

WHAT HUNGRY MEN EAT.

The reader who is comfortably housed and has an abundance wherewith to satisfy his hunger—who has only to go to the next corner, or to his cellar to procure the necessaries and even the luxuries of life—has but little conception of the straits to which men are sometimes put for want of food, or the substances hungry men take into their stomachs. The keen gnawing sensation occasioned by want of food is utterly unknown to those who live in cities; for although the "appetite" may be good, and excited as the hour of meal time approaches by the sight and smell of food, these emotions are soon dispelled and at least can be borne without great inconvenience for hours. But with that hunger which is akin to starvation the case is different. The most loathsome substances are eagerly seized, and these, which were revolting, become not only tolerably good but absolutely delicious.

That sentinel—the palate—and those pickets—the nostrils—challenge rigidly, in the quiet seclusion of home, every edible that approaches; but when the limbs tremble, when the great arteries no longer overflow with crimson blood, when the brain refuses to think and the eyes to see for want of something to eat, then that garrison—the stomach—receives whatever the highways and byways afford, or what the ungenerous soil may yield. In certain countries, as in Southern Africa and America, there are tribes called "dirt-eaters," who gorge themselves with a peculiar kind of clay, solely to distend their stomachs, so that they may appease nature. Once addicted to this habit it is ineradicable and they fall victims to intestine diseases caused by the abuse. Over the far Western prairies there roam skulking tribes or rather scattered parties of Indians called "Diggers." They are of all wandering savages the most despicable and degraded. They eat the roots of certain plants when unable to procure better food, and are glad to obtain grasshoppers and other insects which the white man looks upon as vermin. In parts of France, chiefly in the wine-making districts, there are found quantities of snails or slugs which frequent the vines; these reptiles are eaten by some and highly prized as delicacies, even by cultivated persons. We all know that the Chinese devour cats and dogs and even mice and rats, and that the edible birds-nests which form a portion of the diet of the higher classes in the country mentioned consist of a species of gelatine or semi-transparent mass which, after being cleansed, forms no despicable dish.

The human stomach must be satisfied at all hazards, and Dr. Kane and his followers found frozen walrus meat and polar bears' heads eaten raw, great delicacies; raw frozen livers he speaks of as delicious titbits. He also mentions that to the Esquimaux "belles" and native Greenlanders a pint of train oil or a bunch of candles was an appreciable gift, and the first was quaffed and the latter munched without loss of time. These are not freaks of appetite; but the promptings of nature, for fat contains more carbon—or, in plain English, more heat or fuel for the support of the vital flame—than lean meat; and it is therefore in those polar regions an imperative and indispensable article of food.

In Norway and Finland a coarse mixture, passing under the name of bread, is made from the inner bark of the pine or fir tree; and it is a well settled fact that the natives in certain parts of Africa eat a peculiar kind of ant with great avidity. Egyptians devour locusts and wild honey (when they can get it), and in the wilds of Southern Africa, round about the region of the Cape of Good Hope, the swarthy Hot-tentots gorge themselves to repletion when opportunity offers upon all parts of the beast killed. Abyssinians and the subjects of the king of Dahomey refresh themselves with steaks, warm and raw, cut from the living animal; and the Kalmucks, a wild Tartar race, affect a beverage called *koumiss* which is made from mare's milk.

In all climes men feed just in proportion to their cultivation; and in conditions of extreme barbarity the animal man is but little above the brutes devoid of reason. Instinct governs the appetites of savages; and they are filled to repletion to-day, while to-morrow they starve.

The productive capital in British railways is estimated at two thousand millions of dollars.

MACHINISTS AND THE SANITARY COMMISSION.

Our friends, the machinists, will feel pleased to know that their services in behalf of the sick and wounded soldiers, as well as their loyalty and devotion to the interests of the whole country, are not forgotten or overlooked. The *Spirit of the Fair*, a daily journal published during the recent exhibition in this city, pays this well-deserved compliment to the trade in question:—

"Perhaps no class of contributors to the Fair has done more substantial work for the cause, in shorter time, than the machinists. The Government has required lately from this most useful class so much labor at high speed and under great pressure, both mental and physical, that it is wonderful that they have been able to devote so much time and effort to the Fair as they have done. The committee on this class of contributions, too, was one of the latest formed, and had but three or four weeks for preparation. Besides the donations in kind and articles of machinery, engines, &c., sent in for exhibition, money has been contributed through this committee to the amount of nine thousand five hundred dollars, much of it through liberal subscriptions from the workmen themselves in the shops. If any stronger evidence of enlightened generosity can be found among the high-toned chivalry of the South, than has been shown in this and other instances by the greasy mechanics of the North, we should be glad to be reminded of it. One single contribution, by a working engineer, is that of a steam engine worth seventy-five dollars."

We think the above paragraph is about the best thing that has appeared in the *Spirit of the Fair* since its commencement. It has had very little "spirit."



ISSUED FROM THE UNITED STATES PATENT-OFFICE
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Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying 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.

42,336.—Propeller Engine.—Edward David Ashe, Brompton, England:

I claim the combination of the two engine cylinders, A, A', piston rods, a, a', guides, b, b', drivers, h, h', ways, C, C', and propeller shaft, B, formed with a plurality of intersecting spiral grooves, d, d', having two or more revolutions in the said drivers, h, work on opposite sides of the said shaft, B, one in each of the grooves, d, d', and all the parts are constructed and arranged to operate in the manner and for the purpose herein specified.

[The principal object of this invention is to obtain a high velocity of shaft with out gearing, or in other words, to obtain two or more revolutions of the shaft of an engine from one stroke of the piston; and it consists in a certain construction and arrangement of a spindle grooved shaft in combination with drivers attached to the piston rods for this purpose.]

42,337.—Fluid Meters.—Edward John Baker, Philadelphia, Pa.:

I claim, first, The arrangement substantially as described, within a box or casing to which the fluid to be measured is admitted, of two measuring cylinders, with their reciprocating pistons, and with any system of valves, valve-seats and passages for admitting the fluid to, and discharging it from the said cylinders.

Second, The arrangement beneath the measuring cylinders of the slide valves J, the valve seats and ports substantially as specified.

Third, This arrangement substantially as described of the passages C and C', and exhaust passage, D, beneath the valve seats.

Fourth, The slide valves J, J, arranged in respect to each other and operated by a crank or eccentric on the central shaft, L, substantially as specified.

Fifth, The two cylinders with their reciprocating pistons in combination with the shafts, Q, arms, S and S', rods, T and T', arm or crank, U, and central shaft, L, the whole being arranged for joint action, substantially as and for the purpose herein set forth.

Sixth, The piston, G, composed of cups, m, and m', of leather or other like material and perforated plates, n, and n', all being constructed substantially as specified.

Seventh, The shaft, V, passing through the cover plate, A', of the box, and having an arm or carrier, W, in combination with the central shaft, L, and its arm, U.

42,338.—Caster Wheel.—Thaddeus Beach, New York City:

I claim a caster wheel or roller having its fork or support, F, attached to a circular plate, E, provided with an upper beveled or inclined surface, d, and fitted within a circular box, A, having an inclined or beveled under surface, a, with conical rollers, C, interposed between the inclined or beveled surfaces, a, d, and either with or without the frame, B, substantially as herein set forth.

[The object of this invention is to reduce friction in the turning of the support of a caster wheel or roller while the latter is adjusting itself to the line of the movement of the article to which it is attached

and at the same time admit of the wheel or roller being near the center of its support, whereby a more direct bearing than hitherto is obtained on the caster wheel or roller, and the latter made to act much more efficiently in supporting the article which sets upon it.]

42,339.—Holder for Butter Knife.—Henry Benton, Guilford, Conn.:

I claim the employment or use of the clasp, B, with spring socket, C, in combination with a plate, A, or its equivalent and with a knife, D, substantially in the manner and for the purpose herein shown and described.

[The object of this invention is to produce a simple and neat device which can be readily clasped to the edge of a plate or dish, and which is provided with a spring socket to hold a knife in such a manner that the knife is prevented slipping off from the plate or dish and soiling the table-cloth.]

42,340.—Anti-friction Stamper for Metallic Ore.—Joseph A. Bertola, New York City:

I claim, first, The movable bottom plate, r, and elastic bed, s, in combination with the hopper formed with a chute on one side receiving the ores to be pulverized, and a spout on the other for the delivery of each ore, as specified.

Second, I claim forming the rod or handle for stampers of two metallic bars, between which the roller, f, for the lifting cam is fitted and which handle is grinded by fixed rollers, g and l, between such bars as and for the purposes specified.

42,341.—Chilian Mills for pulverizing Metallic Ore.—Joseph A. Bertola, New York City:

I claim the cross-head, l, on the shaft, g, with the chains or links, m, m, in combination with the axle, n, and pulverizing rollers, o, o, o, as and for the purpose specified.

