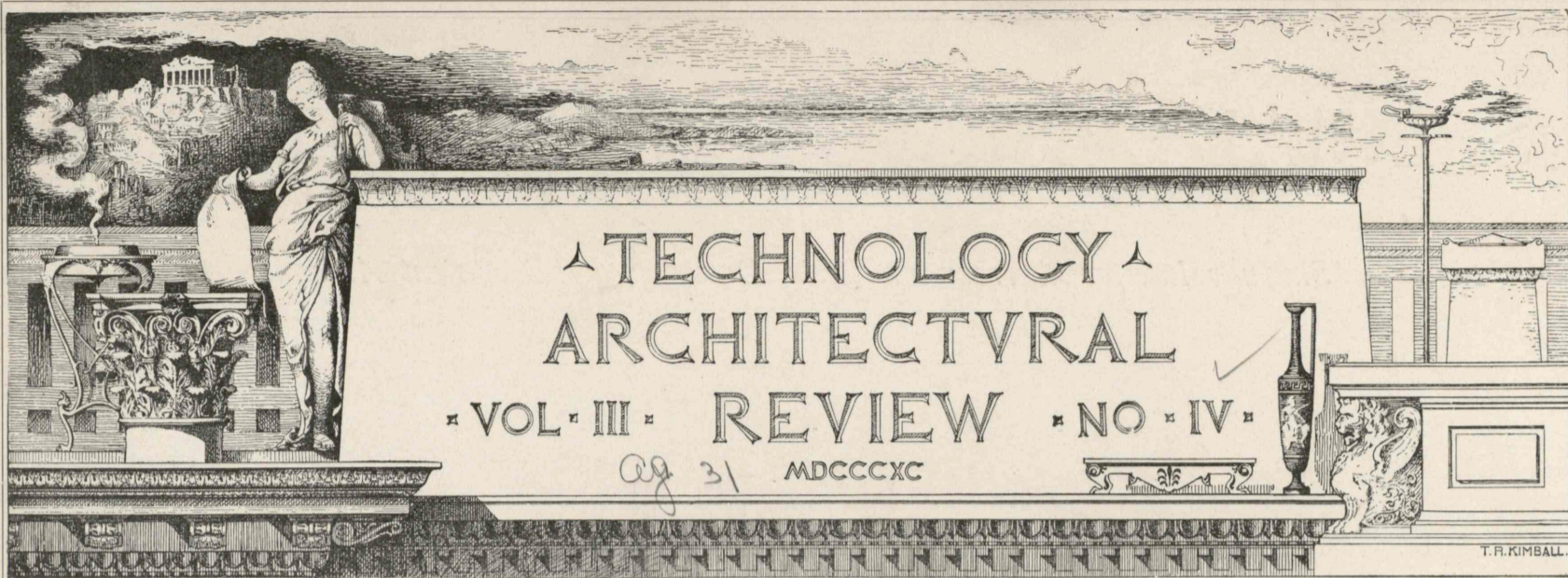


6/42 L.L. Howe



ARTISTIC, DOMESTIC, AND ECCLESIASTICAL
STAINED GLASS.
REDDING, BAIRD, & COMPANY,
83 Franklin Street, Boston, Mass.

Established 1848.
L. HABERSTROH & SON,
Mural Painters and Decorators.
THE "HABERSTROH" PROCESS FOR CEILINGS and WALLS.
9 Park Street, cor. Beacon, Boston.

FRAMES SUITABLE FOR ARCHITECTS' USE A SPECIALTY.
* **ARCHITECTURAL DRAWINGS** *
Mounted in the Best Manner and at Reasonable Prices.
WILLIAMS & EVERETT,
79 Boylston Street, Boston, Mass.

MAXIME LALANNE'S
DRAWINGS IN
LA HOLLANDE A VOL D' OISEAU
Make this charming work of great value to all students of architectural rendering. Send for a circular describing the book.
TECHNOLOGY ARCHITECTURAL REVIEW.

EDWIN FORD. FREDERICK BROOKS.
PELHAM GLASS STUDIOS,
44 BOYLSTON STREET, BOSTON.
Memorial Windows, Glass Mosaics, Domestic Colored Glass.
Special Medal of Award, French Exposition, 1889; First Gold Medal for Domestic Glass, First Medal for Glass Mosaics, Exhibition Pennsylvania Museum of Art, Philadelphia, 1889.

PATENT STIFFENED
FIRE-PROOF WIRE LATHING.
The best surface upon which to plaster. It is more easily and rapidly applied than any other Wire Lathing. Plaster will not crack. Fire cannot spread. For discounts and particulars, apply to
NEW JERSEY WIRE CLOTH COMPANY,
TRENTON, NEW JERSEY.

THE NORTHWESTERN TERRA-COTTA CO.
MANUFACTURERS OF
ARCHITECTURAL TERRA-COTTA,
For EXTERIOR and INTERIOR DECORATIONS, from Special Designs, in all Colors.
Main Works and Office: Branch Works: Clybourn and Wrightwood Avenues. Corner 15th and Laflin Streets.
Branch Office: Room 1118, Rookery Building, CHICAGO.

N. WILSON & CO.
BOOK * BINDERS,
112 Beach Street, Boston, Mass.
All kinds of books bound. Architectural books mounted and bound with special care. Portfolios made to order.

MAITLAND ARMSTRONG & CO.
STAINED GLASS & DECORATIVE WORK.
Interior Decorations and Work in American Mosaic Glass from the designs of Mr. Armstrong. English painted glass from the designs of Messrs. Clayton & Bell.
Sole Agents for CLAYTON & BELL, Glass Stainers, London.
61 Washington Square, South, New York, N. Y.

J. & R. LAMB
59 CARMINE STREET NEW YORK
STAINED GLASS AND COLOR DECORATION
SKETCHES SUBMITTED EMBODYING THE ARCHITECT'S SUGGESTIONS FOR WORK OF THIS CHARACTER

WIRE LATH.
See advertisement on page vi.

VIGNOLE.
Edition of Garnier Frères, Paris, consisting of 72 steel-engraved plates, forming a complete treatise upon
THE FIVE ORDERS OF ARCHITECTURE.
Paper covers, price, post-paid, \$3.00.
Technology Architectural Review.

GRANOLITHIC,
FOR
SIDEWALKS, BASEMENT FLOORS, CORRIDORS, RAILROAD PLATFORMS, ETC.
STUART & CO., EDINBURGH, SCOTLAND,
CHARLES HARRIS, Agent for New England,
OFFICE, 12 PEARL STREET, BOSTON.

School of Drawing and Painting.
MUSEUM OF FINE ARTS,
BOSTON.
The School Year begins Sept. 29, 1890. Classes from the cast and the living model, nude and draped. The Department of Decorative Design is of special value to architectural students.
For further information or circulars, address the School.

C. H. DUNTON & CO.
IMPORTERS OF FOREIGN PHOTOGRAPHS,
50 Boylston Street, Boston.
VIEWS, DETAILS OF ARCHITECTURE, Etc.
CATALOGUE MAILED FOR TEN CENTS.

BLUE PROCESS PAPERS.
"French Satin" is the only brand which is absolutely guaranteed by the manufacturers,
PHILADELPHIA BLUE PRINT CO.,
910 Filbert Street, Philadelphia, Pa.
Sample Books on request.

U. S. MAIL CHUTES
Should be planned for in a building in advance, as a vertical fall is imperative. The Chute must be in sight, and readily accessible, by order of Postmaster General. Architects should write for our drawings, etc., free.
CUTLER MANUF'G CO.
ROCHESTER, N. Y. SOLE MAKERS.

Pablo de Ségovie.
The most brilliantly illustrated work ever published. — JOSEPH PENNELL.
Technology Architectural Review
Circular upon application.

ESTABLISHED 1840.
JACKSON ARCHITECTURAL
IRON WORKS.
FOUNDRIES & SHOPS: EAST 28th & 29th STS., NEW YORK.
OFFICE: 315 EAST 28th STREET.

T. ASPINWALL & SON,
TILES OF EVERY DESCRIPTION, MOSAICS,
WOOD MANTELS, GRATES, OPEN FIREPLACES, IRON AND BRASS WORK.
303 Fifth Avenue, N. E. Cor. 31st Street, New York.

JOHANN FABER'S
SIBERIAN and POLYGRADE
LEAD PENCILS,
In all grades and degrees. The finest pencils made.
QUEEN & CO., Philadelphia,
SOLE AGENTS FOR U. S. A.

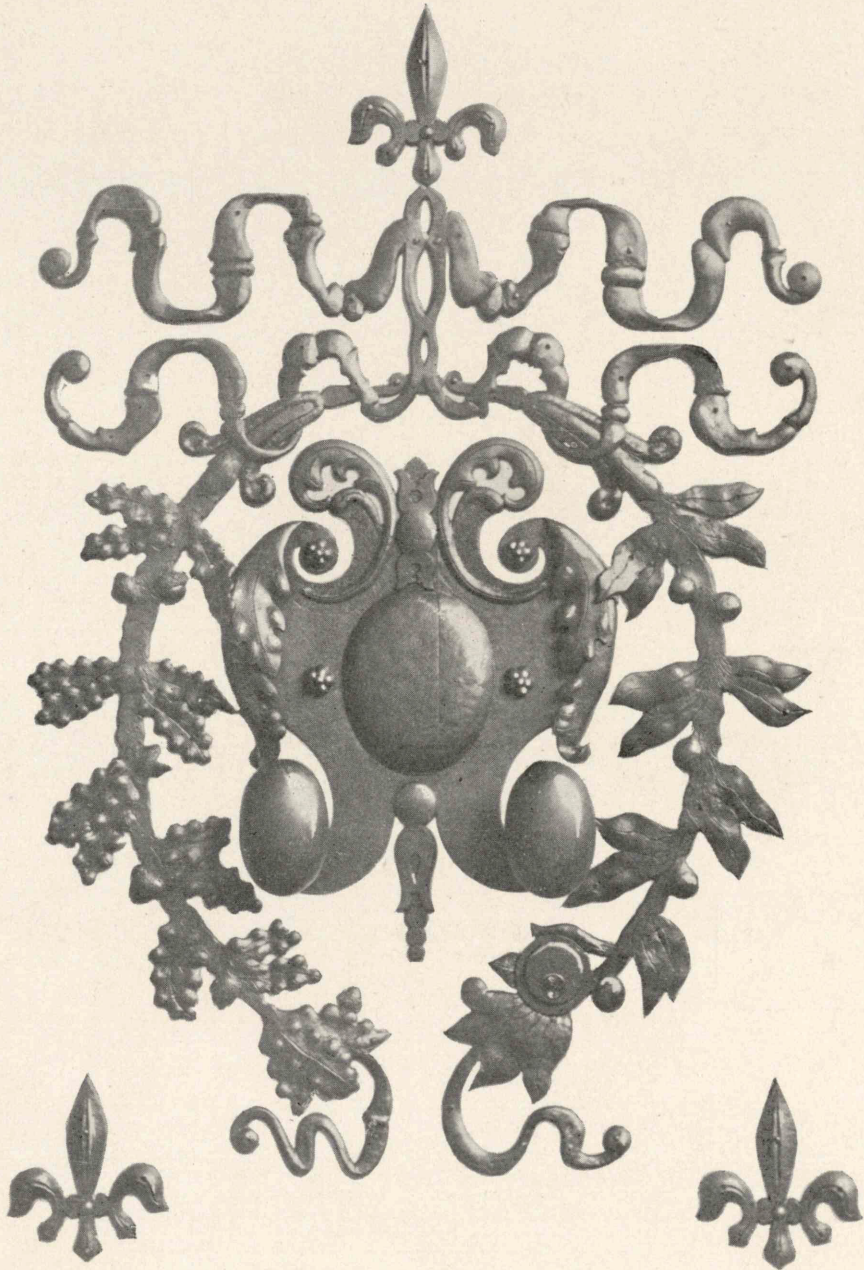
HERTER BROTHERS,
154 FIFTH AVE., NEW YORK.
ROMAN AND VENETIAN MOSAIC.
SKETCHES AND ESTIMATES FOR ALL MANNER OF MOSAICS, PROMPTLY SENT TO ARCHITECTS UPON APPLICATION.
FIGURE WORK IN ENAMEL OR MARBLE MOSAIC A SPECIALTY.
PRICES AS REASONABLE AS IN PARIS AND VENICE.

THE HOPSON CHAPIN MANUF'G CO.
MANUFACTURERS, ENGINEERS
OF
HIGH-GRADE HOT-WATER HEATING WORK,
NEW LONDON, CONN.
Warming by Ventilation (sometimes)

THE HOLTZER-CABOT ELECTRIC CO.
111 ARCH STREET, BOSTON.
ELECTRICAL CONSTRUCTION
OF EVERY VARIETY.
AUTHORIZED CONTRACTORS OF THE EDISON ILLUMINATING CO., BOSTON, FOR THE INSTALLATION OF THE INCANDESCENT LIGHT.
Estimates Furnished for Wiring Buildings in Process of Construction.

SPECIAL DESIGNS IN WROUGHT IRON

Skilfully Interpreted from Architects' Drawings by Competent Artisans.



The above illustration is an example of Double Escutcheon Plate and Knobs for Yale Front Door Lock, made in Wrought Iron, from the Architect's Drawing, and is evidence of the skill with which such Special Work is done.

THE YALE & TOWNE MANUFACTURING CO.

STAMFORD, CONN.

New York,
84-86 Chambers Street.

Philadelphia,
1120 Market Street.

Chicago,
152-154 Wabash Avenue.

Boston,
224 Franklin Street.

CHICAGO:
263 & 265 WABASH AVENUE.

Wadsworth, Howland, & Co.

BOSTON:
82 & 84 WASHINGTON STREET.

BAY STATE PAINTS, & W. H. & CO. LIQUID PAINTS,

In 45 Shades, for Interior and Exterior House Painting.
Wood Fillers, Varnishes, Japans, and Stains.
FINE COLORS OF ALL KINDS.

DRAUGHTING INSTRUMENTS OF ALL KINDS,

Drawing and Blue Process Papers, Curves, Scales,
Triangles, T Squares, Oil and Water Colors, Brushes,
ARTISTS' MATERIALS.

Professor WILLIAM R. WARE writes: "The Cori drawings were made by Mr. Emmanuel Brune, while a pensionaire of the French Academy in Rome, and were exhibited in Paris as Envois de Rome, in the summer, I think, of 1866. They were considered, at the time, the finest drawings that had been sent from Rome during the present generation, and they have probably never been surpassed, for the standard of draughtmanship at the École des Beaux Arts was then, at its highest point, and Mr. Brune was facile princeps in the use of India ink."

Heliogravure plates of these drawings were published in the first volume of the Technology Architectural Review. To supply the demand for this volume, a second edition has been issued, and is now ready for delivery. Only a few copies beyond those already subscribed for have been printed. Subscriptions for these will be filled in the order received until the edition is exhausted. Price, delivered, including a handsome library portfolio, five dollars. Address

TECHNOLOGY ARCHITECTURAL REVIEW,
BOSTON, MASS.

DAVID R. STRAW, President. GEORGE G. PROCTOR, Gen. Manager.
CHAS. H. FIFIELD, Treasurer. J. B. MATTHEWS, Selling Agent.

MONSON MAINE SLATE CO.

QUARRIERS and MANUFACTURERS OF
UNFADING BLACK ROOF SLATES,

FLOOR TILES, COUNTER COVERS, SLABS, HEARTH-STONES, REFRIGERATOR SHELVES, GREENHOUSE TABLES, CHIMNEY TOPS, GRAVE LININGS AND COVERS.

Copies of our "Products and Prices" will be furnished free of cost upon application.

113 DEVONSHIRE STREET,
BOSTON, MASS.
P. O. Box, 2385.

The publishers of the Technology Architectural Review want energetic agents in every city in the country, to solicit subscriptions. For terms, send address, with references.

FOR INFORMATION ABOUT

U. S. MAIL CHUTES,

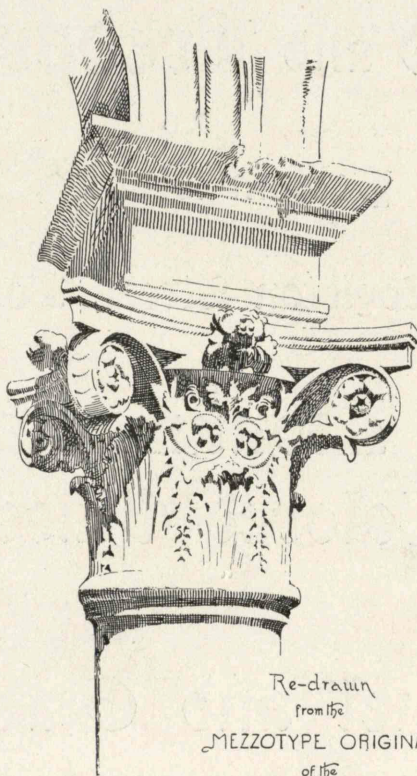
Which are a necessity in Office Buildings and Hotels, write to the sole makers,

THE CUTLER M'FG CO., ROCHESTER, N. Y.
PATENTED. AUTHORIZED.

