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Improvement in Starch Gum and Grape Sugar Manufacture.

Mr. Hoffmann, a chemist in Beardstown, Ill., has invented an improved method of converting starch, corn or other grain into dextrin gum or grape sugar. He uses steam, diluted acid and water, at a much higher temperature than the boiling point of water in an enclosed and steam tight mash tub. To every bushel of grain about twelve gallons of boiling water are used, and an additional quantity in proportion to the pressure of the steam; one or two per cent of the weight of corn, of weak sulphuric acid is also employed. These are gradually added together, and mashed under steam pressure for two or three hours, the starch of the corn is converted into dextrin, and by the addition of chalk or marble dust to neutralize the acid while at the atmospheric pressure, and when all the acid has been neutralized and the whole has stood for an hour or so, the starch gum can be obtained by evaporation; by continuing the steaming process for a longer period grape sugar is obtained. This process considerably cheapens the manufacture of alcohol, and for the benefit of such as may be interested, we give the claim of the patent:—

"What I claim as my improvement is 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°.

Fishes Traveling by Land.

Dr. Hancock, in the "Zoological Journal," gives a description of a fish called the "flat head hassar," that travels to pools of water when that in which it has resided dries up. Bose also describes another variety, which is found in South Carolina, and, if our memory serves us well, in Texas, which, like the "flat head," leaves the drying pools in search of others. These fishes, filled with water, travel by night, one with a lizard-like motion, and the other by leaps. The South Carolina and Texas varieties are furnished with a membrane over the mouth, by which they are enabled to carry with them a supply of water, to keep their gills moist during their travel. Guided by some peculiar sense, they always travel in a straight line to the nearest water. This they do without the aid of memory, for it has been found that if a tub filled with water is sunk in the ground near one of the pools which they inhabit, they will, when the pool dries up, move directly toward the tub. Surely this is a wonderful and merciful provision for the preservation of these kind of fish; for, inhabiting as they do, only stagnant pools, and that too, in countries subject to long and periodical droughts, their races would, but for this provision, become extinct.

MEYER'S REVERSIBLE CAR SEAT AND COUCH.

Fig 1

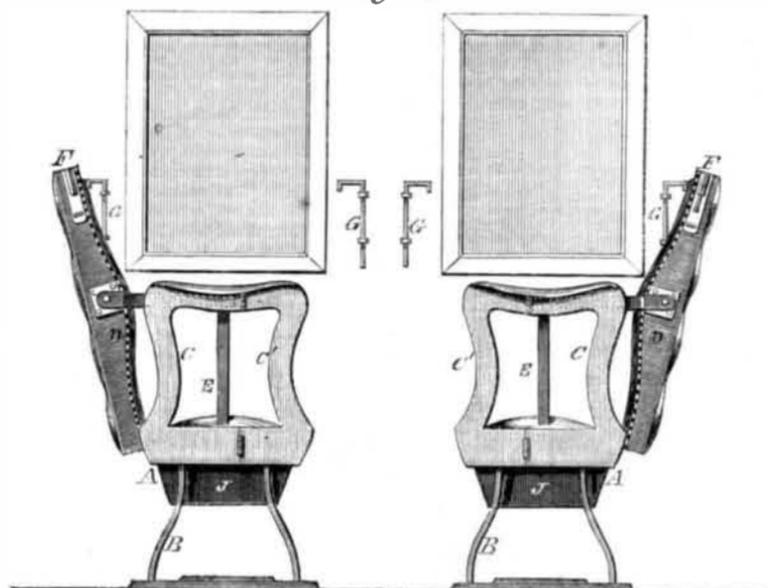
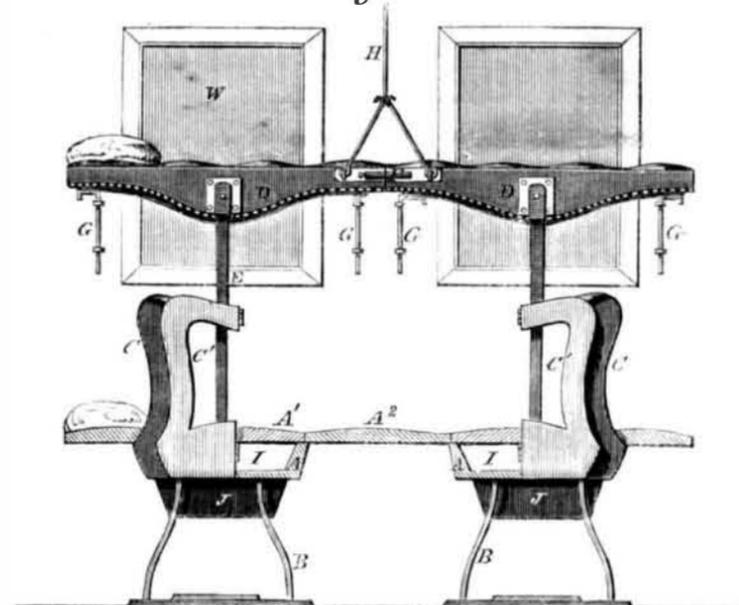


Fig 2



Since the trial of car seats capable of being converted into sleeping couches, on the Michigan Central, and other railroads in the West, numerous plans have been devised with a view of remedying the defects which experience has made manifest attending those in use.

In this improved plan the objectionable feature of transverse partitions is avoided, and reversible seats having all the conveniences and comforts of the usual form of car seat are provided, which can in a few moments, and with little labor, be converted into double sleeping couches, capable of accommodating all the passengers in the car.

In our illustrations, Fig. 1 represents a side elevation of two of the car seats in a position to be occupied by the passengers in a sitting posture, and Fig. 2 is a side elevation of the same seats converted into double sleeping couches.

A represents the frames on which the bottoms, A', of the seat's rest, being supported on legs, B. C are the arm rests at the end of the seats, one half of which, C, is made permanent, and the other half, C', hinged to the same, to admit the swinging half to be

opened and brought parallel to the permanent part. D are the backs, cushioned on both sides, and attached to the arm rests, C, by pivoted bars, E, so as to enable them to be reversed at pleasure. F are bolts, secured to the upper corners of the backs, D, and parallel with the ends of the same, so as to admit of them being forced into corresponding hasps on the ends of the backs of the next seat, and in the same relation thereto as the bolts to their back corners, in such a manner as to enable the upper edges of the backs, when brought together in the position represented in Fig. 2, to be secured on line, and by the assistance of dowel pins, projecting from the edge of one seat, and entering corresponding openings in the edge of the other, and a suspension rod or cord, H, having hooks at its end, which are attached to staples at the ends of the backs, to be sustained in a sufficiently firm manner at their ends next the passage way through the car, to prevent them giving way when employed as a double couch.

When it is desired to convert the bottoms and backs of the car seats, as represented in Fig. 1, into the sleeping couches represented in Fig. 2, the swinging portions, C', of the

arm rests are opened, and the cushioned backs, D, are turned upward, and brought to a horizontal position, with their edges in contact, and being secured and sustained by the bolts, F, dowel pins, and suspension hooks attached to the wire or cord, H, at their inner ends, are further sustained at their ends next the sides of the car by swinging hooks or bars, G, which can be turned parallel with the sides of the car when not employed for this purpose. This system of arrangement forms the upper tier of couches, the edge of each back pressing against the next in succession, and thus forming a brace for them all. The additional cushioned frames, A'', on top of the bottoms, A', of the seats, are then placed between the said bottoms, A', and on a line with the same, with their edges resting on the ribs or projections on the sides of the frames on which the bottoms rest, so as to form a continuous additional tier of double berths or couches at a proper distance apart, to enable a free ventilation of air from the window, W. The couches thus formed may be provided with longitudinal division bars or rails, and pillows and other articles of bedding, which, when not in use, can be stowed away in the spaces, I, J, below the bottoms of the seats; and if necessary, folding curtains may be attached to each set of berths, to ensure privacy where needed.

