpose of cleaning the feet, but so far as I am aware stationery brushes have been only used and arranged in a very inefficient man-ner. I therefore do not claim, broadly, a scraper com-bined with brushes irrespective of the construction and arrangement shown and described. But I claim the scraper, B, in combination with the rotary brushes, D, and classic rotary brushes, E E, with or withovithe cleaners, h ft, the above parts being placed within a suitable shell or basin, A, and arranged as and for the purpose set forth.

[By means of a scraper, rotary brushes and brush cleaners, placed in a proper frame or basin, a very con-venient device is obtained to scrape and brush the shoes or boots quite clean before entering a house.]

COEN HUSERERS-B. B. Meacham, of Ridlyville, Fla. : I claim the wheel, E. grooved circumferentially and provided with the knife or cutter, g. forked plate, h. and oblique partition or ledge, c. and arranged rela-tively with the spouta, C G, so as to operate as and for the purpose set forth.

[In this invention a cutting device is attached wheel which is placed below a trough or spout, the cutting device and wheel being so constructed that as the ears of corn are fed down to it, the butts will be cut off from the ears at their junction with them and the husks stripped off, and the husked ear will be discharged by another spout.]

STEAW CUTTEES-O. Moses, of Malone, N. X. : I am aware that a toothed vibrating feeding roller has been used in straw cutters in conjunction with a rigid clean-ing comb, and therefore I claim the arrangement of the bridle pieces or connecting plates, o e, attached to cleaning comb, d, with driving shaft, a, and journals, c c, of feeding roller, F, the whole being constructed for operation conjointly with feed-box, A, rest l, shaft, b, disk, T, and knives, l, in the manner and for the purposes set forth,

buryoes set forth, BED BOTTOM-J. M. Noble, of Delhi, Iowa: I am aware that pulleys have been placed on pins attached to the rails of bedsteads to serve merely as friction rol-lers or pulleys to ease and facilitate the adjusting of sacking bottoms to bedsteads, but I am not aware that rollers have been attached to bedstead rails as shown, and a rope passed around said pulleys as described, so as to form a flexible and yielding bed bottom. I de not claim broadly, therefore, the employment or use of friction rollers. But I cl im the pulleys, B, attached to two opposite sides or ends of the bedstead by cords, straps, or equi-valent means, so asto admit of the free turning of the pulleys and the twisting of the same in planes at right the rope, which is strained around the pulleys, B, a las claim, in combination with the pulleys, B, and rope, C, the elastic bands, e, for the purpose specified. [A series of pulleys are attached to the head and foot

[A series of pulleys are attached to the head and foot rails of the bedstead by means of straps or other flexible material, and a rope passes through a pulley on the head rail, and then around one on the foot rail from side to side of the bed, so that the rope forms a flexible but secure bottom. The parallel lines of rope are connected by elastic bands, and by this means a very cheap and comfortable bed bottom is obtained.]

JOURNAL BOXME-J. A. Norris, of Philadelphia, Pa.: I claim, first, The combination of the glanda, D.D., &c., with a box, A, having stuffing boxes formed in each end, substantially as and for the purposes described. Second, Arranging a packing, O, between the ad-jacent sides of the box, as described, whereby the en-trance of any dust between said sides is rendered im-possible.

CLOTHES' PIN-Dexter Pierce, of Sunapee, N. H. : I claim as a new article of manufacture, to wit, a clothes' pin, all the parts of which are constructed substantially as set forth.

WASHING MACHINE-T. B. Pratt and F. Tyler, of Cleveland, Ohio: We do not claim the parts named as new, separately considered. * But we claim the futted brake, F, when attached to yielding bearings, c c, parallel with futted roller, E, in combination with the united open flapped and endless aprons, L K, and when arranged and operating in the manner and for the purpose set forth.

