

(28) J. P. F. asks: When ironing shirts, etc., what is the best way to put on a gloss? A. Raw starch, 1 oz.; gum arabic, 1 drachm; white of egg or blood alumen, $\frac{1}{2}$ oz.; soluble glass, $\frac{1}{4}$ oz., water, q. s. Make the starch into a fine cream, dissolve the gum in a little hot water, cool and mix it with the albumen, and beat up the mixture with the starch liquid. Then add the water-glass (solution) and shake together. Moisten the starched linen with a cloth dipped in this liquid, and use a polishing iron to develop the gloss.

(29) G. A. C. asks if paper is saturated with cupric ammonia can metallic copper be reduced on the surface and in the fibers of the same, and by what process? Iron will not. Will an acid, hydrogen, or tin dust, will anything? A. Try exposing the paper for some time in a current of heated hydrogen; or dip the saturated paper in ammonium sulphide; rinse, spread on a plate of copper, dip in dilute sulphuric acid, connecting the copper by wire with the zinc pole of a good battery, the other pole being connected with a second strip of copper also immersed in the dilute acid. If the current is strong enough to decompose water it will reduce the copper on the paper.

(30) A. M. F. asks as to the average number of tons of coal consumed daily by any steamer of the following lines, on a voyage across the ocean: White Star, Cunard, Inman, Anchor. Also the number of firemen generally employed on any one ocean steamer. A. White Star steamers, 95 to 100 tons per day; 18 firemen. City of Berlin, City of Brussels, each 110 tons per day; about 28 firemen. Ansonia, 120 to 130 tons per day; 24 firemen.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

F McL.—Nos. 1 and 2, calcite—carbonate of lime. No. 3 is quartz.—M. M. R.—It is a split leather—that is a thin sheet cut from thick tanned leather by appropriate machinery. It may be purchased from leather dealers.—J. M. P.—No. 1. Quartzose rock with horn silver—a rich ore. No. 2. Quartz rock with selvage. No. 3. Chiefly iron—copper sulphides.

COMMUNICATIONS RECEIVED.

On a Growth of Grain in Ice. By D. J. B.

Electric Light for Purifying Sewers. By J. G. S.

NEW BOOKS AND PUBLICATIONS.

THREE HUNDRED YEARS HENCE: OR, A VOICE FROM POSTERITY. By William Delisle Hay. London: Newman & Co.

A highly imaginative forecast of human affairs, in the guise of a series of lectures delivered by a Professor of History in the year A.D. 2180, tracing the progress of humanity from the beginning of the "Era of Development," A.D. 1880. The author has a curiously inventive turn of mind, and has filled his book with novel ideas and pictures at once original, whimsical, and plausible.

THE STUDENT'S DREAM. Published for the author. Chicago: Jansen, McClurg & Co.

If the author is, as he professes to be, a youthful student, his ambitious attempt to forecast the philosophy of the future is not a discreditable performance. When he is older and knows more he will dream less.

PEACE MAKER GRANGE; OR, CO-OPERATIVE LIVING AND WORKING. By Samuel Leavitt. New York: Published by the author, No. 5 Worth street. 25 cents.

A suggestive story, reprinted from the *Phrenological Journal*, describing the development and working of an ideal yet entirely human, thrifty, and practical community. Unlike most social reformers Mr. Leavitt sedulously conserves what is good in human experience, and seeks to reconstruct society by lifting life and labor to a higher, purer, and kindlier level, by sloughing off the barbaric elements of modern civilization, not by relapsing toward barbarism. The work is germinal and is worthy of a better dress.

DR. J. H. MCLEAN'S PEACE MAKERS. By Dr. James Henry McLean, St. Louis, Mo., projector, inventor, and patentee, with Myron Coloney, New Haven, Conn., mechanical inventor and patentee. New York, 1880.

An illustrated catalogue of deadly engines, by means of which the inventors expect to command peace throughout the world, by making war so terrible and destructive that nations shall not dare to engage in it. How many of Dr. McLean's devices—which are as marvelous in number, variety, and scope, as they are threatening on paper—will prove of practical utility, remains to be seen.

[OFFICIAL.]

INDEX OF INVENTIONS FOR WHICH

Letters Patent of the United States were Granted in the Week Ending

June 7, 1881.

AND EACH BEARING THAT DATE

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1866, will be furnished from this office for one dollar. In ordering please state the number and date of the patent desired and remit to Munn & Co., 37 Park Row, New York city. We also furnish copies of patents granted prior to 1866; but at increased cost, as the specifications not being printed, must be copied by hand.

