

Pertaining to Recreation.

TOY.—W. V. GILBERT, No. 30 Lonsdale road, Wanstead, N. E., London, England. This device is actuated by compression in opposing directions. It forms the chief feature in the toy for imparting the required movement to the eyes, ears, and other parts of the figure representing the head of a man or animal, whereby the moving features or parts are actuated in an unusual or extravagant manner, so that the figure may present preferably a grotesque appearance.

FIGURE TOY.—W. V. GILBERT, No. 30 Lonsdale road, Wanstead, N. E., London, England. In carrying out the invention Mr. Gilbert makes use of a spring device adapted to be actuated by compression on opposite directions. It is so constructed and arranged that what have been termed the "sides" or "wings" thereof are extended or lengthened so as to constitute the beak, jaws, or mandibles of the bird, reptile, insect, or other creature represented in whole or in part by the toy figure, such extended portion being preferably ribbed or corrugated.

BOWLING-ALLEY.—F. H. BEDELL, Brooklyn, N. Y. The floor of the alley has a triangular portion removed and replaced by a triangular metallic plate. The latter is of sufficient extent to contain all the bowling pins when they are set up in proper position thereon and is provided with a plurality of circular openings corresponding in number and position to those of the pins. By providing a metallic plate for receiving the bowling pins the life of the floor is prolonged, since the greater part of the wear is at the point where the balls strike the pins. Bowlers obtain many advantages through the means provided for placing the pins in correct position.

AMUSEMENT DEVICE.—D. J. B. CAFFODIO, New York, N. Y. The invention relates to amusement devices, and especially to the general type of such devices which are popularly known as "merry-go-rounds." The object is to produce a device which will give pleasure-seekers a new and enjoyable sensation. Bicycling, automobiling, and skating are prominent features of amusement provided by the operation of the device.

TOY OR TOY WAGON.—E. C. SEERETER, Buffalo, N. Y. In this instance the object is to provide a toy or toy wagon built of easily-separable pieces to allow a child to readily take the whole article apart and to reunite the pieces and rebuild the article, thus furnishing means to keep the child occupied and at the same time serving as a medium for educational or manual-training purposes.

GAME-TABLE.—A. VAN B. BUSH, New York, N. Y. The invention comprises a table having a body with pockets formed therein adapted to receive a ball, a back-stop presenting a curved inner face, and an elevated tray adjacent to the back-stop having pockets adapted to receive the ball and an opening through which the ball may fall.

AMUSEMENT DEVICE.—A. BOECK and J. MÜLLER, New York, N. Y. The object of the invention which relates to amusement devices is to provide a tower having attachments enabling persons to climb to the top thereof and having means of rapid descent from the tower. A further object is to provide the tower with means of amusement to entertain visitors.

Pertaining to Vehicles.

ELASTIC TIRE FOR WHEELS.—L. BOIR-AULT, 8 Rue Emile Gilbert, Paris, France. This invention relates to an elastic tire compressing a series of corrugated flat springs arranged around the rim or felly and a cover or tread arranged around the said springs. It consists neither in arranging on a felly springs surrounded by a flexible tread nor in providing the felly with any kind of ribs, but in combining the springs with the ribs and with the tread to allow of the springs yielding totally in radial and partially in transversal direction, while they are in part rigidly supported in the latter and completely so in the circumferential direction.

WHIP-SOCKET.—R. H. HEBERLING, Wilmerding, Pa. The invention is an improvement in that class of whip-sockets which are provided with means for locking a whip to prevent its surreptitious removal. The grippers are held so that the whip is gripped with minimum force, yet when introduced its frictional contact with the rims of the grippers causes the latter to rotate on their pivots, so that as the whip descends the eccentricity of the portion in contact with it increases, and thus the gripping action becomes stronger and stronger.

Designs.

DESIGN FOR A KNIT FABRIC.—C. H. FRENCH, Canton, Mass. This ornamental design for a knit fabric is laid out by arranging rows of squares of dark material each united at two opposite ends. The position of the squares or diamonds is such that the separating body of light colored material presents an accurate zig-zag path the whole length of the pattern.

NOTE.—Copies of any of these patents will 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.

Business and Personal Wants.

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 information. In every case it is necessary to give the number of the inquiry.

MUNN & CO.

