

where no living being is present, or within reach of the physical disturbance, is answered in one way by the physicist, and in the opposite way by the physicist. Physicists say there is no sound where there is no auditory apparatus. Physicists say sound is independent of any auditory apparatus for its existence. You will then answer the question in either way according to your point of view.

## NEW BOOKS, ETC.

**HOISTING MACHINERY.** By Joseph Horner, A.M.I.E. New York: J. B. Lippincott Co., 1903. 8vo.; pp. 252; 215 engravings. Price \$3.

This book was written with the idea of showing the underlying principles, as well as the details, of crane construction, and illustrating the various types of hoisting apparatus in common use. As most of the manufacturers of such apparatus rely largely on experience for the correct proportioning of the parts, the author has omitted all formulas and theories pertaining thereto, and has made his book a handy technical reference work for all engineers and others desirous of knowledge on this subject.

**DIZIONARIO TECNICO IN QUATTRO LINGUE.** Tedesco. Italiano-Francese-Inglese. By Ing. Edoardo Webber. Milano: Ulrico Hoepli, 1904. 16mo.; pp. 611.

The only way in which to test the efficiency of a technical dictionary is to use it. That we have done. Although we have not always been able to find in this lexicon of Mr. Webber's the definition of every term that we have sought, still we have found his book, on the whole, an exceedingly helpful guide in translating. Most technical dictionaries are so far antiquated that the publication of the present volume is in many respects a welcome contribution from the Hoepli house.

**OUTSTANDING ERRORS OF THE NAUTICAL ALMANAC.** By Dodge P. Blackstone, A.M., C.E. Berlin, Wis.: George C. Hicks, 1903. 8vo.; pp. 55. Price, \$1.50.

A correct nautical almanac is of equally great value to the astronomer and to the mariner. To the former it is essential for the correct determination of stellar parallax, while to the latter it is quite necessary for making correct observations. Mr. Blackstone's pamphlet gives a mathematical demonstration, and corrects the errors found to one ten-thousandth of a second. It treats of the moment of inertia, the precession of the equinoxes, the mass of the moon, the ellipticity of the earth, and the outstanding corrections due to elliptical orbit.

**SIMPLE EXPERIMENTS IN STATIC ELECTRICITY.** By Percival G. Bull, M.A. Oxon. London: Percival Marshall & Co., 1904. 12mo.; pp. 71. Price, 20 cents.

This small volume is intended for the use of many young students who know more or less about practical electrical instruments and machines, but who have had little or no experience in the fascinating field of static electricity. The book describes fully most all the interesting experiments that can be made with simple apparatus, and it can be used alone or in connection with a more elaborate text book.

**ARCHITECTS' AND ENGINEERS' HAND BOOK OF REINFORCED CONCRETE CONSTRUCTIONS.** By L. J. Mensch. Chicago: Cement and Engineering News, 1904. 12mo.; pp. 217. Price, \$2.

Reinforced concrete, while considered to be the ideal building material of the future, is comparatively little used at present, owing to its not being well understood by even our most competent engineers and architects. This handbook was designed to convey to modern architects and engineers full information regarding the use of reinforced concrete constructions. It is copiously illustrated with photographs and drawings, and should prove of great value to the engineering fraternity.

**X-RAYS SIMPLY EXPLAINED.** A handbook on the theory and practice of radiography. By R. P. Howgrave-Graham. London: Percival Marshall & Co., 1904. 12mo.; pp. 93. Price, 20 cents.

This booklet for amateurs gives a clear and concise account, both historical and practical, of the experiments, discoveries, and improvements which have led up to the present knowledge of Roentgen rays and their application to pathology. Being intended for amateurs and students, it does not treat of the complicated and expensive apparatus, or of the latest developments in hospital methods. It gives, on the contrary, a thorough understanding of the elementary principles involved in X-ray work, and of the use and management of the essential pieces of apparatus employed, including the taking of radiographs and the construction of fluorescent screens. It is well illustrated.

**HIE EUROPA!—HIE AMERIKA!** Aus dem Lande der krassen Utilität. Von Jul. H. West, Ingenieur. Verlag von Franz Siemenroth in Berlin. Price, 50 cents.