-Charles I. Clarke, of Rochester, N. Y. : I do not claim to have invented the employment of a twisted cord operating on the principle described, to indicate the hysrometric condition of the atmosphere. But I claim the combination of the slotted weight, D, with the shaft, E, as shown and described, whereby shaft E is actuated by the horizontal rotation of weight D, without obstructing the vertical movement of the latter.

[A notice of this invention will be found in another column.]

FLORENG MILLS-James M. Clark, of Lancaster, Pa. : First, I claim the arrangement of the apertures, T and i, in the conveyor case, M, with the slide valve, O, constructed and operated as set forth. Becond, I claim the combination of the movable or stationary conveyor with, and formed on the shaft of, the bolting reel, for the purpose of conveying the ma-terial into the olt e any required distance, to effect the object fully specified.

riks.

REDIFECOATING PADDLE—Peter C. Clark, of Reading, Pa. : I claim the arrangement of the lever, e, having an adjustable paddle, with the radius bar, d, and crank arm, b, in their relation to each other and to the crank shaft, as and for the purpose set forth.

WINDOW SPRING-Edward Doen, of New Britain, Conn.: I do not claim any of the parts described, separately considered. But I claim the combination of the independent ob-tuse-angled lever and direct-acting spring bolt, ar-ranged for action together relatively to each other and the face plate of the casting, which carries both, and for connection with the window casing as a fastener to the sash, as set forth.

Bash, as set forth. RAILEOAD CAE BRAKME-C. H. Eisenbrandt, of Bal-timore, Md.: Being well aware that rubber devices and friction rollers have been applied to the partial surface of arkles, I do not claim such devices. But I claim the manner or mode of direct application to the axles of the wheels, of the lever, and screw, L m m d2 b9, with the clasping boxes, f f, griping collars, y z, and the pivot and socket axles, g h, the pendant bearings, c c c, with the box seats, e e e, the connecting yoke eye rods, c2 d3 o o o, the ear guides, X X, the whole arranged, combined and operated with the other devices described, and substantially in the manner set forth.

KNIFE POLISHEE-Horace T. Field, of New Baintree, Mass. : I claim the combination of the annular buffers with the disks, when arranged on the adjacent faces of both disks, as described, for the purpose set forth. Ma

PRODUCTION OF ELECTROTYPE PLATES—S. P. Knight, of New York City: I do not el im the deposit of a thin metallic coat or film upon the molds previous to im-mersing them in the battery. But what I claim is the treatment of the plumbago coated molds with asolution of the sulphate of copper and the dust of iron, by which a metallic film is pro-duced as described.

MARINE ALARM AND FOG SIGNAL-Leon Lewenberg, of New York City : I do not claim a spring or springe acted on by a ratchet wheel for producing sound, as this has before been made use of. But I claim the hollow cylinder or drum, f, open at the ends and fitted with the ribs or plates, I, when ar-ranged to act on and within the circular ranges of me-tallic springs, b, attached to the rings, g, for the pur-poses and as specified.

PROTEACTOR-Josiah Lyman, of Lenox, Mass.: I claim the arrangement of the several verniers, **Hmbs, scales** and rule in one instrument in the manner **described** for the purposes set forth. I also claim the peculiar arrangement of the sliding vernier scale, by which it can be applied with equal readiness and facility to either side of the rule, so as to read the given angle and its complement.

manner and for the purpose set forth. SEEDING MACHINES-A. M. Pratt, of Lowell, N. Y. : I do not claim the seed distributing device, for that is in common use and well known. But I claim attaching the furrow and covering shares, F D, respectively to shafts, E C, which are allowed to turn in their bearings, and are connected by the rods, k I, to the lever, J, when said parts thus arranged are used in connection with the shaft. i, attached to the lever, J, crank, h, and lever, I, which support one end of the seed distributing shaft, H, the whole being ar-ranged to operate as and for the Purpose set forth.

[This is a novel arrangement of the furrow and cover ing shares with the seed distributing shaft, in order that the seed distributing device may be thrown out of gear simultaneously with the elevating of the furrow and covering shares, and by the movement of a single lever, so that the machine may be rendered inoperative instantaneously when required, as in passing over barren or waste spots of ground, &c.]