42,342.—Fire-place.—Walter Bryant, Boston, Mass.:

I claim the above-described improved open fire-place as constructed with the air-heating chamber arranged about and so as to extend above its grate and the ash-pit or box, and open into the latter, in manner and so as to operate substantially as hereinbefore explained.

42,343.—Car Coupling.—Henry A. Buck, Meadville, Pa.:

I claim the drop, B, curved and fitted in grooves or recesses in the draw-head A, as shown, in connection with the coupling pin, C, and link or shackle, G, all arranged to operate substantially as and for the purpose specified.

[This invention relates to a new and improved car coupling of that class which are commonly termed self-coupling, and it consists in the employment or use of a suspended drop placed within the draw-head and arranged in such a manner as to support the coupling pin when the latter is set or adjusted for coupling, and at the same time so arranged as to be out of the way of the link or shackle, when the latter enters the draw-head, and prevented from being acted upon by the link or shackle until the latter reaches the proper point to receive the coupling pin, thereby avoiding a casual dropping of the coupling pin before the link or shackle can receive it.]

42,344.—Photographic Printing frame.—Orrin H. Burdick, Auburn, N. Y.:

I claim the combination of the bowed or arched springs on the back, with the pivoted and horizontally turning arms on the frame, both the springs and arms having at least one free end, for the purpose of holding and regulating the pressure of the back, pad, and paper, to the glass in photographic printing frames, substantially as described.

44,345.—Bilge Blocks for docking Ships.—Phineas Burgess, Brooklyn, N. Y.:

I claim, first, The transverse self-adjusting top-piece, C, arranged upon the bilge block to operate substantially as and for the purpose herein specified.

Second, Combining the adjustable upper portion, B, of a bilge block, with the base, A, by means of one or more adjusting screws, F, substantially as and for the purpose herein specified.

42,346.—Anchor.—C. A. Chamberlain, Alleghany City, Pa.:

I claim, first, The reverser, C, constructed and applied to an anchor to operate substantially as herein specified.

Second, The elevator, E, applied and operating substantially as herein described.

Third, The depresser, E, applied and operating substantially as and for the purpose herein set forth.

Fourth, The guard, G, G, applied and operating substantially as herein described.

Fifth, The combination of the two flutes, A, A, arranged side by side, the reverser, C, elevator, E, depresser, F, and guard, G, substantially as herein set forth.

42,347.—Wooden Pavement.—Wm. H. Chappell, St. Louis, Mo.:

I claim the construction of wooden pavement with lumber which has been saturated with carbolic and cresylic acids or sulphate of iron and soluble glass, coated with pitchy mastic, from well oil residua, heavy oil and pitch from gas tar, and laid with cement made from sand, gravel, lime, pyrites, resinum, and soluble glass, covered with pitchy mastic, substantially in the manner as described in the specification.

42,348.—Grain-dryer.—George Clark, Buffalo, N. Y.:

I claim, first, The formation of hot air supply and evaporation escape passage through a body of grain by means of the horizontal perforated tubes, B and B', the hot air tubes opening at one end through the kiln wall into a hot air chamber, E, and closed at the other end, and the evaporation tubes opening at one end into an evaporation chamber, on the opposite side of the kiln and being closed at the other, substantially as described.

Second, In the formation of a hot-air chamber, E, divided into compartments by the floors, E', and the combination therewith of a hot air conducting flue, H, leading from the furnaces, the opening of the flue into said compartments being provided with regulating registers, substantially as described.

Third, The triangular or V-shaped tubes, B, B', having open base (with or without perforations), for the purposes and substantially as described.

Fourth, In so arranging the alternate rows of hot air supply and evaporation escape tubes (or passages) that kiln will pass alternately over hot air and evaporation tubes substantially as described.

Fifth, The combination of the hot-air supplying, and exhausting tubes, B, B', constructed and operating as described, with the regulating valve, N', substantially as set forth.

42,349.—Construction for Defense of Ships of War, and of Defensive Armor for Fortifications.—Owen Collins, New York City:

I claim, first, The employment in the hull and turrets of a vessel or in fortifications, of a framing composed of independent tubular wrought-iron ribs, B, B, constructed and arranged as herein described.

Second, The external coils of steel wire, a, a, in combination of the aforesaid independent wrought-iron tubular ribs, as and for the purpose herein set forth.

Third, The employment in combination with the independent wrought-iron ribs, B, B, of surrounding casings b, b, of india-rubber or its compounds substantially as and for the purpose herein set forth.

Fourth, The combination of the framing of wrought iron tubes B, B, inner and outer skins, c, d, and corrugated plates, e, e, substantially as herein specified.

[The principal object of this invention is to obtain great impenetability to projectiles with little weight and consequently with a high degree of buoyancy; and to this end it consists, firstly, in the employment in the hull and turrets of a vessel, of a frame composed of wrought-iron tubes arranged in the form of ribs; secondly in the reinforcement of such tubes for coils of steel wire to give them greater strength, and to aid by its elasticity in increasing the resisting power of the tubes; thirdly, in the employment between such tubes, of casings of india-rubber, or any compound thereof, to give them greater capability of resisting; and fourthly in the employment in combination with such tubes, of plates of corrugated iron applied in such a manner as to seam the said tubes together, and to attach inner and outer skins of smooth iron plates.

42,350.—Grain Drill.—Wheeler M. Conger, Sugar Valley, Ohio:
I claim, first, The provision of nuts, N, N', and fulcrums, a, a', for adjusting the supplemental drag bars, L, L, and supplemental drill teeth, K, K', to a greater or less breadth of tillage in the manner set forth.
Second, Applying the drift chains or traces to a second cross rail A' near the axle, C, substantially as and for the purposes specified.
Third, The provision of guards, Q, Q', on the supplemental drag bars, L, L', for the objects stated.

42,351.—Manufacture of Tin Cans.—Edward T. Covell, Brooklyn, New York:
I claim uniting the sides of sheet metal cans by means of interlocking hook-shaped flanges, and solder, substantially as herein set forth; but this I only claim when the hooked-shaped flanges are completely formed upon the margins of the side sheets before the said sheets are joined together for the formation of the can.
When the sides of a sheet metal can are united with each other by means of the above-described interlocking hook-shaped flanges and solder.
I also claim screwing the heads of the can in proper position by means of grooves formed inside of the can for the reception of the heads, the joints being completed by the use of solder or other suitable cement.

42,352.—Washing Machine.—M. C. Cronk, Auburn, N. Y.:
I claim the post, B, the sleeve, H, the upright, I, the brace, G, and the lever, F, the whole arranged, constructed, and operated substantially as herein described.

42,353.—Shingle Machine.—H. C. Crowell, Morgan, Ohio:
I claim the adjustable gauge G, either with or without the bar, H, in combination with the circular saw, B, and rising and falling bed, D, all arranged substantially as and for the purpose set forth.
[This invention relates to a new and improved machine for sawing shingles, heading for casks and other similar articles, and it consists in the employment or use of a vertical circular saw in connection with a rising and falling bed and a gauge or guide, all arranged in such a manner that the bolt may be held in the hand and fastened or fed to the saw in such a manner as to admit of the operator cutting up the bolt to the best advantage.]

42,354.—Churn.—J. B. Davidson, Oberlin, Ohio:
I claim the special arrangement of the break, N, guards, J, and lips, J', in combination with the described revolving beaters, when operating conjointly as and for the purpose described.
I also claim the plate, F, and collar, D, on the shaft, C, and the slide B', when arranged and operating in combination with the described churn, substantially as set forth.

42,355.—Manufacture of Tin Cans.—Frederick W. Devoe, New York City:
I claim the lap, A, in combination with the inwardly projecting rib joint, a, a, substantially as and for the purpose herein described.
[This invention relates to the rib joint which forms the subject matter of Letters Patent No. 40,661, granted to C. G. Reynolds, F. W. Devoe, and C. Pratt, as assignees of H. Miller. That joint is well adapted for uniting the sides of square vessels, as it gives great stiffness at the corners, but it depends entirely on the cohesiveness of the solder for its capability of resisting any force which tends to tear it apart, it is not as strong in this respect as might be desired. The object of this invention is to remedy this defect, and to this end it consists in forming a lap at the edge of the rib by folding the margin of one plate or portion of the joint over that of the other plate or portion, the said lap serving to give increase of strength to the joint, and also to increase the stiffness of the rib.]

42,356.—Scoop and Funnel.—J. F. Dubber, Brooklyn, N. Y.:
I claim the application of the valve, B, to the nozzle, a, of a funnel A, in combination with the trigger, C, constructed substantially as herein described, so that said funnel can be used in place of a scoop and by introducing the nozzle into a paper bag and touching the trigger its contents can be readily discharged.
[This invention consists in the application to a funnel of the above description of a valve which closes the nozzle of the same and which is held closed by a spring in combination with a trigger or handle in such a manner that said funnel can be placed directly on the platform of a pair of scales, or suspended from their beam and used in place of a scoop and if the desired quantity of the article in question has been weighed into the same, its nozzle can be introduced in a paper bag and by touching the trigger the valve is opened and the contents of the funnel are discharged.]