The advantages claimed for this plan of seats are, that it affords all the conveniences, including perfect ventilation, of the ordinary car seats, with the comforts of a sleeping car, and that the expense of rendering them susceptible of this change is but slight. It is, moreover, applicable to almost all railroad cars at present in use.

It was patented September 19, 1854, by H. B. Meyer, of Cleveland, Ohio. Any further information can be obtained by addressing the patentee, or Albert J. Meyer, M.D., No. 110 Grand street, New York.

Cleansing Cotton Seed.

A competent correspondent, residing at Antwerp, writes to the Washington Union that a machine for cleansing cotton seed has lately been invented and operated in that city. From two to three tons of seed can be cleaned per day by a machine of four horse power, with the assistance of three persons. The cotton surrounding the seed is taken clean off, and can be sold to carpet manufacturers and paper makers at from thirty to fifty francs the one hundred kilogrammes—about \$10 the two hundred and twenty lbs. After the oil is extracted, the cakes remaining can be sold for the same price as other cakes of oleaginous seeds. The cost of the machinery is said not to be expensive. This is an important invention, and promises to be of great advantage to cotton growers.

Kather Disgraceful.

A subscriber complains to us that he sent a gold pen to be re-pointed (with twenty-five cents) to L. H. Martin, of 253 West 25th st., New York, who advertised in our columns, and that he has not heard of pen, money, or Mr. Martin. This is rather disgraceful; and although we are in no way responsible for our advertisers, we wish that no person would use the SCIENTIFIC AMERICAN as a vehicle of publicity without they intend to fulfil their engagements. It is not the first complaint we have had of the same person, which we are sorry that we cannot help; but we have no intention of being innocently made a party to any humbug whatsoever.



Issued from the United States Patent Office FOR THE WEEK ENDING JULY 27, 1853. (Reported officially in the Scientific American.)

* * * Circulars giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, NEW YORK.

STONE-SAWING MACHINES—Horace L. Arnold, of Elk Horn, Wis. : I do not claim the employment or use of screws, h h', for giving saws a lateral movement, for they have been previously used.

But I claim the particular means employed for operating the screws, h h', to wit, the rack, j, and pinion, a, gearing, u', rack shaft, H, rack, n', and the wheel, o', pawl, l, and pinion, p'. I placed on the shaft, F', the whole being arranged to operate as set forth.

I also claim, in combination with the above, the racks m' g', attached respectively to the collar, F', and shaft, G, and used in connection with the pinion, h', and pattern, K, for the purpose specified.

I further claim the plates, i, provided with inclined planes, q, and having rods, k, and slotted bars, t, attached, which bars are connected with adjustable arm, c', whereby the saws are tilted or slightly raised at the termination of each stroke of the frame, and the saws also inclined, as occasion may require, substantially as described, and for the purpose set forth.

[This invention consists in a peculiar arrangement of means for giving a lateral feed movement to reciprocating saws while they are being operated, and also in a peculiar manner of arranging the saws in connection with their frames, the whole being so arranged whereby stone or marble blocks may be sawn with either curved or taper sides, with parallel sides, or sides of irregular form, such as are used for monuments, fence posts, ecclesiastical purposes, &c.]

SELF-ADJUSTING AND EMBOSSED TELEGRAPHIC MACHINE—Edmund F. Barnes, of Brooklyn, N. Y. : I do not claim generally the use of the power of electricity or magnetism for telegraphic messages at a distance, and recording them, either in printed letters or characters, nor the general arrangement of the wires, posts, or electric circuit or circuits, as these are old and well-known.

But I claim the use and application of the combined permanent and electro-magnets in the resident magnet, substantially as set forth and described.

I claim also the arrangement of the springs, k and s, or their equivalent, in connection with the circuit breaker shaft, C, and type wheel shaft, T, by which the circuit breaker arm, d, and type wheel, R, are caused to return to a given starting-point after the completion of each letter, thereby causing the instrument to be kept constantly self-regulated.

I claim also the use and arrangement or combination of the circuit-breaker wheel, D, with its undulated periphery, and the hammer, l, and anvil, i, placed and arranged substantially as described, so that the revolution of the wheel, D, shall alternately connect and disconnect such hammer and anvil, and also connected with the main battery and line, for the purpose of closing and breaking the main telegraphic circuit, substantially as set forth and described.

I claim also the arrangement substantially as described, of the hollow shaft, C, and clutch, f, and arm, d, and the connection therewith, substantially as set forth, of the swing frame, B, by which the clutch wheel g, is made to take hold of such clutch, f, on the hollow shaft, C, to carry forward such shaft, C, and the circuit breaker, and the arm, d, whenever any key is depressed, substantially as set forth.

I claim also the arrangement and combination of the vibrating lever, J, and its nipple, m, with the escapement wheel, o, constructed as described, to cause the type wheel shaft to revolve step by step at every vibration of such lever, substantially as and for the purposes set forth.

I claim also the use and arrangement of the spring, L, with its adjusting slide and adjusting screws, substantially as set forth and described, for the purpose of regulating the action of the vibrating lever, J.

I claim also the arrangement and combination of the imprinting cam, n, the paper propelling eccentric, g, and type wheel releasing plane, b', substantially as set forth, being attached to each other, and placed upon a common shaft or otherwise, but so that it is impossible that they should get into different relative positions.

I claim also in connection with such imprinting cam and paper propelling eccentric and type wheel releasing plane, the arrangement and combination of the rod, z, bar, y, and imprinting press, x, and the rod, c', and the rod, o, which together cause the letter to be imprinted, the paper to be propelled far enough for the next letter, and the detent cog wheel, P, to be forced down, so that the type wheel may return to its starting point, and again forced up to clutch the type wheel, and also cause each of these several things to be done at and in its proper time.

I also claim the arrangement of the armature, H, constructed of alternate plates of conducting and non-conducting metals, when combined with an electro-magnet, and used in connection with telegraphic instruments, for the purpose of securing a more rapid vibration of such armature.

I also claim the arrangement of the coiled spring, as described, about the type wheel shaft, T, such spring being set up and held at a given tension, and such tension being increased only a certain amount by the friction, for the purpose of securing prompt action to such shaft, as described.

I also claim generally the arrangement and combination of the said several parts described, substantially as and for the purposes set forth.

Plows—Samuel R. Bliven, of McDonough, N. Y. : I do not claim broadly a reversible share, for they have been previously used, although I am not aware that they have been arranged like the one shown.

I am also aware that double mold-boards have been used ; I therefore do not claim such.

But I claim the reversible share, E, attached to the shaft, F, and connected with the lever, G, or its equivalent, in combination with the two mold-boards, B B', the parts being arranged relatively with each other, as and for the purpose set forth.

[There are some plows constructed so that certain parts will reverse, and thus turn the sod on either side of the implement, as occasion may require. This is an improvement on one of these ; and it consists in the employment of two stationary mold-boards in connection with a reversible share, so arranged as to perfectly attain the end desired.]

OMNIBUS REGISTER—Louis Brauer, of Washington, D. C. : I do not claim moving the indicator of a register by pressure upon the steps.