The Technology Quarterly,

REPRESENTATIVE OF THE WORK CARRIED ON AT THE
Massachusetts Institute of Technology.

Vol. III, published in February, May, August and November, 1890.
SUBSCRIPTION PRICE, \$2.00 PER YEAR.



CAP IN HALL OF PALAZZO ZORNI, VENICE.
FROM DETAILS OF DECORATIVE SCULPTURE, ITALIAN RENAISSANCE.

CIRCULAR CATALOGUES OF SCIENTIFIC TEXT-BOOKS AND INDUSTRIAL WORKS.

We are issuing a series of Catalogues of Books on Scientific Subjects, published by ourselves, and which are now extensively used as Text-Books, and by practical men, and have now ready the following:—

- I. CIVIL ENGINEERING.
- II. MATERIALS OF ENGINEERING. Electricity, Strength, etc.
- III. BRIDGES, ROOFS, TRUSSES, ARCHES, etc.
- VI. HYDRAULICS AND HYDRAULIC MOTORS, Water-Wheels, Wind-Mills, Drainage Service Pipe, etc.
- V. STEAM-ENGINES, BOILERS, LOCOMOTIVES, STEAM-HEATING, etc.
- VI. CHEMISTRY, ELECTRICITY, PHYSICS, etc.
- VII. MATHEMATICS, ASTRONOMY, etc.
- VIII. ASSAYING, METALLURGY, MINERALOGY, MINING, etc.
- IX. ART, DRAWING, PAINTING, ENGRAVING, etc.
- X. ARCHITECTURE, CARPENTRY, STAIR BUILDING, etc.
- XI. MECHANICS, MACHINERY, MANUFACTURES.
- XII. MILITARY AND NAVAL TEXT BOOKS, etc.

These CATALOGUES contain from 22 to 75 pages each, with full titles of books, press and other notices, and descriptions of the same. They are neatly printed in paper covers, and will be sent free by mail to any one ordering them.

JOHN WILEY & SONS,
53 EAST TENTH STREET, NEW YORK.

Second door west of Broadway.

CLINTON WIRE LATH.

See advertisement on page vi.

BOOKS ON BUILDING AND THE ALLIED ARTS.

LATEST PUBLICATIONS:

Palliser's Court Houses, City Halls, Jails, etc.
Palliser's Common-Sense School Architecture.
Specification and Contract Blanks, etc.

Full Descriptive Lists mailed on application; also of all American and Foreign Building Journals, with club rates.

PALLISER, PALLISER & CO., 24 East 42d St., New York.

HENRY HUBER AND COMPANY,

Manufacturers of PLUMBING APPLIANCES for Public and Private Buildings.

"TIDAL WAVE," "GEYSER," "FLUME," "CASCADE," AND "TROMBE" WATER CLOSETS,
"NEW DEPARTURE" LAVATORIES, STANDARD URINALS, INDURATED FIBRE BATH TUBS,
AND DEALERS IN PLUMBING GOODS OF EVERY DESCRIPTION.

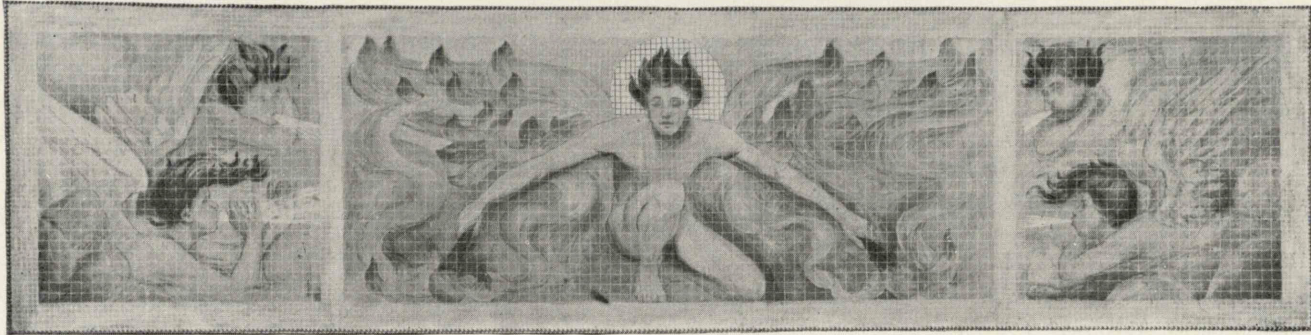
Our goods have been successfully introduced throughout the United States, and can be found in many of the leading Hotels, Commercial and Federal Buildings. For private use our Water Closets, Wash Basins, and Bath Tubs are unsurpassed in a sanitary point of view, and testimonials received speak in the highest terms of their excellent merits. We respectfully solicit correspondence from architects and others contemplating building, and shall be pleased to furnish our illustrated catalogues upon application.

SHOW ROOMS:

BOSTON,
17 Federal Street.

NEW YORK,
81 Beekman Street.

CHICAGO,
82 Dearborn Street.



Edwin Ford and Frederick Brooks,

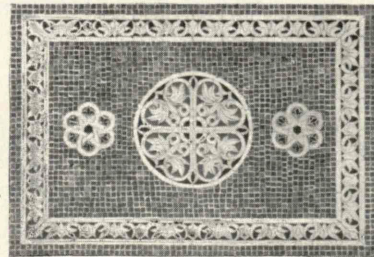
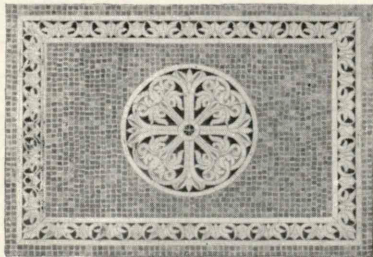
Pelham Studios,

44 Boylston Street, Boston.

Domestic and Monumental Leaded and
Colored Glass.

Gold, Enamel and Glass Mosaics,

Recent Examples of which are herewith submitted.





FROM THE EXHIBIT ROOMS OF
DALTON & INGERSOLL,
 171, 173, 175 High Street, (Fort Hill Square),
 SANITARY SPECIALTIES. Boston, Mass.

VIGNOLE:
 The Five Orders
 OF
 Architecture.

CAUTION.

BEWARE OF THE INFERIOR
 EDITIONS OF THIS WORK.

WE offer the Garnier Frères (Paris) edition, which is the authority
 in all the French Schools including the Ecole des Beaux-
 Arts, and in the Massachusetts Institute of Technology.

For Descriptive Circular and full list of Plates, send to the

Technology Architectural Review.



500,000 H. P.

Babcock & Wilcox
 Water-Tube Steam Boilers

ARE IN SERVICE.

Book on "STEAM," containing information of value to every Architect, sent free on application. Address,

107 HOPE STREET,
 GLASGOW.

THE BABCOCK & WILCOX CO.

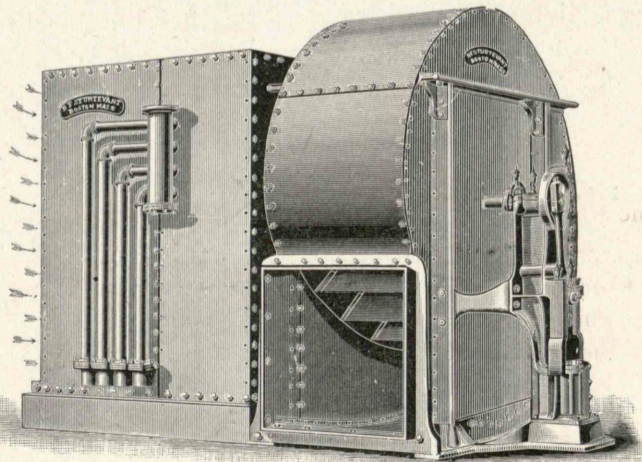
30 CORTLANDT STREET,
 NEW YORK.

Some References for Architects.

- COLUMBIA COLLEGE, New York. 400 H. P.
- CORNELL UNIVERSITY, Ithica, N. Y. 501 H. P.
- NEW YORK PRODUCE EXCHANGE. 624 H. P.
- GIRARD ESTATE, Philadelphia. 688 H. P.
- NEW YORK LIFE INSURANCE Co. (various buildings). 1,513 H. P.
- HOTEL PONCE DE LEON, San Augustine, Florida. 416 H. P.
- DAKOTA APARTMENT HOUSE, New York. 864 H. P.
- SENATE WING, U. S. CAPITAL, Washington, D. C. 312 H. P.
- ASYLUMS, State of Indiana. 1,480 H. P.
- NEW YORK STEAM COMPANY, New York. 13,482 H. P.
- MASSACHUSETTS INSTITUTE TECHNOLOGY, Boston. 208 H. P.
- NATIONAL LIBERAL CLUBS, London, England. 194 H. P.
- EDISON ELECTRIC LIGHT COMPANIES. 18,000 H. P.
- WESTINGHOUSE COMPANIES. 7,500 H. P.
- LONDON ELECTRIC SUPPLY CORPORATION. 6,093 H. P.
- VIENNA OPERA HOUSE. 1,192 H. P.

B. F. STURTEVANT'S
 STEAM HOT BLAST APPARATUS,

FOR HEATING AND VENTILATING BUILDINGS OF ALL CLASSES,
 BY A FORCED CIRCULATION OF AIR.



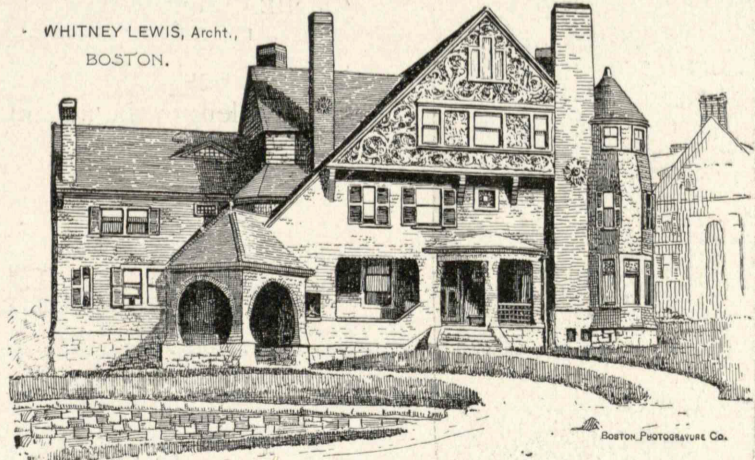
Send for "ILLUSTRATED TREATISE ON VENTILATION AND HEATING." Please men-
 tion this paper.

B. F. STRUTEVANT,

BRANCHES: { 91 Liberty St., New York.
 31 No. Canal St., Chicago.

34 Oliver Street, BOSTON, Mass.

CABOT'S
 CREOSOTE SHINGLE STAINS.



WHITNEY LEWIS, Archt.,
 BOSTON.

They have been used TEN years. They are the only ones that do not
 wash off, grow chalky, or turn black. They are the only ones that contain
 NO KEROSENE. Send for illustrated catalogue, showing a collection of
 actually creosoted houses.

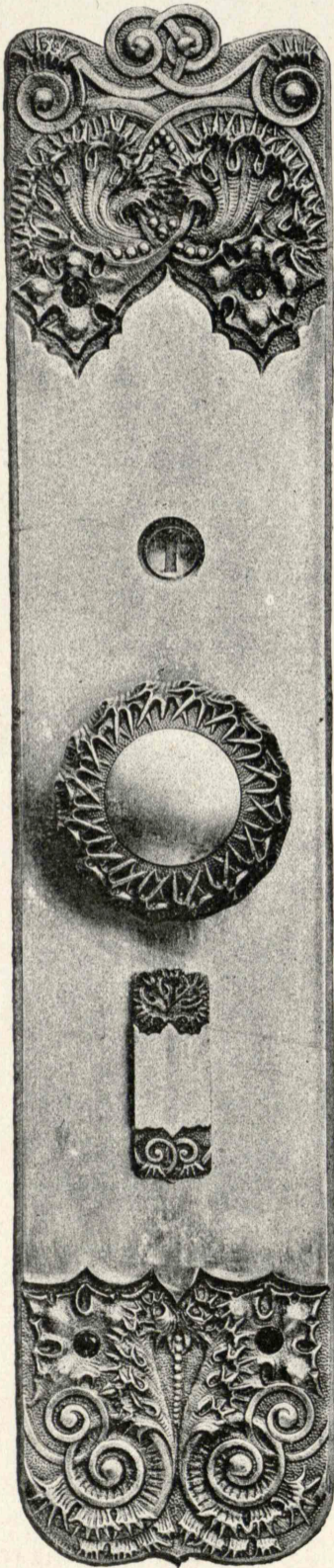
Samples and circulars on application.

SAMUEL CABOT, Sole Manufacturer, 70 Kilby St., Boston, Mass.

Hardware in Artistic Designs and Finishes.



IT is only within the last decade that public opinion has made the way clear to introduce Designs and Finishes in Hardware, commensurate with the advance that has now been made in architecture. It is easy to recollect the time when polished bronze or brass was considered too rich, or too costly, for any buildings except the most elaborate; but, at the present day, the fact that hardware is a most essential part of any building, is fully recognized, and the advance in the quality of hardware now used, is certainly remarkable. While making many different finishes, we have recognized the fact that *durability* in a finish is of the utmost importance.



Oxidized Silver.

A finish that emphasizes a design strongly, and adds a most important element to the architecture, especially when used on the dark woods. Butler's Silver is a fine variation for certain woods. Both these finishes are made by using a heavy electro-plate of silver on nickel.

Antique Copper.

A finish that appears to great advantage when used on the lighter woods, and is made by oxidizing pure copper metal. No amount of wear can materially affect this finish, as the hardware is made of solid copper metal, which corrodes quickly when polished by wear. Dull copper is a finish like the above, except that is not oxidized and is subject only to natural corrosion.

Antique Brass.

An artistic oxidization of brass metal, that obviates to a great degree the unequal tarnishing of polished brass, thus securing an effect that will harmonize with interior finishing of a fine grade. Dull Brass is the above with no oxidization.

Oxidized Iron.

A finish which is explained by its name as being on Iron, (which may be either of wrought or cast iron), and consists of a coating of oxide which is intended to cover every particle of the iron, thus preventing further rusting. The process patented by the Wells Rustless Iron Co., and which we use, is claimed to cover the iron completely. The nearly black finish forms an elegant contrast with the lighter woods, and when used in a fine design, the effect is extremely pleasing.

Gold Plate,

Roman Gold Plate, Silver Plate, and an artistic effect in Gold and Silver Plate, make very beautiful finishes on pure white interior work or where a cream tint is used.

THE design shown is made in all the finishes we describe, and it can be easily seen that a beautiful interior will be enhanced by this work when used in a finish which will harmonize with the colors of the woodwork. We intend, in the next number, to explain at some length the advantages which the *Niles Locks and Knobs* possess.

MADE BY THE

Chicago Hardware Manufacturing Co.

OFFICES:

Chicago, New York, Boston, Philadelphia, Pittsburgh,
Chamber of Commerce. 226 Stewart Building. 38 & 39 Minot Building. 502 & 503 Provident Building. 38 & 39 Schmidt Building.

GEO. J. WELLS, General Eastern Agent, Box 3514, BOSTON.



BOSTON AND NEW YORK.

For a Quick and Comfortable Trip, take the Fast Express Trains via

New York and New England Railroad

BETWEEN BOSTON AND NEW YORK.

Leaving either city at †12.00 noon, and *3.00 P. M.
Arriving at the other at †6.30 P. M., and *9.00 P. M.

The finest Parlor and Dining Cars.

†Run's daily, except Sundays.

*Runs daily, including Sundays.

To Architectural Draughtsmen and those contemplating study abroad.

Attention of Students in the Architectural Department of the Massachusetts Institute of Technology is especially called.

Evening Classes in Drawing, from the life and cast, have been formed with special reference to the accommodation of architectural students, draughtsmen in architects' offices, and others engaged during the day-time.

The training here given is patterned after that of the best Ateliers of Paris, and covers the ground necessary in preparing for the Ecole des Beaux-Arts.

Cowles Art School,

New Studio Building, 145 Dartmouth Street, Boston.

Eighth Year opens Sept. 30, 1890.