42,357.—Snap Hook.—George R. Dunn, Newark, N. J.:
As a new article of manufacture, I claim the snap hook herein before described consisting of a cast metal body, A, a detachable spring D, screwed by a screw, d, and passing through and protected by the socket, C, all constructed and arranged as specified.

42,358.—Machine for removing Starch Deposits.—Wright Duryea, Glen Cove, N. Y.:
I claim, first, The agitators, B, arranged in combination with a cistern, A, on shafts, C, descending into said cistern at points outside its center and with a sun-and-planet gear, e, a, b, c, constructed and operating in the manner and for the purpose herein shown and described.
Second, The scraper, I, in combination with the cistern, A, revolving ring, E, and one or more vertically adjustable bars, J, constructed and operating in the manner and for the purpose substantially as set forth.
Third, The platform, F, and rails, G, in combination with cistern, A, and agitating mechanism constructed and operating in the manner and for the purpose substantially as set forth.

42,359.—Balanced Slide Valve.—Robert Faries, Indianapolis, Ind.:
I claim the stationary protecting cover, C, of arched or other equivalent form in its transverse section in combination with the packed valve, A, having a transverse section of corresponding form substantially as and for the purpose here specified.
I also claim in combination with such valve and cover, the tube, d, for preventing leakage of steam around the valve stem substantially as and for the purpose herein set forth.
I further claim in combination with such valve and seat the grooves, u, n, and passages, m, m, substantially as and for the purpose herein specified.
[The object of this invention is to relieve the back of the slide valve of the pressure of the steam or other fluid in the valve chest and thereby reduce its friction and wear; and to this end it consists principally in making the valve of arched or equivalent form in its transverse section and fitting it with suitable packing to a stationary protecting arch or cover which extends right over it, from one side of the valve seat to the other.]

42,360.—Rolling Metal.—William Field, Providence, R. I.:
I claim the method hereinbefore described for rolling flat bar iron or other metal.

42,361.—Oil Stone Fountain. James Funk, Beverly, Ill.:
I claim the employment or use, with an oil-stone, of an oil-fountain provided with valves and placed in the lid or cover of the case of the oil-stone, to admit of the stone being supplied with oil from the fountain, substantially as herein set forth.
I further claim the vibrating plate, H, provided with the yielding heads covered with cork or other suitable material, in combination with the revolving toothed wheel, G, and the holes, i, i' and j, made respectively in the bottom and top of the oil fountain, all arranged to operate in the manner substantially as and for the purpose herein set forth.
[This invention consists in combining an oil fountain with an oil-stone in such a manner that the stone can be readily supplied with oil at any time as required, while, at the same time, the two com-

binized articles will not exceed much, if any, the dimensions of an ordinary-cased oil-stone provided with a lid or cover.]

42,362.—Shirt.—S. H. & C. E. Furman, New York City:
I claim a shirt with permanently-attached studs and closed wristbands without buttons or studs, constructed substantially as described.

42,363.—Hand Grenade.—G. P. Ganster, New York City:
I claim the peculiar construction and arrangement of the compound chambers, c, d, in combination with the ball, e, for separating the chambers, c and d, their respective chemical contents, together with the detent, f, and its mechanical arrangements, substantially as described and for the purposes set forth.

42,364.—Machine for grinding Oil Paints.—H. W. Gear, New York City:
I claim the employment or use of one or more mullers, H, adjustable on arms, G, which extend in a horizontal direction from the vertical arbor, F, in combination with slip weights, h, and with the stationary bed, B, all constructed and operated in the manner and for the purpose substantially as herein shown and described.

42,365.—Drilling Machine.—Alexander Gordon, New York City:
I claim the adjustable clamp and feeding nut combined with each other and with the drill spindle, to operate substantially as and for the purpose herein described.
[This invention relates to the mode of feeding the drill, and it consists in controlling the feed by means of an adjustable friction clamp applied to the nut which is fitted to a screw thread on the rotating spindle which carries the drill stock.]

42,366.—Snap Hook.—R. E. & A. Gorton, Franklinton, N. Y.:
I claim, as an improved article of manufacture, a snap hook made as herein shown and described, with a spring, f, snap, B, eye, g, and projection, h, all as set forth.
[This invention relates to an improved snap hook or fastening for attaching traces to whiffletrees and also to the breechen of a harness, when the horse is not attached to the vehicle, and the traces require to be held, &c.]

42,367.—Coffin Plate.—W. H. Green, Meriden, Conn.:
I claim the construction and attachment of a back to a coffin plate, the said back having corresponding ridges to fit the grooves present on the back of the front plate, which will admit of the insertion of any name and age requiring the ordinary number of letters or figures between it and the front plate after the two are united.
Also, I claim the invention of the slot or opening in the end or side, and middle of the back, through which the letters and figures are inserted.
Also, sealing the line of figures or letters by striking up or punching up a period at the end of the line.
And the use of letters and figures struck up from sheet metal instead of cast ones, for this purpose.

42,368.—Spring Mattress.—John G. F. Grote, Cincinnati, Ohio:
I claim, first, The arrangement of frame, A, B, C, D, E, body springs, F, cording, G, g, band, H, yielding head frame, K, and graduated springs, I, I', and J, the whole being combined and operating together as set forth.
Second, The described combination of head frame, K, cords, G', and graduated springs, I, I', resting partially upon the frame and partially upon the yielding band, H.

42,369.—Spring Mattress.—John G. F. Grote, Cincinnati, Ohio:
I claim the combination of the equilateral body mattress, A, B, base, C, bolster, D, and legs, F, f, constructed, arranged and operating substantially as and for the purposes specified.

42,370.—Convertible Planter and Cultivator.—S. E. Harrington, Greenfield, Mass.:
I claim, first, In combination with the main frame of a machine which may be used as a seeding machine or for other purposes, the hopper, agitator, measuring device, chute and markers, when constructed in such a manner that they may all be removed from said main frame by one and the same operation, substantially as set forth and for the purpose described.
Second, The combination and arrangement of the hopper, F, frame, G, agitator, K, lever, k, and spring, r, post, H, shoe, I, disk, j, and markers, O, constructed and operating substantially as described.
Third, In combination with the main frame and dray-bars of a seeding machine or cultivator, the spring-bolt coupling, N, constructed and operating substantially as described.
Fourth, In combination with the main frame of a machine which may be used as a seeding machine or for other purposes, and provided with a plate, T, the cultivator bars, P, P', when crossed at their middle and provided with clamping bolts, S, S, substantially as described.
Fifth, In combination with the main frame of a machine which may be used as a seeding machine or for other purposes, the fenders, E, E, substantially as described and for the purpose set forth.

42,371.—Machine for grinding and amalgamating Gold and Silver.—Wm. H. Hepburn & G. K. Peterson, San Francisco, Cal.:
We claim, first, The conical bottom, a, of the pan, B, in connection with the conical muller, H, in shell form, arranged substantially as and for the purpose set forth.
Second, The shoes, P, provided with curved beveled edges and attached to the under side of the muller, H, so as to form oblique curved grooves, p, in connection with the spiral flanges or ribs, m', on the upper side of the muller, as and for the purpose specified.
Third, The arrangement of the hand wheels, O, N, thumb, L, and tubular screw, M, substantially as described for raising and lowering the muller, as set forth.
[This invention consists in the employment or use of a pan provided with a conical bottom, and a muller which is in the form of a conical shell and provided at its upper surface with spiral ribs or flanges and at its under surface with shoes so disposed and arranged as to form spiral grooves, all being so constructed and arranged to operate in such a manner that all the pulp or pulverized ore will be brought in contact with the quicksilver in the pan and all the particles of gold perfectly amalgamated.]

42,372.—Ore Separator.—Charles D. Hicks, Denver, Colorado:
I claim the separator wheel, C, provided with a central cavity, a, sloped sides, b, and an annular trough, c, and secured to an oscillating adjustable arbor, D, in combination with the pyramidal chute, B, and sluice, A, all constructed and operating in the manner and for the purpose substantially as shown and described.
[This invention consists in the employment of an oscillating separator provided with a hemispherical central cavity, sloped sides and an annular semi-circular trough in combination with an adjustable shaft, pyramidal chutes and common sluice in such a manner that the small particles of quartz and gold passing through the perforated bottom of the sluice are conducted to the central cavity of the separator and by the oscillating motion imparted to said separator and by the action of its sloped sides the gold contained in the quartz settles down to the bottom of the central cavity and annular trough, and the light particles are carried off by the water.]

42,373.—Window-tightener.—O. C. Hill, Malone, N. Y.:
I claim the above described new and improved device for holding a strip placed in a groove in the edge of a window sash, for the purpose of tightening the window and supporting the sash when raised.

