

THE RISE AND PROGRESS OF INVENTIONS.

ADVICE TO INVENTORS.

During the period of Fourteen Years which has elapsed since the business of procuring patents for inventors was commenced by MUNN & Co., in connection with the publication of this paper, the number of applications for patents in this country and abroad has yearly increased until the number of patents issued at the United States Patent Office last year (1899) amounted to 4,536; while the number granted in the year 1846—fourteen years ago—numbered 502—only about one-third as many as were granted to our own clients last year; there being patented, through the Scientific American Patent Agency, 1,440 during the year 1899. The increasing activity among inventors has largely augmented the number of agencies for transacting such business; and at this time there is scarcely a town of 4,000 inhabitants, but has its patent agent, patent lawyer, patent solicitor, or patent attorney, all of which terms are used to convey the same idea—viz., that their services are offered to the inventor or patentee for a pecuniary consideration.

In this profession, the publishers of this paper have become identified with the universal brotherhood of Inventors and Patentees at home and abroad, at the North and the South; and with the increased activity of these men of genius we have kept pace up to this time, when we find ourselves transacting a larger business in this profession than any other firm in the world. Year after year, we have increased our facilities for transacting patent business, by gathering around us a large corps of the most eminent engineers, draughtsmen and specification writers that can be procured. Among these gentlemen are those who have been connected with the United States and Foreign Patent Offices. The latest engagement we have made is the association with us of Hon. Charles Mason, formerly Commissioner of Patents, and favorably known to the inventor as their friend and advocate. The memory of his acts while holding this high position will be cherished by many an honest inventor with gratitude as long as he lives.

The arrangement made with Judge MASON renders our facilities for prosecuting all kinds of patent business complete, however ample they were before; and without being accused of egotism, we may safely assert that no concern has the combined talent and facilities that we possess for carefully and correctly preparing applications for patents, and attending to all business pertaining to patents, such as Extensions, Appeals before the United States Court, Interferences, Opinions relative to Infringements, &c.

Persons having conceived an idea which they think may be patentable are advised to make a sketch or model of their invention, and submit to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh streets, Washington, by experienced and competent persons, under the direction of a gentleman who has spent a lifetime about the Patent Office. Over 1,500 of these examinations were made last year through this office, and a large measure of prudence and economy, we usually advise inventors to have a preliminary examination made. Address MUNN & CO., No. 37 Park-row, New York.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared on reasonable terms, by sending a sketch and description of the invention. The government fee for a caveat is \$20. A pamphlet of advice regarding applications for patents and caveats furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention, if susceptible of one; or if the invention is a chemical production, he must furnish samples of the ingredients of which his composition is composed for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fee, by express. The express charges should be prepaid. Small models, from a distance, can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of MUNN & CO. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park-row, New York.

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted are invited to correspond with the subject, giving a brief history of their case, enclosing the official letters, &c.

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue de la Epicerie, Brussels. We think we can safely say that three-fourths of all the European patents secured to American citizens are procured through our Agency.

Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there.

Circulars of information concerning the proper course to be pursued in obtaining patents in foreign countries through our Agency, the requirements of the different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York, or either of our branch offices.

INTERFERENCES.

We offer our services to examine witnesses in cases of interference, to prepare arguments, and appear before the Commissioner of Patents, or in the United States Court, as counsel in conducting interferences or appeals.

For further information, send for a copy of "Hints to Inventors," furnished free. Address MUNN & CO., No. 37 Park-row, New York.

THE VALIDITY OF PATENTS.

Persons who are about purchasing patent property, or patentees who are about entering extensive works for manufacturing under their patents, should have their claims examined carefully by competent attorneys, to see if they are not likely to infringe some existing patent, before making large investments. Many persons have been ruined from adopting the "penny-wise and pound-foolish" maxim, when an investment of a few dollars, to have been informed of their rights, would have saved them much axiety and money. Written opinions on the validity of patents, a careful examination into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the invention and being informed of the points on which an opinion is solicited. Judge Mason assists in all examinations of this kind. For further particulars, address MUNN & CO., No. 37 Park-row, New York.

EXTENSIONS OF PATENTS.

Valuable patents are annually expiring, which might be extended, and bring fortunes to the households of many a poor inventor or his family. During the past fourteen years, we have had much ex-

perience in procuring the extension of patents; and, as an evidence of our success in this department, we would state that, in all our immense practice, we never lost but two cases—and those were unsuccessful from causes entirely beyond our control.

It is important that extension cases should be managed by attorneys of the utmost skill to ensure success. All documents connected with extensions require to be carefully drawn up, as any discrepancy or untruth exhibited in the papers is very liable to defeat the application.

Of all business connected with patents, it is most important that extensions should be intrusted only to those who have had long experience, and understand the kind of evidence to be furnished the Patent Office, and the manner of presenting it. The heirs of a deceased patentee may apply for an extension. Parties should arrange for application for an extension at least six months before the expiration of the patent.

For further information, as to terms and mode of procedure in obtaining an extension, address MUNN & CO., No. 37 Park-row New York.

ASSIGNMENT OF PATENTS.

The assignment of patents and agreements, between patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park-row, New York.

PATENT CLAIMS.

Persons desiring the claims of any invention which has been patented within 14 years can obtain a copy by addressing a note to this office, stating the name of the patentee, and date of patent when known, and enclosing \$1 as fee for copying. Address MUNN & CO., No. 37 Park-row, New York.

CAUTION TO INVENTORS.

Messrs. MUNN & CO. wish it to be distinctly understood that they neither buy nor sell patents. They regard it as inconsistent with proper management of the interests and claims of inventors, to participate in the least apparent speculation in the rights of patentees. They would also advise patentees to be extremely cautious into whose hands they entrust the power to dispose of their inventions. Nearly fifteen years' observation has convinced us that the selling of patents cannot be conducted by the same parties who solicit them for others, without causing distrust.

BUSINESS CONDUCTED CONFIDENTIALLY.

We would inform inventors that their communications are treated with the utmost confidence, and that the secrets of inventors confided to us are never divulged, without an order from the inventor or his acknowledged representative.

TESTIMONIALS.

The annexed letters, from the last three Commissioners of Patents, we commend to the perusal of all persons interested in obtaining Patents:—

Messrs. MUNN & CO.:—I take pleasure in stating that while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the Office, a marked degree of promptness, skill and fidelity to the interests of your employers. Yours, very truly,

CHAS. MASON.

Immediately after the appointment of Mr. Holt to the office of Postmaster-General of the United States, he addressed to us the following very satisfactory testimonial:—

Messrs. MUNN & CO.:—It affords me much pleasure to bear testimony to the able and efficient manner in which you have discharged your duties of Solicitors of Patents while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and, I doubt not, justly deserved) the reputation of energy, marked ability and uncompromising fidelity in performing your professional engagements. Very respectfully,

Your obedient servant, J. HOLT.

Messrs. MUNN & CO.:—Gentlemen: It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency, and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully,

Your obedient servant, WM. D. BISHOP.



ISSUED FROM THE UNITED STATES PATENT OFFICE
FOR THE WEEK ENDING JUNE 5, 1890.

(Reported Officially for the SCIENTIFIC AMERICAN.)

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

28,544. P. W. Adaire of Hays' Creek, Miss., for an Improvement in Ditching Machines:

I claim the combination of the frame, A, and adjustable standards, E, E, with wheel, D, circular cutting plates, a, a, cross-pieces, b, b, false bottoms, c, guide pieces, c', cam, C, C', guide or shield, B, plow, I, and openers, H, arranged and operating in relation to each other as and for the purposes set forth.

28,545.—M. C. Andrew of Lawrence, Mass., for an Improvement in Swinging Bolsters for Railroad Car Trucks:

I claim the combination of the friction blocks with the truck frame, the swinging bolster and its pendulous links—the same being for the purpose described.

I also claim the application of the elastic step to the bolster, in connection with so constructing the bolster that it may be capable of springing together, substantially in manner and for the purpose as described.

28,546.—W. J. Andrews, of Columbia, Tenn., for an Improved Sad Iron Heater:

I claim the described rack for sad-iron heaters constructed and operating in the manner substantially as described.

