

free from dirt and grease, is now to be immersed in it and allowed to stand for about three hours, when it turns perfectly black. It is then lifted out and washed well in soft water and dried in sawdust. After this it is coated with a paste of black lead used for iron stoves, and when dry it is polished with a brush. After this it may receive a thin coat of lac-varnish.

RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week. The claims may be found in the official list.

Machines for Printing Designs on Textile Fabrics.—This invention consists in imparting to the material to be printed a lateral vibrating motion, during the operation of printing, in such a manner that the printed surface assumes a watered appearance of different patterns according to the rapidity of the vibrating motion when compared with the rotary motion of the printing and pressing rollers; it consists further in the combination with the printing and pressing rollers of a vibrating roller, the lateral motion of which can be regulated by means of cranks, pattern or eccentric wheels or any other suitable device, in such a manner that the vibratory motion of the cloth or other material passing over said roller to and between the printing rollers can be regulated according to the desired pattern; it consists, finally, in the arrangement of two hinged angular levers in combination with the let-off roller, from which the fabric to be printed unwinds, and with a weighted roller, in such a manner that the pressure exerted by the weighted roller on the gudgeons of the let-off roller regulates itself according to the varying diameter of said roller and consequent increase or decrease in the power required for turning the same, and that by these means a perfectly uniform tension of the fabric, during the operation of printing, is effected. Edward Leitenberger, of Reichstadt, Kingdom of Bohemia, is the inventor of this device, but further information about it may be had by addressing the assignee, A. G. Scheller, 370 Bowery, New York.

Coloring Photographic Pictures.—The object of this invention is to enable photographic pictures on albumenized paper to be successfully colored with dry colors. Such pictures, owing to the albumenized paper not being capable of receiving dry colors without some preparation, and no perfectly suitable preparation having been heretofore known, are commonly colored with water colors, and this can only be done successfully by skillful artists so as to bear the close inspection to which such pictures are subject. This invention consists in the use of collodion as a medium for receiving dry colors on such pictures. James F. Bodtker, of Madison, Wis., is the inventor of this improvement.

Direct-acting Engine.—The object of this invention is to arrange the main valve of a steam cylinder in such a manner that the steam is changed and a full head of steam admitted as soon as the piston arrives at the end of its stroke, and that the engine will pass the dead points without the aid of a balance wheel. The invention consists in the employment, in combination with the ordinary slide valve, of a secondary steam cylinder provided with a slide valve in such a way that by the action of said secondary cylinder the main valve is suddenly thrown from one end of the steam chest to the other, before the piston of the main cylinder arrives at the end of its stroke, and that by these means the steam is changed and a full head of steam admitted to reverse the motion of the piston without the aid of a balance wheel. The motion of the slide valve of the secondary cylinder is governed by the action of cams and by the motion of the secondary cylinder. Louis Winterbauer, of New York City, is the inventor of this engine.

Railroad Car Brake.—The object of this invention is to obtain a car brake by which all the brakes of a series of cars comprising a train may be operated simultaneously by the engineer, and the brakes made to act with an equal or uniform pressure on all the wheels of the several cars; the invention, at the same time, admitting of a brakeman applying the brakes at either end of a train after the locomotive

is detached. Joseph Hough, of Buckingham, Pa., is the inventor of this improvement.

Revolving Fire-arm.—The principal object of this invention is to provide for the loading of a revolving fire-arm with metallic cartridges carrying their own priming in hollow flanges projecting circumferentially around their rear ends without having the revolving cylinder of the arm open at its rear end; and hence it consists in the construction of a revolving fire-arm with a number of independent movable chambers fitted to slide longitudinally within openings in the sides of the revolving cylinder; it also consists in the employment, in combination with such a system of movable chambers, of a stationary piston secured to the frame of the arm for the purpose of expelling the discharged cartridge shells from the said chambers by a forward movement of the chambers from the cylinder. F. P. Slocum, of Brooklyn, N. Y., is the inventor of this fire-arm.

