inated.

RECENTLY PATENTED INVENTIONS. Architectural Inventions.

ENTASISOGRAPH .- GEARY KIMBRELL, Pendleton, Ore. The invention provides a novel instrument which accurately draws the entasis of a classic column of the Ionic, Corinthian or Doric order. By the aid of this instrument

any draftsman can execute his task more perfectly than an expert artist, at a considerable saving of time.

HEATING AND VENTILATING APPA-RATUS .- JOHN M. MILLER, Baldwin, Kans. Mr. Miller has devised an improved heating and ventilating apparatus which is designed to air from out of doors, heated to a suitable temperature. The stagnant or dead air is carried away from the rooms so that the fresh air admitted is breathed pure and uncontam-

BUILDING SUPPORT .- MATTHEW H. CALporting a long section of wall, by one device, thus avoiding injury by the use of independent supports, is the purpose of the present invention. To attain this end the inventor employs a bar, carrying a number of hooks arranged to underly the wall or other structure. The bar is carried by jacks which sustain the weight of the wall.

Engineering Improvements.

SLIDE-VALVE GEAR FOR ENGINES.-SAMUEL S. YOUNGHUSBAND, Granville Terrace, Woodlands Road, Darlington, England. In By means of a simple device actuated by a this valve-gear motion is transmitted from the movement of the press, the ink supply for the reversing or expansion link to the slide-valve rollers will be forced out evenly and with through an intermediate lever having a pivotal connection with the die-block of the link. The lever is connected by its shorter arm with the valve-rod, and is suspended by its other arm from a hanger on the weigh-shaft. The operation of the intermediate lever and connected parts is such that, with a given throw of ec- of printing-presses. The inventor has devised centric, the travel of the valve is increased, whereby the admission and cut-off are more sudden, since they occur when the valve is moving at a higher speed than would other without one sheet's touching or offsetting on

SPARK-ARRESTER.—GEORGE F. MOORE. Jr., General Delivery, New York city. When steam-engines are used in harvest-fields, the danger of setting fire to the straw or grain from escaping sparks is great. The present invention comprehends a simple and practical city. device for preventing such fires, which device is comparatively cheap and can be applied to the stack of any steam boiler furnace. The invention is a spark-arrester of a form employing a water spray above the smoke-stack flue.

Mechanical Devices.

ICE - CREAM FREEZER. - EDWARD R. $M \bullet \mathtt{RSE}, \ Birmingham, \ Ala.$ The ice-cream is frozen in a series of cups horizontally mounted in an ice-receptacle. By turning a crank the receptacle is swung first in one direction and then in the other. Since the cups are different distances from the center, the ice will be thoroughly agitated, with the result, according to the inventor, that the ice cream will be found thoroughly frozen in eight or ten min-

ing a pivot on which a pair of interlocking for decorative and advertising purposes. jaws are held. A chain on the pivot is adapted to engage the pipe in conjunction with the jaws. The pipe is thus securely gripped and design consists in a rib extending longitudinally can be positively turned to the right or to the of the shank and in ribs extending trans left without removing it from the wrench.

GRAPPLE.-MATTHEW H. CALLAHAN, Aspen, Colo. It is the purpose of this invention to tongs, adapted for gripping and carrying various objects. The invention is embodied in two allied forms. In the one, two handleof the jaws or hooks composing the grapple proper, and are supported at one end by means of a rotatable wheel. In the other form, the levers are similarly attached to the hooks, but are adapted to be held and supported manually at both ends.

FIRE - LADDER AND ESCAPE. — PIETRO BASTIANELLO, Perth Amboy, N. J. The invention relates to extension ladders. The wagon or truck carries supports, pivotally connected ladders, and a turntable to which the lower ladder is secured. A grappling-iron on the upper end of the upper ladder provides a topmost support. A windlass and a cable connected with the heel portions of the ladders are used to operate the ladders. In addition to the ladders a cage is to be employed for the escape of persons from a burning build-

Machine Tools.

CUTTER-HEAD .- SAMUEL MACD. LANGSTON, type used upon a rotary shaft for the purpose the movable end relatively to the other end | which we can thoroughly recommend.

