

Business and Personal.

The Charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue. The publishers of this paper guarantee to advertisers a circulation of not less than 50,000 copies every weekly issue.

Chard's Extra Heavy Machinery Oil. Chard's Anti-Corrosive Cylinder Oil. Chard's Patent Lubricants and Gear Grease. R. J. Chard, Sole Proprietor, 6 Burling Slip, New York. Now is the best season of the year for painting dwellings, barns, fences, etc., on account of freedom from flies, dust, summer heat, and showers. We are constantly in receipt of letters similar to the following: LAKE VIEW HOUSE, LIVONIA, N. Y., Feb. 9, 1880. H. W. Johns Mfg Co., 87 Maiden Lane, New York:

DEAR SIR: We have used your Asbestos Liquid Paint on our buildings, and find one coat goes as far and covers as well as two coats of lead and oil.

Yours truly, E. R. BOLLES. For best Indirect Radiators, see adv., page 268.

An experienced Die Sinker and Tool Maker, able to build light machinery, and invent if required, is open for an engagement. Address Energy, Box 773, New York.

Wanted—The address of all Parties interested in the Silk Business, in all its branches. E. Side, B'klyn, N. Y. Wanted—Second-hand, fifty-inch Lathe, and a large Planer. Perkins & Co., Grand Rapids, Mich.

A profitable business for a person with a small capital. Buy a Stereopticon or Magic Lantern, and an interesting assortment of views. Travel, and give public exhibitions. For particulars, send stamp for 116 page catalogue, to McAllister, Mfg Optician, 49 Nassau St., N. Y.

The E. Stebbins Manuf'g Co. (Brightwood, P. O.), Springfield, Mass., are prepared to furnish all kinds of Brass and Composition Castings at short notice; also Babbitt Metal. The quality of the work is what has given this foundry its high reputation. All work guaranteed.

4 x 6 Engine and Boiler for sale. Geo. F. Shedd, Waltham, Mass.

The "1880" Lace Cutter by mail for 50 cts.; discount to the trade. Sterling Elliott, 262 Dover St., Boston, Mass.

On an allowed Home Patent.—Wanted co-operation on Foreign Patent. Address Trio, Box 62, Austin, Texas.

Hardware Novelty.—Entire U. S. Patent for sale cheap. Address F. A. Heberline, Knox Clarion Co., Pa.

The Tools, Fixtures, and Patterns of the Taunton Foundry and Machine Company for sale, by the George Place Machinery Agency, 121 Chambers St., New York.

For Sale, on account of increase of power, one 24 x 48 Corliss Engine, with three boilers and equipment complete. Now in use, but deliverable in November next. For particulars address Natchez Cotton Mills Company, Natchez, Miss.

Improved Rock Drills and Air Compressors. Illustrated catalogues and information gladly furnished. Address Ingersoll Rock Drill Co., 1 1/2 Park Place, N. Y.

Collection of Ornaments.—A book containing over 1,000 different designs, such as crests, coats of arms, vignettes, scrolls, corners, borders, etc., sent on receipt of \$2. Palm & Fechteler, 403 Broadway, New York city.

The Eureka Mowing Machine now is acknowledged as the best in the market. It has taken the first premium in nearly every State Fair this year. Prices to suit the times. Send for illustrated circular to Eureka Mower Company, Towanda, Pa.

The Boomer & Boschert Press Co. have in daily operation at the Am. Inst. Fair, a complete cider mill and cider jelly manufactory. New York Office, 15 Park Row.

Packing once tried always used. Phoenix Packing from 1-16 up in spools or on coils. Phoenix Packing Company, 108 Liberty St., N. Y.

Gas Machines.—Be sure that you never buy one until you have circulars from Terrill's Underground Meter Gas Machine, 39 Dey St., New York.

Experts in Patent Causes and Mechanical Counsel. Park Benjamin & Bro., 50 Astor House, New York.

