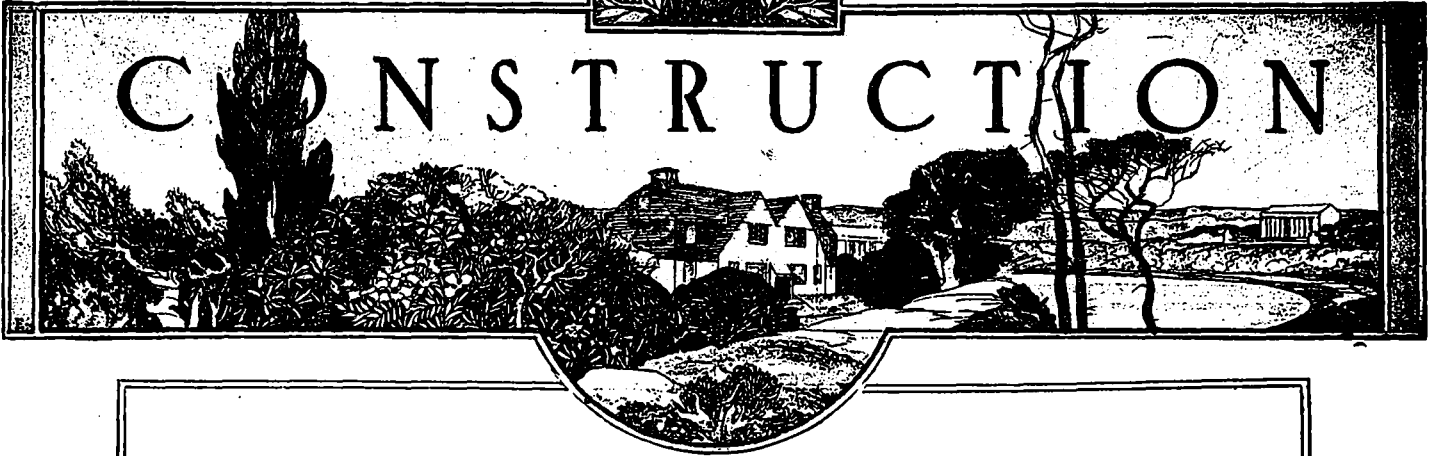


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# CONSTRUCTION



August, 1920

Volume XIII., No. 8

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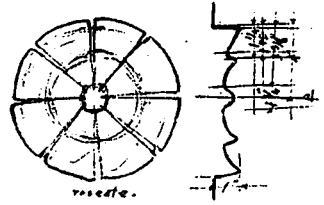
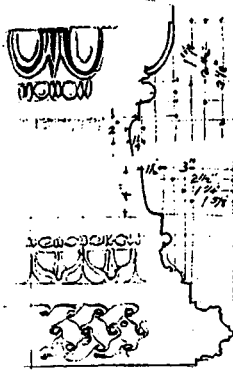
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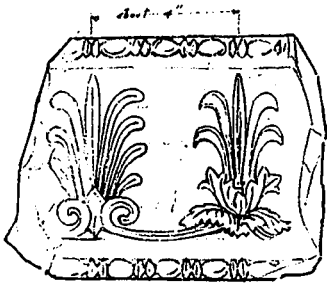
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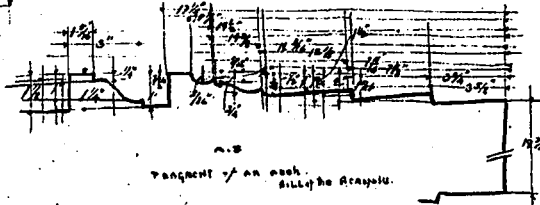
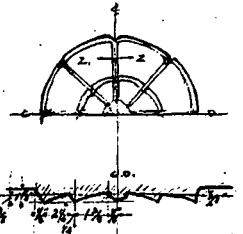
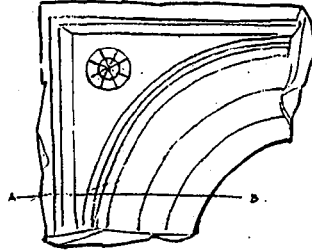


Marble Altar - near the Othen & Pericles.  
Acropolis Hill.  
Athens.  
A.D. March. 1874

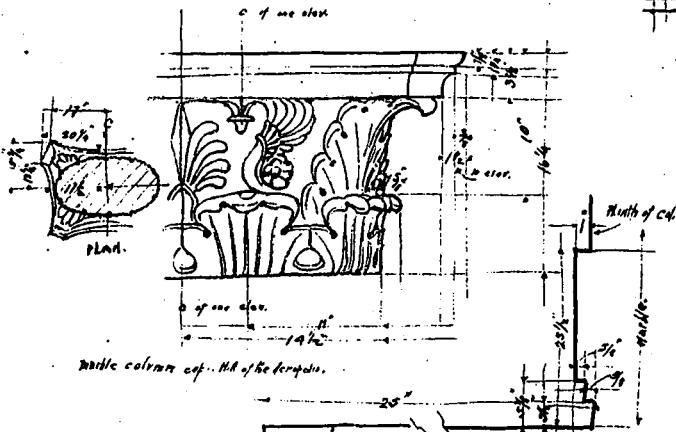
Note - greatest projection of wreath 2" of head - 3 1/2"



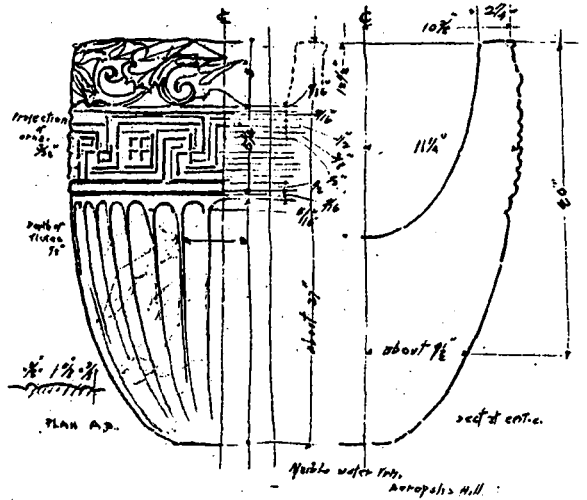
"fragment on Acropolis Hill.



Fragment of an arch, Acropolis.

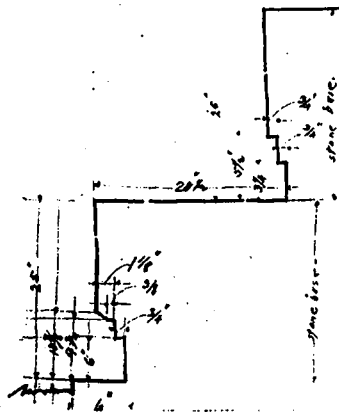


Marble column cap. N.E. of the temple.



Marble water table, Acropolis Hill.

Steps of the temple of the Olympians, Athens.



DETAILS OF FRAGMENTS, ACROPOLIS, ATHENS

DRAWN BY CHARLES DOLPHIN

# Leaves From An Architect's Sketch Book

By Charles Dolphin.

This is the third and concluding instalment by Mr. Dolphin, giving his impressions of a study trip abroad, and deals particularly with Greece, Italy and Southern France. The sketches and measured drawings illustrated were made by the author at the time, and will undoubtedly prove of special interest to the reader, apart from Mr. Dolphin's general notes on his journey through the countries mentioned.—Editor.

IN the April issue of CONSTRUCTION this article on the architect or student abroad left me at Venice, and as it was my intention to visit Greece I had arranged my trip to sail from Venice, and after seeing Greece to land at the south of Italy and work north again until I returned to France.

An interesting thing about Venice is that there are no wharves at which the ocean liners tie up. The water being comparatively shallow the boats must stand well out in the channels and passengers must go out to their ship in gondolas amid much shouting and excitement. They never do anything quietly when they hurry in Italy. I nearly fell off the stairway trying to get aboard. How an old lady of 70 or 80 could make the trip is beyond me.

My proposed route was to Trieste, Austria, (now Italy), where I was to change to an Austro-Lloyd steamer to Patras, Greece, this being the most convenient way at the time. We left Venice early one foggy morning and the effect was quite fine as the sun struck through the mists and lighted up the colored sails of the lazy-looking fishing boats in the lagoons. We nearly cut a lumber barge in two that suddenly appeared dead ahead, and, as we passed, the end of her sail-boom grated down the side of our ship. I never saw an Italian show so much life in all the trip as our Captain and the crew of that barge. I don't know what they said but it was decidedly ex-

pressive and evidently quite to the point.

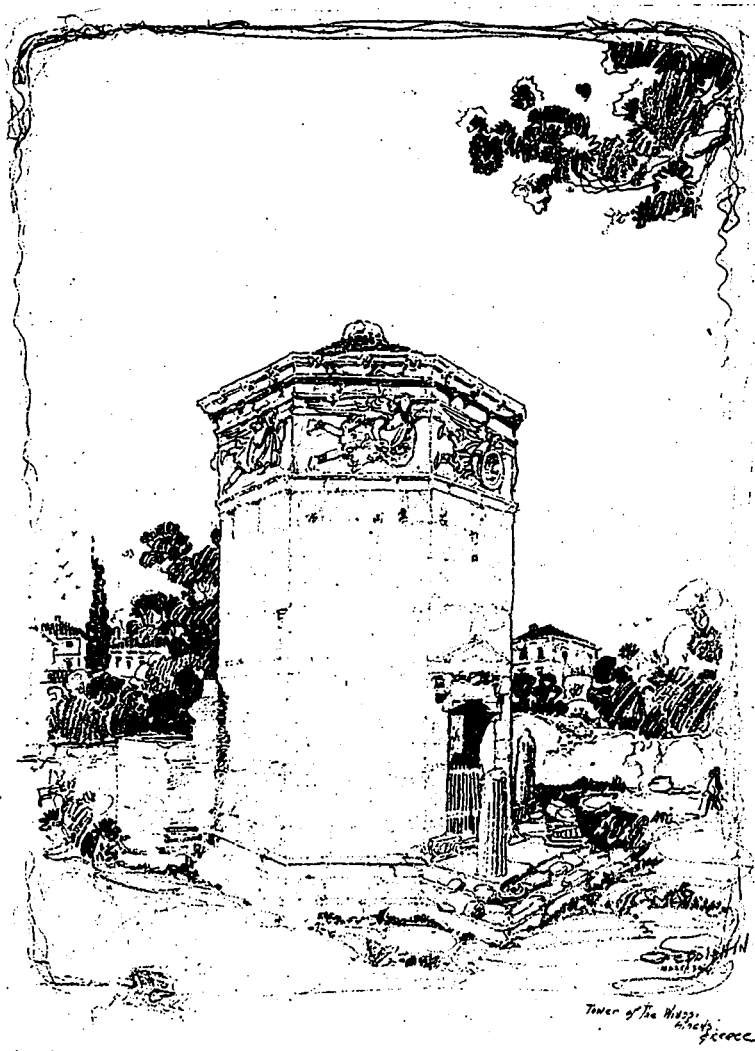
Arriving at Trieste, I spent the time between boats sightseeing, and had a look at the Austrian dreadnought, then building, that was blown up during the war, by that intrepid young Italian officer who ran his boat inside Trieste harbor.

As I wished to see Olympia I left the ship at Patras, Greece, and after a few enforced hours in that filthy goat-smelling town, I boarded the jolly little train for my destination. Olympia, the scene of the first and ancient Olympic games, gave me my first taste of Greek ruins and was worth all the aforementioned annoyances, i.e., goat's meat, goat smells, etc. Everything is goats in Greece and I should probably add, braying donkeys.

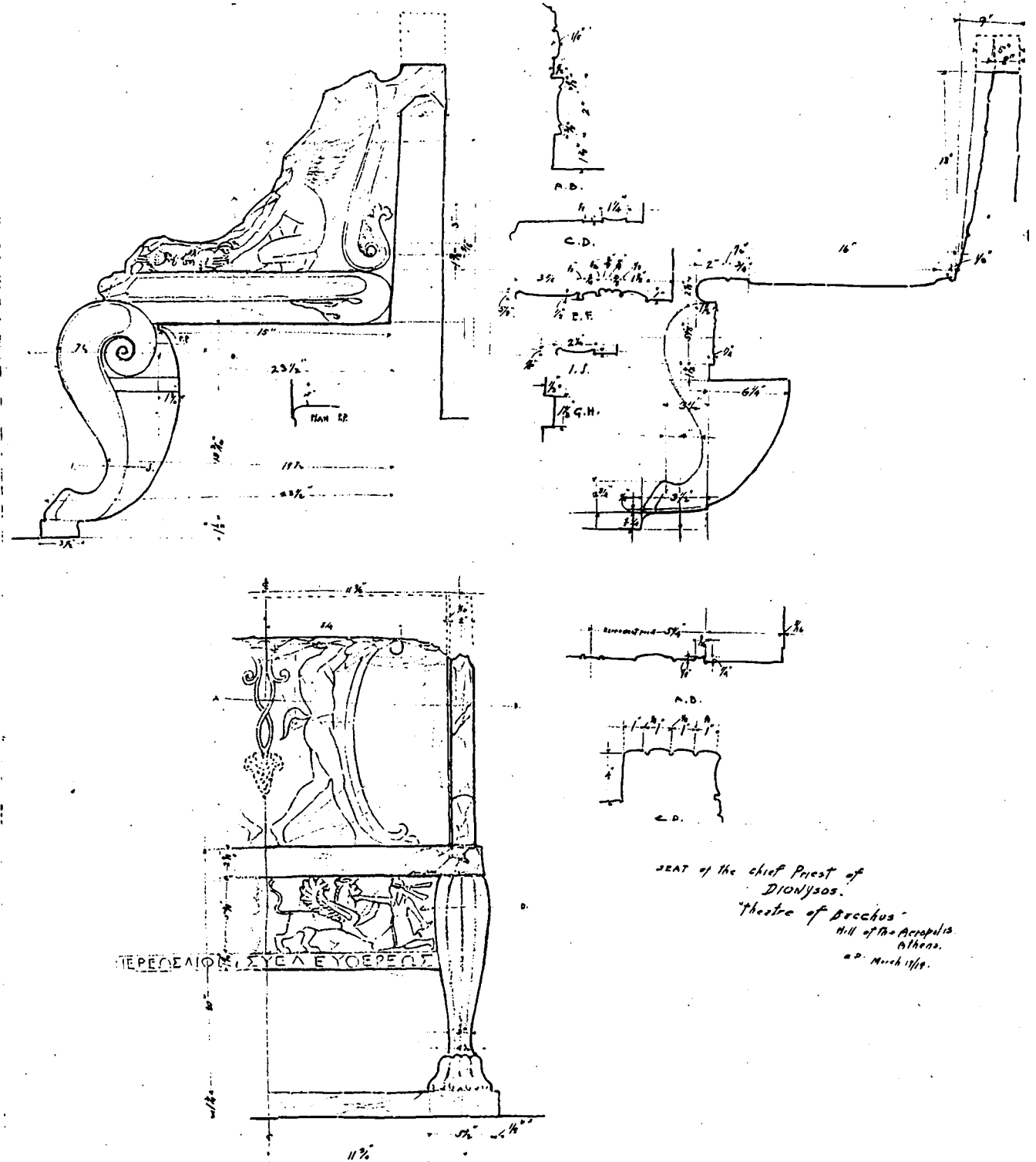
The Olympic ruins, though practically no complete buildings now stand, comprise so many beautiful remains of sculpture and foundations of ancient works, that

a trip there should not be missed. It was never really a town, but a great grouping of temples, shrines, baths and places of sport and recreation, and consequently the ruins are practically all old and interesting. The museum contains priceless fragments, unearthed on the site. Very little is left of the original stadium.

