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advance, and the remainder in six months. 137 See Prospectus on last page. No Traveling Agents employed.

New Knitting Machines.

The art of knitting is one of the most useful inventions, because it is really the only method by which textile goods of a truly elastic character can be manufactured. In connection with a description of the beautiful and improved knitting machines which illustrate this article, we will give a brief history of the rise of the art.

Superficial orators and authors often speak and write of this art as if it were as ancient as father Noah himself; but there is no substantial evidence of it having been known or practiced prior to the early part of the six-teenth century. Savery, a French author, states that about that time it was invented in Scotland, thence introduced into France, from which country it soon spread over all Europe. Its utility was at once appreciated, and it was not only eagerly learned by the female peasantry of the cottage, but highborn dames, in castles and courts, met together and knit their husbands' hose, while they chatted over the news of the day, each furnishing her quota of information to the charming circle, in the absence of newspapers.

Prior to the invention of knitting by hand, all stockings and hose were made of milled cloth; but these were soon discarded after the new fabrics appeared. The natives of the Shetland Isles, with the fine wool which they have at command, knit some very beautiful and fine hose; and it is a matter of history, that one of the girls of that northern country had once knit a pair so fine that they were drawn through her finger-ring, and afterwards presented to George the Fourth, who displayed them at his levees.

The first machine for knitting stockings of which we have any record, was invented by William Lea, of Woodborough, England, and its origin is founded on a romantic love affair. While a student in Cambridge he fell in love with a pretty girl, and being of an ardent temperament, he married her, in contravention of the statutes of the University, and for this cause was expelled by the hardhearted old professors, who knew all about Latin and Greek and but little about an inventor's love. The prospects of William Lea's advancement in the Church were now cut off, and being poor, it is stated that he was supported by his young wife, who was a most skillful knitter of stockings. One evening, while musing sadly at seeing his young wife working late by the solitary lamp, it occurred to him that iron fingers might be made to do the work imposed on her for him, and that quite a number of loops could be made almost in an instant. He at once devoted himself to the construction of such a machine, and success soon crowned his 'efforts in the pro-





would deprive the poor hand-knitters of employment—a stupid notion not yet entirely eradicated from society. Lea, however, was not dismayed at this result, as we read that he had no less than nine knitting-looms in operation in 1597, and that it was esteemed a high honor by every man who was employed by him, inasmuch as each wore a silver needle, ornamented with a chain and clasp, for a breast-pin.

That enterprizing monarch, Henry the Fourth, of France, having heard of Lea's invention, and how he was so ill-treated both by Queen Bess and her successor, King Jamie, invited him to that country, with all his machines and workmen, and Lea soon commenced the business at Rouen, in Normandy. Everything at first promised success to his undertaking, but the king, his patron, having been assassinated by a bigoted monk, he was soon proscribed on account of his religion, and having been compelled to flee for his life, sought refuge in Paris, where he soon afterward died in great poverty. Such is the brief history of the inventor of the first knitting machine who was a benefactor to the human race. His frame made plain knit fabrics only In 1756 Jediah Strut, of Derby, England, invented the machine for making ribbed hosiery, and by enlarging it Guernsey frocks and undershirts were also made. All these were knit with selvages, which had to be closed by hand in forming the seams. The round or circular knitting machine is said to have been first invented in France.

We have not been able to ascertain when the first knitting-frames were introduced into our country, but it is claimed that water and steam-power instead of hand-power were first applied here to operate them, and that the improvements which have been called forth to adapt them for such power, have made the American machines the best in the world.

The two represented by the accompanying figures are the result of five years' study and experiment, and no expense has been spared in bringing them to a state of the greatest perfection and simplicity. They are what are called "self-acting," and the latch-needle invented by James Hibbard, from whom the patent has been purchased, is employed in them, and no less than four other patents of recent dates are embraced in various parts and movements in them. Fig. 1 is a circular machine for knitting ribbed hosiery, cuffs for shirts, and bands for drawers. A is the stand, or pillar which supports the machinery on cap B; its base is bolted to the foot-piece Z. There is a fast and loose pulley, C, on the small shaft, D. A bifurcated shipper, Q, moves the belt from the fast to the loose pulley to stop the machine when a certain length of hosiery, S, is knit; when the

duction of what is called "the old stocking frame," which was used for two centuries just about in the same condition as he left it. A patent, on the ground that his invention

weight, W, which feeds off the knit fabric reaches the treddle, P, it bears it down, and a rod inside the pillar, connected with a spring, then moves the shipper, and directs the belt on the loose pulley, when the machine stops. After the weight, W, is again moved upward on S, the belt is placed on the fast pulley by the hand-lever, O, in catch, M, and the knitting again proceeds.

K is a metal cone connected to the ringplate, I, by a bent arm, J. The plate, I, is revolved by having a ring-gear on its under side, matching with a pinion on the inner end of driving-shaft, D. There is a cam groove [Continued on page 328.]

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[Concluded from the first page.]

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in the underside of the revolving plate, I, which actuates the inner end of the looping needles, and pushes them in and out alternately, to throw off made loops in rows and form new ones. There are two sets of needles. one vertical and the other horizontal, and one thread feeds them both, from the spool, F, passing over guide. G. through the cone eve. H, thence into another eye in traveler, N, which, as it revolves, feeds it on to the needles, the one set working alternately between the other and making the ribs. A cam-groove in the cone, K, moves the vertical needles up and down alternately. E is a stationary ring-plate on the machine. L is a tension-bar which keeps the needles firm, and v opens any latch of a needle which, from any cause, may have been kept closed, so that devices are arranged to meet every contingency that may arise in the operation. A needle can be put in or taken out of the conical hub, K, at any moment by removing a key, X; the same facilities are furnished for removing and adjusting the horizontal needles in plate, I. The throw of the needles, to make long or short stitches, can be changed by turning a screw, R. As each hooked needle has a revolving latch on its end, when the thread is laid in a hook the latch closes, the hoek is drawn in, then thrust out again, when the latch opens, permitting the loop to pass up on the needle-shank, then another thread is laid on the hook of the needle, the latch closes, is drawn in again, and the loop formed on the needle is pushed off and over its point, forming part of the knit fabric, and so on, each needle doing its part in the circle. The two series of needles work harmoniously together, producing a continuous web, S, of ribbed fabric. Any girl of ordinary ability is capable of tending with ease ten of these machines, making about 70 dozen pairs of fine ribbed hosiery per day-each loom using but a single thread, and the total making 108,000,000 loops per diem. The circular ribbed tubular fabric, after being taken from this machine, is cut into proper lengths for stockings, which are footed on the machine represented by figure 2, which we will now describe.

This machine knits plain work with one set of needles, and makes a common web with a selvage at each side. A represents the frame-work to which the operative part of the machine is attached. B is the needleplate in which the needles slide; C is the driving pulley, and D the main shaft. R is a reciprocating bar for operating the needles. On the middle of shaft D is a pinion, K, fitting into one, O, on the vertical stud, H, which has a slotted crank, J, attached by a pin to the vibrating rod, T, and is secured by a pin to the bar, R, that moves back and forth operating the needles, and also carrying the two threads from the spools, F, on frame, L, through the eyes on carriers, NN, and delivering them on the needles to form two loops for the footing of a pair of stockings at one operation. Y is a toothed bar for keeping the fabric in its proper position while being knit. This bar swings upon pivots, U U, and is brought forward by pressing the spring, Q, downward, and when down a new stocking is put on, or one that is footed taken off. The weights, W W, feed off the knit fabric as in figure 1. Z Z are gages for FFF etting the length of a foot to be knit. are guide-bars, under which the reciprocating bar, R, moves. PPP are selvage guides, by which the threads from the spools are, at every stroke, guided over the needles, making a perfectly true selvage without a failure. By the screw, X, the throw of the needles can also be increased or diminished. The loops are formed by latch-needles in this machine, in the same manner as in figure 1. It will be understood that the feet of these hose are closed at the sides by hand, but this

is an easy and short operation. One of the

machines (Fig. 1) can fit on a stand like a

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same manner; and from their portability | hose per day. The machine illustrated by and completeness, it appears to us, that in figure 1 is the invention of J. B. Aiken, their present state they must soon occupy a position in families equal to the sewing machine.

and the one by figure 2 that of W. Aiken. The circular-ribbed machines can be used to advantage on various kinds of work. without One girl can tend two of these represented the aid of the footing one figure 2. J. B. by figure 2, and foot 30 dozen pairs of fine Aiken manufactures circular-ribbed and plain

CALIFORNIA AND OREGON.-Persons in California and Oregon who may wish to receive the SCIENTIFIC AMERICAN, beginning with the new volume, new series, July, 1, should send their names and subscriptions without delay, so as to make sure of getting all the numbers as they are issued. They can order the paper from J. Q. A. Warren, 149 Clay street, San Francisco, who will attend to sending their papers regularly.



SCIENTIFIC AMERICAN.

ENLARGEMENT.

Volume I., Number 1-New Series.

