

to, but rather what I believed to be a misconception of the nature of certain phenomena which such misuse seemed to imply. Let me see if I can maintain my ground.

If two bodies connected by an elastic medium retain their relative positions, the two may be transported or caused to move in any or all possible ways, and still with all speeds; yet the condition of stress under which this elastic connecting medium exists is not changed at all. If a force be exerted upon one of these bodies, tending to change its position relative to the other, the stress of the elastic connecting medium will be changed; and I do not think it necessary to conceive of a rate of propagation of this modified stress from the one object to the

other, for, if the second body were not attached to the first in some way, the force applied to the first could produce no stress whatever in the medium connecting the two. A push on one becomes a pull on the other, but there could be no push on the one without there being an exactly equal and opposite effect upon the other. Has any propagation taken place in this case?

If, again, we have a system of bodies, all of which are connected with each other by elastic strings or by a pervading elastic medium, any movement of one of these bodies necessarily involves a change of stress between all of them. A push on one means a pull of exactly equal amount on others. There can be no push without a resistance, and this resistance is a

Publications received at Editor's Office,
Feb. 17-22.

- KANSAS Academy of Science, Transactions of the Twentieth and Twenty-first Annual Meetings of the, 1887-88. Vol. XI. Topeka, State. 127 p. 8°.
- U. S. COAST AND GEODETIC SURVEY. Chart showing Annual Change of the Magnetic Declination for the Epoch January, 1890. Washington, Government. Scale 1: 10,000,000.
- Chart showing Magnetic Meridians of the United States for January, 1890. Washington, Government. Scale 1: 10,000,000.
- Isogonic Chart for the Epoch 1890. Alaska and Adjacent Regions. Washington, Government. Scale 1: 13,700,000.
- Isogonic Chart of the United States for the Epoch 1890. Washington, Government. Scale 1: 7,000,000.
- WARD, H. M. Diseases of Plants. London, Society for promoting Christian Knowledge; New York, E. & J. B. Young & Co. 196 p. 16°. \$1.
- WALTERS, A. J. Stanley's Emin Pasha Expedition. Philadelphia, Lippincott. 378 p. 12°. \$2.
- WEDDERBURN, A. J. A Popular Treatise on the Extent and Character of Food Adulterations.

(U. S. Dept. Agric., Bulletin No. 25.) Washington, Government. 61 p. 8°.

WHIST, American, Illustrated. By G. W. P. Boston and New York, Houghton, Mifflin, & Co. 367 p. 16°. \$1.75.

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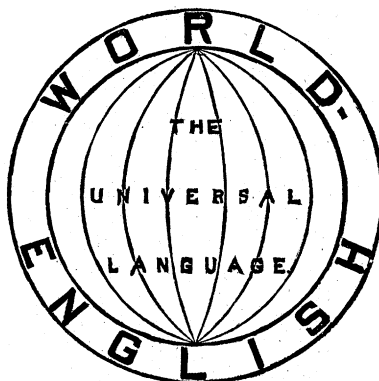
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We commend it to the attention of teachers. — *Ottawa Globe*.

"World-English" and "Hand-Book of World-English" can be had of all booksellers, or will be sent for 50 cents, post free, by the publisher,

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He claims, in his article, that the facts I used are his, while in the preface to his book he lays no claim to the facts. Here is what he says: "The nature of the work is such that I have no claim for the presentation of new material." In regard to "Rocks and Soils," published by Dr. Stockbridge, I have lately examined it, and I can confirm what he has said, that it does not contain a single fact new to science. I believe *one* such claim is made, but the *facts* have been in print for *forty years*. We have the same publisher, and for that reason I do not care to make any comments upon it. Any of your readers that are interested will find a review of it in *Nature*, Jan. 24, 1889, p. 292.

D. O'BRINE.

Fort Collins, Col., Feb. 15.

INDUSTRIAL NOTES.

The Electric Light in Japan.

AN American electric-light system has again come out victoriously while competing with the older European systems. This time the battle-ground was Tokio, Japan, where a corporation of capitalists, The Takata Company, awarded a large contract for electric lighting to the Westinghouse Electric Company of Pittsburgh, Penn. The Westinghouse alternating-current system has gained great favor in eastern Asia, as an immense central station for electric lighting is now being installed with Westinghouse alternating-current apparatus in Canton, China. The Japanese plant will be put up at Shidznoka, near Tokio, and it will have a total capacity of 500 lights. This is the first alternating-current central-station plant in the land of the Mikado.

