

the retraction of another socket to enable the writer to make use of separate pens for different inks, without one pen interfering with the other.

FEED-RACK.—JAMES MORRIS, Westchester, Bronx, New York city. This rack is so constructed that it can be easily put up in a stall and taken down and folded for transportation, thus particularly adapting it for racing stables, in which it is desirable that each horse should have his own rack to avoid danger of contagious diseases.

CHAIR-SEAT SUPPORT.—HEZEKIAH MORTON, Thomasville, N. C. The support comprises crossed straps extended under the chair-seat in order diagonally to connect a front leg with a rear leg of the chair. Each strap consists of two spaced pieces connected at the ends. Adjusting and supporting bolts extend from the legs through openings in the end connections; and nuts on the inner ends of the bolts abut against the end connections and are prevented from turning by engaging with the members of the straps.

FRAME FOR BAGS, PURSES, SATCHELS, ETC., LOUIS B. PRAHAR, Brooklyn, New York city. A locking device has been provided by the inventor in which a catch-button has a rocking and guided movement on a member of the frame. The button can be released from a locking stud or studs on any number of members of the frame by a simple rocking movement from one side to another or by an upward movement.

BREAD OR CAKE-PAN.—MARIE VOSSBECK, Trinidad, Colo. The pan is made so that the parts can be quickly and conveniently detached, buttered, and assembled. When the loaves have been baked the body and bottom of the pan can be removed from engagement with the partitions, which partitions serve to hold the baked loaves apart and yet permit them rapidly to cool.

CIGAR-WRAPPER.—FRANCISCO E. FONSECA, 22 Fulton Street, Manhattan, New York city. Mr. Fonseca has received a patent for a novel paper cigar wrapper, the ends of which extend beyond the cigar and are twisted to form cords which are wound back upon the cover and secured. No matter how roughly the cigar may be handled, the wrapper will always maintain its position to protect the cigar. The twisted ends serve as cushions, which prevent the cigar from being damaged. One object of the invention is to enable the manufacturer to print descriptive matter on the wrapper. The invention has been practically applied and seems to fulfill its inventor's expectations. For presentation this cigar is specially adapted. Each cigar may bear the name of both the donor and recipient.

FIRE-EXTINGUISHER.—JOHN BRAUNWALDER, Davenport, Iowa. This fire-extinguisher is of a type in which a container for an extinguishing liquid is designed to be broken so that the liquid can escape. The invention seeks to furnish a means for breaking the container, which means are actuated by fire. These means consist of a powder-chamber and a fuse. When the fuse is ignited, the powder will eventually be exploded and the liquid-container shattered.

VIOLIN.—LOUIS H. HALL, Hartford, Conn. The body of the violin consists of a rim or ribs, to which a top and a bottom are secured. The edge-ports of the top and bottom at certain points are under a strain and tend to separate from the ribs. This tension is beneficial in more than one respect. It improves the tone; it opposes the pressure produced by the bridge and strings and, therefore, strengthens the body of the instrument; and it enables the inventor to vary the quality of the tone simply by giving more or less curve to the bottom and top.

AMIDOSULFONIC ACID.—JOSEPH TURNER, Huddersfield, York, England. Amidosulfonic acids, according to this invention, are produced from nitro bodies of the phenolic and carboxylic series by the action of sodium bisulfite. The products obtained combine with phenols, are slightly soluble in alcohol, insoluble in benzene, form crystallized diozo compounds with nitrous acid and all the sodium salts, and are very soluble in water.

BABY-EXERCISER.—CHARLES E. LATSHAW, Lincoln, Neb. The exerciser is a "baby-jumper," consisting of a spring-suspended frame of novel construction, in which the baby is supported. The elastic support enables the child to use its legs freely in springing or jumping, thus combining the benefits of exercise and amusement without requiring close watching.

NON-REFILLABLE BOTTLE.—JOSÉ M. URGELLÉS, 8½ Ríola Street, Havana, Cuba. Two balls are held in a valve-seat arranged to be locked in the neck beneath the cork. The larger ball acts as a valve to permit the outflow of liquid, and the smaller acts as a back bearing to follow up and hold the larger ball to its seat.

