OUR NATIONAL FINANCES.

At this time, when our Government is demanding money to maintain the great cause of the people against the machinations of Southern traitors leagued with the governing classes of Europe to work prejudice to our free institutions, it behooves every patriotic man and woman to come to the assistance of the popular cause. Our Government must have money. The people, if they would sustain their own great cause against common calamity, must furnish it. Some are speaking words of encouragement; others are sedulously endeavoring to work discouragements through every vicious pliancy possible to be adopted, in order to carry the popular mind away from its true direction. Every one should join in the inculcation of confidence in the stability of our Government, its integrity, and its ability to make good all its engagements. In elucidation of our fast-growing power in finance we republish an extract from Mr. Sherwood's Champlain speech, delivered in October, 1862. From this short extract it will appear self-evident to any mind capable of grasping the question, how weak and idle it is for the timid to indulge their fears, and how vicious and prejudicial it is for party contumacy to work disparagements. We should never forget that our *common cause* is every man's own cause, and that we cannot separate our individual from the public welfare.

THE WAR DEBT ENDURABLE IF THE UNION IS SAVED.

"It is true, my friends, that we are rolling up an immense war debt; but let it be remembered that such debt is the result of efforts to maintain free government. We shall have the debt whether we maintain the jurisdiction of the government or not. We cannot escape it, nor can we escape taxation to meet the interest or redeem the principal, unless we go into repudiation under the disabling process created by disintegration. Suppose it reaches the amount of the public debt of England; it will still be endurable and easily borne if we hold our country together. The English debt is cared for by the population of the British Islands, embracing a territory about twice as large as New York, with a population of about thirty millions. The colonies of Great Britain contribute nothing. They are a large expense on the British exchequer. The home country—England, Ireland, and Scotland—is casting off the exuberance of its crowded population. It has not home territory upon which to increase its population and expand its home resources. Our condition is entirely different. We stretch from ocean on the east to ocean on the west—from the St. Lawrence on the north to the Rio Grande on the South. We have the best agricultural country in the world—more good land than in Europe. We have the great backbone of the mining wealth of North America—the precious metals in abundance. We have every facility within ourselves for agriculture, commerce, mining, and manufactures, on the broadest and most extended scale. Look to the prospective population, wealth and resources of this great home country that lie in the almost immediate future. If we maintain our national jurisdiction, and with its attractive free government, what a platform for population, and wealth, and enterprise, and accumulating resources, to exert themselves upon! But a few years in the annals of nationality, and we have one—two—three hundred millions of human beings to take care of this debt—this price of free government. Think you that this posterity will not appreciate the efforts of their fathers to transmit to them free government? This future mass of men, women and children, would care nothing for the trifle of such a public debt as we make, if the national unity and free institutions go along with it. Do not, my friends, balk and stall in your efforts, at the idea of an insurmountable public debt. Do right to your principles. Do right to your children. Do right to your posterity. Do right to the hopes of the liberalists all over the world in maintaining free government, and all will be well. Be not discouraged. Again I say, do your duty, and you are on safe ground. You need not be discouraged."

Thievish Robins.

A correspondent of *The Circular*, Oneida, N. Y., says:—"Yesterday some of our boys in high glee brought in my room an astounding conglomeration of sticks, straws, mud, and—*ladies' collars!* This I soon made out to be a robin's nest. The collars—light strips of lace, crochet work, and plain linen—were woven into the body of the nest in all sorts of tangles, and hung around it like beggars' streamers. Our young ladies and some of the older ones have missed their collars lately at a wonderful rate, and were beginning to think that thieves were about. And behold! an industrious robin had built her house of them! The boys saw the robin carrying one off from the grass-plot where they were drying, followed her, and found *twenty-nine* of the missing collars woven into one nest!"

NEW BOOKS AND PUBLICATIONS.

WATSON'S WEAVING BY HAND AND POWER. Henry Carey Baird, Publisher, 406 Walnut street, Philadelphia.

The author, in his preface of this work, says truly:—"To acquire a competent knowledge of any art it must be learned, either by reading, verbal teaching, observation and reflection, or actual practice; and as it is of the utmost importance to the apprentice in any branch of business to be told the theory of it, and shown how to use the tools connected with that particular branch, it must be of use to the apprentice or young beginner in the weaving trade also. Believing this, I have written this volume on the theory and practice of weaving, and have through its pages given instructions how any one with ordinary capacity and perseverance may learn the theory of the art. The writer, when a beginner in the trade, had often felt the want of such a book, and considering that others would be similarly situated, was induced to undertake to write this work; for at the time he began his apprenticeship in the power-loom trade, it was more the rule to keep the apprentice in ignorance than teach him the theory of the art; however, that narrow-minded selfishness is, happily, now the exception. This volume is written more especially for power-loom weaving, but it may prove of equal use to the hand-loom manufacturer, as the principles in both are the same."

A careful examination of the contents convinces us that the author has undertaken his work with enthusiasm, and conscientiously executed it. The publisher has brought the book out in handsome style; the large and beautiful type adds greatly to its value as a standard work.

BAGS.

