wheat to the break rolls. The flights of the conveyer are so constructed that the wheat will be carried from under the conveyer and thrown over the top to the opposite side, the grain being moistened by steam or water of condensation at a point above the conveyer, and the flights bringing the wheat in contact with the steam, while the grains are thoroughly mixed to render them all equally moist. The grains are also thoroughly warmed, the heat serving to maintain the moisture on the exterior of the grain.

CHURN OPERATING MECHANISM. — Zachariah A. Taylor, Bridgeport, Ala. For churns having a vertically movable dasher, this inventor has devised an operating mechanism consisting of a suitably mounted drive shaft geared with a countershaft whose gear carries a series of pins adapted to engage an arm on a vertically movable cross head, the pins thus raising the cross head as the gear is revolved, and the cross head, which is connected with the dasher, being quickly returned by means of springs. Owing to the regularity of the stroke, the cream is not splashed or wasted, and the butter is quickly formed. The mechanism is simple and designed to be operated by a treadle.

JAR CLAMP.—Frank H. Palmer, Brooklyn, N. Y. According to this invention a ring-shaped frame seated on the jar cover has downwardly extending arms carrying lugs adapted to engage a flange on the neck of the jar, and on the top of the frame are lugs in which is held a spring rod on which is fulcrumed a cam with a friction roller in its cam end. By means of the cam lever the clamp is readily applied, the spring rod yielding sufficiently to prevent the cracking or breaking of glass, porcelain, etc, when the cover is clamped on the jar.

SANITARY PAIL.—Charles M. D. Baron, New York City. This invention covers an improvement in the construction of a pail on which a patent was formerly granted to the same inventor, greatly lessening the cost of manufacture and providing an airtight cover for an ordinary pail, to be readily secured in place by means of the bail. The cover is light and strong, and the handle on the bail acts as a locking roller for the cover.

Designs.

GRIP FOR SKIRTS, ETC.—Ella L. Cole, New York City. To hold a belt in close engagement with a skirt or trousers, this device has one depending shank adapted to go outside the belt and another depending shank on which are twin spurs or hooks.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co. for 10 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

ALASKA: Its History and Resources, Gold Fields, Routes, and Scenery. By Miner W. Bruce. Illustrated. New York: Frederick Warne & Company, 3 Cooper Union. Pp. 128. Cloth $1.25. Paper edition 75 cents.

Many want to know about Alaska, what the much debated country is, what is its climate, its conditions of life and different industries. This desire, the present book, with beautiful illustrations and really attractive text, will excellently supply. There is much that is practical and popular in it, such as the descriptions of the Indians, with their mode of life, with their boats, clothing, etc., all of which is in the line of the most attractive kind of anthropology. The illustrations from photographs are especially good, and say a great deal for the clear atmosphere of the country. One of Sitka, 10:30 P. M., speaking eloquently of the long Arctic twilight.

HOW TO DO BUSINESS. By Seymour Eaton, of the Drexel Institute, Philadelphia. Philadelphia: P. W. Ziegler & Company. Pages 334.

This is, in many senses, an up-to-date book, bright, original, and full of information not generally found heretofore in books of this class. Modern methods of banking and making collections; the business in negotiable papers, stocks, bonds, and other securities; insurance; importing, exporting, shipping, and warehousing; margin trading; business correspondence; short cuts in figures; doing business by telegraph, and modern bookkeeping ideas, form the subjects of some of the most important chapters. For a young man wanting to understand how business in general is conducted in the great commercial centers, this book, thoroughly mastered, affords a "short cut" to a most serviceable stock of information. Its author is Director of the Department of Industry and Finance of the Drexel Institute, and the book has questions for the subject matter of each chapter, thus adapting it for use in commercial schools and business colleges.

THE ENGINEERING INDEX. Vol. II. 1892–1895. New York: The Engineering Magazine. Pages 474. Price $4.

This volume, and the one preceding it, form a classified index to the engineering literature in the periodical press for the past eleven years. The work was begun by the Association of Engineering Societies, and is now being carried out by the Engineering Magazine, it being designed to publish an annual volume hereafter.

A MANUAL OF STEAM BOILERS. Their Design, Construction, and Operation. By Dr. R. H. Thurston, Sibley College, Cornell University. New York: John Wiley & Sons. Pages 879. Price $5.

This is the fifth edition, revised and enlarged, of a well known standard work for technical schools and engineers, designed to be a fairly complete, systematic, and scientific treatise, while yet meeting the practical wants of an engineer laying out work. Dr. Thurston is also the author of a "History of the Steam Engine," "Engine and Boiler Trials," "Materials of Engineering," and other works in this line, and for the past quarter of a century has been recognized as one of our leading authorities in mechanical engineering.

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 the following week's issue

Marine Iron Works. Chicago. Catalogue free.

High grade well drills. Loomis Co., Tiffin, Ohio.

"C. S." metal polish. Indianapolis. Samples free.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J.

For bridge erecting engines. J. S. Mundy, Newark, N.J.

Handle & Spoke Mchy. Ober Lathe Co., Chagrin Falls, O.

Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Laight and Canal Sts., New York.

