

fluid, composed of the ingredients herein named, and about in the proportion as specified.

[This invention relates to a new and improved process for bleaching fibrous substances, and is more especially designed for bleaching straw and flax and hemp fibre for paper stock.]

52,251.—Machine for Silvering Wood.—John Taggart, Roxbury, Mass., assignor to himself, J. H. Lester, and Charles D. Ellis, Boston, Mass.:

I claim the combination of the annular plate, D, provided with sheet and scoring cutters, as specified, with the stationary drum, G, or its equivalent, and one or more of a series of block holders, applied to such drum, substantially as described, the whole being to operate as and for the purpose set forth.

52,252.—Apparatus for Making Aerated Bread.—Robert Luke Howard, London, England, and John Danglish, Reading, England, assignors to Steuben T. Bacon, Boston, Mass.:

We claim combining the vessels, B and C, and apparatus connected therewith, substantially as herein described. Also, the combination with a mixing vessel, B, of apparatus such as is herein described and shown for mixing the dough, reference being had to figures 2 and 6.

52,253.—Apparatus for Making Extracts.—James Miller, Upton, Canada East:

I claim the arrangement and combination, substantially as specified, of the elongated evaporator, A, the vessel, B, and the condenser, F, connected as explained, and the discharge pipe, z, the said condenser being provided with means of exhausting it of air and throwing water out of it, as and for the purpose hereinbefore explained, the whole constituting an apparatus for making bark extract as explained.

I also claim the combination as well as the arrangement of the vessel, C, the elongated evaporator, A, the vessel, B, the pipe, v, and the condenser, F.

I also claim the combination and arrangement of the partition, S, with the vessel, B, and the elongated evaporator, arranged and applied together as explained, such vessel, B, being provided with an escape pipe connected with an air-exhausting pump, or with the same and a condenser, as described.

52,254.—Machine for Setting and Distributing Printing Types.—H. W. Alden and W. Mackay, New York City:

First, We claim the conveyors, cd, in combination with the links, e16, d16 constructed and operating substantially as and for the purpose set forth.

Second, Giving to the conveyors a direct motion in the direction of the indicator points upon them by means substantially as herein described, or any other equivalent means for the purpose set forth.

Third, The method herein described of compelling the conveyors, after they have been arrested, to overtake and reassume their original position on the carrier-wheel consisting of the lever, u24, and studs, u25, as specified.

Fourth, The mechanism substantially as set forth, consisting of the arm, u39, and spring, e23, in combination with the lever, u24, and conveyors, c, or d, or any equivalent thereof, for the purpose of moving said conveyors back at the proper intervals.

Fifth, The sectional flange, u17, on the carrying wheel, J, in combination with the pin, u16, projecting from the edge of the conveyors, applied and operating substantially as and for the purpose described.

Sixth, Placing the excavated rim on the outside of the conveyors instead of on the inside, substantially as and for the purpose set forth.

Seventh, The rail, j15, applied in combination with the conveyors, c, d, and sections, u21, and indicators, e7, constructed and operating so that free access can be had to the conveyors, and the labor of making the excavated rim is reduced.

Eighth, The projections, K23 K26, on the pusher cord, K17, to operate in combination with the tilting lever, S7, and spring stops, s18 s19, substantially as and for the purpose set forth.

Ninth, The arrangement of cams, u15, on the under surface of the carrier wheel, J, to operate in combination with the levers, c20 d20, and pushers, c24 d24, substantially in the manner and for the purpose specified.

Tenth, The gripper springs, c18 d18, on the conveyors, in combination with the studs, u02 y31, and with suitable mechanism for pushing the types out of the type cases or channel, a, constructed and operating substantially as and for the purpose set forth.

Eleventh, The revolving receiver, R2, applied in combination with the carrying wheel, S, and conveyors, c, d, substantially in the manner herein specified, so that the conveyors can deposit their type without stopping.