The whole world of organized beings is put into bags, and is made up of bags. If we examine our own bodies we find that every organ is placed in its appropriate sack, and each is formed of a series of sacks. The brain is surrounded by the pericranium, the heart by the pericardium, each bone by the periosteum, and all of these are delicate membraneous bags. Each one of us, as well as each of the myriads of lower orders of animals that have appeared on the earth, commenced its existence as a simple sack or cell; and its growth proceeded by the addition of other cells. If we place a thin shaving of any bone, or a minute scrap of any organ under a microscope, we find that it is formed of multitudes of minute cells, or bags. And finally the whole system is put into that perfect bag, the skin.

Bags also play a great part in civilization. The whole organization of society—with its commerce, manufactures and agriculture, its armies and navies, its churches and courts, its republics and monarchies, its opulence and its pauperism—all depends upon that little cloth bag—the pocket.

THE export duty on rags used for the manufacture of paper is in France twenty-five dollars per tun, and in Germany forty-five dollars per tun. The consequence is the manufacturers of paper in those countries, having the protection in amount, undersell the British manufacturers, who, besides, have to pay an import duty of from twenty-five to thirty per cent to their own Government.

TO RENDER THE TASTE OF MEDICINE PALATABLE.—It has been ascertained by M. Graw that the intensely bitter and nauseous taste of many drugs may be completely disguised by mixing them with chloroform. It is claimed that even the bitter taste of quinia and the peculiar odor of asafetida can be thus destroyed.

ISSUED FROM THE UNITED STATES PATENT-OFFICE
FOR THE WEEK ENDING JULY 19, 1864.

Reported Officially for the Scientific American.

☞ 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.

43,558.—Converting Motion.—William H. Akins, Dryden, N. Y.:

I claim the wheels, I I', provided with inclined planes, b b', and rollers, c c', and firmly keyed to the shafts, G G', in combination with the cog-wheels, J J', and drums, F F', running loosely on the shafts, G G', and with the reciprocating bar, D, constructed and operating in the manner and for the purpose substantially as herein shown and described.

43,559.—Corn Planter.—Thomas K. Alexander, Decatur, Ill.:

I claim the spring-hook, K, in combination with the hinges, a, connecting the two parts of the frame, A, as and for the purpose specified.

[This invention relates to an improvement in that class of corn planters in which the seed is discharged by the action of a double-acting slide, simultaneously from two hoppers in furrows opened by sleigh-runner shaped shares, and covered by two broad wheels with flat faces.]

43,560.—Truss for Uterine Support.—Edmund P. Banning, New York City:

I claim, first, The uterine balance, J J1 J2 J3, constructed and operating substantially as described.

Second, The cap or block, I', constructed with two convexities and operating to support the vulva, in the manner described.

Third, In combination with the spring, B B, and uterine balance, J J1 J2 J3, I claim the curved spring, I, adapted as explained to permit the ready attachment, removal, and adjustment of the said balance.

43,561.—Sawing Machine.—E. Berrey, Auburn, Ind.:

I claim the combination of the fly-wheel, D, wrist, a, driving pitman, E, cross-head, F, saw pitman, M, gate, J, and rollers, L L, all constructed, arranged, and operating in the manner and for the purposes herein specified.

[This invention pertains to the class of sawing machines used for cross-cutting logs, fire-wood, etc. The above is a very ingeniously arranged, simple, and economical combination, and promises to be of much value. Wherever a sawing machine is wanted which will work quickly, with but little expenditure of power, this device will be found to answer the purpose.]

43,562.—Manufacture of Steel.—Josiah N. Bird, New York City:

I claim the manufacture of steel from non-carbonized or decarbonized iron, by cutting the latter into small pieces or shavings, and afterwards applying the carbonizing agent, all as herein described.

[The mode of manufacturing steel commonly practiced in this country is to take iron bars, cut them up into small pieces, which are put into pots with carbonaceous matter, and subjected to heat in a suitable furnace till carbonized and melted. The molten metal is then formed into ingots, which are drawn by hammers or between rolls into bars. This invention consists in the manufacture of steel direct from the blooms, without drawing them into bars.]

43,563.—Tanning Leather.—John S. Boothby, Portland, Maine:

I claim the tanning composition, substantially as herein-before described.

And I also claim the above specified process of tanning by the materials, as herein-before described.

43,564.—Bee-hive.—H. C. Boyers, Danville, Iowa:

I claim the trough, D, constructed substantially as described, so as to be accessible to the miller and not to the bee, in combination with the hive, as and for the purposes herein specified.

43,565.—Lightning Conductor.—N. Brittan, Chicago, Ill.:

I claim a series of points or tips, i i i, formed of spiral coils when the same are combined in one piece with a tubular portion, *h*, and a continuous flat strip, f A, all as herein described and for the purposes specified.

43,566.—Manufacture of Sugar.—Harlow Butler, Chesterfield, Ohio:

I claim the above-described proces of soaking sorghum and other sugar cane in lime water, previous to grinding, substantially in the manner and for the purposes described.

43,567.—Grain Bag.—J. W. H. Campbell, San Francisco, Cal.:

I claim, as a new article of manufacture, a grain bag, constructed as described.