42,374.—Tank for Hot-houses.—Henry E. Hooker, Rochester, N. Y.:
I claim the particular construction and arrangement of the troughs or tanks, A, A', the same consisting of the simple self-supporting and insulating partition, a, a, and the bottom, B, of hydraulic mortar arranged relatively with the earth, E, and sides and partition, a, a, substantially as and for the purposes herein set forth.

42,375.—Riveting Machine.—James Howell & David Birdsall, Jersey City:
We claim the combination of the trip hammer, D, spring, d, dies, e, f, g, h, and the stop catch device, F, when constructed and operated substantially as described.

42,376.—Washing Machine.—Robert B. Huginin, Cleveland, Ohio:
I claim the corrugated surfaces, C and D, substantially as and for the purposes specified.
I also claim the arrangement and combination in connection with the surfaces, C and D, of the shaft, E, yoke, E, lever, J, plate, K, as and for the purposes herein shown.

42,377.—Corrugating Circular Metal Plates.—R. B. Huginin, Cleveland, Ohio:
I claim the arrangement of the cones, A, A, as and for the purposes herein shown.
I also claim the arrangement and combination of the plates, C, C, gears, F, F, boxes, D, D, collars, E, E, E, and cones, A, A, as and for the purposes herein described.

42,378.—Washing Machine.—D. F. Hunt & F. S. Lyon, South Norwalk, Conn.:
We claim the fluted roller, D, placed in the frame, A, which is attached to the wash-tub, B, by clamps or any suitable fastenings in combination with the small fluted rollers, F, having their shafts, a, fitted in segments, G, which are connected together by pivots, b, and connected to the hinged frame, H, all arranged as shown to form a new and improved washing or rubbing attachment for the purpose specified.
[This invention relates to a new and improved portable washing attachment to be applied to wash-tubs. The object of the invention is to obtain a simple and economical device for the purpose specified, and one which will admit of the clothes being washed and perfectly cleaned without the liability of being injured and with but a little expenditure of power or labor.]

42,379.—Revolving Fire-arm.—B. F. Joslyn, Stonington, Conn.:
I claim, first, Making that portion of the piece, E', which penetrates the portion, E, of the cartridge in the case of the cartridge so as to prevent the accumulation of dirt between the two parts of the cylinder, as set forth.
Second, The piece, E', with the plate, a, and radial ribs, n, and recesses for the reception of the heads of the cartridges, the whole being constructed substantially as and for the purpose set forth.

42,380.—Apparatus for Fumigating.—K. P. Kidder, Burlington, Vt.:
I claim a fumigating device composed of a box or case, provided with a fire chamber or perforated partition, substantially as and for the purpose herein set forth.
I further claim the elastic tubes, C, D, in combination with the case, A, substantially as and for the purpose specified.
[This invention consists in the employment or use of a case or box, formed of two parts and provided with a fire-chamber or a perforated plate, as hereinafter fully shown and described, whereby animals may be effectually smoked out of holes or hollow trees and bees stung and subdued with the greatest facility.]

42,381.—Caster.—Christian Knisely, Chicago, Ill.:
I claim the two tubes, A, C, in combination with the rod, B, caster-wheel, E, and with or without the yielding pin, F, and groove, b', all arranged substantially as and for the purpose herein set forth.
[This invention relates to a new and improved caster such as are used on piano-legs and on the legs of furniture generally. The object of the invention is to obtain a caster of the kind specified, which will admit of being readily attached to its leg, be capable of turning easily and one which will admit of always being kept in a properly lubricated state, and not liable to slip out from the leg in case of the piece of furniture being raised from the floor.]

42,382.—Caster.—Christian Knisely, Chicago, Ill.:
I claim the oil chamber, E, in the frame, C, of the caster-wheel, D, in combination with the rod, A, secured in the leg to which the caster-wheel is applied and fitted in the oil-chamber, substantially as and for the purpose set forth.
I also claim in combination with the rod, A, and oil-chamber, E, the yielding pin, d, fitted in the frame, C, and the groove, c, in the rod, A, for the purpose specified.
I further claim the plate, B, on the rod, A, provided with an annular groove, a, in its under side, in combination with the flange, b, at the upper end of the oil-chamber, E, as and for the purpose herein set forth.
[This invention relates to a new and improved caster for the legs of furniture, light furniture, or such as have small legs that will not admit of large rods being inserted in them. The invention consists in having an oil-chamber in the frame of the caster-wheel into which the lower part of a rod that is driven into the leg is fitted, and on which rod the frame of the caster-wheels all wed to turn freely, the end being provided with a cap which covers the oil chamber and a spring catch employed to hold the caster-wheel frame on the rod.]

42,383.—Steam Boiler.—A. T. Lackland, St. Charles, Mo.:
I claim the arrangement of the furnace flue, d, return flues, b, b, and the water-jacket, surrounding the furnace, substantially as shown and described.

42,384.—Alarm Steam Gage.—L. L. Lee, Milwaukee, Wis.:
I claim, first, A cluster or group of floats consisting of three or more in combination with the yoke, J, and lever, C, substantially as and for the purpose described.
Second, The yoke, J, in combination with screw, N, for the purpose of adjusting the floats, substantially as described.
Third, The collar, E, in combination with the adjusting pins, F, F, and guide, R, substantially as and for the purpose described.

42,385.—Method of applying Steam-power to Car Brakes.—Wm. Longridge, Neverton, Md.:
I claim the steam cylinder, O, and steam chest, I, provided respectively with the piston, Y', and valve, J, and communicating with each other and the boiler, A, substantially as described when said parts are applied to or connected with a car brake to operate in the manner substantially as and for the purpose set forth.
I also claim the connecting of the stem, K, of the valve, J, with the bar, E, provided with a spring, D, the latter being connected with the brake cam, Z, and piston-rod, Y, to operate as described.
I also claim the particular manner of connecting the valve stem, K, with the bar, E, by means of the wheel, F, and rack, L, in connection with the lever, G, for raising the valve, J, and the notched bar, H, for holding said lever, for the purpose herein specified.
I also claim the escape valve, V, applied to the cylinder, O, substantially as shown when used in connection with the foot-rod, X, and for the purpose herein set forth.
I further claim the arrangement of the lever, U, pulley, m, at the end of the piston-rod, Y, rod, T, attached to one end of lever, U, and the brake chain, Z, attached to the opposite end and passing around the pulley, m, substantially as and for the purpose set forth.

42,386.—Drying Fruit.—Ira Lynde, Marathon, N. Y.:
I claim a device for drying fruit composed of a shallow box, A, provided with shelves or partitions, e, and having its broad sides or top and bottom formed of strips, b, of cane or other material, or of wire rods or wire cloth, substantially as herein shown and described.
[The object of this invention is to obtain a simple and portable device for drying fruit, one which will admit of being suspended against a wall, or laid in a horizontal position, or adjusted or placed in any position, and changed in position from time to time, as the facilitating of the drying process may require.]

42,387.—Fruit-gatherer.—F. A. Maxfield, East Spring Hill, Pa.:
I claim the sheet or canvas, A, provided with a cut, g, and a hole, i, and having rods, B, attached to its sides which are fitted upon and

supported by stakes, a, substantially in the manner as and for the purpose herein set forth.

[This invention relates to a new and useful device for gathering fruit, whereby the same may be shaken from the tree without injury and the labor of picking by hand avoided. The invention consists in the employment or use of a sheet or canvas attached to rods and arranged in such a manner that it may be made to encircle the trunk of the tree and receive the fruit as it drops from the tree; the sheet or canvas being supported by stakes which are driven in the ground and the sheet or canvas provided with a hole through which the fruit escapes into a proper receptacle or basket.]

42,388.—Metallic Wad for Cartridges.—Edward Maynard, Washington, D. C.:

I claim my improved gun wad, formed of a circular disk, with a projecting cylindrical edge or rim, substantially in the manner and for the purpose herein set forth.

42,389.—Steel-bladed Oars.—W. H. McMillan, New York City:

I claim as a new article of manufacture the oar herein described consisting of a wooden handle, A, and metal blade, B, when the said parts are constructed and combined as and for the purpose herein specified.

42,390.—Grain Drill.—F. S. Mills, Iberia, Ohio:

I claim, first, In combination with a seed distributing roller, b, composed of two parts, b' & b'', each provided with cavities, 77', shaft, a, divided longitudinally in a plane or planes coincident or parallel with its axis into parts of segmental form one attached to each part of the roller, b, for moving the same, substantially as herein described.

Second, The vertically adjustable arbor, h, and bevel gears, f' & g', in combination with roller, D, and seed-distributing roller, b, constructed and operating as and for the purpose set forth.

Third, The lever disk, k, with belts, K', in combination with the hinged draught pole, L, rocking roller, J, belts, G', and shoes, G, all constructed and operating in the manner and for the purpose specified.

Fourth, The combination of the spring-bars, I, with the vertically adjustable shoes, G, and sectional roller, D, as and for the purpose described.

