

Movement of Troops.

Every day witnesses the departure of troops from this city. Colonel Duryee's regiment of Zouaves, which was reviewed on the 23rd ult. with so much favor, is now quartered at Fortress Monroe, under command of General Butler. This regiment is made up of brave, determined men, and under command of the gallant Duryee will do service that will make the country proud of them. The Eighth Regiment (German rifles), composed of 1,046, under command of Colonel Blenker, went to Washington on the 27th. The officers are men who have had much experience upon the battle fields of the old world. Colonel Blenker was in the Grecian army, and took part in many battles, particularly those of Achino and St. Marino, after which engagements King Otho promoted him to a place upon his staff, and presented him with medals of honor; he was subsequently commander-in-chief of the army of the revolution. He has a thorough military education, and is regarded as one of the best soldiers now in the field. The uniform of this company is admirable, consisting of gray pants, and a loose gray coat, with a short belt, by which it can be tightened or loosened about the waist at pleasure, and they are armed with Sharp's rifles. A corps of sappers and miners preceded the soldiers, provided with axes, spades, picks and other tools likely to be needed in this department, and a long leather apron. They have two ambulances and about eight horses, some of which belong to the officers. Each company has two portable cases containing bandages, lint, plasters, chloroform, and other articles necessary for hospital use. A large body of citizens escorted the regiment to the depot at Jersey City, where they took the cars for Washington, singing a German song of departure for the wars, as the long train moved off.

The Ninth Regiment, under command of Colonel Styles, which, as regards physical ability, moral training and intelligence, is not to be excelled by any in the Constitutional army. It is composed of over 800 men. This regiment started for Washington at the same time with Colonel Blenker's, the whole force occupying thirty-seven cars.

The Garibaldi Guard departed for Washington on the 28th. This regiment is composed of foreigners, a very large proportion of whom have seen service. It is commanded by Colonel d'Utassy, an experienced and able officer, who has served, as well as most of the other officers, in the wars of Hungary, Italy and the Crimea.

Colonel Bartlett's Naval Brigade consists of over one thousand men. This brigade was ordered to Fortress Monroe on the 29th to co-operate with General Butler in the approaching demonstration upon Norfolk.

REGIMENTS IN THIS CITY.

On the 27th ult. there were quartered in this city the following regiments:—

Naval Brigade, Colonel Bartlett; Excelsior Brigade, General Sickles; Empire City Regiment, Colonel Sheehan; Thirty-sixth (Conaught Rangers), Colonel McCunn; Anderson Zouaves, Colonel Ricker; British Volunteers, Lieut. Colonel Torre; President Guards, Colonel Goodwin; Imperial Zouaves, Colonel Merritt; Washington Volunteers, Colonel Innes; Second Regiment Fire Zouaves; Mozart Regiment, Colonel Cocks; Tammany Regiment, Colonel Kennedy; Third Regiment, Colonel Townsend; Fourth Regiment, Colonel Taylor; Sixth Regiment, Colonel Wilson; Ninth, Colonel Hawkins; Tenth, Colonel McChesney; Fifteenth, Colonel McLeod Murphy; Seventeenth, Colonel Lansing; Twentieth, Colonel Weber; Twenty-fifth, Colonel Kenyon; Twenty-ninth, Colonel Steinwehr; Thirty-first, Colonel Pratt; Thirty-fourth, Colonel Mathewson; Thirty-eighth, Colonel Ward.

These regiments are rapidly preparing to take the field. They will constitute, when fully equipped, a more formidable army than the government has hitherto employed in times of peace. General Sickles' brigade is to embrace ten thousand men.

VALUE OF A MOUSE TRAP.—A correspondent—R. T. Martin, of Winona, Minn.—in a letter to us, says:—"On page 115, Vol. 12 (old series), SCIENTIFIC AMERICAN, there is an account given of a cheap mouse trap, which consists of a pipe-bowl filled with cheese and placed under the edge of a tumbler. This alone has been worth to me, more than all I have paid for your paper, which I have taken for eight years."

RUSSIAN PACIFIC TELEGRAPH.—The plan for establishing a telegraphic line connecting Europe, through Siberia, with the Pacific ocean, has been undertaken by the Russian Ministry of Marine. It is expected that the entire line from St. Petersburg to the Pacific will be completed in five years.