Twelfth, The type lever, z3, with quadrants, r4, in combination with segments, w43, and indicators, e7, constructed and operating substantially as and for the purpose set forth.

Thirteenth, The latch, ya, or any equivalent device, applied in combination with the type channel, ay, and the type levers, z3, substantially as herein described, whereby the types are pressed up against the edges of the type levers, instead of pressing said levers against the types.

Fourteenth, The sliding stop, c4, in combination with the type levers, z3, and with the channel, ay, constructed and operating substantially as and for the purpose described.

Fifteenth, The dog, u4, or its mechanical equivalent, applied in combination with the mechanism for transmitting the set of the type levers to the indicators, in such a manner that the indicators which are not to act on a certain conveyor are positively held until the conveyor has passed.

Sixteenth, The apron, h4, and stud, h41, in combination with the sliding stop, c4, and type levers, z3, applied substantially as herein described, for the purpose of regulating the motion of said sliding stop, when a thin space is presented.

Seventeenth, Producing the set of the one class of conveyors from the inside and that of the other class from the outside, substantially as and for the purpose set forth.

Eighteenth, The rods, mo, with plates, Ko Kol, on one, and indicators, e7, on the opposite end, substantially as described, for the purpose of transmitting the desired set from the register wheel to the indicator points of the conveyors.

[An engraving of this really wonderful invention has been published, in No. 2 of the current volume of the SCIENTIFIC AMERICAN. The machine is too complicated to admit of an explanation without a full set of drawings.]

REISSUES.

2,149.—Gas Holder.—Martin R. Cook, Jersey City, N. J., assignor by mesne assignments of S. Hill and W. S. Wood. Patented Nov. 6, 1855:

I claim, in gas holders for locomotive purposes, dividing the vessel into two compartments by an inclosed flexible diaphragm, or the equivalent thereof, when one of the said compartments is provided with a tube or tubes to supply gas to burners, and the other is provided with a suitable aperture for the admission of air or equivalent gaseous fluid, substantially as and for the purpose described.

2,150.—Cork Hat.—A. Courlander Crondal, New York City. Patented Nov. 8, 1864:

I claim manufacturing coverings for the head of sheets composed of one or more layers of cork and one or more layers of canvas, muslin, or other textile or flexible material, substantially as herein set forth.

2,151.—Lock.—Philo S. Felter, Cincinnati, N. Y. Patented Dec. 17, 1861:

First, I claim the bar or guard, D, provided with the recess, a, in connection with the notched disks, G, spring, F, provided with the projections, o d d, and the key, H, arranged substantially as and for the purpose herein set forth.

Second, In combination with the subject-matter of the above, I claim the employment of numbered or lettered dials, by means of which the lock may be used as a burglar-proof or common lock, as desired, substantially as set forth.

2,152.—Puddling Furnace.—Philip Keenan and Edward O'Connor, West Manchester, Pa. Patented Nov. 14, 1865. Antedated Aug. 26, 1865:

We claim the use of iron ore as a fixing for puddling or boiling furnaces, when mixed with fire clay or other refractory material and used for fixing those portions of the furnace which need protection, without previous melting of the fix.

2,153.—Fix for Puddling Furnaces.—Hugh McDonald, Pittsburgh, Pa. Patented Oct. 17, 1865:

I claim the use of iron ore as a fixing for puddling or boiling furnace, when applied as a fix to those parts of the furnace which require protection, and so used without previous melting. Also the use of raw or unmetted iron ore as a fixing for puddling or boiling furnaces, when ground or pulverised and mixed into a pasty mass with water or other suitable liquid.

Also mixing raw iron ore, ground or pulverised with carbonaceous matter and made into a pasty or adhesive mass, and used as a fixing for puddling or boiling furnaces.

2,154.—Thrashing Machine.—Nelson Palmer, Hudson, N. Y. Patented May 16, 1865:

First, I claim the cylinder, h, when constructed as described, for feeding the unthrashed straw to the thrashing cylinders, as specified.

