

sulphur, camphor, mustard, and oil.—J. McF.—1. It is a piece of common red Jasper with a few crystals of iron pyrites. 2. It is feldspar with a little quartz and hornblende.—R. S.—The clay is very impure—it might be used for the manufacture of cheap red bricks, but would hardly pay to attempt purification for pottery. The other sample has not come to hand.—P. B. O. J.—It is coal shale. The markings observed are those of fossil ferns of the coal period. These shales are quite too common to be of any commercial value.

NEW BOOKS AND PUBLICATIONS.

A PRACTICAL TREATISE ON THE MANUFACTURE OF STARCH, GLUCOSE, STARCH-SUGAR, AND DEXTRINE. By Julius Frankel. Edited by Robert Hutter. Philadelphia: Henry Carey Baird & Co. 8vo, cloth, pp. 344. \$3.50.

This, the only volume on the subject in the English language, is chiefly on the work of Professor Ladislaus von Wagner, of Buda Pesth, reputedly the best treatise produced in Europe. It is illustrated by half a hundred engravings, including example of the most recent American machinery. It describes briefly yet fully the history and chemistry of starch, the different methods of manufacturing starch from potatoes, wheat, corn, rice, and other grains and starch yielding substances; the history, literature, technology, and manufacture and uses of starch sugar, dextrine, and allied products; and seems throughout to be well calculated to accomplish its avowed purpose, namely, to advance and improve a group of industries which have suffered from mystery, secret processes, and empiricism, and the lack of progress inseparable from such modes of procedure in any industry.

SPITZLI'S MANUAL AND ILLUSTRATED CATALOGUE. By Alfred Spitzli. Second Edition. West Troy, N. Y.: A. & A. F. Spitzli. 1881. \$1.

The catalogue is a fairly comprehensive list of instruments, accessory apparatus, books, etc., for designers and manufacturers of textile fabrics. The manual contains nearly two hundred pages of definitions, derivations, and explanations of technical terms peculiar to textile manufactures, descriptions of the nature and uses of many substances employed in such manufactures, processes, rules, tables, etc. The compiler professes to have no theories to introduce, his aim being simply to present the best authenticated information of value, especially to beginners in textile manufactures.

UNDERGROUND TREASURES: HOW AND WHERE TO FIND THEM. By James Orton. Philadelphia: Henry Carey Baird & Co. \$1.50.

A new and enlarged edition of the late Professor Orton's little key for the ready determination of the more common useful minerals. Seventy-seven different minerals are plainly described and the principal places of their occurrence in the United States are named. With a set of illustrative specimens it would make a valuable addition to any boy's or farmer's library. By itself it will enable any intelligent person to make a fair estimate of the probable value of any minerals he may discover.

AMERICAN NERVOUSNESS: ITS CAUSES AND CONSEQUENCES. By George M. Beard. New York: G. P. Putnam's Sons. 12mo, cloth, pp. 352.

In this volume Dr. Beard has presented in the bright and suggestive style which is characteristic of him the observations and opinions already familiar to the public through his lectures and contributions to the periodical press. Unlike most medical specialists he is disposed to take a hopeful view of the maladies he has chosen to study, so far at least as to consider them largely curable and likely to be diminished in severity by the natural progress of American society toward more reasonable and wholesome living.

MENSURATION AND METRICAL GEOMETRY. AN ELEMENTARY TREATMENT OF MENSURATION. By George Bruce Halstead. Boston: Ginn, Heath & Co.

So far as can be judged without working through it with a class of students this treatise appears to be excellently well planned and executed.

SHAKESPEARE'S OTHELLO, THE MOOR OF VENICE. By Rev. Henry N. Hudson. Boston: Ginn & Heath. Sq. 16mo, pp. 209. 65 cents.

The twentieth of Mr. Hudson's edition of Shakespeare's plays annotated for use in schools and families. The editor's rank as a Shakespearean critic is well known. The type and printing are attractive, the paper good, and the size of the volume convenient for holding and carrying.

ELEMENTS OF ALGEBRA. By G. A. Wentworth, A. M. Boston: Ginn & Heath. \$1.45.

In the preparation of this school book Professor Wentworth has given abundant evidence of a clear appreciation of the needs of the student as well as of singular skill in the art of book-making.

English Patents Issued to Americans.