WELLS' FIRST PRINCIPLES OF GEOLOGY.—The inquiry is often made of us, what book we can recommend to students and others who are desirous of acquiring an elementary knowledge of geology. Having had an opportunity of thoroughly examining a work recently published by Messrs. Ivison & Phinney, of this city, the title of which we give above, we are able to answer the question to our utmost satisfaction. The author, Mr. David A. Wells, is well known to the public, especially to those interested in school books, for his admirable works on chemistry and natural philosophy, and also as the editor of the "Annual of Scientific Discovery." The work in question cannot fail to enhance his reputation. This subject of geology, usually so obscure to a beginner, he has treated with the utmost simplicity, and yet with great thoroughness, avoiding as much as possible the use of dry technicalities and minute discussions. The applications of the subject to the arts and every day life are also fully noticed, which give to the book a freshness and interest, and render it exceedingly attractive. The illustrations are numerous, and different entirely from the old stereotyped pictures which have been doing duty for years. For elementary instruction we cordially recommend this work as by far the best of any before the public; advanced students who are desirous of posting themselves respecting the latest views and theories in geology will find it exceedingly interesting and valuable for reference.



ISSUED FROM THE UNITED STATES PATENT OFFICE
FOR THE WEEK ENDING MAY 14, 1861.

Reported Officially for the Scientific American.

. Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 4, 1861, 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.

1,266.—John A. At, of Waterbury, Conn., for an Improvement in Latch Bolts:

I claim the latch, B, in connection with the cylinder, C, provided with the hole, e, rod, E, with spring, g, applied, and the cross bar, F, when arranged to operate as and for the purpose set forth.

[The object of this invention is to obtain a combined lock and latch of very simple construction and one that may be economically manufactured. The invention consists in applying to an ordinary slide latch a locking cylinder, spring, rod, and a cross-bar, whereby the desired results obtained.]

1,267.—Charles Askam, of Philadelphia, Pa., for an improvement in Children's Carriages.

I claim the car-shaped springs, G, G', the body, H, the rear axle, E, and cross bar, C, when constructed, arranged and combined, as and for the purpose set forth.

1,268.—Henry Benton, of Guilford, Conn., for an Improvement in Children's Flying Tops;

I claim the employment or use, in combination with a spinning top, of spiral flanches, B, so applied as to give the top a rising and falling movement, simultaneously with its rotating one, substantially as set forth.

[This invention consists in providing a spindle with a series of spiral flanches, in such a manner that, by rotating the spindle by means of a top-cord, the flanches will cause the spindle to rise or ascend a certain distance before it comes in contact with the ground or floor, thereby combining a rotary and an elevating movement which greatly adds to the amusement of spinning tops.]

1,269.—L. S. Bundy and L. F. Edgerson, of Hyde Park, Vt., for an improvement in Corn Shellers.

We claim the construction and arrangement of the feeder, D, spring, d', uprights, D', and E, with cogs, d, as and for the purpose set forth.

1,270.—L. C. Chase, of Boston, Mass., for an improved mode of straining Sleigh Bells.

I claim constructing a sleigh bell with two shanks, a, a, and a hole between them, and confining it to the strap by means of a single rivet passing through the strap, between said shanks, and headed down inside of the bell, substantially as described and for the objects specified.

1,271.—Ira Cooper, of Saybrook, Ohio, for an Improvement in Cultivators:

I claim the special arrangement of the adjustable mold-board, F, in combination with the mold-boards, A, A', space, A', coulters, L, and braces, F, O, M, N, when arranged in the manner and for the purpose set forth.

1,272.—N. T. Edson, of New Orleans, La., for an Improved Wheelwright's Machine:

I claim the combination of the form or stand, L, G, 4, bolt, B, head piece, I, ring, 5, and supporting tube or thimble, A, constructed and operated substantially as described.

1,273.—W. T. Clement, of Northampton, Mass., for an Improvement in securing Handles to Hoes:

I claim the fixing of handles to hoes and other tools by the combination of the screw shank, B, which is a combination of the tool itself with the tapering socket, C, and perforated and tapered handle, D, so that the tool is fixed to both, C and D, substantially in the manner and so as to possess the advantages set forth.