But I claim the employment of an elastic step, by means of the movable rods, K K', for operating the register plate and bell, in the manner set forth.

COUPLING FOR RAILROAD CARS—George S. Bishop, of Washington, D. C. : First, I claim the squared chambered bumper block, A, when made to receive the sliding and block, C, to overcome the friction on pin, D, and link, B.

Second, I claim the lever, E, in combination with the pin, D, and block, C, and bumper head, A, and pin or handle, L.

Third, I claim the peculiar manner of constructing the mouth of the bumper, and its connection with the V-shaped mouth of the block, C, for holding the link, B, to any desired horizontal angle, and by which the block may be tipped to prevent the link from being crippled, and also for holding the same in poise at any desired angle, the whole operated by lifting the pin, D, when constructed and operated in the manner and for the purposes set forth.

WATERPROOF CEMENTS—Abraham Brower, of New York City : I am aware that waterproof compositions for leather, consisting of tallow, suet, wax, rosin, tar, oil and india rubber have been employed ; these I do not claim of themselves, singly or combined.

I am not aware, however, of shellac or glue ever having been employed in unctuous waterproof compositions for leather ; but these I do not claim of themselves in my composition, apart from the other ingredients, as all are required combined, to render it so excellent for the purposes set forth.

What I claim is, the composition composed of all the ingredients described, and in about the proportions for the purpose set forth, the same constituting an improved new and useful article of manufacture.

[By a judicious compound of tallow, beeswax, resin, shellac and glue, the inventor produces a very superior waterproof composition, the leather remains soft and pliable, will take a polish, and repel water very perfectly.]

BEARING BLOCKS OF TRUSS BRIDGES—Albert D. Briggs, of Springfield, Mass. : I do not claim separately any of the parts of the truss frame.

But I claim the method of increasing the bearing surfaces, for the bearing blocks, d d e, by the employment of the combination of blocks or keys c', c', and blocks, h h', the former being tightly fitted between the chordsticks, and the said bearing blocks, and the latter between the ends of said bearing blocks outside of the chordsticks, substantially as described.

[A notice of this improvement will be found on another page.]

METHOD OF COUNTERPOISING GASOMETERS—P. T. Burtis, of Chicago, Ill. : I claim the arrangement of the chains, e, e, in combination with the weights, d, d, and chain, a, e, substantially as described, whereby, when there is any tendency on the part of the holder, or the section thereof, to which said weights are applied, to work unevenly, the highest side is relieved from the counterbalance weights, and two of the said weights are brought wholly into action on the lowest side, substantially as explained.

[This invention is applicable to telescopic gasometers, or to gasometers in which the holder is single. It consists in a certain arrangement of the chains connecting the counterbalance weights of the holder, or of any of its sections, whereby any binding in the tank and uneven rising and falling, and the loss of gas, and other bad consequences which are caused thereby are prevented.]

PLATES FOR BERGIER-PROOF SAFES—Ira L. Cady, (assignor to J. H. & W. W. Cornell & Co.), of New York City : I claim forming a burglar-proof combination plate by the union of a stratum of molten iron with one or two perforated face plates of wrought iron, substantially in the manner represented and described.

SEWING MACHINES—Luman Carpenter, of Oswego, N. Y. : I am aware that the feed in sewing machines has been produced by a projection or fixed cam on the end of the needle bar or feed bar, or both ; also that the feeding bar has been pivoted to a tilting lever and operated over an adjustable screw as its fulcrum. Neither of these arrangements do I propose to claim.

But I claim the combination of a tilting dog or cam, F, with its friction spring, H, and pivoted vibrating bar, G, when operated by the needle bar for feeding the cloth, in the manner substantially as described.

AXLE BOXES, &c.—David Cumming, of Sorrel Horse, Pa. : I claim, first, 'The peculiar form of the outer end of the axle, c, and tapering hole, e, in box, F, when the said axle and box are arranged relatively to each other as described, for the purpose set forth.

Second, The combination of the two inner portions, E and E', of the box with the clasp, C, as and for the purposes described.

METHOD OF CUTTING BOOT FRONTS—John Dick, of New York City : I am aware that boot fronts have been made without crimping, by being made of more than one piece of leather, or other material, and I do not, therefore, claim making a boot front which can be used without being crimped.

But I claim cutting a boot front out of a single piece of leather or other material, to the form described, or to any other form, substantially the same, whereby it can be used (in making the same into a boot) without undergoing the operation of crimping, as set forth.

PAINTS—J. S. D'Orsey, of New York City : I claim the paint composed of carbonate of lead or oxyd of zinc ground in oil, mixed with carbonate of lime, and reduced by the compound vehicle specified, either with or without the addition of pulverized sand or sulphate of baryta and sulphate of copper.

[This new paint is intended to be used as a substitute for oil paint in painting the plaster walls and ceilings of buildings, and other plasterwork. Its character is such that it becomes exceedingly hard, and is not affected by the dampness of the plaster or of the atmosphere. It will not peel off from the plaster, as oil paint frequently does ; it resists the action of atmospheric changes in temperature, admits of the use of all mineral and metallic coloring matters, either mixed with it or for ornamental work upon its surface, is not affected by the action of gases so much as oil paints, and requires fewer coats than are necessary of oil paints. Its composition will be seen in the above claim.]

SEWING MACHINES—Cornelius Donovan, of Abington, Mass. : I claim the application or attachment to the sewing machine of the stop motion described, consisting of the lever, a, the cogged segment, b, the rack, c, the belt guide, d, the brakes, j, j, the crank, n, the springs, l l l', and the lever, h, the cam, k, the pulleys, e, e', and the belt running on them, the pulley, o, arranged and operating in the manner described.

SAWING MACHINE—William H. Doane and Carlisle Mason, of Chicago, Ill. : We claim the arrangement of the gearing, k l b c e, in connection with the levers, Q, and feed rollers, R, so that the rollers may be expanded and contracted without at all interfering with their rotation.

We further claim placing the rollers, R, on the shafts, O, as shown, to wit, having the rollers hollow, provided with bearings, f, which are fitted on the upper ends of the shafts, O, and also provided with pendulum pins, g, g, which are fitted over the drivers, e, of the shafts, O, the upper journals of the rollers being fitted in adjustable bearings, S, substantially as and for the purposes set forth.

[This invention relates to an improvement in machines for re-sawing, and is designed chiefly for sawing boards or "stuff" into weatherboards or "siding" for buildings. The object of this invention is to obtain a

self-adjusting feed device, that is to say, to so arrange the feed rollers that they will always present the stuff centrally to the saw, without any manipulation on the part of the attendant, so far as the rollers are concerned. The invention also has for its object the ready adjustment of the feed rollers, so that the same may present the stuff vertically or obliquely to the saw, as occasion may require.]

OPERATING WINDOW BLINDS—Andrew Ferber, of Elizabeth City, N. J. : I am aware that the rods of blind slats have been connected to the ends of the slats, and arranged in various ways ; a patent, for instance, was granted to L. Stevens and S. E. Ellithup, June 26, 1855, for an improvement in window blinds, in which the tenons of the slats were forked, and the rods connected to them. A patent was also granted to T. Christian, March 2, 1858, for improvement in window blinds, in which pulleys were attached to the ends of the slats. Both the cases above referred to differ essentially from mine.

I do not claim broadly operating the blind slats by a mechanism connected with one end of them.

Nor do I claim broadly a rod attachment at the ends of the slats.