RAILROAD SWITCH-N. Pullman, of New Oregon, Iowa: I claim, first, The combination of the bent

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Scientific American.

switch rail with theshoe when arranged in the manner and for the purpose set forth. Second; The combination of the curved blocks with the shoe and the switch rail for the purpose of regulat-ing inincination of the switch rail to the track and also its angle of divergence from the track, substantially as described.

GOVERNOE FOR HORSE POWER-Lea Pussy, of Wil-mington, Del.: I claim the loaded levers, D D', or slid-ing weights, provided with brakes, h, connected by a spring and rods attached to an independent rotating disk, or rotating arms, or to the 3y wheel of the ma-chine to which the device is applied, in combination with a stationary or revolving rim. K, the whole being arranged to operate as and for the purpose set forth.

[In this invention there are attached to the arms which are secured to, or project from, the fly wheel shaft, or to the fly wheel itself, loaded levers, provided with friction blocks connected by a spring rod, and fitted wit in a stationary rim, whereby the speed of the horse power, or other machine to which the governor is

applied, may be regulated as desired, by a simple mechanical arra gement.]

WABHING MACHINE—Abraham Quimly, of Terre Haute, Ind.: I claim the combination of the approxi-mating plungers E E, with the revolving tub, A, where by the clothes are subjected to a continuous rotary ac-tion, and at intervals to a squeezi g or expressing ac-tion, and thereby thoroughly washed, substantially as set forth.

Sect forth.
FLOURING MILL—C ristopher Rands, of Peoria, Ill.:
I claim, first, The combined arrangement of the upper and lower stories, C , reduced from their center outward to mere rim-grinding putses F , one or both concave, placed over the enlarged eye of the stones, and the horizontally revolving fan or blower, G, arranged intermediate between the stones, and crossing vertically the grane with a direct action, out to the grinding surface, and to give a direct blast, substantially as a direct blast, substantially as and for the purposes set forth.
Second, I claim the fan when constructed with its blacks radial, and situated in thespecified relation to the sace existing between the stones, so as to give a direct blast, substantially as as to give a direct blast, substantially as as to que the stone and the give a direct blast, substantially as a store, the strangement for suspending the stones, to c, consisting or rings, D, each having four axes, c d d or e e f f, and the other between the standards of the frame, substantially as and for the purposes set forth.
Fourth, The combination of the spirally flanched revolving and sliding or jung of the spirally flanched revolving and sliding or grings, M, substantially as and for the purposes set forth.

APPARATUS FOR DISTILLING SPIRITS OF TURPENTINE —Daniel Reid, of Washington, N. C. : I do not claim the melting and strai i g of the crude turpentine be-fore its introduction to the retort. But I claim the employment, in connection with the still, of a steam box, C, constructed with strainers, a b, of such form and capacity as to receive the barrels of crude turpentine, all substantially as and for the pur-poses described.

[See description in another column.]

LIFTING JACKE-Albert C. Richard, of Newtown, Conn.: I claim the standard, A, provided with screws and linions, in combination with the traverse bar, D, and the adjustable friction rollers, M, the whole being constructed substantially as set forth.

LARGE FOR BURNING COAL OIL, &c.-George Rim-mington. of South Brooklyn, N.Y.: I claim the cap, R formed of two parts, a b. perforsted as shown, and used in connection with the two tubes, e e, the several parts being arranged relatively with each other, and applied to the lamp, so as to operate as and for the pure set forth.