1,274.—J. P. Ellicott, of Washington, D. C., for an Improvement in Apparatus for Irrigating Streets:

I claim the cap, c, with its concave sides, f, f, for the purpose of flattening the water issuing from the jets or perforations, b, b, thereby conforming the same to the arch of the street, and at the same time

servicing as a protection to the pipe, E, and perforations, b, b, as set forth.

Second, in combination with the above, I claim the perforated pipe, B, for the purpose and use expressed.

1,275.—S. M. Fales, of Baltimore, Md., for an Improvement in Refining and Smelting Furnaces:

I claim extending one or more of the arches, A, of the furnace, B, D, constructed as set forth in my patent dated Feb. 8th, 1859, and having the said extended arch or arches communicate by a flue with an auxiliary stack or chimney, or with a series of auxiliary stacks or chimneys, C, substantially as and for the purposes set forth.

1,276.—S. M. Fales, of Baltimore, Md., or an Improvement in Refining and Smelting Furnaces:

I claim, first, the combination with my improved patented furnace, bearing date Feb. 8, 1859, of a puddling chamber, D', a secondary draft chimney or stack, F, and a division wall, E, with draft passage, b, through it, substantially as and for the purposes set forth.

Second, the combination with the puddling chamber, D', perforated division wall, E, draft chimney, F, stack or cone, D, of the furnace, patented to me and bearing date Feb. 8th, 1859, of a return pipe or passage, G, substantially as and for the purposes set forth.

1,277.—I. J. Fearing, of South Weymouth, Mass., for an Improvement in Button-Hole Cutters:

I claim a supplemental cutting blade, A, constructed substantially as described, and applied to a pair of scissors, to operate substantially as and for the purpose set forth.

[See engraving in this number.]

1,278.—Joseph Forrest, of New York City, for an Improvement in Machines for Breaking Sugar:

I claim the combination of two grooved rollers, B, and E, working together, one of which is grooved lengthwise, the other circumferentially on its periphery, and one or more pairs of rollers arranged with leath, the whole arranged substantially as and for the purpose set forth.

1,279.—J. S. Gauson and C. T. Coit, of Buffalo, N. Y., for an Improvement in Fire Places:

First, We claim so constructing the fire back, B, as that it will extend upward and above the mouth of the chimney and then downward and forward, as shown at b', with semi-circular bend, b2, receding again upwardly as shown at b3, for the purposes and substantially as described.

Second, Said fire back being constructed substantially as described, we claim in combination and arrangement therewith the jacket, N, for the purposes set forth.

Third, We claim the combination of the tube or air chamber, L, with the recess, D, as and for the purposes set forth.

2,280.—John S. Getchell, of Machias, Me., for an Improved Combined Capstan and Winlass:

I claim the combination with the vertical capstan herein described of the box, C, gear wheels, F, f, shafts, G, G', drum, J, and movable standard, K, all arranged and operating substantially as and for the purposes set forth.

[This invention relates to the combination with a ship's capstan of a winlass so that either one or the other may be employed, as occasion requires.]

1,281.—D. F. Goodhue and E. H. Carey, of Cincinnati, O., for an Improvement in Wheel Carriages:

We claim the combination herein described of the spokesless rings, G, grooved supporting wheels, B, axle, C, grooved guide rollers, H, H', H'', and springs, F, the whole being constructed, arranged, and operating in the manner and for the purposes set forth.

1,282.—W. C. Grimes, of Philadelphia, Pa., for an Improvement in City Railroads:

I claim the double track, C and D, constructed substantially as described and for the purpose set forth.

1,283.—F. R. Grumel, of Geneva, Switzerland, for an Improvement in Photographic Albums:

I claim, first, the construction of leaves for albums for collection of photographic or lithographic proofs, engravings or other drawings, with an opening or frame on each side, so that two proofs, engravings, or drawings may be inserted back to back, thereby showing one on either side, substantially as shown and described.

Second, The formation of leaves for photographic or other album by combining with a front and back framing leaf a center leaf recessed and of such thickness as that when containing one or two photographic cards, they shall be flush with the general surface of the leaf, as specified.

Third, The construction of leaves for photographic or other album, by pasting or otherwise permanently fixing the front and back framing leaf on to the center leaf on three sides thereof, leaving one side open and free for the insertion of photographic cards or drawings, as described.