The Publishers of the SCIENTIFIC AMERICAN respectfully announce to their readers and the public generally. that, on the first day of July next (1859), their journal will be enlarged and otherwise greatly improved; and at that time will be commenced "Volume I., No. 1, New Series," which will afford a more suitable opportunity for the commencement of new subscriptions than is likely to occur again for many years.

The form of the journal will be somewhat changed from what it now is, so as to render it better adapted for binding and preservation and instead of eight pages in each number as now, there will be sixteen and in a completed yearly volume the number of pages will be doubled to 882, or 416 more than now.

The SOLENTIFIC AMERICAN is published at a price which places it within the reach of all; and as a work of reference for the Workshop, Manufactory, Farm and House, hold, no other journal exceeds or even equals it in the value and utility of its information. Its practical recipes alone oft-times repay the subscription price ten-fold. Inventors will find it, as heretofore, the mirror of the Patent Office, and the reliable record of every claim issued weekly by the Office, the list being officially reported for its columns.

With the enlargement of the SOLENTIFIC AMERICAN, we shall be enabled to widen the sphere of our operations, omitting none of the features which now characterizes it, but adding many new ones, which will render the work more valuable to all classes of the community than it has heretofore, among which is the devoting of space to a Price Current, and a column or two to the Metal and Lumber markets, and such other branches of trade as may be interesting and useful.

The increased outlay to carry out our design of enlargement will amount to eight thousand dollars a year on our present edition; and in view of this we appeal to our readers and friends to take hold and aid in extending our circulation. Think of getting, at our most liberal club rates, a yearly volume containing about 600 original engravings and 832 pages of useful reading matter, for less than three cents a week! Who can afford to be without it at even ten times this sum ?

Two VOLUMES will be issued each year; but there will be NO CHANGE IN THE TERMS OF SUB-SCRIPTION, as the two yearly volumes together will be Two Dollars a Year, or One Dollar for Six Months.

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knitting machines of all sizes and gages, from one which knits the smallest misses' stocking up to one which makes a heavy knit jacket. Patents for these machines have been applied for, through the Agency of this office, in foreign countries, and further information concerning their price, &c., may be obtained by addressing J. B. Aiken, No. 84 Elm-street, Merchants' Exchange, Manchester, N. H., where they may be seen at all times in operation.

millimetres in diameter in each year, have been found to increase four or five when stripped of their bark. Trees having a very thin bark, such as the birch and others, need not be stripped to obtain a similar result; it is sufficient for the purpose to make longitudinal incisions in the bark by means of a kind of three-bladed scarificator. It is now intended to subject all the young elms in a languishing state to this treatment throughout Paris, it having answered perfectly with those planted on the fortifications. It has long been the practice where trees have been denuded of their bark by cattle, to coat them over with some kind of composition, and in most cases the result has been highly satisfactory."-[As we have seen this paragraph copied into other papers we would state that we understand it to mean, not the removal of the entire bark to the wood of the trunk, but the outside rough bark, leaving the under cuticle unbroken. As the sap of trees flows between the outer bark and the wood of the trunk, the removal of the entire bark would be fatal to their life.

ation, did not increase more than one or two

Barking and Renovating Trees. The Gardener's (London) Chronicle says :-"The system of stripping the bark off the trunks of trees, for the purpose of destroying the insects which infest them, has now been generally applied to a large number in the Champs Elysees, and elsewhere in Paris, and has led to the discovery of a curious but important fact. It appears that trees may be deprived of the whole of their bark, not only without experiencing any injury, but even with considerable advantage, the operation tending to increase their power of vegetation. sewing machine, and may be operated in the | Elms, for example, which, before the oper-EDS. each year's subscription, to pre-pay postage. For all clubs of Twenty and over, the yearly subscription is only \$1 40. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

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FOR THE WEEK ENDING MAY 24, 1859.

[Reported officially for the Scientific American

Circulars giving full particulars of the mode of appiving for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SOIENTIFIC AMERICAN, New York.

Suce ros GRAIN SEPARATOR-Hiram Aldridge, of Michigan City, Iod. : I claim the endless incline ele-vator bed, C. with its lags or cross shift, J, In com-biontion with the lucline sieve, or board, F, and incline extension board, R, arranged in the manner and for the purpose set forth.

BEDETRAD FASTENING-G. W. Baker, of Cocbranton, Pa.: l claim the box, E, the hook. D, and the rack, F, when the 8 are are u-ed and combined, substantially in the mauner described and t.r the purpose set forth.

EXUT MACHINE-E. Barohart, of Shippensburg, Pa. : I claim the disk, D, arranged with the fluted shell, E, and with the wings, c, to operate in combination with the fluted oylinder, F, which is provided with a spout, e, substantially as and for the purpose specified.

[This invention consists in arranging in a hollow cvlinder with fluted top and sides a rotary disk, the surface of which is also fluted, and to which a cylindrical fluted shell is attached, which surrounds four wings placed at the underside of the disk, so that the wheat or grain as it passes through the funnel on the disk is spread in all directions. The grain is then exposed to the blast cre ated by the widgs, and then exposed to a more powerful blast, so that the dust and chaff is separated from the graln. j

grain.] SUBFACE CONDENSEES—Daniel Barnum, of New York City; I claim the method, subtantially as specified, of makin: yi hiog joints between the tubes and tube sheets in the condensing watercompartments of surface contensers, and of thus comp neating the expansions and contractions in the tubes, by the means of leaving a portion of india-rubber, or other elastic packing, imme-diately surrounding each tube, free, so that is elas-ticity can yich loag-live inally with the tubes and com-p-caste for their varying lengths, without causing the purpose systemed. I claim also the combination of a relief valve, with yiching joint (without followers) in the condusing water compartments of surface condensers, for the pur-pose of pre-ning the bloring out of the packing, and thus preerving the joints, substantially as specified.

thus preserving the joints, substantially as specified. HEMMING GUIDES FOR SEWING MAGNINES—Daniel Barnun, of Jersey Curv, N. J., and S. G. Tyler, of Quiacy, III. : We cloim the manner, substantially as specific-indistive with the dawlogs, of sarranging and constructing a hollow conical U-shap-d tube, and a slot, j, in combination with a horizontally acting spring plate, or its equivalent, busing against the slot, j, and tending to press the edge of the flexible material, when demines the lower side of the concave surface thereof, for the purpose of aid of the hand in turning the hem on the underside, and leaving the fair attich upon the upper or right side of the gament, as specified. CUIDINATIONED W and Leaving difference of Clarka-

CULTVATORS—J. W. and Leonard Batson, of Clarks-villa, Md.: We claim the arrangement of the reversible oucave showed point, H. reversible shovel points, F. and the cutter, G. with beam, A. and standards, C and D, the whole being constructed and applied in the manner described for the purpose specified.

RIG FOR VESSELS-Tbox. Bell, of New York City; I claim the arrange ment and combination of the mast, C, spor, B, and revolving forked mast bench, A, substan-tially as an 1 for the purpose shown and described.

[The mast of a vessel and its spar or spars are combined in such a manner that the mast turns with the spar or spars, and all the sail spread on the mast is onused to have a similar lifting action on the vessel; the mast is also attached to the vessel in a novel man ner.]

SPRING BED BOTTOM.—ERG R. Benton, of Cleveland, Ohio: I claim the construction of a b d bottom or epring cosch, consisting of a series of doublesprings, B B' and C C', the longitudinal pieces, G G', and the transverse slats, A A, &c., either with or without the flexible band, I, when arranged as set forth, and ope-ating in the matner and for the purpose specified.

CAEDING ENGINE-John Boyd, of Philadelphia, PA.: I claim the combination of the rollers, B and C, and scraters, D and E, for stripping the ordinary doffing cylinder of a carding engine, the whole being con-etructed and arranged substantially as described.