Day and Evening Classes.
Full Courses in Drawing and Painting.
Special Attention to Life and Cast, Portraiture and Illustrating,
Begin any time.

ERNEST L. MAJOR, MERCY A. BAILEY,
JOSEPH DECAMP, ANNIE E. RIDDELL, } Instructors.
HENRY H. KITSON, MARIUS L. CHAUVEAU, }

FRANK M. COWLES, Manager.

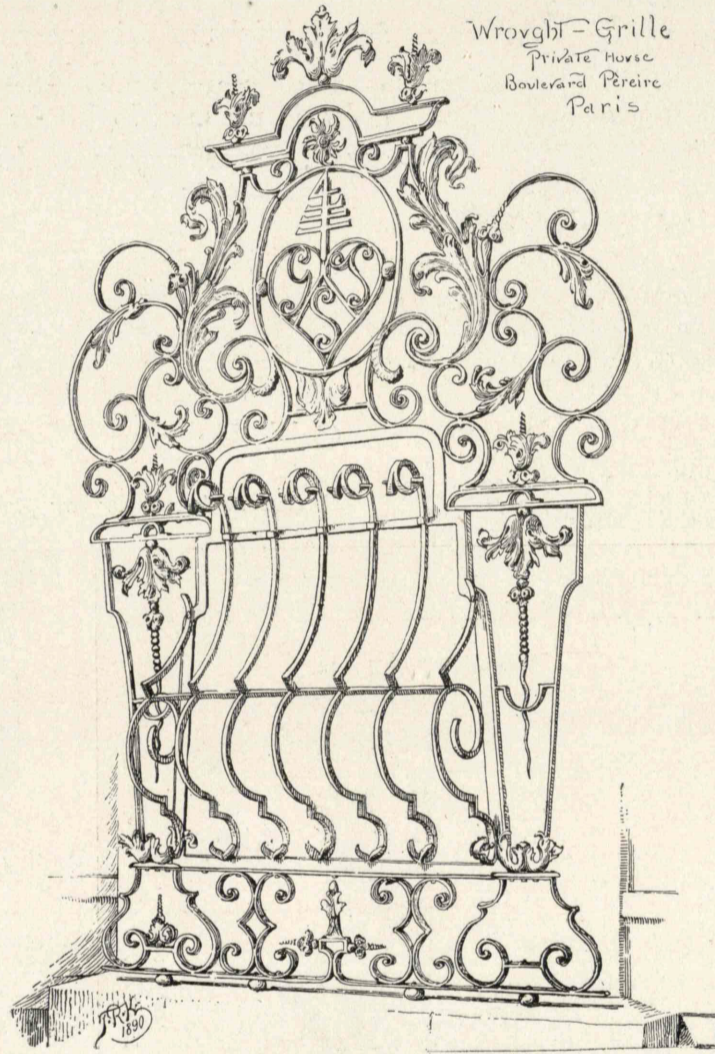
For circulars, address as above.

CLINTON WIRE LATH.

See advertisement on page iv.

Do Your

Foreign Periodicals come flat and in good condition? Before ordering for 1891 send your list to this paper for quotation.



After Dec. 15

The price of files of Volume II of this paper will be

Advanced to \$5.00

As only a few complete files remain in stock,

New Subscribers

to Volume III, who wish to secure the whole of the

Study of Decoration

should send in orders at once. A description of the contents of Volume II will be sent upon inquiry.

Technology
Architectural Review.

BOSTON & ALBANY R. R.

Springfield Line between Boston and New York.

THROUGH TRAIN SERVICE FROM EITHER CITY.

9.00 A. M.

DAY EXPRESS.

Arrives at 3.30 p. m. Buffet Drawing Room Cars.

11.00 A. M.

SECOND DAY EXPRESS.

Arrives at 5.30 p. m. Buffet Drawing Room Car.

11.00 P. M.

NIGHT EXPRESS.

Daily; Sleeping Cars; open for occupation at 9.15 p. m.

4.00 P. M. Limited Express, Daily; arrives at 10.00 p. m. Drawing Room Cars through; and

Dining Car between Boston and Springfield. Table d' Hote Dinner served: Westward, 4.00 to 6.15 p. m.; Eastward, 7.30 to 9.30 p. m.

A. S. HANSON, General Passenger Agent.



The Bricks used in

The Roe Building, St. Louis,

a photograph of which is here reproduced,
were made by the

Hydraulic-Press Brick Co.

of St. Louis, Mo.



THE bricks of this company are the *strongest* made in this country, and, in their manufacture, *no artificial color* is used. No bricks are more *free from white-wash*, nor are any more *homogeneous*. The output of this company is more than that of any four brickmakers in the United States, combined.



Office,

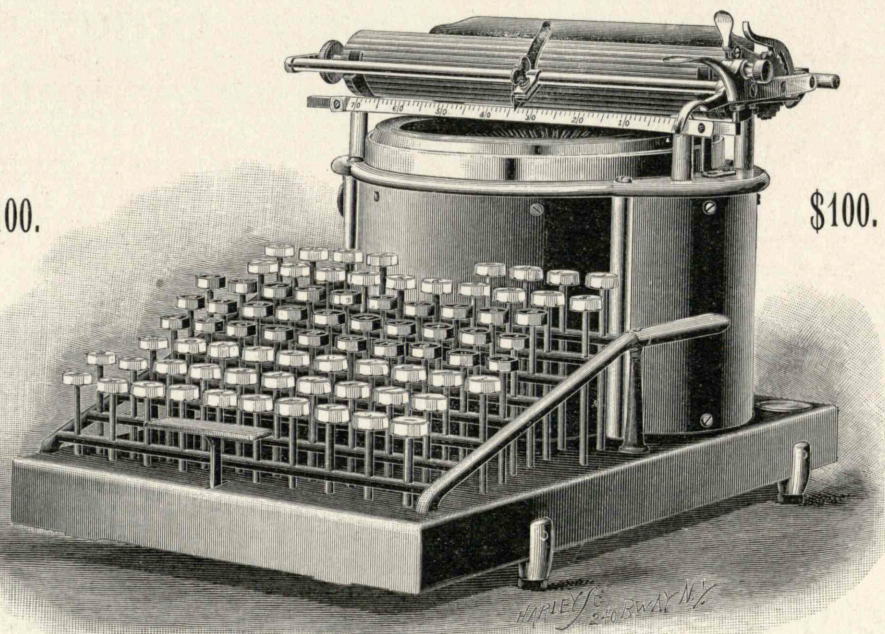
Odd Fellows' Building, St. Louis, Mo.

Be sure and look for our page in the next issue of this paper.

THE YOST WRITING MACHINE.

No Ribbon. No Shift Key. One Scale.
Permanent Alignment.

\$100.



\$100.

Simple, Strong, and Portable.
One Year. Warranted

In the Preparation of Specifications

THE GREAT MANIFOLDING POWER OF THIS MACHINE MAKES IT

Of Especial Value to Architects.

A CASH DISCOUNT of five per cent. will be allowed purchasers presenting this advertisement.

We make a specialty of **DUPLICATING AND COPYING APPARATUS**, and all kinds of **LABOR-SAVING OFFICE DEVICES**. Send for Circulars.

NEW YORK:
16 & 18 READE STREET.
PROVIDENCE, R. I.:
BUTLER EXCHANGE BUILDING.

GEORGE H. RICHTER & CO.,
171 Devonshire Street, BOSTON, MASS.



F. WEBER & CO.,
Engineers' and Draughtsman's Supplies,

UNITED STATES AGENTS FOR

RIEFLER'S PATENT DRAWING INSTRUMENTS,
SUN AND ECLIPSE BLUE PRINT PAPERS,
JUPITER ROLL PAPER.

Artists' Materials of Every Description.

No. 1125 Chestnut Street, Philadelphia.
Branch House: No. 312 N. 6th Street, St. Louis, Mo.

La Hollande a Vol d'Oiseau.

A most beautiful book. Henry Harvard's "La Hollande."
Illustrated by Maxime Lalanne. Send for circulars to Technology
Architectural Review.



A Two Cent Stamp

Does not cost much,

Yet

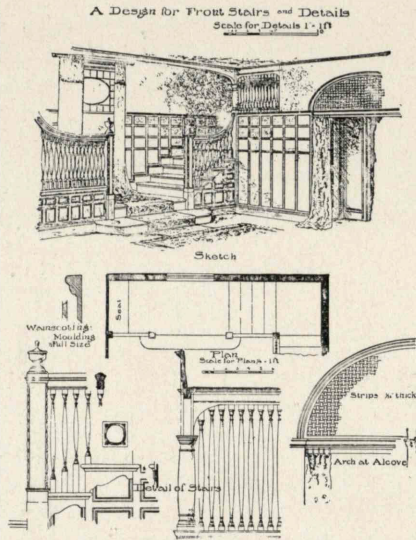
If you enclose one to the

**BUILDER, DECORATOR
AND WOODWORKER,**

1305 Arch Street,
Philadelphia, Pa.,

You will get

A sample copy of the brightest, liveliest and best Architectural monthly published in the Eastern States. It will be well worth the stamp.



JUST PUBLISHED.

Vol. 1. Plates 1 to 60.

The Architectural AND Building Monthly

Containing a Great Variety of Practical
Designs and
DETAILS TO SCALE.

One Large Quarto Vol. Price \$3.50 Postpaid.

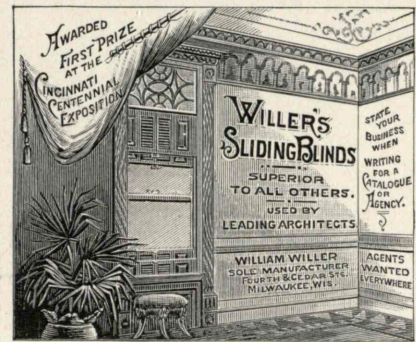
List of Contents on application.

A. J. BICKNELL, Publisher,

115 Broadway, New York.

Sample Monthly Nos., 8 Plates, 50 Cents each.

Willer's Sliding Blinds



Milwaukee, Wisconsin.

Technology's College Annual Technique

Will be
out about December 26.

CLINTON WIRE LATH.

See advertisement on page iv.

The Pennsylvania Museum and School OF Industrial Art.

Class Rooms, 1336 Spring Garden Street,
Philadelphia.

Thorough instruction in Drawing, Painting, and Modelling, with especial reference to the application of artistic training to practical industrial aims: to Textiles, Pottery, Carving, Moulding, etc. For circulars and all particulars, address,

L. W. MILLER, Principal, at the School.



DEVOTED TO
ART, ARCHITECTURE,
Archæology, Engineering
and Decoration.

PUBLISHED EVERY SATURDAY.

Subscription, \$6 per year. 15c. per copy.
Foreign Subscription, \$7.50.

SAMPLE FREE.

PRESS NOTICES.

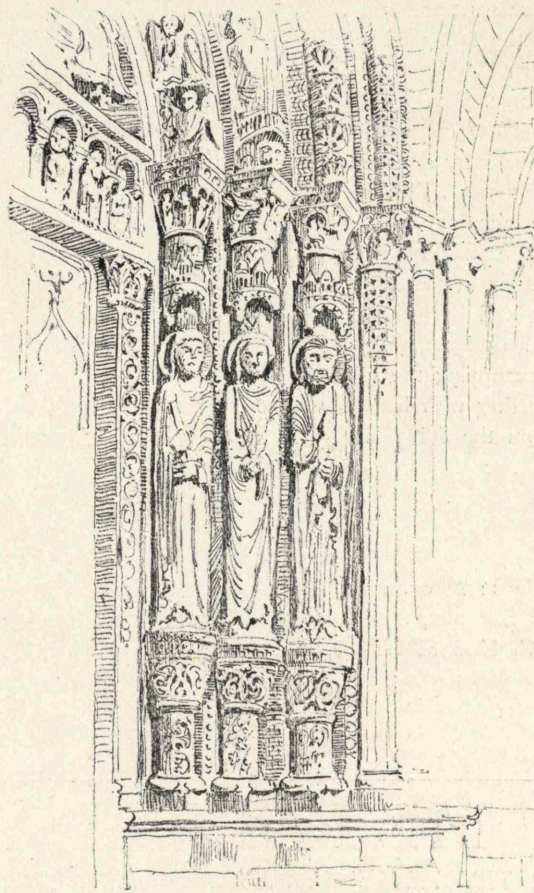
One of the handsomest and best architectural papers among our exchanges is ARCHITECTURE AND BUILDING. Well illustrated, printed and edited, treating on all matters of interest to the building trade.—*Wood and Iron.*

It is without doubt the most valuable publication of the kind published in the country.—*Southern Lumberman.*

One of the best architectural periodicals of the day is ARCHITECTURE AND BUILDING.—*The Christian Union.*

It is not often that so much and so valuable material is found at one time in a trade journal.—*The Publisher's Weekly.*

WM. T. COMSTOCK, Publisher,
23 Warren Street, N. Y.

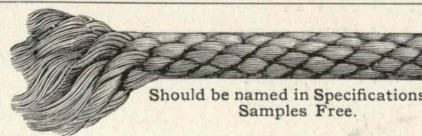


SOUTH PORTAL, BOURGES CATHEDRAL.—T. HENRY RANDALL.

DETAILS OF DECORATIVE SCULPTURE ITALIAN RENAISSANCE



SEND FOR CIRCULAR
TECHNOLOGY ARCHITECTURAL
REVIEW



Should be named in Specifications.
Samples Free.

SAMSON
Solid Braided
SASH CORD



The Most
Durable and
Economical.

SAMSON CORDAGE WORKS,
164 High Street, Boston, Mass.



ARCHITECTURAL CABINET
WORK, ETC.

J. N. LOMBARD,
58 Bowdoin Street, near Beacon, Boston, Mass.

MACKITE

**AN IMPROVEMENT ON THE
PRESENT METHOD OF ROUGH PLASTER-
ING.** Manufactured in any length slabs from
1-2 to 6 inches thick. Plastering done in one-
tenth the time of old way, winter or summer.
No waiting for walls to dry out. No dirt, as
in case of plasterer's mortar. Less weight, less conductivity of cold or heat.
Can be used for deafening, back-plastering, non-conducting or isolating parti-
tions, furring, floors, roofs, etc. **FIRE-PROOF, EASILY TRANSPORTABLE.**

EASTERN PLASTER BOARD CO., 52 Broad St., New York.

The Architectural News

Published Monthly

609 SACRAMENTO ST.,
SAN FRANCISCO, CAL.

Subscription, \$3.00

Massachusetts Institute of Technology.

BOSTON, MASS.

FRANCIS A. WALKER, PRESIDENT.

THE INSTITUTE OF TECHNOLOGY OFFERS FOUR YEARS' COURSES, LEADING TO THE DEGREE OF BACHELOR OF SCIENCE, IN CIVIL, MECHANICAL, MINING, ELECTRICAL, CHEMICAL, AND SANITARY ENGINEERING, ARCHITECTURE, CHEMISTRY, BIOLOGY, GEOLOGY, AND PHYSICS. A COURSE OF GENERAL STUDIES FOR YOUNG MEN CONTEMPLATING A BUSINESS LIFE IS ALSO PROVIDED.

THE COURSE IN ARCHITECTURE

aims not only to make the student thoroughly acquainted with the scientific principles underlying sound construction, and to familiarize him with the mathematical and mechanical formulæ and processes necessary to the solution of architectural problems, but also to cultivate his taste in color and form by constant practice in design and by the study of the history of architecture. Too great restriction to purely professional work is avoided by the introduction of the study of modern languages, history, political science, etc., the proportion of time devoted to these general subjects diminishing as the student goes on in his course.

The studies of the first year are common to all the courses of the School, and embrace mathematics, drawing, chemistry, and modern languages. In the higher years, thorough courses in analytic geometry and the calculus, carried on simultaneously with lectures and laboratory work in physics, lead up to the study of theoretical and applied mechanics, the lecture-room work in which is supplemented by actual laboratory tests to determine the strength of the various building materials, the accuracy of the commonly accepted constants, etc. The strictly professional work begins with instruction in materials, common constructions, and architectural history, followed, in the later years, by courses in stereotomy, iron construction, specifications, and contracts, in heating and ventilation, in planning, and in the requirements of schools, theatres, hospitals, and other special classes of buildings. Whenever practicable, the text-book and lecture-room work is emphasized by visits to actual structures; and throughout the whole course the student is continually drilled in original design. To this end two problems each month are required,—one, a sketch, to be finished within one week; and the other, more elaborate, occupying the whole month for the completion of the details and finished drawings relating to it.

Sketching in water-color and pen-and-ink, together with lectures and exercises in color decoration and history of ornament, are in charge of well-known gentlemen; and a class for drawing from the living model is maintained during the greater part of the year.