TRUNK-HANDLE.—BERTNIE M. WILHITE and FRANK A. HOYT, Gordon, Neb. In the handling of trunks, the pinching of the fingers between the handle and the trunk body is frequently experienced. To prevent this, the handle above noted is so connected by its ends that when gripped it slides outward in diagonal slots in the securing devices and so as to stand out from the trunk body.

TRAP.—THOMAS H. TAYLOR, Luzerne, N. Y. This trap is designed to kill small animals instantly, and to this end the inventor provides a pivoted bait-plate with one end turned up to form a jaw, and a spring frame which, when the trap closes, will spring downward, striking the animal and causing it to be caught between the frame and the jaw of the bait-plate.

Designs.

PLATE.—ARTHUR S. HIGGINS, Manhattan, New York city. The border of the plate is a ribbon of tulips with their leaves. A second and inner border of fancy foliate figures is also employed.

NOTE.—Copies of any of these patents can be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

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(7940) C. R. asks: If it were possible to build a tower 100 miles high and from the top of such a tower a ball be dropped, would the ball strike the earth exactly toward the center of gravity? Would the motion of the earth imparted to the ball throw the ball out of a direct line toward the center, not considering the attraction the tower has for the ball. A. A ball dropped from a height strikes the earth to the east of the vertical line in which it started. All parts of the earth move with the same angular velocity, but not with the same linear velocity. The smaller the circle of rotation the slower the velocity of motion. As the ball drops it maintains the velocity of motion toward the east, which the point had from which it was dropped. As it approaches the center of the earth, it comes to points which have a slower velocity than it has. It will, therefore, be moving to the east faster than the place to which it has come. This has been proved by dropping balls into deep mines.

(7941) W. G. asks: 1. Could 1/4 inch brass be used instead of 1/2 inch for the spool of the ammeter described in SUPPLEMENT, No. 215. A. Any thickness of brass can be used which will hold the wire without bending. 2. How many pounds of No. 31 copper wire does it take for the high tension transformer described in SUPPLEMENT, No. 1087? A. About 48 pounds by calculation. You will probably not get so much in as you cannot wind it perfectly true. 3. How many layers is there on the secondary of high frequency transformer. A. One.

(7942) B. U. S. writes: I desire to know what size and amount of wire to use to convert eight light dynamo in SUPPLEMENT, No. 600, pages 9586 to 9590 inclusive of July 2, 1887. I wish to change to 500 volt motor. Have you a SUPPLEMENT with this information? A. It is not feasible to change the eight light dynamo into a motor to run upon a 500 volt circuit. The commutator could not stand it. You would need to wind each of the armature coils with about 40 turns of No. 28 wire and use a resistance of about 400 ohms with the present field. This is not figured out accurately because it is not desirable to make the change. It would be far better to build a new machine.

NEW BOOKS, ETC.

EIN LENKBARER FLUGAPPARAT. Von Dr. Constantin Danilewsky. Charkow, Russia: Author's Edition. 1900. Octavo, 82 pages. Illustrated. Price, paper 75 cents.

Danilewsky's experiments in aerial navigation have already been described in the SCIENTIFIC AMERICAN. The present monograph contains a very thorough, and it must be confessed, convincing account of the possibilities of mechanical flight. Dr. Danilewsky writes with the confidence of one thoroughly versed in his science. He claims much for his experiments, but not too much. His monograph is valuable because it contains the only exhaustive account of what he has really accomplished.

SYMBOLISM OF THE HUICHOL INDIANS. By Carl Lumholtz. Memoirs of the American Museum of Natural History. Volume III. Anthropology II., May, 1900. Quarto. Pp. 228, plates and illustrations.

