### SECOND EDITION.



Entered as second-class matter at the Boston, Mass., Post Office, February 14, 1888.



ii

## The Neuchatel Asphalte Co., Limited.

FLOORS of Public Buildings, Hospitals, Warehouses, Mills, Laundries, Stables, Cellars, etc. ROOFS, SIDEWALKS, CARRIAGE-WAYS, TENNIS COURTS,

- LAID WITH -----

'Neuchatel" (Val de Travers) Rock Asphalte Pavement, Durable, fireproof, and Empervious.

THE PAVEMENT CAN BE LAID ON A WOOD FLOOR. FOR ESTIMATES AND LIST OF WORKS APPLY TO

HENRY R. BRADBURY, Manager, 265 BROADWAY, NEW YORK.

## The Brainerd Quarry Company, Brownstone Quarry, PORTLAND, CONN.

The <u>Portland Brownstone Quarries</u> are the Most Extensive in the World, and have been worked for upwards of one hundred and fifty years. During a few years past the stone has been very extensively used as a <u>Building Material</u> in the Principal Cities on the Coast, where it may be seen in the form of

SPLENDID DWELLING-HOUSES, CHURCHES, STORES, ETC., IN ALL THE VARIOUS STYLES OF ARCHITECTURE.

Also, Rubble and Junk Stone, for Churches, Depots, Piers, Docks, Bridges, Etc.

Fifteen hundred workmen have been annually employed in these Quarries, and from fifty to seventy-five vessels are employed in transporting the stone to market.

# WIRE LATH \*

DOUBLE TWIST WARP. STIFFENED.

GALVANIZED. JAPANNED.

## PLAIN.

## CLINTON WIRE CLOTH COMPANY,

Patentees and Sole Manufacturers of the above-named LATH.

Entered for competition at the 16th exhibition of the Massachusetts Charitable Mechanics' Association, and awarded

## A SILVER MEDAL.

THE MOST PERFECT AND ECONOMIC SYSTEM OF FIRE-PROOF CONSTRUCTION. CEILINGS PLASTERED WITH THIS LATH WILL NEVER CRACK.

SEND FOR CIRCULAR.

....

59 Beekman Street, NEW YORK. 23 Court Street, BOSTON. 137 Lake Street, CHICAGO.

Factory, CLINTON, MASS.

iii



iv

sent on application

BOSTON.

only studio

99

Day and Evening Classes.

Begin any time.



v

## 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, and Electrical Engineering, Architecture, Chemistry, NATURAL HISTORY, 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 main-tained 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.

For the benefit of those who are contented with a limited acquaintance with the subject, or who have acquired elsewhere the necessary mathematical and physical knowledge, a partial course in Architecture is arranged, occupying two years.

The professional work of both courses is under the immediate charge of Prof. Frank W. Chandler, who gives the lectures on Construction, Specifications, and Contracts, Materials, and Special Classes of Buildings; Assoc. Prof. Eugene Létang, the Instructor in Design; and Messrs. Eleazer B. Homer and Frank A. Moore, Assistants. Special instruction is given by Messrs. Ross Turner, in Water-Colors; C. Howard Walker, in Decoration; Charles E. Mills, in Drawing from the Life; and David A. Gregg, in Pen-and-Ink Sketching.

For detailed information apply to

JAMES P. MUNROE, Secretary.

DEPARTMENT OF ARCHITECTURE,

## Massachusetts Institute of Technology.

VOL. I.

BOSTON, NOVEMBER 15, 1887.

No. 1.

WITH the first issue of this paper — the official publication of the MASSACHUSETTS INSTITUTE OF TECHNOLOGY ARCHITECTURAL SOCIETY — we would call attention to its object and apologize for its late appearance. Its establishment was determined in November last, and the initial volume dates from that time. The work of preparation has thus been crowded into the very limited space of two months.

The REVIEW — the first essay of its kind by architectural students in America — will aim "to call attention to and emphasize the resources of classic architecture, and its usefulness as a basis for all design." Our purpose has been to offer to American draughtsmen an academic model at a price within the reach of every one.

It is essentially a folio of plates and not of text matter. We shall follow the example of the "Croquis," and limit ourselves almost exclusively to a *résumé* by illustration of the "mentioned" designs made at the Massachusetts Institute of Technology, departing from this rule only as outside material of marked interest may claim recognition.

In point of make-up the paper will speak for itself.

Its plates are made by photogravure, or, more properly, the gelatine process,— the best method of reproduction yet introduced into this country.

For the excellence of its typography we are indebted to John Wilson & Son, University Press.

As the cost of the publication far exceeds the subscription price, our advertising patrons should have the credit of enabling us to conduct the REVIEW in a manner worthy of its aim and of its friends.

Our supplement plate — the "Cori Fragments" — is one of the set of drawings referred to in the following letter from Professor Ware: —

## COLUMBIA COLLEGE, January 21, 1888.

To the Editors of THE TECHNOLOGY ARCHITECTURAL REVIEW.