Corrugated Wrought Iron for Tires on Traction Engines, etc. Sole mfrs., H. Lloyd, Son & Co., Pittsbg, Pa. Malleable and Gray Iron Castings, all descriptions, by Erie Malleable Iron Company, limited, Erie, Pa.

Skinner & Wood, Erie, Pa., Portable and Stationary Engines, are full of orders, and withdraw their illustrated advertisement. Send for their new circulars.

Sweetland & Co., 126 Union St., New Haven, Conn., manufacture the Sweetland Combination Chuck.

Power, Foot, and Hand Presses for Metal Workers. Lowest prices. Peerless Punch & Shear Co., 52 Dey St., N. Y.

The Brown Automatic Cut-off Engine; unexcelled for workmanship, economy, and durability. Write for information. C. H. Brown & Co., Fitchburg, Mass.

Recipes and Information on all Industrial Processes. Park Benjamin's Expert Office, 50 Astor House, N. Y.

For the best Stave, Barrel, Keg, and Hogshead Machinery, address H. A. Crossley, Cleveland, Ohio.

Best Oak Tanned Leather Belting. Wm. F. Forepaugh, Jr., & Bros., 531 Jefferson St., Philadelphia, Pa.

National Steel Tube Cleaner for boiler tubes. Adjustable, durable. Chalmers-Spence Co., 40 John St., N. Y.

Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Stave, Barrel, Keg, and Hogshead Machinery a specialty, by E. & B. Holmes, Buffalo, N. Y.

Eclipse Portable Engine. See illustrated adv., p. 252.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts. Importers Vienna lime, crocus, etc. Condit. Hanson & Van Winkle, Newark, N. J., and 92 and 94 Liberty St., New York.

Presses, Dies, and Tools for working Sheet Metal, etc. Fruit & other can tools. Bliss & Williams, B'klyn, N. Y.

Clark Rubber Wheels adv. See page 237.

Hydraulic Jacks, Presses and Pumps. Polishing and Buffing Machinery. Patent Punches, Shears, etc. E. Lyon & Co., 470 Grand St., New York.

Sheet Metal Presses, Ferracite Co., Bridgeton, N. J.

Caution to the Public.—The world-wide reputation of H. W. Johns' patent Asbestos Steam Pipe and Boiler Coverings has induced unscrupulous persons to infringe our rights, and also to sell and apply worthless articles, representing them as being made of Asbestos. The use of Asbestos in these and other materials for structural and mechanical purposes is patented, and the genuine are manufactured only by H. W. Johns Mfg Co., 87 Maiden Lane, New York.

Wright's Patent Steam Engine, with automatic cut off. The best engine made. For prices, address William Wright, Manufacturer, Newburgh, N. Y.

4 to 40 H. P. Steam Engines. See adv. p. 252.

Rollstone Mac. Co.'s Wood Working Mach'y ad. p. 237. National Institute of Steam and Mechanical Engineering, Bridgeport, Conn. Blast Furnace Construction and Management. The metallurgy of iron and steel. Practical Instruction in Steam Engineering, and a good situation when competent. Send for pamphlet.

Wm. Sellers & Co., Phila., have introduced a new injector, worked by a single motion of a lever.

Reed's Sectional Covering for steam surfaces; any one can apply it; can be removed and replaced without injury. J. A. Locke, Agt., 32 Cortlandt St., N. Y.

For Yale Mills and Engines, see page 252.

Machine Knives for Wood-working Machinery, Book Binders, and Paper Mills. Also manufacturers of Solomon's Parallel Vise, Taylor, Stiles & Co., Riegelsville, N. J. Portable Railroads. Sugar Mills. Horizontal & Beam Steam Engines. Atlantic Steam Engine Wks., B'klyn, N. Y. Peck's Patent Drop Press. See adv., page 268.

Blake "Lion and Eagle" Imp'd Crusher. See p. 269.

Apply to J. H. Blaisdell for all kinds of Wood and Iron Working Machinery. 107 Liberty St., New York. Send for illustrated catalogue.

Houston's Sash Dovetailing Machine. See ad., p. 270.