Agents wanted for our carriage shaft holder. Circular free. Sample 60c. Butcher Mfg. Co., Cambridge, Mass.

Machinery manufacturers, attention! Concrete and mortar mixing mills. Exclusive rights for sale. "Ransome," 757 Monadnock, Chicago.

Wet Tool Grinder, Sensitive Drills, for all light work, especially adapted for Bicycle work. C. N. Cady, Canastota, N. Y.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, $4, Munn & Co., publishers, 361 Broadway, N. Y.

Stay with your job, and with your wages pay installments for a profitable olive orchard. Booklet free. Whiting's Olive Colony, Byrne Building, Los Angeles, Cal.

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

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(6957) W. E. K. says: Will you kindly give me a recipe for preserving cider, in your Notes and Queries? A. Professional cider makers are now using calcium sulphite (sulphite of lime), instead of mustard and sulphurous oxide gas. It is much more convenient and effectual. To use it, it is simply requisite to add ½ to ¼ of an ounce of the sulphite to each gallon of cider in the cask, first mixing the powder in about a quart of the cider, then pouring it back into the cask and giving the latter a thorough shaking or rolling. After standing bunged several days to allow the sulphite to exert its full action, it may be bottled off. The sulphite of lime (which should not be mistaken for the sulphate of lime) is a commercial article. It will preserve the sweetness of the cider perfectly, but unless care is taken not to add too much of it, it will impart a slight sulphurous taste to the cider. The bottles and corks used should be perfectly clean, and the corks wired down. A little cinnamon, wintergreen, or sassafras, etc., is often added to sweet cider in the bottle, together with a drachm or so of bicarbonate of soda at the moment of driving the stopper. This helps to neutralize the acids, and renders the liquid effervescent when unstoppered; but if used in excess, it may prejudicially affect the taste.

(6958) H. R. S. says: Will you please publish the receipt for making a flour paste? A. T. A. Richardson, the architect, recommends to every 2 tablespoonfuls of the best wheat flour to add a teaspoonful of common moist or brown sugar, and a few drops corrosive sublimate; the whole to be boiled, and continually stirred to prevent getting lumpy, till of the right thickness. To prevent mouldiness, a few drops of some essential oil, as lavender or peppermint.

(6959) J. C. W. says: Would you be so kind as to send me your formula for browning blue prints with tannic acid and caustic potash, which came out in your valuable paper, at your earliest possible convenience? A. Immerse the blue print after it is dried in a solution of aqua ammonia containing 22 per cent am. gas, 2 parts; distilled water, 18 parts. Leave the print in this solution from two to four minutes, or until the blue color entirely disappears, then rinse in clear water, and plunge in a filtered solution of tannic acid, 2 parts; distilled water, 100 parts. Keep in this solution about twelve hours. If not as dark as desired, intensify by adding to the bath a few drops of ammonia water. Take out after a few minutes and wash thoroughly. The prints resemble sepia drawings. A greenish tone may be given blue prints by immersing after washing in a 1 per cent solution of sulphuric acid.

(6960) W. C. W. says: Will you please give me receipt for a good wine of coca? A. This is a French preparation. Its strength is about 1 in 30, and the dose a wineglassful. Coca wine is, roughly speaking, about one-sixth of the strength of the official liquid extract (Extractum Cocæ Liquidum B. P., or Extractum Erythroxyli Fludium U. S.) To obtain the liquid extract, coca leaves are exhausted by percolation (which differs from either decoction or infusion) with proof spirit. At the termination of the process the strength should be adjusted so that 1 ounce = 1 of leaves. The process of percolation is as follows: The leaves are placed in a vessel very like an elongated funnel, closed at its base by a porous diaphragm. This funnel fits into a receiver, and a small tube passes up its outer side and enters it near the top, forming a means of communication between the two. Spirit is now poured on the leaves, and the percolator closed. As the percolate filters slowly through into the reservoir, the displaced air passes up the tube, and so maintains an equilibrium in both vessels. The virtue of the coca leaves lies principally in the presence of the alkaloid cocaine. This, in the dried leaves, is supposed to exist as an inert salt, similar to many of the cinchona alkaloids in bark.

(6961) M. H. R. says: I have a 12 inch reflecting telescope, 72 inch focus. What diameter and strength of concave lens is required to make an amplifier, or "Barlow" lens to be used with the telescope, to enable me to take photographs of the moon? And will it make any difference as to which side of the lens is put next to the eyepiece? A. It will depend on the mount or tube of the telescope as to where the amplifier can be placed. The nearer the focus the smaller diameter it can be. As to focus, it will depend on how much amplification is wanted. The general size of a Barlow lens is 1 inch diameter and 6 inches focus. If it is correctly made for photographing, it will not make any difference which side is in.

(6962) H. S. writes: Some weeks ago there was published in your weekly an exhaustive article on the heat-resisting powers of different materials suitable for steam boilers and pipe coverings. I am in a dispute as to the merits of hair or asbestos covering. So I want to right myself before deciding. A. We give the relative values of different materials. We give following tests of Mr. G. B. Dumford, of Hamilton, Ont.