[A perforated cap formed in two parts, and used in connection with too fiat wik tubes pla ed at a suitable distance apart is used in this lamp, in order that the fiame may be supplied with a sufficient quantity of oxygen to support proper combustion without the aid of a chimney. It is especially applicable to lamps in which

coal oil is burned.] LIFE BOAT-Albert L. Shears, of Omro, Wis.: I claim the arrangement of the sides, L L, as onstructed with the hull proper of the boat formed the air cham-bers, a' a', and being open below, and these sides and air chambers, combined and arranged with the scuppers and valves, in the manner and for the purpose set forth

forth. GAS REFORTS-I. T. Sloan, Volney Smith, Manuel Hoover, and R. M. Briggs, of Jackson, Cal. : We claim the employment, in the manufacture of gas from wood, of a cylindrical retort placed horizontally, and having a door to close the opening for the reception of material swinging upon hinges, and shutting with a staple and eye to receive a wedge, the other end being closed with a clampand wedge a clamp and wedge.

ROUGHING CHAIR AND CRADLE-Austin 5. Smith, of Lawrence, Mass. : I do not claim, separately, the ad-justable back, nor the adjustable foot rest, for they have been used and arranged in various ways. But I claim the adjustable back, B, and foot rest, F, connected by the levers, G, and arranged relatively with the seat, C, as shown, and used in connection with the rockers, H H, connected to the legs, a, by the swirel sockets, j, the whole being constructed and ar-ranged substantially as and for the purpose set forth.

This chair is provided with rockers, attached in such a way that they can be turned from one leg to another, and this, combined with a movable back and foot rest. forms a very convenient cradle from therockingchair.]

SEED DEILLE-John C. Stevens, of Lee, Mass. I do ot claim, broadly, the perforated and reciprocating sed slides, h, for they have been used in various ma-bines

But I claim connecting the bars or beams, H, to the frame of the machine by means of joints, I J, arranged as shown, to prevent the front a d converging ends of the boxes from coming in contact with each other when the boxes from coming in contact with each other when raised, and using in connection with the bars or beams thus hinged a distributing mechanism, arranged sub-stantially as shown, so that the distributing device will be thrown out of gear with the wheels, G, simultane-ously with the elevati g of the bars or beams, H, and consequently the teeth, N.

WERSON-George C. Taft, of Worcester, Mass. : I do not claim a wrench having its movable jaw operated by two reversed male screws extending in opposite direc-tions either from one another or from a rosette. Nor do I claim a wrench in which the sliding jaw is operated by a single male as w rosette working in a

Nor do I claim a wrench in which the sliding jaw is operated by a single male as w rosette working in a rack applied to the stationary jaw. Nor do I claim a wrench having its sliding jaw opera-ted by a single male sorew, whose milled head enters a recease or notch made in the shank and heas pivot ex-tending from it and working in a step made in a projec-tion from the handle, such being the construction of the wrench of Doring Coces, as patented April 16th, 1641. From this latter my improved wrench differs material-ly, inasmuch as it has two reversed male screws and its rosette, instead of being stationary in other respects than being capable of being revolved, will move end-wise with the screws when they revolve. Furthermore, my improved wrench has the cylindrical slider. K, so made as not only to revolve with the male acrews, but move endwise with them, and perform the function of mintaining the malescrewrosette in connection with the screw rack at whatever distance the rosette may be from the projection, O. No such slider is found in Coes wrench, because it is not necessary there, for in such there is no endwise movement of the screw, and no worm rosette and rack to be mintained in connection. Coes uses a pivot working in a cup or step, and both are so formed that no endwise motion of the pivot can take place. But I claim a wrench provided with two reversed

so formed that no endwise motion of the pivot can take place. But I claim a wrench provided with two reversed male screws for operating its movable jaw, arranging the lowermost acrew, G, to work in a screw rack, H, on the shank, A. of the wrench, and providing the said screw with a cylind cal slider, K, extending below it, and operating so as not only to tarn around, but move longitudinally with the screw, and in a socket pirce, O, connected with the handle, the whole bring substan-tially as described.