A Big Road goes in for Electricity.

DURING the last week Mr. Thomas Lowry, president of one of the largest street-railway combinations in the world, showed his confidence in the electric system of street-railway propulsion by deciding to equip all the lines of St. Paul and Minneapolis by electricity. The electric company to whom this contract was awarded is the Sprague Electric Railway and Motor Company, and the investment called for from the street-railway company is said to be in the neighborhood of two million dollars.

Before deciding upon any system to be used upon these roads, the president of the company, together with the directors, made a careful inspection of all the different methods of operating street-cars in large cities, and investigated the merits of each. As a result of this investigation, the contracts for

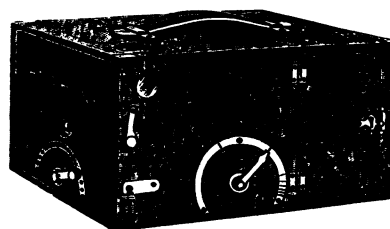
the partial equipments of the road by cable were cancelled, and negotiations were entered into with the Sprague Company for the entire electrical equipment.

By the terms of the contract, the Sprague Company is to fully equip and put into working order the entire mileage owned by the railway company, the work to be completed by June 1; and the first delivery of electric-railway apparatus, which will include 360 Sprague improved motors for the equipment of the rolling-stock, will be made shortly.

This is probably the largest order which has ever been given for electric-railway motors, and evinces the confidence which prominent street-railway managers feel in the electric system.

Photography done Quickly.

THE initial letters of the above three words have been adopted as the name of the "P. D. Q." camera, a new detective camera of small size, manufactured by E. & H. T. Anthony of this city. This camera, which is shown in the cut, is adapted to the making of four-by-five inch pictures, either time or



THE P. D. Q. CAMERA.

instantaneous, and which may be taken either vertically or horizontally. It is provided with a finder which may be used for either position. Three patent double holders are supplied with each camera, — one for dry plates and two for films. The double-film holders are very durable and compact, being only three-eighths of an inch thick.

This camera is fitted with a combination instantaneous achromatic landscape lens and a shutter of a new design, which by its peculiar mechanism is always closed except at the moment of exposure, the resetting being accomplished by an ingenious device, which requires only the movement of a lever to the right or left. The manipulation of the shutter is wholly from the outside of the box, and it may be made to work with greater or less rapidity, as desired.

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This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, has ruined more stomachs than alcohol. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

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CALENDAR OF SOCIETIES.

Anthropological Society, Washington.

Feb. 18.—D. S. Lamb, Olecranon Foramen; W. W. Rockhill, Tibet; Mark B. Kerr, The Origin of L'ao N'ous, a Legend of the Shasta.

Engineers' Club, St. Louis.

Feb. 19.—Professor Johnson read Mr. Edward H. Connor's paper on the "Sub-structure of the Cairo Bridge." The paper was accompanied by drawings, showing the spans, piers, and caissons; also by numerous tables, and the complete specifications of the bridge. The paper explained the work of construction in detail, and the difficulties met with in various parts of the work. The tables gave the results of numerous tests on cements, showing the effect of different proportions of salt, the effect of freezing, the effect of fine grinding, etc. The results were given for both Portland and Louisville cements. Under general discussion, Mr. Willard Beahan was called upon for some information regarding the outlook for engineers in South America, he having recently returned from that country. He stated that the prospects for American engineers were excellent at the present time. Railroads are few, but a large number are in prospect. Municipal engineering was just being taken up. The prices secured and salaries paid were good. Most of the engineers now in that country are French, there being only a few from America and England.

Exchanges.

[Free of charge to all, if of satisfactory character. Address N. D. C. Hodges, 47 Lafayette Place, New York.]

I have a number of duplicates of microscopic slides, mostly botanical, which I would like to exchange for others not now in my collection. Send list of what you have to exchange and get my list. S. R. Thompson, New Wilmington, Pa.

Correspondence and exchanges solicited with persons interested in the study of American and Mexican antiquities. L. W. Gunckel, 36 Elm St., New Haven, Conn.

