Business and Lersonal.

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.

Comfort and happiness after using one bottle German Corn Remover. Price, 25 cts. Sold by druggists.

The clergy, as also the temperance lecturers, use Van Beil's "Rye and Rock" for the throat.

Hand and Power Bolt Cutters, Screw Plates, Taps in great variety. The l'ratt & Whitney Co., Hartforc', Ct. For Sale. - A Valuable Patent for Photographers' use or can be manufactured on royalty. Address G. W. Baker, Wilmington, Del.

Use the Vacuum Oils. The best car, lubricating, engine, and cylinder oils made. Address Vacuum Oil Co., No. 3 Rochester Savings Bank, Rochester, N. Y.

If your hoiler requires frequent cleaning, it can be obviated by removing the sediment continuously by circulation to mud drum on top of boiler by Hotchkiss Me chanical Boiler Cleaner, 84 John St., N.Y. Circulars free

Send to Geo. W. Loss & Son, Fashionable Clothiers, 70 Fulton St., New York. for samples of Cloths, from which they make (men's) garments to order in superior style and workmanship. Business suits from \$20 to \$30; dress suits from \$25 to \$40. Samples and fashion plates

A \$2) Breech-loading Shot Gun for \$7. The Champion Imported Breech-loading Shot Gun, advertised in this issue by the reliable well known firm of E. G. Rideout & Co., New York, is pronounced by sportsmen to be unrivaled in every detail, well worth \$20, and the biggest bargain ever offered in firearms. Order at once, as the offer is only good until July 15.

German Corn Remover-cleanly to use, easily applied, perfectly harmless, but cures every time. 25 cts.

Maker of Forged Taper Keys send address to M. E. Card, Cazenovia, N. Y.

A Business Man would like to make arrangements with some party to handle their goods on commission, Address K., P. O. Box 985, Providence, R. I.

Propellers, 10 to 26 in. Geo. F. Shedd, Waltham, Mass Bradford Reduced Oils for Lubricating and Manu-

facturing Purposes. M. Lewellyn & Co., Olean, N. Y. For the best Jig Saw Blades, go to Wm. Cuddy, 108

Gardiner's Pat. Belt Clamp. See illus. adv., p. 284. Portable Railway Track and Cars. Contractors, Planters. Miners, send for circulars. Francis W. Corey & Co., 5 & 7 Dey St., New York; 95 Wasbington St., Chicago, Ill.

Essay on Inventions. - What qualities will make them profitable, and how to incorporate these qualities in inventions. 25 cts. postpaid. Address N. Davenport, Valparaiso, Ind.

Improved Skinner Portable Engines. Erie, Pa

"Rival" Steam Pumps for Hot or Cold Water; \$32 and upward. John H. McGowan & Co., Cincinnati, O. Skinner's Chuck. Universal, and Eccentric. See p. 268.

Inventors sending a three cent stamp to Inventors' Institute, Cooper Union, New York city, will receive a copy of the Industrial News free.

The Eureka Mower cuts a six foot swath easier than a side cut mower cuts four feet, and leaves the cut grass standing light and loose, curing in half the time. Send for circular. Eureka Mower Company, Towanda, Pa.

The Newell Universal Mill Co., Office 7 Cortlandt St. New York, are manufacturers of the Newell Universal Grinder for crushing ores and grinding phosphates, bone plaster, dyewoods, and all gummy and sticky substances Circulars and prices forwarded upon request

Pure Oak Leather Belting. C. W. Arny & Son, Manufacturers, Philadelphia. Correspondence solicited. Jenkins' Patent Valves and Packing "The Standard." Jenkins Bros., Proprietors, 11 Dey St., New York.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Wood-Working Machinery of Improved Design and Workmanship. Cordesman, Egan & Co., Cincinnati, O.

The "1880" Lace Cutter by mail for 50 cts.; discount to the trade. Sterling Elliott, 262 Dover St., Boston, Mass. Experts in Patent Causes and Mechanical Counsel. Park Benjamin & Bro., 50 A stor House, New York.