Unusual advantages exist in the nearness of the Boston Museum of Fine Arts and of the Boston Public Library, the facilities of which are freely offered by the Trustees to students of the Institute. The School itself possesses a valuable departmental library and collection of casts and building materials.

The professional work is under the immediate charge of Prof. Francis W. Chandler, who gives the lectures on Construction, Specifications and Contracts, Materials, and Special Classes of Buildings; Assoc. Prof. Eugene Létang, the Instructor in Third and Fourth Year Design; Asst. Prof. Eleazer B. Homer, Arch. Hist. Orders, Shades and Shadows, Stereotomy, and Second Year Design; and Walter H. Kilham. Special instruction is given by Messrs. Ross Turner, in Water-Colors; C. Howard Walker, in Decoration; Ernest L. Major, in Drawing from the Life; and David A. Gregg, in Pen-and-Ink Sketching.

For detailed information apply to

H. W. TYLER, Secretary.

“GIANT” METAL SASH CHAIN.

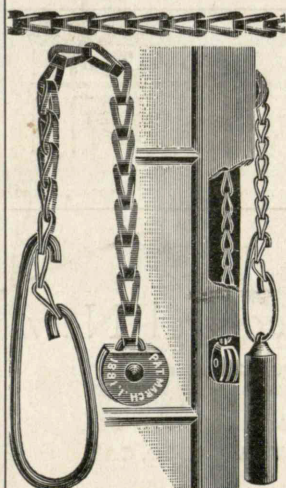
OVER TEN YEARS' UNPRECEDENTED SUCCESS.

“JEWETT” DOUBLE AND SINGLE ACTING SPRING BUTTS,

MADE IN IRON, AND ON SPECIAL ORDER IN REAL BRONZE.

MANUFACTURED ONLY BY

THE SMITH & EGGE MANUFACTURING COMPANY,
BRIDGEPORT, CONN.

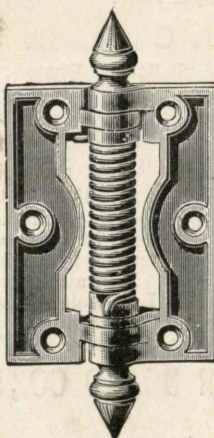


ECONOMICAL SUBSTITUTE FOR CORD AND CABLE CHAINS FOR HANGING HEAVY WEIGHTS TO WINDOWS.

This Company absolutely controls the only Automatic Machinery which feeds the metal into the machine, punches out the links, forms them into the chain, draws it out of the machine, and tests its tensile strength without any human hand touching it.

Also Red Metal and Steel Sash Chain made in the same way, for ordinary use, where a cheaper article is desired strong and simple. Also Patented Fixtures for attaching to the sash and weight and easily and rapidly applied.

Also Manufacturers of very SUPERIOR SINGLE and DOUBLE GROOVED Steel Axle, Iron, and Real Bronze Pulleys, and BALANCING FIXTURES for the DOUBLE GROOVED PULLEYS, an entirely new and practical device for hanging very heavy PLATE GLASS by two strands of chain on each side of sash.



In introducing this BUTT to the public, the manufacturers feel assured that they are offering an article of rare merit, that cannot fail to give satisfaction in use, and they respectfully call attention to the following points of excellence:—

1st. They are made from the best material we can select, and the Springs are formed of very superior steel spring wire made especially for this purpose, and are thoroughly reliable.

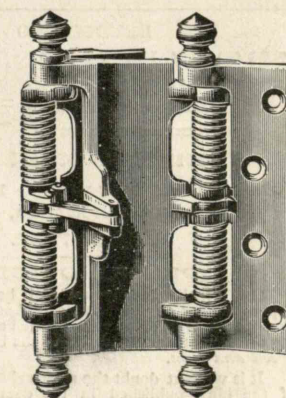
2d. All the Pins and Push Bars are made of steel and hardened, thus making them the most durable Butt in the market, as the greatest amount of wear comes on these parts.

3d. The Springs exert their greatest power when the doors are closed, and their force gradually decreases as the doors are opened.

4th. They are the most easily adjusted to the doors, neat and attractive in construction and finish, and not liable to get out of order, and adapted to severe wear.

Special attention paid to communications of Architects and Builders, and samples sent free of charge to any address.

Post-Office Box No. 26.



BRIDGEPORT, CONN., U.S.A.

TECHNOLOGY ARCHITECTURAL REVIEW.

DEPARTMENT OF ARCHITECTURE,
Massachusetts Institute of Technology.

VOL. III.

BOSTON, AUGUST 31, 1890.

No. 4.

PUBLISHERS' DEPARTMENT.

HENRY D. BATES. THOMAS R. KIMBALL. IRVING T. GUILD.
EDITORS.
BOSTON MASS.

Eight numbers constitute a yearly volume.
Price, mailed flat to any address in the United States or Canada, \$3.00 per volume in advance. To any foreign address, \$3.50 per volume in advance.
Single copies, 50 cents.
Remittances by Postal or Express Money Order, or Bank Draft on Boston or New York should be made payable to TECHNOLOGY ARCHITECTURAL REVIEW.
A limited number of files of VOLUMES I and II, in portfolio, \$5.00 each.

Copyright 1890, by BATES, KIMBALL & GUILD.

THE GRAND PRIX DE ROME.

The dream of every French artist is, that before reaching the age of thirty, he may one day win the *Prix de Rome*.

So he would enjoy four years at the Villa Medici, most delightfully situated on a hill, overlooking the ancient Capital and much of its environment, living in that most ideal atmosphere which would naturally surround twenty artists at work in five different branches of Art: Painting, Sculpture, Architecture, Music and Engraving. To become a candidate for this prize, one must be a Frenchman, unmarried, and under thirty years of age.

The French Academy at Rome was founded by Jean Baptiste Colbert, who, after the death of Mazarin, was promoted to the first place in the administration of the French Government.

The Academy was at this time in the Corso, and Charles Errard was its first director.

In 1792, Louis XVI appointed Joseph Benedict Suvée (who gained the prize in 1771) the director of the Academy. Immediately after his appointment, the Academy at Rome was suspended, and he was thrown into the prisons of the Terrors.

It was not until 1801 that Suvée took charge; and it was due to his energy and enthusiasm that the Academy was moved from the Corso to its present abode, the Villa Medici, whose splendid façade was conceived by Annibal Lippi in the year 1540, and not by Michael Angelo, as has often been asserted.

The Villa was built for the Cardinal Montipulciana, but it was not until Alessandro de Medici took possession, that it received its present name. It was he who greatly embellished the façade, with its beautiful bas-reliefs and antique sculptures. He arranged the gardens and terraces, built the fountain, and placed the statues, many of which have since been removed to the Uffizi.

France does not pay dearly to award this most splendid prize. Each student receives 210 f. per month, and out of this, he has to pay 75 f. for his board, besides paying for his wines, and giving fees to the servants; this leaves him from 1200 to 1300 f. a year

for clothing, fires, lights, drawing materials, models, travelling, etc. This is for the painters, sculptors, engravers and musicians, while the architect is the exception; in consideration of his having to travel more than the others, he receives an extra indemnification limited to 600 f.

To obtain this high honor is no easy task. The student must work hard and long, if he would succeed.

First, a sketch of twelve hours is asked for (each man being put in a small *loge* or stall by himself), the subject of which must be a "*projet d'ordre*"—that is to say, a design introducing in some way in the composition, the classic orders.

All who have been "logists" (which means those who have been received once before in the entire series of competition) are exempt from this twelve hours' competition, and have only to register at the office of the Secretary, to be admitted to the next competition, of twenty-four hours. After counting the names of the "logists" who have registered, the number selected from the twelve-hour competition, is such as, added to the names of those registered, will make sixty-three men, or the number of the *loges* in the building. Then these sixty-three men are locked up, each by himself, for twenty-four hours, to make another set of drawings; and out of these sixty-three, the best ten entitle their authors to enter the final competition. These ten men are commonly called "logists"; and they again are imprisoned for four days to make what is called their sketch, which they must follow in their after-study at their respective *ateliers*. One hundred days are given them for study, and for the rendering of their drawings. Within this time, they may study as long as they desire; but within the one hundred days the rendered drawings must be made "*en loge*," where they may take their studies with them after they have once received the signature of the Secretary. This formality is to prevent their taking with them books or photographs, or anything besides their own studies. These final drawings are submitted to the French Institute, where every member, whatever his calling may be, has a right to cast his vote in favor of the drawing which best meets his approval; and the man who receives the largest number of votes, is the one who is the chosen laureate for that year, with the privilege of four years' stay at Rome.

The festival given each year by the old students at Rome, to the five newcomers, is most delightful. For many years it has been their custom always to meet them at the same place, some distance outside of Rome, to escort them to the Villa Medici.

This is a picturesque reception, not without its difficulties and trials for the newcomers, who are brought into the Villa by the back door, which is anything but inviting, and are made to believe that it is the main entrance. They are given a cold supper in the kitchen, and shown to the garret, where rooms are specially arranged with scant and broken down furniture, for their first night in the Academy.

These poor fellows, worn out with fatigue, are then treated with all kinds of practical jokes, which greet them like awful

nightmares, until aroused the next morning by the most terrific noises imaginable. Then they are escorted with formal ceremonies and considerable pomp to the beautiful terrace, for the first time to behold the façade of the building, the wonderful gardens, and the beautiful view.

In the evening of the same day a reception is given, where the laureate musician plays to all invited the composition which won him this prize.

Each year the Institute requires a certain number of measured drawings or restorations; and the first two years the selection of subjects must be made from the antique, while the subjects for the last two years, are left to the option of the student.

Upon his return to France he is at once given employment by the Government, should he so desire, either as "*Inspecteur aux Bâtimens Civils*," or in some other capacity; thus, the man who has once received this distinction is assured further advantages in after-life, if not always professional eminence.

THOMAS HASTINGS.

ANNUAL COMPETITION FOR THE GRAND PRIZE OF ROME.

Department of Architecture,

NATIONAL SCHOOL OF FINE ARTS,

PARIS, FRANCE.

1890.

A MONUMENT TO JOAN OF ARC.

PLATES XVI AND XVII.

PROGRAMME:—It is desired to consecrate a monument to the memory of Joan of Arc, who drove away the invader, saved France, and died a martyr.

In the place which witnessed her martyrdom shall rise a temple to her glory, a true national shrine destined to perpetuate the memory of the heroes of old and new France, of all those indeed who gave their life for their country.

Not far from the city of Rouen, a steep hill will form a natural platform, commanding an extended view; the waters of the stream roll below; wide avenues of venerable trees lead to it; it is on this hill that shall be erected the shrine of Joan of Arc.

A succession of terraces, of porticoes, a commemorative monument, a religious sanctuary, finally a magnificent staircase leading to the summit—an *ensemble* of cultivated grounds, a bridge uniting the two banks of the stream, will make this a place for promenades; the lower avenues only will be accessible to carriages.

From the ground of the avenues the stairway will rise to the court, a height of 50 to 60 metres above the level of the stream.

Placed on a ground higher than the court shall be the commemorative monument to Joan of Arc; and overlooking this monument, a sanctuary dedicated to Notre Dame des Victoires.

This will be the general arrangement:—

The sanctuary will be composed of a single nave, open, showing within the image of Notre Dame des Victoires. It will

be chiefly adorned with *ex votos*, gifts and offerings of all kinds; there will be but one altar. This sanctuary will be preceded and accompanied by galleries or an inclosure surrounding the statues of kings, queens and holy bishops, whose works have built up the kingdom of France.

The monument to Joan of Arc will consist principally of an equestrian statue of the heroine.

A sumptuous portico will protect the bas-reliefs illustrating the life of Joan of Arc.

The court will be adorned with statues of the men who seconded her in her task of the national resurrection. It will be surrounded by large porticoes under which will be representations of the great battles of the deliverance.

On the right and left will be two great halls, one serving for an historical museum, containing arms, divers objects, documents relating to the reign of Charles VII, and portraits; the other enclosing a library of works relative to Joan of Arc and her epoch.

The staircase, whose picturesque windings will be broken by wide landings, will receive, arranged in monumental fashion, a certain number of statues of the heroes of our history from Joan of Arc's time to ours. Thus from the summit to the base of the structure, the patriotic history of France will be recorded in full.

The grounds will be, in their greatest dimension, 300 metres, including all ramps of access. The sketch must be made on a scale of 2 millimetres to the metre; the elevation and the section on double that scale.

1st prize:—M. Pontremoli (atelier Laloux).

2d prize:—M. Varcolier (atelier Ginain).

2d second:—M. Rossis (atelier Pascal).

Prix de Rome, 1890.

[NOTE.—In translating such an article as this Programme, it has been thought best to sacrifice smoothness for the sake of a literal rendering.—*Translator.*]

THE FOURTH ANNUAL COMPETITION

FOR THE

GOLD AND SILVER MEDALS

OF THE

ARCHITECTURAL LEAGUE

OF NEW YORK.

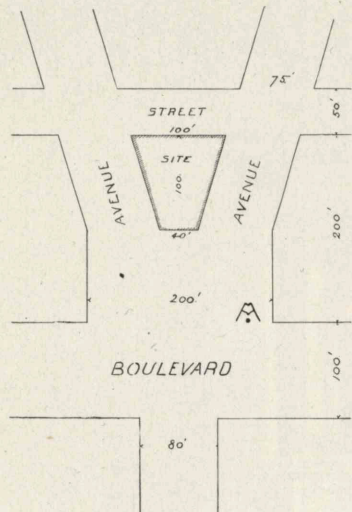
A PAVILION IN A CITY SQUARE TO CONTAIN AN
HEROIC STATUE OF ZEUS.

PLATES XVIII, XIX, XX AND XXI.

CONDITIONS:—The competitors must be residents of the United States, and under the age of twenty-five; and the drawings shall be made in conformity with the following programme, and in all parts and portions, entirely by the hand of the competitor.

PROGRAMME; an heroic statue of Zeus, standing nine feet high, has been secured by an American citizen from one of the excavations now going on among the ruins of Greece, and presented to one of our large cities.

The municipal government, appreciating the value of the gift, proposes erecting a loggia for its reception and protection.



This pavilion is to be located upon a plot of ground formed by the conjunction of two avenues with a boulevard, the form and size of which are shown on the accompanying plot.

The structure should be of marble, and MUST be classic in treatment. Each contributor is required to exhibit two sheets of drawings: one to contain the front elevation, drawn to a scale of $\frac{1}{4}$ of an inch to the foot, and rendered at will; and the other to contain the ground plan, section, and such other drawings as may be necessary to explain the design and construction, and drawn to the most convenient scale for the purpose, and rendered at will.

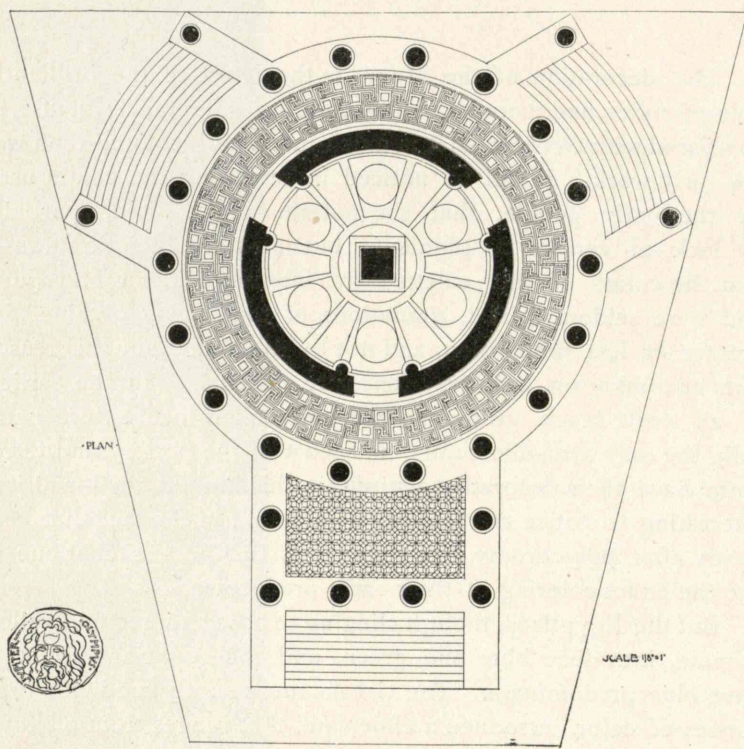
A small perspective sketch, rendered fully at will and taken from a point marked A on the plot, six feet high, can be shown upon either of the two sheets.

AWARDS.

