

scribed of a curved or bowed back round for the seat whether the same be placed between or in rear of the front legs of the chair, as and for the purposes herein set forth.

52,489.—Machine for Felting Hat Bodies.—Cyprien Faure (assignor to himself and C. Francis Bates), New York City:

I claim the box, A, with the longitudinally slotted table, A', in combination with the longitudinally slotted plank, B, and with a suitable roller or rollers, the whole constructed and operating substantially as and for the purpose described.

[The object of this invention is to produce a machine which performs the operation of felting hats in imitation of the ordinary hand process.]

52,490.—Method of Treating Gold Ores.—Halvor Halvorson, North Cambridge, Mass., assignors to himself and Wm. T. Eustis, assignors to themselves and Levi L. Cushing, Jr.

I claim the treatment of gold and silver bearing pyritous ores in the manner and for the purposes herein described.

52,491.—Curriers' Scourer.—John Hankey (assignors to himself and Henry Muller), North Cambridge, Mass.:

I claim the improved curriers' scourer as made with the metallic socket piece combined and arranged with the handle and the stone, and with the handle provided with the adjusting screws, and the recesses for reception of their heads, substantially as described.

52,492.—Sash Locks.—James Hollingsworth (assignors to C. M. Henderson), Chicago, Ill.:

I claim, first, The application of the jaws, B B', to a plate, A, having a projecting rim, a, for the purpose of forming a space between the surface of said plate and the jaws to receive the pins, h h, and spring, g, substantially as described.

Second, The stud, b, in combination with the cup shaped plate, A, and jaws, B B', substantially as described.

52,493.—Machine for Reducing or Pointing Wires.—Orrin L. Hopson, and Eli J. Manville, Waterbury, and Heeman P. Brooks, Walcottville, Conn., assignors to Orrin L. Hopson, Waterbury, and Heenan P. Brooks, Walcottville, Conn.:

I claim, first, a series of toggle blocks, k, mounted substantially as specified, in combination with the die, l, shaft, b, and law, e, substantially as and for the purpose set forth.

Second, We claim the combination of the blocks m, and screws, l, with the toggle blocks, k, and die, l, as and for the purposes specified.

Third, We claim the spring n, fitted as specified in combination with the toggle blocks, k, and die, l, as specified.

Fourth, We claim the jaw, d, on the center, e, carrying half the divided die, l, at one end in combination with its adjusting screw, g, applied to the opposite end of the jaw, d, as and for the purposes specified.

Fifth, We claim the cylinder or pin, o, in combination with the jaw, d, and toggle or cam blocks, k, for the purposes and as specified.

52,494.—Bolt Heading Machine.—Lancelot Kirkup, Brooklyn, N. Y., assignor by mesne assignment to The Bolt Head and Spike Co., New York City:

We claim—First, The arrangement of two die carrying disks, one on either end of the frame, B, in combination with suitable punchers, H, with a yoke, I, and eccentric, n, or their equivalents, constructed and operating substantially as and for the purpose specified.

Second, The troughs, L, in combination with the die carrying disks, A, arranged substantially as and for the purpose specified.

52,495.—Hay and Cotton Press.—Marquis D. Moore, (assignor to himself and Samuel Bromburg, Brooklyn, N. Y.):

I claim the toggle levers, constructed as herein described and conical windlasses in combination with the two inclined extensions or end pieces c c, as and for the purposes herein specified.

52,496.—Rotary Plow.—David Myers (assignors to himself and Wm. H. Kretsinger), Chicago, Ill.:

I claim the employment of a series of rings in combination with the revolving cylinder, F, and shovels, a, arranged and operating substantially as and for the purposes herein shown and described.

52,497.—Door Guard.—Noah C. Perry and George S. Gladding, Chester, Conn., assignors to Jeremy W. Bliss, Hartford Conn.

We claim as a new and useful article of manufacture a door guard, substantially in the manner as and for the purpose described.

52,498.—Heel-polishing Machine.—James M. Thompson, Stoneham, Mass., and L. D. Tripp, Lynn, Mass., assignors to S. D. Tripp:

First, We claim the loose disk, D, placed at one end of the rotating polishing shaft, C, in connection, with the gage, E, substantially as and for the purpose specified.