FEED REGULATOR FOR STEAM BOURES-Leonard Thorn, of New York City: I do not claim to have in-vented the combination of a cock and float to regulate the supply of water to a boiler. But I claimmaking the stem or arm of a hollowfloat, which is applied to the cock in the manner described, with a passage through it, onnecting with a passage leading through one end of the plug of the cock, and thereby forming a communication from the interior of the float to the atmosphere, for the purpose set forth.

[A full description of this invention is given in another column.]

ATTACHMENT FOR OPENING AND CLOSING DOORS, &c.-A. W. Webster, of Waterhury, Conn.: I claim the levers, D D, pivoted to the linkel, d, of the casing or sill thereof, the inner ends of the leve gearing into each other. and the outer ends connected by the arms, C, to the doors or shutters, A. A, the whole being ar-ranged substantially as and for the purpose set forth.

[To the inner side of a blind or shutter a projection is

attached, to which a pin is secured ; this pin is fitted in the outer end of a slotted lever, the inner end of which is of semicircular form, provided with teeth which gear into a corresponding lever and pin on another blind or shutter, so that by moving one blind or shutter, the other will be operated simultaneously in the same direction.]

POETABLE SODA WATER APPARATUS-E. D. Wheeler, of Murfreesboro', Tenn. : I laim inclosing the charge in a long fibrous case or bag, A, when said case or bag is used in combination with a soda water apparatus constructed and operating as described.

COMPOSITION FOR ARTIFICIAL LEATHER-Samuel Whitmarsh, of Northampton, Mass. I do not claim, broad y, the saturation of cloth and other fabrics in lin-seed oil containing umber or other substances. But what I claim is the fabric specified, composed of cotton or other fibrous substance in a woven or un-woven condition saturated or coated with a compound of linseed oil and burnt umber that has been prepared as described.

[See notice on page 310.]

CHANGING ROTATING INTO RECIPEOCATING MOTION— S. L. Wiegand, of Philadelphia, Pa. : I claim, first, The oblique wheel adjustable in an axis transverse to the revolving shaft. Second, Giving a permanent lead to the motion by a permanent inclination of the wheel, A, in combination with a variable inclination. Third, Conveying the vibratory motion to the rods by means of ball and socket or universal joints, when said joints are used in combination with the frame.

POWER AND HAND DEILLS—Horace Woodman, of Biddeford, Me. : I claim, first, Constructing an eye or box in theu pper end of the post A, in combination with thehollow shat, B, and spindle frame, D, arranged sub-stantially as described, whereby the spindle carried by the frame, D, may be set and operated at any required distance from an angle to the said post, A, as set forth. Second, The combined arrangement of the hollow shaft, B, frame, D, gears, FF', and spindles, C, and G, with their projecting ends substantially as described, whereby the drill spindle may be driven either diractly or through the medium of staft, G, and berel gears, as and for the purposes set forth. Third, The arrangement of the movable platen or faceplate, U, with the sliding clamp jaws, W, collar, V, and set screw, X, as specified.

VAPOR LAMPS-Horatio Bateman, of Boston, Mass., assignor to Wm. F. Bateman, of Harvard, Mass. : I claim constructing the spur or tongue, e, with a suitable eye for the insertion and retention of the wick, as set forth.

MACHINE FOR CUTTING PIPE-Mic ael Bowes (as-signor to himself and Geo. B. Waterhouse), of Char-lotte, N. C. : I claim, in combination with the cutter, the two revolving disks with the series of holes, the holes of one dish being furnished with loose sleeves or rings, for the purpose of adapting the machine to the cutting off of pipes of varioussizes, as set forth.

STEAM TEAP VALVE-J. W. Hoard (assignor to him-self and G. B. Wiggin), of Providence, R. I.: I claim the construction of the valve, substantially as de-scribed with a metalstem, part of which is hollow sund communicates with the hollow interior of the valve, and is fitted with a hollow cap, G, which also serves as a nut to secu the valve against longitudinal expan-sion, whereby provision is made for filling it with liquid and confining such liquid therein.