From September 6 to September 9, 1881, inclusive. Coffee beans, utilizing products of, R. S. Jennings, Baltimore, Md.

Electro-magnetic telegraph, A. F. & F. B. Johnson, Brooklyn, N. Y.

Electro-magnetic machines, coiling wire on, Haase & Recker, Indianapolis, Ind.

Electrical apparatus, C. Dion, New York City.

Electric light, W. S. Hill, Boston, Mass.

Faucets, C. Whittaker, Chicago, Ill.

Fire extinguishers, A. Burritt Hardware Company, Waterbury, Conn.

Gas, manufacture of, F. Egner, Norfolk, Va.

Lighting, W. Wheeler, Massachusetts.

Loom shuttles, J. S. Jaques & Co., Lowell, Mass.

Pyroxylene, J. W. Hyatt, Newark, N. J.

Governor machines, J. Hope, Providence, R. I.

Penholders and pens, J. G. Hester, Washington, D. C.

Sewing machines, J. B. Anthony, Providence, R. I.

Tin or sheet metal vessels, A. H. Fanchers, Brooklyn, N. Y.

INDEX OF INVENTIONS FOR WHICH Letters Patent of the United States were Granted in the Week Ending September 6, 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 25 cents. 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.

Table listing inventions with names and dates. Includes: Air compressing apparatus, C. E. Buell; Air cooling apparatus, R. S. Jennings; Alcohol, utilizing the residua of the acid treatment of grain and other materials for the manufacture of, Porion & Mébay; Amalgamating gold and silver ores, apparatus for, R. A. Nevin; Bag, See Paper bag; Bag holder and truck, combined, J. F. Draper; Bananas, ripening, J. Cromwell; Bar, See Grate bar; Barrel, C. S. Cannon; Barrel headings, machine for packing, Greenwood & Cole; Barrel leveling and trussing machine, J. Greenwood; Barrel swing, S. W. Sheldon; Bed bottom, spring, M. N. Lovell; Bed lounge, P. Herbold, Jr.; Bed, spring, E. T. Slayton; Block, See Saw mill head block; Board, See Ironing board. Musical instrument key board; Boiler, See Culinary boiler. Steam boiler. Wash boiler; Bolt, W. T. Kenyon; Boring machine, wood, J. M. Trackwell; Bottle stopper, J. Wilkinson; Box, See Eccentric bearing box. Fare box. Paper box; Brake, See Sleigh brake. Wagon brake; Brake apparatus for pulley blocks, etc., F. Ley; Brick press, J. S. Thomas; Brush chimney flue, D. C. Greenway; Burner, See Gasoline vapor burner; Camera, See Photographic camera; Can testing and soldering machine, R. Gornall; Can testing machine, R. Gornall; Cane mill, D. L. Davis; Car coupling, E. C. J. Cleaver; Car coupling, S. Garratt; Car coupling, A. C. Rodgers; Car heating and ventilating