I wish to exchange or purchase well-fixed or hardened vertebrate embryos for sectioning. Desire specially reptilian embryos, but will be glad to secure any material that I do not possess. Thomas G. Lee, M.D., Histological Laboratory, Yale University, New Haven, Conn.

Wanted.—Books and journals, American or foreign, relating to Photography—exchange or purchase. C. W. Canfield, 1,321 Broadway, New York.

Wanted.—Marine univalves of the west coast, from U. S. line southward, and from Pacific Islands, offered; exchange from a general collection. — F. C. Browne, Framingham, Mass., Box 50.

D. E. Willard, Curator of the Museum, Albion Academy, Albion, Wis., will answer all his correspondence as soon as possible. Sickness and death in the family, with many other matters, have prevented his answering as promptly as he should have done.

I will give 100 good arrow heads for a fine pair of wild cattle horns at least two feet long. If you have shorter or other horns write me, and also how many arrow heads you want for them. I will also exchange shells, minerals and arrows. W. F. Lerch, 308 East 4th St., Davenport, Iowa.

A few duplicates of *Murex radix*, *M. ramosus*, *M. brandaris*, *Cassis rufa*, *Harpa ventricosa*, *Olivia triatula*, *O. reticularis*, *Chlorostoma funebre*, *Cypraea caput serpentis*, *C. lynx*, *Lottia gigantea*, *Acmodonta patina*, *Chama spinosa*, and some thirty other species, for exchange for shells not in our collection. List on application. — Curator Museum, Polytechnic Society, Louisville, Ky.

Photographs and Stereoscopic views of Aborigines of any country, and fine landscapes, etc., wanted in exchange for minerals and fossils. — L. L. Lewis, Copenhagen, New York.

Droysen's *Allgemeiner Historischer Hand-atlas* (Leipzig, 1886,) for scientific books—those published in the *International Scientific Series* preferred. — James H. Stoller, Schenectady, N.Y.

Astronomical works and reports wanted in exchange or to buy. Reports of observations on the planet Neptune and its satellite specially desired. — Edmund J. Sheridan, B.A., 295 Adelphi St., Brooklyn, N.Y.

I would like to correspond with any person having Tryon's "Structural and Systematic Conchology" to dispose of. I wish also to obtain State or U.S. Reports on Geology, Conchology, and Archæology. I will exchange classified specimens or pay cash. Also wanted a copy of MacFarlane's "Geologists' Traveling Hand-Book and Geological Railway Guide." — D. E. Willard, Curator of Museum, Albion Academy, Albion, Wis.

Morris's "British Butterflies," Morris's "Nests and Eggs of British Birds," Bree's "Birds of Europe" (all colored plates), and other natural history, in exchange for Shakesperiana; either books, pamphlets, engravings, or cuttings. — J. D. Barnett, Box 735, Stratford, Canada.

I have *Anodonta opalina* (Weatherby), and many other species of shells from the noted Koshkonong Lake and vicinity, also from Western New York, and fossils from the Marcellus shale of New York, which I would be glad to exchange for specimens of scientific value of any kind. I would also like to correspond with persons interested in the collection, sale, or exchange of Indian relics. — D. E. Willard, Albion Academy, Albion, Wis.

Shells and curiosities for marine shells, curiosities or minerals address W. F. Lerch, No. 308 East Fourth St., Davenport, Iowa.

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CATARRH.

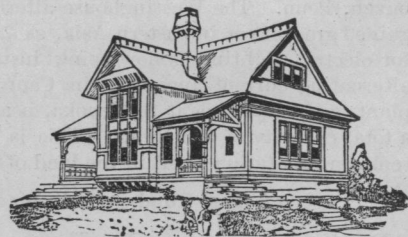
Catarrhal Deafness—Hay Fever.

A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N.B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King Street, Toronto, Canada.—*Christian Advocate*.

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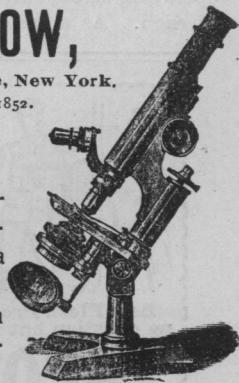
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