RECENTLY PATENTED INVENTIONS. Electrical.

BATTERY.-Frank M. Bell, New York City. This invention provides a primary battery with low internal resistance and high voltage and amperage, and in which the negative plate may be recharged when exhausted. The battery has a negative plate formed of a lead grill filled with peroxide of lead and provided with a perforated protecting covering of insulating material and amalgamated zinc positive plates suspended on opposite sides of the negative plate, the negative and positive plates being immersed in an electrolyte, pre-erably composed of water, sulphuric acid and bisulphate of mercury. This battery generates no rumes, deposits no sediment, and there are no creeping salts.

ELECTRIC CONDUCTOR. -Gorham Gray, Boston, Mass. This conductor is of metal formed with longitudinal and transverse grooves, leaving a core of hard metal and projections of softer metal. The outer surfaces of the projections are corrugated, or formed with transverse grooves, and the metal surrounding the corbetween adjacent sets of projections is also formed with ridges.

Mechanical.

WOOD TURNING MACHINE. - William T. Jones, New Westminster, Canada. This invention is for a machine for turning fish net floats, providing for sawing the proper length of wood from the strip and then automatically forcing it into position for turning The machine has a series of fixed cutters, a rotary block carrier to move the blocks against the cutters, means for rotating the blocks, a saw for severing the block from the strip, a reciprocating frame to operate a boring tool, and other novel features.

PRINTING PRESS DELIVERY ATTACH-MENT.-Mark N. Cormack, New York City. This invention provides an attachment for web printing presses, designed to deliver a folded sheet free from the smut or smear occasioned by the contact of the freshly printed sheet with the folder and delivery surface, also enabling the printer to readily inspect the work to discover any imperfect folding, blotches, etc., and to allow the ink to set before passing the sheets into the receiving box. The sheets are kept separate to allow the air to reach the entire surface and insure a rapid drying of the ink.

ENDLESS BAND.-Leedham Binns, Philadelphia, Pa. This is an improvement on a formerly patented invention of the same inventor, providing a band for use as a driving belt for mill spindles, the band being very durable and strong and having its terminal portions united in such manner as to render the band of approximately uniform thickness throughout. It is essentially a plaited tubular band containing a filling terminating a suitable distance from the ends to permit of interlacing the ends, this also rendering the band more durable than a band with a thickened joint.

MOTOR FOR VEHICLES. — James M. Trotter, Alma, Cal. This invention provides a motor designed for auxiliary propulsion, arranged to form a brake and to accumulate power during the travel of a drawn or propelled car, wagon or other vehicle on a down grade, and to utilize this power for propelling purposes when going up hill, etc. The invention comprises an air compressor and compressed air reservoir connected with an air motor, and swinging wheels being adapted to be alternately thrown into engagement with the wheels on the vehicle axle.

WELL DRILLING MACHINE. - Francis R. Yearian, Rinard, Ill. This is a machine of comparatively light construction, adapting it to be conveniently moved from place to place on wheels, and in which considerable power may be economically obtained. The frame is mounted on wheels and supports walking beams whose ends are connected by a head block baving openings for a rope, a crank shaft having bearings in the frame, and there being connecting rods between the walking beams and the cranks. During transportation the walking beams and derrick are swung down on the fraine.

Miscellaneous.

AERIAL MACHINE.-Jacob D. Graybill, New Orleans, La. This machine comprises a gas holder and a car located within the framework of the gas holder, while an air or vacuum chamber protects the car from gas on the front, back and top. It also has a cross shaft on which are ball-balanced crank arms, the latter being used to operate wings at the sides, the wings being also adapted for use as sails when not employed to propel the machine, the wings being independently adjustable. The gas chamber is preferably desig ed to hold ten thousand cubic feet of gas, and the machine may be propelled by a light gas, air or electric engine.

MACHINE FOR MEASURING CLOTH, PA-PER, ETC.-George W. Hyde, Richfield Springs, N. Y. This machine is designed to conveniently unwind a desired length of material from an original roll and wind up the measured length into a roll for the customer. The machine comprises a supporting frame, a swinging rod carrying the roll of material, a winding up spindle detachably mounted in the frame, a measuring roller mounted between the rod and spindle, a lever pivoted at one end in which one of the journals of the measuring roller is mounted, with other novel features.