The Chester Steel Castings Co., office 407 Library St., Philadelphia, Pa., can prove by 15,000 Crank Shafts, and 10,000 Gear Wheels, now in use, the superiority of their Castings over all others. Circular and price list free.

Brass & Copper in sheets, wire & blanks. See ad., p. 270.

Air Compressors. Clayton Stm. Pump Wks, B'klyn, N. Y.

Diamond Saws. J. Dickinson, 64 Nassau St., N. Y.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

H. A. Lee's Moulding Machines, Worcester, Mass.

The "Fitchburg" Automatic Cut-off Horizontal Engines. The "Haskins" Engines and Boilers. Send for pamphlet. Fitchburg Steam Engine Co., Fitchbg, Mass.

Eagle Anvils, 10 cents per pound. Fully warranted.

Gear Wheels for Models (list free); experimental and model work, dies and punches, metal cutting, manufacturing, etc. D. Gilbert & Son, 212 Chester St., Phila., Pa.

The best Truss ever used. Send for descriptive circular to N. Y. Elastic Truss Co., 683 Broadway, New York.

New Economizer Portable Engine. See illus. adv. p. 269.

For Shafts, Pulleys, or Hangers, call and see stock kept at 79 Liberty St., N. Y. Wm. Sellers & Co.

Saw Mill Machinery. Stearns Mfg. Co. See p. 269.

Ore Breaker, Crusher, and Pulverizer. Smaller sizes run by horse power. See p. 269. Totten & Co., Pittsburg.

Vacuum Cylinder Oils. See adv., page 269.

Lightning Screw Plates and Labor-saving Tools, p. 269.

Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer.

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from \$1 to \$5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at this office. Price 10 cents each.

(1) H. A. asks: How can I fix a mirror from which some of the quicksilver has been scratched? A. Remove the silvering from the glass around the scratch so that the clear space will be about a quarter of an inch wide. Thoroughly clean the clear space with a clean cloth and alcohol. Near the edge of a broken piece of looking glass mark out a piece of silvering a little larger than the clear space on the mirror to be repaired. Now place a very minute drop of mercury on the center of the patch and allow it to remain for a few minutes, clear away the silvering around the patch, and slide the latter from the glass. Place it over the clear spot on the mirror, and gently press it down with a tuft of cotton. This is a difficult operation, and we would advise a little practice before trying it on a large mirror.

English Patents Issued to Americans.

From September 28 to October 1, 1880, inclusive. Blacking brush, E. L. Wood, Eastland City, Texas. Compound for preventing pain, H. E. Dennett, Boston, Mass. Electricity, apparatus for generating, E. Thomson, New Britain, Conn. Electricity, conductors for, T. A. Edison, Menlo Park, N. J. Electro-magnetic railways, T. A. Edison, Menlo Park, N. J. Engines for locomotives, F. M. Stevens et al., Concord, N. H. Hoisting machinery, A. E. Brown, Cleveland, Ohio.

Magneto-electric machine, T. A. Edison, Menlo Park, N. J. Mail bag, C. J. Becktel et al., Muncie, Ind. Pianoforte, A. Hellig, Little Ferry, N. J. Rail for railway, E. Rider, New York city. Soap, manufacture of, A. Bastel, Brooklyn, N. Y. Telephone, A. G. Bell, Washington, D. C. Type setting machine, J. Thorne, Port Richmond, N. J. Type writing machine, A. M. Da Costa, Brooklyn, N. Y.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending September 28, 1880, 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.