Second, In connection with the polishing shaft, C, the frame or bar, G, suspended by a spring, H, from an upright, A, or other fixture, and provided with a rotating disk, J, in which a sliding plate, K, is fitted, having the boot or shoe attached substantially as and for the purpose set forth.

Third, The supplemental shaft, F, in combination with the polishing shaft, C, and the frame or bar, G, provided with the disk, J, containing the sliding plate, K, substantially as and for the purpose specified.

[The object of this invention is to obtain a new and useful device for polishing the edges of the soles of boots and shoes, one which may be manipulated with the greatest facility, and perform its work in an expeditious and perfect manner, and be capable of being adjusted to operate upon soles of greater or less thickness.]

52,499.—Heel-polishing Machine.—James M. Thompson, Stoneham, Mass., and S. D. Tripp, Lynn, Mass., assignors to S. D. Tripp:

We claim the revolving block, D, placed loosely on the driving shaft, C, and provided with polishing stones or wheels, E E', driven from such shaft, all arranged substantially as and for the purpose herein set forth.

[This invention relates to a new and improved mode of arranging the polishing stones or wheels of a heel-polishing machine, whereby either of the stones or wheels—two being used—may, by a very simple manipulation, be placed or adjusted in the necessary position to have the heel of the boot or shoe applied to it.]

52,500.—Planter and Seeder.—Horace H. Webster (assignor to himself and Sylvester Davis), Claremont, N. H.:

First, I claim the combination of a corn planter and seed drill, substantially as herein described.

Second, My device for raising the plows and covers from the ground and lowering them thereto, substantially as set forth.

Third, The valves, Y, notched wheels, V, and cog wheels, E, constructed, combined and arranged substantially as described.

52,501.—Car Brake.—W. E. Wilcox (assignor to himself and Luther Moses), Cleveland, Ohio:

First, I claim the arrangement of a steam cylinder with the horse couplings and friction wheels, when arranged and combined in the manner herein specified and for the purposes set forth.

Second, I also claim the construction of the horse couplings, when arranged and combined with car brakes operated by straw, as herein described and for the purposes set forth.

Third, I also claim the friction wheels to be placed between or on either side of the car wheels, as herein described and for the purposes set forth.

52,502.—Machine for Welding the Ends of Railroad Rails.—Hugh Baines, Manchester, Eng., residing temporarily in Canada:

I claim the means herein set forth for applying steel braces to the ends of rails and railway points, that is to say, the devices designed

by the figures 1, 2, 3, and the plunger or die, S, the said devices being operated substantially as shown.

52,503.—Mode of Securing Photographic Pictures on Ceramic Ware, Etc.—J. B. Obernutter, Munich, Kingdom of Bavaria:

I claim the herein-described process of producing photographic pictures on ceramic articles, including glass, to be burnt in as set forth.

52,504.—Combined Sword and Pistol.—August Rauh, Solingen, Westphalia, Prussia:

I claim the combination with the sword blade and its handle of a many-chambered rotating cylinder and fixed barrel, when the base pin for the cylinder is formed of the blade stock and the several parts are arranged and operated as hereinbefore described.

Second, I also claim the constructing and arranging the breech plate, n, so as to constitute also a hammer supporter during the loading operations, substantially as described.

52,505.—Self-winding Watch.—F. Robert Theurer (assignor to Charles Aubens & Co.), Chaux de Fonds, Switzerland:

I claim actuating the winding mechanism of the watch by the movement of the cover, substantially as herein set forth.

52,506.—Flax-spinning Machine.—Levi Skeels, Worthington, Ohio:

I claim, first, The arrangement of vibratory slit holder, F, notched feeder, G, spring finger, H, and stud, for detaching and feeding forward the flax, substantially as set forth.

Second, In combination with the above-claimed feeding mechanism, I claim the clamp, J J', constructed and operating as set forth.

Third, The described arrangement of clamp, J J', and yielding rest, L, for the purpose explained.