GRAPHOSCOPE.-Laurance H. Cohen, New York City. In this graphoscope the pictures ay be viewed either in panoramic form or singly, the invention providing means for quickly placing in position rollers to which may be attached the tape, sheet or belt carrying the pictures, means being also provided for turning either of the rollers so that the pictures may be wound readily from the right hand to the left hand roller and back, each roller having an independent rotating device. The leng is so mounted on the frame as to be quickly and easily adjustable toward and from a picture, remaining firmly in adjusted position, while it may be entirely removed from the frame when de-

JOURNAL BEARING FOR TRUCKS. ohn E. Rogers, Dendron, Va. This is a box or bearing for small trucks, and especially for dry kiln trucks, consisting of a body or face plate and cylindrical box proecting laterally therefrom, with its outer end closed, while a broad base lip or flange projects laterally from the lower edge of the plate, parallel to the box, all constructed integrally of cast metal. The bearing is held in place without the aid of screws, bolts or nails, a hole being bored in the inner face of the beams and the bearing forced to place, which it retains by friction with the wood and the end thrust of the wheel axle

CAN SOLDERING MACHINE.—Theodore L. Phelps, Brewster, N. Y. This machine has a table turning on a column, a number of mandrels moving with the table, a fixed table also carried by the column and two soldering irons held by the fixed table, while there are means on the fixed table for moving the irons toward and from each other, and radially with reference to the axis of the moving table. The machine is comparatively simple and inexpensive and automatically solders the overlapping edges of the body, automatically holding the can in position to be soldered, and discharging the soldered body from the mandrel on which it is carried.

VEHICLE SHAFT. - Francois D. Bernier, Paris, France. In draught poles for vehicles, this invention is designed to diminish the liability to breakage in case the horse should fall, to this end employing a joint of novel construction, located on the tongue between the eve which receives the end of the holdback strar and the iron to which is secured the back strap of the harness. The construction between these points is thus made yielding to a large extent, so that the shaft is practically unbreakable.

FOLDING BATH AND WASH TUB.-Herann J. Gies, Peterborough, N. H. This is a combina tion device of simple and durable construction, taking up but little space when folded and not in use, and which may be readily converted into a wash tub or bath tub, as desired. The casing is pivoted to the base a short distance from one end, one of the pivots being tubular, and there is in the casing a tub with removable partition dividing it into two parts, a pipe leading from the bottom of each compartment to the tubular pivot, one of the pipes being in the chamber of the casing, while a springpressed door is hinged to the bottom of the tub at its

KEY GUARD.—Addison J. Lyon, Mount Vernon, N. Y. According to this invention a springcontrolled stop is carried by a support on one side of the keyhole to normally extend across the keyhole, the stop being movable at right angles to swing away from the keyhole and admit of the insertion of a key, while the spring returns the stop to its normal position afterward. The device is readily applicable to any form of lock, and is so made that when applied to a mortised lock the door will not be mutilated, the device being also entirely concealed by the escutcheon.

DUMB WAITER SAFETY CLUTCH. -Charles B. Cox, New York City. To securely hold the cage in place in case of the breaking of the supporting rope or cable, this invention provides for a vertical rod fixed in the shaft, a casing secured on the cage being formed with a guideway for the rod, while a clamping device journaled in the casing is adapted to engage the rod and clamp it to the casing, a spring plate being connected with the clamping device and attached to the cage, and a staple being adjustably held on the spring plate and connected with the supporting rope.

BANJO BELL.-Albert H. Jarvis and William J. McLean, New York City. A shallow bell formed of resonant material, according to this invention, is adapted to be placed between the head of the banjo and the continuation of the neck. The bell is placed beneath the bridge of the banjo and has a comparatively large opening in its small end, or it may also have the annular section forming the sides of the bell perforated to assist in the emission of the sound waves. The device may be readily attached to or detached from a hanjo, being designed to make the tones clearer and more distinct, the tone or timbre of the notes varying eccording to the material used.

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, ETC.

HOURS WITH THE GHOSTS; OR, NINE-TRENTH CENTURY WITCHCRAFT. Il-lustrated investigations into the phenomena of spiritualism and theosephy. By Henry Ridgely Evans. Chicago: Laird & Lee. 1897. Pp. 297. Price \$1.