HARVESTING MACHINES-C. R. Brinkerhoff, of Batavis, N. Y. : 1 claim, first, The combination of the crabk, operated by the main shaft, with the rake and sweep post, to which it is attached, and the eighth arm,

outlet pipes downward below their communications with their measuring chambers and valve chamber of 基, acranged and constructed substantially as and for the puttoese set forth. recound thereof is prevented, and the gavel removed with greater containty. Sixth. The placing of a rake (having spring treth) in the rear of the machine, for the purpose of gleaning and PROFELING AND STEERING APPARATOS - Murdick Lythe, of Alleghauy, Pa : 1 claim, first, The shait, b, with a upporting arm or arms, g, and bearing recess, v, in combination with the propeller or paddl wheel shait, E, the whole being arranged in the manner and for the purposes at forth. Second, The tubular shaft, c, with gear wheels at the upper and lower onds, in combination with the shaft, b, and propeller shaft, K, the whole b-ing constructed "nd arranged in the manner and for the purposes as to forth. the meter, to form wells for the collection of water or our rear of the machine, for the purpose of gleasing and contracting the gave is head into form, substantially as described. Styruth. The combination PLANGYORTE ACTION-Napoleon J. Haines, of New York City: I claim the crost-shaped or four armed fly F, applied in combination with the Jack, the key and the hammer, butt, to operate substantially as set forth impurities which, having passed to the meter in a state of vapor, are caused to be deposited in these pipes by condensation; but no efficient means have hitherto as described. S.v.cut. The combination of the cam attached to the main shaft, with the arm of the rearrake, to cause it to pressover the gavels at the propertione. Eighth, The ratchet cam, I, and lever, in combina-tion, substantially as described, for throwing both rakes icts or out of action, as set forth. [The object of this invention is to obtain a very rapid been employed to prevent such matters accumulating inthe wells to such a hight as to onter the channels and easy repetition of the blow of the hammer in a planoforte action without the use of such complicated of communication between the inlet and outlet pipes and the measuring chambers and valve chamber, and mechanism as is employed for the purpose in most of forth. ALLO OF OUL OF ACTION, AS SET FORTH. APPARATUS FOR HEATLY OF FEED WATER OF STRAM BULLEAD-J. T. BOOKAS, OF New Albany, i.d.: I chain the ocscribed relative an angement of the force pump, c. Water stupply pipe, b, heater, d, and steam pipe, f, couvy jugg them from the upper part of the boller or steam some to the heater; the whole operating together in the manner set forth to heat freed water, on its pas-sage b, tween the pump and the boller, by means of hybrig steam, and luject it into the lower region of the boll r. clogging the valves or otherwise interfering with the PROPERTIES—Levi H. Markiry, of Line Lexington, Pa.: I claim the arrangement and coubinetion of the peculiarly acting pacofile bades or flicts, F, piroto to frame, E, reds, G, bocks, J, sluing block, H, and re-versing and bracing bas, 1, as and for the purpose shown and described. the repeating actions hereto ore constructed. And to mut er, except the introduction of glass gages in the this end this invention consists in the employment of sides of the wells, that it migut be seen when the liquid a cross-shaped or four-armed repeating fly, applied and operating in combination with the jack. the key and had accumulated to such a hight as to render its re-moval necessary. The object of this invention is to B the hammer, for the purpose of arresting the hammer This invention relates to that class of propellers prevent the possibility of the liquids rising too high in at a short distance from the string when it falls, after known as duck-foot propellers, and consists in suspendthe wells, and the invention consists in making the striking, and supporting it in such a manner that, by a Ò ing the reciprocating sliding-frame or frames in which the oscillating paddla blades or fliers are secured on mouths of the channels of communication between the very slight rise of the tront end of the key, the jack is HARROWS-R. W. Buckles, of Grayville, Ill. : I claim we harrows hung to one frame, independent of each inlet and outlet pipes and the measuring chambers and permitted to enter the notch of the hammer-butt far enough to permit the repetition of the blow.] valve chamber dip downwards into the wells in such a pivots, and combining there with a series of parts for N HOD ୍ତ୍

other, with two vertical toothed wheels, D D, also working independently of each other stand connected to the horizontal wheels, C C, which are actuated by means of pinions, E, E, as described, for the purposes set forth.

Ox-Yoxes -- Washington Burnham, of Essex. Mass.: I claus the mode of a network the the Ox.Yoxes.-Washington Burnnam, or Leser. mess.: 1 claim the mode of splying the pole ring to the yoke, namely, by means of the simple rack, and the ring car-rier, made so a to be capable of sliding on the rack, and with a pin passage arranged with respect to the notches of the slaple rack, substantially in the manner as described, the whole being for the purpose explained.

CUETAIN RAO -J. F. Calboun, of Wolcottville, Ct. : I claim the combination of tightening screw, c. collar, s. pulley, b, and button, i for effecting the required tension on the cord, substantially in the manner and for the purposes set for th.

(This is a simple and durable curtain rack, as will be seen from the claim.]

SEWING MAGRINES-P. S. Carhart, of Collamer, N. Y.: I claim feeding the cloth, by the combined action of the needle and friction nav, when the said needle and pad operate jointly and in unicon to propel the cloth, as the needle descends there through, the cloth being held in the n quired hostion by the needle, during the nue-vals of feed, while the pad is retreating to take a fresh teeding grip on the cloth, essentially as specified.

BREAD KNIFE-Joseph Carrier, of Marlborough, Ct. : I claim the employment of the roller F, the adjustable studs. D, with two collars, C, and thumb-nuts, E, sub-stautially as and for the purpose described.

STOVE PIPES-M. C. Chamberlin, of Johnsonburgh, N.Y.: I claim first, The employment of the suring tube, B, in connection with the pipe, A, when the same is used in the manner and for the purpos specified. Second. The arrangement of pipe, C, provided with pin, d, with pipe, A, provided with slot, a, and spring tube, B, substantially in the manner and for the pur-pow specified.

pose specified.

House Powrsz MacHINES-A. B. Colton, of Athena, Ga.: (claim, first, The stationary wheel, J, and its hub, L, when the same are placed centrally with the large onlying wheel, M, for giving motion to the pio-ions, UV, and gear whitels, R S, revolving with the drivin wheel, M, so as to impart a rapid rotary built to the horizontal shart, E, having its bearings in the sxee of both driving wheel, M, and stationary wheel, J, all arranged in the manner and for the purpose speci-fied.

fied. Second, I claim the sectional yoke, G, as described, in combination with the annular collar, N, and set screws, C, arranged in the manner and for the pur-poses abown.

[A stationary driving gear is arranged upon a trian gular frame, placed centrally with the main driving wheel, so that the hub of the gear shall form a bearing wheel, and the bora a bearing for the horizontal pinion shaft, a series of spur gearing is arranged on either side of the main wheel, so as to communicate a swift rotary motion to a vertical shaft, from which motion can b conveyed by belts, or otherwise to operate any machinery desired.]

JOINERS' BENOR-J. E. Cryer of Peorla. III.: I claim, first. The nov. the jaw, B. constructed and arranged with reference to the permanent jaw, b, its such man-ner as to secure broperly the lumber to be wrought, and at the same time to form a track for suide log-to glace during the operation of jointing and rejusting is work, as set forth

set forth. Second, Operating the jaw, F, by means of guides e e', rod, f, lever, g, and dog, k, substantially as de

scribed. Third, The gage, p. adjustable vertically, with refer-ence to the jawe, B b, in combination with the scale m, substautially as and for the purposes set forth.

CAEPET SWEEPES-Henry Davis, of Bethlehem, Ct. : Iclaim the arrang ment of the rollers, E E: to operate in combination with the yielding brush, B, and with the scraper, G, substantial vin the guanner and for the purpose specified.

[Under the box of the sweep r two rollers are placed parallel with the brush, and so close to litbat the brush. as it rotates, sweeps against the rollers which serve the double purpose of rolling the box aver the carpet, and aiding the brush to take up the dirt.]

HOMMY MACHINES - Wm. Davis of Middisburg, Md.: I claim providing the outer cylinder, A; with aper-tures, a a, gaged to such a size, as while sarring to dis-charge the hulls, also to perform the additmost inaction of discharging the hominy as soon as would to the desired degree of fineness, in combination with the inner cylinder. B, when the same is driven at the spe-cific speeds as described, for the purposes specified.

Compositions for Roofing-J. M. Day and E. H. A. Oakley, of Aiken. S. C. : We claim the ingredients in the proportions set forth in the specification.

MILESTONE BUEN-M. DeCamp. of South Bend, Ind.: I claim. first, The adjustable tellowure, F. provided with convex sides and baces fitted within, an olibox, A, and arranged in relation with the solitor, D, of the spindle, to operate as and for the purpose for furth Second, The scratced or nother wheels, F. attached to the outer ends of the servers, i, when Assed in con-ucction with the stope, j, attached to the Shatesk, sub-stantially as and for the purpose specified.

(This millstone bush is easily adjusted, keeps the stone true, and prevents waste of oil in [abrication.]

CHTMNEY CAPS-Chas. Douglas, of Hebron. Conn.: I claim inst. The valves. C and Divaid the man-ner and the position in which they are suspend. as described and for the purposes set forth. Second, The arrangement of the neek. If, the top, E G, and the standards, F F, in combination with the valve, D, or its equivalent, substantially as and for the purposes specified.

Dry GAS METSES-Saml. Down, of New York City: I ciaim constructing or arranging the mouth, a b, of the cuancles of communication. a b, between the inley and outlet pipes and the measuring chambers and valve commber of a dry gas meter, to oil down in the wells below the said pipes, substantially as-and for the pur-mose set forth.

manner that, before the liquid .matters can rise high enough to rench the valves or enter the chambers, they will close and seal up the mouths against the passage of the gas, and so shut off the supply until these matters are removed.]

are removed.] RATLEOAD CAE COUPLINGE-Cbristian H. Eisenbrandt, of Baltimore, Md.: I claim the plates, a a a, with the springs, s2 a3 a3, the prong-grasping grippers, b c2 d e e2, with the spring latch, i g h i constructed, ar-ranged and operated substantially as set forth. I also claim the hitching pin or bolt, K K, provided with the chain and button or ring, L L m m, when ar-ranged, operated and used in combination with the claspingprong grippers, b c c2 d e c2, and brake lever, q G q r, substantially as set forth and described. I also claim the combination and arrangement of the sliding belts, n o p, with the pronz-clasping grippers, b c c2 d e c2, substantially as set forth and described. Dryng pos pos Springura Lugarying Ropa_John A

Drvicz Fon Szouring Lielfrying Control and described. Euggren, of Brookiyn, N. Y.: I claim an insulator f.: lightning rods composed of a glass standard, A. a spring clasp, C, having shamks, i, and aboulders, j, and other-wise made as shown and described.