But I claim the rod, c, fitted in one of the stiles, a, of the blind, and provided with pins, i, which are fitted in oblique slots, e, in plates, d, attached to the ends of the slats, the parts being arranged substantially as and for the purpose set forth.

I also claim the rod, c, attached to the slats, B, as shown, in combination with the spring, k, fitted within the mortise, j, and attached to the stile, a, the whole being arranged substantially as and for the purpose set forth.

[The slats are attached to a rod, and fitted in one of the stiles of the blind, and the rod is attached to the stile, so that the rods cannot obstruct the light, nor act as encumbrances, as hitherto, and the slats cannot turn or move caually. The invention improves the appearance of the blind, and renders it more durable than those of ordinary construction.]

HARNESS TUG DUCKLE—John H. Ferar, of Hinesdale, N. Y. : I claim the double tongue, cog wheel, and traversing bars, arranged and operating in the body or box in a manner so as to adjust itself in lengthening out and taking up the traces, as described.

RAILROAD CAR SPRINGS—John J. Fields, of Brooklyn, N. Y. : Disclaiming the mere application of elastic substances for springs, as well as disclaiming in full the invention, use, or application of perforated concave devices or forms, described and claimed by Fowler M. Ray, and by him designated as "frustums of hollow cones," with central rod.

I claim the cup or receptacle, a a a a, formed with the larger cavity, b b b, the swell or ledge, c c c, the sloping or conical cavity, d d d e e, the elastic hollow cone, e, e, e, e, f, g, g, the inverted cone, h, h, h, h, or cone part, h, h, h, h, of which the whole elastic principle or property of the material or substance used is brought into requisition, and the pressure or weight applied is equalized or diffused throughout the substance employed, substantially as set forth and described.

STOCK FOR HOLDING THE CUTTERS IN ROTARY PLANING MACHINES—J. Gibbs, of Worcester, Mass. : I am fully aware that many things have been wrought and cast hollow, for the sake of strength and lightness. This I do not claim.

But I claim a planer arm of the external form described, and having both longitudinal and vertical openings through it, for the purpose and in the manner set forth.

APPARATUS FOR DISTRIBUTING STEAM—Robert Hale, of Roxbury, N. Y. : I do not limit myself to the exact form of "distributor" described, as it may be varied without departing from the spirit of my invention. For instance, if the distributor is placed in the corner of the tank, a quadrant shape may be found to be better suited to the position occupied by it, a flat cap may be placed over the funnel-shaped orifice of the connecting pipe, leaving an annular opening around it.

Thus far I have spoken of my invention as particularly applicable to heating the feed water of engines, and it is my intention to employ my distributor in connection with a method of separating a portion of the exhaust steam for the purpose of heating the feed water, but it is obvious that it may be used to advantage when ever water is to be heated by the injection of steam as in bathing establishments and manufacturing factories. I do not therefore limit myself to its employment for the purpose of heating the feed water of steam engines alone, but intend to employ it wherever it may serve to accomplish the end which I have in view.

What I claim is the distributor described, or its substantial equivalent, operating as set forth, for the purpose of injecting the steam into the water in a thin sheet as set forth.

VALVES IN GAS APPARATUS—August Hendrickx, of New York City : I claim in the application of water valves to the main pipe of gas retorts, the use of a loose perforated cover, C, a, substantially as and for the purposes set forth.

[A full description of this improvement appears on page 382.]

WHEELWRIGHTS' MACHINE—Wm. Hinds, of Otsego, N. Y. : My claims to the improvements embodied and combined in this machine over others for the same use are, that it is constructed in a stronger, more compact, and in a more durable manner and less liable to get out of repair. That the machine in all its parts is in a form to render its construction simple and cheap, and can be more speedily shifted and adapted to the different kinds of work to be performed. That it is more simple, easy and expeditious to use, and works with a precision as exact as man can think or desire.

I claim, first, Combining regular perpendicular ways, both in the mandrel carriage and in the head blocks, to operate conjointly in adjusting the augers to different positions for boring.

Second, I claim the method of adjusting the hubs for boring by suspending and revolving them on guidegears in a carriage that vibrates the other way on a pin, and is act and controlled by thumbscrews at d, d, the revolving motion of the hub being set and controlled by index wheels and the latch, at f.

Third, I claim the entire construction of the spoke-holder and carriage, embodied therewith, together with the catch or hook for controlling its motion.

Fourth, I claim the wheel carriage and plates to be used on the ends of the hub to confine the motion of the wheel to the axis of the hub and axle.

APPARATUS FOR REGULATING THE SUPPLY OF WATER TO STEAM BOILERS—Z. L. Jacobs, of Hebron, Conn. : I claim first, The combination of a chamber having alternate communication, with a reservoir to receive a fluid, and a boiler or other vessel in which to deliver it, causing the fluid, when it rises to the desired height in the boiler vessel to check the passage of air and other reform bodies to the reservoir chamber, and thereby to regulate automatically the flow of fluid from said chamber, substantially in the manner set forth.

Second, I claim the movable pipe, L, or its equivalent, in combination with the vessel, A, for the purpose of changing the line at which the fluid is to be sustained in the boiler or vessel, A, as described.

Third, I claim the ring, D, and the plug, O, when constructed, combined and operated in the manner and for the purpose described.

"FLUSHING VALVE" TRAP FOR SINKS, SEWERS, &c.—Samuel Mathews, of New York City : I do not claim a culvert in itself, or valve for water closets.

But I claim the combination of the basin, d, and valve, l, with the overflow culvert, e, l, in the trap, substantially as and for the purposes specified.

MACHINERY FOR PILING PAPER—J. C. Kneeland, of Northampton, Mass. : I claim a combination composed of the following elements :—First, a carrier, E, made of endless belts and rollers, or their equivalents, and arranged substantially as specified ; second, holders or holding mechanism, consisting of a rod or roller, G, one or more flexible strips, H H, or bars, I I, or equivalent devices ; third, mechanism to keep each roller of the carrier from revolving, while such roller is drawing the paper along over the table ; fourth, mechanism to cause the roller to revolve and discharge the sheet of paper at the proper time as specified ; fifth, a table, L, or its equivalent, to receive the paper from the carrier.

And in combination with the above described laying mechanism or combination of mechanical elements, I claim one or more bars or guards, f' g', arranged substantially as specified, and so as to prevent the sheet of paper while being carried forward, from being drawn against the rear edge of the pack on the table, and being torn or injured thereby.

MANUFACTURING NAILS—John D. Krauser, of Reading, Pa. : I do not claim rolling nail plate to an edge one side by inclining its faces, as is practised in making horse shoe nail blanks.

Nor do I claim sharpening a single edge, as in the strips of wood from which shoe pegs are split, as my invention is altogether distinct from these cases.

But I claim the process as set forth, of making cut nails with improved points, that is to say, beveling both edges of the nail plate, so that the blanks shall be wedge-shaped at both ends, as shown in Fig. 2, and forming the head by the action of the heading tool against the widest end of the blank, as set forth.

SIGNAL LANTERN SWITCHES—S. N. Lennon, of Deposit, N. Y. : I am aware that colored and sliding glass plates have been employed for signal lamps or lanterns and analogous purposes, and I therefore do not claim broadly the use of such plates.

But I claim attaching the colored glass plates or slides, e, f, two or more of which are placed at each side of the lantern to a pendulous frame, c, placed within the lantern, and arranged in such relation with the colored plates or slides, e, f, as to operate in connection with the switch lever, F, substantially as described and for the purpose set forth.

[A full description of this invention will be found on another page.]