[This invention consists in constructing a rack of hollow metal tubes, of a suitable strength, and arranged in such a manner that the tubes will serve to hang the rack to the top bar of an ordinary grate, and to conduct hot air through them from the fire, and give out heat to the iron or irons that are placed on the rack, independently of the direct heat the bottoms of the irons receive from the fire; and in combining with such a rack a guard plate for protecting the iron from burning or being smoked.]

28,547.—John Armour, of Helena, Ark., for an Improvement in Sharpening Saws:

I claim forming a narrow slit from the bottom of the notch in the spreader and sharpener, B, into the body of the same, and then bringing the sides of said slit into close contact with each other before tempering the said spreader and sharpener, substantially in the manner and for the purpose set forth.

I also claim combining the spreader and sharpener, B, with the hand block, A, when the adjustable segment, C, is combined with said block substantially in the manner and for the purpose set forth.

28,548.—T. G. A. old, of New York City, for an Improvement in Drop Light Joints:

I claim, first, The construction of the socket of a drop light joint of a single piece, substantially as described.

Second, The employment, in combination with the socket, A, of a drop light joint for gas-burners, made in one piece, and the elastic lining, d, of a screw ring, e, fitted to a screw thread inside of the said socket substantially as and for the purpose specified.

[This invention consists in a certain construction of the socket of the joint and in a certain mode of applying the lining of cork or other elastic material, whereby provision is made for the contraction or renewal of the said lining when its opening becomes worn by friction or enlarged by the heat of the burner to which it is applied, or for adapting it to variations in the sizes of burners.]

28,549.—E. H. A. hroff, of Boston, Mass., for an Improvement in Apparatus for Naphthalizing Gases:

I claim the combination of the gas-receiving and expanding chamber, F, with the naphthalizing cylinder, scroll and float, as specified. Also, the above-described arrangement and application of the float, scroll and disk, whereby they are rendered capable of easy and proper adjustment, as explained.

Also, the combination of one or more propelling wings or the equivalent thereof with the scroll and float, when applied and used within a cylinder substantially in manner and for the purpose as described—such propelling devices being to facilitate or effect the rotation of the said float and scroll while being buoyed within the liquid, as described.

Also, the application and a rangement of the foraminous diaphragm with respect to the cylinder and suction pipe of the apparatus as described.

28,550.—Cyrus A. er of Tunkhannock, Pa., for an Improvement in Gearing for Horse-powers:

I claim, first, Constructing the main wheel, C, in the form of a cone, and each section with a narrow periphery, the teeth on the lower intermediate wheels, A, A, running under a part of the main wheel, C, which is smaller than the part which they take into, following the same arrangement up to any number desired, the upper series held down by the top or cover, D—the whole constructed and working as specified.

Second, The peculiar construction, combination and operation of the intermediate wheels, b, b, and the main wheel, C, and the center pinion, Fig. 7, both when at rest and in motion, substantially as specified above.

Third, The manner in which the main shaft is held in position, namely, by the intermediate wheels taking into the main wheel and into the center pinion, thus enabling me to dispense with all bearings except the stepping.

Fourth, The manner of seating the driver, namely, putting a post through the cover and main shaft into the step and a seat on top of this post, that will revolve or stand stationary, at the driver's pleasure.

Fifth, Giving the band wheel, K, an increased velocity of one revolution over and above the velocity imparted by the tumbling shaft, M, by means of the cogged or milled stationary concave wheel or ring, N, Fig. 8, one or more intermediate wheels, Fig. 8, revolving on their own axis and the center pinion wheel, L, Fig. 8.

Sixth, Having one end of the band wheel shaft in the end of the tumbling rod, and revolving the same way.

Seventh, Having the whole machine shut up tight by the way it is constructed without boxing.

28,551.—W. B. Avery, of Cambridge, Mass., for a Fire-escape:

I claim this combination and arrangement with a g apple constructed with pivoted holding dogs, o, o, of the reels, E and I, when these latter are hung by a shaft, a, in links, g, adjustable in position as described, and provided with a crank chain, c, and brakes—all operating to regulate and control the position and descent of the car, d, substantially as described.

28,552.—Leopold Benne t of Pittsburgh, Pa., for an Improved Steam Valve:

I claim the construction of a valve oscillating or working in the same manner as a cock, with the steam passage transverse through it and the exhaust through it in the direction of its length, as in the manner described by reference and drawings; my object being to relieve the steam valve as far as possible from unnecessary friction. The valve can be worked by any ordinary eccentric or cam, or any of the usual appliances for working slide or poppet valves.

28,553.—Joel Bo man, of Somers, Ohio, for an Improvement in Machines for Dressing Mill ones:

I claim the application to the lever, G, of the graduating device consisting of rocking bars, n, with arms, q, connected with sliding frame, t, x, in combination with springs, p, and y; the arrangement and operation being substantially as set forth.

28,554.—Joseph Brakely, of New York City, for an Improvement in Machines for Separating the Quality of Bark:

I claim the combination of a saw or cutter, D, rotary or reciprocating, a pressure roller, L, and adjustable bearing plate, O, with or without rollers, Q—all being arranged and applied to a bark mill substantially as and for the purpose set forth.

28,555.—Henry Brandt, of Col mbia, Pa., for an Improvement in Bending Teeth for Horse Rakes:

I claim the bender, A, with its flange, B, raised end, G, guides, E, D, pivot, F, in combination with the combination of the flanged and grooved curved lever, K, L, M, N, made substantially as set forth, for the purpose specified.

28,556.—G. C. Brower, of New Orleans, La., for an Improvement in Gas Torches:

I claim a gas torch constructed substantially as described and represented.

28,557.—Robert Br on of Schenectady, N. Y., for an Improvement in Harve ters:

I claim the combination of the finger bar having a bracket, K, and axial cross head, c, with the socket plate, L, of the frame, A; the whole constructed and arranged and operating in the manner and for the purpose described.

[This invention consists, 1st. In a peculiar arrangement of gearing for communicating motion from the sickle, whereby a machine of light draft is obtained, and the power applied to the sickle in a very direct manner. 2d. In a novel arrangement of a pitman, by which the same may be extended or shortened as occasion may require. 3d. In a peculiar manner of attaching the finger-bar to the main frame of the machine, whereby the sickle is allowed to conform perfectly to the inequalities of the surface of the ground. 4th. In an adjustable driver's seat to admit of the adjustment of the weight of the driver on the machine, as circumstances may require.]

28,558.—T. V. B sh, of Gallia in, Tenn., for an Improvement in Houses for Preserving Roots:

I claim, in combination with the outer walls and covering, a series of inner compartments, which inner compartments are surrounded by and covered over with dry earth as a filtering medium between the roots and the external air, for the purpose of storing and preserving said roots, substantially in the manner described.

28,559.—D. H. Chamberlain, of West Roxbury, Mass., for an Improved Feed for Leather-splitting Machines:

I claim, in combination with a rigid feed roll, E, the presser roll composed of independent disks or sections, d, confined in a suitable receptacle or trough, B, and pressed towards the roll, E, by pressure applied independently to each disk, substantially as described for the purpose specified.

28,560.—S. G. Cheever, of Boston, Mass., for an Improvement in Machines for Mixing Paints:

I claim the arrangement of the collars which hold and move the mixers or beaters, in their relation to each other, and the actuating parts, so that while the middle series move in one direction the outer and inner series shall move in the other, in combination with the central curved blades attached to the central shaft—all moving and operating substantially as set forth.

28,561.—S. A. Clapp, of Hamilton, Ill., for an Improvement in Machines for Packing Flour:

I claim the combination of spring ring or short cylinder, o, with hooks, m, an inner cylinder, l, a frame, h, g, and upright rods, h, by the purpose of expanding the upper end of the sack turning and twisting while being packed, substantially as set forth.

28,562.—S. P. Cobb, of South Danvers, Mass., for an Improved Machine for Finishing Leather:

I claim, in combination with the tool and the vibrator, a mechanism substantially as described, by which, while the vibrator may be at rest, or nearly so, the angular position of the finishing tool relatively to the bed may be varied as described—such mechanism being the tilting plate, b, and its sectoral lever, i, and click applied to the vibrator and operated by a hand lever, as specified.

And, in combination with the tilting plate, b, or tool-holder and the vibrator, D, I claim a mechanism, substantially as described, by which, while the vibrator may be in motion, the tilting plate may be moved on its fulcrum so as to change its angle with the bed—such mechanism being the slider, o, and the slotted lever, l, applied to the vibrator, the arm, n, and the frame of the machine in manner and so as to operate substantially as explained.