This invention consists in having metal caps fitted on or over the ends of the glass insulators, the cap being received vertically to receive the conductor, and

notched at each side to receive the sbanks of a spring clasp which is provided with anchors or shoulders, one at each end. The shoulders pass into recesses in the ides of the insulators and are retained therein by the elasticity of the shanks of the clasps, the latter retain ing or holding the conductor in the cape and betb the

caps and conductor to the insulator.]

DEVICE FOR CLAMPING THE BOLTS IN CIROCLAR. SAWING SHINELE MAGEINEE—Kascon Freeman, of Fond du Lac. Wis: I claim the arrangement of the siling or adjustable block, with weights, a, attached, or their equivalents, when used in concection with the sliding jawa, D, for the purpose specified. [Letters patent were granted June 29, 1858, to this in-

ventor for a shingle machine, and the present invention is an improvement thereon. It consists in a better device for operating the jaws or dogs for the purpose of dogsing and undogsing the bolts and also in the em ployment or use of an apron arranged relatively with the saw in such a manner as to carry the sawdust during the operation of sawing. Any further information con cerving the invention can be obtained from C. T. Pierson, 24 Broadway, New York.]

THES FOR COTTON BALES-Edwd. Garrett, of New Orleans, La.: I claim the combination of the two Oriests, La.: I chaim the combination of the two plates, a drc., when insde and arranged as or substan-tially as has been set forbl, to form a tie for iron bands for baling cotton, or for similar purposes.

THENE LOCK-E. L. Gaylord, of Terrysville, Conn.: I claim the arrangement of the bolt, B, with the springs, c c D, and tunbler, C, operate substantially as and for the purpose set forth.

(This invention relates to an improvement in that class of locks which are self-locking, and are commonly termed spring locks. Locks of this kind have hitherto heen constructed in a very simple and imperfect manner, no arrangement having been made to apply a tumbler to the bolt to render it secure against lockpickers; such locks, therefore, although very conveni-ent, are only applied to cheap trunks. This invention consists in arranging the holt of the lock with a tumbler and spring, so as to obtain a spring or self-locking tumbler.]

HORES RATES-Elisha Geiger. of Lancaster, Pa clafin the arrangement of the cross bar, K. having fat aprings and heads. J, and provided with arms actuating the supporting bar, F. with, and in relat to the cleaning rockershaft, the whole being construc-and operated as set forth. in relation

and operated as set forth. CASES FOR STREEGOGOFIC PIOTURES-Henry Glosser, of New Nork City: I claim, first, The arrangement of two or more pairs claye-glasses on the same side of a stereoscopic case, so that several persons can look at the pictures at one and, this same time, substantially in the manner specified. Second, The piston frames, D, arranged with cogs, I, or their equivalent, at their lower edges, in combina-tion with the came, J i'', or their equivalents, whereby the same are made to travel from one pair of eye-glasses to the other, substantially and execribed. Third, Giving a double motion to the picture frames, first in a direction gramewreaky through the case by the action of the cam, g, or its equivalent, on the endless belt, E, and second, in a longitudinal direction, by the action of the came, J, substantially as and for the pur-rose set forth. Fourth, The arrangement and combination of the endless belts, E and E', to operate in r-lation to the channel, G, substantially as and for the purpose de-scribed. Fifth, The came, g and g''', arranged in combination

Channel, U, substantial, we must be seriled. Fifth, The came, g and g'', arranged in combination with the came, j ', oc, or their equivalente, in such manner that they produce the within described motion of the picture frame as a liternate intervals, substantially as and for the purpose specified.

[This invention consists in arranging the case with a series of ve-glasses on the same side and with one common reflector for them all, so that a number of per-

sons can have a look at the contents of the case at one time and the picture frames are so arranged that they are brought before the different eye-glasses by the action of one handle, the motion of which is such that

a sufficient time is allowed to contemplate each picture.]

ture.] WASHING MAGEINE-Arthur Gray, of Naples, Me.: I claim the improved washing machine, as made with a a set of fluted rollers and a fluted presser or bucking-board, arranged, constructive and sensitive to the reser-voir, substantially as described, in over to enable the stokas to be both rolled and beaten, as specified, during the operation of washing the same.

Pa.: I claim the combination of the ingle amoke tack, N, single chamber, F, and double series of flue, M M, with the hollow-hinged doors, U U, and diaphragma, K [In dry gas meters it is customary to extend inlet and

MACHINE FOR FILTNO SAWS-A. Hadley, of Lynn, Muss.: I claim, first, Determining the bevel of the teeth of a straight saw by means of pivoting the frame, g, (which supports the rai), e, and saw-plate, s) at h, and hinsing rods, f' i', to said frame, as seen at g' s', and confining these rods in their relative position by set servers, li' h', constructed and arranged substan-tially as described. Second, Determining the bevel of the teeth of a clr-cular saw by arranging the shaft, z', of the saw between two points, I and m, one of the points, m, being adjust-able by means of a grooved piece, n, block n, and set server, O, the whole being constructed and combined substantially as described. Third, Determining the bevel of the straight and clr-cular saws by combising the frame, v, with groover, X', forming arcs of a circle in conditation with clamp servew, a'', and slotted plates, z'', substantially as de-scribed. Fourth, Holding the file by clamps, r'' r'', set servers, o'' o'', in combination with shaft, u'', set servers, p'' and bracket, m'', constructed and operating substantially in the manner and for the purpose set forth. Fifth, The combination of the movable table, O, with the meanism for supporting and moving the saws, constructed and arranged thereon as shown and di-soribod, whereby the same mechine can be quickly isoth. The combination of the mechanism for supporting the max set forth.

C QJ,

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forth. Sixth, The combination of the mechanism for support-ing and moving the saws with the mechanism for sup-porting and operating the file constructed, arranged and combined as described, and for the purposes set forth.

HUDS FOR CARBIAGE WHEELS-Luther T. Hezen, of Coventry, N. Y.: 1 claim enclosing wood hubs for car-riage wheels, or other vehicles, with metal cases which form the pipe-bax and bands, in the manner described and for the purposes set forth.

MAGNINE FOR RAISING RAILROAD TRUCK-William Henuey. of Wapelo, Id.: I claim the balance, H, az-ranged with the arms, I, and with the extensions, J, to operate in combination with the taiston, E, the serrated bar, L, the pawl, M, and with the eccentric disk, C, sub-tautally in the manner and for the purpose de-acribed.

[Au extension balance is placed on the top of a piston which is operated by an eccentric disk that acts against a roller in the lower end of the piston, in connection with a serrated bar attached to the side of the latter so that the same, as it is raised step by step. is retained by a pawl, and the vertical arms of the extension balance are provided with hooks which serve to Catch under and to raise railroad trucks or other heavy articles]

orticles j Overs-John F Hoffmeister, of Alton, Ill : I claim the arrangem nt of the flues, F F', which terminate in the chamber, H. in combination with the additional flue, J, to op-rate in combination with the rotary plat-form, E, substantially as and for the purpose specified.

[A rotary platform is arranged over the flues which convey the heat from the fire place, and the heat is carried by two other flues (uniting into one) over the platform, so that the dough which is placed on the plat-form is exposed to a considerable and uniform beat during the first half of its rotation and to a less hist during the latter half of its rotation, and so a loaf of bread or other article is well baked after it bas been once rotate t on the platform.]

CLOTHES DEFER.-C. R. Hurlbut, of Yorkshire, N. Y.; I claim the esseribed article of manufacture, con-structed as described, to wit, the arrangement of standards, C. side rails, E. E and G. G. cross sails, F. F. D and I. J. and sash, B. B. previded on their under side with buttons, K. K. the whole bring jointer, and the several parts acting conjointy; substantially in the manner and for the purpose specified.

Cootess For Berg-Chas. Jones, of Brooklyn, N. Y.: I claim the shell, D. arranged in the cooler, so as to form the two compariments, a and b, to operate in com-bination with the coil, E, as and for the purposes de-

[This is an excellent beer cooler, which reduces the temperature of that (by some) much admired beverage without detracting from its exhilerating or tonic properties.]

MANUFACTURE OF WATERFROOF CEMENT PIPES-Alired Fauvin Jaloureau, of Paris, France. Path nted in France Dec. 30, 1857; I claim the manafasture of *irand water-tight tubes or pipes by the process set forth.