[This invention relates to certain improvements in that class of seeding machines which can be used for distributing corn or other seeds in hills or in drills or broadcast, and which roll the seed in the ground.]

42,391.—Implement for Transplanting.—Francis Milo, Kingston, Canada West:

I claim the case, A, constructed so as to be expanded and contracted by the movement of the slide, B, in combination with the plates, D, D', all arranged substantially as and for the purpose set forth.

[The object of this invention is to obtain a simple and efficient device by which the roots of shrubs and plants may be protected from injury while being transplanted or removed from place to place.]

42,392.—Ore Separator.—F. A. Morley, Sodus Point, N. Y.:

I claim the use of a horizontal current of water, produced by the water-wheel, D, or its mechanical equivalent, for the purpose of conveying materials of different specific gravities into different receptacles, substantially in the manner and for the purpose described.

42,393.—Cheese Press.—Nathaniel Norcross, Livermore, Me.:

I claim the combination of the press beam, D, double racks, H, double pistons, F, and friction shaft, G, when constructed and arranged substantially in the manner and for the purpose described.

Arranging two or more sets of presses within the same frame when each press is composed of the press beam, D, double racks, H, double pistons, F, and friction shaft, G, as herein set forth.

42,394.—Needle-threader.—James O. Kane, New York City:

I claim, first, The groove, c, with the inclined sides and end, receiving the needle and determining the position of the eye, in combination with the tapering hole, b, for the thread, as specified.

Second, I claim the spring guide and holder, e, in combination with the groove, c, for the purposes, and as specified.

42,394.—Machine for dressing Staves.—Jason Palmiter, Jamestown, N. Y.:

I claim the two knives, K, K', in combination with the feed rollers, D, D', and the loaded lever, H, when used in the manner and for the purpose herein set forth.

[This invention relates to a new and improved machine for dressing staves, that is to say, for shaving or sizing them to proper dimensions and giving them the proper curved form in a transverse direction. The invention consists in the employment or use of stationary curved knives, in connection with fluted feed rollers.]

42,396.—Preserving Eggs, Meats, &c.—James Perkins, Newark, N. J.:

I claim the application and use of lac varnish in combination with gum arabic, substantially in the manner and for the purposes described.

41,397.—Whitening Currier's Slicker.—Daniel Peters & W. D. Wilson, Keokuk, Iowa:

We claim a slicking tool for curriers use, provided with an oscillating or adjustable blade, substantially as herein shown and described.

We further claim the bolt or latch, C, fitted in the handle, A, and arranged in connection with the blade, B, to operate substantially in the manner herein described.

[This invention consists in inserting the blade of the tool in the handle of the same in such a manner that the blade may be oscillated or moved in the handle, and assume an angular position therewith at either side of it.]

42,398.—Apparatus for concentrating Milk, &c.—Julius R. Pond (Bakerville P. O.), New Hartford, Conn.:

I claim the combination of the rotating curved pipes, d' & d'', of unequal length for stirring and heating the milk, a perforated helical pipe, f, for distributing heated air over the entire area of the vessel, and an induction pipe, a, all substantially as herein described and for the purpose specified.

[This invention relates to condensing or concentrating milk or other liquid substances by evaporation produced by the combined effects of the application of steam heat below the surface, the application of currents of hot dry air above the surface, agitation and the connection of the evaporating vessel with a chimney or other means of producing a draft, whereby the condensation or concentration is effected very rapidly at a comparatively low temperature, and at a small expense.]

42,399.—Machine for finishing Leather for Cotton or Woolen Cards.—Garret S. Quick, Auburn, N. Y.:

I claim, first, The stationary rubbers (two or more) pressed together by means of springs or their equivalents, as above described. Second, In combination with the rubbers above described, the two rolls, S and T, for drawing the leather through between the two series of rubbers.

42,400.—Car Coupling.—Cornelius M. Radcliff, Piermont, N. Y.:

I claim the compound coupling formed of the latches, h and i, constructed and acting substantially as set forth. I also claim in the chain or rope, m, passing from the latch, l, through the eye, 3, and along the front edge of the platform in combination with the said compound coupling, for lifting the same as set forth.

42,401.—Plow.—Daniel Rhodes, Pawtuxet, R. I.:

I claim the arrangement of the vertically-moving frame, H, arms,

f, roller, R, and loop, E, with the clevis, I, beam, A, lever, F, and guide, G, all in the manner herein shown and described.

[The object of this invention is to obtain a simple and efficient device which may be operated at any time when the plow is in use, for varying the line of draught so as to give the point of the share a greater or less tendency to enter the ground, and thereby regulate the depth of the furrow as may be desired and keep the same at a desired uniform depth, however undulating the surface of the ground may be. Address Mr. R. care of the North American Bank, Providence, R. I.]

42,402.—Car Spring.—G. Adolph Riedel, Philadelphia, Pa.:

I claim, first, Constructing the plates, A and B, with the circular recesses, a, a', or with conical bosses, a', for the purpose of receiving the ends of the springs, C substantially in the manner and for the purpose set forth.

Second, Combining the springs, F, with the springs, C, and the plates, A and B, substantially as described and shown.

Third, Securing the springs, F, with the spring, G, for the purpose of giving greater strength to the nest of springs, and also to preserve their perpendicular position, substantially as described.

Fourth, Constructing the springs, C, and the springs, F, of wire which has two acute angles, which in the formation of the springs constitute the extreme top and bottom parts of the folds thereof, the top and bottom edges of the folds being parallel, and their perpendicularity maintained to each other, substantially as described and for the purposes above set forth.

Fifth, Constructing the top and bottom edges of the folds of the springs, G, with a V-depression in one edge and a corresponding elevation on the other, substantially in the manner and for the purpose set forth.

Sixth, The buttons or clamps, D, in combination with the tubes, E, when arranged and operating in relation to the plates, A and B, substantially as set forth.

42,403.—Band Ruffe.—Thomas Robjohn, Mott Haven, N. Y. Ante-dated Feb. 19, 1864:

I claim a banded ruffe, whether crimped, fluted, ruffled or shirred, when said ruffe is made of two thicknesses of goods, substantially as herein described.

42,404.—Apparatus for making Fluted Ruffles.—Thomas Robjohn, Mott Haven, N. Y.:

I claim, first, The combination with a fluting machine of a folding guide constructed and arranged to deliver a strip of muslin or other fabric to the fluting rollers and to fold and double the said strip as it is drawn through it by the said rollers, substantially as and for the purpose herein specified.

Second, The combination with the fluting machine and the folding guide of an interposed pressing guide, substantially as herein specified.

Third, Forming the said interposed pressing guide as part of a socket which receives and holds in place the folding guide, substantially as herein specified.

Fourth, The combination with a fluting machine of the folding guide, constructed to turn in the two edges of a strip of muslin, substantially as herein specified.

42,405.—Ink for Hand-stamps, &c.—Richard H. Rogers, New York City:

I claim the admixture with a coloring matter, and a menstruum of the fiber or dust, of leather to produce a "pulp ink," substantially as herein described.

And I also claim in combination with the use of the fiber or dust of leather in an ink, the use of finely reduced paper or cork, or both of those ingredients, substantially as herein specified.

42,406.—Apparatus for sponging Cloth.—Louis Rothschild, New Haven, Conn.:

I claim the use of a perforated and covered cylinder, standing vertically and stationary, in combination with a boiler, for the purpose of sponging and shrinking cloth, when the whole is constructed, combined, and used, substantially as herein described.

42,407.—Manufacture of White Lead.—Robert Rowland, New York City:

I claim the manner herein described of converting granulated lead into white lead, by subjecting it while in a state of agitation to the action of oxygen, acetic acid, and carbonic acid, substantially in the manner and for the purpose herein described.

I also claim inducing the gases used in the carbonization of lead into a revolving drum by means of separate pipes or tubes, provided with stop-cocks so that the supply of each of the gases can be regulated independently of the other, substantially in the manner and for the purpose herein described.

42,408.—Harrow.—Andrew Sailey, Mount Vernon, Iowa:

I claim, first, The combination of the two vertically adjustable harrows, E, E', the guide bars, J, J', attached thereto, the draft rods, J, J', frame, A, and wheels, B, B', all as herein shown and described.

Second, In combination with the above I claim the rotary segments, F, F', hand levers, H, H', spring dogs, d', serrated bars, e, e', and chains, c, c', all constructed and operating in the manner and for the purpose specified.

[This invention consists in the arrangement of two vertically adjustable harrow guides by vertical bars, and suspended from a frame which is supported by two wheels in such a manner that said harrows are brought close to the team, and thereby the draught is rendered lighter than with ordinary harrows, that either harrow can be raised or lowered independent of the other, and adjusted to any desired depth, and that each harrow is correctly guided and kept square to the team, causing each tooth to do its work in the proper place, and furthermore by the arrangement of a long seat on the frame, so that the driver is enabled to move back or forward, the weight bearing on the tongue and neck-yoke can be regulated.]