From Olympia I returned to Patras via the railway, and thence along the coast via Corinth and across the great ship canal that connects the Gulf of Corinth with the Saronic Gulf.



TOWER OF THE WINDS, ATHENS.



SEAT OF CHIEF PRIEST, THEATRE OF BACCHUS, ACROPOLIS, ATHENS.

DRAWN BY CHARLES DOLPHIN

There are numerous places along the route from Patras to Athens where ruins and various points of interest may be found, but as time was a little pressing I proceeded directly to Athens. I might here pay tribute to Baedeker's Guide books—they are indispensable.

The views along the coast from Patras to Athens are magnificent. The sea is such a wonderful blue, with white sails dotted here and there, and the mountains on the northern shore form a splendid background.

Passing on through Piraeus (the seaport of Athens) I finally reached what has always seemed to me the birthplace of beautiful architecture, but as every student is more or less familiar with what Athens stands for, I will not attempt a minute description of its treasures, but merely impress upon the student to allow at least two weeks for study of the ruins, either by sketches, measured drawings, or photographs. There is such a multitude of beautiful examples of ancient work that one can find plenty of material for study and enjoyment. A point to remember is that very early morning and late afternoon are the best times to work, as the heat at midday is oppressive and very tiring.

A trip to the top of the Lyhabetos (Hill) should be made, as from here a very wonderful view of the city and surroundings can be obtained.

I stopped at a pension kept by a lady who was an aunt of the famous Will Sherring, the Canadian runner who won the Marathon race at the revived Olympic Games in 1906. Sherring lived at this pension and did his training

over the Marathon course. The lady's name—if my memory serves me right—was Mrs. McTaggart, and her house is well recommended.

One of the many sights is the great marble stadium, the finishing point of the Marathon race. The stadium was entirely restored as in ancient times by a wealthy Greek of Alexandria, and is to-day the finest thing of its kind in existence, being entirely finished in Pentelic marble and seating about 50,000.

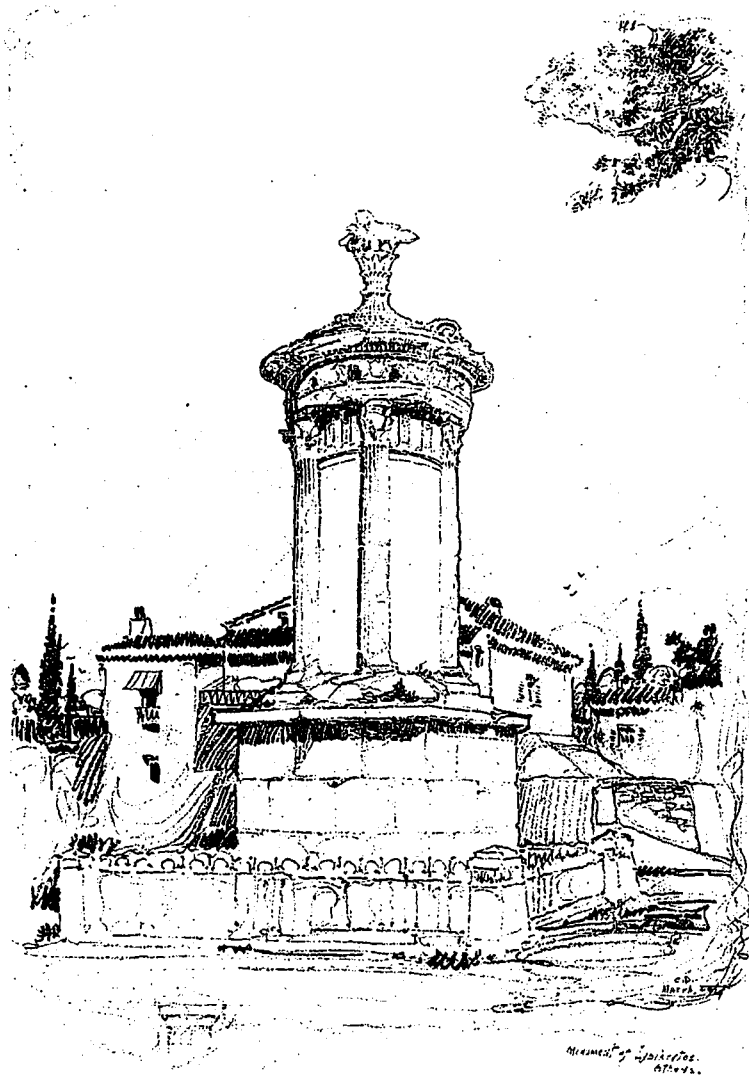
From Athens a trip to Constantinople is desirable, but as time was pressing I returned via Patras to Brindisi, South Italy, and from there by rail to Naples.

In Naples I found a very nice pension at the far end of the Marine Drive, and proceeded to explore the city, which though in itself is not rich in architectural objects, has at least a very wonderful museum containing collections from the unearthed Pompeii.

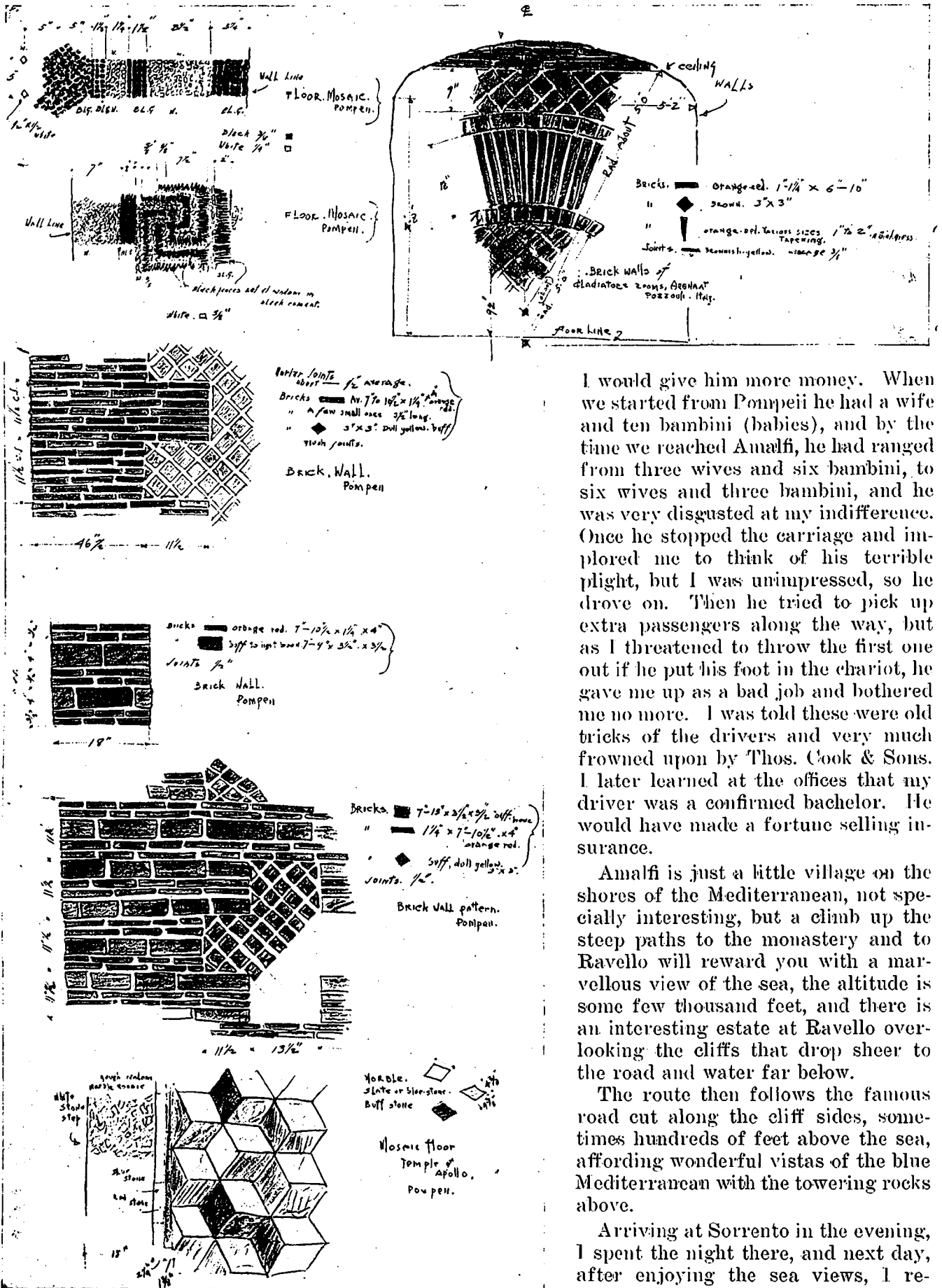
Through Thomas Cook's agency I arranged a trip by carriage (the usual method) to Pompeii, where I spent a day of sketching and measuring work. A day there is enough for an average view of the place, as it is

smaller than the popular conception has it. Of course one might spend weeks working among the interesting ruins, but there is so much to cover that the average student cannot devote too much time to one place.

From Pompeii to Amalfi is a very interesting and delightful drive, and one which in my case proved amusing as well, because my driver, engaged and paid for at Thos. Cook & Sons in Naples, proceeded to lament on the hardness of his lot, hoping to invoke my sympathy so that



MONUMENT OF LYSIKRATES, ATHENS.



I would give him more money. When we started from Pompeii he had a wife and ten bambini (babies), and by the time we reached Amalfi, he had ranged from three wives and six bambini, to six wives and three bambini, and he was very disgusted at my indifference. Once he stopped the carriage and implored me to think of his terrible plight, but I was unimpressed, so he drove on. Then he tried to pick up extra passengers along the way, but as I threatened to throw the first one out if he put his foot in the chariot, he gave me up as a bad job and bothered me no more. I was told these were old tricks of the drivers and very much frowned upon by Thos. Cook & Sons. I later learned at the offices that my driver was a confirmed bachelor. He would have made a fortune selling insurance.

Amalfi is just a little village on the shores of the Mediterranean, not specially interesting, but a climb up the steep paths to the monastery and to Ravello will reward you with a marvellous view of the sea, the altitude is some few thousand feet, and there is an interesting estate at Ravello overlooking the cliffs that drop sheer to the road and water far below.

The route then follows the famous road cut along the cliff sides, sometimes hundreds of feet above the sea, affording wonderful vistas of the blue Mediterranean with the towering rocks above.

Arriving at Sorrento in the evening, I spent the night there, and next day, after enjoying the sea views, I returned overland to Naples via carriage route, accompanied by Ananias (for want of a better name) my driver.

I should have made reference to Mt.

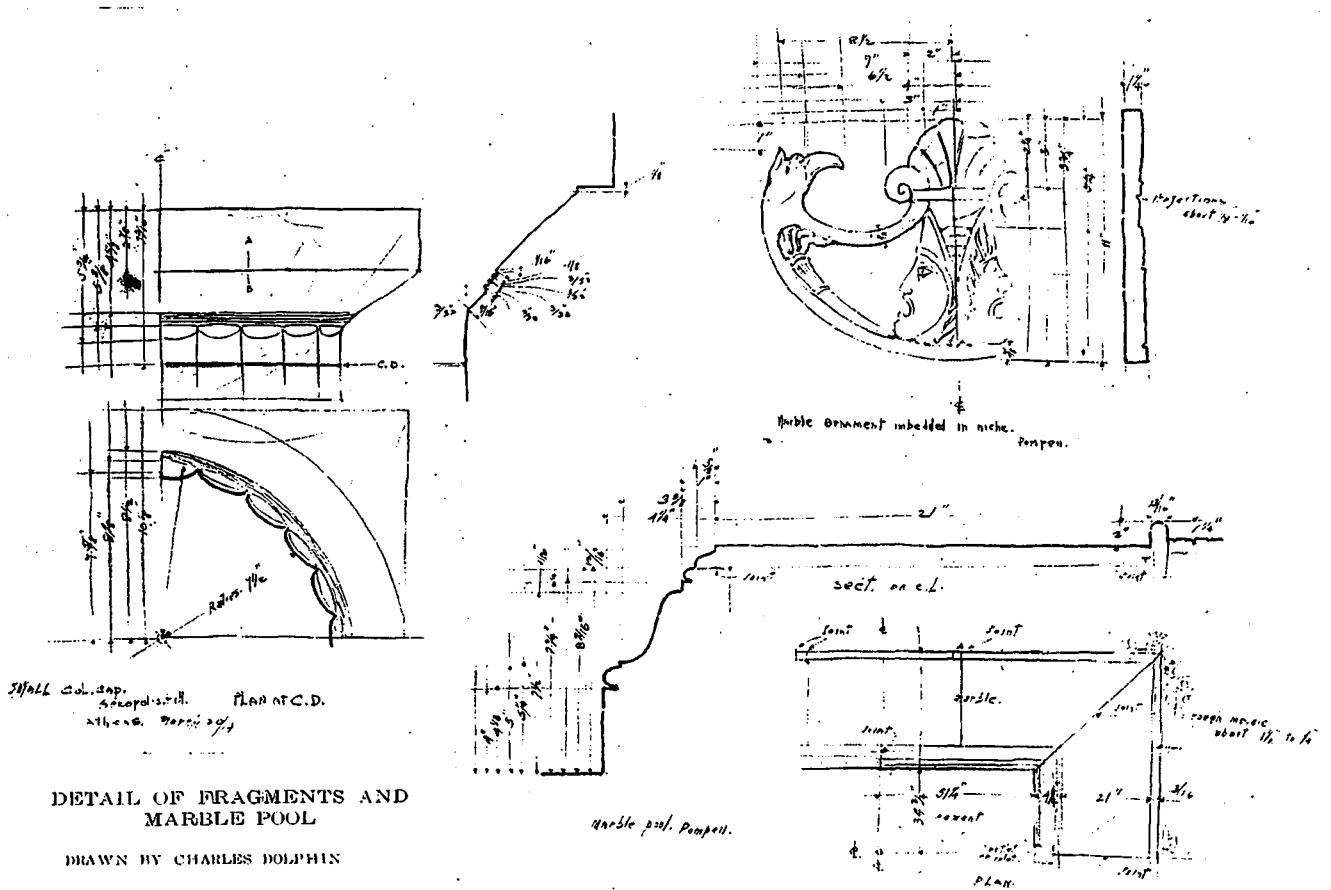
BRICK AND MOSAIC WORK, POMPEII.  
DRAWN BY CHARLES DOLPHIN.

Vesuvius, but as it was no architectural attraction, I contented myself with the view of it from Naples and Pompeii. The volcano is a very awe-inspiring sight at night, with its billowing pink clouds of steam and smoke, and the glare of the molten lava in the crater lighting up the sky; it is a beacon that can be seen for many miles.