The drawings have been selected by the MEDAL COMMITTEE in order as follows:

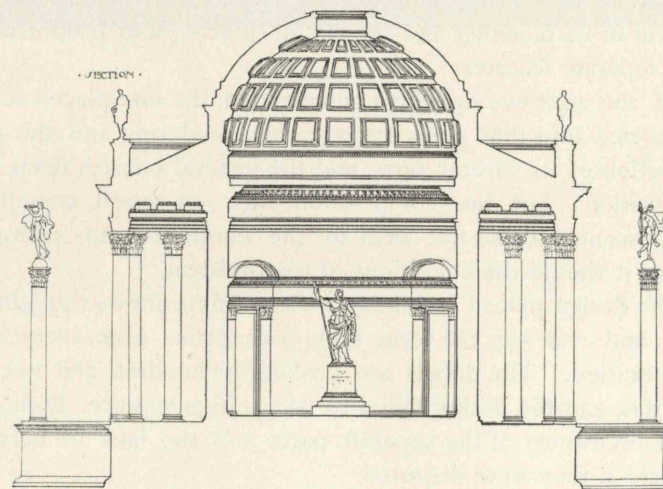
- GOLD MEDAL; Harold Magonigle, New York City.
- SILVER MEDAL; Albert Randolph Ross, Buffalo, N. Y.

We have commended No. 2, because of the main façade being well drawn, and because of its good proportion and good ensemble. We would say that the designer had not given sufficient study to the plan, which is not adapted to the form of the lot, and which is out of scale with the size of the lot.



PLAN, SILVER MEDAL DESIGN.

4TH ANNUAL
 COMPETITION OF THE
 ARCHITECTURAL LEAGUE
 NEW YORK
 A TRIEBNE FOR A STATUE OF
 ZEVS



SECTION, SILVER MEDAL DESIGN.

HONORABLE MENTION. *First:* Claude Fayette Bragdon, Rochester, N. Y.

We would commend because of its being better than the majority in its composition and general silhouette. We would criticise its lack of harmony, in that its several parts are out of scale with each other. We would also criticise it for not being carefully drawn.

Second: J. A. Hays, New York City.

Well rendered, but plan not adapted to the form of the lot.

Third: Justus M. Ueffinger, New York City.

Well composed and studied: a good scheme, but the details and drawing not equal to the general character of the design.

Medal Committee: { BRUCE PRICE,
 CHARLES I. BERG,
 THOMAS HASTINGS.

CRITICAL NOTES.

To comment upon the drawings properly, would be to tell each competitor why he failed of the prizes, and to determine that, seems to be beyond human power.

The first drawing, by Mr. Magonigle, was clearly the best design sent in, irrespective of its rendering or drawing; yet I am free to say, that I doubt if it is the best solution of the problem that the young draughtsmen of the country could send in. It shows scholarly handling of probably the most popular model that the Greeks have sent down to us, but it has always been, to my mind, a severe stretch of propriety to stand up a series of classical columns and put wooden beams and vines upon them, and hard to divest one's mind of the thought, that columns situated should have their entablature also upon them.

Then taking the Silver Medal design; its proportions carried it into Second place; the thoroughly classical treatment and

disposition of its parts in elevation, seemed to the Committee to be equal to any work that our best architects can do, and as rendering and drawing have always, in the Medal Competitions, been considered a strong point, this design, in spite of its wretched plan, got second place.

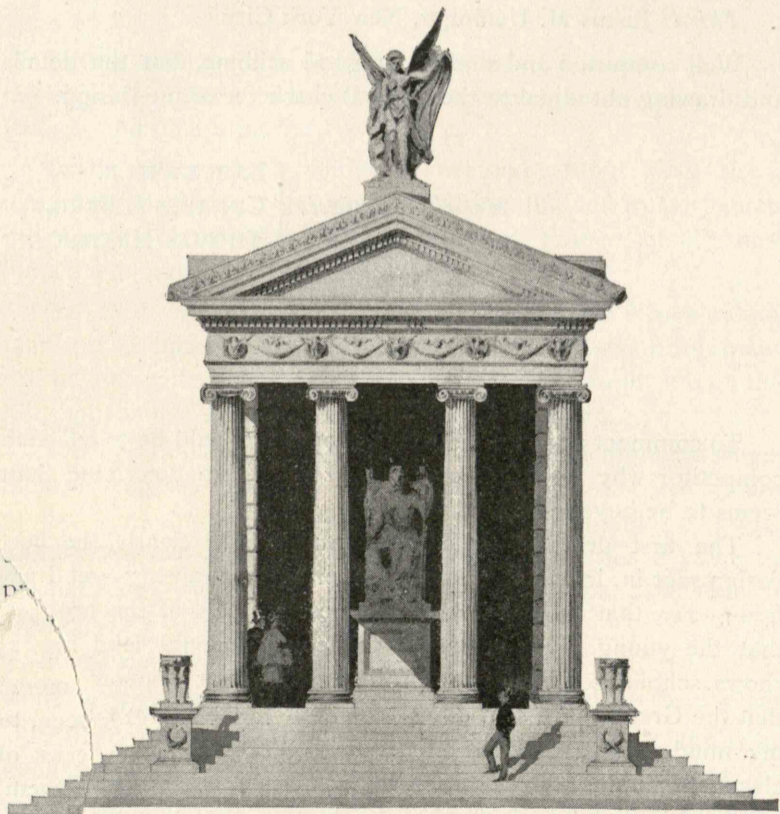
The third design in the series made a very close race for the Silver Medal. The Committee regarded its scheme as in its way quite equal to No. 1, and the rendering was excellent, but in the composition and disposition of its separate details it was lacking. Further, its *tout ensemble* depended entirely for its success upon the skill of its planning and the skilful placing and proportioning of its separate features.

Of the next two drawings commended, the one placed second was carried into that place by its careful rendering and the good proportion of its several parts, and the general conservatism of its composition; but the composition was not good enough for the occasion, and did not seem to the committee to answer as fully as it should the conditions of the problem.

The design placed last in the series of five, shows thought and study, and evidently the form took precedence over every other consideration. The details are unskilfully handled and not well rendered, and the design failed to take a higher place, both from the ill assortment of the separate parts and the lack of harmony with which they were disposed.

There was another design, rendered in pencil, evidently modeled from the Temple of Vesta, in Rome; but while it showed great dexterity and cleverness in getting out a scheme in a rapid way, and was thought very highly of by the Committee, it lacked sincerity and earnestness so much that it failed of place.

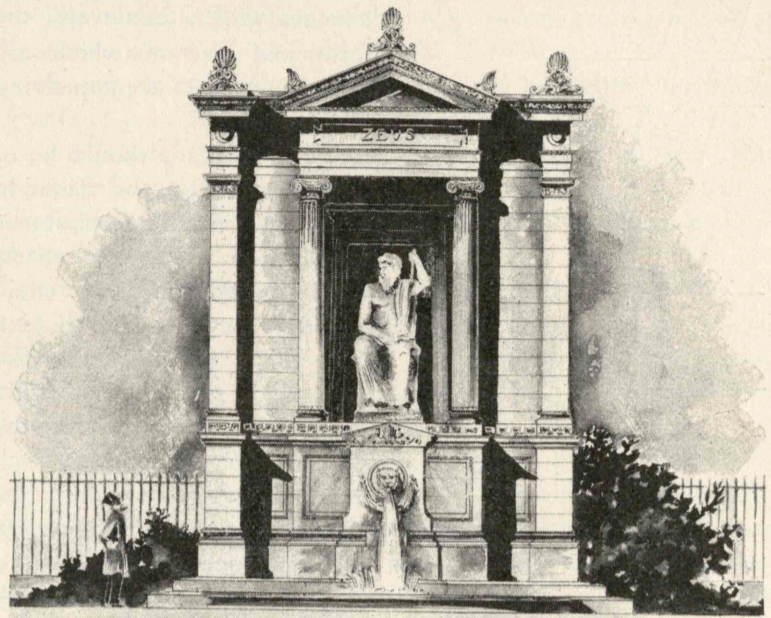
These five designs, to the Committee, show the best care, thought and appreciation of the problem. No design sent in seemed equal to the occasion, but the amount of manual dexterity and knowledge of technique brought out in the whole series of designs is most gratifying to the profession; and it can be said with truth that, taking these sets of drawings as a whole, they



ELEVATION, SECOND HONORABLE MENTION.

would be not unworthy of being placed alongside of similar efforts in any of the art schools anywhere.

BRUCE PRICE.



ELEVATION, THIRD HONORABLE MENTION.

A STUDY OF DECORATION.

(Continued from Vol. III, No. 3.)

POLYCHROMY.

The decoration of the Moors is the latest of the brilliantly colored styles, and though Oriental coloring still remains intense, as compared with Occidental, it is much more multicolored than was the early work. It will be noticed in reviewing the colors used by the early people, that the palette was limited, partially by lack of variety of pigments, but also by hieratic laws—that the colors of this palette were intense, brilliant and pure, and were seldom mixed, gradations of tone being obtained by greater or less subdivision, and not by dilution. For this reason tints are unknown, and gray tones are unusual. In the earliest of all work, black, white, and red and yellow ochres, are naturally the only available colors, and most of the pottery and terracotta have their decoration entirely in this limited key—and it is interesting to notice the tenacity of a habit, in the fact that centuries after polychromy has flourished, the potters continue to use the exact coloring of their early predecessors.

But the Egyptians, though clinging to a general red and yellow scheme, introduce blue and green, and the Assyrians prefer to have blue predominate. The Greeks more subtly subdivide their masses of color, introduce a chocolate, that ranges from a brown to a purple, and upon the figurines seem to have used pinks and light-blues, but in fresh clear tones. The gamut of coloring both

with the Greeks and Pompeians, was of indefinite extent, especially as both portrayed realistic scenes, but a marked tendency is evident to keep the number of colors small, and to have them strong, fresh and pure. The same tendency is evident with the Arabs and Moors.

The choice of brilliant colors is undoubtedly due to a lack of appreciation of subtle combinations and tones; but with a people as sophisticated as were the Greeks, may have been continued from a knowledge that contrasts of pure colors finely subdivided and juxtaposed could produce all gradations of tints at a little distance, in a peculiarly fresh coloring, and that the grays obtained in this manner, would not have the dead and dull quality of the grays of mixed pigments. Certain it is, that the modulations of Nature's coloring, are the result of minute adjacent particles of various pure primary colors, and that certain of the impressionist painters who follow Nature's method in their work, attain excellently pure coloring. Decoration especially requires clear and almost vivid tones to express the movement and intention of the designer, and exaggeration, provided it is harmonious, is decidedly preferable to paleness and weakness.

As for the theory of colors themselves, all that is required by the average student is simple enough, and it is doubtful if much analytical knowledge would not be more of a burden than of an assistance.

White light, as separated by a prism and deployed in the spectrum, is made up of colored rays, which appear at one end of the spectrum as violet rays, then change successively and progressively through purples, carmines, scarlets, orange, yellows, greens and blues, back to violet again, so that if the ends of the spectrum were brought together they would be found to join in gradation perfectly. A circular spectrum then best demonstrates the blending of the colors one into another.

The effect of different color in the rays is produced on the retina by different intervals of vibration and different degrees of rapidity in the same manner as with varieties of sound. If, in mixing the rays or interlacing the vibrations, the intervals are similar, or alternate, or in cadence, harmony of color is produced. If they are uneven or accidental, color discord is produced; at least, this is the theory.

If it were possible to graphically represent every tint and intensity of color by a line of vibration, it might also be possible, by putting one trace over another, to determine what colors would harmonize and what would not; but, considering the manifest absurdity of such a method, some simpler course must be pursued. It can be definitely stated that it is possible, with skill, to do anything with color, to put any and all colors together and in any intensity; but it is safer to confine one's experiments to more conservative methods, and some few conventional suggestions.

In glancing at a circular prismatic spectrum, one or two things will be noticed:

First, that at three points in the spectrum there appear colors which do not partake in any degree of the character of each other, and which are unmixed with other tones. They are red, yellow and blue, the so-called primary colors. Between these colors are others that are made by the admixture of two of the primaries; between red and yellow is orange, between yellow and blue is green, between blue and red is purple. Orange, green and purple are known as the secondaries. It will be noticed that the secondaries are less intense than the primaries, and that they are distinct colors, which, if they are produced of equal quantities of the primaries, do not suggest the primaries. Between each secondary and its neighboring primary is a range of tones partaking more and more of the primary—i. e., a primary color makes its influence manifest from secondary to secondary on

either side of it; a secondary only occupies the immediate vicinity of the meeting of the primaries. The tertiaries are produced by admixture of the secondaries, orange and green producing russet, green and purple producing olive, and purple and orange producing citron. The colors are all low in tone, and as the primaries with their intensity and brilliancy are left out of them, they become duller than the secondaries. Mixtures of the tertiaries only produce an approach to black, or absence of all color. Dividing the circular spectrum into six parts by radial lines, each one of which marks a primary and secondary, it will be found that opposite each primary is a secondary which is composed of the admixture of the two remaining primaries, that opposite red is green—a mixture of yellow and blue, opposite blue is orange—a mixture of yellow and red, opposite yellow is purple—a mixture of red and blue. These opposite colors are known as complementary colors, and each is the reflex of the other.

All colors have a penumbra of their complementaries, that is, each color tints its immediate surroundings with a diminishing halo of its complementary; for instance, green gives a reddish tint to neighboring colors, blue an orange tint, etc. It is the tinting that helps to confuse designs at their edges, and necessitates outlining at times. Any intense color, if looked at fixedly, will so impress the retina that if the eyes are closed the form colored will be seen in the complementary color.

Second: That one portion of the spectrum seems darker, reflects less light than the other, and that this portion is composed of colors in which blue is the important factor—in fact, the colors that are known as cold colors. That the more brilliant portion of the spectrum is made up of colors in which red and yellow are predominant—the so-called warm colors, perhaps because light and heat are associated in most minds. The warm colors predominate in quantity, occupying nearly two-thirds of the spectrum.

It has been said that the different colors are produced by different degrees of rapidity of vibration and different variations or alternations in length of the vibration. The velocity appears to produce the tone, the alternation the color. Apparently the sum of the velocities of any two complementaries equals the sum of any other two of similar intensity, but the alternations of vibration are never twice alike. Some however must resemble each other more than others, and of these, it seems that it requires a keener perception to descry the difference with red and green than with other colors; hence, color blindness in regard especially to these colors, and a very general lack of appreciation of gradations of tint in both reds and greens. It seems an easier matter for the uncultivated eye to tolerably combine any two colors other than these two. The colors in the spectrum are of corresponding intensity throughout; any toning of these colors towards tints only, is produced by adding white, any toning towards shades is produced by withdrawing light, or conversely by adding black. Chevreuil gives plates showing the spectrum successively toned with tints of India ink, and gets in this way approximately, though without much clearness, all varieties of color; as browns are reds and yellows with the light much withdrawn, grays are blues and purples and violets with the white light added. The remaining steps produce grays by adding the white light, and then by further admixture of black to dull and deepen their tones; and produce browns by withdrawing the light, and then tints of brown by diluting the result with white.

So much for a part of the preliminary characteristics of colors as seen in the spectrum. In using colors in decoration—harmonious coloring is of course to be the end and aim—there are two schemes of color, the harmony of similar colors, and the harmony of contrasts. The use of the harmony of similar colors is always safe, as it means the use of adjacent colors in the

spectrum, which blend naturally into each. The maximum extent of the gamut of the scheme of harmony of similar colors, is from one secondary through a primary to another secondary; its usual extent is merely variations in tone and tint of one color. The use of harmony of contrasts is a much more difficult matter.