Advertising balloon, H. T. Sisson..... 242,483
Amalgamation of gold and silver, compound for facilitating the, W. H. C. Mathews et al.... 242,669

Amalgamator, J. W. Moore.....	242,469	Gas regulator, J. Pintsch.....	242,555	Refrigerator, C. B. Shaw (r).....	9,742
Ashes, hopper for leaching, A. B. Alexander.....	242,577	Gate, A. P. Campton.....	242,597	Rein attachment, overdraw check, E. R. Cahoon.....	242,506
Axle box, car, W. H. Taylor.....	242,715	Gate, J. W. Fieste.....	242,621	Rivet, W. L. Brownell.....	242,595
Axle support and skein fastener, combined, J. Schofield.....	242,480	Gear, friction, J. Herron.....	242,643	Rock crushing machine, F. Godfrey.....	242,445
Bale tie, I. A. Kilmer.....	242,655	Gem setting, B. A. Ballou.....	242,422	Rocking chair, P. Felden.....	242,442
Baling press, T. W. & C. L. Ames.....	242,421	Glove button fastening, S. O. Parker.....	242,687	Rolling car axles, machine for, E. Mallett.....	242,532
Baling press, N. Arave.....	242,590	Glass lamp founts, manufacture of, G. E. Hatch.....	242,538	Rolling certain sections of T rails, machinery for, Holub & Locke.....	242,536
Barrel, garbage, A. Ames, Jr.....	242,578	Glassware, mould for manufacturing seamless, C. D. Fox.....	242,622	Roofing slate, H. D. Cordray.....	242,510
Barrel support, O. Spachmann.....	242,705	Gold and silver from ores, apparatus for extracting, J. E. Holmes.....	242,646	Ruler, proportional parallel, J. Gardam.....	242,625
Bell, electrical alarm, M. G. Crane.....	242,511	Grading, ditching, and leveling machine, M. E. Lasher.....	242,659	Saccharated extracts, C. S. Hallberg.....	242,531
Bell, individual call, F. Blake (r).....	9,749	Grain drill, spring tooth, Williams & Turner.....	242,572	Saccharification of amyaceous matters by malt, etc., A. P. Dubrunfaut.....	242,439
Bird cage, J. B. Abernathy.....	242,575	Grain separator, gravity, J. W. Morrison.....	242,677	Saddle, riding, M. R. Hunter.....	242,630
Bit gauge, W. H. King.....	242,656	Grape elevator, crusher, and stemmer, J. L. Heald.....	242,640	Sash fastener, I. S. Rich.....	242,695
Blacking box, J. H. Clark.....	242,432	Grinding mill, H. Dorrry.....	242,613	Scale beam, T. F. McKee.....	242,465
Bobbin, J. K. Gibbs.....	242,414	Grindstone, family, F. S. Smedley.....	242,565	Scrapers, road, W. E. Jacobs.....	242,455
Boot and shoe heel, T. Cook.....	242,434	Grits, preserved, W. S. Boon.....	242,588	Screw seat, rotary, L. Postawka.....	242,474
Boot and shoe heel, Willis & Price.....	242,727	Grub puller, S. F. McGown.....	242,671	Seeding machine, Bruce & Brown.....	242,505
Bottle, cased, O. E. Newton.....	242,447	Heel trimming machine, J. G. Ross.....	242,559	Sewing machine, G. F. Newell.....	242,470
Bottle stopper, C. Lakes.....	242,543	Heeling machine, E. H. Johnson.....	242,540	Sewing machine, Partridge & Kitzmiller.....	242,473
Bottles, etc., packing, E. Vorster.....	242,483	Hoisting machine, G. W. Goodell.....	242,529	Sewing machine, button hole, J. W. Lukin.....	242,462
Bow socket, tubular, F. Selle.....	242,562	Hominy for preservation, treating, W. S. Boon.....	242,589	Shade holder, N. L. Bradley.....	242,592
Box, F. E. Brown.....	242,594	Horse rake, S. T. Ferguson.....	242,520	Shears for cutting metal plates, C. Donnay.....	242,611
Brick pallet, E. Smith.....	242,566	Horse rake, self-dumping, Larsen & Galloway.....	242,545	Shipping case, C. R. Peaslee.....	242,688
Broiler, J. H. Bentley.....	242,424	Horseshoe, O. J. Irish.....	242,452	Soldering machine, J. Graves.....	242,631
Brush handle, lather, W. H. Miles, Jr. (r).....	9,746	Horseshoe blanks, machine for making, Holub & Locke.....	242,584	Sorghum or sugar evaporator, W. Williams.....	242,726
Buckle, T. O. Potter.....	242,475	Horseshoe blanks, machine for bending, Holub & Locke.....	242,535	Spool exhibiting case, G. T. Cutler.....	242,607
Buckle, S. Wales.....	242,571	Horseshoe nails, machine for forging, B. L. Blanchard.....	242,587	Steam meter, C. E. Emery.....	242,521
Burglar alarm bolt, T. F. Wilson.....	242,574	Hose coupling, L. H. Sholder.....	242,564	Steam trap, automatic, J. H. Blessing.....	242,502
Button, covered, C. Radcliffe.....	242,476	Hot air furnace, G. McCord.....	242,549	Steering apparatus, steam, Guild & Knights.....	242,634