SEFARATORS FOR SMUT MACHINES-G. P. Jordan, of Burington, Iowa; I claim, first, The combination and arrangement of the scourer, I, with the shout, D, chamber, C, and bux, B, provided with the blast cham-bers, b, spont. H, fan, F, and screens, u v, substan-tially as and for the purpose set forth. Second, The employment or use of the valves, c', placed in the partition plates, a, when used in com-bination with the fan, F, chamber, C, spout, D, and for the purpose set forth.

[The scourer in this smut machine is constructed in a novel manner, and is used in connection with screens. blast passages and a fan, is such a manner that the separation of smut and other impurities from grain is cffect d by a very simple machine]

CHECK d by a very simple machine j CHURN-Wm. K-lly, of Hastings, Mich.: I claim the combination of the dashers, E E, with the slide parti-tion, D, and connecting rods, F F, as described, the parts being so connect-d to the frame that the oscilla-tions of the claurns shall operate the dashers, E E, and force the cream against and through the slide partition, substantially as set forth; not intending to claim the operation of the dasher or dasher s by the oscillations of the cluurn, hut only the combination and arrangement of the vitrating dashers with the morable partition and concomitant parts, as described for the purposes set forth.

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Strain, operated by the main shart, which the face and sweep loost, to witch it is staticated, and the eighth arm, when arranged in the manner described. Second, The open work divider, to divide the grain failing upon the platform from the gavel being removed there for m by the rake, when a mranged upon the rake-head, in the manner sudfor the purpose specified. Third, The spring-oatch marked c, and dog marked s, in combination, and the location of said catoh, to break the forward motion of the rake, and its return by the spring, arranged substantially as usecrived. Fourth, The plojection on the lower side of the slot or noten in the dog to arrest the catch with certainty the manner described. Fith, The application and arrangement of the tooth-ed rack connected with the spring, by which the rake is caught and held after its descent upon the gavel; the HARVESTING MACHINES-Jesse Little, of Chambers HARVESTING MACHINES-J**Se Little, of Chamberg-bury, Pa. I I claim the arrangement of the siding brace. A, in combination with the tongue, p, and bar, B, constructed and operating in the manner described for the purpose specified. Second, The combination and arrangement of the caster plate, c, jaws, I I, and segments, G G, in the manner and for the purpose described. chamber of a below the said STEAM BOILERS—Benj. L. Griffith, of Hazeltownship, Pa: I claim the combination of the ingle amokes tack.

Scientific American.

holding the frame in an upright position and guiding it in its backward and forward movements, and for changing its position so as to reveise the action of the paddle blades or fliers upon the water.]

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METHOD OF FORMING PLOW HANDLES-Gee. W. Mathews, of York, PA.: I claim the arrangement and combination of the carriage, C, provided with the pat-terns or curved surfaces, f. the adjustable rotating cutter head. I. belt, H. adjustable shatt, D, provided with pinion, C, and the rack, b, atta hed to carriage, C, sub.tantially as and for the purpose set forth. [Two rotating cutter-heads, provided with novel cut-

ters, are used in connection with a carriage in which the "stuff" to be operated upon is centered, and which carriage is provided with a pattern to actuate one of the outter-heads, the axis of which is fitted in movable bearings. By this arrangement the "stuff" is fed to the cutters and the movable cutter-head adjusted by the forward movement of the carriage, and both the carriage and cutter-head operated from a single driving shaft, the whole forming a remarkably efficient machiue.]

[The piping that is the subject of this patent has longitudinal strips of metal laid along it at certain distances apart, and wire of a suitable size is coiled around it either closely or loosely, as may be desired, whereby strength, chespacess and durablity are eminently attaine 1.]

BAG FASTENEL-WM. P. Maxson, of Albion, Wis.: I obtain the employment of the oblong grooved faced plate. A. or its equivalent, having two segments of its middle burries punched out, so as to admit the string and fast-nit to the bag, in combination with the string, B, and ring, E, when constructed to operate upon the princip eof the wedge, substantially as and for the pur-pose set forth.

EGG BEATER-Thos. McBeau, of Fowlerville, N. Y.: I olain the double spiral dasher, A. in combination with a square box, where the same are arranged sub-stantially as specified.

SEED PLANTERS-John McKown, of Geardstown, Va. I claim the arringer nt is with operation of the horizentally-moving hand-lever, K, writeal shaft, J, horiz nata lebow lever, I, horizental sidea, H H, divi-ded hopper, G, see 1 tube, F, and vacuum-plate, L, sub-stantially as and for the purpose set lorth.

sta utially as and for the purposes set forth. SEATS AND COUNTES FOR SLEEPING CARS—Thomas E. McNeil, of Philadlaphia, Pa.: I claim, first, Twoadja-chtseats, each seat having detachable cushioned boards, G, and E., and each having a permanent end frame, D, and a rear frame, F, with upp rand lowerledges, i and h, in combination with the swing-backet. H, and rib. I, or their equivalents, the whole being arranged sub-stantially as set forth, so that the cushioned boards, G, of the two adjacent seats may form one couch, and the boards, E. of the same seatsr, another couch, and the boards, E. of the same seatsr, a form one couch, and the boards, E. of for the purpose specified. Second. Constructing and arranging the end frames, D, of four seats, substantially in the manner set forth, so that they may serve as supports for the cushioned platforms, which form the two intermediate berths. ATACHING TIMLS TO AXLES—John Miller, of Blacy-

ATRACHING THILLS TO AXLES—John Miller, of Biety-rus, Oilo: I claim the adjusting and securing the no k, s, on the pins, i, by means of the circular take, bc, on the jaws D, and the shoulders, rr, on the iron, E, substantially as and for the purpose set forth.

THEESHING MACHINES-John R. Moffitt, of Pique, Ohio: I claim the dearthed arrangement of fixed barings, t, set screws, e, (In the line of adjustment.) and hinged concave heads, cd, the whole operating to-rether to set, and rigidly retain the toothed portion of the concave at any desired proximity to the threshing cylinder, while at the ride at which the unthreshed grain enters, its distance is substantially unchanged.

MACHINE FOR DRESSING KID SKINS—Timothy New-hall, of Lynn, Mass.: I claim the rotary brush, F, in connection with the reciprocating bid, or carriage, C, connected with its guide-rock. B B, by springs, D D, the parts being arrang.ed to operate substantially as and for the purpose set forth.

['The object of this invention is to brush up a gloss on kid and other thin skins, after being colored and gummed. The invention consists in the employment of a rotary brush in connection with a reciprocating yielding bed, arranged to produce the effect desired.]

yielding bed, arranged to produce the effect desired.] SMOT MACHNES-T. A. Noble and Er stus (by, of Akren, Onio, and James B. Augell, of Alleghany, PA: We claim, first, The adjustable hoop, C, in connection with the increased channer, f, to reculate the blast passing up throuch the circular opening, N, also the adjustable ring. D, to regulate the blast coming up through the circular opening, E; the operation in both cases being to increase or diminish the blast, as may berequired, substantially as set forth. "Second, The chamber, G, in combination with arm, F, and spott, L, when said chamber is places above the revolving chamber, H, to catch the screenings, ubtantily as set forth. "Third, The revolving chamber, H, provided with ides, h, and rim, h', for distributing the wheat evenly as it fails over the edge of the im. h', so as to be more effectually openated upon by the blast passing up the opening, E, and size the finance, M, upon splinder, L, for the similar distribution scene troth. Fourth, M, kkug the conical scener, O, adjustable propendicularly, both independently of shaft, A, and disc, L, and it no, h', and scener for a size to the string through opening. N, as st forth.

Substantially as set forth.

Malden. M 185.: I clann the alternating or vibrating segment carrying the two cutters, having the toe and heel in opposite directions. I claim the yielding table which supports the leather as it is fed tor ward, and the yielding gauge by which the leather is brought to the right position to be ope-rated upou by the cutters. I also claim the projecting knife-edge at the heel and toe of the cutter, by which the scraps are detached from the strip of leather.

PLATFORM SCALES-Ellasthan Sampson, of St. Johnsbury, Vt.: I claim attaching the rails, \blacktriangle A, of the platform direct to the sleepers. B, which are connected at each end by links, m. to yokes, H. fitted on levers, E, the lower ends of sail levers, at each side of the ristform, brinz connected together and to the shaft, G, of the scale-beam, by rods, g, substantially as and for the purpose set forth. I also claim the employment or use of the adjustable code, F, attached to the levers, E, to be permit of the some for the substantial of the compensation of the same for the purpose specified.

[The object of this invention is to adapt what is platform scales" to a railroad, in such a manner that the scales will be rendered extremely durable, all the difficulties attending the ordinary mode of application being obviated, and the device rendered much more simple and efficient.]

BUORLES-Adolph Roesler, of Warsaw, Ill:: I claim he tug-ritte, A. A. the trace-plate. D. having one or hore knobs, a. the fork-shaped hame-hook, a. and haw rod, h. all arranged substantially a described, and for the purpose specified.

CAR COUPLINGS - Richard Rickkon. of Roobester, N.Y.: I clim constructing self-adjusting car-coup-lines, with a series of grooves, g, as above specified, so as to admit of the conpling (with self-couplers) of cars of unergual hights, for the purpose set forth.