THE Cori drawings were made by Mr. Emmanuel Brune while a *pensionnaire* of the French Academy in Rome, and were exhibited in Paris as *Envois de Rome* in the summer, I think, of 1866. I

met Mr. Brune at the Villa Medici, where the students live who have taken the Grand Prix, and again in Paris, in the spring and summer of 1867. He was much interested in our schemes; and when I mentioned to Mr. Gustave Raulin, at that time President of the Intime Club, then in its first year, and now at the head of the Atelier Vaudremer, that I wanted to get some first-class drawings for the collections of the Architectural Department at the Institute, he used his good offices with Mr. Brune to obtain for us this splendid series. 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 draughtsmanship at the École des Beaux-Arts was then at its highest point, and Mr. Brune was facile princeps in the use of India-ink. Before entering the School of Fine Arts, where he studied in the Atelier Questel, he had taken his degree at the École des Ponts et Chaussées ; and I knew that it was said of him that he was really more an engineer by nature than an architect, and that it was rather his unrivalled draughtsmanship than his skill in design that had carried him to Rome. This seems to have been the view, at any rate, of the authorities of the school, as shortly after coming back to Paris he was appointed professor of Construction in the School of Fine Arts, - a post which he held until his death, in 1884.

The only considerable work with which his name is connected is, I believe, the new Ministry of Agriculture in the *Rue de Varennes*, upon which he was engaged when I was last in Paris, in the summer of 1883. I found his interest in our affairs, which he had followed from a distance, still unabated; and he expressed the hope that careful drawing, the traditions of which seemed to be somewhat disregarded in the *École*, was not neglected on this side of the water. I had the satisfaction of reminding him that this could hardly happen altogether, with his *Envois* always before our eyes.

Three of the Cori drawings, the *Doric Order*, the *Corinthian Capital*, and the collection of *Fragments* which you are now publishing, were early published in photography by Lampué, and are famous. The fourth, the *Doorway*, has, I think, never been reproduced. The fifth is the detail drawing, with figures of the dimensions. It will further illustrate Mr. Brune's good will towards the Institute if I add that I paid him only five hundred francs for the whole five.

Sincerely yours,

WILLIAM R. WARE.

## DEPARTMENT OF ARCHITECTURE.

SEPTEMBER 27, 1887.

## MONTHLY COMPETITION.

## FOURTH YEAR REGULARS AND SPECIALS.

#### Programme: A CASINO.

THIS monument, which is supposed to be dependent on a large sea-bathing establishment, will be isolated and erected in front of the sea-shore. Its plan will contain the following principal requirements : -

One large hall, in which balls and concerts may be given.

One large billiard room accommodating several billiard tables. One large reading room ; also café.

Several private minor rooms used for playing purposes, and open porticos facing the water and gardens. These porticos may be used for connecting the different parts of the edifice.

The disposition of the buildings is to be on a line parallel to the sea-shore and not exceeding three hundred feet in length; the depth is not given.

Required : a sketch (plan and elevation), - scale, one fortieth of an inch equals one foot, - to be handed in September 30, at 4 P. M. Finished drawings, - one elevation, one section, and one plan; scale, one twentieth of an inch equals one foot, - to be handed in October 29, at 12 M. EUGENE LÉTANG.

#### JUDGMENT.

Ist First Mention . . . . W. PROCTOR, Jr. 2d First Mention . . . . GEO. C. SHATTUCK. 1st Second Mention . . . HENRY FORBES BIGELOW. Eight designs in Competition.

## NOTES TAKEN FROM CRITICISM.

IST FIRST MENTION.

2

## PLATE I.

Ist FIRST MENTION. PLATE I. Plan well arranged, indicating distinctly the principal rooms, — concert-hall, billiard and reading rooms. The entire façade is free from projecting pavilions, which would obstruct the view. Concert-hall very well placed, but might be improved by making the entrances from the main hall, through the rooms at either side of the present entrance. The staircases would be better if placed in the front pavilions, and what appear to be rooms in side elevations (as shown in section) omitted, treating the pavilions as towers. The elevation is very well studied, and contrived so as to make a pleasing group of buildings; but the portion of the first story, including the three arched entrances. flanked by the towers has been treated as a part of the wall above, giving a simplicity and breadth of character which would not exist had the plan been followed; that is, the main entrance and flanking walls there indicated are brought out on the line of the main building on either side. The circular windows in the tower are not in good form. The rooms at the ends of the building show one more window in elevation than in plan, thereby injuring the elevation by weakening the ends of the structure. The three arches in the quay are too large, giving an effect of weakness. Rendering is pretty and effective. The section is very proportion of the hall would be improved if the main cornice, under the cove, proportion of the hall would be improved if the main cornice, under the cove, were lowered so as to come tangent to the medallions.

#### 2d FIRST MENTION.

PLATE II.

This plan fails in not distinctly indicating the main features as required in the programme. The end features project too far, obstructing the view in front, and making deep recesses in the rear. The colonnade and circular pavilions at either extremity assist the design materially in elevation, but are weak and detached in the plan. The colonnades surrounding the principal rooms are interesting in elevation, but seriously interfere with the light and view. The main entrance is excellent, but a little too high as shown in section. The concert-hall is admirable in proportion, delicate and refined in treatment, but defective in arrangement of ceiling at octagonal end. The grouping of the different features is very good in elevation, the façade being carefully studied in detail, and, on the whole, most architectural in effect. The sea-wall is injured by the large arched openings, and would be much improved if more simply treated, and kept in scale with the rest of the design. The balconies at the second story, over the billiard and reading rooms, confuse the design. The second story windows over the colonnade are not quite high enough, and the niches containing busts in the pavilions flanking the main entrance are out of place. This plan fails in not distinctly indicating the main features as required in place.