COMPOUND RAILS FOR RAILROADS—E. E. Lewis, W. B. Dunning and C. Wheat, of Genoa, N. Y. : We claim the cap and base rail, constructed as described, and keyed together as specified and for the purposes set forth.

PAPERMAKING MACHINES—Thomas Lindsay, of Westville, Conn., and Wm. Geddes, of Seymour, Conn. : We do not claim the gate, K, nor do we claim, separately, the adjustable deckles, C, C, for they have been previously used.

But we claim the expanding lip or basin, J, in combination with the adjustable deckles, C, C, and straps, D, the above parts being arranged to operate as and for the purpose set forth.

[A notice of this improvement is given in another column.]

BRAN DUSTERS—S. B. Manning, of Allegheny, Pa. : I do not claim as new the use of the wire gauze covering, nor the slats, r' r', nor the concave, a.

But I claim the use of a separate chamber covered with coarse wire net work, in addition to and in combination with the ordinary chamber covered with fine gauge wire net work, arranged substantially in the manner and for the purposes set forth.

CHURN—M. R. Marcell, of Danville, N. Y. : I do not confine myself to the precise position or arrangement of the fanblower, as it may be placed on the side instead of the top of the churn, and connected with the driving shaft by level or spur gearing.

I claim, first, In combination with the blower, the dasher constructed substantially as described, whereby a current of air blown through the dasher shaft is caused to issue from the dasher below the surface of the fluid in the churn in fine jets for the purpose set forth.

Second, The double deflecting plates, constructed substantially as described in combination with a churn box for the purpose as set forth.

HANGING CARRIAGES FOR CHILDREN—Gilbert Maynard, of Grenfield, Mass. : I am aware that spiral springs have been applied to vehicles, and arranged in various ways, both singly and combined with other forms of springs ; I therefore do not claim broadly and in the abstract the employment and use of spiral springs in children's vehicles.

But I claim forming the springs of the chair, and the axle or bearings of the springs, C, of the same, by means of a single rod, B, bent and applied to the device, as shown and described.

[The inventor forms the springs of children's chairs and the axles or bearings of the wheels of a single rod of iron or steel, bent or curved in a peculiar way, so that their construction is much simplified, and a superior chair obtained.]

GRATES FOR STEAM BOILERS—James Montgomery, of Brooklyn, N. Y. : I am aware that boilers have been constructed in the manner of two horizontal tubular boilers placed back to back with one smoke-box common to both, and with the grates of the two connected so as to appear as one grate for the two series of flue tubes, and with a door at each end ; but this mode of construction does not present the mode of operation which I have invented and claim as my invention, for each half of the grate belongs to, and acts in connection with its appropriate set of flue tubes as in two separate boilers, and the products of combustion from the coals on one end of the grate cannot be made to pass over the other end of the grate.

I claim combining with a boiler formed with a series of vertical water tubes, and the flue space among the said tubes communicating with the fire chamber at one end only, substantially as described, a grate made the whole or nearly the whole length of the boiler, and with the fire door at each end, substantially as and for the purpose specified.

SPlicing PIECES FOR RAILROAD RAILS—Ellwood Morris, of Philadelphia, Pa. : I do not claim, broadly, splicing together the ends of two rails by plates bolted to the sides of the same, as this device has been heretofore used both in this country and in Europe.

But I claim splicing together the ends of the two rails by means of a plate or plates so bent and formed, and so secured to the opposite sides of the two rails as to embrace the lower flanges of the same, and have longitudinal bearings against the sides, and at points above and below the narrowest portion of the rails, leaving a longitudinal open space between these points, transversely through which space pass the bolts for securing the splice, the whole being arranged substantially in the manner set forth and for the purpose specified.

SEWING MACHINES—Charles Moore, of Buffalo, N. Y. : I do not claim the feed plate described, nor the combination thereof with either function it performs, when said functions are separately considered ; neither do I claim any part of the mechanism, nor any combination thereof by which the feed plate is operated, or by which either function thereof is produced when separately considered.

But I claim the elastic compression plate, B, constructed with an offset or face, B 2, which projects through the bed plate, and performs the combined functions of supporting the cloth equally upon all sides against the puncture of the needle, and of producing an equal pressure upon the cloth upon both sides of the seam or line of stitch, when in the act of feeding, substantially as described.

I also claim the self-expanding looping springs, Q, arranged and operating as described, in combination with the slotted hanger, U, and springs, V, for the purposes substantially as set forth.

CROSET FOR MILK—Edward H. Nash, of Westport, Conn. : I do not claim simply constructing a box or

closet with blinds for slides, so as to admit air and exclude the sun, for this is a common device, and is used in many instances as in well-houses, &c.

But I claim the box or case A, in combination with the rotating shaft, C, and shavings, D, arranged as and for the purpose specified.

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

STEAM BOILERS—Orrin Newton, of Pittsburg, Pa.: I am aware that superheated steam has often been used, but as I do not design by my invention to superheat steam, nor to make any chemical change whatever in the steam itself, but merely to fit it for exerting its full power when it reaches the cylinder of the steam engine by previously subjecting it, after it leaves the prime generator to a sufficient degree of heat to expand the steam, and convert into steam any water or watery vapor which has passed with it from the prime generator, and hydrating and expanding without superheating it, I therefore do not claim the use of superheated steam, nor any apparatus for superheating it.

But I claim the mode described, or its equivalent, producing a more perfect calorification and expansion of the steam after it leaves the prime steam generator, and before it enters the cylinders of the steam engine by means of two or more steam chambers constructed as described, separate from the boiler, and heated by hot air from the furnace; the steam thus unhydrated passing to the cylinder of the engine from one of these separate chambers, while the steam in the other chamber is being prepared for the next stroke of the engine substantially in the manner and for the purposes set forth.

WHEAT DRILLS—Edward O. Bryden, of Lafayette, Ind.: I claim the combination and arrangement of the cutters, H H H H, and teeth, G G G G, with the concentric holder, D D D D, and levers, E E E E, and the combination and arrangement of the slides, Q Q and U, and the levers, P P, with the pitman, C C, and cranks, N U, when constructed and operated as set forth.

ADJUSTING MOSQUITO BARS—F. C. Payne, of Hebron, Conn.: I do not claim the sheave arrangement as used for hanging lamps, &c.

But I claim the application of the slotted projection, D, the hanging weighted arm, F, in the manner and for the purpose substantially as set forth and described.

COMBINATION OF THE NEEDLE AND SUN-DIAL TO ASCERTAIN TIME—Charles R. Mohr, of Richmond, Va.: I do not claim as my invention the magnet needle, nor do I claim as my invention the sun-dial.

What I claim is combining the magnetic needle with the sun-dial, so that the point of compass is at all times at hand, and thereby the time of day ascertained from the dial, by holding the dial horizontal, and due north and south.

GRATES FOR LOCOMOTIVE ENGINES—Joseph W. Polz, of Philadelphia, Pa.: I do not claim the invention of hollow or tubular grate bars or of hollow bearers therefor, having air passages through them.

But I claim the construction of the tubular bars, with hollow upward projections, b b, fitted with movable top pieces, c c, substantially as and for the purpose specified.

[A notice of this improvement is given in another column.]

GAS REGULATORS—J. H. Powers, of Newark, N. J.: I do not claim the inverted pressure cup, nor the grooved or notched inverted cup-shaped valve working in a seat of quicksilver, as the cups is specified in several patents, in the valve is specified in combination with the cup in my patent of Sept. 1, 1857.

Nor do I claim any of the other parts of the regulator as separately considered.