I also claim the combination and arrangement of the four cams, K L M N, their connections and operating screws, the same being for the purposes as specified.

28,563.—Henry Crane, of New York City, for an Improved Bridle Bit:

I claim the combination of the bars, A C C, the latter being fitted with the bar, A, connected by a joint, a, at their inner ends and having a spring, F, attached substantially as shown and described for the purposes specified.

28,564.—John Dickson, Jr., of Brooklyn, N. Y., for an Improvement in Hat Conformatures:

I claim, in combination, with the bat conformature constructed as described, the sizer, f, formed of two metallic strips connected to the ends of one of the extension bands, e, to measure the size of hat, regardless of the shape, at the same time that said shape is taken by said conformature, as specified.

28,565.—T. S. Diston, of Philadelphia, Pa., for an Improved Machine for Making Tabs for Cross-cut Saws:

I claim, first, The box, P, its dies, N and N', the movable pin, L, and the pressure bar, m—the whole constructed, arranged and operated as and for the purpose set forth.

Second, In combination with the above, the plate, R, with its cutting projections arranged in respect to box, P, as described.

Third, The bar, W, with its projection, x, in combination with the pin, L, and its projection, e, and the inclined bar, g, the said bar, W, being operated by the appliances described or their equivalents, and the whole being arranged for joint action substantially as specified.

Fourth, The slide, M, its levers, f and f', and their projections, h and i, in combination with the orifices in the slide, K, and the stationary inclined bars, j j; the whole being arranged and operating substantially as and for the purpose set forth.

28,566.—Henry Ehrman, J. H. Ehrman and H. H. Ehrman, of Anville, Pa., for an Improved Washing Machine:

We claim the combination of the journal boxes or bearings, B B, with the concave, E, springs, d, and rods, D, as shown and described, so that the said bearings, rubbing cylinder, concave and springs may be all simultaneously removed, as set forth.

[This invention relates to an improvement in that class of clothes-washing machines in which a rotating, corrugated cylinder is used in connection with a rotating, corrugated concave placed within a suitable box. It consists in having the bearings of the rotating, corrugated cylinder connected to the concave by springs and rods, whereby said parts may be readily fitted into and removed from the box, and the latter rendered serviceable, when required, for rinsing and other necessary and useful purposes.]

28,567.—H. C. Fairchild, of Brooklyn, N. Y., for an Improvement in Seed Planters:

I claim the partition, F, introduced in the cylinder, A, for separating the seed, in combination with the plates, G G' and G'', the plate, G, being provided with projecting lugs, l, forming a channel for dropping the pumpkin seed as the plate is semi-rotated; the whole being arranged and operating simultaneously with the plunger, C, as and for the purposes set forth.

[This invention consists in dividing a cylindrical seed box in two compartments by a partition, for holding the different seeds and keeping them separated; and in connection with this, it consists in a novel seed distributing device operated by semi-rotating movement and arranged in such a manner as to effect the desired object in a superior style.]

28,568.—J. M. Fish, of Buffalo, N. Y., for an Improvement in Machines for Weighing and Bagging Grain:

I claim the arrangement of the bin, A, doubly-inclined floor, O, vertical gates, D, spouts, L, frame, B and scale, L; the whole being constructed and combined substantially in the manner and for the purposes explained.

28,569.—E. L. Foote, of Springfield, Ill., for an Improvement in Rock Drills:

I claim, first, The combination of the heads, v, with the stop guides, a, cam, i, and the drill bars, F, when the whole is constructed and arranged substantially as described.

Second, In combination with the drill bars, F, thread-adjustable guides, h h and c, when constructed, arranged and operated in the manner and for the purposes specified.

28,570.—W. H. Gilbert, of Bayou Goula, La., and H. O. Ames, of New Orleans, La., for an Improvement in Apparatuses for Evaporating Saccharine Juices:

We claim the connected steam train composed of a series of open pans arranged and connected by "monte juo," substantially as and for the purposes specified.

[The object of this invention is to construct and arrange an open steam train as not only to provide for the perfect defecation of the juice in the defecator, which cannot be effected in an ordinary kettle train, but to obviate the defects of the ordinary open steam train.]

28,571.—Amos Glover, of Powhatan Point, Ohio, for an Improvement in Corn and Cob Crushers:

I claim, first, The construction of the crusher, with one or more receiving spaces, j, and—

Second, Combining crushers with millstones by means of the driver, m, substantially as and for the purposes set forth in this specification.

28,572.—James Green, of Kennett Square, Pa., for an Improvement in Seed Planters:

I claim the combination of stationary and sliding collars, A B, slotted tube, C, pins, E, rod, o, and grooved nut, M N, for the purpose of forming adjustable seed-distributing receptacles, substantially as set forth.

28,573.—Samuel Hall, of New York City, for an Improvement in Coupling for Shafting:

I claim the cross key, D, in combination with the slotted shafts, B B, coupled within the center hub or coupling, A, by means of the longitudinal keys, E E, arranged and operated as described and for the purpose as specified.

28,574.—J. S. Harper, of Baltimore, Md., for an Improvement in Core Boxes:

I claim a core box which is capable of being expanded and contracted in diameter in the manner described, by the use of two or more toothed bands with catches and figures to designate the size of core required, in connection with the open cylinder or in any other way substantially the same and which will produce the intended effect.

28,575.—W. A. Harris, of Providence, R. I., for an Improved Heel Guard for Boots and Shoes:

I claim affixing to the heel part of a boot, shoe or overshoe, a suitable guard in the manner substantially as described and represented.

This invention consists in applying to the heel part or to the sides or to both sides and heel of an india-rubber or leather shoe or overshoe, a piece or pieces of the same material of which the shoe is made, or other suitable material, in such a manner that the same will serve as a guard or protection to the bottoms of ladies' skirts or to gentlemen's pants in wet and muddy weather, against their becoming soiled by rubbing against the muddy boot, and to prevent mud from being thrown up against the dress, in walking—the guard to be applied to the boot, shoe or overshoe in any convenient manner, either by sewing or cementing.]

28,576.—Vines Harwell, of Walker county, Ga., for an Improvement in Cultivators:

I claim the peculiar arrangement and combination of the removable shafts, C, center beam, A, and guide, G, with a cultivator—the whole being constructed and operated in the manner and for the purposes set forth.

28,577.—J. A. Hawley, of Jackson, Mich., for an Improved Composition for Roofing Houses:

I claim making roofs of this composition without the use of tiles or slates or canvas, or any other roofing material or agents, in connection therewith, substantially as set forth.

28,578.—James Hollingsworth, of Chicago, Ill., for an Improved Apparatus for Heating Air by Steam:

I claim the arrangement of the furnace, J, boiler, B, steam boxes and pipes, C D, and air box, A, as and for the purpose shown and described.

I also claim the arrangement of the deflectors, H I J, between the steam boxes and the boiler, as and for the purpose shown and described.

[This invention consists in the arrangement of the steam chest or principal heater within the same air-warming chamber or casing with the boiler, but so far removed from and elevated above the body of the boiler that the air to be warmed may pass under it and between it and the body of the boiler, by which means a much larger steam-heated surface is presented to the air in the warming chamber than when the steam chamber or heater is within or directly upon the boiler. It further consists in a certain arrangement within the air-warming chamber, and in relation to the body of the boiler and steam chest or heater, of deflectors, for the purpose of directing the cold air which enters the chamber under the bottom of the steam chest or heater, and at the same time over and in contact with the body of the boiler and any portion of the smoke flues that may be exposed.]

28,579.—J. B. Hyde, of Newark, N. J. for an Improved Material for Facing Molds for Casting Metals:

I claim the herein-described peaty material for facing molds for casting metals, and which I propose to designate as "Vulcan dust." I also claim the use of said material when combined with other material for the purpose set forth.

28,580.—E. T. Ingalls, of Haverhill, Mass., for an Improved Machine for Skiving Leather:

I claim, in a machine for skiving counters of boots and shoes, the use of two skivers, one traveling on the arc of a circle, or nearly so, and the other in a straight line, or nearly so, operating substantially as described, whereby both the curved and straight portions of the counter are skived at one operation, as set forth.

In combination with the above, so arranging the knife-stock that the knife, if desired, may bear with an elastic yielding pressure upon the former, so as to be adapted to skiving counters of irregular curves, as set forth.