43,568.—Steam Engine.—F. A. Calvert, Lowell, Mass. Patented in England Sept. 14, 1860:

I claim supplying warm air or vapor to the cylinder previous to the admission of steam thereto, by means of such an arrangement of mechanical devices as will permit both the ingress and shutting-off of such supply of air or vapor at the proper time to accomplish the desired result, as set forth.

43,569.—Car Coupling.—M. H. Card and Thomas Tripp, Chicago, Ill.:

We claim, first, The combination and arrangement of the slotted draw-head, A, with the hook, C, provided with the link, B, and the spring, F, as and for the purposes specified and as set forth.

Second, We claim the reciprocating arranged hooks, C C, and links, B B, controlled and operated by a spring or springs, substantially as and for the purposes specified.

Third, We claim the adjustable link, B, in combination with the hook, C, as and for the purposes set forth.

Fourth, We claim constructing the head of the book of such configuration that the ordinary coupling link may be used, as herein described and shown.

43,570.—Hold-back and Trace-fastening for Vehicles.—H. W. Catlin, Burlington, Vt.:

I claim the fixed or rigid hook, A, in combination with the swinging or pivoted eye, b, arranged to operate in the manner substantially as and for the purpose set forth.

43,571.—Breech-loading Fire-arm.—Francis Clark, North Oxford, Mass.:

I claim, first, Fitting the movable breech-block, E, to turn upon a

bearing which constitutes a part of the frame of the arm, and the sole or principal connection between the stock and barrel, substantially as described.

Second, The strap-piece, c, of the frame in combination with the bearing, a, receiving the connecting pin, b, and with the movab e breech-block, E, substantially as and for the purpose herein described.

43,572.—India-rubber Over-shirt.—Hawkins Clark and Frank A. Wilder, San Francisco, Cal.:

We claim the combination of the india-rubber body, A, close shirt, c, collar, e, and lapel, a, with the buttons, f f h, and flannel lining, B, all as herein-before described, constituting a new article of manufacture for the purpose stated.

43,573.—Scraper for cleaning Gun Barrels.—Moses G. Crane, Charlestown, Mass.:

I claim the expanding gun-cleaner, as made with the springs, b, scraping edges, c, and confining ring, d, arranged and operating substantially as set forth.

43,574.—Apparatus for washing and amalgamating Gold. Julius C. Dickey, Saratoga Springs, N. Y. Ante-dated July 11, 1864 :

I claim making the machine, A, with the recesses, C, for the purposes set forth.

43,575.—Book-holder.—D. F. Dimon and G. H. Carswell. Fishkill Landing, N. Y.·

We claim the arrangement of the crank-shaft, B, provided with spring arms, C, in combination with the stand, A, and prop, D, constructed and operating substantially as and for the purpose herein shown and described.

[This invention consists in the arrangement of a crank-shaft, which has its bearings in the upper ends of the uprights of a frame or stand suitable to support books of different sizes, and which is provided with two spring arms in combination with a support or prop, hinged to the crank of the crank-shaft in such a manner that when a book is placed on the stand, held in an inclined position by the prop, the weight of the book, acting on the crank-shaft, holds the spring arms down, and the leaves are effectually prevented from turning over spontaneously.]

43,576.—Machine for splitting Wood.—Thomas T. Dugdale, West Richmond, Ind.:

I claim a machine for splitting fire-wood composed of the hammer, D, lever, C, wedges, H or H O, rods, I I or I O, and clamp, M, when constructed and operating substantially as set forth.

43,577.—Steam Boiler.—L. B. Flanders, Philadelphia, Pa. Ante-dated June 17, 1864 :

I claim, first, The inner casing, D, with its arrangement of tubes, the continuation, D′, of the said casing, the base, B, and the exterior cylindrical casing, A, when the latter is arranged in respect to the base, and constructed for attachment to, and detachment from, the same, substantially as set forth.

Second, In combination with the said casing, D, I claim the shields, H, constructed and arranged in respect to the tubes of the said casing, substantially as and for the purpose specified.

Third, The vertical tubes, F, arranged within the casing, D, in respect to the horizontal tubes, substantially as set forth for the purpose described.

43,578.—Attaching Stops to Sash.—Levi Fleischman, Rochester, N. Y.:

I claim attaching the strip, B, to the casing, A, by means of the divided spring heads, a a, and the pin, d, or their equivalent devices, the whole arranged, combined, and operating substantially in the manner and for the purpose herein set forth.

43,579.—Automatic Boiler-feeder.—G. W. B. Gedney and W. J. Brassington, New York City:

We claim, first, The arrangement consisting of the vessel, A, float, E, rod, F, arms, G H, pipes, B′ C D, and cock or valve, M, applied on the outside of the boiler, and the whole constructed and operating substantially as and for the purposes set forth.

Second, The arrangement of the devices, B2 I, with a boiler and the feed water apparatus specified, substantially in the manner and for the purpose described.

43,580.—Washing Machine.—Reuben Gipson, Shelby, Ohio :

I claim, first, Uniting the staves, C′, by means of a plate, as shown at C″, for making the concave bottom, C, as herein specified.

Second, In combination with the staves, C′, and plates, C″, I also claim the rollers, F F F, bars, E E, arranged in grooves, D D, in connection with the adjusting rubber, G, having concave bars, H H, the several parts being arranged and operating substantially in the manner and for the purposes set forth.