#### PLATE III. IST SECOND MENTION.

This plan also fails in not expressing the main features; but the general form is excellent, and presents a fine water front. The concert-hall is well planned and well lighted, but too high as shown in section. The columns in the colonnade are too far apart, injuring a little the scale of the central pavilion, which is itself an admirable bit of design. The employment of the arch in the semicircular bay is a serious defect, and were the awnings omitted, would

detract very considerably from the general good effect of the design. The semicircular openings over the billiard and reading rooms are enormously out of scale, and not in keeping with the rest of the building; and had the treatment between the pavilions been continued beyond them, the result would have been much better. The general feeling throughout the design is good, and the rendering bright and pleasing.

### THIRD YEAR REGULARS AND SPECIALS.

### Programme: A FOUNTAIN IN A PUBLIC PARK.

This little monument is supposed to stand at the end of a large avenue, its purpose being to contribute to the adornment of the Park and at the same time be used as a drinking fountain. The central feature will be a niche, framed by two isolated columns of the Corinthian order, supporting a pediment. These columns are to be no less than six feet apart (from axis to axis), and the niche may receive a piece of statuary. Below, the flowing of water, vasque, basins, etc., will complete its architectural decoration.

To this central feature will be added, on both sides, an exedra extending about thirty-five feet in all, and circular or elliptical in plan, it being a high wall provided with benches, the whole to be built of light stone.

Required : a preliminary sketch (plan and elevation), - scale, one fourth of an inch equals one foot, - to be handed in September 30, at 4 P. M. Finished drawings in Indian-ink with shadows cast (plan and elevation), - scale, one half an inch equals one foot, - to be handed in October 29, at 12 M. EUGENE LÉTANG.

#### JUDGMENT.

1st First Mention .		. John W. Case.
2d First Mention .		. RICHARD HOOKER.
1st Second Mention		. Theodore W. Pietsch.
2d Second Mention		. WALTER H. KILHAM.
1st Third Mention .		. GEO. C. HARDING.
2d Third Mention .		. HEINRICH C. DITTRICH.
		(EDWARD A. CRANE.
Mention		Edward A. Crane. Arthur V. Edwards.
		(WILLIAM G. PLUMMER.

### Twenty-one designs in Competition.

IST FIRST MENTION. PLATE IV.

The conception is ingenious and interesting; the treatment of the seats under the arches and the depth of the wall of the arcade is excellent. The archivolts and Ionic capitals are too weak, and the pediment is injured by the attic treatment above, which should be omitted. The treatment of the niche and figure is beautiful, and remarkably well rendered.

#### 2d FIRST MENTION. PLATE IV.

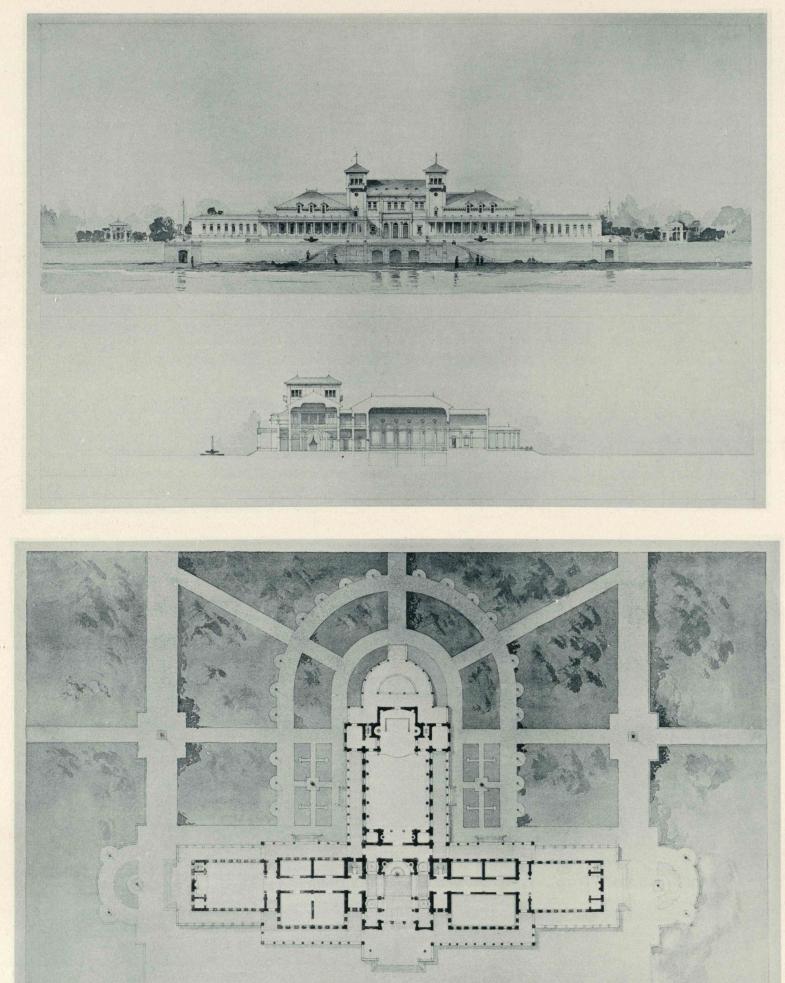
The general character of the design is high, being very simple and refined; the decoration is judiciously applied, though not well drawn. The proportions throughout are admirable; the main lines are well carried through the entire design, and the niche with the pediment combines well with the exedra seats and screen-wall. The shelf of the seat is too thin, and would be better if it did not project over the supporting wall: this treatment would happily dispense with the fillet on the posts, and suggest a rich base moulding.