apparatus, J. L. Hadden; Car wheel, W. & G. D. Bulmer; Carbureting apparatus, C. F. Copeland; Carpet sweeper, M. G. Stolp; Carriage, D. W. Baird; Carriage body support, J. A. Dubbs; Case, See Packing case. Show case; Casting hollow articles in metallic moulds, apparatus for, F. Tellander; Castings, core barrel for, P. Wilkes; Chair, See Folding chair. Invalid and surgical chair; Cigar lighter, C. H. Vibbard; Cisterns or wells, mould for forming the walls of, Johnson & Sandström; Clamp, See Lifting clamp; Clothes line fastener, E. H. Taylor; Clutch and brake of hoisting drums for elevators, etc., combined, J. S. Lane; Coffee pot, I. Kappner; Coffee pot, G. A. Siffait; Combing machine, cotton, Hetherington & Leocour; Cooking vessel, F. W. Scharath; Cooler, See Milk cooler; Cork cutting machine, J. Schlachter; Corset, J. Hilborn; Cotton condenser, P. Forshay; Cotton picker, J. M. Ridley; Counter seat, folding, R. J. Spalding; Coupling, See Car coupling; Cradle and nursery, combined, S. E. Darne; Culinary boiler, J. W. Campbell; Curtain cord tightener, S. G. B. Cook; Cutter, See Meat cutter. Thrashing machine hand cutter; Damper, A. S. Newby; Damper, stovepipe, A. Barnum; Desiccating machine, C. Kimplen; Distilling alcohol, C. W. Lawrence; Door hanger, S. Selden; Double tree and tongue for vehicles, W. O. Foster; Dressmaker's, etc., rod stand and adjustable device for, E. De Jongh; Drier, See Fruit drier; Drill, See Rock drill; Drills, back gear clutch for upright, G. W. Bean; Earthenware pan, G. Wolfe; Eaves troughs, machine for forming metallic, J. Dunn; Eccentric bearing box, P. W. Gates; Enameling and enameled articles, G. Kibler; Envelope, sample, A. H. Schultz; Evaporating pan, M. Knopf, Jr.; Evaporator, W. E. Willey; Eyelets, die for making, G. O. Schneller; Fabrics, composition for surfacing, H. C. Pfeil; Fare box, C. G. Imlay; Faucet, T. F. Langley; Fence post, A. G. Powell; Fence, wire, L. W. Lindley; Fertilizer distributor, L. C. Wofford; Firearm, J. N. Proeschel; Fire escape, R. Bustin; Fire lighter, J. P. Murphy; Folding chair, R. H. Arnold; Frame, See Spinning frame; Fruit drier, C. O. Chaplin; Fuel, compound hydrocarbon, J. P. Jones; Furniture, school, O. S. Garretson; Fusee, signal, S. Jackson; Gasoline vapor burner, T. Johnson; Gate, E. E. Beard; Generator, See Steam generator; Governor, water elevator, R. T. Young; Grain meter, rotary, A. Gleason; Grain shocking machine, A. Dick; Grate bar, G. W. Walker; Hanger, See Door hanger;