43,581.—Means for rendering Artificial Light the same as Daylight.—Noah H. Gillet, New York City :

I claim rendering artificial light the same color as daylight by an intervening glass of the color specified.

43,582.—Mode of attaching Knobs to Spindles.—Albert M. Hill, Pittsburgh, Pa.:

I claim the combination and arrangement of the door knob having a bead, flange, or equivalent device, surrounding the extremity of its shank, with a circle plate placed on its shank, between the bead and the bulb of the knob, and an annular disk, or its equivalent, placed between the circle plate and the door to which the knob is attached, so that the bead or flange may be enclosed and held between the circle plate and disk, substantially as and for the purpose herein-before set forth.

43,583.—Power Loom.—Henry Holcroft, Media, Pa., and Canby S. Smith, Chester Valley, Pa.:

I claim, first, The combination of two cams, F F′, on the main or crank shaft of the loom, two levers, D D′, interposed between the said cams and the picker staves, and two movable stops, G G′, or their equivalents, the whole operating substantially as herein described, to obtain the shuttle motion from the main shaft.

Second, Placing the pattern cylinder, S, in a vibrating frame, S*, when the cylinder is operated by a notched rod, Q, eccentrically attached to the main shaft of the loom.

Third, The rock-shaft, q, the rocker, r r′, and the levers, N N′, which carry the knives, n n′, the whole arranged in combination with each other and with the jacks and hooks, to operate substantially as herein specified.

43,584.—Device for securing the Port-stoppers of Ships.—Joel A. Howe, Bangor, Maine :

I claim the combination of the port-stopper, A, double chains, d d, screw, E, nut, F, and bar, B, when constructed, arranged, and employed in the manner herein specified.

[The ordinary mode of securing the port-stoppers of vessels is by means of bars placed across the inside of the port, and cords passed round the said bars, and through eyes secured in the stopper. These cords, owing to their shrinkage and stretching with different degrees of the moisture of the cargo, are liable to become slack, and the stopper is then permitted to get loosened by the working of the ship and to leak, and in many instances when the ship is loaded, it is difficult to get at it to tighten it. This is especially the case when a vessel has been loaded with wet lumber, and this cargo is taken out and a dry cargo put in. The object of this invention is to prevent the loosening of the stopper from any such causes ; and to this end it consists in the substitution for the cord, of a screw connection between the stopper and the bar, which is placed across the interior of the port.]

43,585.—Manufacture of Illuminating Gas from Peat.—J. B. Hyde, Newark, N. J. Ante-dated July 18, 1864 :

I claim preparing, treating, and distilling dried peaty matter with hydro-carbon oils, for the manufacture of illuminating gas, substantially as described.

43,586.—Railway.—Alfred Jeffery, Baltimore, Md.:

I claim the employment or use of blocks or supporters interposed between the rails and sleepers of a railroad, substantially as and for the purpose herein set forth.

33,587.—Manufacture of Oxide of Zinc.—James Jenkins, Elizabeth, N. J., and James McMahon, Lower Sancon, Pa.:

I claim the use and employment of wire cloth as a substitute, in whole or in part, for the woolen or cotton cloths now employed in the manufacture of the oxide of zinc, substantially as herein described and for the purposes herein named.

43,588.—Dentistr .—John Johnson, Saco, Maine :

I claim as a new article of manufacture, a metallic plate or case, to which is attached by electro-deposited metal one or more porcelain teeth, or blocks of teeth, substantially as herein set forth and described.

I claim the plate or case formed as herein described, and prepared for the attachment of the porcelain teeth, in combination with the attached teeth.

I also claim the combination of the electro-deposited molar teeth, with the imbedded grinding plates forming their upper surface.

I claim the hollow electro-deposited teeth, constituting a shield or protection to decayed or diseased natural teeth.

I claim a metallic plate or case, whether "struck up" or electro-deposited in combination with a full or partial set of electro-deposited teeth, formed or constructed substantially as herein specified.

I claim also the mode of holding teeth or blocks of teeth to the plate by means of the metallic deposit within or upon their corrugated or undercut bases, or in apertures formed in the teeth or blocks.

I also claim as a new article of manufacture, porcelain teeth or blocks of teeth, having gilded or electro-plated bosses or backs forming a conducting surface, for the purpose herein specified.

43,589.—Amalgamator.—Joseph Kenyon, Black Hawk, Colorado :

I claim, first, A series of mullers connected by arms or supports with a shaft that revolves in its own bearings and also moves around the pan so that each muller receives a cycloidal movement, for the purposes and substantially as specified.

Second, I claim the arrangement of the cross-head, g, bows, k, shafts, l, wheel, n, and pinions, m m, for giving motion to the mullers, as set forth.

Third, I claim the yoke, h, and screw, i, in combination with the cross-head, g, and cycloidal revolving mullers carried by the shafts, l, as and for the purposes specified.

43,589.—Artificial Arm.—John H. Koeller, New York City :

I claim, first, The shoulder cap, A A, as the foundation or bases for the required movements in the arm, fore-arm, wrist and thumb and fingers.