Fourth, In combination with leaves constructed and arranged as described, I claim the filling piece for closing the gap formed for the ready insertion of the photographic cards, between the framing leaves substantially as specified.

1,284.—James M. Hicks, of Boston, Mass., for an Improvement in Erasers:

I claim, first, Providing the eraser blade with an independent back made of bone, rubber, ivory, wood, or other suitable animal or vegetable substance or substances, separate, or combined, essentially as and for the purpose or purposes set forth.

Second, Forming an independent supporting and burnishing back to the blade by extending the handle which carries the latter, substantially as described.

Third, Uniting the blade with the handle by inserting it in a cross-cut slot in the end of the handle, in combination with riveting or holding it by pins to the independent back formed by extension of the handle, essentially as specified.

Fourth, The combination with an erasing blade of metal or its equivalent and handle thereto, of an india rubber eraser or burnisher, as set forth.

1,285.—J. J. Hirschbuhl, of Louisville, Ky., for an Improvement in Locks:

I claim, first, The employment or use of the latch-bolt, E, when combined with tumblers, G, G', one or more, a catch, H, and a nosing, D, provided with a slot, a, arranged as and for the purpose set forth.

Second, The slide bolt, K, when used in connection with the latch bolt, E, tumblers, M, N, dog, L, and the rod, O, on the latch bolt, E, as and for the purpose specified.

[The object of this invention is to obtain a lock that will be burglar proof, or unpickable, and still be simple in arrangement and economical to construct.]

1,286.—C. C. Hoff, of Poughkeepsie, N. Y., for Mastic Composition for Roofing:

I claim the described composition of gas tar, treated and prepared in the manner specified, black oxyd of manganese, boiled plaster of Paris, alum, and a calcined charcoal, mixed together in the manner and about in the proportion stated, and applied to the canvas, substantially as and for the purpose set forth.

1,287.—H. S. Holmes, of Lynn, Mass., for Improvement in Congress Gaiters:

I claim securing the upper edge of the cloth of the front and heel parts of a Congress gaiter top to their respective linings by an inside seam, b, figs. 8 and 11, when such seams are used in connection with gores of elastic cloth attached to the gaiter top and lining, by a seam common to all, the whole being effected in the manner described and for the purposes set forth.

1,288.—Nelson Homes, of Leona, N. Y., for an Improved Broom Clasp:

I claim the combination of the bars or slips, A, A, A, and bands, L, L, in their application to brooms and brushes, as described, the whole being arranged and operating substantially as and for the purpose set forth.

1,289.—B. B. Hotchkiss, of Sharon, Conn., for Improved Projectile for Rifled Ordnance:

I claim, first, The arrangement of the inclined surfaces or cones, B, and f, and the cylindrical portion, a, in connection with the ring of soft metal, D, placed between B and f, substantially as and for the purpose specified.

Second, I claim the employment of a quantity of lubricating material, E, within proper recesses in the body of the projectile and in front of the belt, D, so arranged that a portion of the whole shall be forced out to lubricate the bore, by the action of the metal ring, D, or its equivalent, substantially as specified.

Ninth, Combining the axis pin, I, of the cam by which the forward longitudinal movement of the cylinder is produced, with the movable side plate of the stock, by means of the countersunk hole in the said plate, and the screw, 20, passing through the said plate and screwing into the said pin, substantially as and for the purpose described.

Tenth, Making the locking and stop notches, i, in the periphery of the rear journal of the rotating cylinder, substantially as described.

[This invention consists in certain improvements in the means of obtaining a longitudinal movement of the many-chambered cylinder, for the purpose of forcing it tightly up against the barrel, to make a tight joint therewith at the time of firing, and of drawing it back out of contact therewith previous to its rotary movement. It also consists in certain improvements in the mechanism for effecting the cocking of the hammer, and the rotation and stoppage of the cylinder, and in the mode of applying the trigger.]

1,330.—Moses Ducharme (assignor to himself and George Ducharme), of Cohoes, N. Y., for an Improvement in Locks:

I claim the combination of the latch bolt, A, shackle, B, escutcheon, C, and spring to roller and escutcheon spring, D, J, all constructed and arranged substantially as shown and specified.

And I also claim the construction of the front plate, E, with notched lugs, y, and the back plate, h, with corresponding slots, z, as and for the purposes set forth.