After rambling about Naples for three or four days, during which I took a boat trip well worth while, to the Island of Capri, the home of coral cutting, and the famous Blue Grotto (natural sea cavern); I also went out to Pozzuoli, where there is a small volcano, where you can go down into the crater and walk along

suggest that he locate at an hotel or pension nearby, hotels are the most expensive, as they give the advantage of saving time and energy in reaching the scene of work.

At the suggestion of student friends in Paris, I stayed at a pension on the Via San Basilio, near the Piazza Barberini, but found it too far from the Forum. I did a great deal of work in Rome and could possibly have accomplished more, had I not been a stranger to the city, and to save a possible follower of this article I would suggest, their picking out the most important points and devoting their best time to them. The following is a suggestion as to a few of the places one should not fail to see:



DETAIL OF FRAGMENTS AND MARBLE POOL

DRAWN BY CHARLES DOLPHIN

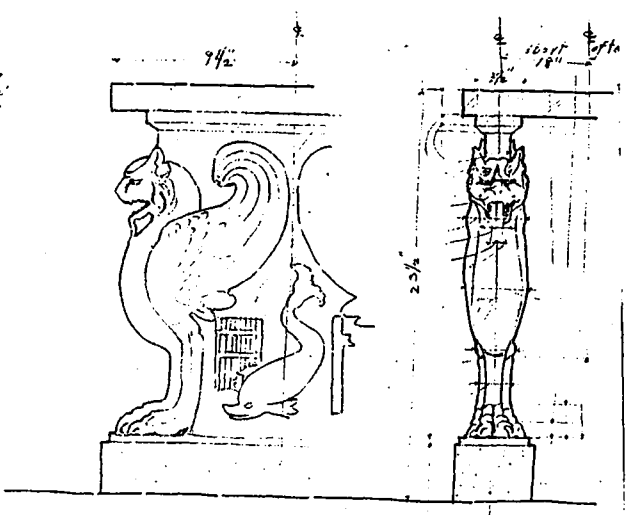
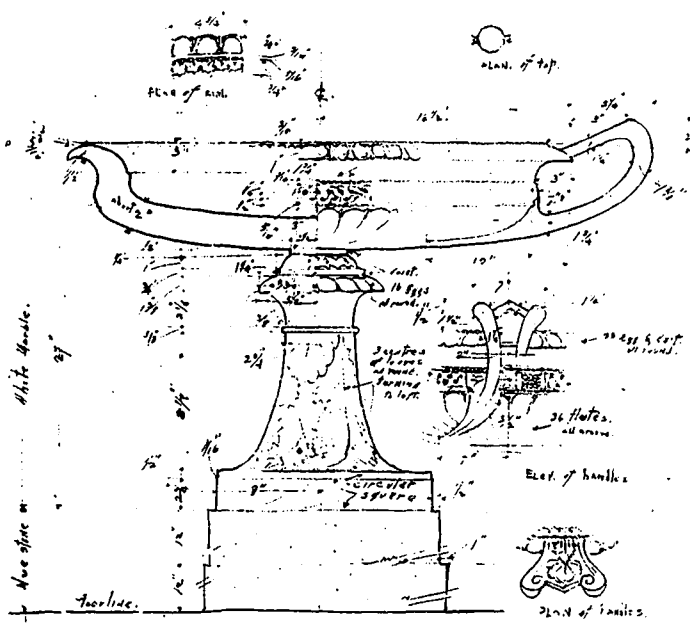
paths of hardened lava and poke sticks into the bubbling sulphur mass. I understand it is supposed to come from the lower regions, and after seeing that bubbling yellow sulphur, I decided to be a very good architect and lead a better life.

From Naples I went to Rome, and I might say that although I made it in one through journey, there are numerous places en route where one might stop off and find things of interest.

As I expected to do as much work as possible in Rome, I allowed three weeks for that place of places as I regard it, and by the way of advice to the student if he intends to work in the ruins of the Forum (most of the existing remains of ancient work lie close to the Forum) I would

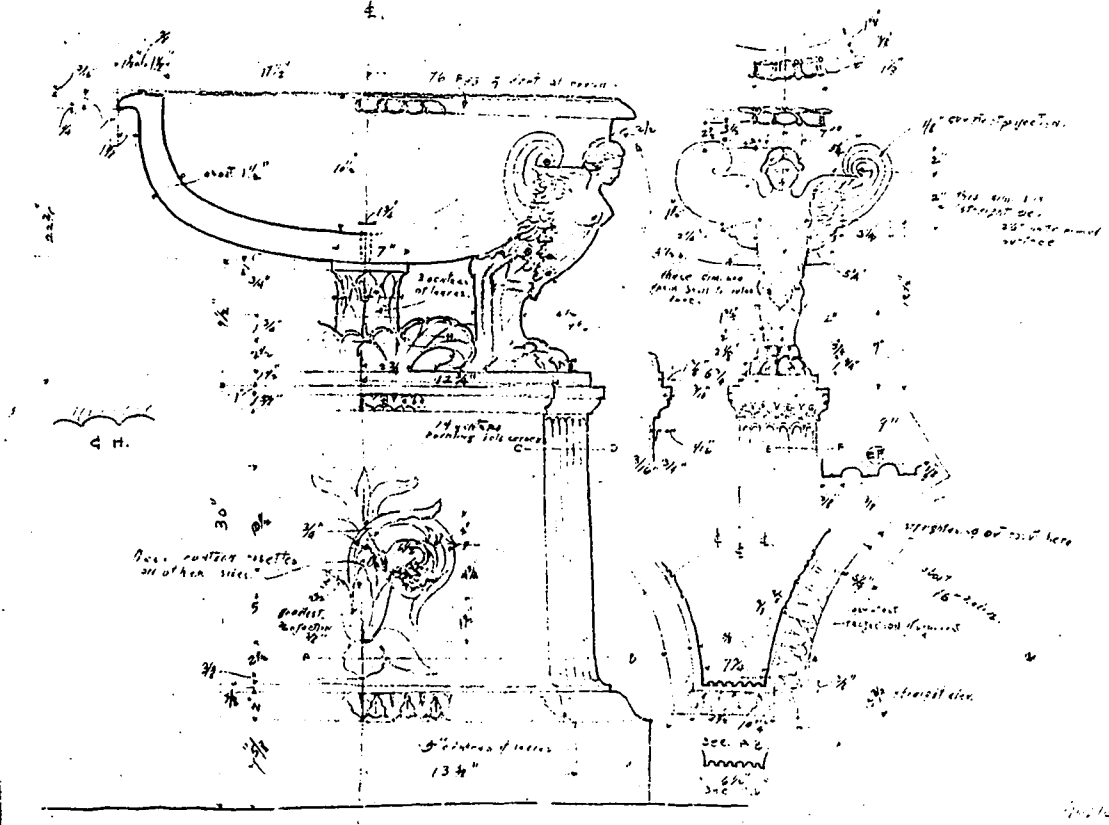
The Forum with its innumerable examples of what ancient Rome must have been. Nearby is the great Colosseum, so familiar to all, but none the less inspiring by its magnitude, for all that. The history of the Colosseum is a romance in itself, though a somewhat sinister one, and I experienced a creepy feeling as I stood in the arena and gazed round the towering banks of seats and thought of how it must have felt to be the poor prisoner, condemned to fight wild beasts. I believe they gave them a short sword to defend themselves with, but a short sword is a poor tool to work with when there is a hungry lion at the other end of it. It was here too that Nero had his human torches on poles around the arena as the games were in progress. Girls





Marble Vase

Marble Garden Seat

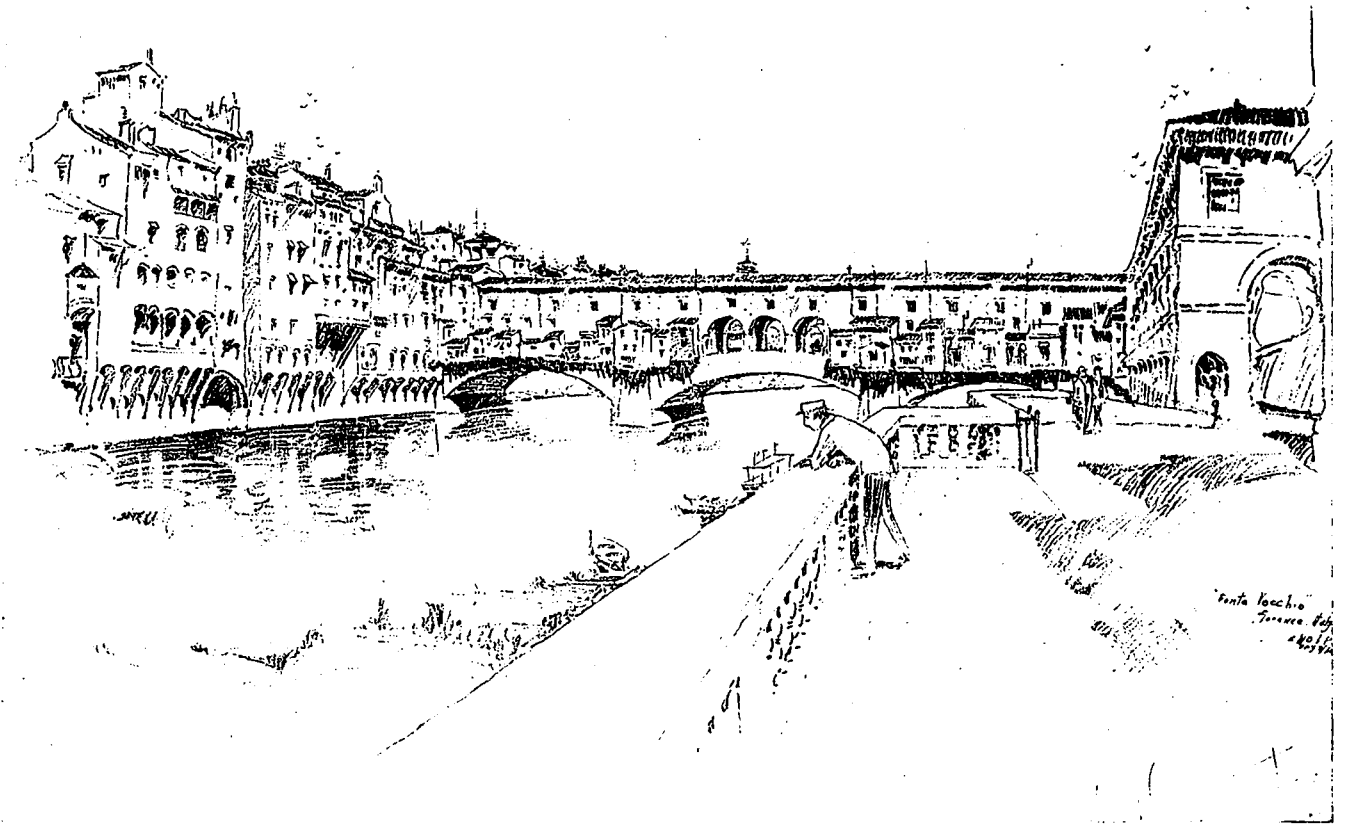


Marble Vase

Scale 1/2\"

DETAIL OF GARDEN FURNITURE, NAPLES MUSEUM.

DRAWN BY CHARLES DOLFIN.



PONTE VECCHIO, FLORENCE, ITALY.

formed the torches, history tells us. The wonder of it all is how the Romans under such auspices ever produced such beautiful architecture.

The following is a short list of other points of great interest: Baths of Caracalla, Baths of Diocletian, Pantheon, Hadrian's Tomb, Palazzo Cancelleria, Massimi, Braschi, Doria, Farnese, and many others. Churches: St. Peter's, Lateran, San Paolo Fuore Mura's beautiful cloister, and a host of others scattered throughout the city. Rome has, I understand, more than 400 churches. Also Hadrian's Villa at Tivoli, and of course, the famous d'Este at Tivoli.

A trip to Viterbo where the famous "Black Hand" trial was held some years ago, made an enjoyable day's run by train from the city. It was at Viterbo that during the aforementioned trial, the prisoners, owing to the intense public agitation, were kept in a great steel cage in the court room during the proceedings. Viterbo contains a number of architectural points of interest worth the trip.

From Rome I proceeded by rail to Assisi, the birthplace of the Franciscan Order, founded by St. Francis. There is little of interest there, except the fine old church, and as it is nearly a mile from the station to the town, I was sorry in one sense that I left the train.

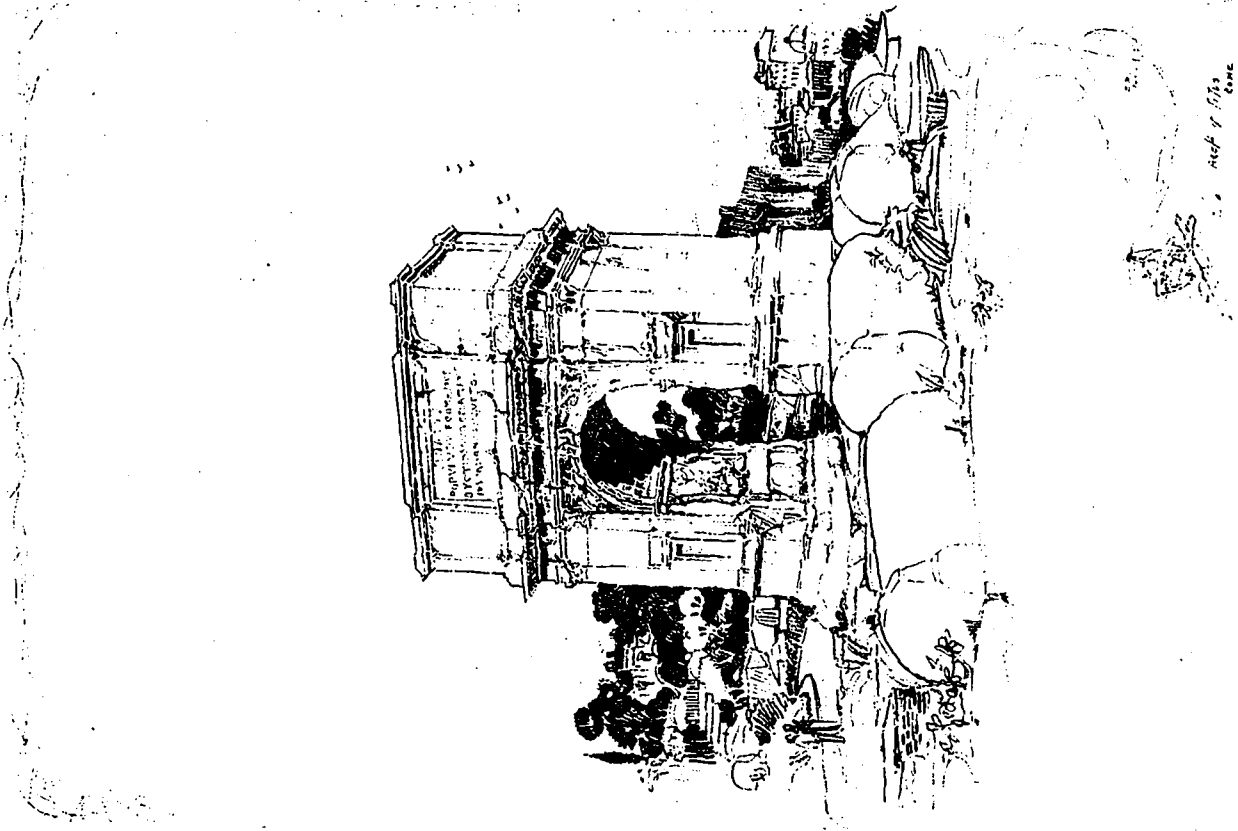
I then proceeded to Perugia, and was rewarded for the two days' stay. It is a mediæval town perched on top of a hill, commanding wonderful views and rich in architectural subjects.