Fourth, The gear, K K', formed and arranged to wind evenly upon the bobbin as set forth.

52,507.—Shingle Mill.—Thos. H. Cox, Nashville, Tenn.:

First, I claim the combination of the saw, B, rising and falling bed, M, pitman, L, and crank wheel, I, as and for the purposes specified.

Second, The combination and relative arrangement of the shafts, R R, pinions, Q Q, slides, N N, racks, i i, ratchet toothed wheels, T T, and fixed pawls, V V, for setting the bolt, as explained.

Third, In combination with the before-named shafts, R R, pinions, Q Q, and racks, i i, I further claim the eccentric, S, and slotted plates, K I, arranged to operate as and for the purposes set forth.

Fourth, I also claim the combination of the lever, O, spring, P, toothed segment, a, sliding toothed dog, b, and fixed dog, h, arranged to operate as and for the purposes specified.

52,508.—Tweezer.—Even Kooms, Funkstown, Md.:

First, I claim the cup or dish-shaped fire iron or tweezer, constructed in the manner described, for the purpose of allowing the cinders to flow away from the air-discharge openings and for the purpose of preventing the same from flowing out against the brick work, substantially as described.

Second, I also claim the use of the conical weighted plug, constructed as and for the purposes herein described.

REISSUES.

2,166.—Self-mousing Hook.—The Middletown Tool Company, Middletown, Conn., assignees by mesne assignments of J. R. Henshaw. Patented Oct. 26, 1858:

We claim locating the spring of a snap hook, substantially as shown and described, so as to act upon points intermediate between the hinge and hook proper, in combination with forming recesses for holding the spring, as set forth.

2,167.—Tool.—The Washoe Tool Company, New York City, assignees of H. L. Lowman. Patented June 6, 1865:

We claim an elliptical socket the opposite sides of which are parallel to each other, and elongated in the line of its axis, in combination with one or more projecting arms or bree screwing by curved lines into the socketed head, substantially as described and represented.

DESIGNS.

2,259 to 2,262.—Fabric Trimming.—Thomas Merry (assignor to Samuel Needham), Philadelphia, Pa. Four patents.



N. H. B., of Me.—Iron is converted into steel by absorbing from 1 to 1 1/2 per cent of carbon. The iron is placed in an air-tight vessel along with a little pulverized charcoal, and kept at a white heat for a long time—from 2 1/2 hours to 3 days.

R. O., of Mass.—The United States \$10 gold piece weighs 268 grains, 900 parts in 1,000 being gold. A grain is the same in Troy and avoirdupois weight—480 grains make an ounce Troy, and 437 1/2 an ounce avoirdupois.

C. E. P. can receive an answer to his inquiry calling for a coating for the inside of wooden pipes—impervious, without smell or taste—by addressing John S. Lipps, No. 28 Joralemon street, Brooklyn.

J. H. W., of Pa.—The experiments at Fairmount Waterworks took place in 1860. No doubt Mr. Birkenbine, Chief Engineer of water works, will give you all the information. The challenge referred to is all we know of the matter. We have no information respecting Gardinal's Technical Dictionary.

McJ. G., of Ohio.—Why will not red lead answer to protect your iron hoops from rust? It is the cheapest and simplest substance we know of.

W. M. C., of R. I.—The subject of cone pulleys has been fully treated of in the SCIENTIFIC AMERICAN. In Vol. II, new series, page 38, and in Vol. XI, page 69, you will find the information sought.

J. G. C.—The milling is done by a tool sold in all tool stores. It consists of a small steel wheel cut with the teeth and set in a jaw. When held against the work the wheel revolves and leaves the indentations which constitute the milling.

C. C. M., of Ill.—Any good force pump will raise water 345 feet. The larger you have your pipe the less friction will there be from the water passing through it; and in so long a pipe the friction consumes a large proportion of the power.

B. & Co., of Tenn.—We should not give an opinion in regard to the best lime kiln without a practical trial; and this we are not prepared to make.

J. F. D., of Pa.—The pressure on the top and bottom of a boiler is not the same, it being greatest at the bottom, by reason of the weight of the water.