	Per cent.
Combination of asbestos, hair felt, air space and wood	100
Asbestos and hair felt and chopped straw, the straw mixed with lime putty	87
A plastic cement manufactured by parties at Troy, N. Y., with ½ inch half felt outside	86·6
Paper pulp mixed with lime putty, 1 inch, covered with sheeting of wood pulp	85
Mineral wool cased with wood	81
" " cased with sheet iron	79
Charcoal	60
Sawdust	41
Loam and chopped straw sealed with wood	32
Asbestos	29
Coal ashes	24
Air space	20
Fire brick	15
Red brick	12
Sand	9·3

(6963) F. F. says: Please be so kind as to inform me how to polish cattle horns. A. First scrape with glass to take off any roughness, then grind some pumice stone to powder, and with a piece of cloth wetted and dipped in the powder, rub them until a smooth face is obtained. Next polish with rottenstone and linseed oil, and finish with dry flour and a piece of clean linen rag. The more rubbing with the stone and oil, the better the polish. Trent sand is used in the Sheffield factories. It is a very fine and sharp sand, and is prepared for use by calcining and sifting.

TO INVENTORS.

An experience of nearly fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequaled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

September 8, 1896,

AND EACH BEARING THAT DATE.

(See note at end of list about copies of these patents.)

Advertising device, F. A. Ruge	567,514
Aerial dancing apparatus for, W. B. B. Neale	567,352
Air brake, H. L. Howe	567,476
Almond huller and separator, combined, J. E. Beach	567,372
Alternating generator, constant potential, E. W. Rice, Jr	567,197
Auger bit, W. B., Jr., & J. S. Howard	567,271
Axle lubricator, L. R. Roberts	567,168
Axle spindle and box, J. A. Rumrill	567,515
Baling press, cotton, R. L. Owen	567,548
Ball. See Rubber ball.	
Ball mill for mixing or grinding, T. Hoelzer	567,189
Bandage, suspensory, M. H. Harden	567,343
Bath tubs, washstands, etc., sanitary appliance for, A. O'Brien	567,499
Bearing, ball, W. Devoll	567,125
Bearing, ball, A. C. Farnsworth	567,305
Bearing for vehicle axles, roller, J. Bradley	567,451
Bearing, roller, J. D. Mattison	567,150
Bearing, self lubricating, W. C. Moreland	567,489
Bed, folding, McEnhill & Richardson	567,154
Bedstead mosquito bar attachment, G. D. A. Krigbaum	567,481
Bee hiver, W. R. Rives	567,167
Bicycle, T. W. McKenzie	567,494
Bicycle frame, S. M. Williams	567,430
Bicycle lamp bracket, W. S. Noyes	567,157
Bicycle package carrier, A. L. Peirce	567,159
Bicycles, adjustable handle bar for, B. Wood	567,433
Bicycles, adjustable handle for, P. S. Kingsland	567,243
Binder, sbock, W. H. H. Heydrick	567,389
Bit. See Auger bit.	
Blind, inside window, C. W. Burgess	567,216
Boiler. See Cooking boiler. Steam boiler.	
Boiler flue cleaner, D. W. Dart	567,265
Bolt. See Spring bolt.	
Bolting reel, W. F. Maisb	567,569
Book turner, D. Moon	567,403
Boot or shoe stretchers, boldfast for, E. J. Leighton	567,317
Bottle, J. D. Rively	567,199
Bottle, R. Ryder	567,172
Bottle and stopper, J. A. Butler	567,376
Bottle device, non-refilling, W. H. Payne	567,281
Bottle filling machine, F. R. H. Thomas	567,555
Bottle stopper, E. T. Jenkins, Sr	567,394
Box. See Cigar box. Letter box.	
Brake. See Air brake. Wagon brake.	
Brake shoe anchor, H. C. Williamson	567,429
Brick carrier, Fulton & Peterson	567,464
Brick rougher and sander, J. G. Kerst	567,542
Broiler, R. K. Lee	567,400
Building purposes, bearing rib for compression members for, C. Steiner	567,202
Bung, F. R. Butterfield	567,563
Burglar alarms, contact device for electric, P. Unger	567,176
Bush and bung for barrels, metallic, J. Hinterberger	567,313
Button, White & Platt	567,525
Button fastener, E. M. Hart	567,269
Buttons to cloth, machine for attaching, C. M. Platt	567,505
Camera, panoramic, Anschutz & Gesbeck	567,559
Camera, roll holding, N. Crane	567,297
Candy, machine for cutting stick, T. Hough	567,392
Car coupling, T. Galligan	567,465
Car coupling, J. L. Girou	567,485
Car coupling, A. S. Weaver	567,527
Car fender, street, P. Hennessy	567,488
Car, hand, H Small	567,362
Car, partition, stock, W. A. Morton	567,544
Car storage arrangement, E. F. Mann	567,487
Car switch, automatic, C. Stadtfelt	567,175
Carpet sweeper, S. H. Raymond	567,508
Carriage, W. F. Downey (reissue)	11,567
Carriage curtain fastener, H. Higgin	567,138
Carriage seat, extensible, J. Murphy	567,491
Carriage window, E. R. Wetbered	567,427
Cartridge packet, G. Luger	567,147
Cartridge packet, H. Pieper	567,358
Cash and package carrier catch, H. M. Weaver	567,180
Cash recorder, D. J. Wilson	567,431
Centrifugal machine, J. L. Jonsson	567,273
Chain link, J. A. Steinmetz	567,323
Chain link, insertible, E. K. Roden	567,511
Cheese making, W. M. Turner	567,522
Chopper. See Cotton chopper.	
Chuck, machine, A. D. Laws	567,399
Churn, Board & Hyre	567,449
Churn, C. L. O'Kelley	567,354
Churn operating mechanism, Z. A. Taylor	567,519
Cigar box, A. Thalheimer	567,420
Cigar bunch machine, F. C. Miller	567,350
Cigar mould clamp, A. Thalheimer	567,419
Cigar tip cutter, automatic, Lehmann & Brunhoff	567,277
Circuit breaker, automatic, E. M. Hewlett	567,197
Cisterns or wells, device for cleaning, O. L. Weldon	567,181
Clamp. See Cigar mould clamp. Jar clamp.	
Clasp. See Garment supporter clasp.	