- Acid from sludge acid, recovering sulphuric, E. Clark, 232,685. Air engine, E. Thuemmler, 232,690. Annunciator for fire alarm telegraphs, F. W. Griswold, 232,707. Augers, manufacture of mining, D. W. Siprell, 232,767. Axle box, car, W. G. Mitchell, 232,743. Ball trap, Kerstetter & Fagley, 232,728. Basket, folding, H. H. Cammann, 232,680. Basket, metallic, J. B. F. Page, 232,752. Bath chamber, portable, J. N. Lee, 232,731. Bed bottom, spring, J. M. Stark, 232,657. Bedstead, folding, S. S. Burr (r), 9,393. Blasting, R. F. L. Hallock, 232,640. Boot and shoe lining, A. M. Daniels, 232,694. Bosom board, H. S. Foster, 232,606. Bottle stopper, P. Miles, 232,613. Brick machine, rotary, Smith & Glaze, 232,760. Brush for cleaning castings, J. H. Davis, 232,600. Brush, helical wire, F. F. Field, 232,636. Bucket bottom, well, Johnson & Eccleston, 232,726. Bumper, spring, R. W. Irwin, 232,723. Bung for beer kegs, faucet, C. H. Shaw, 232,653. Burglar alarms, indicator for electric, A. Bradford, 232,591. Calendar, F. Ratcliff (r), 9,390. Cant hook, M. Bellanger, 232,627. Car coupling, D. S. Bailey, 232,538. Car coupling, J. Candy, 232,594. Car coupling, J. Coart, 232,687. Car door, D. F. Van Liew, 232,662. Car, sleeping, T. Clarke, 232,686. Car, stock, L. Leber, 232,732. Car, stock, S. H. McGibeny, 232,611. Car, stock, L. D. Smith, 232,770. Cars, etc., grain spout for loading, J. Coleman, 232,597. Cars, mechanism for propelling, A. Sanford, 232,652. Carpet sweeper, W. J. Drew, 232,698. Carriage bow, E. M. Driscoll, 232,601. Carving implement, C. Keyworth, 232,645. Chimney ventilator, J. C. Henderson, 232,642. Chisel for wood turning, gauge, T. S. Durgin, 232,634. Churn, J. H. Holmes, 232,717. Clay digger, C. Bush, 232,674. Coal hod, W. S. Salisbury, 232,618. Cock, gauge, C. Jenkins, 232,724. Coffee pulper and separator, E. L. Henington, 232,714. Coffee ripening apparatus, J. Bininger, 232,589. Coin counter and changer, P. Clark, 232,596. Collar fastening, horse, S. J. Bowers, 232,590. Compass, mariner's, W. Thomson, 232,781. Cooker, steam, E. Gallaher, 232,701. Cornice bracket, H. L. Judd, 232,644. Cotton condenser, F. H. Lummus, 232,736. Coupling, W. J. Innis, 232,722. Curtain fixture, A. B. Shaw, 232,654. Cutlery handle, folding, H. M. Barrows, 232,626. Dental plugger, G. M. Renn, 232,768. Desk, accountant's or bookkeeper's, W. W. Underhill, 232,784. Desk, writing, J. Peard, 232,753. Ditching machine, I. C. Covert, 232,631. Door bolt, double, W. P. Brachmann, 232,672. Door hanger, L. Terry, 232,659. Drop light gasaller, J. E. Brown, 232,592, 232,593. Edger, gang, W. J. Perkins, 232,754. Electric light for burglar alarms, C. E. Buell, 232,678. Elevator, Fitts & Griffin, 232,637. Elevator cages, safety attachment for, P. Hinkle, 232,608. Fabrics, device for cutting, F. R. Lewis, 232,647. Fare box, G. W. Horne, 232,719. Faucet, J. P. Gruber, 232,709. Fence, farm, T. W. Owens, 232,750. Fermenting vat, M. V. Monarch, 232,746. Fertilizer, H. M. Pollard, 232,756. Flyter, B. T. Loomis, 232,735. Firearm, magazine, J. H. Salter, 232,766. Fireplace lining, J. B. Witherspoon, 232,621. Fish hook wrapper, G. G. Gregory, 232,706. Folding chair, J. T. Mitchell, 232,742. Fruit drier, M. J. Dorsett, 232,697. Furnace, U. Cummings, 232,690. Game apparatus for lawn bowling, E. W. Haines, 232,606. Gas lighting apparatus, electric, J. P. Tirrell, 232,661. Gas machine, A. Henning, 232,715. Gate, Harbaugh & Owen, 232,711. Gearing, cog, R. H. McNair, 232,612. Grain register, W. B. Richardson, 232,759. Grain separators, sieve for, J. A. Olson, 232,751. Grinding mill, J. T. Case, 232,595. Grinding mill, Swisher & Mershon, 232,779. Harrow, S. Harris, 232,641. Harrow, W. Rucker, Sr., 232,764. Harvester, W. H. Davis, 232,632. Harvester seats, safety device for, W. J. & A. R. Shaw, 232,655. Hinge, J. T. Morgan, 232,747. Hoe, F. J. Fischer, 232,700. Hominy mill, C. S. Day, 232,696. Hydrant, E. Kuching, 232,646. Hydraulic engine, I. C. Smith, 232,656. Insecticide pastille, J. J. Detwiler, 232,695. Insulators, forming, J. M. Brookfield (r), 9,392. Iron, tool for cutting plate, W. T. Bennett, 232,668.