[This invention consists in a hollow valve of indiarubber of spherial or sphereoidal form filled with alcohol, mercury or other liquid, so applied in a cylindrical chamber at the extremity of the coil or train of steam pipe that when surrounded by a temperatu of 212 Fah. a space will be left between it and its chamber for the escape of the water of condensation from the pipe, but that when surrounded by a temperature above 212°, it will be caused by the expansion of its contained liquid by the heat, to expand laterally and close the chamber, and thus prevent the escape of the steam.]

KNIFF CLEANERS-Wm. Miller, of Waltham, Mass., assig or to himself and D. S. French. of Wadham's Mills, N. Y.: I am aware that knifecleaners have been constructed, in which a box is employed to hold the po-lishing material and deliver it to the rubbing surfaces, I therefore lay claim to no such invention. But what I claim as an improvement in knife cleaners is the shelves, B, operating in the manner substantially as set forth.

as set forth. RAILEOAD CAR COUPLINGS—Allen Lapham and Danl. H. Burns, of Brooklyn, N. Y., assignors to themselves and C H. Durgin, of New York City: We are aware that automatic are couplings have been used, examples of which may be seen in the patents of D. R. Pratt, Dec. 12, 1843, and A. G. Saford, Dec. 11, 1849, and we therefore lay no claim to such. But we claim a tilting hook and lever acting in com-ination, constructed substantially as described, where-by the coupling mechanism is rendered automatic and capable of being disconnected instantaneously irre-spective of the tension or draft of cars, substantially as set forth and specified.

Spectreve of a first construction of the state of the set forth and specified.
ROTARY LAST HOLDER-David Philbrick, of Manchester, N.H. (assignor to bimself and Elimer Townsend, of Eoston, Mass.): I do not claim a cylindrical journal and a circumscribing socket held together not only by a groover. Inning around the journal, but a plin or screw extending from the socket into the groove.
Nor do I claim attaching the radial arm to a revolving plate held to the circular face of a support or standard by a clamp.
But what I claim is, my improved support piece of the radial arm, viz. as made of a standard and plate, K, recessed as specified, and a circular plate, I, formed to enter the screw of the plate, K, and to make with such a dove-tailed groove or its equivalent for receiving the head of the clamp screw. L, the two plates being confined together by a claim the improved last holder. hinge, and clamp as made eof the multe part of the proves of the prove set forth.
I also claim the improved last holder, viz., with its clamping and hinge pin, constructed with a head to ther and be supported in one of the prongs of the fork of the hinge as supported in one of the prongs of the fork of the hinge as supported in one of the prongs of the fork of the hinge as and I lenry Pease.

HARVESTERS-Wm. H. Seymour and Henry Pease, (assignors to Wm. H. Seymour and Dayton S. Morgan.) of Brock fort, N. Y.: We do not claim hinging the tongue to the frame of the machine, nor supporting it between guides, nor raising and lowering the cutter by elevating and depressing the rear end of the tongue when the latter is combined with a lever, screw, wind-lass, or other similar contrivance to aid the attendent of the machine in raising and lowering the end of the tongue.

But we claim the arrangement of the tongue on a But we claim the arrangement of the tongue on a pivot in advance of the cutter, and in a guide, provided with a detent, in rear of the cutter, the whole being ar-ranged as described, so that the attendant can conveniently and readily by means of the link raise the cutter by lifting directly the rear end of the tongue as set forth.

CASTING FAUCETS—Oliver F. Wood, of Pittsburgh, (assignor to Thomas R. Wood, of Philadelphia.) Fa.: I do not claim as novel the faucets in themselves con-sidered, oras new articles of manufacture. But I claim constructing the faucets by placing the spigots within a mold formed for the tubes of the faucets and casti g the tubes around the spigots substantially as shown and described.

[This invention consists in placing the spigot of the faueet within a mold which is formed for casting the body or tube of the faucet, so that the body or tube of the faucet may be cast around the spigot, and the latter thereby fitted accurately in place without any afterwork or finishing whatever, the spigot being properly finished before being placed in the mold.]