First with two colors only. There are the contrasts of complementary colors and the contrasts of colors that are not complementary. Of the former, those that differ most in tone are the safest to use, i. e., purple and yellow; next come orange and blue; and last and most difficult, red and green. In the harmony of similar colors, relative quantity need not be considered, except in so far as it affects the general tone of the mass, but in contrasts, it must at once be taken into consideration. It is well nigh impossible to use any two primaries or any two secondaries in equal quantities and equal intensities, as they will eat into each other, both by their complementary penumbras and by their crying color. Either the quantity or the intensity of one of the two contrasting colors must be sacrificed, and this in proportion as the colors approach each other in tone; for instance, in the case of red and green, which are the nearest each other in tone, it is impossible to have them satisfactorily in equal quantities and intensities; one must be made to overpower the other, and if a just equilibrium is desired, the more expanded color must be weakened in intensity or tone. That is, whatever is taken away in quantity must be made up in quality, and vice versa. For this reason, colors that are far apart in tone can be used in more equal proportion than those that are nearer together—yellow and purple in more equal quantities than red and green. As complementary colors juxtaposed intensify each other, they need less outlining to clear up the design, than primaries or secondaries or tertiaries juxtaposed. In using three colors, the same laws hold good that influence the use of two colors, i. e., that one of the colors should dominate—that lack of one of the several factors in a color of quantity, of intensity, or of depth, should be compensated by excess in one of the other factors. The colors that are smallest in quantity are apt therefore to be the most brilliant. The purpose of the third color is principally one of accentuation; two colors, or the varying tones of two colors, will produce a full and rich enough scheme, but the third color if introduced skilfully gives a certain distinction—a *cachet* which no two-colored scheme possesses. This third color is naturally the smallest in quantity, being the last added, an outgrowth or development of the scheme, not its principal theme; and, being the smallest in quantity, will need to be vivid in order to hold its own. Its distribution needs especial study, as it should never interfere with the main scheme, but should accentuate it. The use of more than three colors with their various shades is merely courting confusion. In regard to the tones of adjacent colors, as with the intensity of different colors, it is much better to have contrasts than monotony. To use two colors of equal depth of tone, one upon the other, means an almost complete annihilation of the design. The design can be rescued however by outlining dark tones on dark, with a light outline, or light tones on light with a dark outline. Outlining should never be in a tone between the tones of the ornament and of the ground, as this would tend to fuse the design into the ground, but in one either darker or lighter than either. As for the color of outlines, they are best in neutral colors, as in that case they do not disturb the general scheme of color; when they have color it is usually preferable to have them a shade of the color which they outline, or at times its complementary. In coloring, the use of full colors with their own tints is more and more dangerous, as the contrast of intensity increases. And the same thing is true in the use of pigments, of colors that have a body and those that are mere washes or glazes.

All colors can be obtained from pigments red, blue and yellow.

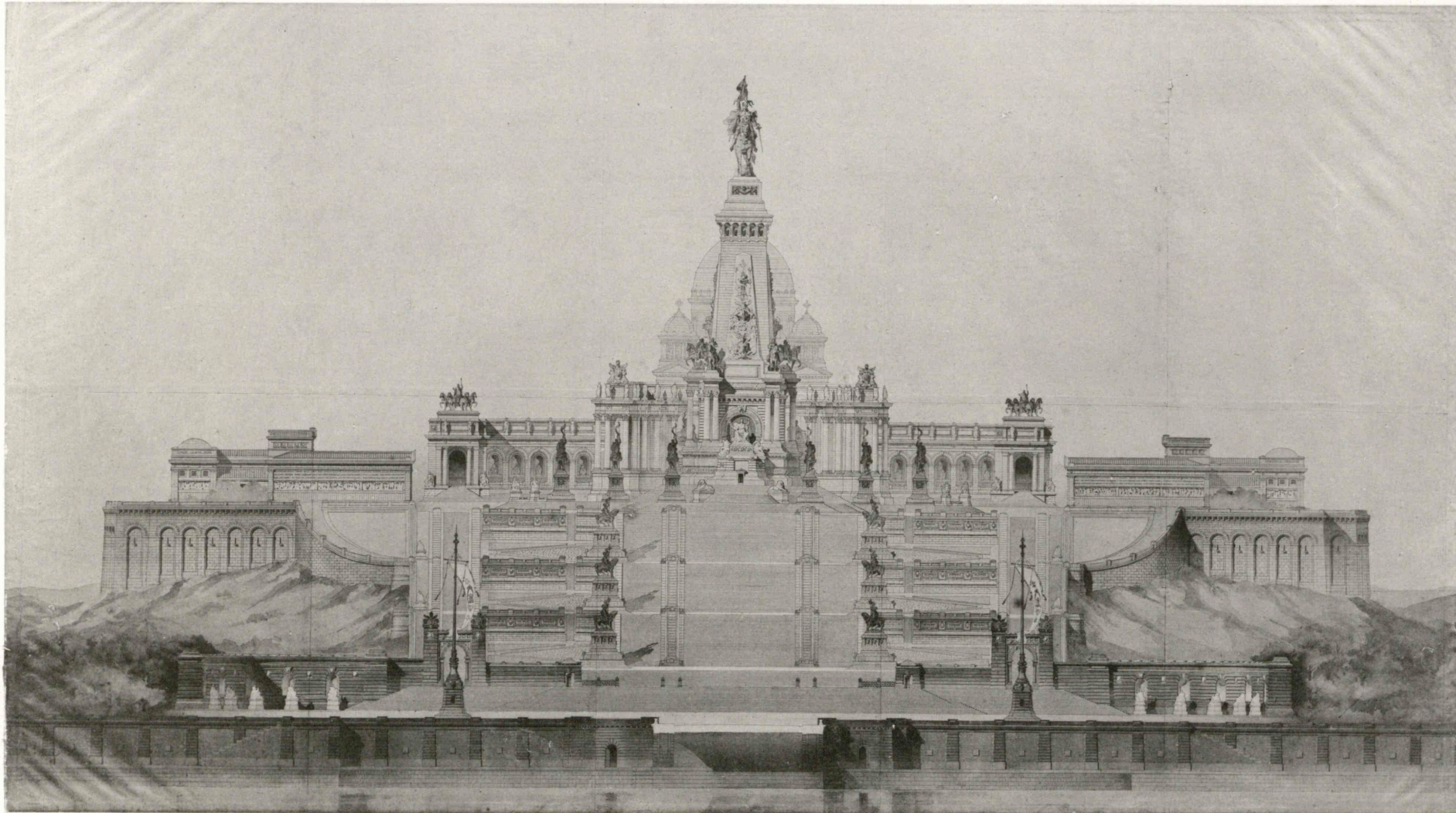
In water colors (not *gouache* color—which resembles oil coloring in its methods, except that it loses the richness of the medium—but on the water coloring of transparent washes where light tones mean light washes with the white light of the paper or other ground shining through) cyanine or Leitch's blue, rose madder and aureoline, being the purest of their respective colors, form perhaps the best limited palette, if one wishes to be limited; but as life is not long enough to constantly experiment to obtain a color that is made at hand, it is perhaps just as well to increase the number of colors used.

For decorative work, vivid and strong colors are needed. For reds, carmine and scarlet vermilion; for blues, Prussian blue and Leitch's blue; for green, emerald green; for yellows, cadmium, aureoline, Indian yellow, gamboge; besides these the following are useful: burnt sienna, brown pink, ivory black and Chinese white.* All these colors will mix and produce clear, light washes or tints, though vermilion and emerald green settle considerably; but there are some of them which by their nature will not mix agreeably for stronger tones. These are in most cases earth or mineral colors. They are, for instance, vermilion, emerald green, cadmium and cobalt. The admixture of these colors produces a very muddy tone; on the other hand, there are colors (mostly vegetable colors) such as Indian yellow, aureoline, gamboge, brown pink, Prussian blue, carmine, which mix admirably, produce clear brilliant tones and have the power of clearing and making good the muddy admixtures of the colors previously mentioned. The brilliancy of water coloring depends upon depths and transparency of color carefully balanced, so that the white ground does duty as white light glowing through the colored tones.

The moment *gouache* color is used, it should be very carefully toned into the more transparent tints about it, and the contrast of its body to the delicacy of light washes should not be too great. With oils, as colors are used with a greater or less body of white, no such care is necessary. There are most brilliant effects produced by glazes over white ground; these glazes being in most cases the same colors as those which mix freely in water colors. Gold and silver count as strong colors, gold the stronger of the two, but by their reflective power and their consequent change of tone in varying positions and lights, they have to be used much more carefully than are mere colors, however brilliant. A design in gold may appear brilliant with light, soft and yellow, and almost black, in the same room as affected by different lights. It will not do then to use a design which would look well in light on dark, but badly in dark on light. For this reason as well as on account of its intensity, gold is at its worst when used in equal proportions to the ground on which it is, and should be used in one of two ways, i. e., either in great fields of gold which have great variety in their surfaces from the numerous reflexions, or in fine lines, outlining or accentuating other ornament, either flat or relief. Silver cannot be used in as broad surfaces as gold, as it is so cold in its effect. Silver tarnishes badly, but can be imitated by the use of aluminum. Gold is either gold leaf or powder, Dutch metal, which tarnishes, or aluminum glazed with raw sienna. Copper or red gold is too hot in broad masses, but good in fine lines. Glazes of all colors over gold or silver are most brilliant and effective, but require to be used cautiously and with restraint.

C. HOWARD WALKER.

(To be continued.)



FIRST PRIZE.

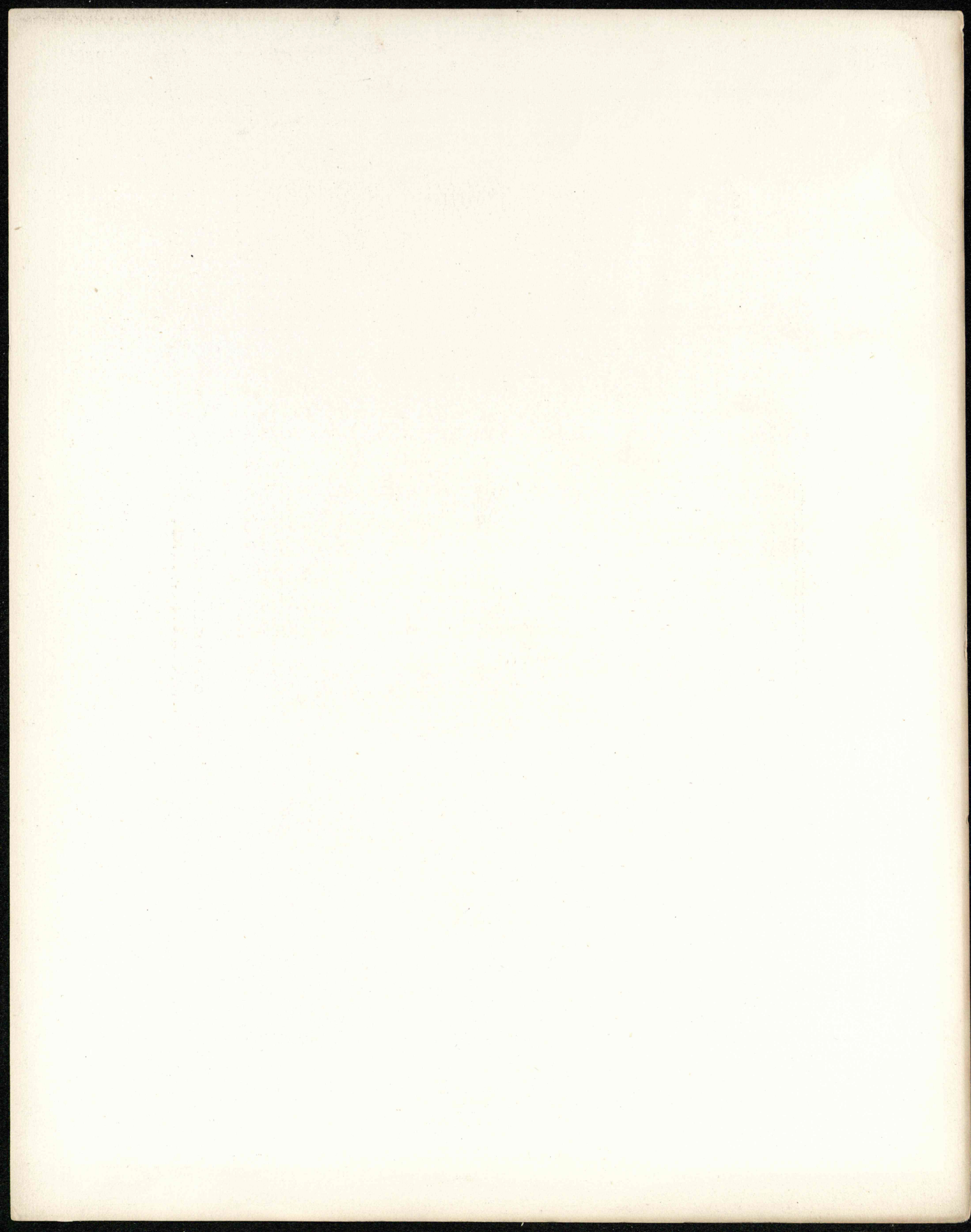
ELEVATION.

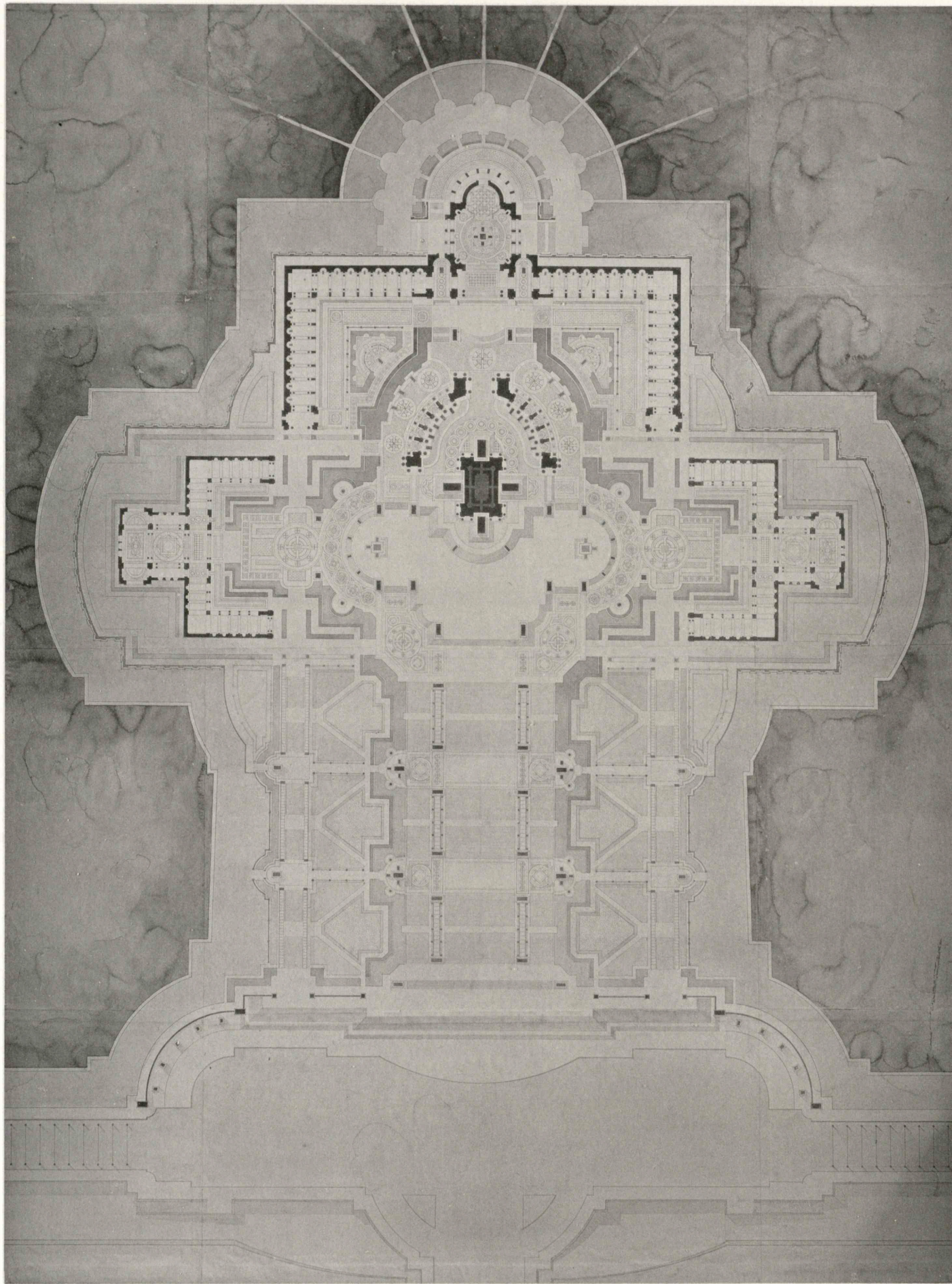
M. PONTREMOLI.

GRAND PRIZE OF ROME.

NATIONAL SCHOOL OF FINE ARTS, PARIS, FRANCE.

A MONUMENT TO JOAN OF ARC.