Clothes line or wire tightening device, C. Truelsen	567,367
Clothes pin, S. Ernst	567,537
Clutch or governor, automatic, H. L. Howe	567,393
Coffee berry hulling machine, A. D. Gomez	567,467
Coffee or tea percolator, V. M. Hawley	567,387
Coffee pot, E. J. Hepburn	567,235
Coin freed apparatus, C. Ingrey	567,239
Coloring matter, blue, A. Herrmann	567,567
Combination lock, J. F. Lockwood	567,146
Concrete tombstones, composition for, Belcher & Hendley	567,562
Cooking boiler, J. Mulligan	567,490
Copy holder device, A. R. Cook	567,221
Corn holding device, C. W. Stebbins	567,364
Cotton chopper, W. R. Jackson	567,345
Coupling. See Car coupling.	
Cowl, A. O'Brien	567,500
Crank, detachable, W. H. Williams	567,184
Crematory, garbage and excrement, F. K. Plumbly	567,506
Crushing roll, T. A. Edison	567,187
Cup. See Oil cup.	
Curb and gutter, G. A. & F. Schillinger	567,173
Curtain fixture, A. F. Girouard	567,466
Curtain fixture, A. N. Russell	567,171
Cushion. See Seat cushion.	
Cuspidor or waste basket support, C. C. La Riviere	567,275
Cutter. See Cigar tip cutter. Rotary cutter.	
Cutter head, W. Munch	567,545
Cyanids, making, J. Raschen	567,551, 567,552
Door, sliding or folding, O. T. Springer	567,570
Door spring, G. W. Warner	567,329
Door spring and check, combined, J. Bardsley	567,121
Dredge, suction, J. H. Bacon	567,443
Dress fastener for closing ladies' dresses, W. Luft	567,348
Dress shield, I. Wormer	567,286
Drier, Hall & Casper	567,386
Dust collector, W. D. Gray	567,341
Dust pan, A. V. Parker	567,357
Dye and making same, brown diazo, C. Ris	567,413
Dye of rosindulin series, red, Herzberg & Heimann	567,473
Electric current transformer, R. Thury	567,424
Electric heater, J. E. Meek	567,247, 567,248
Electric light or telephone brackets, swing for, A. Peterelt	567,550
Electric lock, W. S. Nash	567,156
Electric machine, dynamo, R. Thury	567,423
Electrical transformer, H. M. Hobart	567,237
Electrical transformer, W. S. Moody	567,250
Elevator, T. W. Heermans	567,541
Elevator, N. P. Otis	567,158
Elevator buckets to belts, device for attaching, W. Griscom	567,469
Elevator wells, guard gate for, L. Williams	567,183
End gate, wagon, G. Burket	567,534
Engine. See Explosive engine. Gas engine. Steam engine.	
Excavating machine, H. R. Keitbley	567,274
Explosive engine, G. H. Willetts	567,530
Eyelet setting machine, H. B. Baker	567,287
Fabric. See Knit fabric. Woven figured fabric.	
Fare register, recording, W. H. Honiss	567,315
Farrier's knife, F. M. McCartea	567,493
Fence, D. C. Smith	567,258
Fence, flood, W. Chandler	567,383
Fence machine, wire, W. H. Campbell	567,123
Fence post, H. & L. C. Grant	567,385
Fence post, O. W. Whitehead	567,557
Fence tightener, wire, T. M. Kerns	567,142
Fence tool, wire, R. G. Kennedy	567,477
Fence, wire, R. G. Kennedy	567,478
Fences, ground base for iron, H. Burster	567,332
Fender. See Car fender.	
Fire escape, portable, E. Riley	567,553
Fishing bait, artificial, C. J. W. Gaide	567,310
Flexible joint or coupling, J. H. Glauber	567,231
Folding machine, T. C. Dexter	567,300
Foot warmer, Rickard & Lowrie	567,166
Fork, P. Newton	567,194
Fuel feeder and distributer, L. Myers	567,190
Furnace. See Smelting furnace.	
Furnace, R. L. Walker	567,525
Furnace offtake, blast, Rottboff & Neeland	567,414
Galvanic ring, M. L. Thompson	567,422
Game apparatus, C. E. Butler	567,218
Game board, J. W. Waddell	567,177
Garbage, etc., process of and apparatus for treating, S. E. Wilson	567,210
Garbage receptacle, E. Hirsch	567,390
Garden rake, E. H. Snyder	567,364
Garment supporter, R. W. Parramore	567,195
Garment supporter clasp, Thomson & Drever	567,421
Gas engine, H. A. Winter	567,432
Gas lighting, luminous material for incandescent, P. Barriere	567,571
Gas meter, coin freed, J. Anderson	567,440
Gate. See End gate. Railway gate.	
Gate, L. Clark	567,535
Gate, J. W. Cottle	567,222
Generator. See Alternating generator.	
Glass, means for working, H. Hilde	567,236
Gold and silver from their ores, extracting, Pelatan & Clerici	567,503
Golfing appliance, D. Dalziel	567,455
Grain binder head board, J. Macphail	567,148
Graining tool, W. S. Turner	567,523
Grindstone fixture, C. W. Pierce	567,504
Gunpowder, E. Dickson	567,596
Guns, breech closing mechanism for rapid fire, J. A. Deport	567,224
Hammock supporting hook, I. E. Palmer	567,280
Harness, C. H. Kooper	567,244
Harrow, D. B. Smith	567,321
Harvester, E. A. Peck	567,196
Hat, C. B. Halstead	567,234
Hat rack, J. N. & H. Rohr	567,169
Hay knife, I. B. Beckly	567,373
Hay press, A. McIntosh	567,406
Heater. See Electric heater.	
Heddle, L. Knecht	567,396
Hook. See Hammock supporting hook.	
Hook and eye, A. M. Weber	567,528
Hoop. See Pie tin hoop.	
Horseshoe calk, J. C. Higgins	567,139
Hub, vehicle, J. W. Buchanan	567,291
Hubs from tubular blanks, apparatus for making wheel, Warman & Winter	567,328
Huller. See Almond huller.	
Humidifiers, hygroscopic regulator for, J. Wallace	567,209
Ice, apparatus for planing cakes of, J. N. Briggs (reissue)	11,566
Ice, device for grooving artificial, T. H. Flynn	567,538
Ice scraper, J. F. Lucas	567,318
Incandescent light, L. V. Thomas	567,520
Inhaler, F. L. Wiseman	567,558
Inkstand, C. H. Gardner	567,383
Inkstand filling attachment, P. F. McClure	567,192
Insulated rail joint, Scofield & Wayland	567,416
Jar clamp, F. H. Palmer	567,502