BURNERS FOR VAPOR LAMPS - Robert Ramsey, of "Alladelphia, PA.: I claim the combination of the rick tube, B, the gas chamber, t. C. the tube, D, and et. E arranged and operating substantially as des-ribed

STOVES-Richard B. Pullan, of Cincinnati, Ohio: I claim a rotatica vessel, provided with two grates, and a central row of grate-bars arr uged within stoves such manner as to form two fire-chambers, one above the other, and which may be need alternately, substan-tially in the manner and for the purposes set forth.

M VORINE FOR STRIPPING AND CUTTING SUGAR-CARE FOR GRINDING-Luther E. POTER, of Lake Mills, Wis: I Oalan first. The divided clasp, H H, I i k k, arranged substantially as described. Ssoond. In sombination with the above I claim the spring outlers, m, m, all constructed, arranged and operating substantially as described for the purpose set forth.

METALLIO SHIELDS FOE BOOTS AND SHOES — Jonah Platt and Myron D. Brooks, of Akron. Ohio: We claim the construction of boot and shoe shields having an opening in 1001 to prevent water or sand from be-ing entrapped between theshield and the leath r, sub-stantially as described.

SRATS FOR CHURCHES, SOHOOLS, ETG.—Charles Perley, of New York City: I claim the combination of the swinging bracket, q, with the turning seat, d, connected and acting in the manner aud for the purposes speci-fied.

fied. CHUOK FOR SOREW-CUTTING--Richard Nuttall and J-bu Kirkoatrick, of Allezhany, Pa.: We claim, first, The rive, D. having a portion of the inside cut away or recessed for the purpose of making room for the outer end of the cutting diss, said ring being furnished with came, e. on the inside, and with aspring catch, h, lever, g, cam, k, and locking stud, l, on the outside, as des-crited and for the purpose set forth. Becoud, The cum chambir, w, in the die box, b, when used in connection with the came, e, and ring, d, as described and for the purpose set forth. Third, The regulating stud when made in three parts, as herein represented, and used in connection with the dle-box, b, ring, d, and spring-catch, h, as described and for the purpose set forth. Tou th, The combination and arrangement of the die-box, b, cutting dies, fi and cap, c, with the ring, d, the whole being combined, arranged, constructed and op-rated as described, and for the purpose set forth. Fibh, The eccentric lever, j, on the face-plate, d, when used in combination with the lever, e, cam, k, locking-stud, 1, and spring-catch, h, as described and for the purpose set forth. MAQUINE FOR Current SCREWS-Rechard Nuttall and

for to spurpose see forta, MADHINE FOR CLETCIN SOREWS-Richard Nuttall and John Kikwurick, of Alleghany, Pa.: We claim, first, The combination and arrangement of the levers, m and n. rods, k and l. stops, os and p, and springs, Q, with the bolding or sliding head, d, and eccentric lever, r, the whole being combined, arrivinged and constructed in the manner described and for the purpose set forth. Second, The use of the sliding or holding head, d and eccentric lever, r, when used for the purpose of opening and closing cutting-dies in chucks for screw-cutting.

SPRING BALANCE FOR WINDOW SASE-F. H. Smith, of Plainville, Conn.: I claim the manner of securing the puleys in the head jamb of the window frame, as described, the manner of winding up and adjusting the two pulleys through one orifice, for the purpose described.

COAL SOBERN-Jasper Snell and John R. Delhan, of Pottsville, Pa.: We claim the arrangement of the plates or blades, C, in parallel planes, with spaces be-tween their edges, so as to alope lengthwise of the screen, and crosswise from the center of the screen, substantially in the manner and for the purpose speci-fied and set forth.

FRIOTION PULLEYS-Edward Spalding, of Westbor-ough, Mass. I claim the combination of the tubular rest. D. with the driving pulley, A, the hanger, E, or its equivalent, and the shaft, C. of the driving-pulley, B, the pulleys being arranged and made to operate with respect to one another, essentially as specified.

SAILSFOR FORE AND AFT RIGGED VESSELS—A. Wash-ington Stewart. of Cambridge, Md.: I claim as my im-provement in foresails the clus-sail, b, of the form spe-cified, united to the after-leach of the fore-sail, and managed by sheets, e c', as set forth.

SEED PLANTERS-Stephen L. Stockstill, of Medway, Ohio: I claim the described arraugement of the open notches, l, l, pivot, m, drag-bar, k, and pin, p, the whole being constructed in the manner and for the purpose set forth.

MEGHANISM FOR VARYING SPEED—James A. Stod-dard, of Miiford. Muss.: I claim gradnating or varying speed, by means of pulleys, or their equivalents, oper-ated in connection with surface, wheels, or their equi-valente, in such manner as to receive and transmit the motion at variable distances from their centers, when constructed and operating substantially in the manner set forth and described.

PLATFORM SOALES-Francis M. Strong and Thomas Ross, of Brandon, Vt.: We claim arranging the series of rocking levers which sustain the platform, with their shafts all parallel, and with the arms of all of them in the same line, except those constituting the inner section, which are include, subtantially as de-scribed, in combination with the transmitting lever above which they are all supended at equal distances from the axis of vibration, substantially as and for the purpose described. We also claim the method of connecting the several sections of the shaft of the transmitting lever, by means of projections and lick, subtantially as de-cribed, in the method of connecting the several sections of the shaft of the transmitting lever, by means of projections and lick, subtantially as des-ribed, for the purpose of enabling it to yirld freely to inequalities or variations in the supmort, that it may vibratefreely and without binding, and thereby trans-mit the weight accurately to the scale beam, as des-relbed. We also claim suppending the bearing blocks by twe licks, in manner, subsantially as described, so that

mit the weight accurately to the scale beam, as des-cribed. We also claim suspending the baaring blocks by twe links, in manner substantially as described, so that any awinging motion of the levers will not cause the blocks to vibrate on the knif-edges, by which means weare enabled the better to preserve fine knife-edges, so essential to accurate weiching. We also claim constructing the bearing pieces with convex face and projecting the one at ubstantially as des-cribed, whereby they are rendered self-adjusting, that the knife-edges may baar without binding, as set forth. And we also claim, in combination with the nov-iron adjustable by a screw in the end of the transmit-ting lever, the supplyment of a spring bearing against the end of the adjusting socrew, substantially as des-cribed and for the purpose set forth.

MACHINE FOR CUTTING ISREGULAR FORME-ISARC T. Tice, of Baltimore. Md.: I claim the employment or us: of the vibrating bad, B, with fance or gauge, E, and feed or pressure rollers, F G. Attached in connec-tion with the rotary cutter-head, H, fitted in station-ary bearings on the platform or table, the whole being arranged to operate substantially as and for the pur-pose set forth.

[A fence or gage, as well as a feed and pressing roller. is used in connection therewith, by which means a simple machine for cutting wood moldings, and one that may be operated with great facility. and that will do its work with great rapidity, is obtained.]

SUGAR-CANE HARVESTERS - Robert R. Tsylor, of Reading, PA: I claim the two sets of rotating cutters, one set being situated above and in advance of the other set, in combination with the reel, n. and shi-ld, L. the whole being arranged substantially as and for the purpose set forth.

L. the whole beind arranged substantially as and for the purpose set forth. MACHINE FOR CUTTING SOLES—John Thompson, of Marbienead, Mass. I olaim the arrangement and ap-Direction of entirs sole-cutters, K. L. (viz. such as are capable of cutting out an entire sole, finished on its sides, toes and head, on opposite sides of a rotary shaft, and during each descent of k an entire sele, withheel and the complete, may be cut from the piece of the leather by one of such sole-cutters acting there-on, and while the piece of leather is supported on the bed or block undersuch shaft. I claim the application of the eath and cam' to the pinion, and a spring sider applied to the shaft, G, and so as to operate therewild, substantially as specified. I claim in connection with the entire sole-cutters, K. L, applied to opposite sides of the shaft, G, and operated is described, a gage. Y and mechanism to operate k in such manner as first to move k up to the path of the cutter, and carry it away therefrom suffi-ciently in cancel the supporting bud, as described. ____Rowen ChAIR___Thos. H. Tatlow, Jr., of Palmyra,

ROCHANG CHAIR-Thos. H. Tatlow, Jr., of Palmyra, Mo. J claim a rocking chair, having its arms extend-iog down to the rockers, and its back arranged and operated as specified.

[This invention consists in extending the arms of the chair down behind the seat to the rockers, so as to form a circulararc, the underedge of which is provided with saw-teeth, which serve to retain the back in any desired inclination, by means of a rod with two rect-angular bends at each end, which rod is attached to the back, and the bends of which are forced into the saw-teeth attached to the extensions of these arms, by means of springs.]