SECONDARY GOVERNMENT FEES ON PATENTS.

We would call the attention of patentees to the annexed amendment of the Patent Laws, enacted March 3, 1863:—

Every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent; and if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor: Provided, that in all cases where patents have been allowed previous to the passage of this act, the said six months shall be reckoned from the date of such passage.

From the above it will be seen that it is incumbent on every patentee to pay the second Government fee within six months after a patent is allowed, or else it will become public property and the inventor will be deprived of the patent.

THE BIBLIOTHECA SACRA. Published by Warren F. Draper, Andover, Mass.

This theological review for April contains nine essays on different subjects, viz: "The Roman Empire and Christianity;" "Buckle's History of Civilization;" "The Old School in New England Theology," &c. The *Bibliotheca Sacra* is very cosmopolitan in an evangelic sense, and is exceedingly candid in controversy. Its essays are not dry "marrowless treatises," like those of the old schoolmen, nor are they flippant, like those of too many modern writers on such topics, but they are usually brilliant, acute and learned.

Binding the "Scientific American."

It is important that all works of reference should be well bound. The *SCIENTIFIC AMERICAN* being the only publication in the country which records the doings of the United States Patent Office, it is preserved by a large class of its patrons, lawyers and others, for reference. Some complaints have been made that our past mode of binding in cloth is not serviceable, and a wish has been expressed that we would adopt the style of binding used on the old series, i. e., heavy board sides, covered with marble paper and morocco backs and corners. Believing that the latter style of binding will better please a large portion of our readers, we shall commence on the expiration of this present volume to bind the sheets sent to us for the purpose in heavy board sides, covered with marble paper and leather backs and corners. The price of binding in the above style will be 75 cents. We shall be unable hereafter to furnish covers to the trade, but will be happy to receive orders for binding at the publication office, 37 Park Row, New York.

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PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty 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. We can also furnish a sketch of any patented machine patented since 1833, to accompany the claim, on receipt of \$3. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

Models are required to accompany applications for Patents under the new law, the same as formerly, except on design patents when two good drawings are all that is required to accompany the petition, specification and oath, except the Government fee.

NEW PAMPHLETS IN GERMAN.—We have just issued a revised edition of our pamphlet of *Instructions to Inventors*, containing a digest of the fees required under the new Patent Law, &c., printed in the German language, which persons can have gratis upon application at this office. Address MUNN & CO., No. 37 Park-row, New York.



ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING APRIL 14, 1863.

Reported Officially for the Scientific American.

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

38,130.—Metallic Hoop.—J. L. Alberger, Buffalo, N. Y.: I claim a hoop for barrels, casks, tierces or other vessels made of staves, having one or more corrugations or creases in it, for the purpose herein described.

38,140.—Manufacture of Steel.—Charles Attwood, Tonlaw Iron-works, Durham county, England. Patented in England May 15, 1862: I claim the production or manufacture of steel and iron of a steely quality, substantially as hereinbefore described and set forth.

38,141.—Screw.—J. A. Ayres, Hartford, Conn.: I claim a screw, A, with a dovetailed slot, a, as and for the purpose set forth.

[This invention consists in the arrangement of a dovetailed slot in the head of a screw, in such a manner that the edges of said slot afford a good and firm hold to the screwdriver, and that said slot is not liable to wear out and cause the screwdriver to slip.]

38,142.—Provision-cooler.—J. W. Bartlett, New York City: I claim a cooler or refrigerator consisting of the provision chamber, T, air and water chamber, S, ice box, H, hollow tubes, O O, when arranged substantially as and for the purposes specified.

38,143.—Station and Street Indicator for Railroad Cars. Alexander Bertier, Hannibal, Mo.: I claim the endless band with a star or pointed wheel attached to one of its rollers or the shaft thereof, and a projection at the side of the track or road to actuate said wheel, in combination with a bell, combined striking-hammer and stop, and the pins or rods, b, the latter being attached to the roller aforesaid, and all arranged to operate substantially as and for the purpose herein set forth.