1,331.—C. H. Leffingwell, of Providence, R. I., assignor to himself and P. B. Carpenter, of North Providence, R. I., for an Improvement in Boot Legs:

I claim a boot leg constructed of the pieces, A, D, F and E, cut in the shape represented in the drawings, with the elastic pieces, G, G, introduced in the manner and for the purposes set forth.

[The object of this invention is to obtain a close, stocking-fitting boot leg which may be cut to fit any sized or shaped leg, and to give ease in putting on a boot, and also to effect a great saving in stock.]

1,332.—C. O. Luce (assignor to himself, I. M. Strong and I. F. Eastbrook), of Brandon, Vt., for an Improved Washing Machine:

I claim the arrangement of the racks, j, pinions, i, shaft, E, and rollers, l, with the stems, k, pounders, m, shaft, D, and gearing, f, g, e, B, all as shown and described, for the purposes set forth.

[This invention consists in the arrangement of a tub rotated by means of a toothed ring at its bottom and on its outside, in combination with a series of rising and falling pounders arranged in the interior of the tub, and on one side of the same, in such a manner that, by the rotary motion of the tub, the clothes contained in the same are successively exposed to the action of the pounders.]

1,333.—George Murray (assignor to himself and Sarah H. Hilbert), of Cleveland, Ohio, for an Improvement in Water Elevators:

I claim, first, The circular spout, N, in combination with the double oblique valves, L, L', when the same are constructed, arranged and operated as and for the purpose set forth.

Second, I claim the arrangement of the pulleys, C, D, for the purpose of compressing the rope in order to prevent its slipping, as specified.

1,334.—Joseph Neumann (assignor to G. W. Robertson), of Philadelphia, Pa., for an Improvement in Hydrants:

I claim the case or guard, B, in combination with the upper end of the barrel of a hydrant cock, the said case or guard being constructed and applied to the cock, substantially in the manner described and for the purpose specified.

1,335.—John Range (assignor to J. and E. Parker), of Meriden, Conn., for an Improved Thumb Latch:

I claim the slide bolt, B, attached to a frame or plate, A, and provided with a spring, a, and the central bow-shaped part having double-beveled surfaces, b, b', in connection with the thumb piece, D, and with or without the bottom, G, as and for the purpose set forth.

[The object of this invention is to obtain a simple and economical thumb latch which may be applied to either a right or left hand door and be capable of being locked or buttoned at the side of the door on which the slide bolt of the latch is placed.]

1,336.—S. Roberts (assignor to himself and Alfred Adams), of Cleveland, Ohio, for an Improved Barrel:

I claim the making of the cylinder part of barrels of a volute piece or pieces, having core or wedge-shaped pieces cut from each end, as described, for the purpose of forming the proper bulge to the body of the barrel, in the manner set forth and described.

1,337.—W. D. Wood, of Wilmington, Del., assignor to A. Wood, of Philadelphia, Pa., for an Improvement in the Manufacture of Sheet Iron:

I claim, first, Removing the scales of oxide of iron from the plate of iron in the manufacture of sheet iron, by annealing it and then passing it successively between corrugated and plain rolls or presses, substantially as described.

Second, The coating of the plates of iron with graphite or plumbago, or other carbonaceous matter, ground in oil prior to the finishing process, in the manner and for the purpose substantially set forth.

Third, The coating of the rolls with graphite or plumbago, or other carbonaceous matter ground in oil, for the purpose of finishing the outer surfaces in the manner described.

1,338.—L. L. Miller, of Jersey Shore, Pa., for an Improved Washing Machine:

I claim, first, The arrangement of the rubber, E, handle, H, slides, I, studs, b, volute springs, K, and hand lever, J, the whole being constructed, combined and operated in the manner and for the purpose shown and explained.

Second, The combination and arrangement of the boxes, L, L, rollers, D, D, and tub, A, constructed and applied in the manner and for the purposes shown and explained.

RE-ISSUES.

78.—F. J. Seymour, of Waterbury, Conn., assignor to the Waterbury Brass Company, for an Improvement in Making Brass Kettles. Patented May 13, 1856:

I claim, first, The production of kettles and articles of similar character, by the combined processes of stamping, to produce a preliminary shape and spinning to complete the ultimate or finished form, substantially as described.