- Jug, covered, I. W. Knowles, 232,730. Label, tobacco, P. J. Sorg, 232,771. Lamp chimneys, mechanism for opening the base of, J. Adams, 232,625. Lamp, electric, J. C. Jamin, 232,610. Lamp, reservoir, O. Sweeney, 232,778. Lamp supporting device, A. Roelofs, 232,761. Lead and crayon holder, A. C. Hafely, 232,607. Liquid drawing and measuring device, S. W. Cox, 232,680. Locomotive, F. M. Stevens, 232,776. Locomotive exhaust apparatus, E. Longstreth (r), 9,389. Locomotive fire box, Taylor & Burgess, 232,780. Mat, J. H. Robertson, 232,760. Meat, fruit, etc., press, B. A. Stevens, 232,619. Microphone, J. P. Livermore, 232,734. Milliner's steamer and presser, T. Hicks, Jr., 232,716. Millstone dress, A. D. Farling, 232,608. Mining machine, G. D. Whitcomb, 232,792. Mop head, J. K. Collins, 232,688. Nail extractor, A. F. Gerald, 232,706. Nickel plating, solution for, C. G. Pendleton, 232,615. Nickel, solution for the electro-deposition of, J. H. Potts, 232,755. Ore crusher frame, E. S. & H. H. Blake, 232,640. Oyster float, T. McCosker, 232,740. Packing band, J. Z. Gifford, 232,704. Painting pottery, T. J. Wheatley, 232,791. Paper, machine for waxing or varnishing, J. W. Sutton, 232,777. Peg and peg wood, F. F. Raymond, 2d., 232,617. Pen, cattle, J. N. Chew, 232,683. Pen, stylographic fountain, C. H. Downes, 232,683. Pencil sharpener, slate, J. W. Hyatt, 232,721. Pencils, machine for the manufacture of, J. W. Hyatt, 232,720. Plaited puffing, machine for making, S. E. Barney (r), 9,391. Plow and seed planter, combined listing, Cooper & Bostwick, 232,689. Plow attachment, C. E. Worline, 232,796. Polishing machine, M. R. Chase, 232,682. Printing machines, ink roller attachment for, G. A. Miller, 232,744. Printing surface, W. C. Walker, 232,786. Pulley, belt, W. J. Fetter, 232,635. Pump, G. S. Bartlett, 232,666. Pump, W. Burlingham, 232,629. Pump valve, A. K. Rider (r), 9,388. Pumping apparatus, vacuum, Frings & Müller, 232,638. Reapers, attachment for, G. W. Looney, Sr., 232,648. Rock drill, S. Hussey, 232,609. Rolling mill, C. Erdmann, 232,602. Roofing, H. W. Hoefl, 232,643. Rope coils, rack and spool for holding, C. J. Le Roy, 232,733. Rotary steam engine, C. S. Whitney, 232,798. Saddle horn, Rubarts & Dubrulle, 232,763. Saddle, military, J. R. Hastings, 232,712. Saddle, pack, T. A. Kelly, 232,729. Safe, sectional kitchen, C. Spier, 232,772. Sample exhibitor, G. S. Griffith, Jr., 232,639. Sash fastener, J. Harley, 232,710. Saw filing machine, gin, D. T. Burden, 232,679. Scraper, revolving sulky, W. C. Marr, 232,738. Screw cutting die stock, Walker & Williams, 232,785. Seeding machine, S. Hoke, 232,718. Sewing machine operating mechanism, G. W. Zeigler, 232,622 to 