42,409.—Grain Separator.—Benjamin D. Sanders, Wellsburgh, West Virginia:

I claim, first, Constructing the spout, G, with two or more passages varying in length, whether said passages be enlarged upward or are of equal dimensions throughout, substantially as and for the purpose described.

Second, So constructing and arranging a spout with two or more passages that independent currents of air have a free access to their lower ends at different elevations, substantially as and for the purposes described.

Third, So constructing one or all of the passages of a spout, G, and furnishing a hopper to one or all of the passages, that the grain shall enter the spout at a point above the lower end of each respective passage, substantially in the manner and for the purpose described.

Fourth, So applying independent hoppers to two or more passages of a spout, G, that the grain from the highest hopper falls upon a lower hopper, and in its passage from the different hoppers is acted upon by separate blasts of air in the different passages of the spout, substantially as and for the purpose set forth.

Fifth, So arranging perforated or imperforated hoppers with respect to one another and the termini of the passages of the spout that an unobstructed passage above the hoppers for the flow of air into the ends of the passages of spout, G, is obtained, substantially as and for the purposes set forth.

Sixth, A separating machine having a spout and hoppers constructed and operating so as to control the grain and air, substantially in the manner set forth.

42,410.—Harvesting Machine.—Jacob Seibel, Manlius, Ill.:

I claim in a reaping or harvesting machine, the combination of the endless M, the binding attachment, A, and the lever, i, cord, f, ratchet levers, m, m', and the sliding posts, S, S', arranged and operating substantially as and for the purposes delineated and described.

42,411.—Snow Plow.—James Sheridan, St. Louis, Mo.:

I claim, first, The spring, E, attached to the shaft, C, in connection with the spring, H, or an equivalent projection also attached to shaft, C, and the stop, I, attached to the under side of the platform or bottom of the car, and the plow or scraper, G, attached to the spring, E, all arranged either with or without the link, J, substantially as and for the purpose herein set forth.

Second, Constructing the plow or scraper, G, of a triangular portion, e, of wood covered with sheet metal, f, and provided at its lower end with a curved projecting front piece, f', an adjustable plate, K, and spur or guard, L, substantially as herein set forth.

[This invention consists in a novel manner of attaching the snow

plow to the car, whereby the former is allowed to yield or give to obstructions which may lie in its path, as well as to the friction produced by the bearing of the plow against the sides of the rails in turning curves; the plow being also allowed to yield or give under a vertical movement of the car, or a variation of the height of the same, caused by the play or elasticity of the car springs under different loads. The plow, also, by the arrangement or mode of attachment, being capable of being readily raised from the rail, at the will of the driver or attendant. The invention further consists in a novel mode of constructing the plow whereby the parts of the same which are exposed to wear, may, when worn, be readily replaced by new ones, and the plow always kept in proper working order.]

42,412.—Magic Lantern.—George Sibbald, Philadelphia, Pa.:

I claim, first, A magic lantern producing on a screen outside the lantern, by reflection, an image of a picture of any desired description placed in the lantern, substantially in the manner herein specified.

Second, The picture-holder, b, d, or its equivalent, arranged in that side of a magic lantern, A, opposite the lens tube, E, in combination with one or more lamps, B, and reflectors, D, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Third, Extending the lens tube, E, far enough in the interior of the lantern so that the lens, f, at its inner end is not exposed to the direct rays of light emanating from the flames of the lamps, B, as and for the purpose specified.

Fourth, The stems, d', projecting from the backs of the reflectors, D, and provided with flanges, e', in combination with the lantern, A, constructed and operating in the manner and for the purpose substantially as set forth.

Fifth, The hinged wings, c, in combination with the plate, d, and slide, a, constructed and operating substantially as and for the purpose described.

[This invention consists in a magic lantern producing an image on a screen outside the lantern by the reflection of a picture of any desired description placed in the interior of the lantern and exposed to the rays of light obtained from one or more lamps, or other artificial sources of light.]

42,413.—Burning Lime.—Edward A. Smith, St. Albans, Vt.:

I claim, first, The application of the heated blast to ignited anthracite coal in a kiln having a cylindrical cone-shaped cupola combined with a boiler plate providing room in the base for the fire chamber, a, constructed and arranged as herewith described.

Second, I claim the lime-pit and door in the throat of the boshes providing for the more rapid delivery of the lime, and forming a gage or measure by which to ascertain the amount drawn and to be drawn in the practical working of the kiln, all constructed as herewith described.

42,414.—Match Safe.—G. H. Snow, New Haven, Conn.:

I claim the sliding box, B, in connection with the stationary box, A, the rod, C, and spring, D, or its equivalent, all arranged to operate substantially as and for the purpose herein set forth.

[This invention relates to a new and improved safe for friction matches, and it consists in the employment or use of a sliding box arranged with a fixed rod and fitted in a case in such a manner that by forcing down the sliding box a match will protrude through the top of the box, so that it may be grasped by the thumb and finger, and readily abstracted from the box.]

42,415.—Elastic Roller.—Leander R. Streeter, Chelsea, Mass.:

I claim constructing elastic rollers by filling a flexible cylinder or case, wholly or in part, with integrated caoutchouc, whether damaged by use or not, for purposes and substantially as described.

42,416.—Harvester.—Benajah Titcomb, Baltimore, Md.:

I claim, first, Attaching the friction roller, B, Fig. 4, to the side of the frame, D, directly under the vibrating arm of rock-shaft, C, in the manner and for the purpose specified.

Second, The construction of the frame, D, and yoke, D', in one continuous piece, in the manner and for the purpose substantially as set forth.

42,417.—Pump.—James Tomlinson, Racine, Wis.:

I claim the stationary piston, A, with globular chamber, C, and valve, D, in combination with the reciprocating cylinder, E, globular chamber, F, valve, G, ascension pipe, H, and hand-lever, I, all constructed and operating in the manner and for the purpose herein shown and described.

[The object of this invention is to construct a pump with the least possible amount of valve surface, and with a long stroke so that the same can be used in deep wells, and comparatively little power is required for its operation.]

42,418.—Paper-ruling Machine.—Edward Town & James L. Chichester, Buffalo, N. Y.:

We claim, first, The mechanical combination described in this specification, and designated as the "gaging device," meaning and intending to include in this claim any combination whatever of any of the parts or elements which constitute this device, amounting to a mechanical equivalent of the same, and this we claim, whether such combination is used in single or double machines either for ruling or printing, or whatever may be the design or purpose, for which this combination is used, or to gage or regulate the run of paper on a machine.

Second, We also claim the mechanical combination described and designated in this specification as the "striking device," or any combination constituting a mechanical equivalent of the same.

Third, We also claim the shaft, F, with all the cams and devices connected therewith, designed to connect all the parts of the two devices above specified and claimed, and to operate the same in connection with each other and with the other parts of the machine, as described and set forth in this specification, meaning and intending to include in this claim any device or arrangement, constituting substantially a mechanical equivalent thereof.

42,419.—Slides and Guides for Flasks for Molds.—S. A. Traugh, Cincinnati, Ohio:

I claim the employment or use, with flasks for forming molds for casting of detachable slides and adjustable detachable guides arranged and applied to the flask, in the manner substantially as and for the purpose herein set forth.

42,420.—Harvester.—W. O. Tubbs, Spring, Pa.:

I claim, first, Fastening the heel end of the finger-bar in its socket in the sustaining shoe, by means of the lever, e, combined with said shoe, substantially in the manner and for the purpose shown and described.

Second, The arrangement of the bent lever, s, and pitman, D, in combination with the sliding-head, H, and rocking-beam, G, for the purpose of throwing said beam in and out of gear with the cam wheel, E, and firmly bracing the same when in gear, substantially as described.

Third, The employment of the bent lever, b, in combination with the driver's seat, Y, and its support, in the manner and for the purpose described.

42,421.—Gas Burner.—Joseph Wadsworth, Marple, England, & James Wadsworth, Salford, England:

We claim an improved gas burner, manufactured of sheet metal, having the nipple made of one piece and knurled, milled, or spun in, so as to form a neck, leaving the cavity of the same size and with the neck as below it, substantially as and for the purpose set forth.

42,422.—Gate.—Wm. B. Waldo, Johnsville, N. Y.:

I claim the arrangement of the rings, E, levers, D, D', and ropes, F, with the lever, C, post, G, and pen, H, all constructed and operating in the manner herein shown and described.

[This invention relates to an improved gate-operating mechanism of that class designed to admit of the gate being opened and closed by a driver from a vehicle or rider on horseback. The object of the invention is to obtain a simple device for the purpose, and one which will operate in the most efficient manner, and be capable of being actuated by the driver or rider with the greatest facility and without the liability of a vehicle being injured by coming in contact with any of the parts thereof.]