#### IST SECOND MENTION. PLATE IV.

This design is good in general effect, but the detail treatment is everywhere coarse and unstudied; the pediment is too small, and in parts is too finely de-tailed to correspond with the rest of the work, while the Cupids are decidedly out of scale and out of place. The nicke is too wide for its height, and the pilaster separating the central feature from the exedra screen is treated without regard for either. The pilasters in the screen-wall are very much injured by their capitals, which are large enough for pilasters twice the height; a treatment of mouldings for the capitals would be much better. The acroteria are too large. The band of decoration containing the disks is too low, and the dentals above it should be omitted, or, better, placed in the main cornice, which is now too weak. too weak.

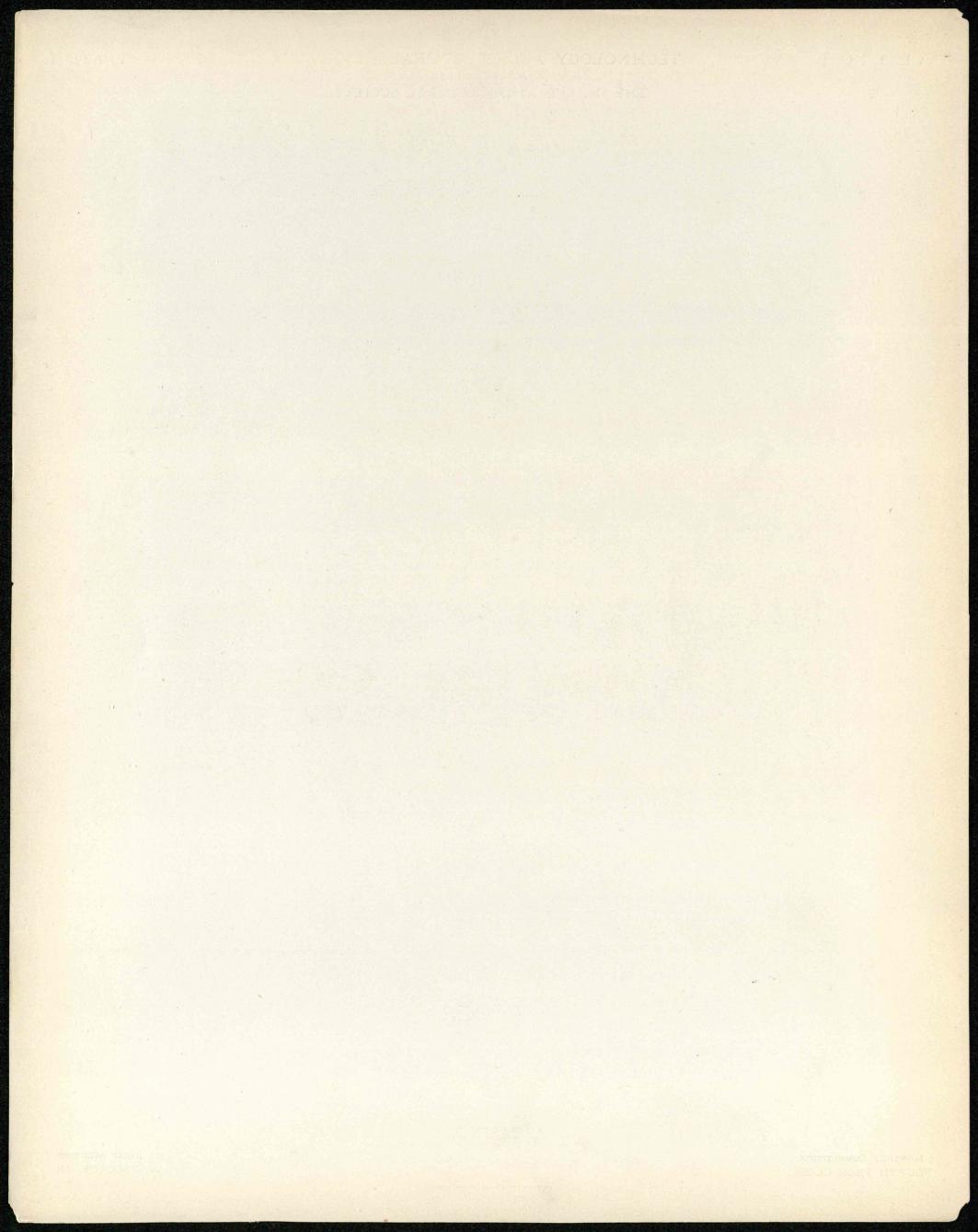
ARTHUR ROTCH. C. HOWARD WALKER, EDMUND M. WHEELWRIGHT, THOMAS O'GRADY, JR., Fury.