Marine Iron Works. Chicago. Catalogue free. Inquiry No. 8518.—Wanted, a machine for making down out of ordinary chicken feathers. Pattern Letters. Knight & Son, Seneca Falls, N. Y. Inquiry No. 8519.—Wanted, name and address of the manufacturers of a sheet metal locked box with envelopes inside, for holding valuable papers. "U. S." Metal Polish. Indianapolis. Samples free. Inquiry No. 8520.—Wanted, the address of the Royal Motor Works, of New York.

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O. Inquiry No. 8521.—Wanted, a machine (gasoline preferred) for sawing down trees, and cutting in cord lengths. Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 8522.—Wanted, particulars of appliances and shifting type for marking aluminum strips and washers with names, addresses and consecutive numbering. Make Alcohol from Farm Products.—New book, \$1.00. Spon & Chamberlain, 123 S. A. Liberty Street, N. Y.

Inquiry No. 8523.—Wanted, machinery for making small pin tickets. WANTED.—Copies of our "Manufacturers' Index" issued some eight years ago. State price. Munn & Co., 361 Broadway, New York.

Inquiry No. 8524.—Wanted, the address of the Higginson Mfg. Co. The celebrated "Hornsby-Akroyd" safety oil engine. Koerting gas engine and producer. Ice machines. Built by De La Vergne Mch. Co., Ft. E. 133th St. N. Y. C.

Inquiry No. 8525.—Wanted, machinery for manufacturing butterine, lard and oleomargarine.

Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machine work and special size washers. Quadriga Manufacturing Company, 18 South Canal St., Chicago.

Inquiry No. 8526.—For a firm wishing to undertake the manufacture of scissors.

Inquiry No. 8527.—Wanted, addresses of makers of matrices for type-casting machines or of steel dies for forming the matrix letters.

Inquiry No. 8528.—Wanted, name and address of the manufacturers of the Minerva Piano Player.

Inquiry No. 8529.—Wanted, makers of ras mantle knitting machines.

Inquiry No. 8530.—Wanted, parties to manufacture insect traps.

Inquiry No. 8531.—Wanted, parties to manufacture small compressed air motor. Inquiry No. 8532.—Wanted, a machine for extracting gold from dry sand or gravel.

Inquiry No. 8533.—Wanted, spectacles having artificial eyes on back of the glasses.



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.

(10250) W. B. M. asks: 1. What is the nature of the conductivity of selenium in carrying a current of electricity, as affected or influenced by light? A. We do not know the nature of electrical conductivity in any substance. 2. Does the exposure or influence of light act on selenium gradually or instantaneously? A. All action of light is practically instantaneous. 3. Is selenium a non-conductor in the dark, i. e., absence of light? A. Selenium is to be classed among the non-conductors. 4. Do any particular colors or rays of light affect it more quickly than others? A. We have no data at hand on this point. The best method of learning all about selenium is to go to some first-class library and go through the reports of learned societies. You will then have it all. We can send you articles in our SUPPLEMENT Nos. 462, 484, 492, and 1348 for ten cents each.

(10251) F. J. B. asks: I would thank you if you would treat upon the hardening of copper and aluminium, and if the discoverer of same would be amply rewarded. A. There is a very old belief that the ancients knew how to temper copper as we temper steel. No tempered copper is in existence, and there are scholars who do not believe it ever was done. We doubt very much whether there would be a wide use for hardened copper or aluminium, unless their tensile strength could be greatly increased by the process. We have assisted in making experiments to this end, but without success. If aluminium could be made as strong as iron, there would be a great market for the wire for electrical purposes.

(10252) F. S. writes: 1. A friend of mine got into an argument with me concerning electricity. I said it was made or generated by the use of a magnetic field or produced by the chemical changes which take place in a liquid cell. He said it was gathered or collected from the air in all cases, either by mechanical means or chemical means. He said he would not believe that I was right, and so I said I would see who was right; and please describe how it is made, so we may settle the question. A. Electricity is produced in batteries by chemical action; in most primary cells by dissolving zinc in sulphuric acid. It is produced in dynamos by revolving coils of wire in a magnetic field; in thermo-couples by heating the junction of two metals. The first two methods named are the ones by which most of the commercial current is generated. There is electricity always present in the atmosphere, which can be detected by the proper instruments, but which is seen by any one in thunderstorms. This electricity is, however, not used for any practical purpose. 2. I have a magneto-generator, such as are used in telephones, giving an alternating current because there are only two sets of coils on the armature. Why is it not possible to use a ring armature and have one continuous coil wound on it, having a one-piece commutator? Would it generate a continuous current by keeping the current up to a maximum instead of at zero and then a maximum, and about what would be the voltage? Could I increase the strength of the permanent magnetic field by wrapping it with magnet wire in the right direction, and if possible could you tell me the amperage of a telephone magneto-generator wound the way I have described? A. The current of the magneto is alternating because the armature is not provided with a commutator. A direct current can be produced by a single coil on an armature if there is a commutator. We do not know how much you can get out of your magneto; enough to ring a bell, surely, but not enough to do much more than this.