Split Polleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting

Works, Drinker St., Philadelphia. Pa. Malleable and Gray Iron Castings, all descriptions, by

Erie Malleable Iron Company, limited, Erie, l'a. Power, Foot, and Hand Presses for Metal Workers.

Lowest prices. Peerless Punch & Sbear Co. 52 Dey St., N.Y. National Steel Tube Cleaner for boiler tubes. Adjustable, durable. Chalmers-Spence Co., 40 John St., N. Y.

Corrugated Wrought Iron for Tires on Traction Rngines, etc. Sole mfrs., H. Lloyd, Son & Co., Pittsb'g, Pa. Best Oak Tanned Leather Belting. Wm F. Fore-

paugh, Jr., & Bros., 53t Jefferson St., Philadelphia, Pa. Stave, Barrel, Keg. and Hogshead Machinery a spe cialty, by E. & B. Holmes, Buffalo, N. Y.

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

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

Presses, Dies, Tools for working Sheet Metals, etc. Fruit and other Can Tools. E. W. Bliss, Brookn, N. Y. Cope & Maxwell M'f'g Co.'s Pump adv., page 252.

The I. B. Davis Patent Feed Pump. See adv., p. 269 Moulding Machines for Foundry Use. 33 per cent saved in labor. See adv. of Reynolds & Co., page 269. The Sweetland Chuck. See illus. adv., p. 269.

Machine Knives for Wood-working Machinery, Book Binders, and Paper Mills. Also manufacturers of Solo-man's Parallel Vise, Taylor. Stiles & Co.. Riegelsville, N.J.

For best Duplex Injector, see Jenks' adv., p. 269. Blake "Lion and Eagle" Imp'd Crusher, See p. 284. 4 to 40 H. P. Steam Engines. See adv. p. 286. C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 285.

Long & Allstatter Co.'s Power Punch. See adv., p. 285 Eclipse Fan Blower and Exhauster. See adv., p. 285. Peck's Patent Drop Press. See adv., page 300.

Fire Brick. Tile, and Clay Retorts, all shapes. Borgne & O'Brien, M'f'rs, 23d St., above Race, Phila., Pa.

Turbine Wheels; Mill Mach'y. O.J.Bollinger, York, Pa. For Mining Mach'v, see ad of Noble & Hall, p. 301. Silica Paints (not mixed); all shades. 40 Bleecker St.

For best Portable Forges and Blacksmiths' Hand Blowers, address Buffalo Forge Co., Buffalo, N. Y.

The Brown Automatic Cut-off Engine; unexcelled for Workmanship, economy, and durability. Write for information. C. H. Brown & Co., Fitebburg, Mass. Wren's Patent Grate Bar. See adv. page 300.

Brass & Copper in sheets, wire & blanks. See ad. p. 300. The None-such Turbine. See adv., p. 286.

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.

Diamond Saws. J. Dickinson, 64 Nassau St., N. Y. The Improved Hydraulic Jacks, Punches, and Tube Expanders R. Dudgeon. 24 Columbia St., New York.

Eagle Anvils, 10 cents per pound. Fully warranted. Geiser's Patent Grain Thrasher, Peerless, Portable, and Traction Engine. Geiser M'f'g Co., Waynesboro. Pa. Blake's Belt Studs are the best fastening for Rubber and Leather Belts. Greene, Tweed & Co

Houston's Four-Sided Moulder. See adv., page 301. For Mill Macb'y & Mill Furnishing, see illus. adv. p.300. New Economizer Portable Engine. See illus. adv. p. 301. Rollstone Mac. Co.'s Wood Working Mach'y ad. p. 301. For Light Machinists' Tools, etc., see Reed's adv., p. 301 Rue's New "Little Giant" Injector is much praised for its capacity, reliability, and long use without repairs Rue Manufacturing Co., Philadelphia, Pa.

Saw Mill Machinery. Steams Mfg. Co. See p. 300. Skinner & Wood, Erie, Pa.. Portable and Stationary Engines, are full of orders and withdraw their illustrated advertisement. Send for their new circuars.