I further claim the weight, I, applied to one of the rollers of the endless band, when used in combination with the other parts of the band-moving mechanism, for the purpose specified.

[This invention consists in the employment or use of an endless band having the names of the stations or streets marked upon it and placed within a suitable case inside the car, in combination with a bell, a combined bell-hammer and stop, and a band moving mechanism, whereby the several stations or streets will be indicated, as they are reached, to the passengers in the car, and an alarm sounded so as to direct the attention of the passengers to the indicator.]

38,144.—Coloring Photographs.—J. F. Bodtker, Madison, Wis.: I claim the use of collodion as a medium for receiving dry colors on photographic pictures on albumenized grounds, substantially as herein described.

38,145.—Churn Dasher.—A. C. Brown, Sycamore, Ill.: I claim the churn dash, constructed and operating substantially as and for the purposes set forth.

38,146.—Carbon Plate for Galvanic Batteries.—C. T. Chester, New York City: I claim, in combination with a carbon element of a galvanic battery, a gold or platinum connection imbedded in the carbon during the process of manufacture of the carbon element, substantially as described.

38,147.—Cork-drawer.—Chas. Chincock, Brooklyn, N. Y.: I claim the combination of the ratchet cap, a, the loose snail-like cam or screw, b, and the corresponding cam or screw, c, with the independent worm and pillar, d, all operating together for the purpose set forth.

38,148.—Chuck for Lathes.—J. Christman and Wm. Gillfillan, Syracuse, N. Y.: We claim a chuck, constructed, arranged and operated as described, that is to say, having the sliding pins or dogs, L, working in the radial dovetail grooves, in the outer casing wheel, in combination with projections, O, working in the eccentric grooves in the face of the inner wheel or disk, J, when said wheel or disk, J, is operated by means of the tangential screw, H, the several parts being constructed, arranged and operated in the manner described, for the purpose specified.

38,149.—Lamp.—G. F. J. Colburn, Newark, N. J.: I claim the reservoir, A, having the arms or projections, a and b, so formed and combined with it, as to support and supply with oil more than one burner, simultaneously, as specified.

I claim the application of the cap between the burners for the object specified.

38,150.—Lamp Chimney.—G. F. J. Colburn, Newark, N. J.: I claim the method of connecting a tube with a lamp or gas burner by means of a fixture made and attached as described, so that it may be combined with or removed from a glass globe or other transparent device protecting the flame, substantially in the manner and for the purpose specified.

38,151.—Mast for Navigable Vessels.—Cowper P. Coles, Southsea, England. Patented in England, April 10, 1862: I claim the construction of masts for vessels of tubes of steel or iron, in the manner and for the purposes substantially as set forth herein.

38,152.—Evaporating Pan for Sugar Juices.—D. M. Cook, Mansfield, Ohio: I claim, first, The arrangement of a zig-zag steam coil, constructed substantially as described, within the ledges of an evaporator pan which allows the juice to flow continuously in an indirect course, as against the impurities and also keeps the juice comparatively cool on side of the steam coil, substantially as and for the purposes described.

Second, The combination of the steam coil metal bottom, partitions, wooden ends and wooden bottom, in the manner and for the purpose described.

Third, The manner of suspending the coil.

38,153.—Cylinder Polisher.—George Cowing, Seneca Falls, N. Y.: I claim a cylinder polisher composed of the stem, D, springs, A, and rubbers, B, constructed substantially as set forth.

38,154.—Steam Radiators.—R. T. Crane, Chicago, Ill.: I claim, first, Constructing the base, A, of a steam radiator of two or more chambers, and connecting the said chambers by the vertical U-shaped pipes, B, when arranged and operating substantially as and for the purposes delineated and set forth.