Second, I claim the combination of the strap, C, with its hinge at the shoulder cap, A, and its middle hinge near, C, and its connection at L, to the ring, L M, together with the straps, D and E, with their respective hinge joints and connections to the cap, A, and lower part of upper arm at D and U, for the purposes hereinbefore described and set forth.

Third, I claim suspending the arm, fore-arm and hand, by means of the straps, B C D, constructed as before described, enabling the stump of the arm or fore-arm by its movements within this outer skeleton to effect or accomplish the required motions in the fore-arm, wrist and fingers.

Fourth, I claim the construction and application of the ring, L, together with its connection with the straps, D C D, and with the fore-arm at the elbow-joint, guided in its movements by the slots, M N, and operating for the purposes hereinbefore specified and described.

Fifth, In connection with the strap, D, I claim the wire rod or guide, Q, and shield, R, for the purposes and operating as before described.

Sixth, I claim the application and construction of the bell crank at the elbow joint, I K, together with the bent wire, Y, and strap, W, to which it is connected, for the uses and purposes herein before set forth and specified.

Seventh, I claim the method or mode of constructing the wrist joint as described in the specification, and as shown in the marginal drawings, A B C D E, plate, V.

Eighth, I claim the method or mode of constructing and the application and arrangement of the wires or rods moving the thumb and fingers together with the yoke, x x, as specified and described, and fully set forth in the central drawing, fig. V, and in the marginal drawings, F, of the same figure.

Ninth, I claim the mode or method of connecting the lever, K K, with the rod, P, by means of the stirrup, i i (thus allowing semi-rotation of the hand), as described in the specification and shown in the marginal drawing, F, fig. V.

Tenth, I claim the method or mode of constructing the thumb and finger joints as set forth and described and shown in the marginal drawings, G H, fig. V.

Eleventh, I claim the arrangement of the lever, K K, the spring, 8, slide, 5, wire rod or guide, 7 7, the notches in the slot, 0′, and the notch in the slot, I (fig. V, and marginal drawing, B), for the purpose of connecting or disconnecting the motion of the thumb and fingers from and with that of the arm and fore-arm, as heretofore more fully described and set forth.

43,591.—Ladies' Hood.—Martin Landenberger Philadelphia, Pa.:

I claim a hood constructed substantially as described so that there shall be at the back of the same a bag for the reception of the wearer's hair.

43,592.—Lamp Chimney.—James Lewis, Mohawk, N. Y.:

I claim an adjustable cap or damper for lamp chimneys, when constructed and applied substantially in the manner and for the purpose hereinbefore set forth.

43,593.—Fagoting Railroad Rails.—Wm. Lewis, John Price and Francis Naylor, Danville, Pa.:

We claim the formation of files or faggots for rerolling by the combination of the corrugated top and bottom plates, A A′, with the interlocking rail-bars, all in the manner substantially as herein shown and described.

43,594.—Letter Box.—Sidney Maltby, Washington, D. C.:

I claim, first, A tilting drawer bottom shelf or support, as above described, the same being so arranged as to rise and receive letters when drawn out and then tilt down and deposit or drop the letters when pushed or drawn in, substantially as set forth.

Second, I claim the use of the automatically-closing drawer for receiving and depositing letters, substantially as specified.

Third, I claim the combination of the box, A, with the tilting support and also with the automatically closing drawer, substantially in the manner and for the purposes specified.

43,495.—Manufacture of Malleable Iron.—Albert Manvel, Elizabethport, N. J.:

I claim the use of oil of vitriol or hydrated sulphuric acid in combination with iron scales or other equivalent material, substantially as herein described to act as decarbonizing agents in the manufacture of malleable iron.

43,596.—Apparatus for stretching Pantaloons.—Joseph Mottet, Philadelphia, Pa.:

I claim the plate, A, with its cross-pieces, B and C, and the clamps, D and E, or their equivalents, the whole being arranged and operating substantially as and for the purpose specified.

43,597.—Tooth Brush.—Robert Nelson, Albany, N. Y.:

I claim the method of constructing tooth brushes, by arranging the brush (bristle) part thereof, in reference to the direction of the handle, in the manner described and for the purposes set forth in the above specification.

43,598.—Governor Valve.—George E. Noyes, Washington, D. C.:

I claim the combination and arrangement of the valve, D, partition, B, and perforated valve-cup, C, when constructed and operating substantially as described.

43,599.—Railroad Rail.—Wm. D. O'Brien, Brooklyn, N. Y.:

I claim the crescent-shaped rail forming a roof or cap to the sills, as and for the purposes specified.

And I claim forming the under side of the joint plate, e, of city railroads, concave to set on to the convex surface of the wood prepared to receive said plate, for the purpose of preventing the lodging of water beneath the said joint plate and the rotting consequent thereon, as set forth.

43,600.—Hay Press.—Preston C. Pearson, Harrison, Ind.:

I claim the lever, E, the follower, M, and platform, I, the lever, P, shaft, m, the pulley or sleeve, n, the pulley, V, and cord, r, with weight attached, the whole constructed, arranged and operated as and for the purpose substantially as herein set forth.

43,601.—Patched Ball for Fire-arms.—Milo Peck, New Haven, Conn.:

I claim as a new article of manufacture a patched ball for fire-arms when the patch is secured to the ball by compressing the metal of the ball upon the patch, substantially as herein set forth.