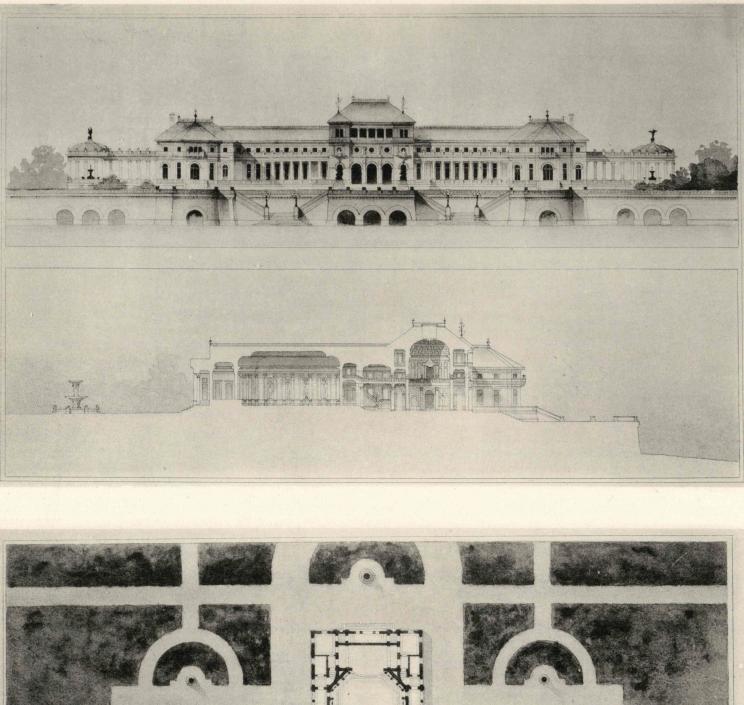
THOMAS O'GRADY, JR., Critic.

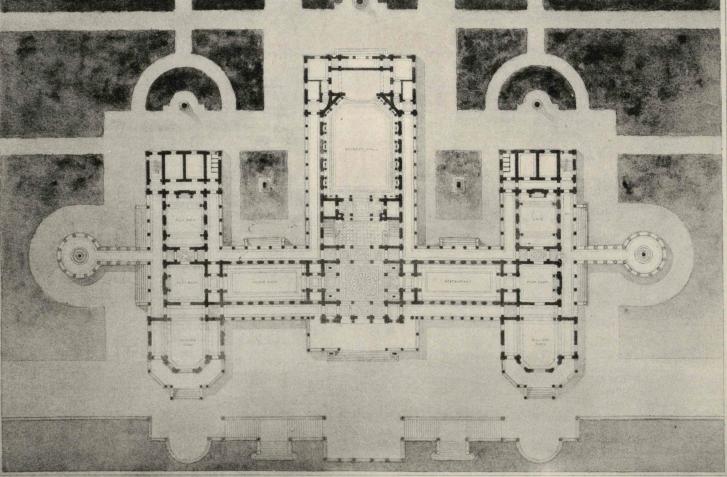


MONTHLY COMPETITION. FOURTH YEAR CLASS. A CASINO.

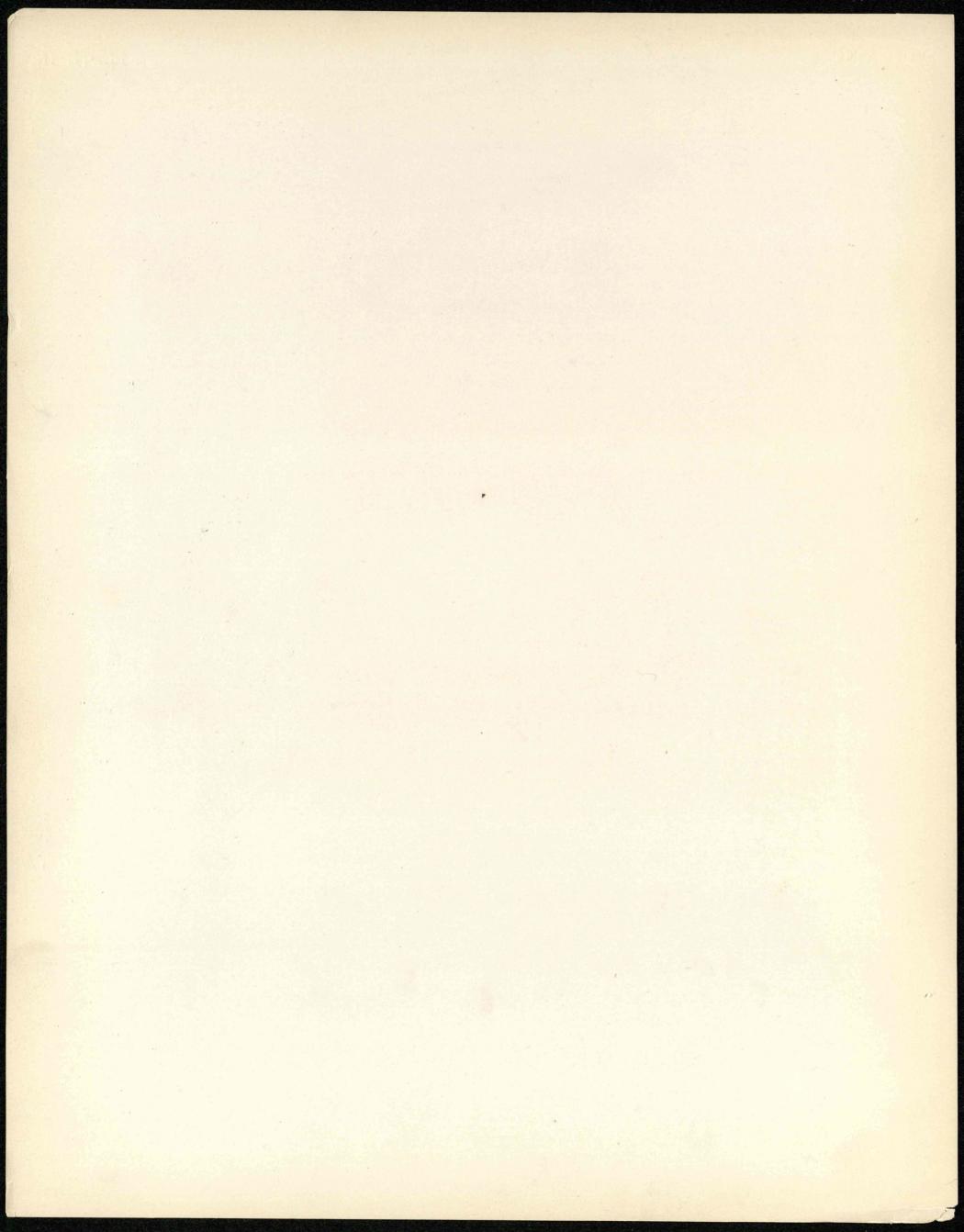
1st First Mention. W. PROCTOR. JR.