(10253) J. J. S. asks: 1. In making Leyden jars, I have had great difficulty in coating the inside with tinfoil. Will you kindly advise me on the following points: Would it do equally well to half fill the jar with tinsel, of course coating the outside with tinfoil? A. No. The tinsel will not be continuous, nor will it be in contact with the sides of the jar. 2. Would it do to shellac the inside up to the proper height and shake in bronze powder? A. Not so well as tinfoil. 3. In using tinfoil, should the bottom, inside and outside be covered? A. Yes. There is not much difficulty in placing the tinfoil properly in the jar. Cut the foil into strips of two inches or thereabout in width. Apply the paste to the inside of the jar with a long-handled brush. Put the foil in with forceps or in any other convenient manner, and bring it to its place and rub it down with a dry brush with long bristles. 4. I have made a Wimshurst machine with 18-inch plates, but can only get a spark of 1/2 inch. Is this all a machine of that size is capable of, or have I made some mistake in construction? A. The spark is not long when a Leyden jar is not used. And indeed when the jar is used, its effect is to render the discharge intense rather than to lengthen the spark.

INDEX OF INVENTIONS

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

December 4, 1906,

AND EACH BEARING THAT DATE

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

- Acid concentrating apparatus, sulfuric, L. Stange..... 837,592
Acid, manufacturing, boric, O. Best..... 837,378
Adjustment, combination, T. E. Lutz..... 837,483
Air brake, H. M. Marsh..... 837,416
Air compressors, mechanism for unloading, H. P. Morgan..... 837,327
Air ship, E. Hutchinson..... 837,472
Alkylaminomethylpentyl benzate, T. Emilewicz..... 837,899
Alloys, improving the magnetic qualities of iron-silicon-manganese, R. A. Hadfield..... 837,682
Amalgam trap, C. F. Hawley..... 837,829
Animal trap, O. Schneekloth..... 837,511
Anti-jouncing appliance, F. A. Law..... 837,855
Automobile bearing, removable, C. S. Lockwood..... 837,414
Bag frame, Haring & Fuller..... 837,301
Bakewell, pastry cup, C. Schiller..... 837,344
Balance, F. Aronson..... 837,374
Baler power, bay, F. A. Lake..... 837,691
Balling press, W. H. Bonwell..... 837,540
Ballon, dirigible, E. M. Bessuet..... 837,784
Balls from sheet metal, machine for making, A. Johnston..... 837,573
Band, make, A. Gieves..... 837,299
Barrel, metallic, H. A. Keiner..... 837,476
Barrel press, W. P. Robinson..... 837,733
Basin, wash, B. N. Miles..... 837,487
Basket, A. J. Carlton..... 837,383
Bath and basin steppers, making, H. C. Freshour..... 837,679
Batteries, cleaning storage, J. W. Aylesworth..... 837,773
Battery, connector, storage, A. F. Clark..... 837,897
Battery plate, secondary, F. C. Hood..... 837,567
Beater, mixer, and masher for eggs, cream, vegetables, etc., W. Sturm..... 837,750
Bed attachment, L. A. Povell..... 837,642
Bed, device for holding children in, D. C. Akers..... 837,373
Bed, invalid, H. L. Prichard..... 837,504
Beer tap, M. J. Chaplin..... 837,608
Bell, electric, H. W. Eden..... 837,672
Bell, electric signal, H. W. Eden..... 837,673
Bell, electrically actuated signal, H. W. Eden..... 837,675
Bell frame, electric, H. W. Eden..... 837,671