28,581.—Hiram James, of Barclay, Ill., for an Improved Apparatus for Measuring Liquids:

I claim, first, Measuring chamber, D, and its internal vertical supply tube, E, communicating at its bottom, F, with the chamber, in combination with the vertical adjustable regulating tube, L, essentially as described, so that, by raising or lowering the tube, L, the quantity of measured liquid may be increased or diminished, as desired.

Second, The stoppers, J and G, in their respective cones to beas. I and E, on the rod, H, in combination with the lever, U, T, essentially as described, by means of the slot, P, so that the lever may quickly open and close the stoppers at one operation to admit or discharge the measured liquor, without permitting a continuous stream to pass from the reservoir through the measuring chamber.

28,582.—Reuben Jenkins, of Covington, Ky., for an Improved Bedstead:

I claim, first, In combination with main bedstead, A, the arrangement of the secondary bedstead, B, the hollow side rails, F, of which are made to slide into, and be accommodated within, the tubular rails, E, of the main one, in the manner and for the purposes substantially as set forth.

Second, I claim the combination of the divided slats, a, a, and joints, b, with the sliding side rails, F; the whole being arranged and operated in the manner as set forth, for the purpose specified.

Third, In combination with the bedstead, constructed as described, having hollow metal posts, I claim the bases, H, when made of cedar, sandal or other fragrant wood, arranged in the manner substantially as set forth, for the purpose of rendering the bedstead verminproof.

28,583.—W. F. Johnson, of Wetumpka, Ala., for an Improvement in Cotton Cultivators:

I claim the arrangement of the beam, A, wheel, E, shaft, F, with cutters or hoes, f, attached, and lever, J (with or without the wheel, I), substantially as and for the purpose set forth.

[This invention consists in the use of a rotary wheel attached to a beam provided with hoes or cutters, and so arranged as to be placed under the complete control of the operator and rotated by the draft movement of the machine; the whole being placed in such relation with the beam that the knives or hoes will pass obliquely over the rows of plants and cut or tear them out, as required.]

28,584.—Herman Kaller, of Perry, Ill., for an Improvement in Grain-binders:

I claim, first, The arrangement of the two rotary shafts, f, g, with the gear wheels, H I, wiper, l, and cams, n, in combination with the shears, L, and with vibrating curved arm, E, constructed and operating as and for the purpose described.

Second, The arrangement of the dog, z, in combination with the clamp, j, constructed and operating substantially as and for the purpose specified.

Third, The combination, with the rotary spring catch, K, of the two-armed fork, M, substantially in the manner and for the purpose described.

[This invention consists in combining with a vibrating curved arm,

which sinks down into a recess in the platform in order to receive the grain, two rotary shafts, connected by gear wheels and furnished with suitable wipers and cams in such a manner that, by operating the curved arm, the grain is held, and by rotating the shaft the wire is cut and twisted around the grain, leaving the gavel in complete order. The wire is confined in a clamp by means of a dog, and, while being twisted, is guided by a two-armed fork, which embraces a circular or oval space to give room to the wire to be twisted.]

28,585.—G. L. Kely, of New York City, for an Improved Window Curtain:

I claim the lambarkin or fixed window curtain, of buckram or other material, covered in the manner specified.

28,586.—Balthasar Kitt, of Cincinnati, Ohio, for an Improvement in Ringing Bells:

I claim, first, The arrangement of the clapper, J, attached to the curved vibrating arm, l, and pivoted to projection, H, and the clapper, J, operated by the cord, M, passing between the rollers, a and b, and secured to an arm of the wheel, E, as and for the purposes shown and described.

Second, I claim the arrangement described, in relation to the bell, of the two clappers, F and J, by which the sounds shall follow each other at equally successive intervals and with harmonious or concordant sounds.

28,587.—Stephen Krom, of New York City, for an Improvement in Buttons:

I claim the employment of a flanged washer, C, in combination with a flat-headed screw, B, and button, A, substantially as described, so that the head of the screw, by being drawn into the recess formed on the underside of the washer, preserves the evenness of the inner surface of the cloth or other fabric to which the button is attached, affording, at the same time, a good hold on the cloth.

[This invention relates to an improvement in that class of buttons which are secured to the cloth or other material by means of a screw, and it consists in the use of a flanged washer in combination with a flat-headed screw and a button-shaped nut, so that, in screwing this button on the screw, the cloth or other fabric is firmly retained between the head of the screw and the washer, and that, by reason of the flange on the underside of said washer, the cloth or other fabric is clamped at a certain distance from the hole through which the screw passes, giving the button a firm hold and allowing the head of the screw to sink in slightly, nearly to a level with the inside surface of the fabric, and, at the same time, preventing injury to the cloth or other material from turning the button round in screwing it down.]

28,588.—George Leach, of New York City, for an Improvement in Pull Cocks:

I claim the arrangement of the follower, 6, spring, 5, and screw, 7, in connection with the handle or pull, c, and its screw, 8, for the purpose and as set forth.

28,589.—J. W. Logan, of Philadelphia, Pa., for an Improvement in Securing Reef Points of Sails:

I claim, first, Securing single-reef nettles by passing them through eyelets and fastening one side by increasing the diameter of the rope, and the other by securing the nettle by seizing to a jack-line, substantially as described.

Second, Securing double-reef nettles by placing the center of the double-reef nettle close to an eyelet and fastening it by seizing through the eyelet to a jack-line on the opposite side of the sail, substantially as described.

28,590.—John Matthews, Jr., of New York City, for an Improvement in Galvano-plastic Coating for the Interior of Metallic Tubes:

I claim, first, The extension or stretching of the tube by screw threads and nuts, or their equivalents, substantially as and for the purpose set forth.

Second, The use of non-conducting supports, b b, applied substantially as and for the purpose specified.

Third, Providing for the longitudinal movement of the central conductor and its non-conducting supports, b b, within the tube, substantially as and for the purpose set forth.

28,591.—J. W. McLean and Albert Grummer, of Indianapolis, Ind., for an Improvement in Shingle Machines:

We claim the combination of the vibrator w with the shears, m m m' the two pins, n n, tumbler, o o, spring, q, in connection with the reciprocating guide, V, substantially as and for the purpose set forth.

28,592.—George Milliran, of Byhalia, Miss., for an Improvement in Cotton Presses:

I claim the arrangement and combination of the carriage or beam, E, toggle lever, D, and follower, C, provided with the friction roller or rollers, f, substantially in the manner and for the purposes specified.

28,593.—Matthew Mitchell, of Altona, Ill., for an Improvement in Seeding Machines:

I claim the combination of the perforated oscillating rim or band, B, stationary perforated cylinder, C, and cut-off, e, arranged substantially as described, and relatively with the seed box, A, and the tube, D, to operate as and for the purpose set forth.

I also claim, in combination with the perforated oscillating rim or band, B, perforated stationary cylinder, C, and cut-off, e, the tube, D, scatterer, F, and share, E; all arranged for joint operation as set forth.

[This invention relates to an improved seed-distributing device, whereby the seed, in passing from the seed box to the furrow, is subjected to two dropping operations, and the seed properly dropped in the furrow prepared to receive it.]

28,594.—Wm. P. Moses, of Exeter, N. H., for an Improved Currying Knife:

I claim the guard, D, as applied to a currying knife, substantially in the manner and for the purpose specified.

28,595.—Daniel Moyer, of New Hamburg, Pa., for an Improvement in Corn Planters:

I claim the arrangement of the center beam, A, wheel, a, arms, B B and C C, plates, v v and r, the brace, g bars, c c, hoppers, F, plows, M and N, mold boards or shovels, m, tubes, b, connecting rods, e, slides, l, and wheels, H, as described, for the purposes specified.

28,596.—Robert Nicoll, of New York City, for an Improvement in Stop-cocks:

I claim the employment or use of two valves, D E, placed at opposite sides of the seat, c, and made to move simultaneously towards and from the seat by means of the right and left screws, or their equivalents, for the purpose specified.

[The object of this invention is to obtain a cock which will have its passage within obstructed in a much less degree than usual by the valve-seat. The seats of ordinary cocks, as is well-known, require to be of a certain degree of thickness, in order to sustain the pressure of the valve, and this thickness acts as a great obstruction to the passage of the water or steam through the cock.]