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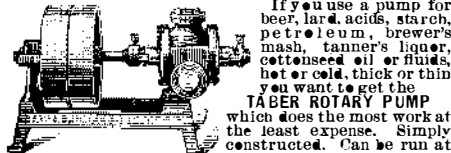
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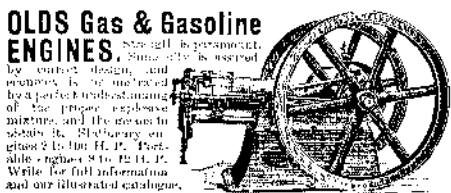
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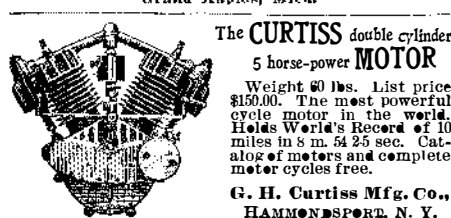
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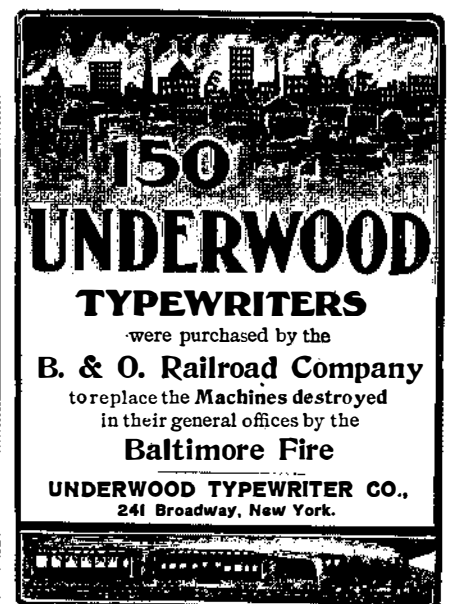
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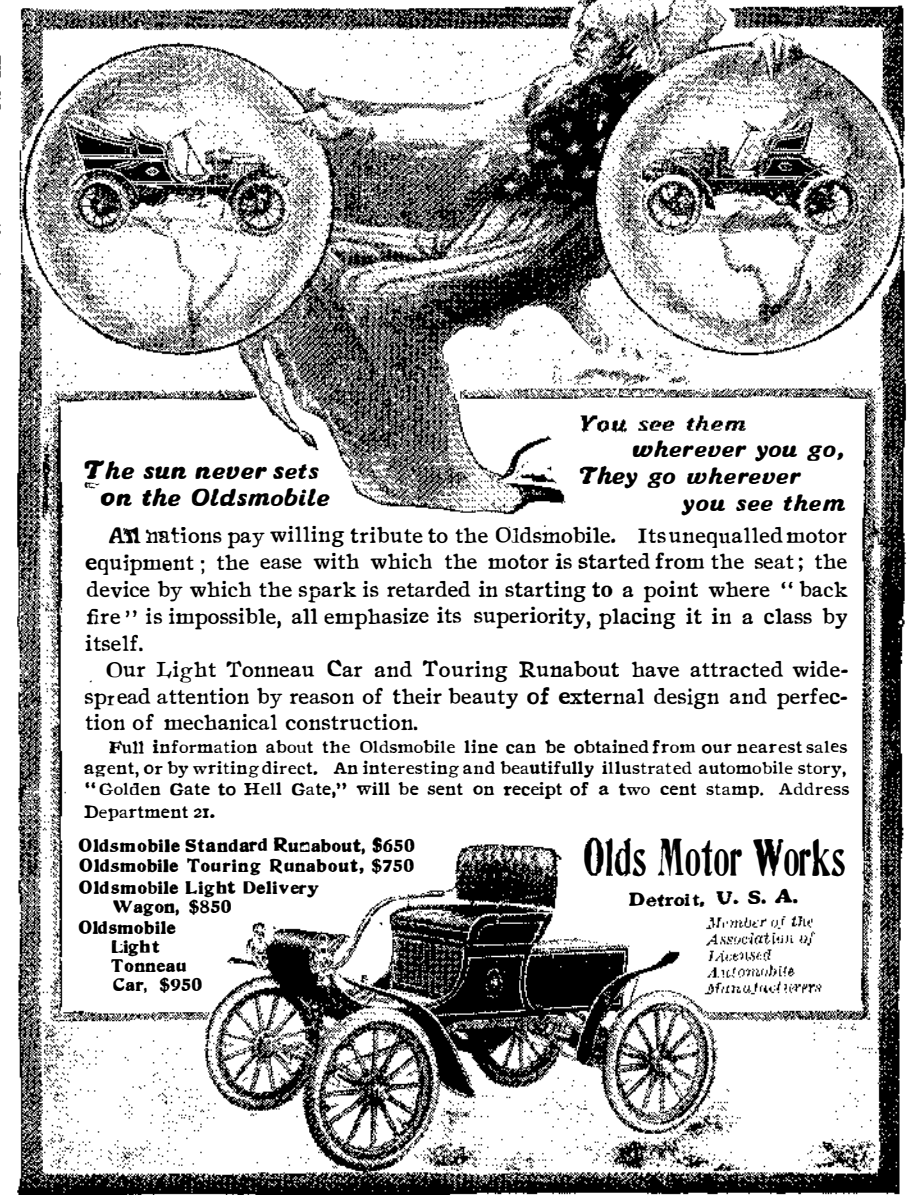
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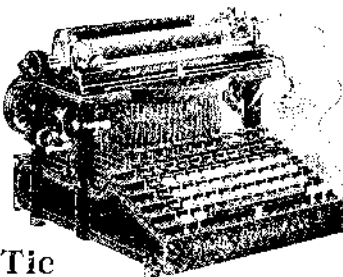
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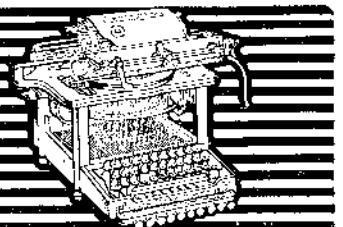
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