

# SCIENTIFIC AMERICAN

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A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

Vol. LXIX.—No. 12.  
ESTABLISHED 1845.

NEW YORK, SEPTEMBER 16, 1893.

\$3.00 A YEAR.  
WEEKLY.

## THE McCONNELL GERM-PROOF FILTERS.

Any exhibit designed to illustrate the facility with which water may be freed from possible disease germs, with tolerable certainty and at a moderate cost, was certain to command its full share of attention at the World's Columbian Exposition, where not a few of the visitors, at the beginning of the season, had most exaggerated fears of the quality of the water supplied. In the display of the McConnell Filter Co., of Buffalo, N. Y., are filters of simple construction designed to show a high degree of perfection in operation, adapted for attachment to the water pipe, and so made that it will be but little trouble to keep the filtering medium entirely clean and pure. There are also other styles, made as gravity filters, and as filter and cooler combined, the latter being so arranged that the melted ice does not contaminate the filtered water. The filtering material consists of a porous wall, made of a composition of the finest mineral flour, whose nature is not to paste or flint, but to remain sufficiently porous to allow only pure water and air to pass through it. The impurities are collected on the outside, from which they are easily washed. These filters are made in all sizes, from those suitable for use in small families up to those of a capacity adapted for restaurant and hotel use.

## WINE MAKING REPRESENTED AT THE FAIR.

The very fine showing presented at the Columbian Exposition by American wine makers has not been surprising to those who are familiar with the growth of this branch of business as an American industry within a few years past, however it may have been to those who have heretofore sup-



THE WORLD'S COLUMBIAN EXPOSITION—EXHIBIT OF McCONNELL FILTERS.

posed all our best wines were imported. The great variety and the number of high quality wines here exhibited, as well as the numerous large establishments represented, afford the best answer to such erroneous assumptions. Among the notable exhibits in this line is that of the Urbana Wine Company, of Urbana, N. Y., shown herewith, in connection with which we give also views of the "finishing room," and one of the champagne vaults at the works, as well as of the main buildings, as they were established in 1865, although they have since been greatly enlarged. It will thus be seen that in all wines which require "aging" to bring out their finer qualities this establishment has had the advantage of more than a quarter of a century's existence, during which period it has had a continuously large and prosperous business, its wines steadily growing in popularity in comparison with the most favorite brands of imported wines.

As the first requisite in the making of a superior wine is to have the best quality and fine varieties of rich, ripe grapes, it was the obvious advantages presented in these particulars that originally led to the location of the works on the shores of Lake Keuka, or Crooked Lake, Steuben County, New York State. Here, besides the vineyards owned by the company, is a large grape-producing country, which has been famous in this respect for many years. The soil is a gravel on calcareous rock, the ground is undulating and sometimes precipitous, but with a general southeast exposure toward the lake, and the location has been styled the Rheims of America. The principal varieties of grapes cultivated are the Catawba, Isabella, Delaware, Iona, Concord, and

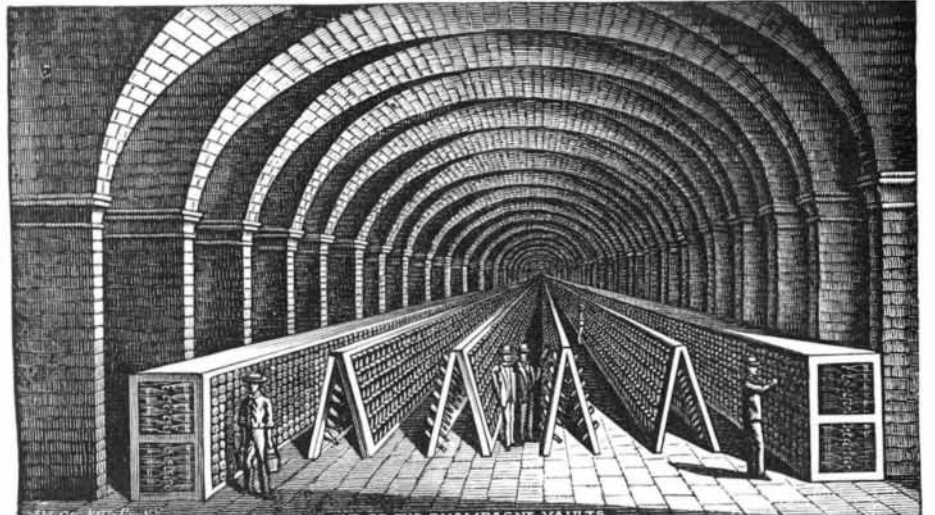
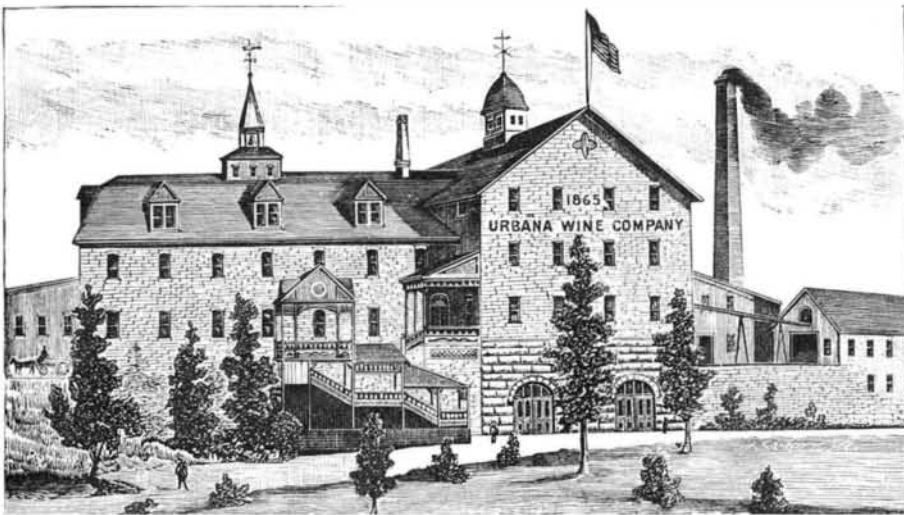