REFING FORBAND AFTSAILS-JamesL. Townsend of Newburyport, Mass. I claim the application of part U, to the mast, A, so as co be capable of be dropped downward, on either side of the sail, into about into parallelism with the mast, as specified ambinetion with the mast, as specified accumbination with the application of one or two head reefing lines, LL', to the gast and the sail, so as to enable thesiack of the leach and upper part of the sail to be taken up, and also the lower end of the gaff to be sccured, in order to effect the reefing of the sail, as

and are in a basis to be a set of the said means of a glass claim, in combination with the said means of reading the head, and broddicing the lap of the sail, one or marks bundling, or lap securing lines, M, M, N N, asplied to the leash and the body of the sail, substan-tially in manner and to operate as described.

MOLDING MACHINE -- Chapman Warner, of New York City : I claim, first, The method of packing the sand by (revelucie; if from any given bight, substantially in manner described. Second, The mode of obtaining the same result by means of revolving bladed shafts, substantially as des-cibed

Second, The mode of obtaining the same trainer of means of revolving bladed shafts, substantially as des-cribed. Third, The double-hinged flask, constructed and se-cured by plates and pins, substantially as described. Fourth, The table constructed substantially as des-cribed, under and independent of the molding board, capable only of a vertical motion communicated to it by the arrangement described, or any one equivalent thereto, and working in connection with the molding board, through which latter the patterns, which are fastened on the table, protrude. Fifth, The mode, substantially as described, of sup-porting the molding board, from beneath and through the table. Sixth, I claim the combination of apparatus for nacking the eand with the mode of hinging and secur-ing the same the the mode of hinging and secur-ing the same that the molding board, supported as above described, and the whole operating substan-tially as described. RING TEAVELES SPINNING FEAME-Joseph W. Wai-

CULTIVATORS-W. I. Wilson, of Franklin, Ind.: I claim the arrangement of axles, A and E. wheels, B, levers, C. G. shanks, D D, plows, s a. cross-blees, I, guides, F and srms, d d, for operating conjointly in the manner and for the purpose set forth.

the manner and for the purpose set forth. Saw FillEs—Solon Woed, of White Pine, Pa.: I claim the arrangement of the cutters, C, on an arbor, B, the bearings of which are so arranged that the cut-ters are subjected to the action of adjustable spiral springs, or their equivalents, substantially in the man-ner and for the purpose specified. And I also claim the additional arm, e, which is hinced to the bur, a, in combination with the sliding pirces, c, for the purpose of allowing the catters to follow the actions of the springs, h, in two directions, substantially as described.

[This invention consists in arranging a series of re-

volving cutters which correspond to the shape of the saw-teeth, on an arbor, which has its bearings in a frame that can readily be attached to the saw, the aroor being so arranged that it can be rotated hy means of bevel wheels, and that the cutters are kept up to the work by spiral springs, the strain of which can be regulated by set-screws.]

GING OB BYLFOR SIGNALS-Issac F. Woodward, of Phiadelphia, Pa.: I claim the escaphin-it bar. B. con-structed substantially as described, in combination with the end. J. and pin, K. of the hammer or striking arm, C, the whole arranged substantially as described and for the purpose set forth.

for the purpose set forth. MAGHINES FOR MARINGCLAY PIRES-HENTY Aregood. of Mausfel I Township. N.J. and Stephen Ustick. of Poliadelphis, P4., sesignors to John L. Mackaight. of Bordentowo, N.J. We claim. first, The annular ring, G', upon the corepin, H, (which is also provided with a foct), in cumbination with a fhance upon the inside of the outer front end of the mold, G, to retain the core pin is place while forming the bell end of the pipe, operated in the manner and for the purposes sneedied. Second, The cam wheel, I., in combination with the piton, J, trough, B, and its connections, mold. G, and ore pin, H, for making the bell end and straight part of the pipe at one operation. Third, The combination of the rock-wafte. O and O', with the two halves of the mold, C, the former being operated by the cam wheel, M, and shaft, N, for the purp-ment described.

operated by the cam wheel, M, and shaft, N, for the pur-poses described. Fourth, The stide, D, rod, R, and cam strip, Q, ar-ranzard as described, for the purpose set forth. Fifth, The arranzement and combination of the cam, U, rock-shaft, T, and levers, W and V, for operating the knife, I, in the manner and for the purpose speci-fied.

WEENOM-Henry J. Behrens, (48815 nor to Charles 5. Pomeroy.) of New York City; I claim providing the socket, C. of the screw, with a pivot or hinge. substan-tially in the manner and for the purpose specified.

CAPPET SWEEPER-WIN. G. Budlong, (usignor to Hamilton W. Conklin and James W. Coroling) of Hartrord, Conn.: I claim, in combination with the gear-wheel, D, and sprew, h, by which the highlight of the bru-lever, C, and sprew, h, by which the highlight of the bru-is adjusted and the plain is engaged with the driving gear, arranged substantially as and for the purpose spe-cified.

BUEGLAE'S ALARM-John G. Clark, (assignor to him self and Samuei VV. Hatch) of Aususta, Ga; I claim, first, The employment of one or more cap nipples. C, on a suspended gravitating breech-piece or likte, to receive a percussion cap or cope when said breech-piece (arms part of a burglar's alarm, substantially asand for the purpose set (orth. Second, Providing said suspended breech-piece (arms for the avertical stem, and arrauging to slide over said stem a tubular weight, so that when the alarm de-taches from the door and strikes the floor, the percus-sion force of the breech-piece and weight will explode the cap or cap sand produc the desired alarm, substan-tially as set forth. Third, Arranging the spring on the stem of the breech-piece between the breech-piece and weight, so that the same shall be held far enough apart to allow the necessary movement of the same toward each other to explode the cap or caps when the alarm strikes the floor, substantially as set forth. Fourth, Providing serrations on the under side of the suspending bracket, so that said bracket shall move with the door until it clears the framing, substantially as and for the purposes set forth. [This is a little device to be carried in the pocket by BURGLAR'S ALARM-John G. Clark, (assignor to him self and Samuel W. Hatch.) of Augusta, Ga; I claim,

[This is a little device to be carried in the pocket by travelers. On going to bed it is attached to the door by pushing a bracket in betweenits upper edge and the upperpart of the frame. From the bracket the alarm is suspended by means of a chain above the floor. When the door is opened the bracket detaches and the alarm falls to the floor. The concussion of the breechpiece, which carries percussion caps, with a descending weight explodes the caps and produces an alarm, there by warning the sleeper of the approach of burglars. We think this a capital little device, and every traveler should provide himself with one.]

ATPARATUS FOR CONTING BY STEAM-H. W. Horton, of Wheaton, Ill., assignor to Oliver H. Horton, of Chicago, Ill., and Roswell E. Adams, of Wheaton, Ill. I claim the described arrangement of a steam biller, C, in combination with a steam chamber, E. which com-municates with the boller by means of a slide, e. or fis equivalent, and one end of which contains the oven, G, the whole being arranged substantially as and for the purpose specified.

[This invention consists in arranging over a closed space formed in the lower part of a box with a flat bottom, a steam chamber, which communicates with the boiler by means of a slide which can be operated from the outside, and part of which forms a separate compartment or oven smaller than the chamber, so that when the chamber is filled with steam the oven will be surrounded by it except where the door is, the whole being so arranged as to cook articles in thesteam or in dry air, and that the oven serves for baking.]

HOSE COUPLING-N. N McLeod, (assignor to Carroll Loss control to the same set of the same set piece that the cone, D, is, as shown and described

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FOLDING CRADLE-L. K. Selden, of Haddam, Conn.: I claim, first, The rockers, A, of a cradle, arranged with slate, a, or their equivalents, and operating in combination with the bottom braces. B, the uprisht cross-bars, C, the longitudinal burs, D, an this top bars, E, substantially in the manner and for the pur-pose superfield.

pose specified. S-cood, The arrangement of the all les, b, in com-bination with the bottom braces, B, and with the up-right cross-bars, C, to operate substantially as and for the purpose described.

[Tae cradle-frame is constructed in such a manuer that it folds up into the length of one of the rockers. and when unfolded it is firm and secure.]

STRAW CUTTERS-George Rouha, of Lima, Ohio: I claim the relative arrangement for unit-d operation in a straw-cutter, of the reciprocating cutting.knifa, C, when arranged in a circularly-moving frame, recip-rocating feeding-rake, E, and rising and falling pivoted press-board, G, asid parts being connected and oper-ated in the manner set forth.

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PORTABLE WAGON JAORS-Henry Stowell and L renzo Spencer, of Placerville, Cal. We claim the p culiar arrangement, combination and adaptation f the purpose of raising the axies of wagons and oth heavy bodies, to which the foregoing invention may be adapte 1.

adapte J. WEIGHING SOALES-Francis M. Strong and Thomas Ross, of Brandon, VL: We claim the employment of an auxili ary frame, substantially such as described in combination with and interposed between the plat-form and levera, substantially as described and for the purpose specified. We also claim constructing such intermediate frame in two parts, counceted by movable joints at the angles, substantially as and for the purpose specified. We also claim the maner of constructing aud in-serting the bearing-lines that resident the Lufic-edges, substantially as and for the purpose specified. We also claim the inclust are specified. We also claim the method of the arm simme-diately one above the other, in combination with the bear, by single and double connecting-rode, substantially as described andfor the purpose set forth.