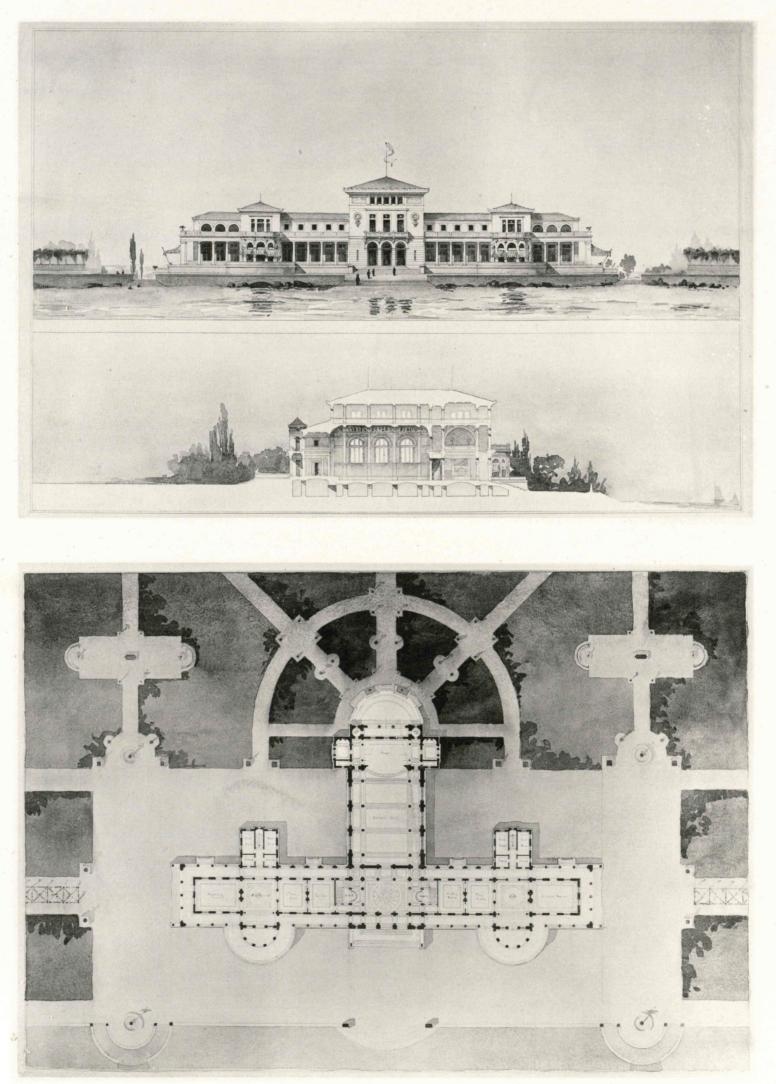






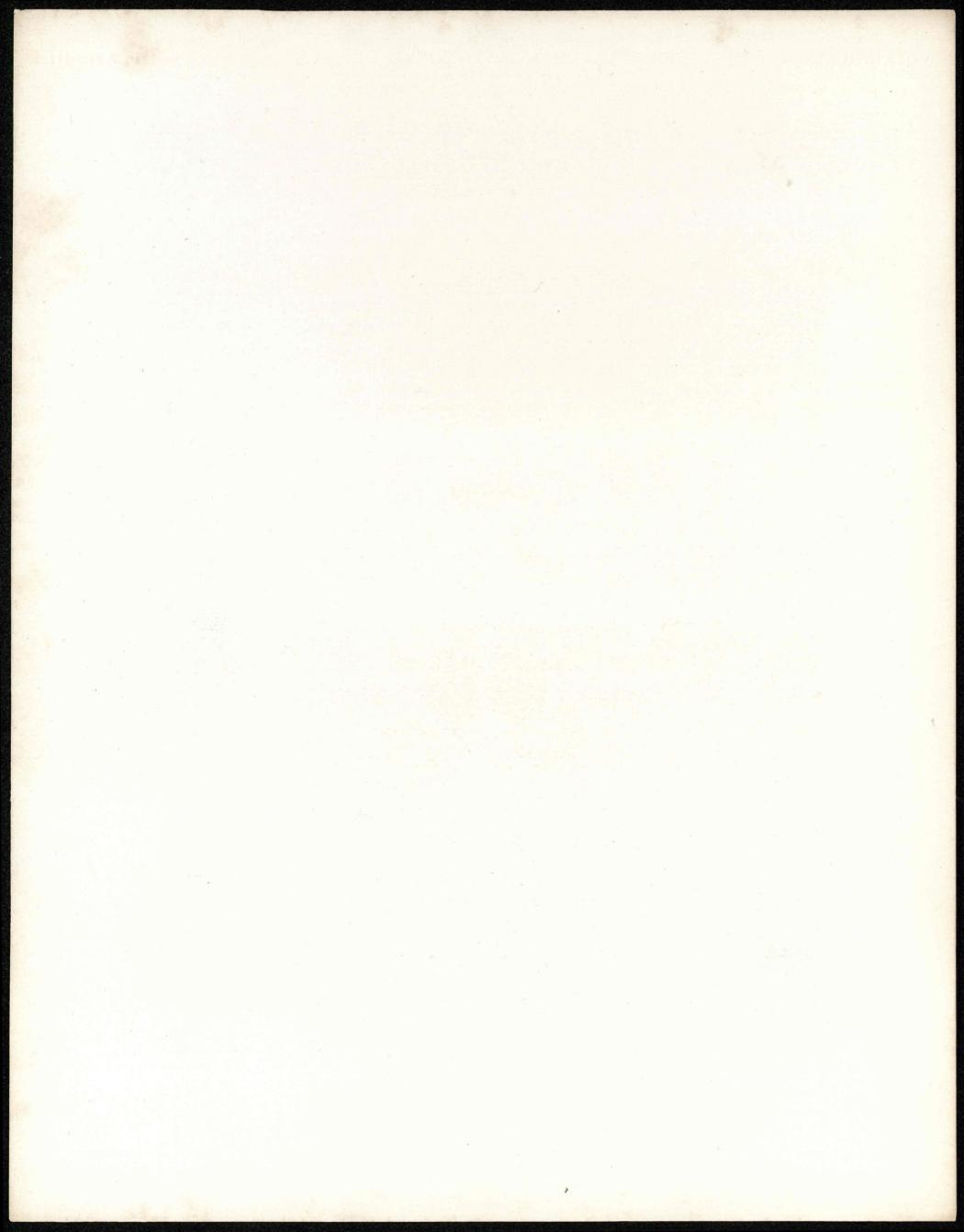
A CASINO.





A CASINO.

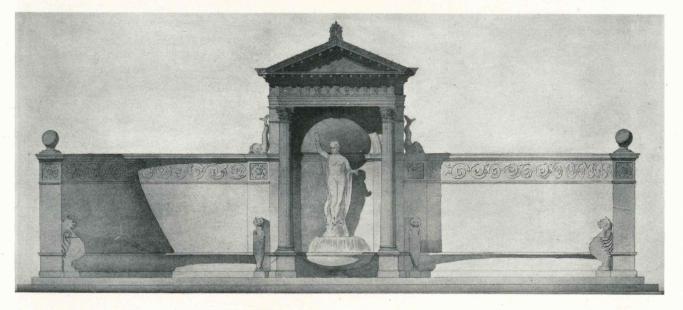
1st Second Mention. HENRY FORBES BIGELOW.





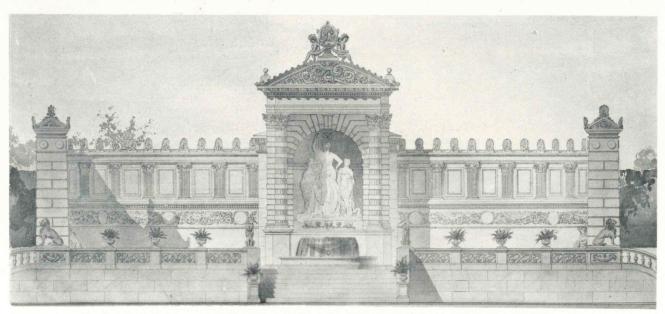
1ST FIRST MENTION.

JOHN W. CASE.



2ND FIRST MENTION.

RICHARD HOOKER.



1ST SECOND MENTION.