The present work is by the author of the introduction to our book, "Magic: Stage Illusions and Scientific Diversions, Including Trick Photography." It is an admirable expose of the devices of the pretended mediums and charlatans, with fullest evidence furnished as to their trickery. There has been a large number of works published upon this subject but most of them have been trifling, catchpenny affairs. The presen book is a work of another order and will appeal to all who are interested in the occult. The illustrations are of great interest, revealing as they do the secrets of rope tying, slate writing, materializations, spirit photography The first part of the book is devoted to spiritualism and the second part to Madame Blavatsky and the theo sophists. This is one of the best accounts ever published of Madame Blavatsky's life and work. It contains a synopsis of the theosophist's doctrines and sketch of the successors of the famous Russian priestess, with a bibliography of works on the subject. The author has had sittings with many famous mediums of this country and Europe, but has seen little to convince him of the fact of spirit communication. The slate tests and so-called materializations have invariably been frauds, and the author can be congratulated for the excellent way in which he unmasks these impostors. The book is well printed and is handsomely bound in Holliston cloth.

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Inquirles 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.

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(7230) J. D. asks: 1. Is removal of suerfluous hair by electricity successful? A. Yes. 2. How many volts and amperes are usually required? A. About 6 cells of carbon zinc battery. 3. Is the puncture of the hair follicle by a needle carrying the current sufficient ? A. Yes. See page 538, "Medical and Surgical Electricity," by Beard and Rockwell, price \$5.50 by

(7231) W. D. S. asks (1) how to make an electromagnet to lift 75 to 100 pounds 5 inches, with 500 volte, 10 amperes, and use the coil and plunger style. A. The plunger should have the sectional area of 2.5 square inches. A round bar 1.8 inches in diameter will have this area. It should be 18 inches long. The coil requires 2,400 tarns of No. 9 B & Scopper wire. 2. How to drill a hole in a piece of hardened steel. A. Use a new drill. Sharpen it, then heat it to a low red and plunge it in a solution of zinc chloride (ordinary soldering fluid). If the drill requires sharpening, always reharden after sharpening. 3. The price of S. P. Thompson's "Electromagnet." A. Silvanus P. Thompson's "The Electromagnet and Electromagnetic Mechanism" is \$6.

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OF INVENTIONS INDEX

For which Letters Patent of the United States were Granted

NOVEMBER 2, 1807.

AND EACH BEARING THAT DATE.

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

| Air or gas compressing apparatus, E. Hill | 593,049 |
|---|---------------------|
| Alarm. See Boiler pressure indicating alarm. | 00-10-20 |
| Burglar alarm. Fire alarm. | |
| Arches, adjustable and removable center for, T. | |
| M Clance | 502 002 |
| M. Clancy | 509 017 |
| Attaching device, L. C. Dillon | 500,004 |
| Attaching device, L. C. Dhion | 000,004 |
| Auger, earth, M. J. Stoffer | 593,001 |
| Autoharp, J. J. Joyce | 593, 102 |
| Autoharp, Roth & Joyce | 553,126 |
| Awning, M. F. Wiedemann | 593,147 |
| Awning support, window, W. Johnson | 592,786 |
| Axle, ball bearing vehicle, Misner & Weightman | 592,935 |
| Axle lubricator, car, W. S. Haines | 592,910 |
| Bag. See Hand bag. | |
| Baling press, N. B. Wilder | 593,148 |
| Basket, E. H. Hargrave | 592,778 |
| Battery. See Electric battery. Galvanic battery. | 002,110 |
| Beach seat, E. Zietz | 592.857 |
| Bearing, ball, J. Naismith | 593,113 |
| Bedsteads, etc., means for adjusting head pieces | 000,110 |
| of, F. E. J. Bruhn | 592,925 |
| Beer distributing apparatus, E. D. Case | 532,323 Etw. 000 |
| Bolt coronner I Ouinn | 000,000 |
| Belt governor, J. Quinn | 200,000 |
| Belt tightener, S. R. Forbess | 593,090 |
| Bicycle, M. Joseph | 593, 101 |
| Bicycle carrier, collapsible, Riley & Brown | 592,830 |
| Bicycle, convertible package carrying, I. B. | |
| Sanders | 592,886 |
| Bicycle frame, P. Ambjorn | 592,755 |
| Bicycle fra e, N. Dahl | 593.046 |
| Bicycle frame, P. Ambjorn. Bicycle fra e, N. Dahl. Bicycle guard, A. N. Heminger. | 592,967 |
| Bicycle pedal attachment, W. Macy | 502 901 |