- Bell ringing circuit, G. P. McDannell..... 837,635, 837,636
Binder, loose leaf, C. C. Maltby..... 837,698
Bit, A. L. Nelson..... 837,430
Bleaching, K. Reinking, et al..... 837,430
Blind slot, J. W. McGrain..... 837,419
Block, See Building block.
Block molding machine, E. N. Edwards..... 837,550
Wolter, G. Kingsley..... 837,847
Boiler tube cutter, G. F. Seymour..... 837,426
Bond detectors, receiving device for, H. A. Watson..... 837,440
Bookcase, sectional, Faust & Berlin..... 837,293
Boot and shoe, C. Radetinsky..... 837,726
Boot polishing machine, G. A. Plinos..... 837,720
Bottle and bottle closure, A. Elmer..... 837,812
Bottle and cap therefor, Strom & Elstrom..... 837,648
Bottle closure, F. H. Bills..... 837,779
Bottle, non-refillable, C. A. Clark..... 837,455
Bottle washer, G. W. Harris..... 837,401
Bottle washing apparatus, D. M. Kyle..... 837,369
Bottle washing machine, D. M. Kyle..... 837,310
Box fastener, A. Suter..... 837,752
Box forming machine, J. H. Mitchell..... 837,325
Box making machine, J. M. Carnross..... 837,605
Box making machine, flexible, E. G. Staude..... 837,354
Box making machines, cutting rolls and knives for, E. G. Staude..... 837,353
Brake shoe, A. L. Streeter..... 837,356
Brake shoe, C. Jager..... 837,407
Bricks, compressing, L. Elkus..... 837,290
Brick making machine, J. W. & G. W. Ferguson..... 837,818
Bridge, G. H. Chavey..... 837,796
Bridge and door operating device, S. Szentjanassy..... 837,649
Bridge floor fastener, J. T. Campbell..... 837,793
Broiler, meat, J. Glangberg..... 837,619
Brush, J. & W. H. Wamborgs..... 837,523
Brush and dentifice bracket, tooth, McCannell & Gage..... 837,871
Brush rake and harrow, combined, W. J. Crook..... 837,450
Buckle, O. C. Davis..... 837,451
Buckle, A. T. Van Alstyn..... 837,650
Buckle, W. A. Baldwin..... 837,657
Buckle, sanitary belt, R. F. Bennett..... 837,276
Buckle, suspender, J. F. Molloy..... 837,704
Building block, E. V. Johnson..... 837,572
Building block mold core, F. A. Berst..... 837,662
Burial apparatus, R. A. Shoemith..... 837,645
Burial case, E. A. Knowle..... 837,849
Butt plate, cushioned, A. T. Duncan..... 837,455
Button attaching machine, Cooke & Lord..... 837,607
Cab, Hansom, H. C. Sears..... 837,346
Cacao product and making same, J. E. Bloom..... 837,782
Canning apparatus, J. F. Ragan..... 837,884
Cap, O. C. Olsen..... 837,495
Car brake, S. J. Killingworth..... 837,846
Car coupling, J. C. Yeiser..... 837,531
Car coupling, automatic, W. S. Wright..... 837,893
Car door sill, railway, W. O. & F. H. Jewell..... 837,474
Car draft, rubber, Tatum & Prentergast..... 837,754
Car, dump, H. E. Murphy..... 837,580
Car fender, F. Cushman..... 837,801
Car grain door, box, H. J. Forst..... 837,553
Car, railway, E. Pessen..... 837,721
Car sanding appliance, trolley, A. H. Flexer..... 837,460
Car, side dump, S. W. Miller..... 837,417
Car steel underframe construction, A. Becker..... 837,895
Car structure, F. Jerdone, Jr..... 837,841
Car windows, sash fastener for, H. Moorman..... 837,864
Carousel, D. W. Sharkey..... 837,890
Carrier, See Manure carrier.
Carrier, A. Klinzing..... 837,306
Cartridge belt, W. W. Gibson..... 837,824
Cattle guard, L. A. Jungman..... 837,842
Cement compounds, apparatus for making, H. M. Perry..... 837,718
Cement compounds, making, H. M. Perry..... 837,717
Center marking device, D. A. Labunski..... 837,690
Centrifugal machine, E. Ljungstrom..... 837,895
Chair attachment, A. V. & W. H. Jackson..... 837,570
Chair hub pattern, J. M. Germanson..... 837,297
Chalk line, self-chalking, J. E. Dennison..... 837,806
Chandelier support, D. V. Cushman..... 837,286
Cheese box and cutter, Black & Sanford..... 837,780