Second, The guard, g, in combination with the feeding cylinder, h, operating as specified.

Third, The corrugated, ribbed, or granulated thrashing cylinder, b, in combination with a concave or rubber, ribbed, corrugated, or granulated.

Fourth, The lever, d, or its equivalent, in combination with the concave, c, for adjusting the same, as set forth.

2,155.—Thrashing Machine.—Nelson Palmer, Hudson, N. Y., assignee of P. W. Mills. Patented Jan. 19th, 1858:

First, I claim the thrashing cylinder, D, one end thereof being of greater diameter than the other and provided with ribs of corrugation, and for the purpose specified.

Second, I claim the concave, E, when so constructed as to fit the cone-shaped thrashing cylinder, D, the parts and sections thereof being made adjustable in relation to each other, in combination with the adjustable concave, F, and apron, B, as and for the purpose specified.

Third, I claim the arrangement of the screws, k s u b, in their relation to the thrashing cylinder, D, and fan wheel, B, and operating as set forth.

2,156.—Horse Rake.—Randal Pratt, Marple Township, Pa. Patented Jan. 8, 1866:

First, I claim the method described of firmly uniting the tooth with the elongated collar, by bending and shrinking the hinging collar to the area of the tooth, substantially as described.

Second, I claim providing the elongated collar with a groove into which the tooth is shrunk, as and for the purpose described.

2,157.—Process for Preserving Eggs.—Richard S. Rhodes and Ebenezer Whyte, Chicago, Ill. Patented Dec. 12, 1865:

We claim as our invention the herein described process for preserving eggs from decay, substantially as herein specified.

5,158.—Coal Oil, Lantern.—Sumner Sargent, Watertown, Mass. (assignor through Mesne Assignments to himself, A. P. Knapp, and Edward Miller.) Patented Sept. 17, 1861:

I claim the employment of an aperture, or its equivalents, in the lantern case, through which the shaft or its equivalent of the wick regulator extends, so as to be reached outside of the lantern case, said aperture having a lot or lateral passage leading to it, for the introduction of the said shaft, or equivalent part of the wick regulator into the aperture, and its withdrawal therefrom, in the act of inserting and taking out the lantern lamp, the whole constituting an improved and complete arrangement for the wick to be regulated outside of the lantern case, and at the same time keeping it closed so as not to disarrange the draught, substantially as and for the purpose herein specified.

In combination with the above, I also claim the plate, M, or its equivalent, for covering and uncovering the passage leading to the regulator aperture in lantern case, as set forth.

I also claim the arrangement and combination of the perforations, n, in the base flange of the lamp, D, the draught collector, u, division plates, N N, perforated regulating plate, P, and guard cylinder, R, in the manner and for the purposes herein specified.

2,159.—Feed-water Heater and Filterer.—Edwin R. Stillwell, Dayton, Ohio. Patented Oct. 4, 1864:

First, I claim the depositing plates, a a a, constructed and arranged substantially as described and for the purpose specified.

Second, I claim the arrangement of the steam pipes, m and n, in reference to the plates, a a a, substantially as described and for the purposes specified.

Third, I claim the combination of the vessel, A, the plates, a a a, the plate, d, the steam pipes, m n and e, and water pipes, f and r, substantially as described.

2,160.—Feed-water Heater and Filterer.—Edwin R. Stillwell, Dayton, Ohio. Patented Oct. 4, 1864:

First, I claim the overflow box, c, the pipe, b, arranged with reference to the vessel, A, substantially as described and for the purposes specified.

Second, I claim the arrangement of the steam pipe, E, to the overflow box, c, for the purposes set forth.



H. N. S., of Mass.—Your plan for carrying cars over mountains by a series of vertical lifts, using the weight of a descending train to aid in the lift, might work in a small model, but would not probably be practicable on a large scale. The preference of Major McNeill and the other West Point engineers who built our first railroads for inclines so moderate that they could be overcome by the locomotive, has been justified by experience.