Table listing inventions with names and dates. Includes: Harness, G. W. Cox; Harrow, sulky, W. Hannum; Harvester, C. Colahan; Harvester, J. H. Elward; Hasp lock, Goodrich & Siddall; Hat sweat band, J. S. Bancroft; Hat sweat pad, J. S. Bancroft; Hay elevator track, A. Davy; Hay making machine, Howard & Bousfield; Hay rakes, tedders, etc., frame for revolving, H. Hitchcock; Heater, Sad iron heater; Heating and boiling device, C. S. Comins; Heating apparatus for buildings, E. Korting; Hedge link, H. H. Brown; Hinge, lock, C. W. Pierce; Hinge, spring, J. H. Barker; Hoisting apparatus, A. C. Foster; Holder, See Bag holder. Pen holder. Mop holder. Sash holder; Hoop pointing and lapping machine, J. Naylor, Jr.; Horse power, T. Lemon; Horseshoe, Hood & Clark; Horseshoe nail blanks, machine for making, H. Moeller; Hose nozzle, F. E. Hall; Hydro-therapeutic apparatus, E. E. G. Bozerian; Illuminating buildings, apparatus for, J. B. Whitcomb; Indicator, See Station indicator. Steam boiler indicator; Invalid and surgical chair, W. M. Bailey; Ironing board, Wilson & McCutcheon; Jewel casket, J. A. Eades; Key, See Telegraph key; Keys, machine for making split, R. T. King; Kitchen table, C. H. Townsend; Knitting machine, D. L. Wilcox; Knitting machine, cam, Vickers & Weston; Knob for latch locks, H. M. Paine; Lamp and friction lighter combined, pocket, T. Lawrence et al.; Lamp burners, extinguisher for tubular, C. H. Kohler; Lantern, J. Hirth; Lead, conveyer and cooler for white, W. H. Gregg; Lifter, See Transom lifter; Lifting clamp, portable, M. V. Palmer; Light for life-saving stations, R. S. Jennings; Lock, See Hasp lock. Nut lock; Lock, F. Egge; Locomotive cylinder and blow-off cock, J. Ryan; Loom shuttle, J. Rigby; Loom take-up and let-off mechanism, Bramall & Innes; Lubricator, G. W. Baker; Lubricator, N. H. Dibble; Lubricator, O. H. Jewell; Magneto-electric machine commutator, H. Jacobs; Mandrel, expanding, J. A. Wilde; Meat cutter, rotary, D. Peters; Mechanical movement, A. S. Baker; Metal, apparatus for loading pig, Dittrich & Molampy; Meter, See Grain meter; Middlings purifier, etc., J. J. Faulkner; Middling separating machine, W. R. Middleton; Milk cooler, J. G. Cherry; Milk cooler, E. W. Kitchen; Mill, See Cane mill. Roller mill. Windmill; Millstone, E. H. Streitz; Mop holder, J. H. Omo; Motor, See Pedomotor; Muff, M. Silberstein; Music stand, L. R. Muzzy; Musical instrument key board, G. Neuhaus; Musical instrument, mechanical, M. J. Matthews; Nitro-cellulose, etc., preparing compounds of, J. W. Hyatt; Nut lock, A. S. R. Overholt; Opener, lister, and guano distributor, combined, K. P. Alston, Jr.; Ore washer, Barber & Siefken; Ores, reducing, C. E. Robinson; Oven, Japanning, J. D. Hass; Overalls, H. Heynemann; Overalls, D. Neustadter; Oyster dredging machine, W. B. Collier; Packing case, F. Pond; Packing, piston, J. Booth; Pad, See Hat sweat pad; Paddlewheel, feathering, A. Davidson; Pan, See Earthenware pan. Evaporating pan; Pantograph, Crocker, Jr. & Frese; Pantograph engraving machine, S. D. Engle; Paper bag, J. W. Maloy; Paper box, G. S. Pickell; Paper machines, stuffregulator for, C. W. Mace; Pedomotor, R. Gornall; Pen holder, J. G. Hester; Photographic camera, M. Flammang; Picker, See Cotton picker; Pin package, E. P. Hauff; Pipe, See Sheet metal and concrete pipe; Pipe and rod connections, compensator for, H. F. Cox; Pipes, apparatus for drying cores for, F. Shickle; Placer worker and concentrator, R. Barber; Plow, sulky, W. L. Casaday; Plows, cultivator attachment for two-wheeled, T. C. Dodsworth; Plumber's trap, A. Campbell; Poke, animal, L. Stow; Post, See Fence post; Pot, See Coffee pot; Power, See Horse power; Press, See Brick press. Printing press; Printing machine, yarn, T. H. Hughes; Printing press, chromatic, Robbins & Heston; Pulley, band, J. Greenwood; Pulverizing apparatus, M. Golding; Pump, C. W. Schreiber; Pump and water elevator, C. L. Merrill; Pump for condensing engines, air, L. J. Knowles; Pump, rotary, A. S. Clark; Pumping engines, system of condensation for, J. W. Hill; Railway signal, J. S. McLeod; Railway switch, B. Rice; Reflector, lamp, J. H. Ludwick; Refrigerating machine, C. W. Gelett; Ring, See Spinning ring; Rock drill, steam, S. G. Bryer; Roller mill, M. Martin; Rolling mill appliance, W. S. Briggs; Rubber veneer or covering sheet, J. J. C. Smith; Sad iron heater, T. J. Price; Safe, burglar proof, A. Gerard; Sash holder, A. Ayres; Satchel, W. H. Burnett; Satchel bodies, block for forming felt, W. H. Burnett;