During the years 1890 to 1898 the author made three expeditions to Mexico under the auspices of the Museum. The author spent ten months among the Huichols in 1895 and obtained valuable information on the state of their culture. The author has produced a most solid and satisfactory contribution to ethnological research and the Museum is specially to be commended for the substantial and sumptuous manner in which the book has been clothed. The illustrations are good and the plates are especially fine.

TECHNOLOGISCHES LEXIKON. Handbuch für alle Industrien und Gewerbe. Redigirt von Louis Edgar Andés. Illustrated. Parts 2-5. Vienna: A. Hartleben. Large Octavo. Price, per part, 70 cents.

The parts of this new lexicon which lie before us extend from "Arsenbüttenbetrieb" to "Eichenholzärbungen." Long articles are to be found under the headings "Ausdehnungskoeffizienten verschiedener Körper," "Baumwollgewebe," "Blieglgewinnung," "Desinfektion," etc. The illustrations which accompany the text are, for the most part, excellent woodcuts. The parts which, up to the present, have come to our notice deserve unstinted praise for the evident care which the author has taken in their preparation.

DIE SOCIALEN AUFGABEN DES INGENIEURBERUFES UND DIE BERECHTIGUNGSPRAGRE DER HÖHEREN SCHULEN. Eröffnungsrede zur 40. Jahresversammlung des Deutschen Vereins von Gas- und Wasserfachmännern. Von Generaldirektor W. v. Oechelhäuser, Dessau. München: R. Oldenbourg. 1900.

DIE ELEKTRISCHE VOLLBAHN BURG-DORF-THUN. Separat-Abdruck aus der "Schweizerischen Bauzeitung." Zürich: Ed. Rascher, Meyer und Zeller's Nachfolger. 1900.

TO INVENTORS.

An experience of over 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 unequalled 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 Issued for the Week Ending AUGUST 14, 1900.

AND EACH BEARING THAT DATE.

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

Table listing inventions with names and patent numbers. Includes: Advertising device, P. E. White; Air compressor, hydraulic, J. W. Van Brocklin; Air pipe coupling, automatic, J. W. Spurlock; Axle swaging apparatus, J. Lang; Back pedal brake or coaster, J. N. Parks; Back pedaling brake, E. E. Ziegler; Baking pan, J. F. Meredith; Baling press, G. Taylor; Barrel cap holder, Richardson & Colcord; Bath cabinet, L. L. Cahoon; Battery; Battery plate, secondary, J. B. Conrad; Battery receptacle, secondary, J. Middleby, Jr.; Bearing, shaft thrust, E. G. Hoffmann; Bed, or crib, folding, J. F. Balsler; Bed, spring, W. A. de Jr.; Bicycle, A. Prager; Bicycle, W. C. Dunn; Bicycle pump, O. Keen; Bicycle pump, W. M. Reason; Bicycle support, O. Weston; Billiard cue tip, J. Prince; Bit; Block; See Building block. Sheet leader block. Board. See Knearing board. Boat, life, P. U. & A. M. J. Riess; Boiler; See Pipe boiler. Water tube boiler. Boiler blow off, steam, C. R. Farrington; Boiler furnace, steam, J. Thurell; Bolster, collapsible, J. E. Long; Book, account, E. Mayer; Book, manufacturing sales, D. B. Kearney; Book, separable, F. H. Gilson (reissue); Boring tool brace head, A. Weisenhorn; Bottle, J. W. Johnson; Bottle carrier, holder, or banger claw, C. A. Law; Bottle, non-refilling, J. Walber; Bottle or similar receptacle, J. O'Connor; Bottle washing machine, F. Lugviel; Box; See File box. Folding box. Letter box. Box machine, honey, C. Mondeng; Bracket; See Flagstaff bracket. Steel tower bracket. Brake; See Back pedaling brake. Railway brake. Vehicle brake. Wagon brake. Brake application valve for train pipes, J. J. Sullivan; Brake mechanism, differential, Brill & Adams; Brick press, C. M. Steele; Bridle bit, M. H. Sims; Brush, L. Roth; Brush holder, Erben & Potter; Buggy top attachment, H. C. Stockton; Buggy top raiser, J. C. Ford; Building block, W. A. Johnston; Burglar alarm, J. W. Roubg; Burner; See Hydrocarbon burner. Smoke and gas burner. Cables, manufacture of chain, J. Verity; Calcium, etc., producing carbide of, W. S. Horry; Can; See Oil can. Can opener, C. Kempf; Canopy frame, J. T. Johnson; Canopy frame or support, J. T. Johnson; Canopy support, J. T. Johnson; Canteen, W. Lang; Car coupling, J. H. Bukhltz; Car coupling apparatus, E. E. Murphy; Car, factory, W. Crossley; Car, grain, G. Douglas; Car loader, J. L. Roberts; Car, parlor compartment, J. B. Strauss; Car replacer, J. D. Hoover; Car roof, D. C. Ross; Car sand box, A. W. Ham; Car seat, F. Bennett; Car seat, M. N. Forney; Car spring, W. Robinson; Car step, J. E. Thacher; Carbon, manufacture of, W. J. Burke; Carbonating apparatus, E. E. Murphy; Carpet fabric, Ingrain, H. Hardwick; Carpet sweeper, S. E. Davis; Carriage body, S. R. Bailey; Carrier; See Bottle carrier. Package carrier. Cartridge shells, implement for extracting, P. B. Berghen; Case; See Knifedown case. Ceilings and walls for buildings, etc., construction of, F. Kemnitz; Cellulose, proofing, A. G. Winter; Centrifugal machine, W. M. Smith; Chair; See Revolving chair. Churn; See Churn. Churn, W. F. Gray;