But I claim the arrangement of the annular pressure cup, B C, and regulating valve, D, in the double annular quick-silver basin, e f, whose inner and outer channels, c and f, are arranged at a distance apart to form between them a passage, J, through which a communication is established between the interior of the cup and the atmosphere, all substantially as described.

[A description of this invention appears in another column.]

COMPOUNDS FOR TREATING POTATO ROT—Lyman Reed, of Baltimore, Md.: I do not broadly claim the application of heat or oils or poisonous substances to destroy insect life, as this has been done before for other purposes.

But I claim the treatment of the potato preparatory to planting to the process set forth, subjecting it to a lar or artificial heat, and then to the action of the liquid described, or any other analogous or equivalent thereto.

MODE OF OPERATING THE MECHANISM OF PRINTING TELEGRAPHIC MACHINES—Thomas Reeve, Joseph Reeve and Sidney M. Tyler, of Brooklyn, N. Y.: What we claim as improvements in the mechanical arrangement of Balfour's telegraphic instrument is, first, Arranging the keys in a matrix or key board, in a semi-circular form, substantially as described, securing thereby a direct connection between such keys and the swing frame.

Second, Applying the points or clutches, 12 12, at a distance from the shaft, e, and in connection therewith making such a shaft a round instead of square, for the purposes set forth.

Third, The use and application of an independent friction, constructed substantially as described, upon the type wheel shaft, to secure in connection with the coiled spring more prompt and instantaneous action to such shaft and the type wheel thereon, whenever the magnet releases the escapement wheel, o.

Fourth, Disconnecting the receiving portions of the instruments from the transmitting portions, to assist the operator in transmitting substantially as described.

BRICK MACHINES—S. C. Salisbury, of Milwaukee, Wis.: I claim the large cylinder, M, in combination with a series of small cylinders, I, spring guard plates, a' a', and die box, a2, the whole being arranged and operated as set forth.

I claim cutting the bricks of the required lengths from the continuously moving body of clay by means of the double knife passing through the forming die in the manner set forth.

COUPLING FOR HORSE RAILROAD CARS—Blaney E. Sampson, of Boston, Mass.: I am aware that it is not new to make cars self-shackling when brought together, railroad cars often having couplings so applied; and I am also aware that common carriage poles are made without joints, and therefore do not claim making horse cars self-shackling, nor making a pole to a horse car in one piece.

I claim the described method of constructing and applying the pole so that it shall be in position to shackle when brought against the platform at any common angle of presentation.

I also claim so applying the pole as described that it shall be supported by the car, instead of upon the horse, as is usually done.

MACHINE FOR WEIGHING AND REGISTERING GRAIN—J. Scheitlan, of Columbia, South Carolina: I claim, first, A bucket with two compartments for a grain weighing and registering machine, which is suspended freely from the arm of the balance until the weighing is completed, and does not require to be turned or oscillated to discharge the grain.

Second, The combination of a bucket with a tipping bottom to open and close the compartments alternately, with a tipping tray operating substantially as described.

Third, The combination of the roller-arm or its equivalent with the scale beam and registering apparatus, in such manner that the some part of the mechanism which makes the count, also resets and locks the tipping bottom, so that no miscount can be made.

FEEDING QUARTZ, &c., TO MACHINES FOR CRUSHING AND GRINDING THE SAME—Charles Povel Stanford, of Mount Gregory, Cal.: I claim the arrangement described of a lever, I, which is adjustable by a set screw, J, in connection with a shoe, H, in such a manner that said shoe is agitated by the dropping of the stamper, and some of the quartz or other substance is caused to fall into the pan or mortar at such a time, and in such a quantity as desired.

[This invention consists in arranging a lever in connection with the shoe, from which the quartz or other substance is fed to the pan or mortar in such a manner that it is agitated by the dropping of the stamper whenever the crushing surfaces come close enough into contact to make a fresh supply desirable.]

CORN HARVESTERS—Albert Stoddard, of Tecumseh, Mich.: I do not claim being the first inventor of a corn harvester.

Nor do I claim the parts of my machine separately.

But I claim the combination with the main frame A, of the pinion, B, shaft, C, pinion, H, cog wheel, I, saw, J, shaft, K, reel, L, guard, P, wheel, x, belt, W, shafts, V V, their pulleys, u u u u u, endless belts, T T T, hopper, Z, its pivot, & slide, 4, bar, 3, and caps, 6, when these several parts are arranged as and for the purposes set forth.

HORSE POWER MACHINES—James A. Stone, of Rochester, N. Y.: I claim the construction of the base when combined with the wheel, I, to form a trussed arch, whereby not only is great strength secured, but the length of the shaft, c, and its consequent liability to vibration is lessened.

COMPOUNDS FOR PROTECTING TREES FROM INSECTS—William W. Taylor, of Dartmouth, Mass.: The construction of the trough, A, in two pieces, as described, has not been claimed in the present application, although it is believed to be new; but it is designed to claim it in a separate application.

I claim the application of the bitter water left in the manufacture of sea salt, or its equivalent, to destroy canker worms and other insects, in their attempts to ascend trees, as set forth.

SEED PLANTERS—J. H. Thomas and P. P. Must, of Springfield, Ohio: We claim, first, The use of flaring inclined gutter-shaped arms G3 G3, on the shaft, which is arranged in the hopper, G, and lift and agitate the grain, in combination with the peculiar construction of distributing slide described, substantially as and for the purposes set forth.

Second, The employment of the above wheat hopper, G, and its attachments, as described and shown, in combination with a grass seed hopper, H, and the flaring seed conductors, H', when said grass seed hopper and flaring conductors or spreaders, H', are arranged behind the wheat hopper, G, and so located that the back board, a, of the wheat hopper shall completely overhang the same, substantially as and for the purposes set forth.

[By the first feature of this invention a more perfect agitation, lifting, and certain deposit of the grain in equal quantities, into the cells of the distributing slide, is accomplished, also a discharge of the same into the drill tubes. And by the second feature, grass seed can be planted at the same time that the wheat is planted in the rear of the drill tubes, instead of (as usual) in front of the same, and thus the disadvantage of having the grass seed planted in the deep furrows with the wheat is avoided, and said seed can be planted on the surface, as it should be, in order to spring up speedily.]

CLOTHES DRYER—Stephen H. Tift, of Morrisville, Vt.: I claim the arrangement of the light yielding bars, A A A A, cords or ropes, D D D D, standard, B, and light yielding legs, C C C, substantially as and for the purposes set forth.

[This clothes' dryer consists simply of a standard with a revolving cap, from which a series of arms project out laterally. The arms are light and yielding, and are set slightly oblique to a horizontal plane. The clothes' lines are arranged on the arms so as to connect them together; and when the arms are sprung down to a horizontal line by the weight of the clothes, they draw the clothes' line taut. The weight of the standard are flexible, so as to yield with the weight of the clothes, and thus allow the standard to descend, so that its lower end may rest on the floor and support the whole structure and the weight upon it. By thus constructing the clothes' dryer with oblique yielding arms and yielding legs, it can be made exceedingly light and cheap. We regard this as a very cheap, simple, and useful contrivance.]

MACHINES FOR CLEANING GRAIN—B. T. Trimmer, of Rochester, N. Y.: I claim giving the screens an unequal, reversible, gyratory motion, for the purpose of neutralizing the centrifugal force of the grain, and retaining it in the center thereof, in combination with the vertical vibratory motion, by means of the double reverse-acting cranks, a, b, c, s, and springs, m, or their equivalents, arranged and operating substantially in the manner and for the purpose set forth.