PUNCHING-MACHINE .- FRANK F. CUMMS, Rutland, Vt. The punching-machine has a spring-pressed bar mounted to slide and arranged to carry a punch. A revoluble tappetsleeve having tappet-fingers of different lengths causes the downward movement of the bar. Means are provided for adjusting the sleeve transversely to bring one or more of the tappetfingers in operative position relatively to the punch. The device is simple in construction and very effective in operation. It is to be used especially for punching holes in straps.

SPOKE-THROATING MACHINE.—DEFIANCE MACHINE WORKS, Defiance, Ohio. This new machine is the invention of Mr. Charles Seyfurnish the rooms of buildings with fresh mour, on whose work in improving woodworking machinery we have frequently had occasion to comment. This new machine is designed for the use of spoke, wheel, and wagon manufacturers, and is arranged rapidly, smoothly, and accurately to form the throat at both sides of the spoke during its passage through the LIHAN, Aspen, Colo. To provide means for sup- machine. The construction is such that large or small spokes of any pattern in large quantities can be handled in a short time.

Printers' Machinery.

PRINTING-PRESS ATTACHMENT. — ROB-ERT NAUMANN, Manhattan, New York city. The invention provides improvements in ink-sup-plying attachments for printing-presses of the type having a rotary ink-spreading disk. The inkfont can be quickly attached to or removed from the press, so that different inks or changes from one color to another can be made without delay. uniform pressure. The amount of ink discharged in a given time can be nicely regulated.

SHEETING ATTACHMENT.—MICHAEL A. DROITCOUR, Pittsburg, Pa. The present invention is concerned with the delivery mechanism a new sheeting attachment which is arranged to take the printed sheets from the printingpress and wind them up in an apron or web the other, in order to allow the sheets to dry properly to prevent their being soiled, which only too frequently happens when the sheets are piled by the fly upon the fly-table. inventor has assigned his patent to Mr. Gustav F. Kalkhoff, 409-415 Pearl Street, New York

Railway Appliances.

RAIL.—GEORGE A. CASE, Joplin, Mo. The principal feature of the rail lies in a novel structure by which one is enabled to provide in a practical manner a rail-ball which is removable from the web and base of the rail. The merit of this invention is that when worn out the rail-ball can be renewed without disturbing the other parts.

Designs.

BACK FOR BRUSHES .- LOUIS B. PRAHAR, Brooklyn, New York city. Mr. Prahar has designed a brush of novel shape and attractive ornamentation.

ALPHABETS. - MARCUS T. GOLDSMITH, PIPE-WRENCH.—FRANK I. Webber, Oxford, Manhattan, New York city. The invention Neb. The wrench comprises a handle, carry-relates to a design for an alphabet to be used in a place of the comprise of the compression of the co

SHOE-SOLE.—JOHN S. BUSKY, Brooklyn, New York city. The leading feature of the versely.

BRUSH OR MIRROR BACK.-WILLIAM W. Bromham, Manhattan, New York city. Mr. provide an improvement in grapple or lifting-Bromham has tastefully ornamented the back of his brush or mirror with poppy flowers.

Note.-Copies of any of these patents will be furnished by Munn & Co. for ten cents each. bars or levers are connected with the shanks please state the name of the patentee, title of the invention, and date of this paper.

NEW BOOKS, ETC.

AMERICAN BUSINESS AND ACCOUNTING EN-CYCLOPEDIA. Compiled by E. H. Beach and W. W. Thorne. Detroit: The Bookkeeper Publishing Company, Ltd. 1901. Quarto. Pp. 1100. Leather binding. Price \$8.

The volume is as portly dictionary, and it should prove as useful to all those who are interested in accounting The amount of information which is conveyed in this volume is vast, to say the least. The number of examples of books of all kinds is most comprehensive, and the information is all given in language which can be understood by everyone. All classes of accounts are treated. Indeed, there seems to be hardly a business upon which this elaborate volume does not touch. The "Bookkeeper" is well known as a medium for the interchange of ideas among Philadelphia, Pa. The cutter-head is of the accountants, and there is no doubt that the excellence of the present volume depends to a of cutting thin material (tin plate, brass, and considerable extent upon the knowledge the like) in rolls or sheets. The cutter-head which the editors have obtained while workcomprises a split-ring provided with bearing lugs and having normally free ends. An 800 illustrations of special forms. Every annular cutter is rigidly secured to the split-bookkeeper and business man should obtain ring at a number of points, but leaving one of the ends free to move. A screw actuates bookkeeping and accounting. It is a treatise

Business and Personal Wants. INDEX OF INVENTIONS

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the unformation. In every case it is necessary to give the number of the inquiry. MUNN & CO.