Second, I claim the new method or process, substantially as described, of stamping up vessels by a mode of operation in which the bottom is stamped up first and the sides are then formed or drawn in successive lengths by means of dies, substantially as set forth; and this I claim whether the vessel be entirely finished by this new stamping process, or whether it be completed by a spinning process, subsequent thereto.

79.—J. R. Robinson, of Boston, Mass., for an Improvement in Steam Boiler Furnaces. Patented March 5, 1861:

I claim, first, The gas-mixing chamber, B, constructed in the rear of the bridge well, C, with a covering arch, F, and openings, d, d, in the said arch, substantially as described.

Second, Providing a boiler furnace with one or more trunks, e, or equivalent independent outlets from the fire chamber for the exit of the lighter gases of combustion, substantially as specified.

Third, The combination of one or more trunks, e, with a gas-mixing chamber, B, substantially as specified.

80.—John Brayley, of Buffalo, N. Y., administrator, and Mary Pitts, of Buffalo, New York, administratrix, of the estate of John A. Pitts, deceased, late of said Buffalo, for an Improvement in Horse Power. Patented July 4, 1854:

I claim, first, So combining an internal gear main driving wheel with two pinions working at diametrically opposite sides thereof, as that the said main wheel may move in a direction transverse to that of a line drawn through said pinions for the purpose of allowing said main wheel to automatically adjust itself to said pinions, substantially as and for the purpose set forth.

Second, Hanging the pinions of a double-gear horse power in adjustable bearings, so that they may be set close mesh with the main or master wheel, substantially as described.

Third, In so combining the pinions and bevel wheels upon one shaft in pairs, and supporting them in adjustable bearings, as that their

shafts may be kept in a perpendicular position, whilst the two gears are made adjustable to the respective wheels that they mesh with, substantially as described.

EXTENSIONS.

Anson Atwood, of Troy, New York, for an Improvement in Cast Iron Wheels for Railroad Carriages. Patented March 20, 1847; re-issued June 9, 1857:

I claim the connecting of the rim of the wheel with the hub in cast iron car wheels by means of two curved plates, starting from near the ends of the hub and joining at a part of the distance between it and the rim, thus forming a hollow ring or arch around the hub, and joining said ring with the rim by a single plate, or its equivalent, for the uses and purposes set forth.

Anson Atwood, of Troy, N. Y., for an Improvement in Cast Iron Wheels for Railroad Carriages. Re-issued Sept. 22, 1857:

I claim connecting the rim of a wheel cast in one piece with a solid hub by means of a single waved plate, in combination with the dished flange or flanges of the hub, forming a ring concentric with the rim of the wheel, substantially as described, whereby the several parts can yield to the unequal contraction in all directions without serious strain of the metal.

Anson Atwood, of Troy, N. Y., for an Improvement in Cast Iron Wheels for Railroad Carriages. Re-issued Sept. 22, 1857:

I claim a cast iron disk, corrugated in the manner substantially as and for the purposes described, when used in connection with the chilled rim of a cast iron wheel.

P. W. Gates, of Chicago, Ill., for an Improvement in Dies for Cutting Screws. Re-issued May 7, 1847:

I claim the forming of such dies of one solid block, in such manner as that they shall cut a perfect screw by the once passing of it along the piece to be cut, this being effected in the manner set forth, that is to say, by the forming of acute cutting edges on the threads within the die, which threads are to be regularly reduced in light from the upper to the lower face thereof, at which part the last terminating thread is obliterated, and by the filing away of a large portion of the threads, as shown at B, and by the curves, e, m and f, m; the cutting edges being also furnished with throats for the escape of the cuttings, as made known and represented, and the whole apparatus being arranged, combined and operating substantially in the manner and for the purpose set forth.

DESIGN.

Garretson Smith and Henry Brown (assignors to Liebrandt & McDowell), of Philadelphia, Pa., for a Design for Cooking Stoves.

NOTE.—The number of patents issued on the 14th of May, and reported above, amounts to seventy-one; out of this number, TWENTY-SEVEN were secured through the Scientific American Patent Agency.



R. W., of N. Y.—The centrifugal gun of Robert McCarty, of this city, which has recently been brought prominently before the public, was patented on the 1st of December, 1838. The patent has therefore expired. D. J. Martin, of Louisville, Ky., obtained a patent for an improvement on this gun on the 3rd of August, 1840.