RING TRAVELER SPINNING FRAME-Joseph W. Wat-tles, of Cauton, Mass.: I claim the improved arrange-ment of the ring flanches by which the travelar is sup-ported, and on which it alides, the same consisting in arranging them with reference to the ring, or it saxis, substantially as shown in the accompagying drawings.

HARVESTING MACHINES-Jesse Whitehead, of Mau-chester, Va.: I claim, first, The supplemental dis-charging rake, O, arranged with its actuating mechan-ism, substantially as shown and described, so as to op-erate atheratically and conjointly wish the platform rake, K for the purpose specified.

Take, A for the purpose specified. Second, Attaching or suspending the rake-head, J, to the sha^tt, H, by means of the pulley, d, rod, I, ob-lique bars, f f, and pulley, h, substantially as shown and described, whereby the head, J, is slilowed to vi-brate, and is perfectly guided or retained on the shaft. H. ate, at

[Letters patent were granted to this inventor on Dec. 2, 1856, for an automatic raking attachment, on which this is an improvement. The object of this invention is to render the device more compact than formerly, and also to insure the free dl-charge of the grain so that the same will be delivered in compact gavels, and therefore bind into sheaves with facility.]

WATERPROOF SOLE-John W. Smith, of Washington, D. C., assignor to himself and Walter W. Perry, of Bil-timore, M.I. I'slalm as a new article of inaunifacture, the waterproof inside sole, when constructed of the compound, above described, placed betw n two sheets of paper, in the manuer set forth.

SPLINT BROOM-John W. Wheeler. (assigner to Alden B. Skockwell.) of Cleveland. Obio: I claim the forma-tion of brooms composed of separate wrought splints, when constructed in the manner described and set forth, as a new article of manufacture.

Machines For CEANNELING AND EDGING SoLES OF BOOTS AND SECSEMARTING VERSON, (4-eignor to him-self and D. BOSS-Martin Wesson, (4-eignor to him-self and D. BOSS-Martin Verson, (4-eignor to him-first: The combination of the feed rolls, E f. adjustable koives. b b', and the guide, R, when constructed and operating substantially in the manner and for the pur-pose set forth. Second, The combination of lever, L, sliding pieces, h h', and knives, b b', when arranged and operating as described, and forming a knich-holding arrangement. for the purpose specified.

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[Continned on page 327.]

Scientific American.

[Concluded from page 323.] CIRCULAR CLAMPE FOR SEWING MACHINES-Stephen G. Tyler, (assissor to bimselt, G. J. Saage and J. W. Baraum J of Quincy, Ill.: I claim the combinatiou of a central disk. c, with the convex clamping disk, d, and the flat austaining disk, f, substantially in the manner described, for the purposes of dividing the crown and quarters of circular sewing and presenting the edge of the fabric to the needle, in the manner set forth,

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RE-ISSUES.

BE-ISSUES. MANUFACTURE OF INDIA-RUBBER GOODS BY MEANS OF ZINC COMPOUNDS—Horace H. D.S., of New York City, assignce of Hemry G. Tyer and George Helm, of New Brunewick, N. J. Patvnted Jan. 30, 1849; Re-issued Aug 7, 1849; I claim india-ubber f.brics made by the combination of cacouchous, in its several varie-ties, with the sulphuret of zinc, or the sulphiret of zinc, or the hyposulphit of zinc, or the sulphiret of zinc, and also with zinc compounds in their several forms, as set forts, and sulphur, and in combination with these in either case, the submitting raid compound to the action of steam at a high t-mperature, the whole being com-bined and manufactured substantially as described. AFTARATES FOR RAISING WATER—WM. T. Bartnes.

bined and manulactured substantially as described. AFFARATUS FOR RAISING WATER-WM. T. Barnes, of Buifalo, N. Y. Patented March 20, 1849: 1 claim, first, The combination of a casing whose sides slope out-ward from the induction opening with a revolving pis-ton. the edge or whose blad s conform to, and run near to the sloping sides of the casing or the spiral rib, sub-stantially as described for the purpose set forth. Second, Ia combination with a casing whose sides slope outward from the eduction openings, I claim a ro-tating piston, with fixed blades, included upon the face to the slope on the stream of liquid east tenters the casing containing the stream of liquid east tenters the substantially as described, so that the blades of the pis-to pass over these openings.

INTERANCE—Thos. Rohjohn. of New York City. Pat ented Aug. 25, 1857; 1 claim, first, The arrangement for fixing the clastic diaphragm by attaching a mechan-ism in connection with the cover for the ink cup, that the opening and closing thereof shall effect the raising or dicelarge of the ink or other fluid into or from said cup as an cliff.

or dicturge of the link of other fluid into of froit said second, The coveravranged and operating, as above set forth, in combination with the clastic or flexible diaphragm and a non-corrosive fountain or ink cup, when operating as and for the purposes specified. Third, The combination and arrangement of cam-lewer, d, and plunger, i, or the equivalents thereof, for eff. cting the raising or discharge of the ink by raising or closing the cave or of the non-corrosive fountain cup, substantially as specified. Fourth, Arranging the came onters in such relation to each other that, by raising the cover, the requisite depression of the diaphragm will be produce to obtain the required result, as specified.

[An engraving and description of this simple, cleanly and efficient inkstand was published on page 160, ∇ ol. XIIL, of the SOLENTIFIC AMERICAN.]

ADDITIONAL IMPROVEMENT.

Bow WHIFTLE TREES-Freedom Monroe, of Romeo, Mich. Patented Aug. 26, 1853 : Iclaim the bearing bar, the chain and braces attacted thereto, and the padoled swivel joint, to be used in combination with my im-provement in harness disclaiming the original inven-tion heretofore patented.

DESIGN.

SEPOLOHBAL MONUMENTS-Richard Barry, of Boston, Maas

Norz-Two weeks ago we stated that probably there was never so many patents granted to the clients of a single agent b fore, in one week, as was granted to our's in that. But in this week's list the number, we are gratified to find is the same ; thus making sixry. FOUR patents issued, in two weeks, to persons who had theirpapers prepared and business conducted at the home office of the SCIENTIFIC AMERICAN.

IMPORTANT TO INVENTORS.

IMPORTANT TO INVENTORS. MERICAN AND FOREIGN PATENT BOLICORS.-MEESTS MUNN& CO., Proprie-tors of the SCHENTIC A PERICAN, CONLINUE to produce patents for inventors in the United States and all foreign ountries on the most liberal terms. Our experience is of thirteen years' standing, and our facilities are un-equaled by any other agency in bla world. The long argentence we have had in proparing specifications and drawings has rende ed as perfectly conversant with the mode of doing business at the United States Patent office, and with mostof the inventions which have been patented. Information concerning the patentability of invacions is forcely given, without charge, on sending a model or drawing and description to tils office. Toromitation may be had with the firm, between nine and four o'clock, daily, at their principal office. 87 Park Row. New York. We established, over a year so, a Branch Office. This office is under the general up rintendence of one of the firm, and is in div communication with the Principal Office. In New York, and personal attention will be given at the patent office to all such cases as may require it. In-pentors and others who may visit Washington, having board office, are cordially invited to be and others who may visit Washington, having board office. This office, a negating the the firm, and is in div or office. We are very extensively engaged in the properation and securing of patents in the various European coun-

business at the latent Omce, are cornary invited to call at our office. We are very extensively engaged in the preparation and securing of patents in the various European coun-tries. For the transaction of this business we have offices at Nos. 56 Chancery Lane, London; 28 Boulevard Et Martin, Paris; and 36 Kus des Eperonniers, Brussela. We think we may safely say that three-lourths of all the European patent ascord to American citizens are procured through our Agency. Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there. Circulars of information concerning the Propreourse

Girculars of information concerning the Propersonre to be pursued in obtaining patents through our Agency, the requirements of the Patent Office, dec, may be had gratis upon application at the Principal office or either of the branches.

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7 Small Lathes; turn from 3 to 19 feet. Planer 13 feet by 3 f t square. Compound Planer, with circular attachment. Wood-Turning Lathes. D Drill Presses, 1 Grear Cutter, 1 Bolt Cutter, Vises, d a fine ass rtuent of small tools to expedite work.

a wood of thinks Lattness. 3 Drill Pressea I Grear Cutter, 1 Bolt Cutter, Vises, and a fine ass riment of small tools to expedite work. Terms of ssls will be for the buildings and ground (which will be sold without any of the machinery), 57000 in one, two, three, jour and five years, and the excess upon six and sighteen months, with lien and approved security upon the first ion payments. The machinery and tools will be sold in d-tail : all sums of \$50 and under, each; from \$50 to \$500, six months; \$500 to \$1000, six and twelve months; and over \$1000, six, twelve and eighteen months, with approved security paysale In bank. All deferred payment to bear in-terest from date. E. A. GARDNER, Assignee of Lawsou & Pearc. N. B.—The above buildings are admirably suited for an Asricultural Inghe ment Manufactory, Flaning Mill, Furniture of Tobacco Factory, Brewery, and tor many other branches of manufactures.

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