Exhibit at the Fair.



"Finishing Room" at Urbana, N. Y.

THE WORLD'S COLUMBIAN EXPOSITION—EXHIBIT OF THE URBANA WINE COMPANY, URBANA, N. Y.

Elviras, and several others, and it is the proper selecting and combining of the fermented juices of these grapes, under carefully regulated conditions, that gives the high quality to the various still and sparkling wines made.

The still wines of this company are deserving of especial attention, all being made from the most careful selection of grapes, and they are vouched for as "pure," which makes them particularly desirable with those who want pure goods, and desire to avoid adulterations.

The Late Hayward A. Harvey.

Hayward A. Harvey, the inventor of the Harveyized steel armor plate process, passed away August 29, at his home in Orange, N. J. Mr. Harvey was born in Jamestown, N. Y., January 17, 1824.

The new process is, briefly, a method of hardening steel on the surface, or carbonizing it, and raising steel of a low grade to a higher one. The first armor plate treated by the Harvey process was made in 1890.

The Lantern in Scientific Stage Effects.

Some new scientific stage effects were introduced into a recent performance of Wagner's Die Walkure, at the Grand Opera House, Paris. The scene where the sons of Wotan, mounted on steeds and brandishing their lances, are seen in the clouds, is described as very realistic.

The latest use for aluminum is for street car tickets, and it must be conceded that the metal is singularly adapted for the purpose. A Michigan street railway has just made its first issue of these light and ornamental tokens, which are about the size of a silver quarter dollar.

Scientific American.

ESTABLISHED 1845.

MUNN & CO., Editors and Proprietors. PUBLISHED WEEKLY AT No. 361 BROADWAY, NEW YORK.

O. D. MUNN. A. E. BEACH.

TERMS FOR THE SCIENTIFIC AMERICAN. One copy, one year, for the U. S., Canada or Mexico, \$3 00. One copy, six months, for the U. S., Canada or Mexico, 1 50.

The Scientific American Supplement 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.

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NEW YORK, SATURDAY, SEPTEMBER 16, 1893.

Contents.

(Illustrated articles are marked with an asterisk.)

Table listing various articles such as Air cooling by underground pipe, Aluminum tickets, Ang-Kor, ruins of, and Exposition, Columbian - Pens., Esterbrook, exhibit of.

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No. 924.

For the Week Ending September 16, 1893.

Price 10 cents. For sale by all newdealers.

Table listing sections I. AGRICULTURE, II. CHEMISTRY, III. CIVIL ENGINEERING, IV. ENTOMOLOGY, V. ETHNOLOGY, VI. GEOLOGY, VII. HYGIENE, VIII. MECHANICAL ENGINEERING, IX. MISCELLANEOUS, X. NAVAL ENGINEERING, XI. PHYSICS, XII. TECHNOLOGY.

A CHANCE FOR AMERICAN CONTRACTORS.

In another column will be found the advertisement of the Public Works Department of Cairo, Egypt, in which bids are called for relating to the construction of certain street railways in that city and vicinity.

The administration of the Egyptian government under the English advisory auspices has been attended with great success. The financial condition of the country is stable and reliable. In all departments of the government valuable reforms have been made, and nearly everything is now conducted on modern methods.

SAFETY ON RAILROADS.

Within a very recent period several fatal railroad accidents have been chronicled which were of a nature as to point to one conclusion—the futility of trusting to direct human agency for protection.

Such is the block system, by which all first-class railroads are guarded. In some cases it is applied by operatives stationed in watch towers along the line of the road. In other cases the manipulation is entirely automatic, electricity, pneumatic and hydraulic power being employed to work the signals.

The block system is designed to prevent collisions. Its defect is at once apparent. It relies absolutely on human agency to prevent accident. Its functions end with the display of a warning signal.

In 1853, on the New Haven road, a very bad accident, resulting in the loss of 46 lives, occurred at South Norwalk. A drawbridge was open and the danger signal, announcing this fact, was properly shown.

Throughout the whole system of railroad signaling runs the element of uncertainty. A train is brought to a stop between stations, owing to some accident. A signalman with a lantern by night or flag by day