43,602.—Cutting Apparatus of Harvesters.—George F. Quick, Philadelphia, Pa.:

I claim, first, A longitudinal knife, D, having hubs, b, arranged for turning in and for being withdrawn from the fingers, a, as set forth.

Second, The combination of the longitudinal knife, D, with the upper plate, E, and lower perforated plate, F, the whole being arranged as and for the purpose described.

43,603.—Drying Apparatus.—Edward Y. Robbins, Cincinnati, Ohio :

I claim the application of a condenser to a drying chamber as above described or any other arrangement substantially the same and which will produce the intended effect.

43,604.—Fire-place.—E. Y. Robbins, Cincinnati, Ohio :

I claim the inclination or curving forward of the upper part of the jambs, causing the arch of the fire-place and the front or breast of the mantle to project over the base of the jambs, thus affording space for a corresponding forward inclination of the fire-back without the necessity of deep jambs which obstruct the radiation of the fire sidewise, substantially as above described.

I also claim in combination with the forward inclination or curving of the jambs, the making of the large front or breast of the mantle (and the shelf if desired) a non-metallic warming or radiating surface; all as above set forth or any other arrangement substantially the same and which will produce the intended effect.

43,605.—Process for making Soap.—George Robbins, Watertown, Mass.:

I claim the improvement in the process of manufacturing hard and soft soap, which consists in the saponification of fatty substances by means of gelatinous alkaline solutions, as herein above described

43,606.—Revolving Fire-arm.—Jacob Rupertus, Philadelphia, Pa.:

I claim, first, A breech-piece, E, intervening between the rear end of the barrel and the stock, when the said breech-piece is arranged to turn, substantially as set forth.

Second, The notch, m, formed at or near the edge of the said breech-piece, as set forth for the purpose specified.

Third, The combination of the said movable breech-piece with the door, G, or its equivalent.

Fourth, The said movable breech-piece with its notches, t and g, in combination with the spring, I.

43,607.—Axle Clip for Carriage Work.—Moses Seward, New Haven, Conn.:

I claim as an article of manufacture an axle clip made by upsetting a round rod, of just the size necessary to cut the screws, so as to give increased strength to the shoulders of the clip, and completing the same by a drop or hammer.

43,608.—Sash Fastening.—Wm. Shaw, Hudson, N. Y.:

I claim, first, Enclosing in a case, A, the two spiral springs, E E′, when each is attached to the eccentric hub and arranged and combined with their respective pinions, D D′, substantially in the manner and for the purpose set forth.

Second, The case or box, A, constructed as set forth.

Third, The two sliding catches, N N′, with their elbows, arms, and thumb-pieces combined, when arranged in connection with the pinion, D D′, springs, O O′, and case, A, substantially as and for the purpose described.

43,609.—Feed Rack.—William and Holland Sias, Henderson, N.Y. :

We claim the applicaton to feed racks of the grooved bed pieces, A, the morticed perpendicular parts, B, the morticed sliding bars of wood or iron, C, connecting with the top rails of the racks and the pivot pin, D, that passes through the posts, and mortices in the sliding bars, and consequent mode of operation by which the superior qualities of durability and utility are added to the substantial manner in which our racks are constructed, and the great ease secured to the mode of operating our racks.

43,610.—Washing Machine.—A. and C. D. Smedley, Carthage, Ohio. :

We claim the form, arrangement and use of the brushes, k k k and L L L L, when they are formed, arranged and used in the manner and for the purpose specified.

43,611.—Ship's Knee.—Robert Thomas, Buffalo, N. Y. :

I claim a ship's knee, made partly of wood (as represented by the chock, H,) and partly of iron (as represented by the iron plate piece, G,) as a distinct construction, substantially as set forth.

43'612.—Valve Gear of Steam Hammers.—John T. Turner, Bridgewater, Mass. :

I claim combining the oscillating valve with the hammer by means of a lever, I, one end of which is connected by a rod, h, with an arm on the center spindle of the valve, and the other end of which is arranged between two tappets j and k, all substantially as herein specified.

43,613.—Ladies' Skirt-lifter.—Zera Waters, Bloomington, Ill. :

I claim a skirt-lifter, consisting of the zone, A, tube, 2, with holes, 3, and extension strings, B, all constructed, and operating substantially as described.

43,614.—Machine for sharpening Hop Poles.—A. H. West, Hamilton, N. Y. :

I claim the combination of the oblique knives, D D, and spring gages, E E, with the wheels, C C, all arranged and operating substantially as set forth.

[This invention relates to an improved machine for sharpening hop poles, stakes and such articles, in order to enable their being driven into the earth with facility]

43,515.—Expanding Bullet.—Elijah D. Williams, New York City :

I claim the construction of a bullet of two pieces, A and B, fitted together with a series of conical surfaces arranged substantially as herein specified, whereby in the discharge of the bullet from the fire-arm, the piece, B, is caused to move forward both within the interior of and upon the exterior of the piece A, and each is caused to produce the expansion of the other by a double-wedging action, substantially as herein set forth.

[The objects of this improvement are, first, to obtain a long cylindrical bearing for the bullet in the bore of the fire-arm; second, to provide for the better lubrication of the bore and rifle grooves of the arm; third, to provide for the cleaning of the rifle grooves of the arm by means of the bullet itself; and fourth, to diminish the weight of the bullet without impairing its effect.]