42,423.—Composition Soles and Molds for the same.—Preston Ware, Jr., Boston, Mass.:

I claim, first, A vulcanized rubber sole, or made of any suitable composition whether vulcanized or not in which the holes designed to contain the nails or rivets, whereby it is fastened to the boot or shoe are countersunk so that the heads of the nails, rivets, &c., may be beneath the surface of the sole, substantially in the manner and for the purposes set forth.

Second, I claim forming such holes by means of pins of the form, and inserted in the molds in the manner described.

Third, I claim the method of molding rubber or composition soles provided with holes by first filling the molds with the compound or composition in its plastic state, and by subsequently forming therein the holes by driving the pins or cores into the molded mass, as described.

42,424.—Grain Drill.—T. W. Watts, Rushville, Ill.:

I claim the arrangement of the seed-box, A, shaft, B, arms, I, plates, c, triangular openings, b d f, spouts, F G H, and scattering board, E, all constructed, combined, and operating in the manner and for the purposes specified.

[This invention relates to a new and improved seeding machine for sowing seed broadcast, and for sowing grain seed simultaneously with grain. The invention consists in an improvement in the seed-distributing device and also in the scattering board, whereby the desired end is accomplished in a perfect manner.]

42,425.—Alarm Gage-cock for Steam Boilers.—Henry Wilkins, Brownsville, Pa.:

I claim a combination of a gage-cock or valve applied to a steam boiler, with a cam, or its equivalent, operated by a clock movement or other device for producing rotary motion, in such manner that the said cam or equivalent shall produce the periodical opening of the said cock or valve, substantially as and for the purpose herein set forth.

[This invention consists in combining an ordinary gage-cock or suitable valve applied to the boiler just below the extended water level, with a cam operated by a clock movement or other device for producing rotary motion, in such manner that the said cam shall produce the opening of the said cock or valve periodically, and so indicate by the sound of the issuing water or steam whether the water is above or below the said cock.]

42,426.—Apparatus for molding Pulleys.—James Yocom, Philadelphia, Pa.:

I claim, first, The vertical cylinder, D, arranged in respect to the plates, A and C, and for operating in conjunction with the said plates, substantially as and for the purpose herein set forth.

42,427.—Nursing Bottle.—Sigismund Zeno, New York City:

I claim the application of a flexible connecting tube, C, between the spout and body of a nursing bottle, substantially as and for the purposes shown and described.

[This invention consists in the employment or use of a flexible tube to form the connection between the spout and the body or reservoir of a nursing bottle in such a manner that a baby nursing from said bottle can take the reservoir in its arms and the spout in the mouth, and while sucking move its head in either direction without losing the spout, or change the position of the reservoir without pushing the spout up in its mouth or drawing it out therefrom.]

42,428.—Steam Bell-ringer.—Wm. H. Beach, Chicago, Ill., assignor to J. S. Beach, Ballston Spa, N. Y.:

I claim the combination of the wheel, A, steam casing, B, shaft, a, and crank, b, with a bell, substantially as and for the purpose herein specified.

[This invention consists in a steam bell-ringer of novel and very simple construction, intended more especially to be applied to locomotives for ringing whenever desired by the engineer whether the locomotive is running or standing still, but applicable to other purposes. It is composed of a wheel with suitable floats placed in a suitable casing to which steam is admitted by a small pipe from the boiler to act upon the floats, and from which, after acting upon the buckets to produce a rotary motion of the wheel, it escapes by another pipe or opening to the atmosphere, the shaft of the said wheel being furnished outside of the steam casing with a crank which is connected by a rod either with a rocker to which the bell is attached to produce the swinging of the bell itself or with the clapper, so that by the rotary motion of the crank the ringing of the bell is effected.]

42,429.—Steel Shirt-collar.—Louis Billon (assignor to himself and John Foggan), Brooklyn, N. Y.:

I claim a steel shirt-collar made with indented edges, concealed studs, b, eyes, e, f, and flexible loops or rings, g, in the manner herein shown and described.

42,430.—Gas Regulator.—James E. Boyle, Brooklyn, N. Y., assignor to himself, Dudley Kavanagh, and Geo. Stevens, New York City:

I claim the hollow valve-stem and valve and two diaphragms of unequal diameter combined in a gas regulator, substantially as and for the purpose specified.

I also claim the opening and closing of the valve of a gas regulator by the pressure of the gas upon the surfaces of two diaphragms of unequal diameter, substantially as described.

42,432.—Sash-sustaining Window-frame.—Hartzel H. Center (assignor to himself and Theodore Marsh), Cincinnati, Ohio:

I claim the combination of the four separate flat-faced strips, G G' G'' G''', springs, I J K L, and sockets, H H' J' J', all constructed, arranged, and operating in the manner and for the purposes herein specified.

42,432.—Cooking Stove.—Addis E. Chamberlain (assignor to Chamberlain & Co.), Cincinnati, Ohio:

I claim the deflecting plate or screen, F, constructed as described with cheeks, G G', flanges, H, ears, J J, and a register, K, the said screen being secured within the fire-chamber, as herein specified and for the purpose set forth.

42,433.—Roller for rolling Iron.—Andrew B. Clemons (assignor to himself and Royal M. Bassett), Derby, Conn.:

I claim in combination with rolls so arranged as to admit of the distance between their faces being varied, a mechanism substantially as described for operating upon the roll, in the manner and for the purpose described.

42,434.—Cuff-fastener.—Alexander Douglas, English Neighborhood, N. J., assignor to himself and Samuel S. Sherwood, Aquackanonck, N. J.:

I claim the fastener, C, constructed substantially as described, that is to say one end thereof being formed into a spring link, to secure it from displacement by interlocking with the eye of a button, in the manner set forth, and the other end extending from the link so as to be capable of securing other buttons in their proper places, substantially as set forth.

42,435.—Locking the Cylinder of Revolving Fire-arms.—Thomas Gibson (assignor to the Starr Arms Company), Yonkers, N. Y.:

I claim the arrangement and combination of the bolt, E, with the fulcrum pin, a, of the pawl or finger, D, in the manner and for the purpose herein shown and described.

[This invention consists in the employment or use of the pivot of the pawl or finger which serves to impart motion to the revolving cylinder, in place of the cam to release the bolt or latch from the cylinder in such a manner that the construction of the hammer is simplified, and the cam brought in such relation to the bolt that the end of the shank of said bolt is less liable to wear away than it does with the means of the ordinary construction, and consequently a correct operation of the bolt in regard to the cylinder is insured.]

42,436.—Spring Pen-holder.—David E. Hall (assignor to himself and James H. Beardsley), Brooklyn, N. Y.:

I claim the spring portion, b, of the pen-holder extending from the cylindrical part, a, to the pen-socket, c, and returned within the cylinder, a, as and for the purposes specified.

42,437.—Air-pump.—H. H. Hendrick (assignor to himself and J. J. Riddle), Cincinnati, Ohio:

I claim, in air pumps of the construction specified, the combination of the elastic valve, D, with the seat, E, spring, F, cylinder, A, and piston, B, all arranged and operating as described.

[This invention consists in the application of a cone valve made of or covered with india-rubber, leather or other flexible material, in combination with a common hard-metal valve seat and with a reciprocating piston, in such a manner that any impurities, such as hairs or fibers, which may detach themselves from the packing of the piston and lodge between the valve and its seat, do not prevent the valve from closing down air-tight, and the operation of the pump is not interrupted.]

42,438.—Sun Blinds.—Julius Jeffreys, Upper Norwood, England, assignor to R. L. Jeffreys and Lindsay Wilson. Patented in England Jan. 28, 1860:

I claim combining the parts, c d e f h, in a case, a b, substantially as above described.

42,439.—Water Elevator.—S. F. Jones (assignor to himself and E. L. Floyd), St. Paul, Ind. Ante-dated April 8, 1864:

I claim a water elevator, comprising the wheel, G, spool, H, spool, I, chain, L, weight, C, and bucket, B, all substantially as arranged and combined.

42,440.—Harvester.—W. A. Kirby, Auburn, N. Y., assignor to himself and D. M. Osborne:

I claim, first, The clearing rod, B, constructed, arranged and operating as and for the purpose described.

I also claim the combination of the adjustable clearing rod, adjustable reel and adjustable rake, for the purpose of adapting the machine to the cutting, gathering and delivering of ordinary as well as short crops, as herein described and represented.

I also claim the rake head, k, so made as that the rake may be set forward or back thereon, in the manner and for the purpose described.

I also claim, in combination with an intermittent rising and falling and sweeping rake, the overpoised switch and cam leage, for actuating the same, as set forth.

I also claim, in combination with the wheel, J, and its radial slots, and the arm, L, with its spring bolt, for operating the rake, the wedge or trigger, S, for disengaging the two at every revolution, substantially as described.

42,441.—Desulphurizing Metals and Ores.—L. G. Marshall (assignor to himself and Andrew Cochran), New York City:

I claim the use of petroleum oil intermingled and combined with the heated water, borax, sal ammoniac or prussiate of potash, to be applied in a fluid state, through a pipe or pipes, to my tubular furnace or any other furnace for desulphurizing ores.