Jewelry and tool for forming same, cluster setting for, J. G. W. Shepard 567,554
Joint. See Flexible joint. Insulated rail joint.
Journal bearing and pillow block, P. W. Power ... 567,165
Key fastener. Hollingsworth & McNeely 567,344
Knife. See Farrier's knife. Hay knife.
Knit fabric for hydraulic hose, etc., W. Esty 567,308
Knitting machine dial camoperating mechanism, A. McMichael 567,547
Laces, machine for cutting, Goldstein & Andrae. 567,130, 567,131
Lamp, R. M. Dixon 567,304
Lamp clutch, arc, H. R. Palmer 567,355
Lamp, electric arc, Faure & MacHaffie 567,227
Lamp, electric signal, J. R. Farmer 567,338
Lamp holder, electric, W. S. Arnold 567,531
Lamps, safety device for hanging electric arc, E. P. Snowden 567,322
Lasting machine, I. Frechette 567,566
Lens for optical or other purposes, F. Von Voigtlander 567,326
Letter box, Bethune & McPherson 567,330
Level or plumb, W. A. Francisco 567,539
Leveling instrument, E. L. Kelly 567,347
Liquids, process of and apparatus for extracting, R. S. Merrill 567,249
Lock. See Combination lock. Electric lock. Master key pin lock. Sash lock.
Lock, H. Bruns 567,290
Locomotive cutoff, J. H. Crutchfield 567,239
Locomotive exhaust pipe, W. E. Borbridge 567,122
Loom, J. L. McKay 567,351
Loom Jacquard mechanism, W. G. Connell 567,453
Lubricants, machine for testing, R. C. Carpenter 567,378
Lubricator. See Axle lubricator.
Machines, automatic stop for, F. Zielke 567,435
Magnetic separator, R. Eickemeyer 567,381, 567,382
Malting apparatus, A. Deininger 567,124
Master key pin lock, W. F. Donovan 567,305
Match safe, F. Aleith 567,369
Meat chopping implement, G. W. Hasenritter 567,471
Metal articles, apparatus for manufacturing hollow, J. A. Potter 567,410
Meter. See Gas meter.
Mill. See Ball mill. Sawmill. Windmill.
Mine waters, apparatus for treating, Goodale & Hixon 567,312
Mirror, duplex, R. F. Pickens 567,163
Moistening device, C. J. Neubard 567,353
Moldboard fastener, W. H. Bodenhamer 567,289
Motor mounting and driving mechanism, E. J. Bagnall 567,560
Mouse trap, G. A. Smith 567,201
Musical instrument, F. Barriontos 567,447
Musical instruments, sound intensifying device for, J. B. Knittel 567,490
Nut lock, A. Fougere 567,267
Oil cup, W. H. Wilkinson 567,182
Oil extracting apparatus, T. W. Young 567,454
Opera glass holder, B. H. Blank 567,215
Ordnance breech mechanism, J. A. Deport 567,225
Ore concentrators, cleaning roller for, W. H. Hooper 567,140
Ore feeder, J. M. Bible 567,448
Ore leaching apparatus, S. B. Ladd 567,144
Outlet or overflow, G. Frank 567,461
Oven grate, rotary, M. N. Weathers 567,179
Overshoes, attachment for India rubber, A. R. Pritchard 567,254
Packing, antifriction, L. A. Gruber 567,233
Packing machine, P. C. Larkin 567,145
Packing, piston rod, G. W. Troxler 567,208
Packing, woven body for steam, J. Hawkridge 567,270
Padlock, W. H. Taylor 567,206
Pail, sanitary, C. M. D. Baron 567,446
Paints or varnishes, apparatus for applying, H. C. Cleaver 567,452
Paper feeding machine, B. W. Child 567,261
Paper feeding machine, B. W. Child et al 567,264
Paper feeding machine, F. R. Ford 567,266
Paper feeding machine, Foy & Leavitt 567,268
Paper feeding machine, F. M. Leavitt 567,276
Paper feeding or other machines, automatic stop mechanism for, B. W. Child 567,262
Paper folding machine, T. C. Dexter 567,301
Paper making machine, G. W. Lewthwaite 567,484
Paper perforating machine, toilet, H. P. Feister .. 567,460
Paper registering instrument, Parker & Dexter .. 567,356
Paper registering machine, T. C. Dexter 567,564
Paper splitting and winding machine, C. E. Pope. 567,164
Pen, fountain, M. W. Moore 567,151, 567,152
Pen, shading, J. P. Kuhn 567,482
Phosphate drying apparatus, E. Ruelle 567,513
Photographic background, L. R. Naef 567,495
Photographic mount, C. S. Harris 567,134
Photographic vignetter, L. R. Naef 567,496
Picking rod, C. A. Gregory 567,468
Pie tin hoop, I. N. Weitzel 567,426
Pipe. See Locomotive exhaust pipe.
Pipe bending mechanism, W. F. Simmons 567,518
Pipe wrench, W. I. Freeman 567,229
Pipe wrench, Musgrave & Cook 567,492
Plow, W. R. Carroll 567,220
Plow, P. J. Heller 567,136
Plow, potato, L. Hindermeier 567,475
Plow seed planter attachment, G. W. Deane 567,335
Post. See Fence post.
Postal package box, W. H. Spencer 567,283
Potato hiller, N. Wagner 567,178
Powder. See Gunpowder.
Press. See Baling press. Hay press.
Printer's quoin, J. L. Nichols 567,497
Printing apparatus, multicolor, F. von Eulenfeld. 567,317
Printing press stop mechanism, T. C. Dexter 567,303
Printing presses, automatic trip mechanism for, A. K. Taylor 567,259
Pump, O. F. Bostwick 567,533
Pump and wrench, combined air, D. H. Petrie ... 567,407
Pump attachment, H. W. Jones 567,272
Race horses, device for starting, W. C. Creveling. 567,298
Rack. See Hat rack.
Rail bond, electric, G. H. Scott 567,257
Rail fastener, W. R. Gerbart 567,311
Railway, bicycle, W. F. Mangels 567,486
Railway, electric, W. F. Grassler 567,510
Railway, electric, C. Sill 567,517
Railway fog signaling apparatus, J. G. Dixon 567,390
Railway frog clamp, G. C. Lucas 567,401
Railway gate, E. E. Fraunfelter 567,340
Railway rail, D. Blake 567,532
Railway switch, street, Dallig & Kryszewski 567,454
Rake. See Garden rake.
Rake and apparatus for making same, L. Gibbs ... 567,129
Rand trimmer, E. F. Maxwell 567,246
Recorder. See Cash recorder.
Reel. See Boltine reel.
Reel carrier, W. M. Barger 567,213
Refrigerator, shipping, C. N. Huoter 567,141
Register. See Fare register.
Registering or counting device, G. B. Bassett 567,288
Rheostat, W. W. Dean 567,223
Ring. See Galvanic ring.
Road making and repairing machine, Bunnell & Belfield 567,292
Road making and repairing machine, Bunnell & Page 567,293
Rotary cutter, L. S. Heald 567,135
Rubber ball, R. T. Elwell 567,459
Sack tie, metallic, F. Driffill 567,336
Saddle flap retainer, J. M. Martin 567,278
Saddle, harness, J. Stephens 567,203
Sash fastener, J. R. Finley 567,228
Sash or door holder, Duncan & Smith 567,458
Sash lock and operator, M. F. Robinson 567,255
Saw, crosscut, F. Zigler 567,436
