

would be in a condition of static equilibrium. I think the magnetic poles of the armature must move forward, turning the armature with them, while the brushes remain on the same segments of the commutators, and when they come on the next segment, so that the current passes through the next coil, the poles are recreated so to speak, one coil further back as regards direction of rotation, and again advance through the same angle, turning the armature, as before. Thus you have the motion necessary to produce energy. Is my idea correct? A. We think your idea is correct. 2. How much lead is it desirable to give the poles of the armature of a motor? A. Only enough to reduce the sparking to a minimum. 3. What would be the effect of too much lead? A. Increased sparking. 4. What would be the effect of no lead at all? A. It depends on the construction of the machine. If the machine requires lead to make it work to the best advantage, changing the brushes so as to give no lead would cause the machine to spark.

(4499) H. Z. writes: N. E. T. in Notes and Queries says his cigar lighter don't work properly. I have one like it. The probability is that his solution is polarized. If he washes the zinc and other elements and makes a new solution, he will find it works well. Two ounces each of dichromate of potash and sulphuric acid. Add water enough only to come within one-eighth inch of the zinc.

NEW BOOKS AND PUBLICATIONS.

A DICTIONARY OF ELECTRICAL WORDS, TERMS AND PHRASES. By Edwin J. Houston, A.M. Second edition, re-written and greatly enlarged. 1892. New York: The W. J. Johnston Co., Limited. Pp. 562. 7x9 1/2 inches. Price \$5.

In this new edition of Professor Houston's dictionary there are over five thousand distinct titles with definitions and a superabundance of cross references. The definitions are concise and in the main accurate, and the illustrations are sufficient for the purposes for which they are designed. Taken altogether, the book is desirable and should be owned by every person who tries to keep up with these times, in which electricity plays so large a part. To the electrical engineer, electrician, and student of electricity, it is indispensable. Occupying as it does the pioneer position in the field, and being thus far the only work of its class, we bespeak for it the welcome it deserves.

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Type writing machine, W. W. Street. 480,677
Type writing machine, G. B. Webb. 480,905, 480,306, 480,641
Type writing machine cleaning attachment, S. Croford. 480,257
Umbrella, folding, H. C. Ward. 480,452
Umbrella rib, W. L. Uhlenhart. 480,353
Umbrella stand, G. R. Davis. 480,577
Unicycle, J. Imlah. 480,585
Valve for elevators, automatic stop, E. J. Reedy. 480,278
Valve for pneumatic tires, E. B. De Wolfe. 480,430
Valve gear, W. H. Von Mangeringhausen. 480,474
Valve mechanism, steam radiator, L. H. Frenchie, et al. 480,512
Valve, oil well, H. D. Jones. 480,265
Valve, relief, A. S. Thomas. 480,628
Vamp, rubber, W. E. H. Palmer. 480,516
Vamp marking machine, J. F. Rogers. 480,438
Vaporization of liquids, generator for the, L. Serpillet. 480,236
Vehicle, C. Comstock. 480,421
Vehicle, J. Spifford, Jr. 480,442
Vehicle gear, Capwell & Fuller. 480,631
Vehicoped driving gear, J. Magennis. 480,600
Vending machine, coin actuated, W. S. Van Sant. 480,639
Veterinary truss, H. Haussmann. 480,323
Wagon running gear, J. H. Baker. 480,379, 480,330
Washing machine, C. Van Derzee. 480,532
Watch chain attachment, J. C. Koch. 480,430
Water and steam generator, I. Willan. 480,309
Water closet, E. Hammann. 480,402
Water closet seat and cover, H. H. Sievert. 480,292
Water closets, automatic valve operator for, J. S. Daniel. 480,494
Weed extermiator, W. Vroeland. 480,300
Wheel, bicycle, W. H. Snyer. 480,361
Wheel, R. Jewell. 480,586
Whiffletree hook, H. E. Harris. 480,465
Whip holder, J. E. Woodward. 480,356
Windmill regulator, automatic, E. T. Crowe. 480,399
Window, R. H. White. 480,582
Window, green, H. B. Dinger. 480,585
Wire coiling machine, W. Edensborn. 480,564, 480,565
Wood carving machine, W. R. Snyder. 480,524
Wood, means for ornamenting, C. L. Goehring. 480,462
Wood moulding machine, F. H. Van Houten. 480,443
Wood washing machine, F. G. & A. C. Sargent. 480,283
Wringing machine, J. W. Finegan. 480,457

DESIGNS.

Badge, E. Gash. 21,758
Box, W. C. Estes. 21,762
Brooch pin, T. Tugby. 21,759
Carriage body, A. T. Demarest. 21,773
Clutch frame, H. W. Hill. 21,767
Coffin handle, W. C. G. 21,775
Coffin plate, O. McCarthy. 21,774
Confection, D. E. Mapother. 21,760
Corkscrew, C. Puddefoot. 21,771
Dental punch, C. E. Blake, Sr. 21,771
Knife handle, G. F. Korn. 21,766
Knob, W. F. C. 21,770
Lamp burner, F. Rhind. 21,769
Match box, C. Osborne. 21,768
Roofing tile, G. H. Babcock. 21,772
Shoe case, F. B. Baldwin. 21,763
Sink trap, H. C. Montgomery. 21,776
Toy rattle, J. A. Crandall. 21,764, 21,765

TRADE MARKS.

Absorbent pads, I. D. Allen & Co. 21,577
Ammonia alum, N. Waterbury. 21,674
Baking powder, C. Amann. 21,576
Baking powder, Potter Parlin Company. 21,560
Chloride of sodium or common salt, T. Higgin & Co. 21,600
Collars and neckwear, Celluloid Company. 21,573
Complexion cream, M. Van Buren. 21,586
Fertilizer, natural and artificial, Durham Fertilizer Company. 21,598
Flour, wheat, J. A. Graves & Co. 21,582
Gloves, unham, Buckley & Co. 21,581
Gloves, hand, preparation for cleaning, Glovine Manufacturing Co. 21,565
Hooks and eyes, Richardson & De Long Bros. 21,787
Lard and its substitutes, W. J. Wilcox Lard and Refining Company. 21,603
Liquors except brandy, all spirituous and fermented, W. Nicholson & Co. 21,571
Meat choppers and presses, Enterprise Manufacturing Company. 21,599
Outer and under garments, misses' and children's, I. D. Jaynes. 21,570
Paper, envelopes, cards, blank books, and paper boxes, B. A. Johnson. 21,594
Photographic dry plates, L. H. Baekeland. 21,596
Photographic paper plates and chemicals, A. Schwarz. 21,572
Remedies, catarrh, O. P. Smith. 21,589
Remedy for dog distemper, Taylor & Severance. 21,597
Remedy for nervous disorders, W. H. Gannett. 21,583
Shirts, linen, N. Hannach. 21,569
Smoking pipes, Hirschl & Bendheim. 21,578
Soda, bicarbonate of, N. Waterbury. 21,575
Stone and its compositions, artificial, Pyrolith Company. 21,593
Varnish, pigments, Japanese and analogous materials or compounds, N. Z. Graves & Company. 21,584
Veterinary medicines and preparations, S. Pettifer & Son. 21,786
Wheelbarrows, metallic, J. C. McNeil Company. 21,602
Whisk, Wm. Benedict Company. 21,594
Wrinkers, American Wringer Company. 21,580 to 21,593

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 25 cents. In ordering please state the name and number of the patent desired, and remit to Munn & Co., 361 Broadway, New York. Other foreign patents may also be obtained.