28,597.—P. H. Niles, of Boston, Mass., for an Improved Telescopic Drinking Cup:

I claim making the cup or bottom part, A, and one or more of its annular sections, B C, with bottom flanges, b b, and applying the cover so as to fit the bottom part, A, and project over the same and the upper edges of its annular section or sections, as described.

28,598.—F. S. Otis, of Brooklyn, N. Y., for an Improvement in Devices for Manufacturing Skeleton Skirts:

I claim the combined reel and former, constructed substantially as and for the purposes specified.

28,599.—George Palmer, of Littlestown, Pa., for an Improvement in Pumps:

I claim the employment, for united operation, of the spherical chamber, *B*, diaphragm, *D*, gum elastic spring, *G*, jointed connecting rod, *F*, and weighted lever, *H*, when the same are constructed and arranged to operate in combination with an arrangement such as described, for raising and forcing water, as set forth.

[The purpose of this invention is to facilitate the operation of the pump, render the same uniform or regular in its action and capable of being operated with a moderate application of power. The invention consists in the use of an elastic or flexible diaphragm, placed within a suitable case or chamber provided with spring stops; the elastic diaphragm being connected to a loaded lever, and the whole so arranged as to effect the desired result.]

28,600.—C. G. Plympton and H. M. Plympton, of Walpole, Mass., for an Improvement in Tempering Steel Springs:

We claim the application of water to steel articles while the latter are properly heated and subjected to pressure, or held by dies, presses or other device in the particular form or shape desired, for the purpose of tempering the same, substantially as described.

28,601.—Whitman Price, of Wayne county, N. C., for an Improvement in Plows:

I claim the arrangement of *A*, the circular beam, *B*, the standards, *C*, the shovels, *D*, the main beam, *E*, the handles, *F*, the screw on the upper end of the standards, and *G*, the screw nut, combined and operating as described and for the purposes set forth.

28,602.—Whitman Price, of Mount Olive, N. C., for an Improvement in Machines for Planting Cotton Seeds:

I claim the arrangement of frame, *A*, mold boards, *a*, a, leveler, *C*, wheels, *E* and *L*, wheel, *D*, with arms in hopper, *O*, arms, *H* and *I*, flexible joint, *K*, and standard, *M*; the whole operating as described, and for the purposes set forth.

28,603.—Eben Pritchard, of Waterbury, Conn., for an Improvement in Calendar Clocks:

I claim, first, The combination of the notched annually revolving cam, *E*, and the movable extension piece, *H*, applied substantially as described, in combination with the quadrannially revolving wheel, *I*, to control the action of a spring upon a dog, *G*, or its equivalent, for the purpose of completing the revolution of the month wheel, and day-of-the-month index at the end of the months of less than thirty-one days throughout every quadrannial period.

Second, The combination of the pin, *B*, on the annually revolving cam, or its equivalent, and the lever-like spring, *7*, applied to operate on the stop pawl, *I*, of the month wheel, substantially as and for the purpose specified.

[This invention consists in certain novel and very simple and sure means of effecting the completion of the revolution of the month wheel at the termination of the months of less than thirty-one days throughout every quadrannial period.]

28,604.—A. H. Rauch, of Bethlehem, Pa., for Improved Devices for Drawing Water from, and Supplying Air to, the Air Vessels of Pumps, &c.:

I claim the drafter, *C*, applied in combination with the air vessel, *A*, and furnished with a system of cocks, substantially as described, whereby the water in the air vessel may be exchanged for air, as set forth.

[This invention consists in a novel and simple device whereby the air vessel of a pump may, while the pump is in operation, have a portion of its water exchanged for an equal volume of air at atmospheric pressure as often as water has, by absorption or compression of the air, arrived at too high a level in the air vessel. The same device is also applicable, in the same manner, for a similar purpose to hydraulic rams, or any other hydraulic apparatus in which an air vessel may be used.]

28,605.—C. F. Richter, of Columbia, S. C., for an Improvement in Plows:

I claim the construction and arrangement of the two pieces, *E* and *G*, the mold board or share, *H*, and their several connections, for the purpose of uniting them together and allowing the mold board to be adjusted to the pieces, *E* and *G*, substantially as set forth and explained.

28,606.—G. W. Righter, of Philadelphia, Pa., for Improved Porter Bottle Boxes:

I claim combining and arranging the sides, *A*, ends, *B*, bottom, *C*, and partition strips, *G*, with the metallic frames, *D*, *D*, and rods, *E*, *E*, *E*, substantially in the manner and for the purpose set forth.

28,607.—N. D. Ross, of Braintrem, Pa., for an Improved Churn:

I claim the revolving of the churn-dashers, *O*, and handle, *L*, by means of the, peculiarly constructed gears, *O*, and blades, *N*, the whole being constructed and working as described above.

28,608.—O. P. Rowland, of Jamesport, N. Y., for an Improved Elastic Lining for Boom Jaws:

I claim the application of an india-rubber roll, *R*, as a lining for boom, gaff and yard jaws, constructed, arranged and operating substantially as and for the purposes set forth.

28,609.—J. S. Sammons, of New York City, for an Improvement in Car Couplings:

I claim the bar or catch, *E*, dog, *D*, and disengaging lever, *F*, combined with a stop or ledge, *G*, and retaining spring, *H*, with or without the spring, *I*; all being placed within the bumper head, and arranged, relatively with each other, to operate as set forth.

[This invention relates to that class of car couplings which are self-attaching and which may be uncoupled or detached without the necessity of the operator or attendant passing between the platforms of the cars.]

28,610.—Charles Scofield, of Adams, N. Y., and Clark Rice, of Watertown, N. Y., for an Improvement in Sewing Machines:

We claim the combination, in the manner shown and described, of feeding dog, *P*, with the slide, *L*, and cams, *M*, *M*, for the purpose set forth.

We also claim the combination of the sliding wedge, *Q*, with the spring feeding dog, *P*, slide, *L*, and cams, *M*, *M*, as and for the purpose shown and described.

We also claim the combination of the pivoted lever hook, *I*, with the guide plate, *F*, and plate, *H*, spring, *m*, and cam, *p*, as and for the purpose shown and described.

28,611.—George Scott, of Cincinnati, Ohio, for an Improvement in Molds for Jars:

I claim a two-part mold for molding jars, when the parts 1 and 2 thereof are made and adapted to be used with a potters' lathe, in the manner substantially as described.

28,612.—E. A. Smead, of Tioga, Pa., for an Improvement in Corn-shellers:

I claim the employment of an upright scroll-shaped shell, *E*, and drum, *A*, arranged and operating in respect to each other as shown and described, for the purpose set forth.

[This invention consists in combining with a fluted drum, of the form of a conic frustum, a scroll-shaped concave, having its sides vertical or parallel with the axis of said drum and its lower edge tapering inward, so as to prevent the ears from escaping through the bottom of the machine and to shell the grain from the points of the ear, and having the discharge aperture for the ears near the point of feed, the same being fluted or ribbed.]

28,613.—C. F. Spencer, of Rochester, N. Y., for an Improvement in Anti-friction Screws and Nuts:

I claim the employment of anti-friction balls, *C*, arranged in adjustable sockets in the interior of a threadless nut, *B*, in combination with a screw, *A*, which has screw threads formed to fit said balls, substantially as and for the purposes specified.

28,614.—J. K. Staman, of Mifflin, Ohio, for an Improved Boot and Shoe-wiper:

I claim forming a feet-wiper or cleaner, substantially as described, that is to say, by binding corn-shucks or other suitable material on to a suitably shaped stock, as and for the purpose set forth.

28,615.—Pollman Stover, of West Alexandria, Ohio, for an Improvement in Corn Planters:

I claim the peculiar arrangement of the measuring space, having an elastic back piece, *k*, and an adjustable front piece, *j*, in connection with the cut-off, *g*, and lower slide, *f*; all constructed, arranged and operating in the manner substantially as and for the purposes set forth and described.

28,616.—James Stratton, of Brooklyn, N. Y., for an Improvement in Devices for Regulating the Pressure of Water in Pipes:

I claim the employment or use of the pipe, *A*, communicating with the diaphragm chamber, with or without the air chamber, in connection with the supply pipe, *A*, valve, *C*, and pipes, *D* and *F*, with necessary cocks or cocks, arranged to operate substantially as and for the purpose set forth.