Marine Iron Works. Chicago. Catalogue free. Inquiry No. 2035.—For manufacturers of gaso line engine castings.

"U. S." Metal Polish. Indianapolis. Samples free. Inquiry No. 2036.—For parties to manufacture an invention on a bicycle sprocket.

WATER WHEELS. Alcott & Co., Mt. Holly, N. J. Inquiry No. 2037.—For parties to make steel

Specialties wanted. R. H. Laird, 24 S. 7th St. Phila. Inquiry No. 2038.—For dealers in pocket knives with microscopic views in handle.

Stencil Machines .- A. J. Bradley, 101 Beekman St. N.Y. Inquiry No. 2039. -For makers of feather and artificial flowers. Metal substitute. Crane Bros., Mfrs., Westfield, Mass.

Inquiry No. 2040.—For machinery for pitting prunes. Handle & Spoke Mchy. Ober Mfg. Co., 10 Bell St.,

Chagrin Falls, O. Inquiry No. 2041.—For parties engaged in metal casting.

Sheet metal stamping and light manufacturing. For-ske!! Motor Co., Anderson, Ind.

Inquiry No. 2042.—For manufacturers of acety-lene gas burners and fixtures.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 2043 .- For makers of generators. Rigs that Run. Hydrocarbon system. Write St. Louis Motor Carriage Co., St. Louis, Mo.

Inquiry No. 2044.—For parties making motor tricycles. Sheet, bar, rod or wire, cut, formed, any shape.

Metal Stamping Company, Niagara Falls, N. Y. Inquiry No. 2045.-For makers of glass novel-

For sheet metal stampings and novelties try Standard Stamping Co., Seventh and Hudson, Buffalo, N. Y.

Inquiry No. 2046.—For the makers of "The State Registered" gas stoves.

Ten days' trial given on Daus' Tip Top Duplicator. Felix Daus Duplicator Co., 5 Hanover St., N. Y. city. Inquiry No. 2047.—For manufacturers of ligonier silicate bricks.

Are you looking for anything in bent woodwork? Write Tucker Bicycle Woodwork Co., Urbana, Ohio, Inquiry No. 2048.—For manufacturers of crude oil burners.

Machinery designed and constructed. Gear cutting. The Garvin Machine Co., 149 Varick, cor. Spring Sts., N.Y.

Inquiry No. 2049.—For oil burners adaptable for cooking and heating stoves and furnaces. We build special automatic machines and devices' Preparing inventions for the market. Amstutz-Osborn Co., Cleveland, O.

Inquiry No. 2050.—For manufacturers of voting nachines.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 381 Broadway, N. Y. Inquiry No. 2051.—For manufacturers of heavy hydraulic machinery.

Manufacturers of patent articles, dies, stamping tools, light machinery. Quadriga Manufacturing Com-pany, 18 South Canal Street, Chicago.

Inquiry No. 2052.—For makers of coin vending nachines of all kinds.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Footof East 138th Street, New York. Inquiry No. 2053. - For an apparatus for making opies like original handwriting in black.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

Inquiry No. 2054.—For a patented machine for making a staple artic e. Inquiry No. 2055.—For manufacturers of low-priced domestic hand sewing machines.

Inquiry No. 2056.—For a cheap outfit of ordinary block photo-process printing.

Inquiry No. 2057.—For manufacturers of goods suitable for tropics.

Inquiry No. 2058.—For makers of turbine water wheels.

Inquiry No. 2059.-For makers of equipments for

Inquiry No. 2060.-For makers of frictionless metal.

Finquiry No. 2061.—For makers of furnaces for garbage or crematories.

Inquiry No. 2062.—For manufacturers of machinery for making buttons from mussel shells, Inquiry No. 2063.—For manufacturers of ice machinery. (Kansas City or Chicago firms preferred.)