Saunders' Pipe Cutting Threading Mach. See p. 301. For Shafts, Pulleys, or Hangers, call and see stock kept at 79 Liberty St., N. Y. Wm. Sellers & Co.

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

Toope's Pat Felt and Asbestos Non-conducting Re movable Covering for Hot or Cold Surfaces; 'Poope's Pat Grate Bar. C.Toope & Co., M'f'g Agt., 353 E. 78th St., N.Y.

Use Vacuum Oil Co.'s Cylinder Oil, Rochester, N. Y. Walrus Leather. A choice lot for Polishing Metals Greene, Tweed & Co., 118 Chambers St., New York.

Don't buy a Steam Pump until you have written Valley Machine Co., Easthampton, Mass.

Green River Drilling Machines. See ad. p. 286. Akron Rubber Works, Akron, O., Manufacturers of Mechanical Rubber Goods.

For Machinists' Tools, see Whitcomb's adv., p. 301.



HINTS TO CORRESPONDENTS.

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

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 lahor to obtain such information without remuneration.

Any numbers of the Scientific American Supple-MENT referred to in these columns may be had at this office. Price 10 cents each

(1) A. S. writes: One of your correspondents asks for a cure for warts. Some years since a corn doctor advised me to use coal oil. My hands were covered with them. Having little faith I tried it, putting a drop on each of common kerosene and letting it absorb; where there was a hard crust, scraping it to facilitate absorption. In a fortnight, after twice daily treating them thus, they began to lessen, and finally disappeared without scar. Then the right hand, in part leaving one which remained after all others had passed away, and then that one. Have advised others to try it with like effect, on persistent use. Simply softened the top, dropped the oil on, and let it be, for some minutes, to absorb. Let S. R. B. try it; it may relieve.

(2) S. L. J. asks (1) for a receipt for good blackink. A. Forblackinkssee "Inks," SUPPLEMENT No. 157. 2. For good black or blue black writing fluid A. For blue-black writing and copying ink-Blue Aleppo galls, free from insect perforations, 5% oz.; bruised cloves, 1 drachm; cold soft water, 31/2 pints; puri fled sulphate of iron, 11/2 oz; sulphuric acid by measure, 35 minims; sulphate of indigo in the form of a thin paste, and which should be neutral or nearly so, 14 oz. Digest together in a closed vessel, with occasional agitation, for two weeks, the galls, cloves, and water Then filter the liquid through a piece of cotton cloth, and press out as much of the liquid as possible from the sediment. Dissolve in this completely the powdered sulphate of iron, stir in briskly the acid, then the indigo, and filter the liquid through the paper (filter paper).

(3) E. H. R. asks: Can I clean silver ware tea set, etc., in daily use, with receipt given in answer | Creamer, centrifugal, Pedersen & Elckhoff......

to W. H. P., page 251 (32), and how can I keep the silver clean? A. No. Cvanide of potassium cleans silver readily, but it is very poisonous and consequently dan gerous to use for such purposes or to have about the house. Lacquer or varnish is never used on such arti The best way to clean domestic silver ware is to lightly scour it with a little fine whiting or tripoli moistened with sweet oil (olive oil). This is washed of by dipping in a strong hot solution of washing soda then in clean hot water, on removing from which it dries quickly without rubbing. 2. What is used to stiffen washed lace and make it look new? A. Very thin clear starch or gum water.

English Patents Issued to Americans.

From April 8 to April 12, 1881, inclusive. Carding machinery, J. Pollitt, Philadelphia, Pa Design. process of producing, I. S. Hyatt, U. S. A. Ivory, imitation of, I. S. Hyatt, U. S. A. Lead pencils, B. A. Fiske, Naperville, III. Locks and staples, G. M. Hathaway et al., Jersey City, N. J

Powdered substances, manufacture of articles from, L S Hyatt, U. S. A.
Shoe fastening, 'F. L. Jacobs, New York city. Shoe machinery, D. C. Knowlton, Boston, Mass, Spectacles. R. A. Carter, New York city.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending April 12, 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,

Abdominal supporter, S. A. Drewry	239,94
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