O. C. K., of Conn.—Bronzing powders are mostly made in Germany, from compositions of tin. You may use them mixed with any varnish, then burnish them when dry, or you may put on the varnish first, and dust the powder on the top.

C. O. G., of Wis.—You can make your floor perfectly water-tight by placing a cement in the same, composed of white lead and powdered glass. Or, if you cannot obtain powdered glass, use dry-slaked lime as a substitute. It must be allowed to dry perfectly before you use water to wash it. The cement should be applied about the consistency of putty.

J. M. H., of N. Y.—A very good cement for fastening glass standards into wooden frames is composed of a strong solution of glue and plaster-of-paris, or fine chalk. Dissolve the glue in water, then add the plaster until the composition is of the proper thickness. Apply this cement quickly, as it dries rapidly.

H. S., of Mass.—In our description of firing with Hotchkiss' shot, wherein it is stated that the iron cannon used was 2½ inches bore and 4 inches long, there is a misprint. It should have been 4 feet long.

J. A., of Ill.—Puddled steel is allowed to be at least twice as strong as cast iron. We know not where you can obtain castings of this metal, varying from five to twenty-five pounds in weight. In all likelihood you can obtain malleable iron castings of all sizes in Chicago.

W. de S., of Pa.—Address the Secretary of the Navy for a copy of the Report of Naval Engineers.

T. McEl. H., of Wis.—A metal roof, if put on properly, is certainly better than one of cement. A good cement roof, however, is made by taking equal quantities of tar and asphalt, boiling them together for one hour at least, then stir in some perfectly dry, sifted lime until it becomes of the proper thickness. Put it on hot upon felt or thick tar paper, and cover the whole with dry sand and fine gravel. Lay it on in successive coats of about three square yards at once, and beat the gravel on the top with a shovel.

W. J., of Cal.—On page 275, Vol. X. (old series), of the SCIENTIFIC AMERICAN, you will find a recipe for destroying red ants. Take a large sponge, wet it, then squeeze out the water, and sprinkle some powdered sugar over it so as to fill the pores. Now place it in the vicinity of the ants' nests, and in a short period it will be filled with the insects, when it should be lifted and plunged into a vessel of boiling water. Pursue this system persistently, and you will ultimately rid your premises of these pests.

L. K., of Pa.—A preparation of india-rubber and cork, called "kamptulicon," was experimented with as a protective coating for iron ships in 1850. You will find a brief description of these experiments on page 62, Vol. VI. (old series), of the SCIENTIFIC AMERICAN.

H. S., of Mass.—A 12-pound rifled cannon shot measures 3¼ inches in diameter at the base, and is conical shaped.

W. W. B., of Pa.—We have received a great many communications on the subject of aerostation, but have published only those which we supposed would interest our readers. We wrote you a long time ago that we should probably not publish your communication.

H. C., of N. Y.—When we find some definite and authentic intelligence in regard to the gold of Nova Scotia we shall publish it.

J. E. B., of Ohio.—The best pale varnish for carriages is made by mixing 2½ gallons of hot boiled linseed oil with 8 pounds of pale African copal gum fused in an iron vessel. About ¼ pound of sulphate of zinc should be added slowly to the mixture, and the whole boiled until it becomes stringy. It is next thinned down with turpentine, for use. This varnish dries in about 4 hours in summer, and is used for the outside work. It is durable and quick-drying.

G. E. S., of Ill.—Mr. Fairbairn, of England, is the author of a work on iron bridges. You could obtain it through some importing house, such as J. Wiley, or Balliere Bros., this city.

E. L., of Pa.—The experiments of Mr. Charles H. Haswell, of this city, have shown that the dynamical effect of a falling body is equal to its weight multiplied by its velocity in feet per second and by 4.26. A weight falling 80 feet would have a velocity, in round numbers, of 72 feet per second, and if its weight were 3,000 pounds, it would compress a spiral spring to the same extent as a weight of 554,000 pounds resting upon it.

H. G. G., of N. Y.—Carbonic acid gas is heavier than atmospheric air, still it does not fall and occupy the lowest stratum of the atmosphere, owing to a singular property which gases have of mixing together. When two gases of different densities are placed in the same vessel, though the heavier one be at the bottom, it is found that they gradually mingle completely together, forming a homogeneous mixture. The particles of gas are so far apart that they do not prevent another gas from ultimately occupying the same room, but they do obstruct the entrance of the second gas into the same space, rendering it more slow.