I also claim the combination and arrangement of the blast generator, B, triple blast tubes, D E and F, and their valves, f, h, and movable diaphragm, s, with the screen box, J, and return spouts, P, and Q, operating conjointly, for separating, screening, and returning the grain, and for increasing, diminishing, and modifying the blasts for the various purposes required, substantially in the manner set forth.

I further claim the adjustable deflector, R, in combination with the screen box, J, for returning the lighter grain through the screens, and re-subjecting it to the blast, or discharging it as refuse, as described.

TRIANGULAR BRACE FOR LOCKING THE PANELS OF FENCE—Charles Van De Mark, of Oak's Corners, N. Y.: I do not claim the panels, or the mode of locking the same together, as the same are embraced in my aforesaid patent.

Neither do I claim triangular braces to support the panels of a fence, as the same have before been used.

But I am not aware of any previous instance in which a triangular brace has been introduced within an opening in one panel, in such a manner that the insertion of the end locking board of the next panel through the same opening shall hold the aforesaid triangular brace in the proper position, and also connect the panels together.

I claim as an improvement on the said patent of June 2d, 1857, the brace, i, constructed as specified, when combined with panels formed as set forth, with the end locking pieces, and set together in a straight, or nearly straight line, as described.

BUTTER MACHINE—Ellisyon Yerby, of Washington, D. C.: I claim the slide, g, as a disconnecting apparatus, when said slide is used in combination with the conical pan and agitator, the said pan and agitator constructed substantially as and for the purpose described.

RAILROAD CAR BRAKES—Wilbur B. Walt, of Portsmouth, N. H.: I do not claim the use of brake chains, and connecting brake rods, as the same are now generally applied to car brakes.

But I claim the combination and arrangement of the frame, F, together with the connecting joints, Q Q, or P P, with latch, L, attached, the shaft, I, with drum, C, attached, connecting with the shaft, A, by an eye, R, the belt, D, passing round the axle, E, the lever, K, the levers or arms, C, with brake chains, d', and rods, 12, attached, the guide bar, G, and slot, O, the main shafts, M A, and g, with cog wheels attached thereto, and the slots, N, and eyes or links, K and R, in the manner substantially as shown in Figs. 1 and 2, and as described.

MAKING STEEL ROLLERS—Henry Waterman, of Brooklyn, N. Y.: I claim my improved compound rollers, consisting of the steel shaft, A, the iron cylinder, B, and the steel cylinder, C, forming the surface when fitted together and hardened in the manner specified.

ALARM GAUGE FOR STEAM BOILERS—Joseph Whitmore, of Lowell, Mass.: I claim the combination of the steam whistle, W, valve, F, rod, L, spring, K K', and its connections, and box, D, when used in connection with a steam boiler for the purposes and substantially as set forth.

DRAWING INSTRUMENT—William W. Wythes, of Philadelphia, Pa.: I wish it to be understood that I do not desire to confine myself to the precise form or arrangement of the several parts illustrated and described.

But I claim, first, Causing the adjustable pencil-holder to revolve as the beam is turned on the adjustable centre, m, by means of the disk, G, and endless chain, I, with the wheels and pulleys (or their equivalents) acting in conjunction with the same, for the purpose specified.

Second, The adjustable sliding piece, K, with its spindle, q, and adjustable pencil-holder, L, when constructed and arranged as and for the purpose set forth.

Third, The spindle, d, with its adjustable bar, N, and pulley, f, and the spindle, with its adjustable bar, N, and pulley, h, in combination with the adjustable point, m, and endless chain, I, the whole being arranged on the beam, A, substantially in the manner and for the purpose specified.

PUMPS—Henry Zeng, of Elizabethport, N. J.: I do not claim, broadly, the employment of a water chamber in the upper part of the pump cylinder, nor broadly the employment of a valve therein.

But I claim the combination of a loose plate or disk valve, F, with the piston rod, D, in the upper part of the cylinder, B, substantially as and for the purpose shown and described.

MANGLES—D. Cumming, Jr. (assignor to D. Cumming, Sen.), of Mobile, Ala.: I do not claim, broadly, the employment or use of pressure rollers for mangling clothes, for they have been used and arranged in various ways for accomplishing the purpose; but so far as I am aware, they have been used in connection with a horizontal bed of mangling surface, on which the clothes were placed, thus making a cumbersome machine.

What I claim is the employment or use of the cylinder, B, having its axis fitted in fixed bearings, a, the cylinder, C, having an elliptical surface, c, on a portion of its periphery, and having its axis fitted in sliding bearings, b b, and the wedges, D D, having weights, F, attached, the whole being arranged to operate as and for the purpose set forth.

[This invention consists in the employment of a rotating cylinder having fixed bearings—a rotating clothes cylinder and a cylinder with a segment removed so as to form a plane face; the latter cylinder having its axis placed in yielding or adjustable bearings, which are acted upon by wedges and weights so that the clothes may be operated upon or mangled in a expeditious and perfect manner.]

KNITTING MACHINES—Joseph P. Delahanty, of Cohoes, N. Y., assignor to himself and Edgar S. Ellis, of Troy, N. Y., assignor to Clark Tompkins, of Troy, aforesaid: I claim so arranging or adjusting the presser and connecting it with the yarn running to the needles that, when the yarn breaks or fails, the presser will move and cease depressing the barbs of the needles, and thereby prevent the casting off of the "quarter" or web, substantially as set forth.

STOVES FOR BURNING SOFT COAL—Merriman P. Dorach, of New York, N. Y., assignor to Peter Dorach, of Schenectady, N. Y.: I am aware a perforated cone for admitting jets of air to fuel is not new. I am also aware that a rosette furnished with holes has been used. I do not, therefore, claim either of these things individually.

But I claim the combination of the perforated cone and rosette when arranged with regard to the fire box, and operating as set forth and represented.

STEAM HEATING APPARATUS—Thomas Gordon (assignor to Charles H. Bullard), of Trenton, N. J.: I claim, first, The application of water-joints to the safety valve and steam pipes, substantially as set forth.

Second, The construction of the throttle valve, P, with an inverted cup, 1, in a water-joint or case, substantially as described for the purpose set forth.

Third, Connecting the dome, D, with a steam pipe, by a water supply pipe, e, as and for the purposes specified.

Fourth, Arranging at the bottom of the radiator a calorific valve, substantially as described for the purpose specified.

GAS REGULATORS—Charles F. Holtz (assignor to William B. Smith and William Bromwell), of Philadelphia, Pa.: I do not claim the combination of an inlet and outlet chamber, a valve, an inverted cup and a spring, as I am aware that such combination is used in most gas regulators.

But I claim the peculiar arrangement as described of the inlet and outlet chambers, the valve, the inverted cup, the spring and guide pin, whereby the spring and the guide are effectually protected from contact with the gas, and provision is made for the return of all liquid matter through the inlet pipe, as fully set forth.

SEWING MACHINES—Albert H. Hook (assignor to Union Sewing Machine Company), of New York, N. Y.: I claim a narrow space between the looper finger, e, and arm, g, in combination with the rough surface on g, the whole being constructed and arranged substantially as set forth.

ILLUMINATING GLASSES FOR VAULT COVERS—Thaddeus Hyatt (assignor to George R. Jackson & Co.), of New York, N. Y.: I claim combining glasses of an inverted pyramidal, polyconal or conical form, with the ash or metallic portion of an illuminating vault cover, or its equivalent, for the purpose of producing a wide spread and perfect diffusion of the rays of light which may pass through said cover into the apartment beneath, substantially as set forth.