RATLBOAD BRAKES-Joseph Harris of Alleghany, Pa.: I claim, first, the combination of the cross arms, on each of several cars, with a chain shaft on one car con-nected as described by chains, rods, or ropes for the purpose of adjusting and operating the brakes in the manner substantially as set forth. Second, The combination of the tumbler, h, with the extension shafts, f f, the purchase rods, im m, and springs, s, to act automatically as a railroad brake-substantially in the manner described.

BE-ISSUES.

CUTTING DEVICE FOR HARVESTEES-Henry Green, of Ottawa, III. Patent March 21, 1854. Ante-dated Sept. 21, 1855 : I claim placing the blade or the cutting teeth of a harvesting machine on the vibrating bar to which they are secured so that the said blade or cutting teeth may extend back and behind such bar substantially in the manner and for the purpose specified.

MOWING MACHINES—Henry Green, of Ottawa, Ill. Patented March 21, 1854. Ante-dated Sept. 21, 1853 ratented March 21, 1854. Ante-dated Sept. 21, 1853. I claim, first, a cutting apparatus behind the driving wheel of a machine adapted to mowing when this is combined with a tongue or pole hinged substantially as described and with proper means substantially such as described, for causing the cutting apparatus to run in close proximity with the ground, the whole combination being substantially such as and for the purposes set Table sleip approximation of a substantial for the purposes as

being substantially such as and for the purposes set forth. I also claim arranging and combining the finger beam with the rear end of the main frame of the gearing in such manner that while the portion of the finger beam to which the cutting apparatus is secured, extends be-low the frame, and may run close to the ground, the rear end of the frame will be car ed above the stubble, and this relative position of the rear end of the frame, of the finger beam, and of the ground, will not be dis. turbed by the rising and falling of the finger beam, or of the ground in their respective paths. And third, I claim the combination and arrangement of a metallic shoe substantially such as described, the finger beam, and gearing frame, substantially as set forth.

bnger forth.

REEL SUPPORTS IN MOWING MACHINES—Henry Green, of Ottawa, Ill. Patented March 21, 1854. Ante-dated Sept. 21, 1853: I claim in machines adapted to mowing the method of supporting the reed upon the end of the finger beam without, obstructing the action of the di-vider, by means of inclined arms, substantially as de-scribed.

CUTTING DEVICE FOR HARVESTERS—Henry Green, of Ottawa, 111. Patented March 21, 1854. Ante-dated Sept. 21, 1853. I claim, first, a vibrating cutter having a properform of cutting ed.e in front and notched or indented in the rear thereof in combination with guard fingers across which it vibrates, substantially as set forth.

tion in Scotland, was, in the same year, 343 for every 10,000 in England. So far as a three years' average can determine such a point, it would appear that the mean mortality in Scotland has been in the proportion of 200 deaths to every 10,000 persons living, whereas in England the proportion of deaths during the same year has been 216 to every 10,000 living-producing a deficiency on the part of England of 91,259 lives in the three years. In Scotland, the inhabitants of towns were cut off during the year at the rate of 244 in every 10,000 persons, or one death in every 41; whereas in the rural districts the proportion was only 157 deaths in 10,000 persons, or one death in 63. The proportion of marriages is considerably below the ten years' average in England, the former showing only 69 marriages in every 10,000 persons, and the latter 84. This fact, and the circumstance that the returns show the number of illegitimate births to be greater, would seem to indicate that some causes are in operation which are not favorable to the morals of the population in Scotland.

Inter-oceanic Canal to the Pacific.

Lieut. T. A. Craven, U. S. N., has made a report in reference to the practibility of an inter-oceanic communication from the gulf of Darien to the Pacific ocean, by the Atrato and Troando rivers, in which, after giving full details of his late survey, he thus briefly sums up the actual physical difficulties to be overcome in cutting the proposed canal :---

"1. A cut through some five miles of submerged mud at the mouth of the river, with the prospective certainty of constant dredging to keep it open.