Button hole cutting machine, C. A. Lake.....	242,544	Hub, wheel, C. Olsen.....	242,683	Stigmographs, vulcanized rubber pad for, J. Gast.....	242,627
Cabinet for holding scraps, J. S. Norris.....	242,472	Ice harvester, M. J. Faas.....	242,524	Stocking blanks, cutting out, J. H. Osborne.....	242,684
Calendering machine, paper, J. McLaughlin.....	242,550	Indicator lock, A. Leyden (r).....	9,747	Stove extinguishing device, oil, E. Mercier.....	242,467
Calipers, E. R. Bassett.....	242,582	Injector, feed water, J. Jenks.....	242,652	Stove grate, A. W. Eldredge.....	242,518
Candle moulding machine, P. R. Gottstein.....	242,630	Jaw block and boat detacher, safety, H. R. Justice.....	242,541	Stove grate, P. Good.....	242,638
Car brake, J. Meissner.....	242,673	Jewelry, etc., ornamenting the surface of, W. H. Howes.....	242,649	Stove grate, J. D. Pierce.....	242,691
Car brake and starter, H. Hinckley.....	242,533	Joint, M. G. Crane.....	242,513	Stove oil, J. S. Van Buren.....	242,719
Car coupling, C. E. Macarthy.....	242,666	Journal box, E. Madden.....	242,672	Stove rack or shelf, Suydam & Utter.....	242,485
Car coupling, W. H. Roundy (r).....	9,739	Journals of balance wheels, supporting the, J. V. D. Eldredge.....	242,519	Surgical and invalid chair, adjustable, G. Wilson.....	242,573
Car straight and buffing apparatus, Marston & Huntington, Jr.	242,548	Knitting machines, set-up device for circular, C. W. Crary.....	242,435	Swing, D. B. Clement.....	242,601
Car mover, W. S. Seymour et al.....	242,563	Lace machine, E. Malherre.....	242,463	Swinging gate, automatic, A. Boone.....	242,503
Car stock, A. & A. Iske.....	242,453	Laces, etc., case for preserving and displaying, B. Kohn.....	242,657	Telegraph conductors, underground conduit for, R. B. Lamb (r).....	9,745, 242,658
Carriage running gear, U. Reynolds (r).....	9,748	Lamp fixture, extension, E. L. Bryant.....	242,596	Telephone, J. W. Clark.....	242,658
Carriages, canopy standard for children's, O. U. Zicker.....	242,491	Lamps, etc., electrical apparatus for lighting street, J. P. Tirrell (r).....	9,743	Telephone, T. A. Watson.....	242,722
Cartridges, implement for resizing, capping, and uncapping, R. Morris.....	242,676	Lathe, hub, J. Mills.....	242,468	Telephone, contact, T. A. Watson.....	242,721
Caster, G. W. Horne.....	242,648	Lead fumes, apparatus for catching and collecting, Lewis & Bartlett.....	242,460	Telephone, microphonic, T. A. Watson.....	242,723
Caster, trunk, J. A. Eno.....	242,523	Leather skiving machine, Andrews & Burk.....	242,579	Telephone switch, W. H. Sawyer.....	242,698
Caster, trunk, N. Feick.....	242,441	Life raft, T. Hall.....	242,448	Thill coupling, H. Bissell.....	242,425
Chain bolt, W. E. Sparks.....	242,568	Lifting jack, J. D. Sammons.....	242,735	Thill support, J. A. Beamister.....	242,533
Chair bottom, J. C. & P. M. Guerrant.....	242,633	Locomotive ash pan, J. G. Butterfield.....	242,420	Thrasher and separator, grain, J. L. Heald.....	242,639
Chart and square for measuring and draughting dresses, pattern, L. Robinson.....	242,696	Locomotives, induction pipe for bogie, W. Mason.....	242,464	Tire tightener, Bradley & Rowhouse.....	242,504
Chart, dress, E. K. Kinker.....	242,542	Marbleizing, S. Withers.....	242,728	Toy, J. H. Bowen.....	242,590
Cheese hoop follower, G. Castle.....	242,598	Matches, manufacture of, D. Blumenkron.....	242,427	Toy picture, dissected, W. Stranders.....	242,709
Churn dasher, H. T. Davis.....	242,608	Measure, cream, Conklin & Fowler.....	242,433	Truck, plow, J. Catton.....	242,431
Cigar cutter, W. Petzold.....	242,690	Measuring and registering machine, cloth, C. C. & J. R. Henderson.....	242,642	Trucks, former for arch bars of car, McCoy & Dean.....	242,670
Cigar holder, E. O. H. Gruner.....	242,632	Measuring machine, cloth, C. C. & J. R. Henderson.....	242,641	Trucks, F. M. Piper.....	242,556
Cigarette machine, G. O. Crosby.....	242,605	Medicinal remedy, phosphated, C. A. Catlin.....	242,599	Tweezers, F. L. & J. M. Ellis.....	242,520
Clothing clasp, C. Seaver, Jr. (r).....	9,740	Metals with lead, zinc, or tin, coating, W. Frishmuth.....	242,624	Twisting machines, etc., stop motion mechanism for, J. Boyd.....	242,591
Coal washing machine, S. Stutz.....	242,711	Milk, apparatus for treating, Larkins & Greenleaf (r).....	9,744	Valve balanced, W. L. Dewart, Jr.....	242,437