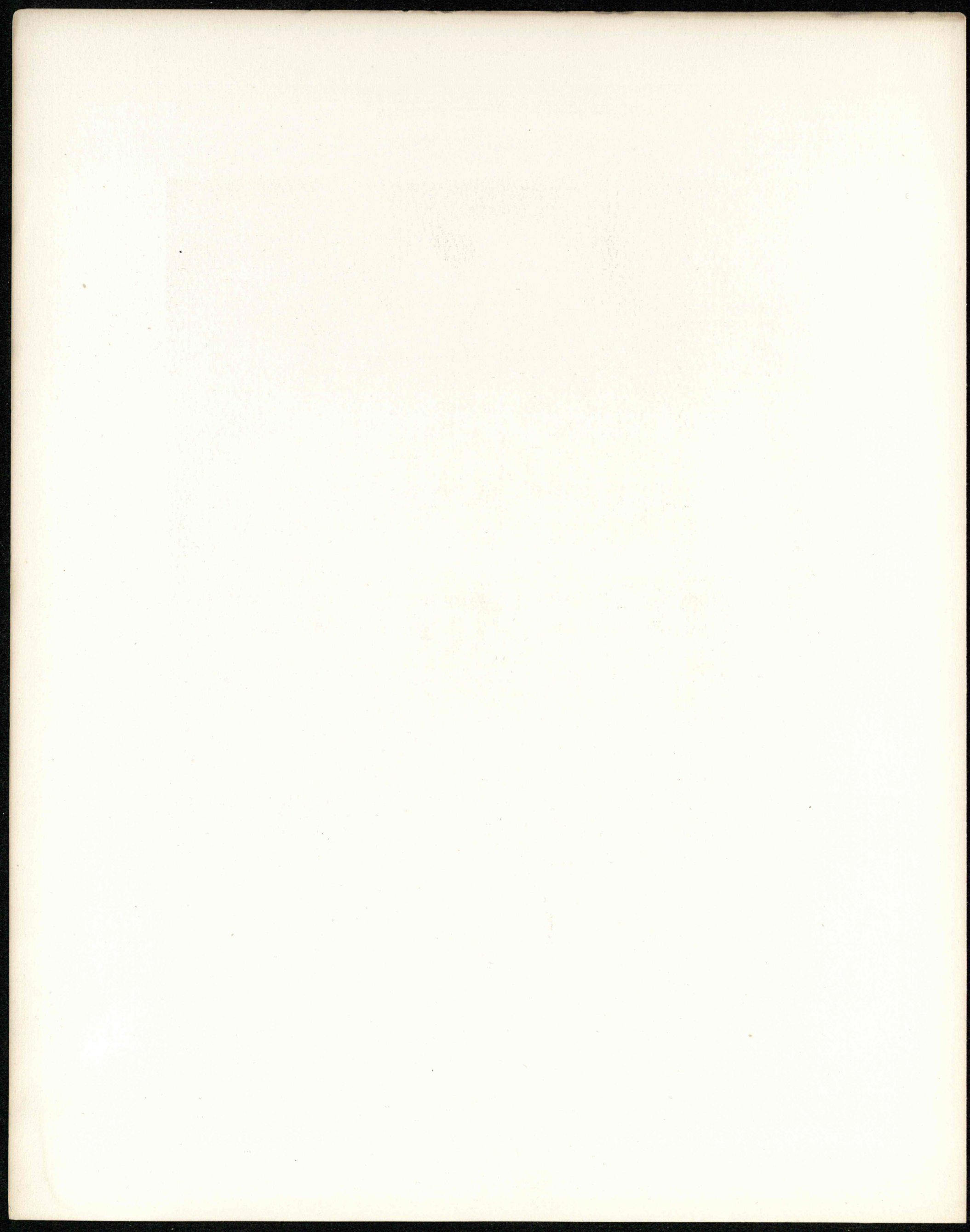


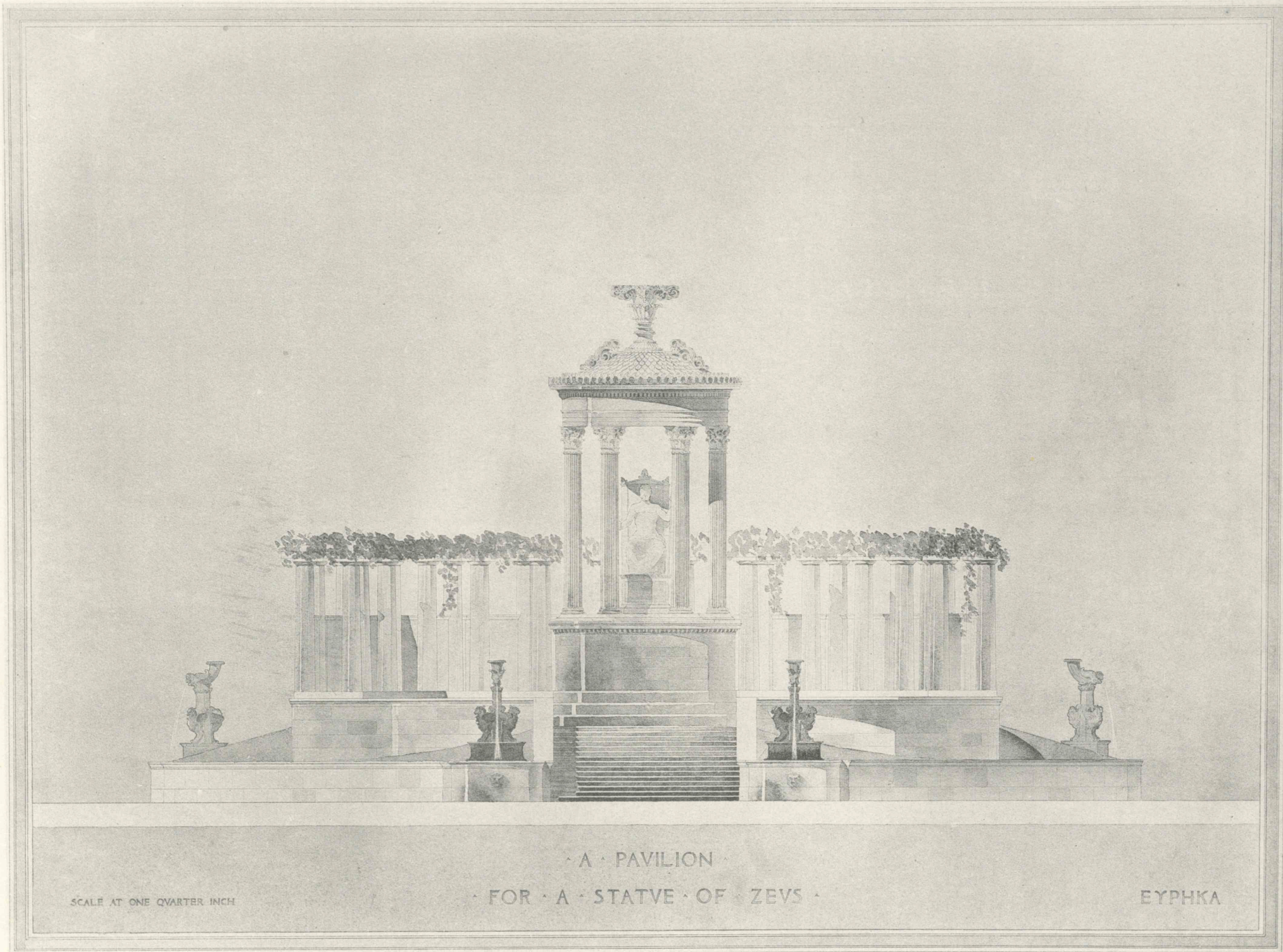
FIRST PRIZE.

PLAN.

M. PONTREMOLI.

GRAND PRIZE OF ROME.
NATIONAL SCHOOL OF FINE ARTS, PARIS, FRANCE.
A MONUMENT TO JOAN OF ARC.





SCALE AT ONE QUARTER INCH

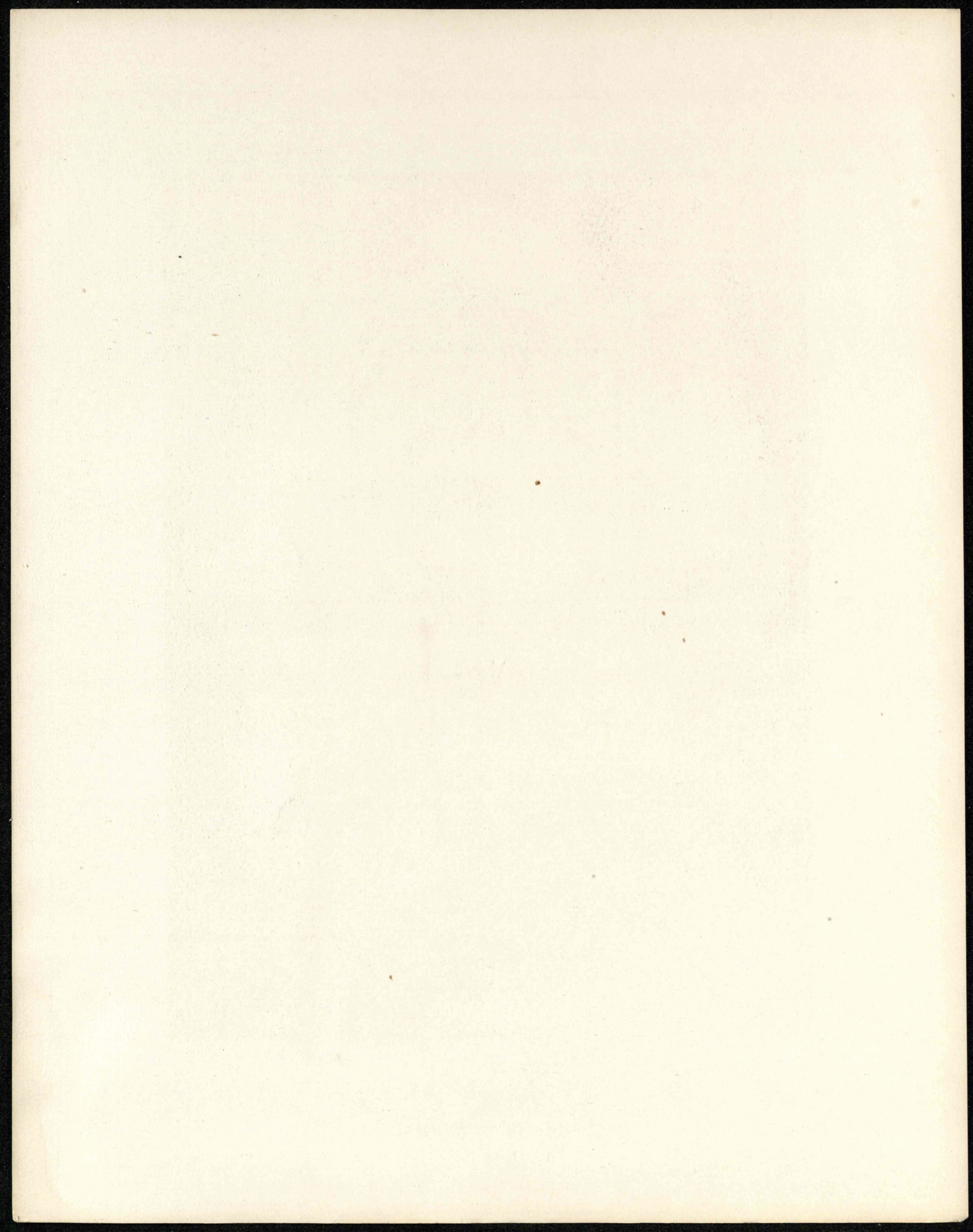
A PAVILION
FOR A STATUE OF ZEUS

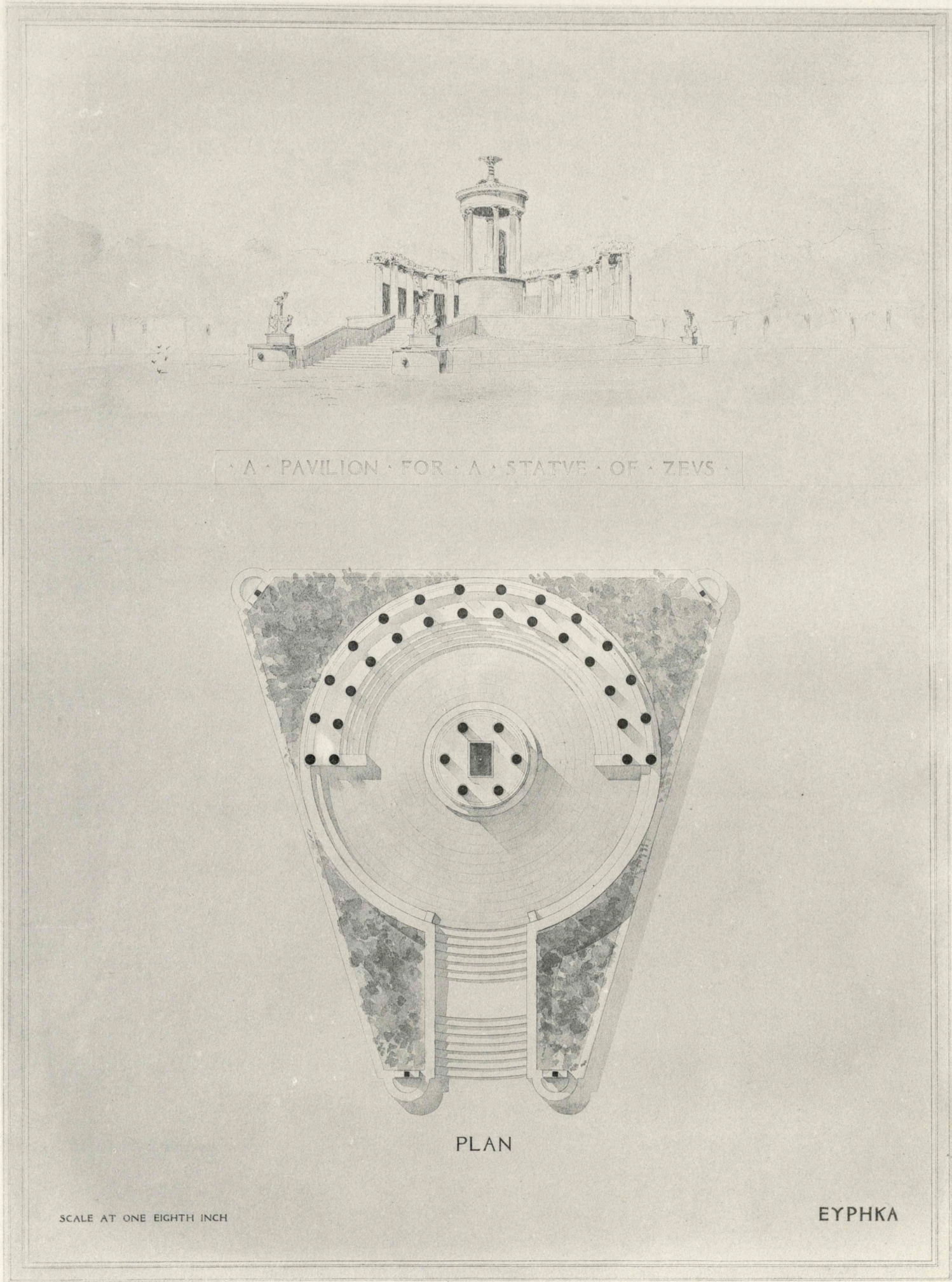
EYPHKA

GOLD MEDAL DESIGN.

HAROLD MAGONIGLE, NEW YORK.