42,442.—Steam Cooking Apparatus.—B. G. Martin (assignor to W. Sanford, J. L. Seabury and J. Truslow), New York City:

I claim the pipe, c, with branch pipes, c', in combination with the heating chamber, A, jacket, B, and steam space, b, constructed and operating in the manner and for the purpose substantially as herein shown and described.

[The object of this invention is to obtain an apparatus which will cook, roast or boil provisions of any desired description, either by the direct application of heat from the fire to an oven, or by the action of steam brought in contact with the articles to be cooked, or by the application of heat derived from water and steam combined, which surround the heating chamber.]

42,443.—Steam Boiler.—C. M. Miles (assignor to himself and C. F. Jones), Vineland, N. J.:

I claim the combination of the fire-box, B, the chamber, D, the short ascending flues or tubes, d, the long descending flues or tubes, e e, and surrounding water tubes, G and ff, and lower chamber, F, substantially as herein specified.

I further claim, in combination with the parts above specified, the casing, I, applied substantially as described.

[This invention consists in a novel arrangement and combination of fire and smoke or gas boxes, water, fire and gas or smoke tubes, and water spaces in a vertical boiler, by which is obtained a very large and effective heating surface, and extract from the gaseous products of combustion all their available heat before permitting them to escape to the chimney, and so greatly economize fuel.]

42,444.—Soap Composition.—J. B. Rand, Fishersville, N. H., assignor to himself and Jason Smith, Bennington, Vt.:

I claim the combination and process of mixture and incorporation of the ingredients above-mentioned, for the purpose herein set forth.

42,445.—Manufacturing Casks.—William Reid (assignor to himself and Thomas Reid), West Hebron, N. Y. Ante-dated April 15, 1864:

I claim, first, The hollow or tubular cylindrical and rotating cutter, C, in combination with the sliding clamp, D, arranged substantially as and for the purpose set forth.

Second, The particular manner of constructing the cylindrical cutter, C, to wit, by having the spaces, c, between the teeth, a, filed or cut to form grooves with feather edges at their outer ends and having the teeth, a, project out beyond the periphery of the cylinder with a spiral flange, b, attached to the latter, as and for the purpose herein described.

[This invention relates to an improved machine for manufacturing casks in an expeditious and perfect manner, and it consists in the employment of a rotating hollow cylinder provided at one end with teeth or cutters formed or constructed in a novel way, and having a spiral flange attached to its periphery, in combination with a clamp and feeding device, all being arranged in such a manner as to effect the desired end.]

42,446.—Puddling Furnace.—F. M. Raschhaupt (assignor to A. J. Fleury and J. G. Kershaw), Philadelphia, Pa. Ante-dated April 6, 1864:

I claim the application of the ender or waste of puddling and other furnaces, pulverized and solidified with clay and lime, to the protection of puddling and other furnaces, substantially as and for the purpose described.

42,447.—Apparatus for generating Carbonic Acid and other Gases.—Fr. M. Raschhaupt (assignor to A. L. Fleury and J. G. Kershaw), Philadelphia, Pa. Ante-dated April 9, 1864:

I claim the vessel, A, with its air pump or other device for imparting pressure to the interior of the vessel, the cylinder, G, and reservoir, H, or their equivalents, and the system of pipes and cocks, or their equivalents, the whole being constructed substantially as and for the purpose herein set forth.

42,448.—Steam Boiler.—T. Shaw, Philadelphia, Pa.:

I claim a gauze cylinder when constructed so as to surround the opening for the passage of the steam.

42,449.—Sewing Machine.—Rosewell Thompson, Boston, Mass., assignor to Alfred B. Ely:

I claim, first, Making the shuttle stitch by means of a double-revolving hook, so constructed as to close together when entering the loop formed by the needle, and spread the thread or loop apart wide enough during its revolution to encompass a commercial spool, substantially as described.

Second, The spool case, R, so constructed that its lower end may end upon its center only to facilitate the passage of the thread under and around the same, substantially as described.

Third, The hinged wire, T, in combination with the spool case, R constructed and operating substantially as described.

Fourth, The shield, W, combined and arranged substantially as set forth, for the double purpose of protecting the cast-off thread from the revolving hook, and causing the under thread to draw peculiarly from the center of the spool case.

42,450.—Sizing Paper.—Geo. E. Vanderburgh, Mamaroneck, N. Y., assignor to C. E. Hodges and Wm. B. Newbery, Dorchester, Mass., N. D. Silsbee, Roxbury, Mass., and John Richardson, Boston, Mass.:

I claim the application of sizing of soluble alkaline silicate, substantially as set forth.

42,451.—Lasting Pincer.—Andrew West, Canton, Ohio, assignor to himself and John Staub, Sparta, Ohio:

I claim, as a new article of manufacture, a pair of boot and shoe-lasting pincers constructed substantially as above described and as shown in the accompanying drawings.

42,452.—Holder for Car Doors.—Germond Crandell, Washington, D. C.:

I claim the combination of a sliding door supported on wheels or rollers with an indentation, depression in, or removal of the track, a at the points, cc c, in which to admit the wheels, b b, to adjust themselves, when the door is either open or closed, arranged to operate in the manner and for the purposes herein set forth.

RE-ISSUES.

1,653.—Melodeon.—Stanley A. Jewett, Cleveland, Ohio. Patented Oct. 13, 1857:

I claim, first, The production of a perfect mute by combining the action of the air passages, m n o, or their equivalents, with the mute valve, l, as herein set forth.

Second, The formation of a gradual swell or crescendo and diminution by means of operating the swell valve, t, by the contraction and expansion of the bellows or its equivalent, as herein specified.

1,654.—Apparatus for disinfecting Foul Air in Vessels.—Alois Peteler, New Brighton, N. Y. Patented Sept. 9, 1861:

First, I claim disinfecting vessels, rooms or other closed spaces by forcing the air contained therein through contracted passages which are reduced in temperature by means of a cooling agent confined within a chamber without contact with the external air or with that which it is desired to disinfect, substantially as described.

Second, The air conduit, C D H, or its equivalent, applied in combination with a fan or other blower, B, a refrigerating chamber, F and with the deck or other part, A, of a vessel or other closed space, substantially in the manner herein specified, so that the air, while passing through said conduit, will become cooled and flow into said vessel or other closed space, without coming in contact with the ice or freezing mixture contained in the ice chamber.

Third, The arrangement of the rotary hollow shaft, E, with chambers, e, apertures, g, g', and drums, G, with abutments, h, in combination with the fan blower, B, or its equivalent tubes, C and H, and with the refrigerating chamber, F, constructed and operating in the manner and for the purpose substantially as herein specified.

1,655.—Tape for Spring Skirts.—L. S. Scofield, Boston, Mass., assignee of T. D. Hoxsey, Paterson, N. J. Patented Feb. 12, 1861:

I claim the combination of the longitudinal sack, B (made either as a continuous pocket or composed of a series of pockets or loops), running lengthwise through the tape, with the transverse bags or pockets, P.

1,656.—Preserve Can.—N. P. Stanton, New York City, assignee of W. D. Ludlow. Patented June 28, 1859:

I claim, first, The employment or use for closing a can or vessel for preserving provisions, &c., of a key or cross-bar, D, and lugs, E, E, attached to the inner side of a rim or cavity, a, on the can to prevent the disruption of said lugs, in closing the can and to avoid projections.

Second, The use of a convex cover, C, in combination with a cross-bar, D, or its equivalent, applying the force by which said cover is held down to or about the center of the same.

Third, In combination with a can or vessel, A, cover, C, and lugs, E E, I claim the elastic cross-bar, D, pivoted to the cover, C, and adapted to hold it down with a yielding pressure, as explained.

[This invention relates to the means employed for securing the cover down upon the neck of the can or vessel.]

1,657.—Grain Separator.—Joseph Van Houten, Mount Morris, N. Y. Patented Dec. 22, 1863:

I claim, first, Providing the upper end of wheat sieves, C, with an adjustable plate or covering, D, substantially in the manner and for the purposes set forth.

Second, So constructing and arranging the adjustable division plate, D, that one edge may be raised or lowered within the groove, c, substantially as described and for the purposes set forth.

DESIGNS.

1,932.—Trade-mark.—D. F. Packer, Pittsburgh, Pa.

1,933.—Ornate Letters.—W. H. Page (assignor to W. H. Page & Co.), Norwich, Conn.

1,934, 1,935 and 1,936.—John Rogers.—Group of Figures. (Three cases).

NOTE.—The number of patents issued last week and recorded above, including five designs and five re-issues, amounts to one hundred and twenty-six. Of this number FIFTY-FIVE of the cases were prepared at this office and obtained through the Scientific American Patent Agency.]



PATENTS
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CHAS. MASON.
Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after