Leaving Perugia I went directly to Florence. The route is very interesting and one gets fine views of all along the way, especially that part where the fine skirts Lago (Lake) Trasemeno.

Florence, the City of Palazzos (palaces), is one of the best places of the whole trip, as it abounds in points of interest. I will not attempt to describe it in detail, but must mention one or two salient points about the city. Be sure to see the great Pitti Palace, built by a Florentine whose ambition was to have the greatest and most beautiful palace in the world, and he very nearly succeeded.

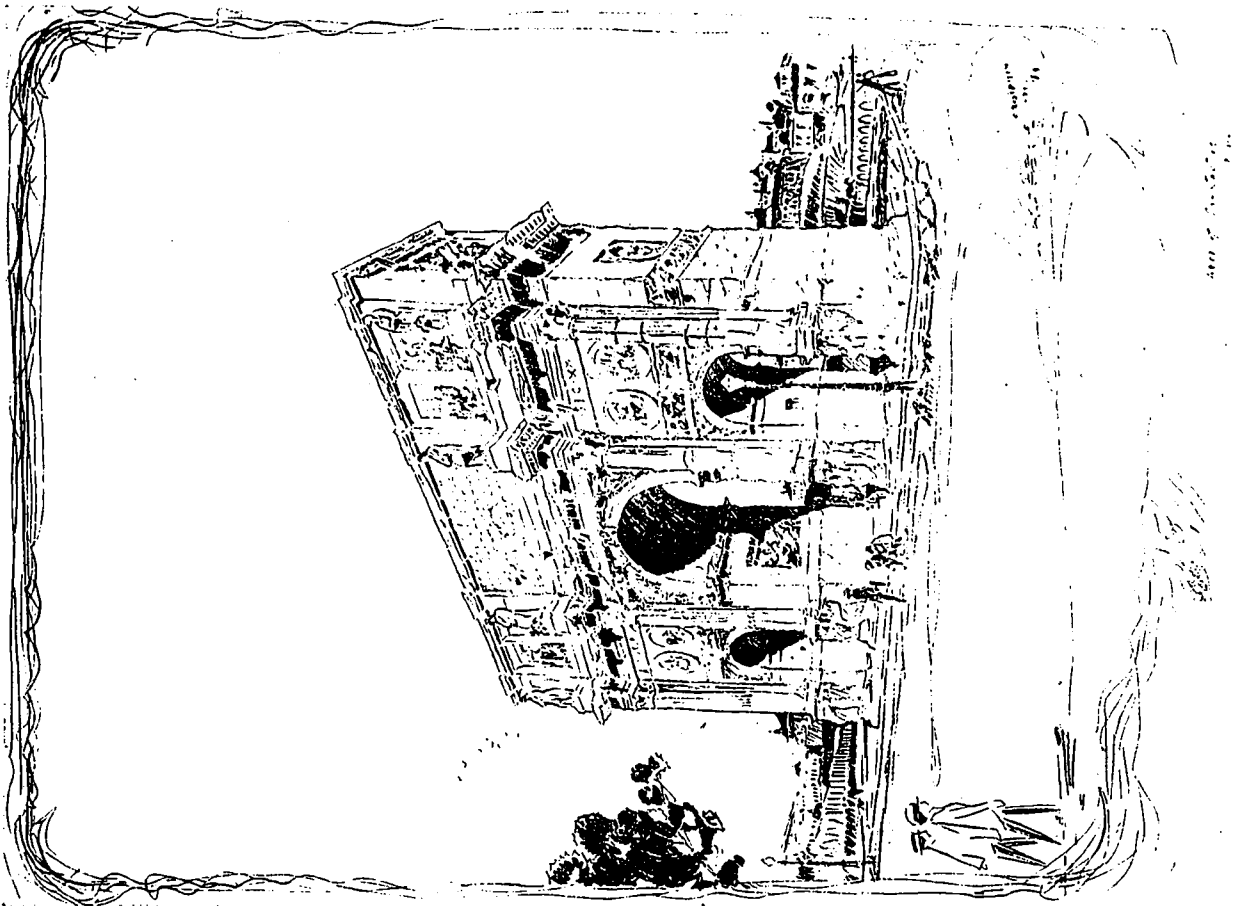
At least one week should be devoted to Florence, more if possible, as there is so much to see that it is a pity to rush through your work. It is also well to remember that the city is famous for its silver work and many interesting things may be bought for future home use at a comparatively low price.

One of the side trips from Florence is a run to Bologna. Though rather a long one it is well worth while, and two days at least should be devoted to it. One of Bologna's interesting



ARCH OF TITUS, ROME.

DRAWN BY CHARLES DOLPHIN.



ARCH OF CONSTANTINE, ROME.

features is the very fine arcade of streets, it being quite possible to travel over a great part of the town under cover of the buildings that are arched out over the sidewalks and supported on columns of very fine design.

Returning to Florence, I proceeded to Pisa, the city of "Leaning Tower" fame, but I should have mentioned that the rail journey to Bologna from Florence traverses the mountains of Central Italy and the views, as the train climbs into the mountains, are superb. I went to Pisa by way of Pistoia and Lucca, and though both those places have a number of points of interest, I did not stop over. Pisa will furnish material for a day's sketching, etc., and the leaning tower itself is very interesting, aside from its design. The fact that it remains erect at its present angle, is remarkable.

From Pisa I took the coast rail journey to Monte Carlo. The railway follows the sea along the cliff sides in many places, and at times travels in a niche cut in the rocky walls. We passed along the foot of the mountains from which the famous Carrara marble is mined and a peculiar thing is that it seems to all come from the top of the mountains and the quarries are so extensive up there that waste marble chips have accumulated and slid down the mountains until they have the appearance of being covered with perpetual snow.

Monte Carlo is practically barren of old architectural work, but the Marine Museum, founded and supplied by the Prince of Monaco, the greatest "deep-sea" explorer in the world probably, is well worth seeing. I am glad that some of the specimens that I saw live at the bottom of the ocean, it would certainly spoil one's whole day to meet them on the highway.

The Harbor, with its sea-going private yachts, presents a very striking appearance, and the dense blue appearance of the water is unforgettable.

At the Casino, where the gambling takes place (I did not play, for various reasons too numerous to mention), I saw one woman lose about \$40,000 and I decided it was no place for an architect.

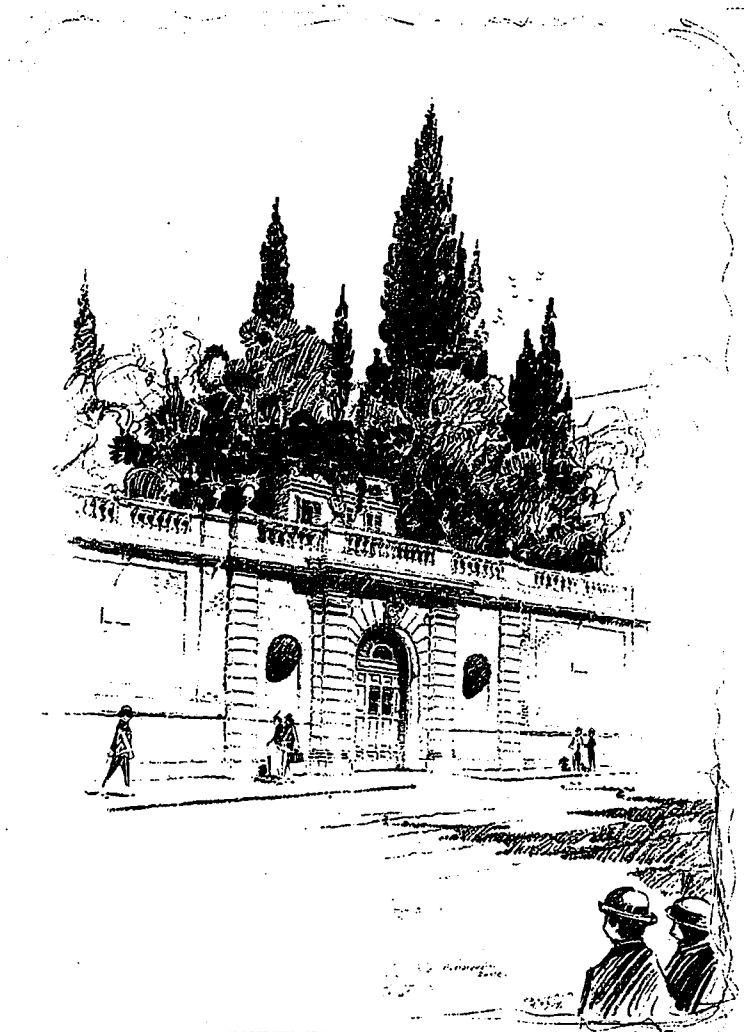
I then went on to Carcassone, France, via Marseilles, where I had to change trains. Carcassone is a mediæval town, practically restored to its ancient appearance by Violet Le Duc, and made an interesting day's visit—its walls and towers are very impressive.

From here I proceeded north through France taking in Lyon and Chartres, with its famous Cathedral, also Orleans, the home of Jean D'Arc. There is a number of houses of Francis 1st design here that are worth seeing.

From Orleans, I followed the Loire Valley, taking in Tours, and the many Chateau towns on the way, such as Blois, Amboise, Chaumont and Chambord. The student should not fail to see these at least, and a good idea is to hire a bicycle (inexpensive) for the day, whenever possible.

It was in this Touraine District that Gambetta, who escaped from Paris in a balloon when the city was besieged by the Huns in 1870, landed, and formed his famous Army of Loire for the purpose of relieving Paris. Unfortunately, his army was beaten, and it remained for the present day to see his idea carried out. I little thought when there that I would be mixed up in an argument begun in 1870.

Arriving in Paris in June, I had the pleasure of seeing the city garbed in its spring foliage,

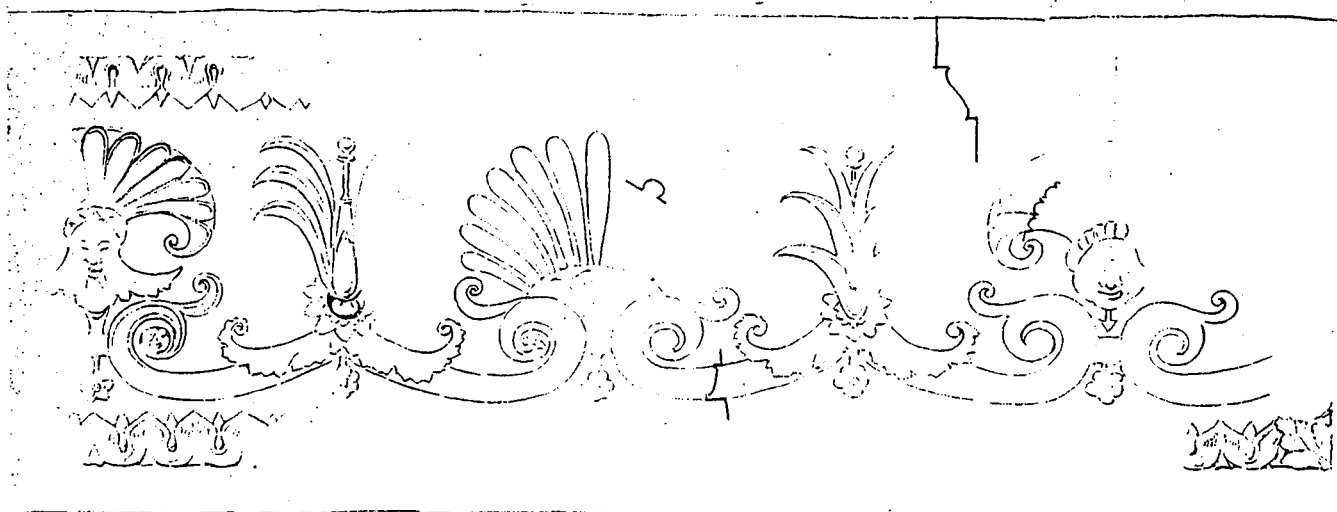


VILLA ADOLPHRANDINI, ROME.

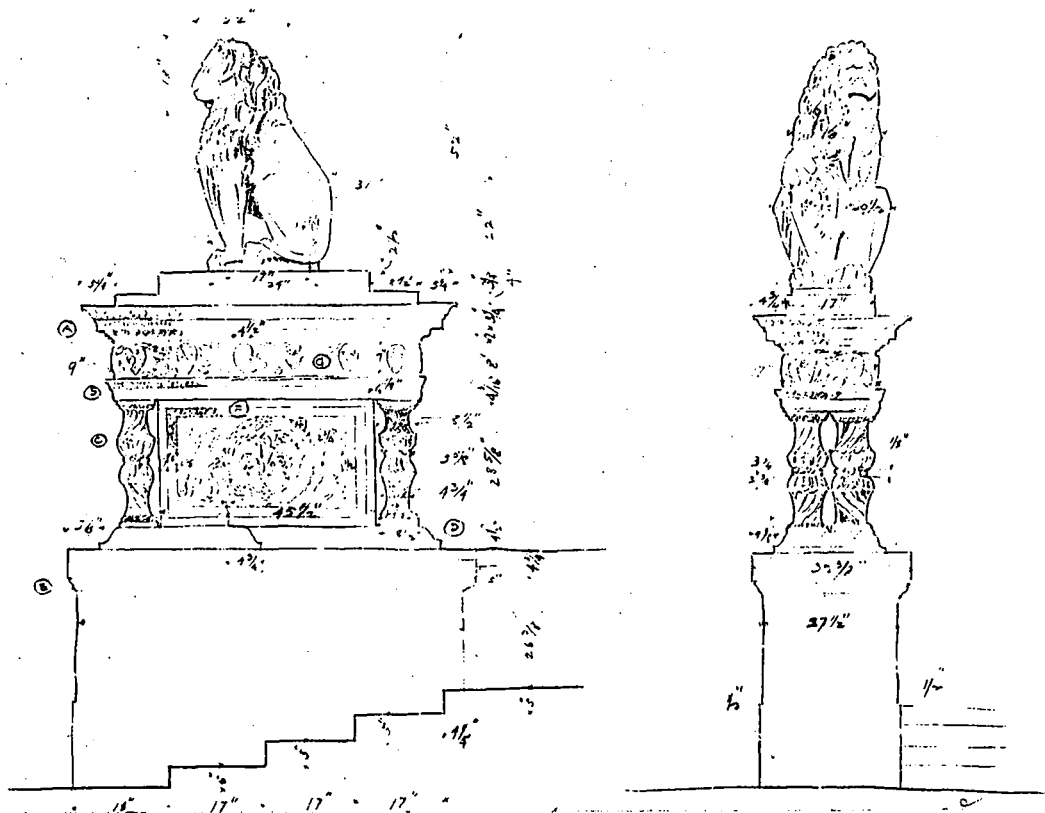
both garden and human, and after the drab winter's colors, it was a welcome change.