2. The Herculean labor and incalculable expense of cutting through the lagoons of the Truando, and the embedded logs of the Paios Caides, where the whole country is inundated during at least nine months of the year, and where the floods of a day may destroy the work of a week.

3. The vast expense attending the removal of basaltic rock, in a country where labor and provisions must all be imported at most extravagant rates.

4. The want of an anchorage on the Pacific coast.

5. The fatal effects of the climate, which, it may be safely estimated, will disable at least one-third of any force that may be sent there.

You will not be surprised that, with the preceding arguments, I am of the opinion that the proposed canal is impracticable, as involving an expenditure of treasure not easily estimated, and a sacrifice of life from which the stoutest heart may shrink. Human perseverance and ingenuity may, it is true, overcome the obstacles enumerated; but at least two generations must pass away ere the world can realize the accomplishment of a much less extensive work than that contemplated."

Great Saccess.

It will be noticed by reference to the official list as it is published in this number, that there were issued from the Patent Office last week eighty-seven patents.

Of this number thirty-two were granted to inventors whose papers were prepared and presented through the SCIENTIFIC AMERICAN Patent Agency. Inventors who have business of this character to transact will need no other assurance than the above, that what cannot be successfully accomplished through us will scarcely be worth contending for. The scrutiny and care with which our cases are examined before the application is made for the patent, and the attention paid to prosecuting rejected claims, inspire inventors generally with full confidence that whenever an invention is novel and entitled to a patent, it is sure of success in our hands. We do not expect and do not ask for protection for any improvement unless it is new, and by careful examination into our cases we are able to report unfavorably upon more than one-half of those that are presented to us, without incurring the expense of an appli-

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[This invention consists in having two seed boxes hinged or jointed obliquely to a frame in such a way that they may, when necessary, be raised or turned up ward without interfering with one another, so that their testh will be free from the ground: the seed boxes being also arranged relatively with the seed distributing device, so that they will be thrown in and out of gear with the driving wheels by the same movement.]

RAKING ATTACHMENT TO HAEVEBTEES-J. A. St. John, of Janesville, Wis. : I claim the particular means employed for operating the rakes, viz., the reciprocat-ing slide, I, arm. J, crank, K. shaft, M. with the rakes attached, in connection with the lever, h, pinion, N, and segment, O, the whole being arranged as shown and described.

[This invention consists in the employment of a double vibrating rake, so arranged as to traverse over the platform of the harvester, and open and close at the desired points, so that the cut grain will be raked from the platform and deposited in proper gavels upon the ground.)

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STOVES—Charles Hooffstatter (assignor to Joseph Firman), of Rome, N. Y. : I claim the flues, H H' and H 2, and partition, J J', in connection with the ovens, I and I', when the whole are arranged in relation to each other in the manner as and for the purposes set forth.

EXTRACTING TERTH-J. B. Francis, of Philadelphia, Pa, assignor to Wm. Harper, Jr., assignor to J. B. Francia, aforesaid, assignor to Jas. J. Clark, of said Philadelphis, Pa.: I claim the combination of the electro-magnetic machine, or its equivalent, with the forceps for removing teeth without pain, arranged and operating substantially in the manner described.

forth. Second, The combination of a cutting edge at the front of a vibrating cutter, for severing the stocks of grass or grain, with a cutting edge at the rear for cut-ting up and facilitating the discharge of obstructing matter substantially as set forth.

DESIGNS.

SET OF PRINTING TYPE-George Bruce, of New York City.

TOWEL STANDS-Nathaniel Waterman, of Boston.

Statistics of Population in Scotland.

The returns of births, marriages, and deaths in Scotland for 1857, just published, show that one birth in every 29, one death in every 49, and one marriage in every 143 of its inhabitants has taken place. The birth rate, which was thus, 338 for every 10,000 of the popula- cation. Circulars of advice sent free of charge.