Table listing inventions with names and patent numbers. Includes: Churn, A. B. Johnson; Churn power, J. S. Dickey; Cigar holder, J. W. New; Cigar, self-lighting, B. Heiman; Circuit breaker, F. W. Garrett; Clasp; See Clasp. Clasp; Clipping machine, J. K. Priest; Clock striking apparatus, R. J. Rudd; Clothes line prop, W. T. Shaffer; Clutch, Hakewessell & Henn; Clutch, J. A. Moore; Clutch mechanism, pin, Hakewessell & Henn; Comb; See Hair drying comb. Comb, H. P. De Vogel; Confection molding machine, J. C. Walier; Convertible tub, Levy & Holt; Cord fastener, C. J. W. Hayes; Cork extractor, L. C. Mumford; Corn sheller, H. A. Adams; Cotton cleaning mechanism, seed, H. W. Graber; Coupling; See Air pipe coupling. Car coupling. Thill coupling. Covers of culinary vessels in closed position, appliance for securing, J. Weidner; Crematory, rubbish, J. Hall; Crusher; See Cylindrical roller crusher. Currycomb, M. Campbell; Cushion spring, upholstered, F. Buob; Cutter; See Weed cutter. 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Dutton; Fire extinguisher and alarm, S. Haltene; Fire hydrant, R. Hughes; Fire shutter, E. B. Bess; Flagstaff bracket, E. D. Bess; Flask; See Molder's flask. Flower stand, W. F. Kessler; Folding box, E. H. Overton; Forging, apparatus for banding, J. Lanz; Forgings, preparing and banding, J. Lanz; Fortuna; See Boiler furnace. Electric furnace. Liquid fuel furnace. Furnace, F. Clayton; Furnaces, control of electric, W. S. Horry; Game apparatus, Eynon & Duckett; Game, educational, J. R. Hughes; Game scoring apparatus, M. Goulding; Garment clasp, H. A. Maxwell; Garment fastener, F. B. Mathewson; Garment hook, I. P. Doolittle; Gas engine, C. Hautier; Gas generator, acetylene, T. E. E. Bartlett; Gas generator, acetylene, T. E. E. Bartlett; Gas lighter, automatic, Jones & Barrett; Gas meter, coin freed, B. Paterson; Gas producer charging hopper, G. R. Hislop; Gas regulating tip for burners, J. W. Hentz; Gate; See Railway gate. Gate, F. G. Wilson; Gate operating mechanism, W. R. 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