After seeing St. Cloud, with its famous flower gardens, and completing all arrangements necessary for my return, I proceeded to Cher-

ription, from an historical point of view, or as a criticism, architecturally, of the various places visited, but rather in the hope of being of assistance to any who may be contemplating a similar trip to the Old World, if one may use the term.



*Fragment in situ of Temple of Isis - of Philae, Egypt - full size. April 1914.*



MONUMENT BEFORE THE LOGGIA, FLORENCE.

DRAWN BY CHARLES DOLPHIN.

bourg and caught the American Line boat from Southampton, Cherbourg, to New York, returning from there to Montreal.

In the conclusion of this article I wish to repeat that it is written, not as a detailed des-

There was so much information that I could not get, such as a reasonable route to follow, that this article may be the happy medium of serving a much felt need to students or tourists in general.

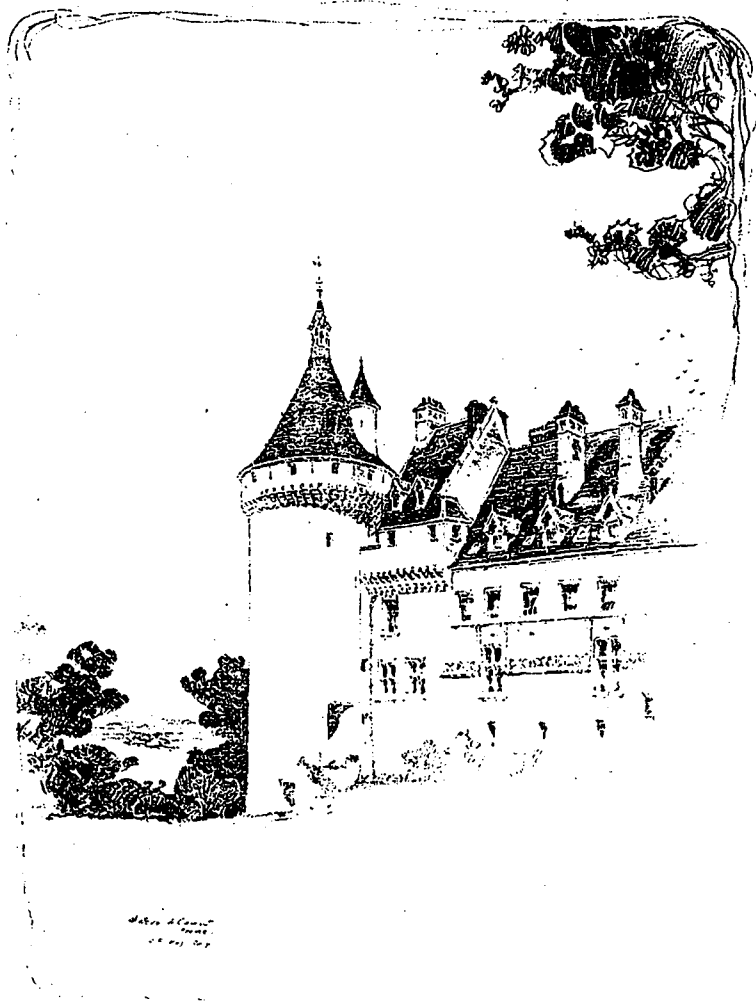
## A Great British Harbor

Shortly before the war arrangements were made to complete the works at Fishguard Harbor, and these have now, in spite of many interruptions, been carried through. The northern breakwater, which is exposed to very heavy seas, has been strengthened with over three hundred tons of rubble (some of the masses weighing as much as three tons) and over 5,000 concrete blocks, most of which are of forty tons weight. The eastern breakwater has also been strengthened with more than eleven thousand tons of rubble. At the end of the northern breakwater a new concrete lighthouse has been

light becomes inadequate for safe navigation. The gas cylinders contain enough for a whole year's supply; and for ten months this mechanism has been working satisfactorily without any attention. Fishguard Harbor was begun in 1898, and represents a triumph of British engineering over serious natural obstacles.

## Better Than Casting

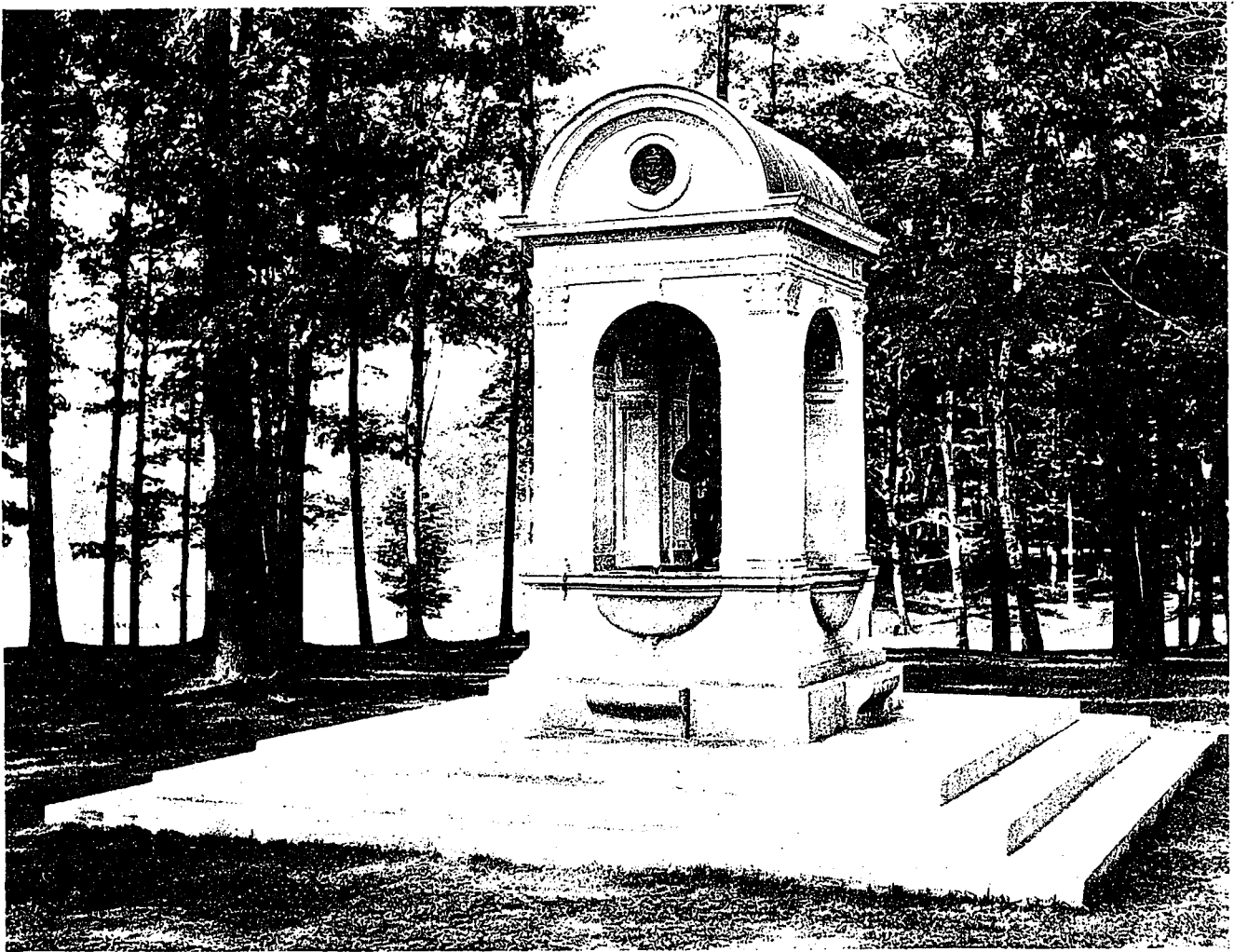
The good that comes out of evil is illustrated by the fact that during the recent moulders' strike in Great Britain many engineering firms, unable to obtain castings, were stimulated to develop alternative methods of producing the



CHATEAU DE CHAUMONT, FRANCE.

erected, with a 5,000 candle-power lantern which is visible in clear weather for a distance of thirteen miles. Its mechanism—revolving the optic, ringing the fog-bell, and supplying the gas—is electrically controlled from the generating station at the root of the breakwater. The end of the eastern breakwater carries an automatic flashing light using dissolved acetylene gas. The supply of gas to the burner is automatically controlled by a "sun valve," which turns the gas on at sunset or at any other time when day-

parts they required. One large firm, for example, was in urgent need of large pipes, and it set to work to build up pipes of the required shape from steel plates by welding together suitably-formed pieces. Excellent results were obtained even with complicated shapes, the surface being as smooth as a fine casting. The expense proved to be much about the same as casting, but in the case of special work the labor and material involved in making patterns (which might never be used again) were saved.



THE DR. YOUNG MEMORIAL FOUNTAIN, KEW GARDENS, TORONTO.

MAURICE D. KLEIN, ARCHITECT.

## Memorial Fountain, Kew Gardens, Toronto

The memorial erected at Kew Gardens, Toronto, to the late Dr. D. W. Young, was made the occasion of a befitting ceremony on Civic Holiday when it was unveiled in the presence of Mayor Church and a large gathering of prominent east end citizens. The memorial, which is a gift to the city, takes the form of a drinking fountain designed in the Renaissance style, and beautifully situated in a wooded section of the park. The monument itself is about 5 ft. 6 in. square and rests on a fountain about 18 ft. square. The drinking fountains are located three feet from the edge of the platform and above same on all sides are open arches giving a vista through the park. The soffit of these arches are carved, five pateras to each arch, on a blue colored background, the pateras being in gold.

At the centre of the monument is a figure of a child in bronze holding a shell over its head from which water is playing and which is emblematic of the many acts of kindness and benevolence which characterized Dr. Young's life.

On each side of the archways are pilasters running to the underside of the architrave. These are of a modified Corinthian order and fluted, being carried on consols. Indeed a result has been achieved which does credit to Mr. Maurice D. Klein, the designer, and those associated with him in the work. Above the cornice is a semi-circular roof covered with copper. On the east and west sides are bronze medallions of Dr. Young, while the frieze on its four sides bears the following alternate inscriptions: "Service was his aim" and "Friend of the needy." A bronze plate inset in the floor of the platform on the east side also contains the following wording, "In grateful memory of William D. Young, B.A., M.D., whose services to the residents of this district were characterized by a spirit of devotion, self-sacrifice and true philanthropy."

The mouldings and detail of the stone work are very beautifully done. The models of the ornament and carving were executed by Edward  
(Continued on page 249.)

# R. A. I. C. Council Meeting

A MEETING of the Council of the Royal Architectural Institute of Canada was held July 10th at the office of the Institute, 590 Union Avenue, Montreal. Those present were: President A. Frank Wickson (Chairman), David R. Brown, Chas. S. Cobb, J. M. Watt, H. E. Moore, Jos. Perrault and Alcide Chausse, Hon. Secretary.

The meeting resolved itself into a morning session at the above address followed by a luncheon at the Royal St. Lawrence Yacht Club at Dorval, Que., and an afternoon meeting on board the official yacht of the club on Lake St. Louis.

Following the reading of the minutes of the last meeting of the Council held at Ottawa on February 7th, which were approved, the Council took up the following items:

*R.A.I.C. Medal.*—In reference to the R.A.I.C. Medal, Mr. David R. Brown reported that he had communicated with the Bromesgrove Guild about this subject and that a design for the medal had been prepared, but was not altogether what the Council desired. It was moved and carried that a special committee composed of Messrs. David R. Brown and Chas. S. Cobb be appointed with full power to act in this matter.

*Architectural Institute of British Columbia.*—A letter received from Mr. S. M. Eveleigh was read referring to the recent bill passed by the Provincial Legislature granting incorporation to the Architectural Institute of British Columbia, a copy of the bill of incorporation being enclosed with Mr. Eveleigh's communication. It was resolved to request the President to convey the compliments of the R.A.I.C. Council to the British Columbia Institute in this connection.

*Remission of Dues of R.I.B.A. Members.*—The Hon. Secretary reported that according to the by-laws of the Royal Institute of British Architects, the Royal Institute shall each year contribute to any non-Metropolitan Allied Society not more than one-fourth of the annual subscription paid to the Royal Institute by each member thereof who is a member of such society, in respect of and for his subscription thereto, but in no event shall such contribution apply in the case of any one member to more than one allied society.

The Hon. Secretary further stated that it was impossible for him to prepare such list, as the members of the provincial associations, who are *ipso facto* members of the Royal Architectural Institute of Canada, do not always mention the fact that they are also members of the Royal Institute of British Architects, or that they are in good standing with that body.

It was suggested that arrangements be made with the R.I.B.A. to the effect that the R.I.B.A. refund to members of the R.A.I.C. one-fourth of

their annual subscription, when said members give evidence that they are in good standing with the Canadian Provincial Association to which they belong, and the Royal Architectural Institute of Canada.

The President agreed to communicate with Mr. F. S. Baker, Hon. Secretary, R.I.B.A., for Canada, in order to come to some understanding in the matter.

*Alberta Association of Architects' Dues.*—The President reported that as decided at the last meeting of the Council he has been in communication with the Alberta Association, and a settlement of past dues of the *pro rata* contributions has been made to date.

*Saskatchewan Association of Architects.*—It was suggested that the President make arrangements with the Saskatchewan Association of Architects, respecting past due *pro rata* contributions, on the same lines as the settlement made with the Alberta Association of Architects.

*War and Battlefield Memorials.*—Regarding the question of memorials, the President read a letter from Hon. Geo. E. Foster, at the time acting Prime Minister of Canada, to the effect that the report which appeared in the press announcing that a commission for proposed War Memorials had been awarded to Old Country architects was not correct. The President will follow this matter closely.

The Secretary was further requested to write to W. B. Northrop, Clerk of the House, Ottawa, for a copy of the "Battlefield Memorials Report of Special Committee, 4th Session, 13th Parliament, 1920, No. 1984-1."

In reference to the Post War Committee on Architectural Practice, Mr. David R. Brown stated that the work of this committee had not been completed and that there was nothing definite to report to the meeting.

Mr. Chas. S. Cobb submitted the result of his trip to Ottawa to interview the authorities regarding the important matter of duties on plans, and reported progress.

## COMMUNICATIONS.

*R.I.B.A. Committee on Unification and Registration.*—The Secretary read a communication from the Royal Institute of British Architects to the effect that their Council has formed a committee representative of the whole of the profession in England to consider and report upon the question of unification and registration. Every architectural organization of any standing in England, the letter states, is appointing delegates, and there will also be representatives of architects unattached to professional organizations. The R.I.B.A. Council



has provisionally appointed Mr. Andrew T. Taylor (retired F.R.I.B.A.) to represent the Dominion of Canada, subject to the approval of the Canadian Institute, or the wishes of the R.I.A.C. should the Canadian Institute prefer to nominate another representative.

On motion of Mr. Joseph Perrault, seconded by Mr. David R. Brown, the Council voted to endorse the above appointment.

*The Rome Scholarship Competitions.*—The Council also received the Scheme of Competition for the Rome Scholarship regarding the subjects of Architecture, Sculpture, Decorative Painting and Engraving, offered by the Commissioners of the Exhibition of 1851; and for the Henry Jarvis Studentship, offered by the Royal Institute of British Architects.