I further claim, in connection with the above-named parts, the perforated cap or chamber, *J*, encompassing the valve, *C*, substantially as and for the purpose set forth.

[This invention relates to an improvement on a device for regulating the pressure of water in pipes, for which Letters Patent were granted to the inventor, bearing date the 23d day of November, 1859.]

28,617.—James Taylor, of Dartmouth, Mass., for an Improvement in Liquids for Fluid Gas Meters:

I claim the use of the bittorn or mother-water left after extracting the crystallizable salts from sea-water, for filling wet gas meters; all in the manner and for the purpose substantially as set forth.

28,618.—Benaiah Titcomb, of Baltimore county, Md., for an Improvement in Harvesting Machines:

I claim the hinged lever, *I*, provided with the spherical roller, *D*, or its equivalent, constructed, arranged and operated substantially as and for the purposes set forth.

28,619.—Richard Vose, of New York City, for an Improvement in Car Springs:

I claim the disks, *d*, *d*, *d*, the caps, *a*, *b*, the rings, *c*, *c*, and the central bearings, *e*, *e*, when constructed and arranged substantially in manner set forth.

28,620.—L. Waddell and W. H. Waddell, of Staunton, Va., for an Improvement in Car Couplings:

We claim the combination of the lever and latch, in the manner described, with special reference to the security of the coupling and the easy detachment of cars when in motion, and even going up grade.

We do not claim the swinging plate for the purpose of admitting the link, that being somewhat the principle both of the swinging pin and tumbler catch, which are common; nor do we claim it for the purpose of preventing the escape of the link, but only so far as it may be a novelty as a device for holding the link in such a position as to insure certainty in coupling.

28,621.—Thos. Wall, of Jones' Station, Ohio, for an Improved Bedstead:

I claim the flanged sockets and hooked fasteners or clasps, as described, when used in combination with the windlass rail, *K*, with the pin, *f*, ratchet, *e*, and latch, *h*, all arranged to operate (as and for the purposes set forth).

28,622.—Alonso Warren and E. Damon, Jr., of Boston, Mass., for an Improvement in Hanging Turbine Wheels:

We claim the globe coupling, *A*, in combination with the adjustable screw step, *B*, the same being used for a vertical turbine shaft, in the manner set forth.

This invention consists in a novel combination of hollow spindle shaft, with globular enlargement, adjustable step and stationary shaft, whereby a very short hollow shaft may be used, adding on the top the necessary length of solid shaft. In consequence of thus using a short shaft, there will be less trembling when the parts are in operation, and the parts may be kept well lubricated and in good working order for a great while.]

28,623.—C. L. Williams, of Quincy, Fla., for an Improved Detachable Hook for Suspending Boats:

I claim the combination of lever, *C*, rod, *G*, with shoulder, *a*, on the bar, *A*, and the treadle, *J*, all arranged as and for the purposes specified.

[The object of this invention is to attach or detach life-boats from their tackle by a device which, while it forms a secure attachment when the boat is not needed for use, will automatically liberate the same as soon as it touches the surface of the water; thus avoiding the danger of having the boat stove in, and no more than ordinary care is necessary in working the tackle. This invention consists in the use of rods with conical enlargements on their ends that hang from the lower pulley blocks of the davits, and in applying fixedly to the stem and stern of the boat to be hung from the davits peculiar shaped brackets, which are provided with levers that, in conjunction with shoulders formed on the brackets, receive and hold the conical ends of the rods that are attached to the tackle, by virtue of the gravity of the boat acting upon the lever, so that, when the boat touches the water, the levers will cease to act, and consequently release the boat entirely from the tackle.]

28,624.—T. H. Witherby, of Worcester, Mass., for an Improvement in Rotary Engines:

I claim the abutment, *S*, applied in connection with the abutment, *F*, and in combination with a reversing valve, to operate substantially as and for the purpose set forth.

[This invention relates to the improved improvement of the improved rotary engine of the late John H. Hathaway, which forms the subject of Letters Patent granted Nov. 15, 1859, to his administrator, Charles Rice, the object of such improvement being to provide for the reversal of the rotary motion.]

28,625.—Joseph Woodruff, of Rahway, N. J., for an Improvement in Harvesters:

I claim the arrangement of the levers, *L*, *L*, pulleys, *i* and *k*, and cords, *h* and *m*, for operating the reciprocating curved knife, as and for the purposes set forth and described.

28,626.—Lum Woodruff, of Ann Arbor, Mich., for an Improvement in Buometers:

I claim the screw plug, constructed and applied to the reservoir and cistern, substantially as described and operating as set forth.

28,627.—W. C. Bement (assignor to himself and James Dougherty), of Philadelphia, Pa., for an Improved Machine for Cutting Key Seats, &c.:

I claim, first, The described combination of the reversible screwed shaft, *C*, with the revolving drill or drills, when an intermittent motion at right angles to the said screwed shaft is imparted to the said drill or drills by the devices described, or their equivalents, and

when the screw is caused to impart a uniform reciprocating motion to the drills to the object specified on by the drills.

Second, The hollow spindle, *i*, its clutches, *K* and *K'*, bevel pinions, *G* and *H*, and internal rod, *J*, the whole being constructed and arranged for joint action and combined with the bevel wheel, *F*, on the screwed rod, *C*, as set forth, so that the said screwed shaft may be reversed by the movement of the internal rod, *J*, as set forth.

Third, Operating the reversing clutches from the carriage which carries the drills or which carries the object acted on by the drills, through the intervention of the T-shaped lever, *Z*, or its equivalent, with its pointed arm, *27*, and the spring rod, *36*, with its pointed end, the whole being combined and arranged for joint action, substantially as and for the purpose set forth.

Fourth, I claim, in combination with the above-mentioned reversible lever, *Z*, and its adjuncts, the adjustable screw collars, *17* and *18*, connected to the carriage, *D*, and arranged in respect to the rod, *15*, and its adjustable collars, *21* and *22*, substantially as set forth.

Fifth, I claim the described stop motion by which the advance of one of the drills is retarded during the movement of the machine; that is to say, I claim furnishing one of the head stocks which carries one of the drills, with a movable nut, *1*, so arranged as to be thrown out of gear with the screwed shaft, *U*, by the head stock which carries the opposite drill, through the intervention of the devices described, or their equivalents.

28,628.—Chester Bullock (assignor to himself and De Forest Weld), of Jamestown, N. Y., for an Improvement in Mowing Machines:

I claim, first, The arrangement of means recited for connecting the frame or bars of the fingers and cutters to the frame or body of the mower or machine.

Second, The arrangement of means set forth for allowing of the suspension and for suspending the frame of the cutters and fingers by the side of the mower.

Third, The means recited for uniting the cutter bar to the connecting rod.

Fourth, The arrangement of means described for connecting the draft pole to the mower or machine frame, and for the purposes set forth.

Fifth, The manner of attaching the cutters to the fingers and cutter bar described.

28,629.—Isaac Cook (assignor to himself and Hugh McClure), of Mount Pleasant, Iowa, for an Improved Washboard:

I claim, first, The combination with an ordinary washboard of the reciprocating and hinged rubbers and frames working in suitable grooves, and made yielding to the varying thicknesses of articles placed between the rubbers and board, as and for the purposes set forth.

Second, The arrangement, in combination with the above reciprocating rubbers and frame of a suitable pump, arranged so as to supply water to the top of the board over the articles between the rubbers, as set forth.

This invention consists in combining, in a novel manner, with an ordinary hand-washboard, a swinging frame, capable of receiving a reciprocating motion over the surface of the board, and in suitably bringing within this frame a rubbing board furnished with rollers or rubbing slats, which receives the articles to be washed between it and the corrugated surface of the washboard, holds them in place, and while in this confined state, the frame with the rubbers may be rapidly moved up and down with the hands, giving to the clothes a thorough rubbing, controlled entirely by the hand. And in conjunction with this arrangement, the invention also consists in giving to the rubber and frame, in their attachment to the washboard, an elastic yielding action, so that the same will themselves be adjusted to the bulk or varying bulk of articles placed between the rubbers and the board. This invention further consists in applying to the side, back or other convenient place about a washboard having a reciprocating rubber, a pump arrangement, which shall be operated by the motions of the said rubber, so as to force water from the tube below up alongside of the board and over on to the articles undergoing the washing operation; the object of which arrangement is to keep the articles well soaked with water while they are being rubbed.]