| Bicycle seats, adjustable back rest for, J. M. | 593,103 592,783 |
|---|--|
| Bicycle tool, J. R. Barker | 592,859 |
| Bicycle umorena or nag nolder, w. H. Rugnes, Jr. Bicycle vehicle attachment, C. Cretors. Bicycles, means for securing sprocket wheels to, O. E. Kenney. Billiard and dining table, combined, C. Stabl. Blackboard, A. S. Teats. Blinds, machine for making window, Griffin & Copeland. | 592,963 592,989 |
| Billiard and dining table, combined, C. Stabl | 592,989 592, 94 1 592,841 |
| Blinds, machine for making window, Griffin & Copeland. Boiler. See Steam boiler. Boiler pressure indicating alarm, J. J. Whittle- sey. Book and coupon ticket protector, mileage, A. Rosedale. Book, theck, M. P. Exline. Book tidex, A. V. Bowker. Book rest. W. H. Heath. Book rest. G. K. Putnam. Book rest. G. K. Putnam. Book stengrapher's note, B. F. Stuart Boots or shoes, shelf rack for holding, S. L. Saunders. | 592, 53 |
| sey Book and coupon ticket protector, mileage, A. Rosedale. | 592,856 593,125 |
| Book, check, M. P. Exline Book, index, A. V. Bowker | 592,929 592,981 592,780 |
| Book rest, G. K. Putnam. Book, stenographer's note, B. F. Stuart Boots or shoes, shelf rack for holding, S. L. | 593,120 592,893 |
| Saunders. Bottle, W. S. Dresback. Bottle, Quinn & Glesicke. | 592,975 593,085 593,058 |
| Bottle, non-refillable, R. E. Alfred592,753, Bottle, non-refillable, A. E. Peterson Bottle, non-refillable, E. Sassenhoff | 592,754 593,117 592,940 |
| Bottle, non-refillable, I. Shultes | 593,129 592,879 |
| Book, stenographer's note, B. F. Stuart. Boots or shoes, shelf rack for holding S. I. Saunders. Saunders. Bottle, W. S. Dresback. Bottle, Quinn & Glesicke. Bottle, non-refillable, A. E. Peterson. Bottle, non-refillable, A. E. Peterson. Bottle, non-refillable, E. Sassenhoff. Bottle, non-refillable, I. Shultes. Bottle, see Wellie, I. Shultes. Bottle, non-refillable, I. Shultes. Bottle, see Wellie, I. Shultes. Brick kiln, C. & A. Klose (reissue). Brick burning kiln, W. J. Thomas. Broom handle or pole attachment, consisting of picture hanger, dustrag holder, and suspending device, S. E. Buchanan. Brush holder, L. L. Solem. Burglar alarm, T. H. Storts. Burlal casket, Jaixen & Harry. Burner. See Vapor burner. Button cleaning shield, metal, W. A. Valentine. Button drilling machine, J. S. Tarr. Cabinet, paper bag, J. J. & G. Umhoefer. Cable grip and takeup, C. L. Kleitz. Camera, photographic, A. H. Bromley, Jr. Camera, multiplying attachment for photographic, G. L. Minotensed milk cans, etc., W. E. S. Crane S. Crane S. Crane S. Aungener, J. E. Youngblood. | 11,635 592,842 |
| Broom handle or pole attachment, consisting of picture hanger, dust rag holder, and suspending device, S. E. G. Buchanan | 593,155 |
| Brush holder, L. L. Solem Burglar alarm, T. H. Storts. Burlal casket, Jaixen & Harry. | 592,838 593,136 593,176 |
| Burton cleaning shield, metal, W. A. Valentine Button drilling machine, J. S. Tarr | 592,894 593,061 |
| Cabinet, paper bag, J. J. & G. Umhoefer. Cable bending appliance, F. E. Leonard. | 593,003 592,972 |
| Came adjustable, I. Qurin. Camera, photographic, A. H. Bromley, Jr. | 593,035 593,121 593,010 |
| graphic, G. L. Minott | 592,934 |
| Can opener, J. E. Youngblood. Candelabrum, J. Markowsky. | 592,945 593,111 |
| Car coupling, G. H. Lippmann Car coupling, J. J. Malloy | 592,957 598,183 |
| Car coupling, W. Stenger. Car coupling, J. Timms. Car coupling, J. Timms. | 592,892 592,977 |