It was found that the competition for architecture is open and confined solely to students and associates of the R.I.B.A., while the other competitions are open to any British subject.

The Secretary was requested to write to the Honorary General Secretary of the British School at Rome, 1 Lowther Gardens, London, S.W. 7, England, and to ask if students and associates of allied associations would in reference to the competition in architecture be considered on equal footing with the students and associates of the R.I.B.A.; also as to whether it would be possible to hold "en loge" examinations in Canada under the supervision of the R.A.I.C.

*British Columbia Technical Association.*—A communication dated May 28th last, from the British Columbia Technical Association, was read suggesting the formation of similar organizations throughout Canada.

It was decided to send a copy of the communication to the Provincial Association asking for an expression of opinion regarding this matter before September 30th next.

*Nationality of Members.*—A letter from Mr. Geo. W. Northwood, chairman of a special committee of the Manitoba Association of Architects, asked information as to how the matter of nationality of members of architectural associations is dealt with in other parts of Canada and the United States. In Manitoba an amendment has been proposed to the effect that "All members must be British subjects by birth or naturalization."

In this connection the Hon. Secretary drew attention to the following clause in the recent Act of Incorporation of the Architectural Institute of British Columbia:

Section 24 (b).—An architect seeking registration under this Act, who is a citizen of a foreign country or state, shall be admitted to practice architecture in this Province on passing such examination as may be prescribed by the Council; Provided that such foreign

country or state of which he is a citizen recognizes the standards of qualification set out herein on an equal footing with its own, and admits the members of this Institute equally with their own citizens; and provided also that the applicant shall have been engaged in the continuous study or practice of architecture for a period of not less than eight (8) years in the said country or state prior to his application for registration hereunder.

The Council fully approved of the principle set forth in the above clause, and requested the Secretary to bring this provision of the British Columbia Act to Mr. Northwood's attention.

*Campaign of Publicity.*—Another communication from the Manitoba Association of Architects dealt with the matter of advertising, in connection with which it was resolved by the Council that the correspondence be referred to the several provincial associations with the request that each of the associations contribute for a campaign of publicity, and asking them the amount they would be inclined to subscribe, the publicity to be proportioned to the amount subscribed by each province.

*Association of Canadian Building and Construction Industries.*—Consideration was also given to a letter from the Association of Canadian Building and Construction Industries dated May 27th, asking (a) that "lump sum" contracts be strongly discouraged until existing conditions become normal and that the "cost plus percentage" or "cost plus a fixed or sliding fee" form of contract be advocated; and (b) suggesting the formation of a committee consisting of four members of the A.C.B. and I. and two representatives each from the Engineering Institute of Canada and the R.I.B.A., to cooperate in drawing up a standard form of contract, sub-contract and general conditions, which could be used throughout the Dominion.

It was moved by Mr. David R. Brown, seconded by Mr. Alcide Chausse, and carried: that Messrs. Jos. Perrault and J. M. Watt be requested to act on the special committee which the A.C.B. and I. recommends.

*Proposed National Electric Code.*—The Canadian Engineering Standards Association, Room 112 West Block, Ottawa, asked the advice of the Council regarding the desirability of obtaining an expression of opinion from the various provincial architectural associations in the establishment of a Canadian National Electric Code, having reference to both fire and life hazards, and with a view to the appointment of a small committee to make a preliminary report regarding the matter.

In the discussion it was pointed out that at present the matter of electrical inspection is in the hands of the fire insurance companies identified with the Canadian Underwriters' Associa-

tion, and that American standards are enforced; also that all electric lighting material bear the label of the Chicago laboratory. The question was raised as to whether in the event of a Canadian code being drafted, it would be a copy of the American regulation, and if it would, as is now the case, be necessary to have these materials and fixtures tested by an American laboratory.

It was resolved by the Council that it would be desirable before such a national code was adopted in this country, to consult the Canadian Underwriters' Association and the Canadian Manufacturers' Association. While the R.A.I.C. quite favored such a code, it was also felt that it would be desirable to establish a Canadian laboratory for the proper testing and inspection of electrical materials.

*Licentiate R.I.B.A.*—The Council's attention was drawn to the fact that under the provisions of the Charter and By-laws of the R.I.B.A. the last date on which a Licentiate can be nominated for the Fellowship is December 31st, 1920, and that any Licentiate R.I.B.A. who desires to be promoted to the Fellowship should take the necessary steps at an early date and communicate with Mr. Ian MacAllister, Secretary R.I.B.A., 9 Conduit Street, London, England.

Further communications before the meeting were:

A letter from Mr. I. Gorman, Lic. R.I.B.A., Alor Star, Kedah, Malay States, asking information about his brother Joseph Browne Dick Gorman, Lic. R.I.B.A., who up to a couple of years ago resided at 184 Laurier Avenue West, Montreal.

Letters from Mr. William E. Woolley, M.S.A., M.C.L., F.I. San. E., 118 Queen's Road, Walthampton, London, England, giving information about (a) The Committee of Distribution of Architectural Work, Belgium; and (b) the National Congress of Belgian Architects.

An announcement of the formation of the Society of Technical Agriculturists, of which Mr. Fred. H. Grindley, University Club, Ottawa, is Secretary-Treasurer.

And an announcement advising the Council of the opening of a professional School of Architecture at Princeton, N.J., U.S.A.

Progress was also reported by Mr. David R. Brown in reference to correspondence with the American Institute of Architects on the question of competitions.

While members of the R.I.B.A. were in attendance at the meeting of the Dominion Fire Prevention Association at Ottawa on May 12th and 13th last, no report has been submitted.

*Montreal Offices of the R.A.I.C.*—The Hon. Secretary reported that as authorized by the Council at its last meeting, the special committee composed of Mr. David R. Brown and him-

self, have rented from the Province of Quebec Association of Architects, offices for the Institute at 590 Union Avenue, Montreal, at an annual rental of two hundred dollars, and that the effects of the Institute had been moved from Beaver Hall Square to the above quarters.

#### FINANCIAL.

The financial report showed a balance in the bank to the credit of the Institute of \$926.34, and on motion by Mr. Alcide Chausse, seconded by Mr. H. E. Moore, the Hon. Treasurer was authorized to liquidate current accounts.

#### NEXT GENERAL ANNUAL ASSEMBLY.

It was moved by Mr. H. E. Moore, seconded by Mr. David R. Brown, and carried, that the Thirteenth General Annual Assembly of Institute be held at Ottawa, on October 1st and 2nd next, and that Messrs. W. D. Cromarty and C. P. Meredith, with the President and Hon. Secretary, be appointed to form the Committee of Arrangement for the Assembly.

Both at the noonday luncheon at the St. Lawrence Yacht Club and on the trip on the "Dorval," the members of the Council were the guests of Mr. Jos. Perrault. The cruise on the "Dorval" not only enabled the members of the Council to transact all unfinished business under most enjoyable auspices, but also gave them the opportunity of witnessing at Beaurepaire, Que., at the conclusion of the afternoon session, one of the best yacht races held on Lake St. Louis this season. After the races the members left the "Dorval" at Beaconsfield, Que., where they were the guests of Mr. David R. Brown at the Club House of the Beaconsfield Golf Club of which Mr. Brown is President.

This mingling of business and pleasure resulted altogether in one of the most successful executive meetings yet held, as is evidenced by the large number of important items of business transacted.

At the conclusion of the day the visiting members of the Council from Quebec City, Toronto, and London, Ont., extended an unanimous vote of thanks to Messrs. Jos. Perrault and David R. Brown for the royal way in which they were entertained.

## Memorial Fountain, Kew Gardens, Toronto

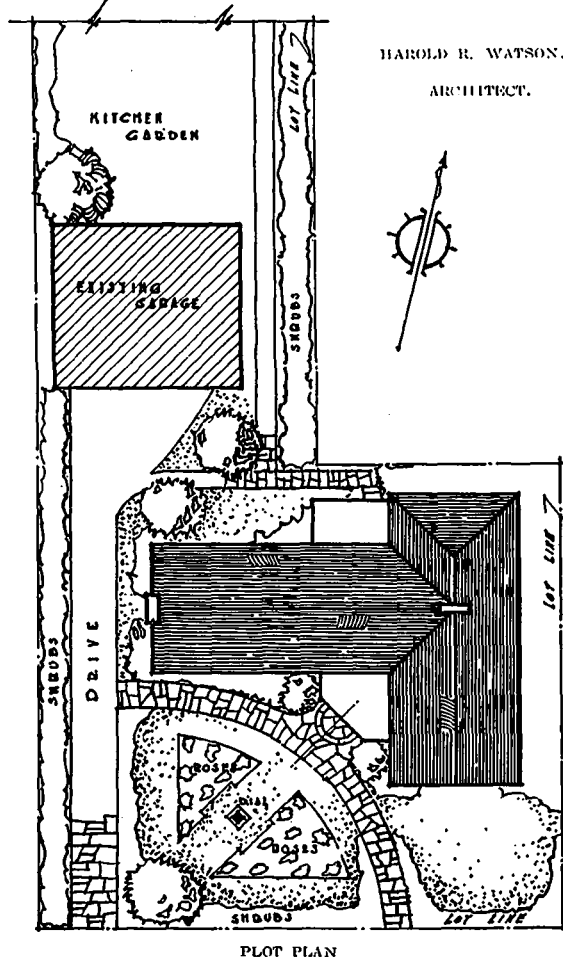
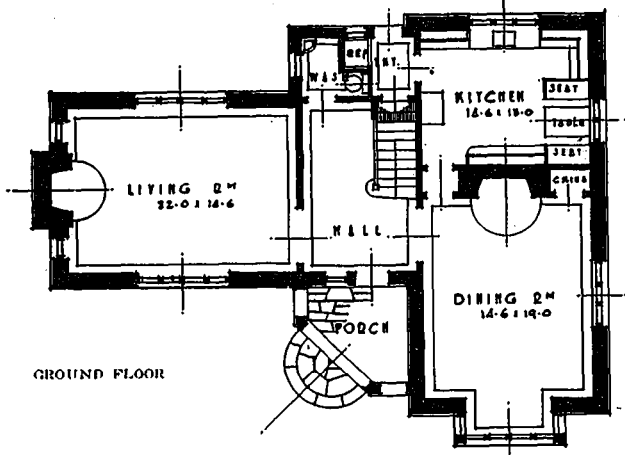
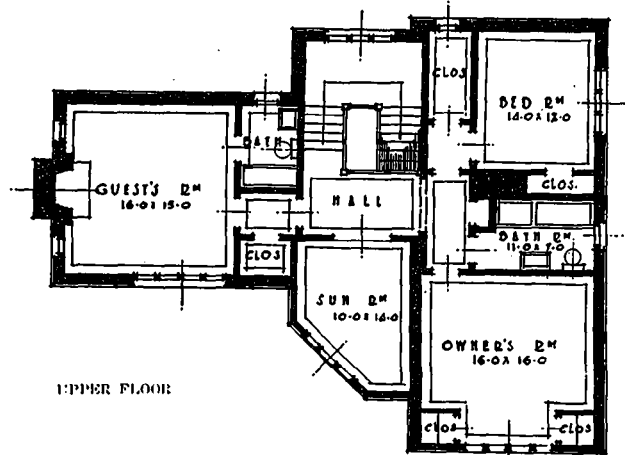
(Continued from page 246.)

Watson and speaks for the quality of this artist's work. The bronze figure of the child is also a noteworthy piece of sculpture, the work of Miss Florence Wylie of Toronto, as is likewise the bronze head which is a remarkable likeness of the late physician modelled from a photograph by Mr. Ivor Lewis.



HOUSE OF MRS. C. C. E. MALLOCH, TORONTO.

HAROLD R. WATSON,  
ARCHITECT.



# Examples of Recent House Design

**I**N the accompanying views are presented several recent residences representing the work of Mr. Harold R. Watson, Toronto, including three individual houses and one group development, all of which show a careful study of the domestic problem.

The plot plan of the Malloch house shows a rather interesting solution to an irregular site, having very little depth and more or less controlled by an existing garage building, which has ultimately formed a very pleasing composition with the house itself. The principal aspect is to the south, where the scheme is carried out with an informal treatment of a rose garden with sun dial, shrubs and flag walk. In addition

mouldings. The principal aspect of this room is to the south overlooking the rose court. It is finished in quartered white oak with deep recesses to the windows, made possible by the thickness of the stone walls.

The dining room, which is panelled in quartered white oak up to a height of the window heads, is of the Tudor style, with an Indiana limestone fireplace. Over the fireplace a space is provided for a mural painting. The ceiling is slightly relieved with a plaster moulding.

The main entrance hall is also finished with quartered white oak, with a simple treatment of the hand rail. The front porch floor is red quarry tile of about eight inches square.



LIVING ROOM, MALLOCH HOUSE, TORONTO.

to this, there is a kitchen garden of approximately a hundred feet in depth, located behind the garage.

The layout of the house shows the tendency of the times to provide a minimum number of rooms of generous proportion, which may be administered without much dependence upon help. With this end in view the kitchen has been designed to embody every facility conducive to the ease of housekeeping, and the introduction of a small breakfast alcove forms a very pleasing feature of this room. The finish is in white enamelled pine with black hardware. It is also conveniently located as regards service entrance and kitchen garden.

The living room is of simple design, with rubble stone fireplace having Indiana limestone

The upper floor plan shows a self-contained guest's apartment, owner's bedroom, small sunroom and third bedroom, and the large linen press completes a rather compact layout. The rooms here are all finished in pine, white enamelled, and are very nicely decorated throughout. The owner has not only used excellent discretion in the selection of the papers used, but has given the architect every assistance in working out the scheme.

A few features worthy of note are in the half-timbered porch and sunroom, which is of adzed white pine held together with oak pins. In fact, all window frames are constructed in this manner. The stone used is laid in Scottish rubble masonry of local limestone, and the color effect obtained by placing 20 per cent. pure grey with



DINING ROOM, MALLOCH HOUSE, TORONTO.

about 80 per cent. pink or piebald stone. All openings are dressed with Indiana limestone.

#### THE NEWELL RESIDENCE.

The Newell residence is situated on the south side of Whitney Avenue, and is on a more or less regular lot of about sixty-foot frontage. It again calls for a house which can be administered with a more or less independence of household help, and is of a simple Colonial character in both plan and elevation.

finished plaster walls makes a very pleasing setting with the surrounding foliage.

#### THE BOOTH RESIDENCE.

This house is on a seventy-foot lot facing the west, which is quite regular in shape and for that reason necessitated no particular treatment. The lot is beautifully wooded with oaks which were preserved to a great extent at the request of the owner.



BEDROOM, MALLOCH HOUSE, TORONTO.

A feature of note in plan is the sunroom at the rear of living room, overlooking the garden, and which has been so placed as to be of easy service from the kitchen in event of this room being used as a breakfast room. The interior finish is white oak floors and trim on the ground floor, and pine with an enamelled finish on the first floor.