FOURTH MEDAL COMPETITION.
ARCHITECTURAL LEAGUE OF NEW YORK.
A PAVILION FOR A STATUE OF ZEUS

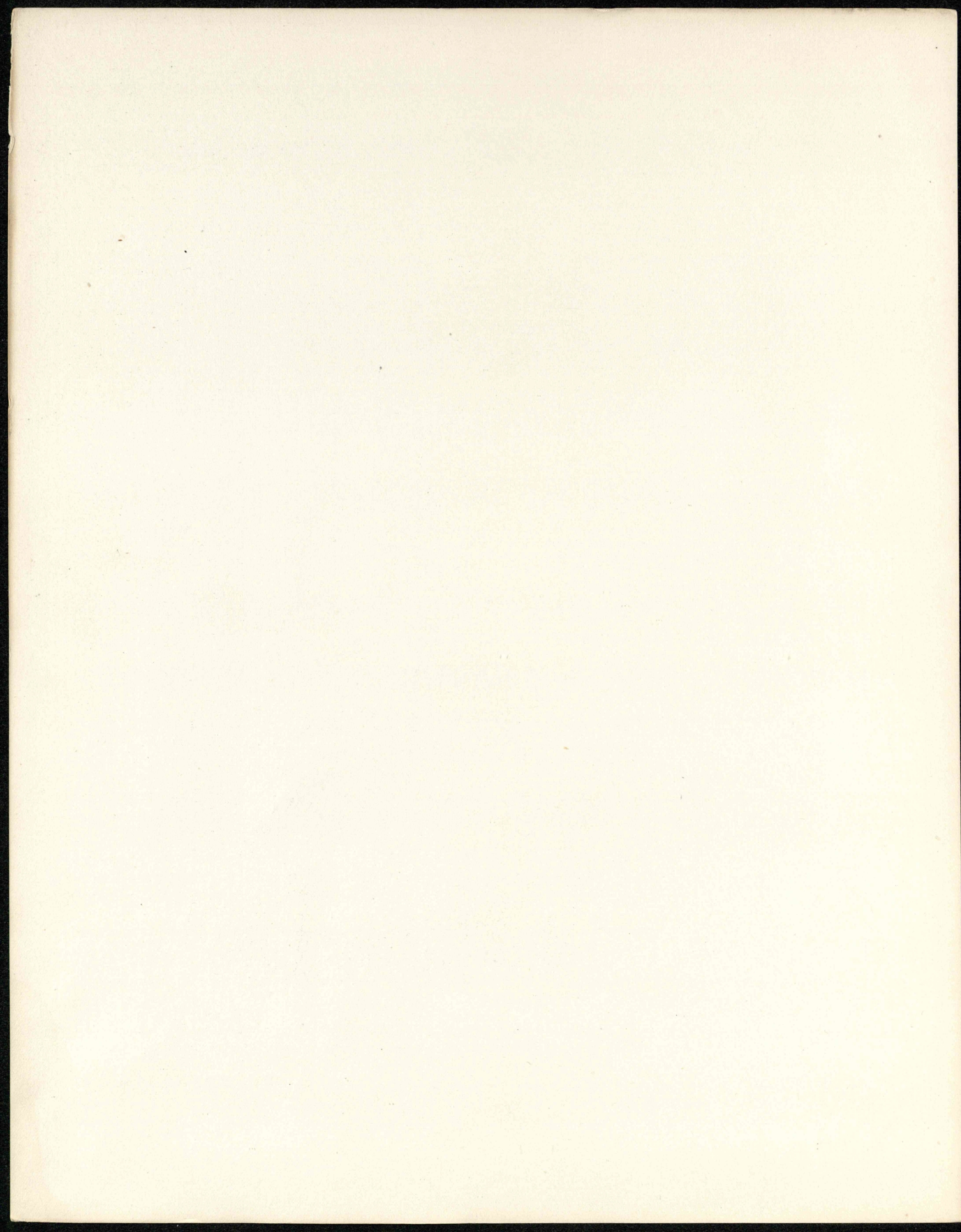


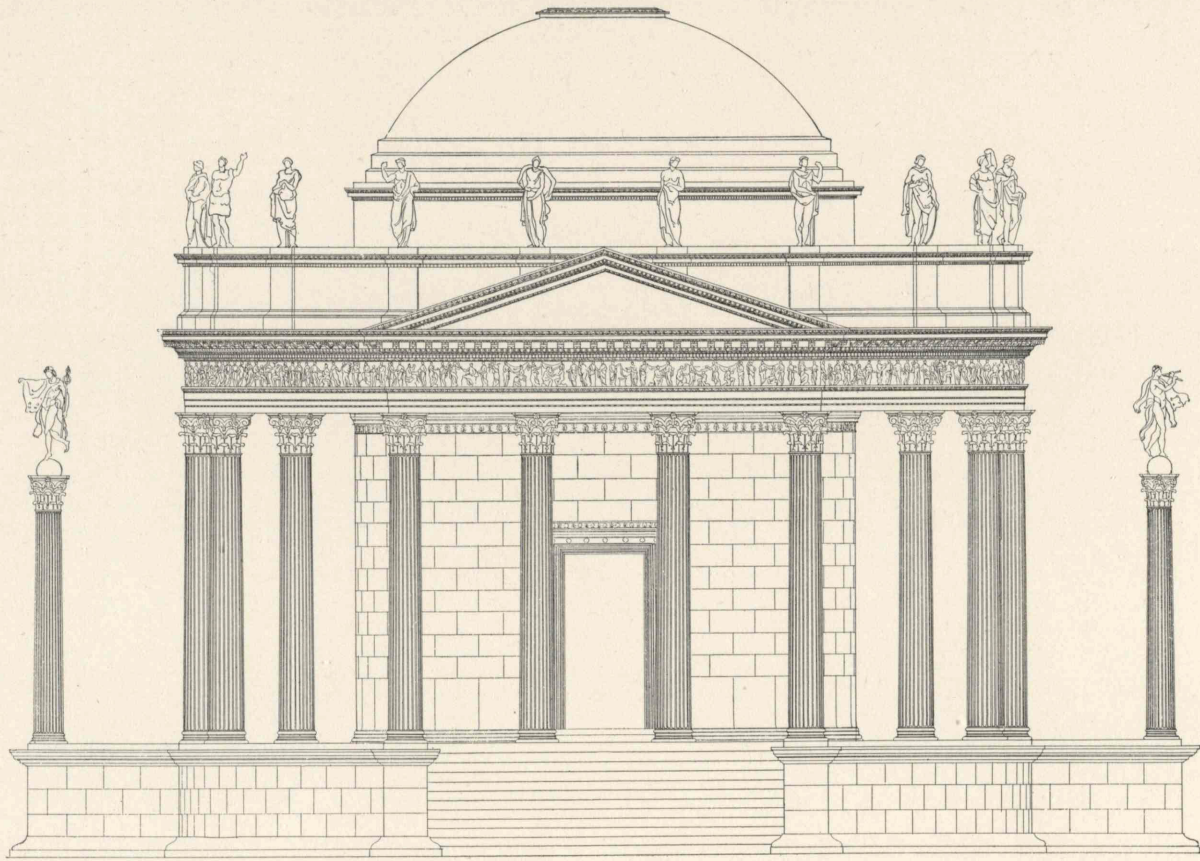


GOLD MEDAL DESIGN.

HAROLD MAGONIGLE, NEW YORK.

FOURTH MEDAL COMPETITION.
ARCHITECTURAL LEAGUE OF NEW YORK.
A PAVILION FOR A STATUE OF ZEUS.

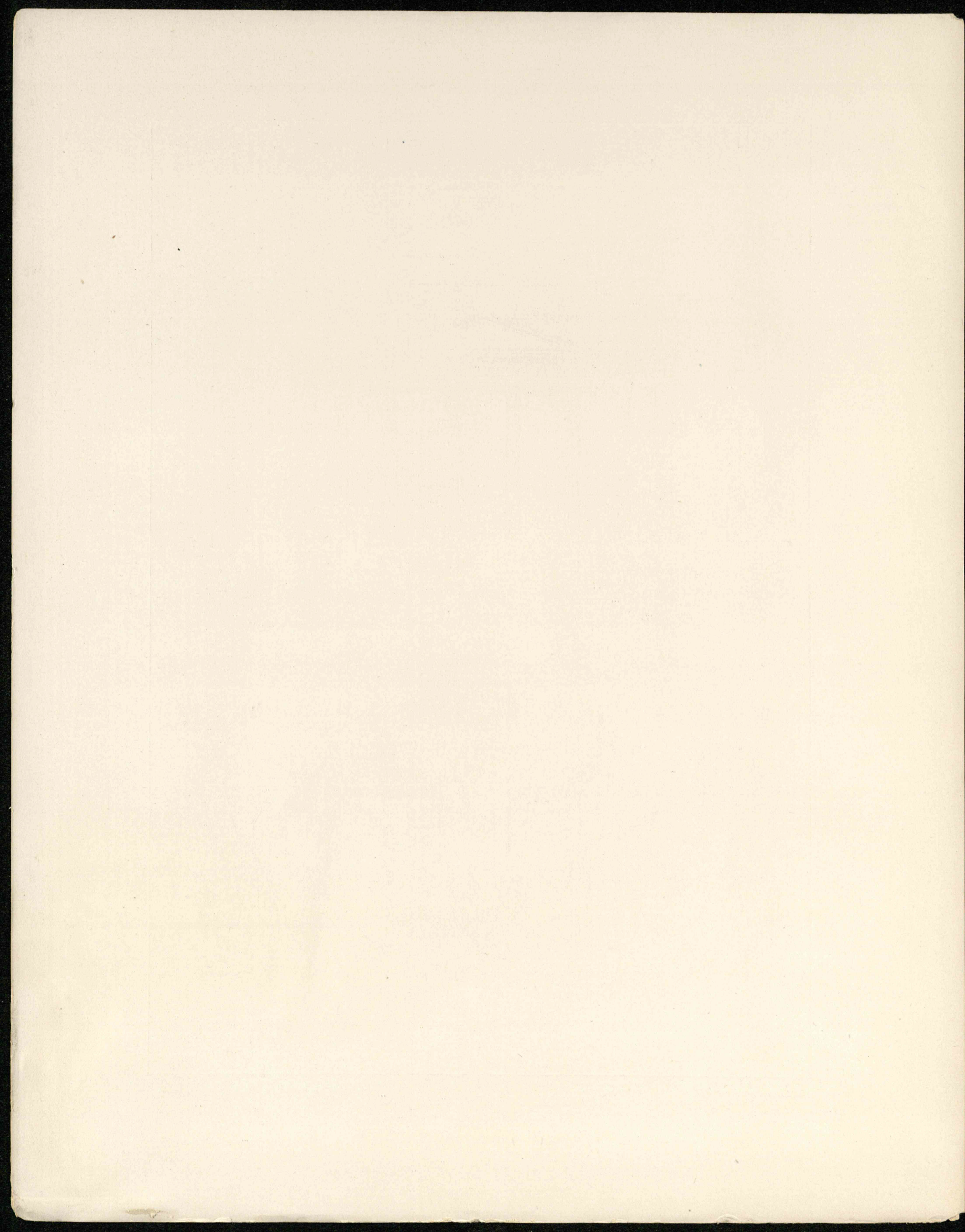




SILVER MEDAL DESIGN.

FOURTH MEDAL COMPETITION.
ARCHITECTURAL LEAGUE OF NEW YORK.
A PAVILION FOR A STATUE OF ZEUS.

ALBERT RANDOLPH ROSS, BUFFALO, N. Y.

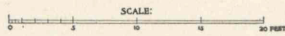




THE FOURTH ANNUAL COMPETITION OF THE ARCHITECTURAL LEAGUE. SUBJECT, A PAVILION FOR AN HEROIC STATUE OF ZEUS.



FRONT ELEVATION.



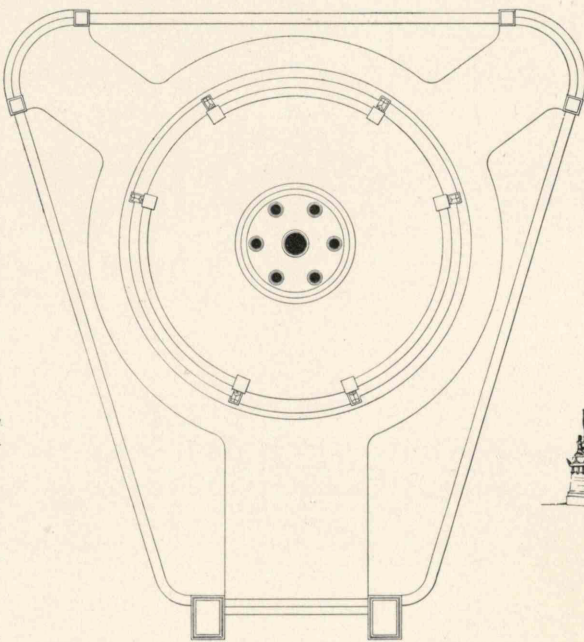
THE FOURTH ANNUAL COMPETITION OF THE ARCHITECTURAL LEAGUE. SUBJECT, A PAVILION FOR AN HEROIC STATUE OF ZEUS.



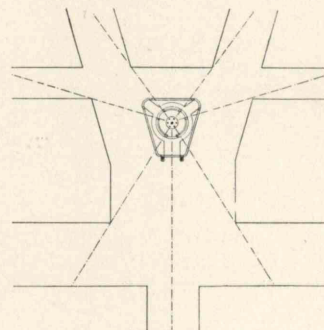
DESCRIPTION.

DESIGNER: CLAUDE FAYETTE BRAGDON. THE DESIGNER HAS ALSO ATTEMPTED TO GIVE IT SOMETHING OF A SYMBOLICAL SIGNIFICANCE. ACCORDING TO THEIR MYTHOLOGY ZEUS HAD DOMINION OVER THE AIR AND UPPER WORLD, POSEIDON THE SEA AND HEPHAESTUS THE EARTH AND UNDER WORLD. ACCORDINGLY STATUES OF THE TWO LATTER DIVINITIES FLANK THE MAIN ENTRANCE. THE THREE GATES ARE EACH DEVOTED TO ONE OF THESE THREE GODS. ALSO THE THREE PLACES OR PLATFORMS INTO WHICH THE COMPOSITION IS DIVIDED. THE LOWEST IS THAT OF HEPHAESTUS AND ON IT THE DORIC ORDER IS EMPLOYED BEING PLAIN AND SOLID LIKE THE EARTH AND ROCKS. THE SECOND IS THAT OF POSEIDON AND IS IN THE IONIC STYLE, WHICH IS FLUID, LING, LIKE WATER. THE THIRD THAT OF ZEUS IS IN THE CORINTHIAN WHICH IS DELICATE AND FLOWERING LIKE TREES REACHING INTO THE AIR. THE FOUR ARCHES SIGNIFY THE VAULT OF THE HEAVENS OR THE UPPER HEAVEN FROM WHENCE COMES LIGHT AND IT IS THEREFORE SURMOUNTED BY A WINGED FIGURE BEARING AN ELECTRIC LAMP ZEUS BEING THE GOD OF THE ELECTRIC FIRE.

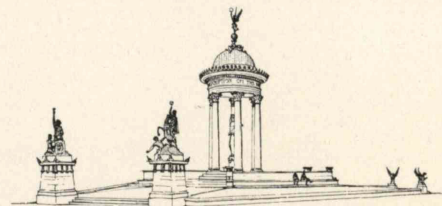
ZEUS BEING THE ETERNAL AND PERFECT FATHER OF GODS AND MEN, A SIKLE, THE SYMBOL OF ETERNITY HAS BEEN CHOSEN AS THE MOST APPROPRIATE FORM, AND SEVEN BEING THE PERFECT NUMBER, HAS BEEN USED AS A UNIT OF PROPORTION OR MEASURE OF THE COMPOSITION. THE STATUE WITH THE SURROUNDING COLUMNS, MAKE SEVEN IN ALL. THE PAVILION IS TWENTY SEVEN FEET WIDE, AND THREE TIMES THAT OR SIX TIMES SEVEN FEET HIGH FROM THE GROUND. IT IS THREE TIMES SEVEN FEET FROM THE TOP OF THE TOP STEP TO THE TOP OF THE CORNICE. THE COLUMNS ARE THREE TIMES SEVEN INCHES IN DIAMETER, AND SPACED SEVEN INCHES APART, ON CENTERS. THE TWO OUTER PEDESTALS ARE SEVEN FEET LONG, AND FOUR TIMES SEVEN FEET APART ON CENTERS. MODULI AND FINISHES ARE USED FOR MINOR SUBDIVISIONS.



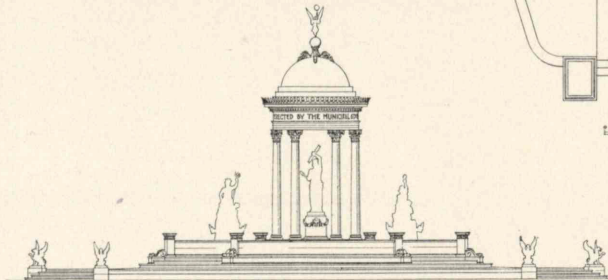
PLAN.



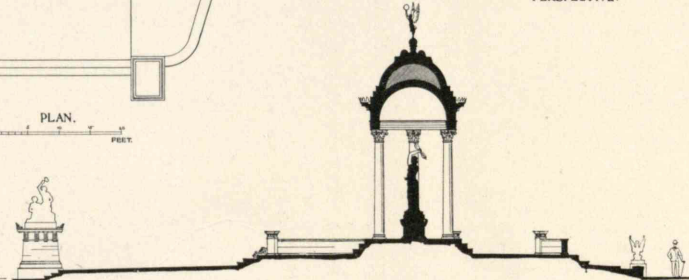
BLOCK PLAN. (SHOWING VISTAS)



PERSPECTIVE.



REAR ELEVATION.



LONGITUDINAL SECTION.

FIRST HONORABLE MENTION.

CLAUDE FAYETTE BRAGDON, ROCHESTER, N. Y.

FOURTH MEDAL COMPETITION. ARCHITECTURAL LEAGUE OF NEW YORK. A PAVILION FOR A STATUE OF ZEUS.