MACHINES FOR PEGGING SHOES—Leander Lackey, of Sutton, Mass., assignor to himself and Elmer Townsend, of Boston, Mass.: I do not claim holding the last or shoe up to the pegging mechanism by means of a weighted lever and a standard connected together by a universal joint.

But I claim the combination of the heavy inertia block, P, with the weighted lever, R, and either the last or the standard for supporting the last, the same being for the purpose as specified.

I also claim the arrangement of the inertia block with reference to the lower bearings, K K, of the universal joint—that is, so that a vertical line passing through the center of gravity of the inertia block shall fall on one side of and at a distance from the axis of such bearings, the same being for the purpose as set forth.

I also claim combining with the inertia block and its universal joint a mechanism for revolving the inertia

block twice while a sole on the shoe last is being pegged, such a mechanism as shown in the drawings, consisting of the flange, n, the gripper, o, the connection bar, p, the lever, q, the pitman, r, and the cam, E.

I also claim so arranging and applying the last standard on the inertia block, that the position of the standard may be varied on the block in order to change the inclination or slant of the pegs as described.

I also claim arranging and combining with the peg feeding mechanism, substantially as described, a mechanism for receiving each peg and condensing or compressing it just prior to its being driven into the sole—such a mechanism is shown in the drawing, consisting of the slider, g', the hook, slide bar, m', the toggles, l' k', the pitman, b', and the mechanism for actuating the said pitman as described.

I also claim the combination of the wedged pitman, b', its side cam, d', the recessed post, z, and the stud of the feeder, C, the same being the mechanism for feeding the shoe along.

I also claim combining with the feeding mechanism a mechanism, substantially as described, for imparting to the shoe a lateral motion, receiving a lateral motion, such as will cause the machine, when in motion, to insert two rows of pegs in the sole—such a mechanism is shown in the drawings, consisting of the pitman, d2, the notch, x', the recess, z', the stud, c3, the heart cam, a3, and the plate, v'.

RAILROAD CAR SEATS—John McMurtry (assignor to James B. Clow and John Best), of Fayette county, Ky.: I do not claim the quadrants, d and d P P, with their thumb screws separately. Neither do I claim the mode of hinging the seats, B and f, together, as these devices are not new.

But I claim the combination and arrangement of the seat back, footboard and quadrants, for the purpose of making the seat adjustable and reversible at pleasure, substantially as described for the purposes set forth.

BURNERS FOR VAPOR LAMPS—G. W. Randall (assignor to Eben J. Todd), of Boston, Mass.: I claim the application of the valve and its seat to the generator and the button or heat absorber, the same consisting in making such valve and seat tapering and arranging them in the generator, and maintaining them in contact by the action of a spring, and connecting the valve with a separate button in such manner that the button, besides performing its office of absorbing heat from the flame, may serve with the spring to maintain the valve in place against its seat and to rotate the valve as specified.

REVOLVING FIREARMS—Edward A. Raymond and Charles Robitaille (assignors to themselves, Jno. B. Richards and Thomas K. Austin), of Brooklyn, N. Y.: We do not claim any part of the invention of Pettengill secured by patent.

But we claim, first, The manner specified of controlling the motion of the lever, for the purpose, by means of the spring, m, roller, q, and incline, 1, as and for the purposes described and shown.

Second, We claim locking the chambers, d, by the end of the lever, h, taking the triangular recesses, 8, in the rear of the chambers, as said lever completes its upward movement for the purpose and as specified.

MACHINE FOR FOLDING PAPERS—S. T. Bacon, of Boston, Mass., assignor to A. Hardy, of Boston, Mass., assignor to J. North, of Middletown, Conn. Dated April 15, 1856: I claim, first, Producing the fold over a stationary knife or straight edge by pressure upon the sheet when in contact with the knife edge, substantially as described.

Secondly, The use of nipper constructed as to fold the sheet over the knife edge, seize it and carry it to its proper position for receiving another fold, substantially as described.

Thirdly, The method described for releasing the sheet from the nipper.

Fourthly, The adjustable check and the mode of releasing its hold by the advance of the nipper, as set forth.

Fifthly, Attaching the stationary knives to the reciprocating carriage, as set forth.

Sixthly, The combination of the crank, E, slotted connecting rod, M, lever, N, and link, P, substantially as described for operating the reciprocating carriage.

Seventhly, Hinging the cutting rollers, on a bar vibrated and checked as herein described.

Eighthly, The arrangement of the (T) levers, with double concentric shafts as described, for operating the nippers from one cam, as set forth.

CASTING SKINS FOR WAAGONS—Andrew Leonard, of Kenosha, Wis. Dated Feb 24, 1857: I do not claim to have been the first to make thimble skins as such.

But I claim the combination of a whole thimble skin pattern, b, with a loose collar pattern, 1, substantially as specified and as shown in Fig. 1, for the purpose specified.

I claim, also, the vertical position of green sand cores for thimble skins, when molded and combined at their base with the mold, as substantially in the manner specified; in combination with the adjusting top of the cores at (a) by the hand, after the mold is completed, except the case, whether core bars or their equivalents for the purpose are used, substantially as described and shown.

Literary Notices.

AMERICAN ENGINEERING. By G. Weissenborn, Civil Engineer, 131 Fulton street, New York. Nos. 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100. This is a large work containing beautifully executed lithographs of American machines and engineering works, with all the constructive details and necessary description. In the present numbers we find the details of the steamship Inxpressant, with elevations of the arrangement of her engine room and boilers, and all the information that would be required to construct a similar engine. There are also full and detailed illustrations of the passenger locomotive, Talisman, built at Paterson, N. J., drawings of the steamer Francis Skiddy, with accurately drawn elevations of her beam engine, with a cylinder 70 inches in diameter and 14 feet stroke. The steam fire engine Missouri is finely drawn, and the tender of the Talisman and the engines of the Caroline, of Havana, are all contained in these numbers. The accompanying letterpress contains exactly that kind of information which every engineer and mechanic wants to know, not being confined to mere details of the drawings, but embracing every subject in connection with the work that is incapable of illustration by the artist or draughtsman. This work when complete will be the most perfect of its kind ever published, and will form the basis, we hope, of a system of scientific instruction applied to all the various branches of the engineering art. The subscription is only \$1 per number, and we hope that it will find its way into the hands of all who take an interest in the progress of steam in America, of which it forms a perfect history.

BLACKWOOD'S EDINBURGH MAGAZINE for July is excellent. The "Soldier and the Surgeon" being the title of the first article. It is an able review of the sanitary condition of the British army, and should be read by all who have any taste for military matters. The other articles are very good, and "What will be do with it" increases in interest every number. L. Scott & Co., 79 Fulton street, New York, are the publishers.

HUNT'S MERCHANTS' MAGAZINE and COMMERCIAL REVIEW for August. No. 142 Fulton street, New York. This, the ablest, commercial periodical published in America, contains in this number a valuable and interesting condensation of the work of Baron Von Plenker, chief director of the Austrian tobacco manufactures, upon the manufacture, trade and consumption of the weed. The various kinds, qualities and properties of alcoholic beverages called spirits or distilled liquors, have their share of attention, and much interesting information is given concerning their manufacture and adulteration. Full, as usual, of mercantile news, this is a good number of an excellent magazine.

HENRY WARD BEECHER'S SERMONS. Two recent sermons of this eloquent preacher are published in pamphlet form—price ten cents—by Long & Farrilly, 23 Ann st., New York.