Red quarry tile is used for the front terrace which is carried out with a pergola treatment and central entrance porch. The ends of this pergola are provided with built-in seats. The color of the shutters is of dull green-grey, which together with the natural

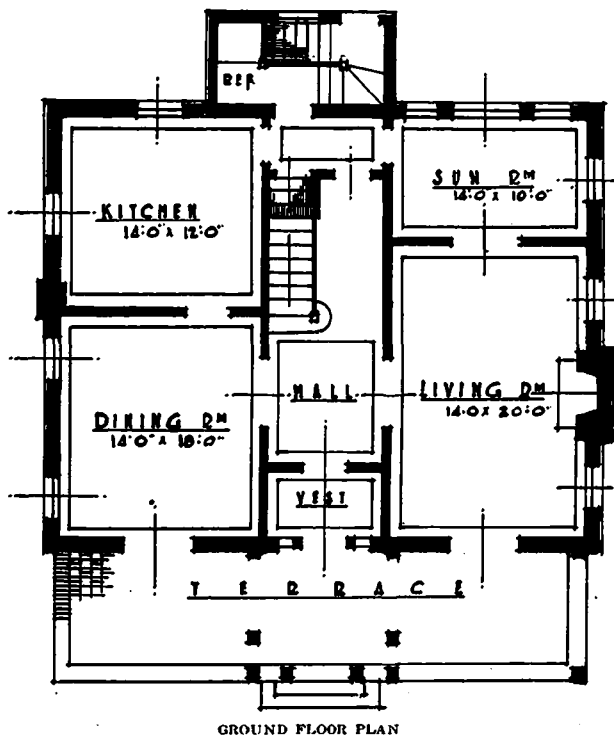
The conservatory in this house is also arranged that it might be used as a breakfast room if so desired, and the general problem has been handled with a view to a minimum of domestic labor. Chestnut trim with oak floors, is used for the lower rooms, and white enamelled pine upstairs. The basement contains a billiard room, with wash adjoining same.

The lower storey is of Credit Valley limestone, laid at random, and is an excellent example of stone masonry. The openings throughout are all treated with Indiana limestone and the frames are all adzed pine, held together with oak dowels.

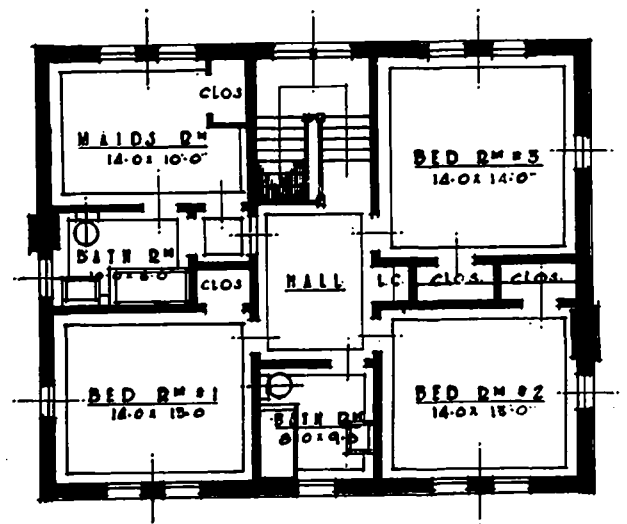


HOUSE OF EDWARD NEWELL, ESQ., TORONTO.

HAROLD R. WATSON, ARCHITECT.



GROUND FLOOR PLAN

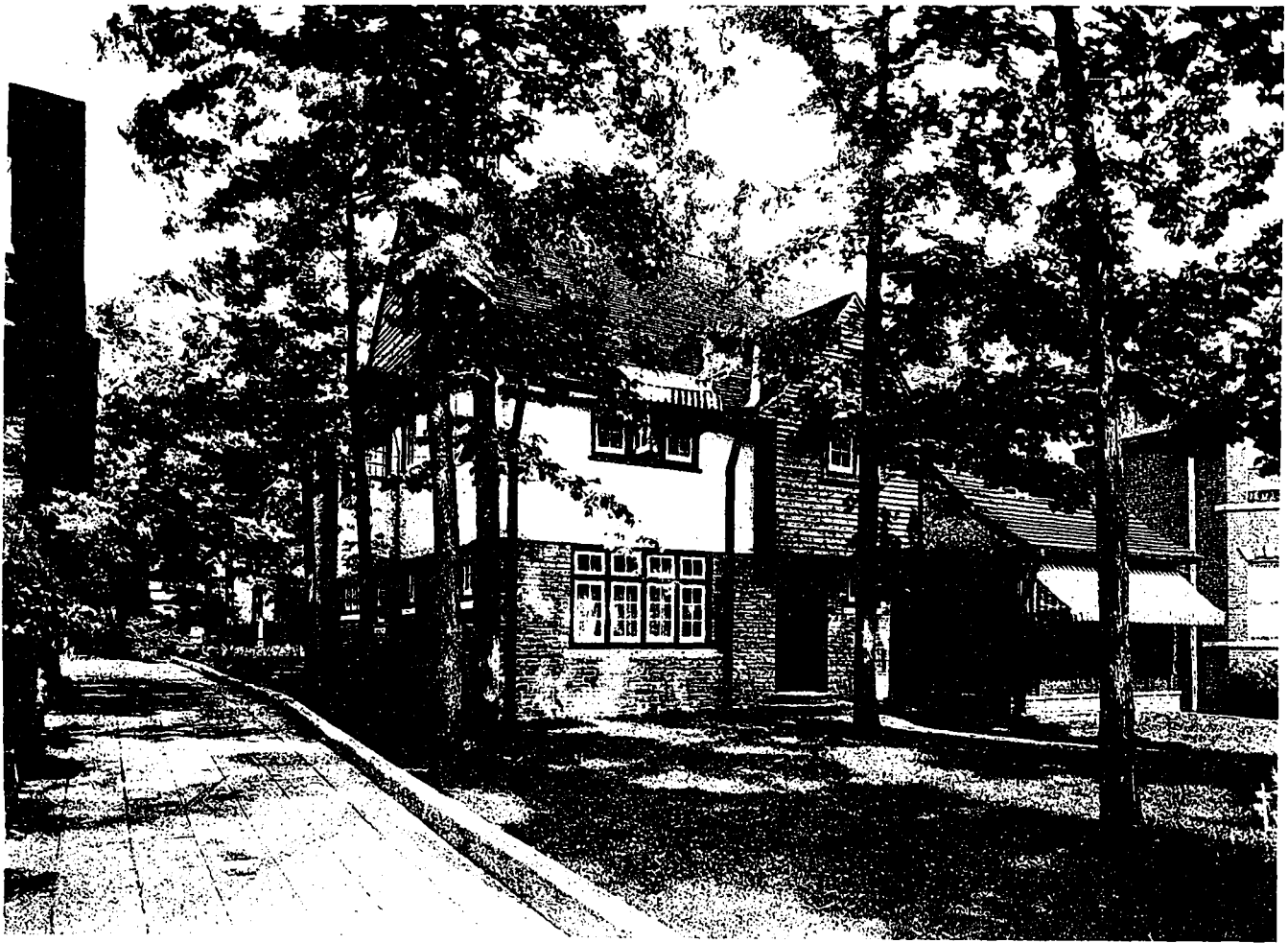


UPPER FLOOR PLAN

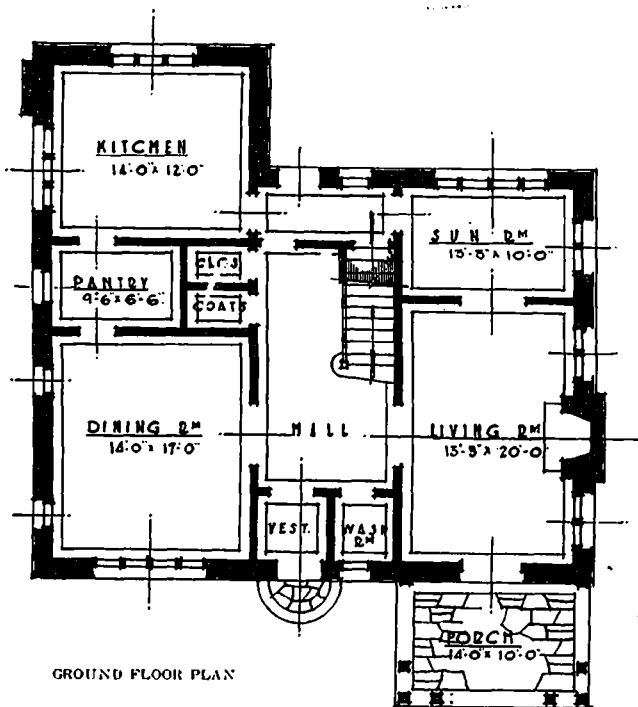
LYNDHURST AVENUE DEVELOPMENT.

As the houses in this development are not quite complete, it is somewhat difficult to give

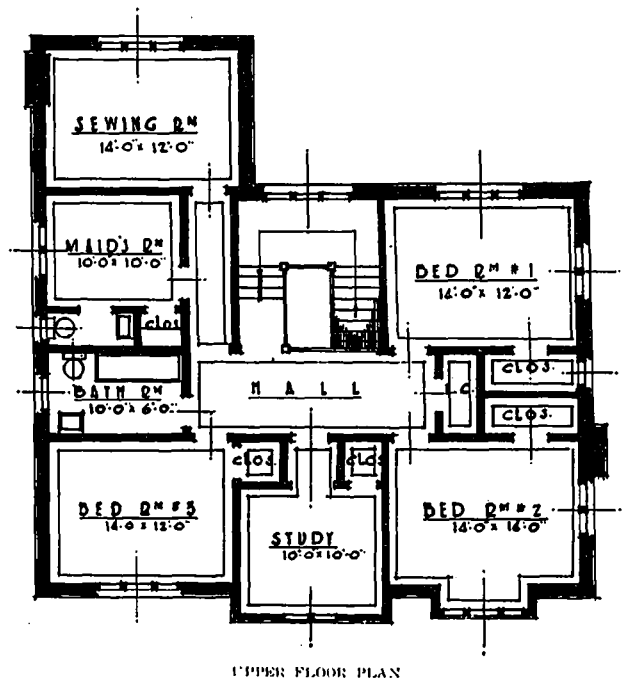
photographically an idea of the effect that the landscape work will have in a few years' time. The problem presented was that of placing four houses on a piece of land of very limited dimensions. It was felt by the architect that three houses would have been much more appropriate on the site. However, the plot plan shows an interesting solution of the problem, as well as the possibilities of a proper architectural and



HOUSE OF A. E. BOOTHE, ESQ., TORONTO.  
HAROLD R. WATSON, ARCHITECT.



GROUND FLOOR PLAN



UPPER FLOOR PLAN

landscape grouping in connection with domestic architecture.

The houses are all constructed of Credit Valley limestone laid at random with half-timbered work and frames constructed of hand-adzed

pine, held together with oak dowels. The walks and drives are flagstone and form a happy contrast to the cold effect of concrete.

An interesting feature of the grouping is the fact that the north house in this development was so turned as to break away from the ex-



GROUP DEVELOPMENT, LYNDBURST AVENUE, TORONTO.

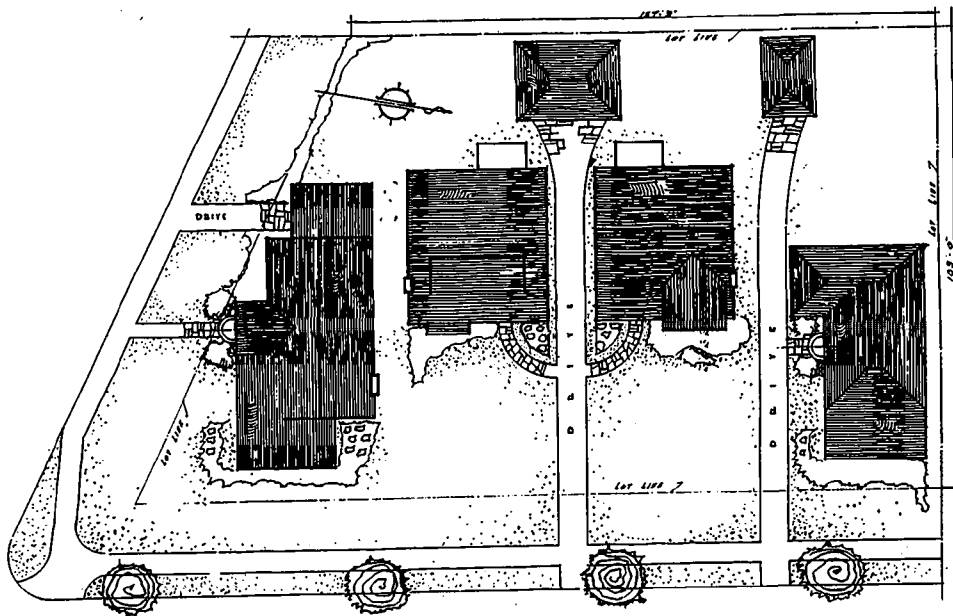
HAROLD R. WATSON, ARCHITECT.

ceedingly monotonous type of architecture adjacent to the site. The south house, which is illustrated by plan, is just being completed, and its irregular contour was necessary through the slope of the adjacent street.

The living room feature is worthy of note

through the excellent placing of the fireplace location to the north, which allows for a delightful southern exposure to the living room proper.

The house is finished downstairs with the exception of the dining room, in quartered white oak; the dining room is in gum wood, and the

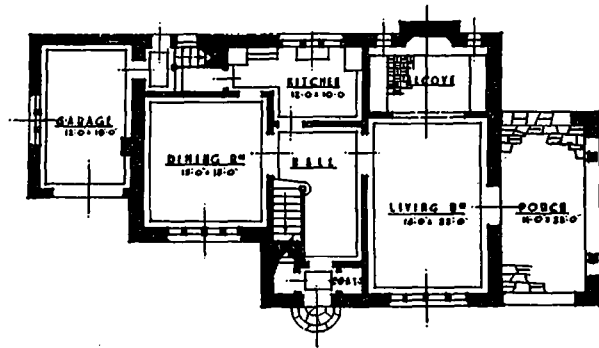


PLOT PLAN

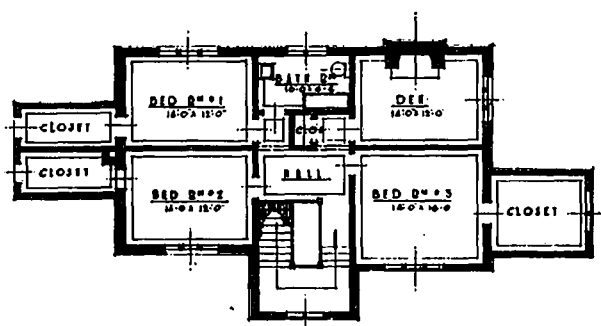




SOUTH HOUSE, LYNDBURST AVENUE DEVELOPMENT, TORONTO.



GROUND FLOOR PLAN



UPPER FLOOR PLAN

porch has a flag floor. The upstairs is trimmed in pine with white enamel finish, and is provided with three generous clothes cupboards.

The grouping of the garage is interesting in showing the possibility of combining it as a harmonious treatment with the rest of the house.

But little attention was paid to the needs for repair in Westminster Abbey during the war and it is now estimated by the Dean that it will be necessary to spend as much as \$500,000 to put the structure in a condition worthy of so dignified and revered a monument. The present cost of maintenance has greatly increased since the pre-war period, and an appeal has been made for additional funds for the up-keep of the building.

## Insulation of Concrete Walls★

By Nolan D. Mitchell, Structural Engineer, Supervising Architect's Office U.S. Treasury Department, Washington, D.C.