Saw filing machine, R. R. Coursen 567,296
Saw guide, E. C. Mershon 567,319
Saw mill, band, C. H. Roberts 567,232
Saw toothing machine, R. R. Coursen 567,295
Scale, weighing, F. Lelsi 567,483
Scholar's companion, E. Guehna 567,342
screen. See Window screen.
Screw plate, C. Poirot 567,408
Sealing metal boxes, machine for hermetically, Gersant & Buttifant 567,384
Seat. See Vehicle spring seat.
Seat cushion and back, H. S. Hale 567,470
Seeder, J. M. Poore 567,359
Separator. See Magnetic separator.
Sheet separating machine, B. W. Child et al 567,263
Shoes, manufacture of, Marz & Sack 567,149
Shovel. See Steam shovel.
Sign, J. A. Dalumi 567,379
Singletree, E. G. Fuente 567,230
Size, paper hanger's, C. S. Weller 567,556
Skate, roller, H. W. Jones 567,346
Skirt, bicycle, A. M. McCauley 567,191
Smelting furnace, brass, R. Baumann 567,371
Soap slabbing and cutting machine, T. W. Alexander 567,438
Socket wrench, adjustable, R. McDonald 567,405
Soldering machine, can, Ashley & McDermott 567,442
Sole edge finishing and ornamenting machine, E. F. Mower 567,251
Sole or heel plate, W. Frost 567,463
Spade or fork, digging, W. W. Hopper 567,331
Speed measure, vehicle, H. J. Boon 567,260
Speed of machinery, governor for regulating, E. Thunderholt 567,366
Spindle and bearing, E. J. Carroll 567,219
Spooler guide, H. W. Bracken 567,450
Spring. See Door spring.
Spring bolt or lock and key, Kunze & Brown 567,143
Spring eye, W. S. Richardson 567,198
Sprocket wheel, sheet metal, R. M. Corcoran 567,294
Stand, H. E. Raymond 567,507
Steam boiler, water tube, T. Deegan 567,456
Steam engine, H. W. Forslund 567,189
Steam shovel, G. W. King 567,395
Steamer, heater and feed regulator, wheat, W. H. Reltz 567,509
Steering gear, vessel, D. L. Volker 567,327
Stirrup, R. J. Chilcott 567,334
Stool, automatic acting, A. B. Milner 567,320
Stop motion device, automatic, T. C. Dexter 567,302
Stopper. See Bottle stopper.
Stove, A. M. Lanner 567,398
Stove and grate, combined gas, J. F. Donahue 567,226
Stove, heating, F. Munson 567,546
Stove or furnace, heating, P. W. Elliott 567,126
Stove, vapor, Kirby & Kinsey 567,479
Stoves, safety casing for gasoline, J. A. Ruth 567,415
Stretcher, folding, Wagner & Dwyer 567,524
Stud and scarf pin securer, combination, W. H. Capel 567,377
Switch. See Car switch. Railway switch. Telephone switch.
Telautograph, G. S. Tiffany 567,325
Telephone switch, D. Rousseau 567,170
Telephone switchboard apparatus, F. R. McBerty 567,404
Telephone transmitter, R. P. Green 567,132
Telephone transmitter, Stromberg & Carlson 567,324
Ticket for street railways, transfer, F. A. Boston, Jr 567,374
Tie. See Sack tie.
Tie plate machine, W. H. Greensbield 567,232
Tire for bicycles, pneumatic, J. A. Rousseau 567,512
Tire, sectional pneumatic, A. W. Tibbitt 567,521
Tire setter, D. D. Frisbee 567,462
Tire shield, pneumatic, J. H. Lowrey 567,245
Tire tightener, G. A. Krohn 567,397
Tires, apparatus for repairing pneumatic, J. G. Moomy 567,402
Tires, means for preventing puncture of pneumatic, E. E. Ellis 567,565
Tires, method of and apparatus for making pneumatic, H. J. Doughty 567,457
Tires, vulcanizer for repairing bicycle, Bancroft & Betts 567,185
Tobacco tagging machine, plug, Scullin & Maeulen 567,174
Trace evelet, H. C. Holzheimer 567,238
Track or course, circular, G. V. Russell 567,516
Train signaling device, electrical, Young & Norton 567,211
Transom lifter, P. Nash 567,193
Transom lifter, W. H. Taylor 567,205
Transplanting machine, R. Ames 567,439
Trap. See Mouse trap.
Trapeze, revolving, Kinemann & Zamora 567,543
Trimmer. See Rand trimmer.
Trolley, E. D. Priest 567,411
Trolley, electric car, J. E. Hewes 567, 474
Trolley, electric railway, R. N. Dyer 567,306, 567,307
Trolley wire and trolley wheel, P. Cassidy 567,186
Trolley wire crossing, H. M. Handsby 567,133
Truck, D. L. Barnes 567,444
Truck, W. P. Henszey 567,472
Truck and brake, car, H. C. Williamson 567,428
Truck, yarn beam, W. E. Sharples 567,417
Trucks, power gearing for, E. A. Sperry 567,418
Truss, A. Hessels 567,568
Turning machine, taper, A. Petereit 567,549
Twine machines, stop motion and testing mechanism for, G. H. Ellis 567,127
Type distributing machine, R. J. Moxley 567,252
Type setting and distributing machine, E. J. Andrews 567,212
Type setting machine, electric, J. Sachs 567,256
Type writing machine, W. P. Kidder 567,242
Type writing machine, A. Matteson 567,349
Type writing machine, T. S. Spivey 567,365
Type writing machine key action, W. P. Kidder .. 567,241
Valve guard, W. F. Niebling 567,279
Valve, shut-off, C. F. Senn 567,280
Vaporizer and mixer for gasoline engines, J. Pratt 567,253
Vehicle, motor, C. H. Barrows 567,445
Vehicle spring seat, A. H. Holland 567,314
Velocipede, A. L. Peirce 567,160
Velocipede gear, C. S. McIntire 567,155
Velocipede, ice, E. Ward 567,526
Velocipede, military, A. L. Peirce 567,162
Velocipede pedal, A. L. Peirce 567,161
Vending machine, coin controlled, W. A. Ferree .. 567,128
Veneers, machine for manufacturing, Morrison & Larsen 567,153
Ventilator, A. O'Brien 567,501
Ventilator, J. H. Riffle 567,361
Vial for soluble tablets, J. N. Moehn 567,488
Vise, compound lever, W. P. Bliss 567,331
Wagon brake, W. B. Brown 567,375
Wagon wrench, E. A. Bayer et al 567,561
Washing machine, W. A. Wallingford 567,368
Waste, process of and apparatus for cleaning, C. F. Hood 567,316
Watch, L. Riche 567,510
Watch guard, safety, R. Warsow 567,425
Watch, stem winding and setting, W. E. Porter ... 567,409
Watch, stem winding and setting, J. T. Thim 567,207
Water closet, A. O'Brien 567,498
Weather strip, J. R. Smith 567,363
Wheel. See Sprocket wheel.
Whip holder, F. Zirkle 567,437
Whisk broom attachment, W. H. Burnett 567,217
Windmill, G. C. Flagg 567,339
Window casing, A. Jones 567,240
Window screen, P. H. Baukol 567,370
Window screen, A. Beard 567,214
Wire fabric machine, J. C. & W. J. Pope 567,360
Wire handling implement, T. F. Stone, Jr 567,204
Wool and product therefor, process of cleaning, F. Raschig 567,412
Woven figured fabric, J. Zimermann 567,286
Wrench. See Pipe wrench. Socket wrench. Wagon wrench.