232,624. Ships, construction of, J. W. Sadler, 232,651. Shirt bosom, S. K. Devereux, 232,696. Shoe nail, S. Moore, 232,745. Shutter fastener, A. M. Walker, 232,789. Soldering apparatus, J. Campen, 232,681. Sower, seed, T. B. Rogers, 232,762. Spectacle frame, Willson & Meigs, 232,795. Stamp, hand, Keith & Philp, 232,727. Steam generator, F. M. Stevens, 232,773. Steel blooming and slabbing mill, J. Hemphill, 232,713. Stereoscope, Pagliugh & Ardito, 232,649. Stocking suspender, child's, H. F. Bowman, 232,671. Stool or chair, J. M. J. Wernert, 232,790. Stump extractor, E. O'Neill, 232,614. Suspenders, J. A. Adamson, 232,664. Telegraph box, fire alarm, G. A. Gawler, 232,702. Telegraph, multiple, H. C. Nicholson, 232,749. Telephone, C. E. Buell, 232,675 to 232,677. Telephone alarms, cut out for, Barker & Edmonston, 232,665. Telephone circuit, T. A. Watson, 232,788. Telephone, speaking, W. Gillett, 232,705. Telephone stand, T. A. Watson, 232,787. Time detector, watchman's, W. Imhaeuser (r), 9,387. Time lock, B. F. Flint, 232,604. Toy bank, G. W. Eddy, 232,699. Toy moulding apparatus, J. A. Crandall, 232,598, 232,599. Toy money box, J. H. Bowen, 232,628. Toy pistol, H. A. Smith, 232,708. Traction engine, J. F. Marks, 232,739. Trunk, C. F. Clapp, 232,692. Type writing machine, A. M. Da Costa, 232,692. Type writing machine, C. McKinley, 232,741. Type writing machines, paper presser for, J. H. Pratt, 232,757. Urn for the reception of the ashes of the dead, E. C. Townsend, 232,782. Valve gear, steam engine, F. M. Stevens, 232,774. Valve, rotary, F. M. Stevens, 232,775. Valve, safety, J. Griswold, 232,708. Vehicle spring, A. Tetu, 232,658. Vehicle, spring, G. White, 232,794. Vehicle top joint, J. A. Nisonger, 232,748. Velocipede, C. M. Trautmann, 232,620. Velocipede, Tripler & Roff, 232,738. Vent plug for barrels, etc., A. Zoller, 232,797. Wagon, buckboard, W. Sanford, 232,765. Washing machine, L. Becker, 232,667. Watch, stop, H. A. Lugin, 232,737. Web winding machine, G. Roscuting, 232,650. Whale blubber, machine for mincing, P. Cunningham, 232,691. Whipsnap, Bohler & Phinney, 232,670. Wind engine, J. R. Brink, 232,673. Winding mechanism for going barrels, E. Wright, 232,663. Window frame pocket, H. D. Pursell, 232,616. Window screen, J. Joseph, 232,725.

DESIGNS.

- Book, Christmas, H. E. Manchester, 11,970. Door mat, rubber, A. O. Bourn, 11,972. Sewing machine case, E. Genee, 11,969. Sewing machine case, J. Stephan, 11,971.

TRADE MARKS.

- Beer, F. Dittmer, 8,048. Bitters, herbal, W. H. Beasley, 8,050. Blacking and polish, T. Y. Kelley, 8,047. Cigars, cigarettes, cheroots, and plug, smoking, and chewing tobacco, Kinney Tobacco Company, 8,061, 8,052. Plow, Gale Manufacturing Company, 8,049.