

Scientific American.

ESTABLISHED 1845

MUNN & CO., EDITORS AND PROPRIETORS.

PUBLISHED WEEKLY AT

No. 361 BROADWAY, NEW YORK.

TERMS FOR THE SCIENTIFIC AMERICAN. (Established 1845.)

One copy, one year, for the U. S., Canada or Mexico... \$3.00

The Scientific American Supplement (Established 1876)

is a distinct paper from the SCIENTIFIC AMERICAN. THE SUPPLEMENT is issued weekly. Every number contains 16 octavo pages, uniform in size with SCIENTIFIC AMERICAN.

Building Edition of Scientific American. (Established 1885.)

THE BUILDING EDITION OF THE SCIENTIFIC AMERICAN is a large and splendidly illustrated periodical, issued monthly, containing floor plans and perspective views pertaining to modern architecture.

Export Edition of the Scientific American (Established 1878)

with which is incorporated "LA AMERICA CIENTIFICA E INDUSTRIAL," or Spanish edition of the SCIENTIFIC AMERICAN, published monthly, uniform in size and typography with the SCIENTIFIC AMERICAN.

The safest way to remit is by postal order, express money order, draft or bank check. Make all remittances payable to order of MUNN & CO.

NEW YORK, SATURDAY, JUNE 5, 1897.

Contents.

(Illustrated articles are marked with an asterisk.)

A. A. A. S. Detroit meeting... 355
African travels, Miss Kingsley's... 361
Bicycle frame improvement... 356

TABLE OF CONTENTS OF

Scientific American Supplement

No. 1118.

For the Week Ending June 5, 1897.

Price 10 cents. For sale by all newsdealers.

I. ARCHÆOLOGY.—The Casa Grande Ruin, Southern Arizona.—By COSMOS MINNIELEFF.—2 illustrations. 17877
II. CIVIL ENGINEERING.—Thirty Ton Steam Traveling Crane.—1 illustration. 17896

THE GAS ENGINE INDUSTRY IN THE UNITED STATES.

It is a noticeable fact that although the gas engine industry has been advancing with rapid strides in England and on the Continent, it has made comparatively slow progress in this country.

How comes it that a people which is so quick to appreciate a useful device should have given comparatively little attention to the gas engine, and have left it to other nations to demonstrate its efficiency and introduce it on a large scale into their various industries?

It is reasonable to suppose that when this industry, which in respect of its proportions is yet in its infancy, has attained the importance which it has in Europe, it will tend to reduce the price of gas, especially such gas as is used for cooking and power purposes;

GOLD MINING MACHINERY EXHIBITION AT COOLGARDIE, WEST AUSTRALIA.

We have been requested by Mr. David T. Day, of the United States Geological Survey, to call attention to a cablegram which he has received from the secretary of the forthcoming mining machinery exhibition at Coolgardie, West Australia.

The compactness, handiness and light weight of American mining machinery have never failed to make a most favorable impression in comparison with the more cumbersome European machinery.

THE SECOND CITY IN THE WORLD.

Now that the city of Brooklyn and other suburban districts have been incorporated with the city of New York, the latter in point of population easily takes rank as the second greatest city of the world.

ber that they represent practically the growth of a single century, for the census of 1800 shows that New York had then only 60,489 inhabitants, and it is certain that Brooklyn with the other districts recently included would at that time have made but a slight increase in the total.

As to the possibility of the capital of the western hemisphere becoming the capital of the world it is difficult to conjecture. The London of to-day will soon have passed the six million mark, and there is at present no discernible sign of its growth being arrested.

EXPERIMENTAL BICYCLE TRIP IN THE UNITED STATES ARMY.

Secretary Alger has given permission for the carrying out of a second military bicycle trip, similar to the famous ride through the Rocky Mountains last year, and the expedition will again be under the charge of Lieutenant Moss.

UTILIZING THE CATARACTS OF THE NILE.

The cataracts of the Nile, which have always been regarded as the bane of navigation on this noble river, may yet prove to be of inestimable benefit to Egypt if the latest advices from that country are correct.

If the proposed work is carried out, it will work another and important step in the recovery of this historical land from the degradation into which it had fallen under Turkish misrule.

MUNICH breweries possess 1,263 freight cars in which their beer is taken to all parts of Europe, including Spain, Italy, Turkey, and Russia.