S. R.—Shafting running at right angles by belts is not new. Many examples can be seen in this city.

H. M. C.—Patents are granted in England to the first applicant, who need not be the inventor.

O. S., of Ohio.—In filling a barometer tube with mercury there is considerable difficulty in obtaining a perfect vacuum. A small portion of pure mercury is boiled in the tube, and when this is cooled another portion is added and boiled; and so on until the tube is full. When the tube is filled it is inverted in a vessel of pure mercury.

D. C. L., of La.—Beeswax is bleached by exposing it in thin sheets to the sun, wind, and rain, frequently changing the surface thus exposed by remelting the wax and again reducing it to thin flakes.

S. D. E. says:—"A strange phenomenon took place here last week. An artist took a picture of a child (an ambrotype), and when he developed it there appeared in the background the head of a youth about sixteen years old. He cannot account for it, as he says the plate was a new one, never used before. I think he must be mistaken. I think he redeveloped the outlines of an old picture. Will you please let me know how it could or did occur. I want to clear up some superstitious notions in this place. Anything but superstition for me." ANS.—Your theory is correct. The plate was an old one, not absolutely clean when used. The redeveloping of an old picture in this way some times occurs in photography.

J. C. W. asks:—"How much ought a man to get for the exclusive right of a patent on perpetual motion, if he should be fortunate enough to invent it?" As much as he can.

J. F. B., of Ohio.—Iron is a better conductor of electricity than water.

R. F. W., of N. Y.—The specimen which you sent is quartz.

H. B. H.—The Patent Office Report for 1851 was not illustrated.

PATENT OFFICE.

PATENTS GRANTED FOR SEVENTEEN YEARS. MUNN & COMPANY.

In connection with the publication of the SCIENTIFIC AMERICAN have acted as Solicitors and Attorneys for procuring "Letters Patent" for new inventions in the United States and in all foreign countries during the past twenty years. Statistics show that nearly ONE-HALF of all the applications made for patents in the United States are solicited through this office; while nearly THREE-FOURTHS of all the patents taken in foreign countries are procured through the same source. It is almost needless to add that after so many years' experience in preparing specifications and drawings for the United States Patent Office, the proprietors of the SCIENTIFIC AMERICAN are perfectly conversant with the preparation of applications in the best manner, and the transaction of all business before the Patent Office.

Judge Mason, formerly Commissioner of Patents, says, in a letter addressed to us:—"In all your intercourse with the office, I always observed a marked degree of promptness, skill, and fidelity to the interests of your clients."

Ex-Commissioner Holt says:—"Your business was very large, and you sustained and justly deserved the reputation of marked ability and uncompromising fidelity to the interests of your clients."

Ex-Commissioner Bishop says:—"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."

EXAMINATIONS.—If an inventor wishes our opinion in regard to the probable novelty of his invention, he has only to send us a pencil or pen-and-ink sketch of it, together with a description of its operation. For an opinion, without examination at the Patent Office, we make no charge, but if a

PRELIMINARY EXAMINATION AT THE PATENT OFFICE

is desired, we charge the small fee of \$5. This examination involves a personal search at the Patent Office of all models belonging to the class, and will generally determine the question of novelty in advance of an application for a patent. Up to this time we have conducted over ELEVEN THOUSAND Preliminary Examinations, thus showing a more intimate knowledge of inventions at the Patent Office than can be possessed by any other person or firm.

If an inventor decides to apply for a patent, he should proceed at once to send us by express, charges prepaid, a model not over one foot in size, and substantially made. He should also attach his name and residence to the model.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

Table with 2 columns: Fee description and Amount. Includes items like 'On filing each caveat', 'On filing each application for a Patent', 'On issuing each original Patent', etc.

In addition to which there are some small revenue stamp taxes Canadians have to pay \$500.

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If an inventor wishes to apply for a patent, all he has to do is to write to us freely for advice and instruction, and he will receive prompt attention. If his invention contains any patentable features, he can depend upon getting his Letters Patent. All communications considered confidential. Send models and fees addressed to MUNN & CO., No. 37 Park Row,