Inquiry No. 2064.—For manufacturers of com-pressed air carpet-cleaning machinery Inquirý No. 2065.—For a separator for preventing the passing of dirt through a 6-inch steam pipe.

Inquiry No. 2066.—For an ice manufacturing plant with a capacity of 25 tons per day.

Inquiry No. 2067.—For manufacturers of a hydraulic wheel for rivers with a slow current to produce sufficient force to operate a pump giving 3 to 6 gallons of water per minute.

Inquiry No. 2068.—For manufacturers of canning nachinery.

Inquiry No. 2069.—For dealers in spring steel 3x and 1-16 thick.

Inquiry No. 2070.-For manufacturers of steel balls.

Inquiry No. 2071.—For wholesale dealers in large quantities of 16 or 34 inch lead tubing. Inquiry No. 2072.—For parties to make porcelain for sparking plugs for gas engine ignition.

Inquiry No. 2073.—For a spring power for running eanut roaster; motor to be about 1/2 to 1/4 horse power.

Inquiry No. 2074.—Wanted, to purchase patents on articles suitable for general consumption, such as novelties, etc.

Inquiry No. 2075.—For a centrifugal extractor of gold ores.

For which Letters Patent of the United States were Issued for the Week Ending

February 4, 1902, AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.

	Acidyl derivative of unsymmetrical acetonal-	
	kamins and making same, C. Harries Advertising purposes, moving model for, E.	692,656
	J. Bourke	692,604
	Aerated liquids on draft, apparatus for sup plying, Jackson & Lang. Air compressing apparatus, J. H. Burdick. Air exhausting apparatus, H. F. Wallmann. Amalgamator, J. W. R. Laxton. Annunciator, J. A. Wotton. Annunciator, electric, E. B. Overshiner. Anticribling device, M. M. Millis. Atomizer, C. J. Seltzer. Atomizer and nebulizer, C. J. Seltzer. Atomizer and nebulizer, combined, C. J.	692,292 692,424
	Air exhausting apparatus, H. F. Wallmann. Amalgamator, J. W. R. Laxton.	692,424 692,741 692,315
	Annunciator, J. A. Wotton	692,580 692,471
	Anticribbing device, M. M. Millis	692,471 692,326 692,722
	Atomizer and nebulizer, C. J. Seltzer Atomizer and nebulizer, combined, C. J.	692,485
i	Seltzer Atomizer and nebulizer tip, C. J. Seltzer Baby jumper, J. H. Crutchfiela	692,552
ļ	Baby jumper, J. H. Crutchfield	692,798 692,505 692,695
	Bags, papers, etc., machine for forming knotted loops on, W. Busch	692,764
	Baking pan, I. H. Jones	692,448 692,453
	Baby jumper, J. H. Crutchfield. Bag making machine, D. J. Mullen Bags, papers, etc., machine for forming knotted loops on, W. Busch Baking pan, I. H. Jones	692,453 692,503 692,706
	Bars, etc., with a covering of extruded material, apparatus for providing, D. J.	
	Jarvis et al Barrel tilting holder, J. Elliott	692,295 692,434
	Bed canopy, V. M. Brown	692,419 692,784
	Bicycle, P. & M. Tarzian Bicycle attachment, H. Simmons	692,784 692,383 692,725 692,538
	Bicycle lock, W. H. Niemeyer	092,040
	Beehive wintering case, M. Hemple. Bicycle, P. & M. Tarzian. Bicycle attachment, H. Simmons. Bicycle lock, W. H. Niemeyer. Binder, temporary, C. K. & C. A. Reed. Binding, metal ring for temporary, Adams & Kellner. Blackboard, J. K. Ritchey. Blind fastener, L. B. Gaylor. Blowpipe torch, C. G. Woodmansee. Boats on ships, etc., means for disengaging and replacing the supports of, T. Wilson Boiler cleaner, D. N. Baxter. Bolt cutting machine, A. W. Epright. Book for drapers, tailors, or others, manifold counter check or sales, J. S. Holmes Bottle, A. Maake.	692,584
	Blind fastener, L. B. Gaylor	692,354 692,261 692,752
	Boats on ships, etc., means for disengaging	609 400
	Boiler cleaner, D. N. Baxter	692,400 692,599
	Book, deposit credit, T. D. Taylor	692,258 692,384