F. H. S., of Md.—You ask how many half-inch openings you may make in the steam chest of a ten horse-power steam engine, and still have it work up to ten horse-power. If you mean openings into the air, you cannot have a single one. The loss of steam would vary very materially with the location of the opening, especially if the steam chest was small; if the opening should be made in front of the current of steam and parallel with it, the loss would be greater than if the opening were made at right angles with the current.

E. B. J., of N. Y.—To tin iron; proceed as follows:—Cover the article with dilute sulphuric acid, let it stand a little, and, when clean, plunge into warm water. After this take a liquid made by dissolving a small quantity of zinc in muriatic acid, and wash the articles to be tinned. Plunge immediately into a tin bath, and out of that into hot water. If you wish to anneal the iron, keep the goods in a warm sand bath for some time—not over 40°.

G. R. E. asks:—“If an article patented in the United States is manufactured in Canada, or other foreign country, where it is not patented, can the patentee prevent the sale and use of the same in the United States? ANS.—Yes.

H. F. of Pa.—There are a number of governors which control the speed by varying the cut off. We could not decide which is best without a thorough trial of each, and must, therefore, refer you to practical men who have tried them.

M. S.—The best water wheels, and the best of everything in the mechanical line, you will find advertised in the SCIENTIFIC AMERICAN.

H. B. of N. Y.—The great advantage of plaster of paris as a lining for safes is due to its containing a large quantity of water; until this water is nearly all evaporated the temperature of the interior of the safe cannot be raised much above 212°.

R. MCA., of Mass.—You may use your exhaust steam with advantage for drying purposes, provided you exhaust into large pipes, so as to have no more back pressure than you would by exhausting into the open air.

C. B. S. of Conn.—The presence of magnetic iron ore in very large quantities may sometimes cause a deviation of the compass; excepting this there is no instrument that will indicate minerals in the earth. That water may be found by means of witch hazel is one of the delusions of ignorance.

C. E. P. says:—“I wish to correspond with some one who can furnish information in regard to a suitable material for coating the inside of wooden water pipes to render them impervious to water without making the water unwholesome. If a suitable material can be or has been discovered, a large amount will be wanted.” Any person having an invention corresponding to the above will do well to advertise the fact in the SCIENTIFIC AMERICAN.

J. A. M., of D. C., and T. R., of R. I.—In ordinary boilers it is usual to allow about nine square feet of heating surface to evaporate one cubic foot of water per hour; and this will give you about one horse-power.

H. B. N., of Mass.—You get more power with a long screw driver than with a short one by using both hands.

A. B., of Mass.—We have published twice quite recently F. Grace Calvert's plan for making leather water proof by paraffine with a “few per cent” of linseed oil.

C. D. R., of Tenn.—We know of no better materials for paint than linseed oil and zinc white, or linseed oil and white lead.

E. A. A., of R. I.—We should think white zinc paint mixed with varnish, well dried and rubbed down, would answer your purpose.

G. H. A.—We refer you to back numbers of this paper; many heaters for steamboilers are there described.

A. J. S., of Ill.—Tincture of iodine diluted with half its bulk of water is a superior liquid for brownig gun barrels.

J. M. S., of Ky.—For crossed belts leather is the best material.

A. B. C., of N. Y.—The best way to decide your query exactly in regard to the two thermometers is to try the experiment. They would not vary materially.

C. H. A., of N. Y.—A course of scientific study can be pursued at several of our universities.

J. H. G., of Md.—We gave you our opinion of the packing you speak of some time ago. It is useless.

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: On filing each caveat (\$10), On filing each application for a Patent, except for a design (\$15), On issuing each original Patent (\$20), On appeal to Commissioner of Patents (\$20), On application for Reissue (\$30), On application for Extension of Patent (\$50), On granting the Extension (\$50), On filing a disclaimer (\$10), On filing application for Design (three and a half years) (\$10), On filing application for Design (seven years) (\$15), On filing application for Design (fourteen years) (\$30).

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