Scientific American.



OFFICE has typewriters that mark the very highest point of superior-

ity reached in writing machine & & & mechanism. No

other typewriter so thoroughly holds its own, presents so many improvements, 3 shows less affect of wear from constant use or requires so little attention. It is always

> If your office is not a Smith Premier office, write for our Illustrated Catalogue, Free.

The Smith Premier is especially adapted 'o the "Touch System" of Typewriting.

Smith Premier Typewriter Co. Syracuse, n. Y., U. S. A.



UNITED STATES PIN CO., Ur, OLIN L. DIBBLE, Seymour, Conn

ICE MACHINES, C rliss Engines, Brewers' and Bottlers' Machinery. THE VILTER MFG. CO., 859 Clinton Street, Milwaukee, Wis.

TURBINES JAS. LEFFEL & CO. Springfield, Ohio, U. S. A.

STEVER MODELS EXPERIMENTAL WORK, MALL MODELS VPE WHEELS, MODELS & EXPERIMENTAL WORK, MALL MODELS VELVILS & ETC. NEW SOME STEVEL WORKS HOD MASSAU BY N.T.

INVENTIONS PERFECTED. PARSELL & WEED, 129-131 West 31st St., New York.



WANTED—An experienced Superintendent for an automobile factory using the bydro-carbon system. Must be capable of handling men, and also understand interobangeablemanufacturing in all its branches. State what salary wanted and give reference. Address "Au-tomobile," care Scientific American.

SEND for list of Second Hand Wood and Iron working Machinery. Good as new. Must be sold. DON A. GILBERT, BAINBRIDGE. N. Y.

MODELS & EXPERIMENTAL WORK. E. V. Baillard, 106 Liberty St., New York.

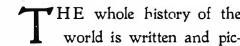
D'AMOUR & LITTLEDALE MACHINE CO. 130 WORTH ST. NEW YORK. Make Models of Any Machine to Order.

per month. Steady position; self-sel-ler; no experience needed.send 2c for contract. PEASE MFG. Co., Cincinnati.O. Dept. 10. EASE PAYS EXPENSES and



READY SHORTLY.





SEND FOR

ATALOGUET

■HE whole history of the







287

tured week by week in Collier's Weekly. So well written and so well pictured that it is now the leading illustrated record of current events and has the largest circulation of any periodical in the world that sells for three dollars or more per year.

On sale at all newsstands. Price 10 cents per copy. Sample copy free. Address COLLIF:R'S WEEKLY, 525 West.13th Street, New York City.



Any one sending a sketch and description may nickly ascertain our opinion free whether an nvention is probably patentable. Communica-ions strictly contidential. Handbookon Patents Constructly confidential. Failing of the free of the securing patents. Patents taken through Munn & Co. receive special not ce, without charge, in the

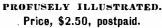
Scientific American.

A handsomely illustrated weekly. Largest cir-ulation of any scientific journal. Ternis, \$3 a year: four months, \$1. Sold by all newsdealers. MUNN & CO. 361 Broadway, New York ch Office. 625 F St.. Washington, D. C.

CIVEN AWAY. The construction of the sentence of the sentenc



YOU MAKE BIG MONEY Entertaining CAN MAKE BIG MONEY the Public with Motion Pictures, the new Grapho-Ampliphone Talking and Musical Combination and Panoramic Stereopticon Views \$(0 to \$300 per week without previous experience. Only a little money needed to start with, and any man can operate our outfits successfully. Write for catalox. Enteriainment Supply Co., 56 & 68 Fifth Av., Chicago.



By HENRY V. A. PARSELL, Jr., Mem. A. I. Elec. Eng.,

and ARTHUR J. WEED, M. E.

Price, \$2.50, postpaid. This book treats of the subject more from the stand-point of practice than that of theory. The principles of operation of Gas Engines are clearly and simply de-scribed, and then the actual construction of a half-horse power engine is taken up. First come directions for making the patterns; this is followed by all the details of the mechanical operations of finishing up and fitting the castings. It is profusely illustrated with beautiful engravings of the actual work in progress, showing the modes of chucking, turning, boring and finishing the parts in the lathe, and also latint's howing the lining up and ercetion of the engine. **Dimensioned working drawings give clearly** the size and forms of the various details. The entire engine, with the exception of the fix-wheels, is designed to be made on a simple eight inch lathe, with slide rests. The book closes with a chapter on American practice in Gas Engine design and gives simple rules so that any-one can fixure out the dimentions of similar engines of other powers.

other powers. Every illustration in this book is new and original, having been made expressly for this work- Large Svo. About 300 pages.

Send for Circular of Contents. MUNN & CO., Publishers, SCIENTIFIC AMERICAN OFFICE, 861 Broadway, NEW YORK.