| Can holder for condensed milk cans, etc., W. E. S. Crane. Can opener, J. E. Youngblood Candelabrum, J. Markowsky. Car bolsten C. E. Rantpmann Car coupling, J. J. Maloy Car coupling, H. L. Miller Car coupling, H. L. Miller Car coupling, W. Stenger Car coupling, J. Timms. Car draught beam attachment, railway, M. J. Hoey Car fender, T. H. Campbell. Car fender, R. A Stuart. Car fender, R. A Stuart. Car fender, R. A Stuart. Car fender, H. W. Weiss. Car hand strap, Savage & Taylor. Car, single rail railway, F. W. Dunton Car, single rail railway, F. W. Dunton Cars, electric mothy for street, C. E. Emery. Cars, switch operating attachment for street | 593,007 |
| Car fender, R. Forbes. Car fender, R. A. Stuart. | 593,014 593,137 |
| Car hand strap, Savage & Taylor. Car, railway, J. G. Lawler. | 592,919 592,932 |
| Car window, S. H. Boltz Cars, electric motor for street, C. E. Emery | 592,980 592,965 |
| Cars, electric moor for street, C. E. Emery. Cars, switch operating attachment for street railway, E. L. Bullock. Carousel, T. D. Holcomb. Carousel, A. Koehler. Carrier. See Parcel carrier. Case. See Ticket case. Casket, H. T. Loomis. Chair. See Revolving chair. Rocking chair. Chair, J. B. White. Chair mirror attachment, Cochran & Banks. Chandelier attachment, F. Fisher. Checkrein holder, Gano, Stimmel. Checker in holder, Gano, Stimmel. Checker in the Company of the Chair mirror attachment, Cochran & Banks. Chandelier attachment, P. Fisher. Checkrein holder, Gano, Stimmel. Checker in holder, Gano, Stimmel. Checker in Research of the Changhilm. Checker in Research of the Changhilm. Checker in See Cotton chopper. Chuck, See Taking drill, M. Johnson. | 592,862 592,870 592,177 |
| Carrier. See Parcel carrier. Case. See Ticke case. | 509 700 |
| Chair, J. B. White | 593,038 |
| Chandelier attachment, P. Fisher. Checkrein holder, Gano & Stimmel. | 592,771 593,048 |
| Chimney and reflector therefor, O. Herrmann Chopper. See Cotton chopper. | 593,096 |
| Chopper. See Cotton chopper. Chuck, centering drill, M. Johnson. Churn, S. T. Muffly. Churn, J. J. Ryan. Churn motor, Staples & Spake. Cigarette machine, J. S. Detrick. Cigarette machine, G. Geer. Circuit breaker, electromagnetic, Spruance & Waddell. | 592,812 592,999 502,000 |
| Cigarette machine, J. S. Detrick Cigarette machine, G. Geer Circuit breaker electromagnetic Sprugge | 592,964 593,158 |
| Waddell | 593,167 592,770 |
| Clothes drier, J. J. Bisel. Clothes line support, W. R. Hanretty. Clothes pounder, W. R. Allen. | 592,079 592,969 593,073 |
| Circuit breaker, electromagnetic, Spruance & Waddell. Clamp. See Jeweler's clamp. Wire cla p. Clipper, har, P. Faracchio. Clothes drier, J. J. Bisel. Clothes line support, W. R. Hanretty. Clothes pounder, W. R. Allen. Coal, ore, etc., machine for handling, R. Thew. Coffee roasting apparatus, J. R. Okell. Coin actuated apparatus, Alexander & Thompson. | 593,062 593,163 |
| son | . 593,152 . 593,131 . 592,823 |
| Compound engine, Pitkin & Sague Compressing powdered or granular substances, machine for, G. W. Huber | 592,824 593,100 |
| Cooler. See Liquid cooler. Corner strip for buildings, F. Woods Cotton chopper, W. H. Taylor | 593,150 593,002 |
| Coupling. See Car coupling. Hose coupling. In- sulating coupling. Pipe coupling. Shaft or tongue coupling. Steam and air brake coup- | |
| ling. Thill coupling. Windmill coupling. Cowl. A. Kuhn | 592,791 592,944 |
| Crate, folding, W. Kalchthaler Crate, packing or shipping, C. D. Naramor Cream separator, centrifugal, E. G. N. Salenius | 593,022 593,180 593,032 |
| Curtin and shade holder, window, J. H. Warner | 593,050 592,846 592,705 |