DESIGNS.

Badge, C. Wendell 25,985
Badge, campaign, Walker & Jifkins 25,986
Banner, Christmas, F. Turner 25,994
Basket wear plate, W. B. Thurlow 25,994
Bed end, metal, E. T. McKaig 25,996
Bicycle frame, L. Sturges 25,999
Bicycle support, L. W. Mulford 26,000
Cap, campaign, M. E. D. Plumley 25,987
Chocolate mould, J. E. Sanders 26,008
Cigar band, L. C. Wagner 25,993
Cycle frame, foot, R. & G. Anderson 25,998
Eye, A. M. Weber 25,991
Foot warmer, M. Ernst 25,007
Gas light shade, incandescent, E. Kaye 26,003
Grip for skirts, etc., E. L. Cole 25,993
Hammock, I. E. Palmer 26,011
Heel, metal, C. L. Smith 25,995
Hog rack, W. A. Michels 26,001
Hook, A. M. Weber 25,990
Hook and eye mount, O. A. De Long 25,992
Incandescent light socket, Pass & Seymour 26,002
Lamp chimney, G. W. Blair 26,004, 26,005
Name holder, G. W. Coverston 25,989
Puzzle board, E. O. Bentley 26,010
Puzzle sheet, S. Stophlet 26,009
Stove base, J. C. Bump 26,006
Table knife, S. N. Howestoll 25,998
Wheel rim, C. K. Welch 25,997