	fold counter check or sales, J. S. Holmes Bottle A. Maske	692,290 692,321
	M. van den Heuvel. Bottle, mucilage, J. C. Carpenter. Bottle, mon-refillable, Johnson & Roberts. Bottle, non-refillable, Conr. Bottle, non-refillable, C. Carr. Bottle, non-refillable, E. T. Evans. Bottle stopper, G. Rouse. Bottle stopper, G. Rouse. Bottle stopper fastener, H. Pennie. Box. See Display box.	692,662 692,237 692,520
	Bottle, non-refillable, C. Carr	692,520 692,766 692,772
	Bottle stopper, G. Rouse	692,359 692,702
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	Brick pressing machine die, Riedel & Schiegner Bridge guard, H. W. Ten Broeke. Bridde blind, E. L. Sipe Bridle drown piece, A. E. Pollard. Broom, brush, A. Baldwin Brush, C. R. Uhlmann Brush and soap holder, combined, C. F. Salisbury	692,386 692,726 692,707
	Bridle crown piece, A. E. Pollard Broom, brush, A. Baldwin	692,707 692,592 692,387
	Brush and soap holder, combined, C. F.	
	Salisbury Brush handle holder, W. J. Tranter	692,484 692,739
	Brush or broom, A. Baldwin	692,593 692,804
	Salisbury Brush handle holder, W. J. Tranter Brush or broom, A. Baldwin Burial casket, J. A. Turney Cabinet, tooth brush and powder, C. T. Price	692,708
	Calcining lime, etc., B. E. Eldred	692,708 692,529 692,257 692,570
	Price Cable hanger, aerial, G. J. Knittle. Calcining lime, etc., B. E. Eldred. Calendering machine, M. J. Whitlock. Cam, stamp battery, C. C. Rueger. Camera focusing device, photographic, F. A. Brownell	692,483
	Brownell	692,610 692,477
	Brownell Can lock, milk, J. Rittenhouse. Cane or rattan fabrics, weaving and completing, G. O. Redpath. Cane stubble cleaner, W. H. Adams. Canopy support, T. J. Durett, Sr. Can apparel M. Davis.	692,346
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	Cards, locking device for stripping brush in revolving flat, C. E. Smith	692,727
	Kenzie Carrier. See Mail and parcel carrier.	692,464
	Cartridge shells, capping or decapping ma-	692.730
	Cartridge shells, capping or decapping machine for, J. E. Stockdale	692,730 692,356
	Just Casein phosphate, making, J. A. Just Caster, ball, C. W. Corey Collydea lates and making came M. C. I.	692,450 692,454
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	Althausse Cellulose, making acetyl, M. C. L. Althausse Chain or guard, watch, J. J. Rice Chair for therapeutic purposes, J. J. Stanger Chatelalw. frame and lock or catch therefor,	692,775 692,497 692,547
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	A. Weber	692,807
	A. Weber Checks, tickets, etc., device for transferring, J. C. Wolfe Chests and ranges, locking device for mess,	692,577
	G. B. Donavin. Chimney, J. B. Kenison et al. Cider and fruit press, H. Bender.	692,639 692,304
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	Clamp, C. T. Swaffield	692,381
	Clay mixer, D. Appleby, Jr	692,361 692,774
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	Clothes line, pinless, B. W. Knight	692,504 692,308 692,233
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İ	Contections, making irozen, P. Marine. Cooking, desiccating, or seasoning purposes, apparatus for, H. Higgins. Cooking utensil, M. A. K. C. Lambert Cooling can, E. S. Cushman (reissue). Copper ores, treating, W. J. Knox. Copping apparatus, autographic, L. Martin. Cord and pulley brake, D. D. Nugent. Cotter pin making machine, Kirkpatrick &	692,540
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	Cultivator, G. W. Henry	
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	Cultivator treadle guide, S. F. Hughes (Continued on page 113.)	002,021
	Cultivator treadle guide, S. F. Hughes (Continued on page 113.)	