Chemical desks, ventilating apparatus for, L. B. & F. A. Altaffer..... 837,448
Chimney, tent, R. S. Reid..... 837,729
Chin support, C. G. Davis..... 837,812
Chlorinating apparatus, J. E. Greenawalt..... 837,680
Chain power mechanism, H. F. Garvie..... 837,606
Chute, portable loading, A. Benenate..... 837,602
Cigarette and match case, combination, G. B. Groesbeck..... 837,466
Cigarette making machines, apparatus for feeding tobacco to, B. Baren..... 837,776
Circuit controller, automatic, R. Varley..... 837,597
Cloth shrinking device, A. Bray..... 837,281
Clutch, F. Muller..... 837,632
Clutch, friction, S. J. Riley..... 837,732
Coal tipple, J. J. Fleming..... 837,300
Coffee cooker, M. M. C. Herrera..... 837,851
Coin detector, H. G. Kellogg..... 837,410
Coin holder, R. R. Kintz..... 837,685
Coke leveling machine, G. T. Wickes..... 837,364
Commutator, S. S. Seyfert..... 837,425
Composition of matter, W. H. Smith..... 837,351
Compound engine, I. H. Boyer..... 837,785
Concrete block making machine, W. G. Tower..... 837,520
Continuous kiln and drier combined, G. Curley..... 837,547
Cooker, steam, J. Mackey..... 837,485
Cooling and condensing apparatus, Perkins & Kitchen..... 837,499
Copper ores, treating, E. H. Hamilton..... 837,562
Core making machine, Coles & Schmitz..... 837,798
Corn crib, W. Branch..... 837,786
Corn husking machine, A. P. Wolfe..... 837,445
Corner post, transom bar, or mullion, L. von Gerichten..... 837,437
Carset busk, P. Drossner..... 837,609
Cotton picker, W. C. Kyle..... 837,521
Crib, folding, F. Bagnardus..... 837,278
Cultivator attachment, S. Seitner, Jr..... 837,740
Cultivator replanting attachment, F. W. Shaver..... 837,891
Cultivator, tooth, automatic spring, Nelson & Kalkhurst..... 837,335
Culvert mold, E. T. Morris..... 837,328
Currents, means for commutating motor and other electric, S. S. Seyfert..... 837,889
Dating machine, C. Spielmann..... 837,514
Dental handpiece, E. Sargent..... 837,623
Derrick, oil well, W. Heckart..... 837,402
Derricks or cranes, device for swinging, O. L. Schlumpf..... 837,510
Disk drill, H. C. Howe, et al..... 837,839
Disk jointer, N. P. Nelson..... 837,491
Distilling and rectifying apparatus, U. Lorenz..... 837,696
Door and window securer, E. E. Storr..... 837,595
Doors and other hinged closures, mechanism for operating, A. M. Spink..... 837,591
Draft appliance, T. E. & W. L. Cox..... 837,800
Draft attachment for vehicles, spring, W. H. Robinson..... 837,886
Draft equalizer, F. W. Raymond..... 837,727
Draft equalizer, G. A. Froehrich..... 837,823
Draft rigging, friction, Asper & Boryesen..... 837,533
Drawing press, O. S. Beyer..... 837,659
Driers, See Hay drier.
Drills and like tools, taper shank for, A. A. Miller..... 837,322
Driving mechanism, E. J. Mason..... 837,486
Drum, snuage and beat, C. Griffiths..... 837,621
Dump, rotary, Blair & Robb..... 837,779
Dust collector, W. V. Sly..... 837,743
Dye and making same, halogenated, O. Bally..... 837,775
Dye and making same, anthracene, M. H. Isler..... 837,840
Dye and making same, red azo, A. Schaefer..... 837,736
Edger, gang, C. W. Willett..... 837,444
Egg beater, N. Stromer..... 837,432
Electric conduits, finishing or guard ring for, A. L. Appleton..... 837,654
Electric furnace, Birkland & Edlund..... 837,277
Electric controlling system, U. J. Fry..... 837,396
Electric meter regulating device, R. C. Lamphier..... 837,411
Electric motor, D. Mendelson..... 837,701
Electric signal, H. W. Eden..... 837,670
Electric switch, G. P. McDannell..... 837,634
Electrically operated drill, portable, A. Pedersen, reissue..... 12,571
Electrode plates, apparatus for forming tubes for, F. Moutere..... 837,707