| Compressing powdred or granular substances, machine for, G. W. Huber. Cooler. See Liquid cooler. Corner strip for buildings, F. Woods. Cotton chopper, W. H. Taylor. Coupling. See Car coupling. Hose coupling. Insulating coupling. Pipe coupling. Shaft or tongue coupling. Steam and air brake coupling. Thill coupling. Windmill coupling. Cowl. A. Kuhu. Crate, collapsible, W. F. Wilson. Crate, collapsible, W. F. Wilson. Crate, packing or shipping, C. D. Naramor Crate, packing or shipping, C. D. Naramor Crame separator, centrifugal, E. G. N. Salenius. Cu twin regulator, alternating, D. O. Hull. Curtia and shade holder, window, J. H. Warner Curt in ring, J. W. Leelle. Custom See Ventilating cushion. Cutter. See Cheese cutter. Feed cutter. Rotary cutter. | . 002,100 |
| Cutter and grater, combined, E. E. Kejier | . 595,052 |
| Cycle stand and home trainer, H. T. Kingsbury Damper, oven, A. A. Knights Darning apparatus, E. C. Hunt | 593,105 592,789 592,955 |
| Cutter head with seit clearing bit, J. Kuennie Cycle handle, L. M. Miller. Cycle stand and home trainer, H. T. Kingsbury. Damper, oven, A. A. Knights Darning apparatus, E. C. Hunt. Dental electrode, F. L. Morhard Digester, E. Meurer. Display apparatus for carpets, etc., S. Sbillito Door securer, C. S. Whipple Drier, See Clothesdrier. Drier, for yrintedsheets of paper, R. A. Freeman | . 592,878 . 592,875 . 592,033 |
| Door securer, C. S. Whipple Drier. See Clothes drier. Drier for printed sheets of paper, R. A. Freeman | 592,854 1 592,967 |
| Drier for printed sheets of paper, R. A. Freeman Drill. See Multiple drill. Drill, C. D. Cutts | . 592,904 593,056 |
| Drill, C. D. Cutts. Dumb bell, J. N. Maingot. Electric battery, A. D. Wheeler Ejectric conductor and connection and support therefor, W. McElroy. Electric currents, distribution board for, H. W. Shonnard | . 592,853 . 592,815 |
| Electric currents, distribution board for, H. W. Shonnard | . 592,889 592,882 |
| Electric generator, chemical, H. K. Hess Electric light fixture. F. B. Mason Electrical transformer, N. Tesla. | 592,782 592,805 5 3,138 |
| Shonnard. Shonnard. Electric diaphragm, N. Marchal Electric generator chemical, H. K. Hess. Electric light fixture, F. B. Mason. Electrical transformer, N. Tesla. Electrically treating diseases, apparatus for, H. E. Waite. Electrolytic apparatus, E. Motz. | . 592,844 . 592,973 |
| Elevator. See Liquid elevator. Elevator, A. W. Cassady. Elevator attachment, L. Anderson. | . 592,982 . 592,756 |
| Elevator safety catch, M. Fodor Elevators, automatic device for operating hatch covers for, H. Mattullath | . 593,772 1 592,933 |
| E. Waite apparatus, E. Motz. Electrolytic apparatus, E. Motz. Elevator. See Liquid elevator. Elevator, A. W. Cassady. Elevator, A. W. Cassady. Elevator attachment, I. Anderson. Elevator satisfactive catch, M. Fodor Elevator safety catch, M. Fodor Elevators, automatic device for operating hatch covers for, II. Mattullath. Engine. See Compound engine. Gas engine Gas or oil motor engine. Rotary engine. Engine igniter, gas, F. C. Oiln. Engraving machine, H. C. Schrader. Eye shade, W. S. Bewan. Fabrics, composition for renovating black, W. H. Isham. | . 592,881 |
| Engraving machine, H. C. Schrader Eye shade, W. S. Bevan Fabrics, composition for renovating black, W. H. | . 592,920 . 598,077 |
| Fan. automatic. C. Zeh | . 552,500 |
| Normand etal | . 593,115 |
| Feeder and mixer, J. Frazier. Felts or wires, automatic guide for, J. E. Wether bee | . 593.037 |

bee...

Pence machine, wire, F. C. Noland...

Fence post, R. B. Robbins...

Fence tool, wire, G. P. Smith...

Fence wire ratchet, W. H. Linton...

Fender. See Car fender...

Fettlizer distributer or seed planter, A. B. El-more...

(Continued on page 317)

592,921