28,630.—P. D. Cummings (assignor to D. H. Furbish), of Portland, Maine, for an Improvement in Chains:

I claim a chain link strap, one of whose ends has a head formed on it while the other end has a socket to receive the head, substantially as described.

I also claim an open coupling link for chains, with ears located at the outer sides of the legs of the link, as described.

28,631.—P. D. Cummings (assignor to D. H. Furbish), of Portland, Maine, for an Improvement in Gear-

ing:

I claim a universal reversible bolt standard, constructed substantially as set forth, for the purpose of securing a driving wheel to a carriage wheel.

I also claim the combination of the universal reversible bolt standard described with the driving wheel by means of a flange upon the latter, substantially as described.

28,632.—David Fellenbaum, of Lancaster, Pa., assignor to himself and Nathaniel Baker, of Marietta, Pa., for an Improved Variable Cut-off for Steam Engines:

I claim, first, The stationary lifting piece, *f*, *f*, applied and operating in combination with the stems of the puppet valves, substantially as described.

Second, The combination of the two tripping levers, *u* and *u'*, attached to the slide valve, *B*, and the tripping piece, *D*, made adjustable within the steam chest; the whole applied and operating in combination with the slide and puppet valves, substantially as and for the purpose specified.

Third, The combination of the lifting pieces, *f*, *f*, the two tripping levers, *u* and *u'*, and the tripping piece, *D*; the whole applied and operating in connection with the slide and the puppet valves, substantially as described, to constitute a variable cut-off.

28,633.—H. W. Fuller (assignor to himself and A. W. Goodell), of Brooklyn, N. Y., for an Improvement in Mechanism for Marking Cloth in Sewing Machines:

I claim forming one, two or more creases in cloth, by means of markers, on opposite sides of the cloth, one of which is connected with the bed of the machine and the other operates simultaneously with vibrations of the needle in a sewing machine, whereby the crease or creases are formed in the cloth itself parallel to the line of sewing, in such a manner that the cloth is ready for doubling over at said crease for the next line of sewing, as set forth.

I also claim marking a line on the surface of cloth, or other material, being sewed in a machine by means of a pencil, or similar article, that is pressed upon the surface of said cloth at the time the needle perforates the same, and is raised therefrom when the feed takes place so as to produce a series of marks parallel to and simultaneous with the line of sewing, as set forth.

28,634.—C. J. Haywood (assignor to the Merriam Manufacturing Company), of Durham, Conn., for an Improvement in Making Tin Boxes:

I claim, first, A properly constructed and arranged friction device, substantially such as described, for securing a lid or bottom of a tin box, &c., as the recess die, *A*, ridge, *E*, friction sliding plate, *C*.

Second, I claim a new manufacture of an old article, or tin box, for various purposes, by a new process, substantially in the manner described.

28,635.—Suspended.

28,636.—Wm. May (assignor to J. de Bringe, E. A. Ramsey and W. W. Ramsey), of Winchester, Ohio,

for an Improvement in Self-acting Wagon Brakes:

I claim, first, The chain, *I*, operating in connection with the slotted

tongue piece, D, when operating reversely upon the same lever with bar, C, for the purpose described.

Second, I claim the construction of the bar, F, and the plate, G, adapted to stop, k, l, arranged and operating substantially as set forth, being for the sole purpose of reversing the action of self-acting wagon brakes, in combination as described.

28,637.—W. H. Noyes (assignor to H. T. Litchfield), of Boston, Mass., for an Improved Gage for Filling Barrels:

I claim combining with the filling tube, A, the groove or chamber, B, and its float, C, furnished with an adjustable slide or indicator, as described.

28,638.—J. C. Reed (assignor to himself and S. E. Hutchison), of Cincinnati, Ohio, for an Improvement in Picks:

I claim the employment of the rebate, F, in the jaw, D, when used in connection with a spring jaw, E, and slide, H, to hold the bit, the spring being constructed so as to retain the slide, substantially as set forth.

28,639.—J. F. Schuyler (assignor to W. E. Lockwood), of Philadelphia, Pa., for an Improved Apparatus for Dressing Grindstones:

I claim the described dressing wheel, composed of a series of radiating sharp-pointed chisels, situated between two yielding washers, the whole being arranged and hung to the stem, C, or its equivalent, substantially in the manner and for the purpose set forth.

28,640.—John Tiebout (assignor to himself and William Tiebout), of Brooklyn, N. Y., for an Improved Bung-cutter:

I claim, first, The combination with the disk, F, and arms, f, of the adjustable hinges, c, as used for the purpose shown and described.

Second, I claim the combination of the tubular projection, D, and adjustable guide plates, h, with the sliding shaft, C, and disk, F, as and for the purpose shown and described.

[The object of this invention is to cut different sized bungs or corks with the same set of cutters, and it consists in arranging the cutters on bent arms which are attached to movable hinges fastened to a disk that is rigidly secured to the driving shaft, and which slide up and down in adjustable guides that are secured to another disk, so that the points of the cutters are spread or brought closer together as the bent portions of the arms pass through said guides, and that by adjusting the guides and the movable hinges different sized bungs or corks may be cut.]

28,641.—Joshua Turner, of Cambridgeport, Mass., assignor to himself, E. Guild, E. C. Daniell and Warren Covell, of Dedham, Mass., for an Improved Machine for Buffing and Reducing Leather:

I claim the combination of the rotary grinder, B, the bed roller, E, the draft roller, D, and the brush, F, arranged and made to operate together, substantially as described and for the purpose as specified.

I also claim the application of the feed and bed rollers to a rocker frame, c, or its equivalent, and combining therewith devices substantially as described, whereby the two rollers may not only be simultaneously moved away from and toward the buffing cylinder, B, but the feed roller be moved from and toward the bed roller; such devices being the springs, c, the rotary windlases, H, and its connections, b' b' e, and the band and treadle, I, or other equivalent means.

I also claim supporting one of the rocker frame bearings in a slider and providing such with adjusting screws, the same being for the purposes specified.

RE-ISSUES.

The New York Rubber Company, of New York City, assignees of C. H. Hinkley, of Stonington, Conn., for an Improved Coating for Hose-pipe. Patented Sept. 29, 1857:

I claim constructing hose of flexible tubing of textile and fibrous material with an internal waterproof coating, by first applying said coating on the outside of the cloth or other pipe, and then inverting the coating pipe by drawing it over and through a metallic cylinder, or otherwise suitably inverting the same.

Jacob Swartz, of Buffalo, N. Y., for an Improvement in Grain and Grass Harvesters. Patented Nov. 14, 1854:

I claim, first, The combination of the main frame, A, carrying the cutting apparatus, and the finger bar, C, with the vibratable coupling arm, Q, the whole constructed and operating substantially as described and for the purpose set forth.

Second, In combination with the main frame, A, vibratable coupling arm, Q, finger bar, C, shoe or shield, C', upright post, P, arm, I, hinge pins, u and v, the guiding slot, O, and set screw, d, or their equivalent; the whole arranged and operating as specified for each or all of the purposes set forth.

Third, The combination of the main frame, A, finger bar, C, and cutter bar, when the bar is connected to the main frame by the vibratable coupling arm, Q, and the whole is arranged so that the relation between the finger and cutter bars is not materially changed in raising and lowering the cutting apparatus, substantially as described.

Fourth, I claim the combination of the main frame, A, shoe or shield, C', and the vibratable coupling arm, Q, or its equivalent, when the whole are constructed and operate substantially as specified for the purpose set forth.

Fifth, I claim the combination of the short finger bar, C, and the shoe or shield, C', connected to the main frame by a hinged coupling arm, with the main frame, A, when the several parts are constructed, arranged and operate in the manner and for the purposes specified.

Sixth, I claim the combination of the short finger bar, C, the shoe, C', divider, g, and main frame, A, when the said finger bar, shoe and divider are each constructed in the peculiar manner specified, and the whole arranged together and with the main frame, as and for the purposes described.

Cyrenus Wheeler, Jr., of Poplar Ridge, N. Y., for an Improvement in Grain and Grass Harvesters. Patented Feb. 6, 1855:

I claim, first, So combining a hinged finger bar and main frame, with levers, substantially as described, extending towards the driver's or conductor's seat, so that the occupant of said seat can, without leaving his position, raise up either end of the finger bar independently of its other end, or raise up both ends thereof at pleasure, substantially as described.