D. H. S., of Conn.—D. Appleton & Co., of this city, published a work on mechanical drawing, a few years ago.

M. K., of Ill.—To practise drilling an artillery company of volunteers, if you are going to use heavy cannon—say 24-pounders—they can be cast of iron; any foundry can do it. But if the company is to be of flying artillery, you want brass 6-pounders. These are expensive, but as the metal would always be valuable, the expense would be little more than the interest on their cost. Dahlgren guns are very heavy for stationary batteries, and are unsuited for field operations.

C. H. G., of Vt.—We believe that Wesson has ceased to manufacture rifles, but the same style of gun is made under the Clark patent by James, of Utica.

A. B. W., of N. Y.—The proportion of the feed pump or cylinder of an air engine to the working cylinder will depend on the temperature at which the air is used. Atmospheric air, like other gases, expands 1.493 of its bulk at 35° for each degree that its temperature is raised; that is, it takes an increase of 493° to double its bulk.

E. F., of Wis.—A process has been patented by A. Steers, of this city, for extracting the tannin from bark, whereby it is obtained in a very concentrated form for tanning leather. We have been informed that the extract retains all the qualities of the bark for tanning purposes.

J. P. & L. S., of Ind.—There can be no lime in the steam which you employ for heating your dyestuffs, and you should not blame the steam for the bad colors in your dye house.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, May 29, 1861:—

B. & R., of Ohio, \$15; M. D. W., of Ind., \$25; A. & H., of Cal., \$25; E. L. E., of Conn., \$15; A. C., of N. Y., \$400; W. P., of N. Y., \$15; S. M. R., of Mass., \$15; L. & P., of Pa., \$31; J. O. F., of Mass., \$25; J. A., of Pa., \$25; D. P. F., of Mass., \$25; E. D. W., of Pa., \$43; L. D. B., of N. Y., \$20; A. C., of N. H., \$20; E. C. W., of N. J., \$43; H. L. B., of Conn., \$20; H. W. H., of Conn., \$20; W. B. S., of N. Y., \$25; A. W., of Vt., \$25; A. S., of N. Y., \$30; R. McC., of N. Y., \$25; F. N., of Conn., \$30; E. A. K., of Conn., \$15; D. E. T., of N. Y., \$15; J. C., of Pa., \$25; W. D., of Mo., \$10; L. & W., of Mass., \$25; W. & M., of N. H., \$40; C. Van N., of N. Y., \$20; W. J. S., of N. Y., \$22; N. C. P., of N. H., \$20; S. A. B., of Conn., \$20; W. S. K., of Conn., \$20; G. L. K., of Pa., \$15; M. W. M., of N. Y., \$15; M. A. D., of Mich., \$12; U. B. V., of Pa., \$25; W. N. D., of Cal., \$35; A. H. T., of N. J., \$40; D. McK., of N. Y., \$15; J. W. C., of Mich., \$30; L. D. G., of N. J., \$20; T. S. & T. W. R., of N. Y., \$25; A. C., of Mass., \$10; A. M. H., of Conn., \$20; J. R. R., of Mass., \$40; E. F. H., of N. Y., \$20; J. S. P., of Conn., \$20; D. B. S., of Mass., \$22.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from May 22 to Wednesday, May 29, 1861:—

D. B. S., of Mass.; M. D. W., of Ind.; A. W., of Vt.; C. K. H., of Cal.; J. L. T., of N. Y.; F. N., of Conn.; U. B. V., of Pa.; L. & W., of Mass.; J. A., of Pa.; E. C. W., of N. J.; T. C., of Cal.; R. McC., of N. Y.; A. N. R., of N. Y.; W. H. D., of Cal.; J. C., of Pa.; T. S. & T. W. R., of N. Y.; D. P. F., of Mass.; E. D. W., of Pa.; J. H. P., of Ky.; M. A. D., of Mich.; W. D., of Mo.; A. C., of Mass.; J. H. L., of Pa.; J. O. F., of Mass.; W. D., of R. I.

TO OUR READERS.

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.

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 inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

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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 to this office. Address MUNN & CO., No. 37 Park-row, New York.