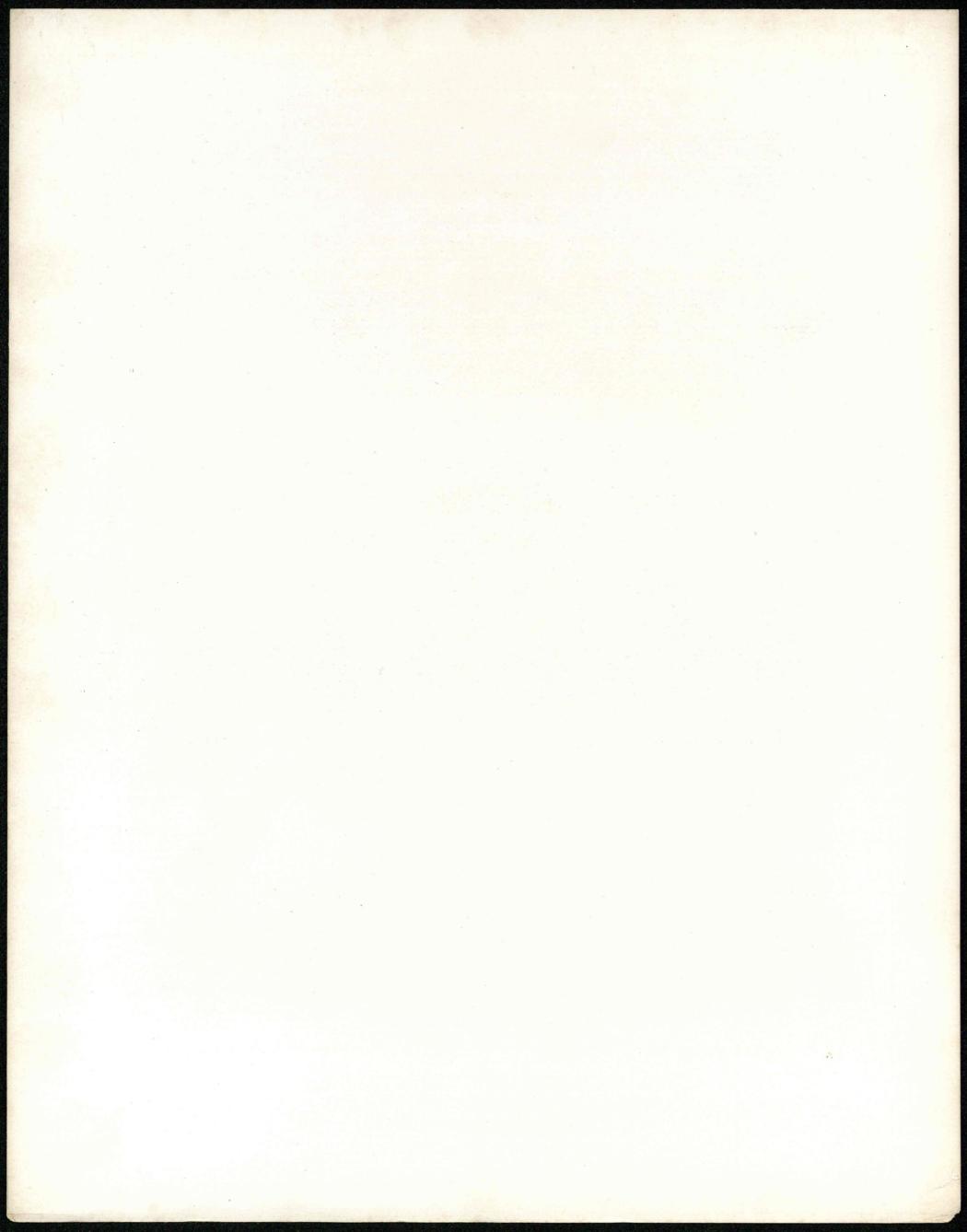
THEODORE W. PIETSCH.

A FOUNTAIN IN A PUBLIC PARK.

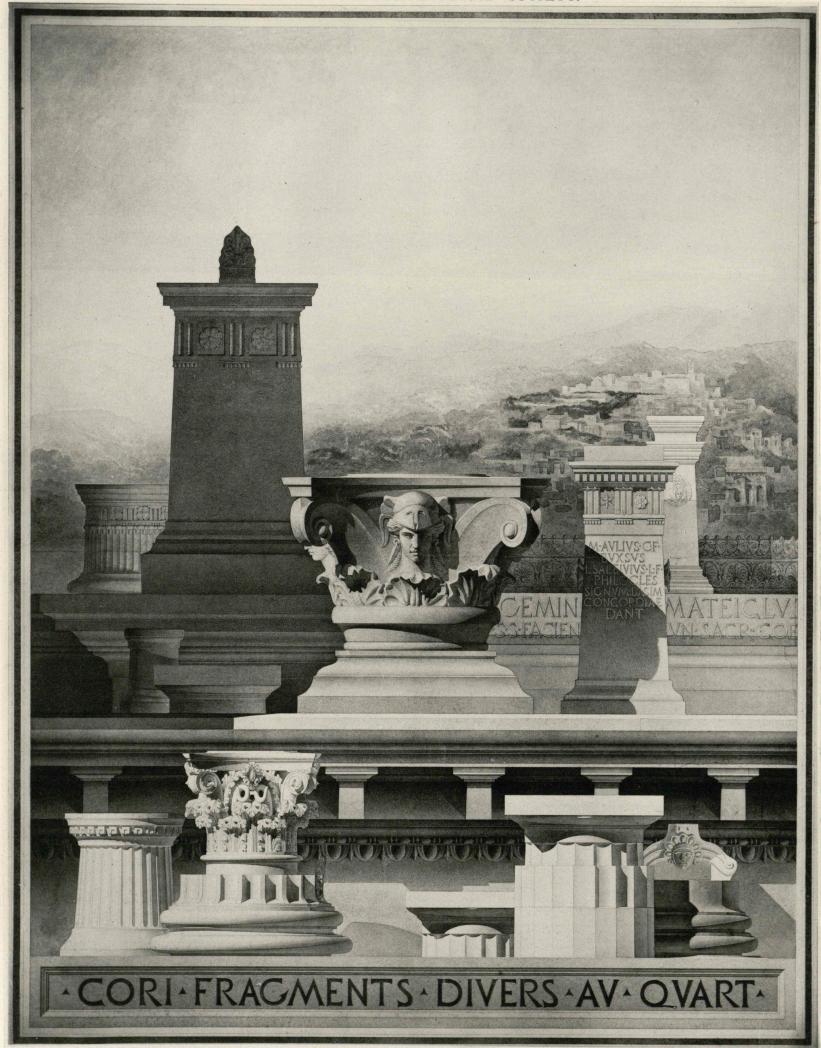
HELIOTYPE PRINTING CO., BOSTON, MASS.

MONTHLY COMPETITION.

THIRD YEAR CLASS.



SUPPLEMENT.



## DRAWING BY EMMANUEL BRUNE.

HELIOTYPE PRINTING CO. BOSTON.