43,616.—Watchman's Clock.—William Winter, Plainfield, N. J. :

I claim the application to the face of a clock of the tell-tale dial, D, made of slate or other similar material, and marked with figures from 1 to 12, in combination with a hole, f, in the lid, B, and with suitable gear wheels, causing said tell-tale dial to revolve with the same speed as the hour hand, substantially as and for the purpose set forth.

[This invention consists in the application to the face of a clock or watch of a movable dial-plate, which is made of slate or other suitable material capable to receive and show the mark of a pencil, or other instrument, and marked with the figures from 1 to 12, the same as the main dial of the clock, and which revolves with the hour-hand under a hole cut into the edge of the lid, which is closed by means of lock and key in such a manner, that said disk or tell-tale dial can only be reached through the hole in the lid, and that when a night-watchman, or other person having a similar charge is instructed to pass the clock at certain stated hours, and to make a mark with the pencil on the tell-tale dial whenever he passes, his employer or superintendent is enabled to read off on said dial at what hour the watchman has passed the clock and made his mark, and by opening the lid of the clock the tell-tale dial can be readily cleaned and rendered fit for future use.]

43,617.—Hanging Circular Saws.—Josiah Young, Bangor, Maine.

I claim the permanent collar, C, on the mandrel, B, in combination with the circular concentric recess, in the collar D, attached to the saw, A, substantially as and for the purpose specified.

I further claim the two collars, D D, attached concentrically to the saw A, the concentric recess c, in, D, the nut E, and permanent collar C, on the mandrel, all arranged substantially as and for the purpose specified.

43,618.—Machine for punching paper for Telegraphic Purposes.—Alexander Bain (assignor to William H. Allen,) New York City.:

I claim, first, The arrangement of the shaft, d, lever, e, and latch, e', to cause the band, l, from the motive power to be operative or inoperative, as set forth.

Second, I claim a reciprocating rod actuated by an eccentric or its equivalent, in combination with a punch, substantially as set forth.

Third, I claim the combination of a finger key, a punch, and reciprocating mechanism, substantially as specified, whereby the punch is made to operate by depressing the key, substantially as set forth.

Fourth, I claim the spring clamp, r, applied to the paper reel, for the purposes and as specified.

Fifth, I claim the disk, w, and wheel, y, applied as specified for drawing along the strip of paper or similar material, as set forth.

Sixth, I claim the tooth, d, and stop, q', applied to the shaft d, for the purposes and as specified.

Seventh, I claim withdrawing the punch by a positive movement derived from the reciprocating mechanism through the agency of the arm, 15, and pin 23, or their equivalents, for the purposes and substantially as specified.

43,619.—Tuyere.—M. W. Barret, (assignor to himself and Geo. Milburn), Mishawaka, Ind.:

I claim the combination of the air-box, B, hearth, b, aperture, d, valve, C g, screw shaft, f, removable bottom c, and latches, k k, all constructed, arranged and operatng as specified.

43,620.—Vulcanized Rubber Cravats,—William W. Beech, (assignor to himself and Frederick Chamberlain,) New York City:

I claim the application of hard vulcanized india-rubber for neckties and cravats.

I also claim embossing and ornamenting neck-ties and cravats when made of hard vulcanized india-rubber, and of ventilating the cravats by perforation or corrugation.

43,621.—Metal Lock for Wooden Hoops for Casks.—H. W. Catlin, (assignor to W. H. Clarke,) Brownsville, Pa.:

I claim a lock or fastening for the wooden hoops of casks, constructed in the manner substantially as herein shown and described.

43,622.—Shirt.—Solomon Fribourg, (assignor to S. Fribourg, Cahm & Co. New York City:)

I claim the shirt with the cravat attached thereto, and forming a part thereof, substantially as herein set forth.

43,623.—Ox-shoe.—Ira Merrill and Arthur Maxwell, (assignors to Arthur Maxwell,) Shelburne, Mass.

We claim the insertion of the third cork, c, for the uses and purposes herein set forth.

43,624—Steam Boiler.—Charles M. Miles, (assignor to himself and Charles F. Jones,) Vineland, N. J.:

I claim the combination in a horizontal boiler of the fire-box, C, gas and smoke tubes, G G, smoke-box, H, return tubes, I, and water tubes D and F, the whole arranged substantially as herein specified.

43,625.—Metallic Oil Barrel.—Edward Parker, of Philadelphia, Pa., assignor to himself and W. L. Jordan, of Reading, Pa.:

I claim as a new manufacture, a sheet iron cask or barrel, having body and ends brazed together and being otherwise constructed as set forth for the purrose specified.

43,626.—Boot-jack.—M. A. Richardson (assignor to himself and W. H. Keeler), Sherman, N. Y.:

I claim hinging the boot-jack, C, to the wall by means of a suitable joint, a, and retaining it in a raised position against the wall by a reacting spring, E, the whole combined and operating substantially as and for the purpose herein set forth.

In combination with the hinged boot-jack, C, and reacting spring, E, I also claim the strap or cord, G, and lever, H, so arranged that said lever and boot-jack will open and close automatically and correspondingly, substantially as herein specified.