TRADE MARKS

Beer, bottled lager, Anheuser-Busch Brewing Association 28,866
Beer, lager, Anheuser-Busch Brewing Association 28,867
Braids, August Moll Manufacturing Company 28,865
Braids, silk, worsted, linen and cotton, August Moll Manufacturing Company 28,864
Canned fruits and vegetables, D. N. Benton 28,870
Diamond gems, artificial, W. R. Dutemple 28,874
Fruits, preserved, G. Ronca 28,869
Furniture, C. F. Manahan 28,871
Hats and other head coverings, neckwear and men's shirts and other men's wearing apparel, J. Auerbach 28,862
Leather and leather boots and shoes, M. C. Dizer & Company 28,863
Pumps and engines, George F. Blake Manufacturing Company 28,872
Silver goods, leather goods, toilet articles and stationery articles, sterling, C. & E. J. Deitsch 28,860, 28,861
Tanners' use, defiming and preserving compound for, firm of J. Hauff 28,868
Zinc plates and purple ore brickets, Elektrische Zinkwerke Gesellschaft mit Beschränkter Haftung 28,873

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 10 cents. In ordering please state the name and number of the patent desired, and remit to Munn & Co., 361 Broadway, New York. Special rates will be given where a large number of copies are desired at one time.

Canadian patents may now be obtained by the inventors for any of the inventions named in the foregoing list, provided they are simple, at a cost of $40 each. If complicated the cost will be a little more. For full instructions address Munn & Co., 361 Broadway, New York. Other foreign patents may also be obtained.