Second, I claim the platform bar, Q, as a means of securing the platform to the finger beam, and for strengthening said finger beam when it has the platform to carry, substantially as described.

Third, I claim the inclined castor wheel, S, arranged as represented and in combination with the platform, whereby the latter is elevated when the machine is being turned short around to the right, substantially as described.

Fourth, I claim, in combination with a finger beam and platform placed in rear of the main supporting wheel, the two casters, N S, arranged as described, for allowing the machine to turn short round to the right, for the purpose specified.

Fifth, I claim a revolving track-clearer when operated from a ground wheel through gearing substantially as described.

C. H. McCormick, of Chicago, Ill., assignee of L. J. McCormick, W. S. McCormick and C. H. McCormick, for an Improvement in Reaping and Mowing Machines. Patented May 11, 1858:

I claim making the finger beam of a mowing machine of a bar of iron, wedge-formed in its cross section with its forward edge, which carries the fingers made thin, that the sickle may act upon and cut leaning grass, and with its rear edge thick to obtain the required strength, and the under surface inclined and so arranged that it may act like a runner to pass and ride over the surface of the ground to keep the cutting edge of the sickle clear of obstructions, whilst at the same time it can have access to leaning grass, all substantially as described.

C. H. McCormick, of Chicago, Ill., assignee of L. J. McCormick, W. S. McCormick and C. H. McCormick, for an Improvement in Reaping and Mowing Machines. Patented May 11, 1858:

I claim, first, An improvement adapting the machine to mowing grass, consisting of the segmental pivoted frame, its gearing and the driving wheel, in combination with the main frame having the cutting apparatus projecting on one side thereof and carrying the other portion of the gearing, the whole arranged substantially as and for the purpose specified.

Second, An improvement adapting the machine to reaping grain, consisting in the combination of the main frame carrying one portion of the gearing and having a platform, grain wheel, divider and cutting apparatus projecting on one side thereof with auxiliary frame work, the other portion of the gearing, the driving wheel, a pivotal connection for uniting the two portions of the gearing, and the two frames, and the toothed hinged sector and detent to provide for shifting the main frame and platform to, and holding them at different heights, substantially as described.

Third, An improvement applicable to the machine when adapted for either mowing grass or reaping grain, and consisting of the combination of the sector with the reversible detent, adapted to performing the double duty of detent and guide, substantially as described.

C. H. McCormick, of Chicago, Ill., assignee of L. J. McCormick, W. S. McCormick and C. H. McCormick, for an Improvement in Reaping and Mowing Machines. Patented May 11, 1858:

I claim the guard finger, having a thin shank, a narrow neck and a strengthening rib, substantially as described.

C. H. McCormick, of Chicago, Ill., for an Improvement in Machines for Cutting Grass, &c. Patented Sept. 21, 1858.

I claim the combination of the sickle having the scalloped or indented edge and serrated reversed teeth, with a series of fingers having the back reversed angles for supporting the grain or grass to be cut to the edge of the sickle, both above and below the edge, or above the edge only, substantially as described.

I also claim cutting out the middle of the upper part of the fingers that project over the sickle, as described, in combination with the vibrating sickle, as described, for the purpose specified.

C. H. McCormick, of Chicago, Ill., for an Improvement in Cutting Apparatuses for Machines for Cutting Grass, &c. Patented Sept. 21, 1858:

I claim the combination of a series of slotted fingers with a vibrating scalloped cutter, having projections on both its upper and under sides to facilitate the detachment and discharge of clogging matter, substantially as described.

C. H. McCormick, of Chicago, Ill., for an Improvement in Machines for Cutting Grass, &c. Patented Sept. 21, 1858:

I claim, in the combined blade and bar of a scalloped vibrating cutter, making the bar extend behind the blade, substantially as described, for the purpose specified.

EXTENSION.

Daniel Carmichael, of Brooklyn, N. Y., and Jason C. Osgood, of Chittenango, N. Y., for an Improvement in Dredging Machines. Patented May 30, 1846:

I claim the manner described in which we have connected and combined the scraper staff or arm with the machine, so that it may be raised or lowered by means of the racks and pinions (by the aid of the triangular piece), arranged and operating as set forth, thereby dispensing entirely with the hollow mast and with the toothed gearing and chain combined, with said mast as used for that purpose in the original machine of Otis.

NOTE.—In the above list of claims, issued for the week ending June 5th, we recognize ~~typographical~~ errors of the number which were solicited through this office.—Ems.

MONEY RECEIVED

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, June 9, 1860:—

J. C. C. of Conn., \$73; J. H. of Pa., \$25; J. E. C. of Ind., \$30; L. A. of Wis., \$25; W. W. of Wis., \$25; J. A. of Ill., \$10; J. T. of La., \$53; L. E. of Mich., \$45; J. K. of N. Y., \$25; E. C. of Mass., \$10; H. F. of Ga., \$38; B. J. of Ky., \$35; C. V. S. of Ill., \$30; McC. & J. of N. J., \$30; J. A. V. of Cal., \$25; C. A. T. of Ill., \$35; G. K. P. of Mass., \$30; J. O. C. of Conn., \$25; H. & P. of N. J., \$25; J. M. of N. Y., \$75; S. T. V. of R. I., \$25; M. & B. of R. I., \$30; F. H. of S. C., \$30; J. P. A. of Ga., \$25; N. M. of Ohio, \$25; W. W. M. of Ill., \$30; J. H. S. of La., \$30; J. S. D. of Ohio, \$30; G. W. R. of N. Y., \$100; E. W. F. of La., \$25; D. P. of Ill., \$30; M. B. of N. H., \$35; H. E. of N. Y., \$30; J. S. of Ill., \$25; R. W. P. of Mass., \$30; C. M. of Wis., \$30; A. L. of Mich., \$25; E. A. L. of L. I., \$25; H. A. W. of N. Y., \$28; W. T. of Conn., \$25; T. S. of Ill., \$25; D. B. of Mich., \$55; E. G. E. of Wis., \$30; W. T. Z. of Tenn., \$55; C. G. of La., \$25; A. S. B. of Iowa, \$20; J. P. M. of Ill., \$10; J. P. H. of La., \$15; I. W., of Vt., \$30; T. W. of Iowa, \$25; P. F. of Mich., \$30; S. E. T. of N. J., \$30; J. G. of Mass., \$25; J. B. L. of N. J., \$30; E. L. P. of Conn., \$30; C. D. of Mass., \$5; D. B. of Mich., \$25; K. & H. of N. Y., \$25; N. Q. M. of Wis., \$25; G. A. L. of Ill., \$25; J. H. of Iowa, \$30; D. W. M. L. of Ohio, \$25; F. A. G. of Ill., \$25; C. B. C. of Mass., \$30; G. Van C. of N. J., \$28; B. S. P. of Conn., \$15; J. S. B. of N. Y., \$25; O. & W. of Ill., \$30; O. & L. of N. Y., \$25; J. S. McC. of N. Y., \$40; J. M. of N. Y., \$30; A. O. of Pa., \$70.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, June 9, 1860:—

H. & P. of N. J.; A. P. T. of Ga.; E. A. L. of L. I.; C. T. P. of I. & I.; H. F. of Ga.; T. & S. of Ill.; J. S. of Ill.; L. & W. of Tenn.; B. J. of Ky.; T. W. of Iowa; H. A. W. of N. Y.; J. H. of Pa.; W. T. of Conn.; J. P. A. of Ga.; P. N. B. of N. Y.; J. P. H. of La.; J. K. of N. Y.; C. A. T. of Ill.; E. G. E. of Wis.; J. G. of Ky.; D. B. of Mich.; G. G. of Wis.; S. T. V. of R. I.; L. A. of Wis.; E. C. C. of Mass.; N. M. of Ohio; W. W. of Wis.; J. G. of Mass.; W. H. A. of Iowa; M. B. of N. H.; J. M. of N. Y. (3 cases); D. W. L. of Ohio; A. L. of Mich.; N. Q. M. of Wis.; J. C. C. of Conn.; E. G. P. of N. Y.; K. & H. of N. Y.; G. Van C. of N. J.; F. A. G. of Ill.; G. A. L. of Ill.; O. & L. of N. Y.; J. S. McC. of N. Y.; A. O. of Pa.

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