In combination with the opening, K, of the boot-jack, C, I also claim the button, d, arranged and operating substantially as described.

43,627.—Machine for dressing or sizing Yarns.—Benjamin Saunders, Nashua, N. H., assignor to A. H. Saunders, Nashua, N. H., and Richard Kitson, Lowell, Mass.:

I claim, first, A return pipe, C, in combination with the pump, D, or its equivalent, and size tank, A, or a reservoir connected therewith, substantially as herein specified, for the purpose of keeping the size in continuous motion, and to distribute it in a simple and easy manner.

Second, The siphon, F, or its equivalent, in combination with the return pipe, C, pump, D, and tank, A, substantially as herein specified, for the purpose of giving the requisite pressure at the moment of opening the branch valves to let the size into the various boxes or troughs.

[This invention consists in the use of a rotary or other pump and a series of pipes of galvanized iron or other suitable material in combination with the mixing tank or with a reservoir connected therewith, and with the several dresser boxes, in such a manner that the sizing contained in the mixing tank can be easily and readily forced through the pipes to the several dresser boxes without the use of pails, dippers or other similar implements, and by the constant current passing from the reservoir over all the dressers and back, a thorough equalization and a continuous mixing of the sizing is effected.]

43,628.—Candle-holder.—Emile Daire, Amiens, France. Patented in France April 12, 1863; and in England December 23, 1863:

I claim the combination of the bent body, O O' O', of a candle-holder, with elastic, sharp-edged flanges, A A' A', inclined flaps, E E' E', and horizontal bottom guard, R, when said holder forms a segment of a polygon, for the purpose of insertion between the candle and the inside of the cup of the candlestick, as above described.

43,629.—Strengthening Ordnance.—Percival M. Parsons, Blackheath, England:

I claim constructing cast-iron guns with, and applying to them internal tubes of wrought-iron, steel, homogeneous metal or other suitable material inserted at the breech end, into a suitable recess, and secured therein by a screw or screws, and so arranging the dimensions of the cast-iron surrounding the lining tube at the reinforce, that it may be subjected to an equal or nearly equal longitudinal strain or extension throughout a sufficient length of the same, and the general combinations by which the longitudinal strength of the cast-iron body of the gun or mortar is imparted to and supports the lining tube while it absorbs or relieves the cast-iron of a portion of the transverse or circumferential strain, as hereinbefore described.

43,630.—Preserving Iron from Corrosion.—Charles de Bussy (assignor to Moritz Pinner), Paris, France:

I claim the protecting of iron plates, beams and other ticles of iron used for ships, vessels, wharfs, buildings and other purposes, by subjecting the same to a chemical process and covering them with a coating so as to prevent corrosion and the other actions of water and air, substantially as herein described.

RE-ISSUES.

1,729.—Eyelet Machine.—T. K. Reed and C. E. Howard (assignees of T. K. Reed and H. F. Packard), West Bridgewater, Mass. Patented July 22, 1862:

We claim, first, The combination of the hopper, D, the rotating cylinder, F, the cam, A, and the chute, I, substantially as and for the purposes described.

Second, The oscillating brush, E, applied and operating in combination with the hopper, D, and cylinder, F, substantially as and for the purposes set forth.

Third, The stationary brush, G, applied and operating in combination with the hopper, D, and cylinder, F, substantially as and for the purposes described.

Fourth, The curb, J, and inclined plane, K, applied and operating in combination with the cylinder, F, and chute, I, substantially as and for the purpose set forth.

1,730.—Eyelet Machine.—T. K. Reed and C. E. Howard (assignees of T. K. Reed and H. F. Packard), West Bridgewater, Mass. Patented July 22, 1862:

First. We claim an eyeleting machine which has an inclined chute, substantially as herein described, interposed between the supply hopper and the eyelet-applying tools herein described, and above the under and below the upper of said tools, and directly between the two, such machine feeding and applying the eyelets substantially as set forth.

Second, Depositing the eyelets successively upon a yielding pin, h, by means of an inclined chute, I, and immediately after applying the eyelet to the article by means of two tools, L and l, substantially as and for the purpose set forth.

1,731.—Direct-action Steam Pump.—William Sewell and Adam S. Cameron, New York City. Patented May 10, 1864:

We claim, first, The combination in direct-action steam pumps of the separate steam and water piston rods, C D, having a detachable connection, substantially as herein shown and described, so that the said rods may be disconnected, and the machine used as a steam engine or hand pump, independent of each other, as set forth.

Second, The employment of the rock shaft, H, and the extensible arm, N, or its equivalent, for connecting the said rock shaft with the water piston rod, substantially as and for the purpose herein specified.

Third, The socket, E, connecting the steam and water piston rods for working the pumps by steam and serving as a guide to the water piston rod in working the pump by hand, substantially as herein described.

DESIGNS.

1,971.—Lantern.—Isaac S. Clough, Brooklyn, N. Y., and Vincent Fountain, Jr., of Castleton, N. Y.

1,972 to 1978.—Carpet Pattern.—Elemir J. Ney, Jr. (assignor to the Lowell Manufacturing Company), Lowell, Mass. Seven patents.