Table listing inventions with names and dates. Includes: Saw mill head block, T. L. Carley; Saw tooth, detachable, E. C. Atkins; Scale for laying out cutter head bits, C. H. Merrill; Screw driver, Gay & Parsons; Seat, See Counter seat; Sewed articles, machine for trimming hems and seams of, W. Denton; Sewing machine, A. E. Wallace; Sewing machine button hole attachment, J. K. Harris; Sewing machine ruffling attachment, T. B. Garretson; Sewing machine shuttle, C. H. Thurston; Sewing machine shuttle actuating mechanism, J. Knous; Sewing machine stop motion attachment, button hole, J. J. Sullivan; Sewing machine, straw hat, C. H. Wilcox; Sewing machine tension and take-up device, J. W. Blodgett; Sewing, mittenholder for, I. A. Robinson; Sewing up mouths of bags, machine for, O. R. Van Vechten; Sheet metal and concrete pipes for drains, etc., M. M. Camp; Show case for needles, etc., O. H. Blood; Shower bath attachment, E. Williams; Sifter, ash, J. Dorsch; Signal, See Railway signal; Signal apparatus stop mechanism, T. N. Vail; Signaling apparatus, D. P. Wright; Skate, roller, W. F. Cornelius; Sleigh brake, H. Hunt; Soldering machine, can, H. R. Robbins; Sole edge burnishing machine, J. W. Maloy; Spinning frame, ring, S. A. Jenks; Spinning machine rolls, etc., mechanism for regulating the pressure upon, A. Beswick; Spinning ring and holder therefor, J. W. Wattles; Square or hook, adjustable siding, Spickerman & Martin; Stand, See Music stand; Starch table, R. W. Graves; Station indicator, Z. M. Hibbard; Station indicator, V. H. Sprague; Steam boiler and furnace, W. R. Taylor; Steam boiler indicator, electric, D. J. Cable; Steam generator, W. E. Kelly; Steam generator for cooking feed, etc., Heise & Kauffman; Stopper, See Bottle stopper; Stove and furnace grate, T. Kearns; Stove back lining, A. S. Newby; Stove center piece, cooking, A. S. Newby; Stove fire box lining, A. S. Newby; Stove, gasoline, G. A. A. Siffait; Stove grate, R. Z. Liddle; Stove, oil and gas, A. W. Paul; Stove oven door, G. F. Filley; Suppository, bulb, J. C. Wadleigh; Surgeon's operating extension table, W. J. Chenoweth; Switch, See Railway switch; Table, See Kitchen table. Starch table. Surgeon's operating extension table; Tea kettle spout, Raynor & Smith; Telegraph key, A. E. Peterman; Telegraph sounder, C. G. Burke; Telephone, E. T. Greenfield; Telephone, J. W. McDonough; Telephone, T. A. Watson; Telephone alarm attachment, C. Lanz; Thrashing machine band cutter and feeder, F. M. Floyd; Toy, L. J. & C. J. Adams; Toy, wheel and Nelson & Weadon; Trace loop, W. G. Riley; Transom lifter, H. E. Russell, Jr.; Trap, See Plumber's trap. Vermin trap. Tree, See Double tree; Tricycle, R. Lorenzo; Valve action of duplex engines and pumps, W. H. Guild, Jr.; Valve and faucet, self-closing, G. R. Moore; Valve, safety, J. W. Young; Valve, steam engine piston, J. W. Plimpton; Vehicle wheel, C. L. Work; Veneering wood, G. Woods; Ventilating machine, W. A. Pitt; Vermin destroying apparatus, M. Lytle; Vermin trap, H. Hey; Wagonbrake, T. J. Francis; Wagon, dumping, J. Von Witzleben; Warming and ventilating apartments by the sun's rays, E. S. Morse; Wash boiler, J. Murray; Washing machine, R. P. Cory; Washing machine, Gerard & Tremblay; Washing machine, W. T. Hollis; Washing machine, A. Huffer; Watchmaker's jewel setting tool, H. Anderson; Water works, marine structure for, G. R. Bramhall; Weather strip, J. C. Brannon; Wheel, See Car wheel. Paddlewheel. Vehicle wheel; Whip socket, W. A. Bradley, Jr.; Windmill, F. J. Goldsmith; Window, skylight, etc., W. Trotter, Jr.; Wire band for boxes, etc., W. Haeckel; Wire wiper, F. & J. A. Crich; Wood, machine for bundling kindling, W. A. Allen; Wood, preserving, E. Hagen;

DESIGNS.

Table listing designs with names and dates. Includes: Corset, J. Bowers; Dinner ware, E. Chetwynd; Spoon or fork handle, F. E. Vogel; Toy money box, W. Evans, Jr.; Watch case, H. Untermyer;

TRADE MARKS.

Table listing trade marks with names and dates. Includes: Beef, corned, Harris & Fisher; Bitters, T. Milburn & Co.; Bitters, H. Underberg-Albrecht; Burning fluid, B. A. Rose; Clover machines, Hagerstown Agricultural Implementation Manufacturing Company; Cologne water, J. M. Farina; Cotton goods, plain and twilled, Herbst Brothers; Gold rings, eighteen carat, Dueber Watch Case Manufacturing Company; Knitted undergarments for men's, women's, and children's wear, American Hosiery Co.; Medicinal preparations, certain, B. S. Titcomb; Medicine for the cure of rheumatism and other ailments, H. C. Collins; Pencils, lead, E. Faber; Remedy or ointment for corns, bunions, and warts, liquid, Lyons & Ziegler; Soap, laundry, Lutz Bros. & Co.