The maintenance of an even temperature in a house resolves itself into provision of adequate heating apparatus and a construction that will satisfactorily prevent rapid dissipation of heat through floors, walls and ceilings. It is just another phase of the problem that refrigerating engineers have found to be of such importance in their work, namely, insulation.

There is plenty of evidence that many builders realize the necessity of insulation against heat transference, but we are not so sure that

★ Excerpt from an address delivered at the recent National Conference on Concrete House Construction, Chicago, Ill., U.S.A.



VIEW FROM STREET, LYNDHURST AVENUE DEVELOPMENT, TORONTO.

an altogether satisfactory solution has been found.

Let us look briefly into what has been done and the results. Wood furring with lath and plaster on the inside was probably the first effort to avoid penetration of dampness and the condensation of moisture on the inside of the wall. The result as far as insulating against the heat loss through an eight inch wall was an improvement of approximately 15 per cent. Where the wall block absorbed dampness from the weather the result was not so good for in general any porous material in moist or damp condition transmits heat much more readily.

The hollow block was another development in the right direction. The total result was probably not so very different from the wood furring except that it provided no lodgment for vermin and no runway for fire. The chances for dampness showing on the plaster were much higher, however, and there is no doubt that passage of dampness through the withes of hollow blocks is responsible for a large part of the long fight that advocates of concrete house construction have had to make to keep in the business.

Other builders realizing that dampness cannot travel by capillary action across a space bridged only by thin metal ties adopted that

system and at the same time realized an improvement of about 20 per cent. over an 8-inch solid plastered wall. Hollow monolithic walls give about the same or perhaps a little better protection. The matter of detail of construction of the hollow wall is apparently more troublesome, yet with some builders they are still favorites.

A system, not so much in vogue, has been the building of solid walls of lean cinder concrete facing it with stucco on the exterior and plastering the inner face, or where the temperatures justify it, furring has been applied.

Another use of cinder concrete has been in making furring blocks to face the inside of the walls. I have not been able to find any data on the relative merit of these. One recent system embeds the porous block in the center of a monolithic wall so that the inner shell may serve as the supporting wall for floors and ceilings and thereby not break the continuity of the insulating course.

Other developments such as multiple cell blocks with offset withes, various forms of opening to allow freer circulation, etc., have been improvements in both insulating value and saving of materials.

A very popular building block is one made

solid with projections on the rear face to bond with like projections on the blocks laid up to form the opposite face of the wall. This gives a good bond and is a simple arrangement easily cast allowing a wetter mix than that generally used in block construction.

All these efforts have made an appreciable improvement over the solid wall type, but generally the air spaces provided have been unnecessarily large and allow convection currents within the closed space.

A comparison of the results obtained by some of the above with the results of refrigeration insulating has led to investigation in a general way as to what might be done by using concrete as the structural member of the wall and combining with it an efficient insulating material.

As a basis a monolithic concrete wall 4 inches thick with 1 inch of corkboard insulation has been considered. It is not the intention to say that either the 4-inch concrete or the 1-inch corkboard is an ideal. In actual practice the thinnest concrete that will give adequate service and any insulating materials of the requisite qualities for the work should be used. There are many insulating materials on the market and if a demand is created for still different ones we may be sure that some resourceful manufacturer will soon be able to meet it.

There is no perfect insulating material. Of the more common ones the heat transmission factor varies very closely in proportion to the density of the structure. The cellular ones such as wood, pitch, cork, wool, etc., are best for house insulation. Any of these materials must be kept dry to give the best service.

The following table from "Mechanical Refrigeration" by Prof. Macintire of the University of Washington, gives the heat conductivity of some of our common building materials. The table indicates heat conductivity per square foot per inch thickness per degree difference in temperature per hour.

1 in. Common brick .....	4.66
1 in. Concrete (1:3:5) .....	4.29
1 in. to 4 in. Hollow tile .....	0.625
7/8 in. Lumber (tongued and grooved) .	0.83
Air space (from 1 in. to 6 in. thick) ...	1.66
1 in. mineral wool .....	0.67
1 in. builders paper .....	0.30
1 in. pitch .....	0.79
1 in. shavings (dry) .....	0.67
1 in. granulated cork .....	0.48
1 in. cork board (all cork, compressed)	0.26
1 in. cork board (artificial binder) ...	0.28
1 in. hair felt .....	0.31
1 in. indurated fibre board .....	0.42
1 in. compressed mineral wool board .	0.33

For thickness of insulating materials up to 8 inches the conductivity is in almost inverse

proportion to thickness. The effect of change of temperature on conductivity is very slight through the range of temperatures required in house heating.

As a comparison of the 4-inch insulated wall with the two usual types of furred concrete walls the following is submitted from heat transmission tables compiled by Wm. R. Jones of the University of Pennsylvania. The heat transmission factors are:

- (1) 8 in. solid concrete wall with 2 in. terra cotta or wood furring and plaster ..... .53
- (2) 8 in. hollow concrete wall (two 4 in. thicknesses of concrete) centre air space and furring as above ..... .38
- From Pecelets formula the transmission factor of—
- (3) 4 in. concrete wall with 1 in. cork board .18

Assuming that we have a house 26 by 26 feet in plan, two stories high with 1,450 sq. ft. net wall area, an average difference in temperature of 35 per cent. for 20 hours per day would show the following amounts of coal burned to make up for heat losses:

- (1) 53.65 pounds per day.
- (2) 38.57 pounds per day.
- (3) 18.27 pounds per day.

Thus it is seen that the thin insulated wall would show a saving over the other types of 35.38 and 20.30 pounds of coal per day respectively.

Assuming that the condition as above continues for an average of 150 days each winter and that coal will cost \$12 per long ton (U.S.) the savings capitalized at 6 per cent. for a thirty-year period would justify expenditures of \$400 and \$228 respectively for the insulated wall over the other types. Or to come back to the square foot unit, 27 1/2 and 15.7 cents respectively.

The saving of materials in the thin wall and the space saved by using them can be computed readily. If the same outside dimensions are maintained in the house the floor space for the thin type wall would be approximately 11 per cent. more than with the usual types.

The matter of increased comfort to the tenant has not been given a money value, but it is safe to assume that from a commercial standpoint that would be far more than any of the preceding. Once a builder has established a reputation for making a safe, satisfactory, comfortable house, economical in maintenance, he can be assured that his services will be in constant demand and his profits can be larger as a consequence.

# Surface-Treated Concrete and Stucco\*

By J. C. Pearson, U.S. Bureau of Standards, Washington, D.C., and J. J. Earley, Sculptor, Washington, D.C.

**S**TUDIES of the experimental stucco panels at the Bureau of Standards led to the general conclusion that by adherence to well established practice, structurally sound and durable stucco could be secure, but that a great deal could be, or ought to be, done to improve its appearance. Cracking and map cracking is common to most stuccos, and are especially objectionally on surfaces of fine texture. The monotony of the cold grey cement color is objectional, and is only partially relieved by the use of white cement and mortar colors. Finally the muddy appearance (due to cement, or cement and pigment, being too much in evidence) is objectionable from an artistic standpoint. Consideration of these matters suggested at once the use of much less cement, and it became evident that by efforts in this direction improvement in appearance might be obtained. The apparently insurmountable obstacle to this departure from usual practice was, of course, the lack of plasticity in the leaner mixtures. Various methods of overcoming this difficulty were considered, and some experiments were

made which indicated that a real improvement might be obtained by substituting fine inert material for a portion of the cement. The easiest way to accomplish this result seemed to be by using blended cements, that is, normal cements ground with a certain percentage of sand, stone-screenings, or other materials. These experiments were never carried very far, however, for it did not seem possible that any method which might be devised for retaining plasticity could

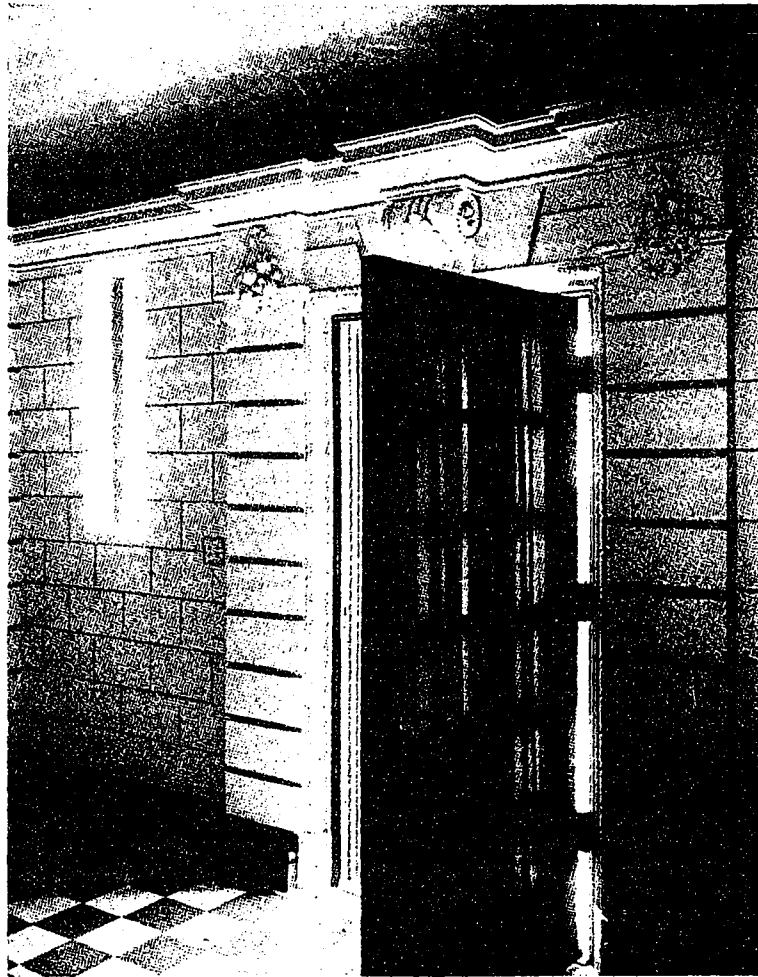
bring about the desired result, namely, the elimination of all objectional features mentioned above.

Serious as was this lack of plasticity in the lean stucco mixtures, it was after all, something that could be overcome by *work*. This was demonstrated by the fact that mixtures as lean as one part cement to six parts of stone screenings were applied on some of the Bureau of Standards panels, with excellent results. But

the improvement in these panels as compared with some of the easier working combinations did not seem great enough to justify the increased cost of application. The question finally arose whether by careful attention to gradation of the aggregates this improvement in appearance might not be so enhanced that the cost would be a secondary consideration.

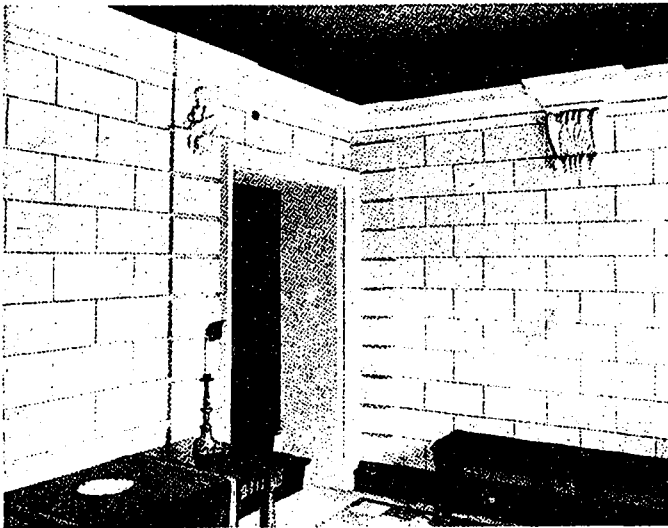
This idea came from the fact that Mr. Earley had succeeded in making complicated casts of concrete from specially graded aggregates in such manner that a very large percentage of the area of the treated surface (first wire brushed and then washed) was ag-

gregate, and a very small percentage cement. Possibly due in part to the higher reflecting power of the surfaces of the exposed aggregates, the color of the concrete surfaces thus produced was determined almost wholly by the color of the aggregates, and only very slightly affected by the cement itself. A most convincing demonstration of this fact was obtained by constructing two concrete slabs containing exactly the same proportions of specially graded aggregate, the one being mixed with grey cement, the other



Entrance to vestibule in private residence, Washington, D.C. An excellent example of the adaptability of exposed aggregate stucco and precast concrete of the same color and texture to exacting ornamental requirements.

\* Excerpt from an address delivered at the recent National Conference on Concrete House Construction, Chicago, Ill., U.S.A.



Vestibule to private residence, Washington, D.C. Console and cluster of fruit are of precast concrete; the remainder, including the moulding, is of exposed aggregate, portland cement stucco.

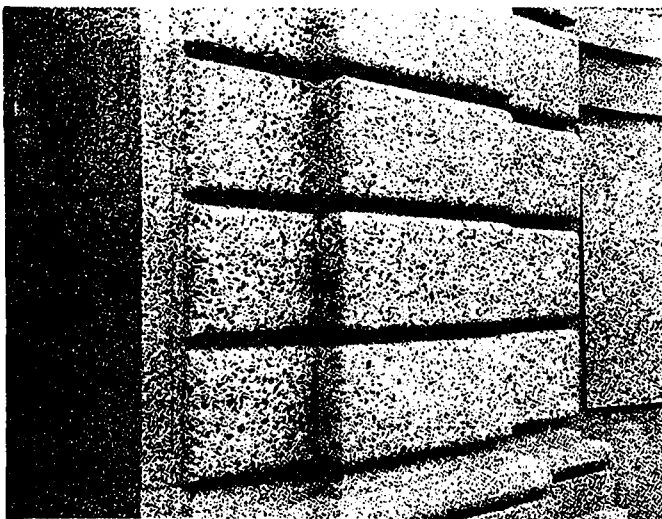
with white cement. After the surface treatment of brushing and washing had been applied, only an expert could have determined which slab contained the grey cement and which the white.

To digress still further for a moment, this method of obtaining permanent and very pleasing colors in concrete surfaces is such an important item in the development of the processes here described, that it is worthy of fuller explanation. Before color in concrete surfaces can be under artistic control, a technique must be developed which has for its medium the elements of the concrete itself. Although in problems involving appearance aggregate is by reason of its greater bulk the major element, and cement the minor, it is, nevertheless the color of the cement which is the natural color of

normal concrete. The reason for this is that the cement is finely ground and deposits itself, paint-like over the surfaces of the aggregates and colors the whole mass. If, therefore, concrete is to receive its color from the cement paste, variation must be obtained by the addition of pigments to the cement following the well established practice of mixing paints; but if the aggregate is to be the source of color, the concrete must be so designed and manipulated as to deposit in the greatest possible amount of aggregate. Any great degree of success can hardly be expected in coloring concrete through the cement. The choice of colors is restricted by chemical reaction with the cement which causes them to fade or change; depth of color is restricted by strength requirements of the concrete, which limits very closely the amount of pigment which may be added to the cement. Therefore with the choice of color limited by one requirement and the depth of color by another, the cement itself must remain dominant. On the other hand, in coloring concrete through the aggregate all such restrictions are removed, and colors may be obtained from white to black, through all the range of possible aggregates. An examination of drawings done in hard pastelles and of paintings of the impressionist school suggests a technique in coloring which is peculiarly adaptable to the coloring of concrete by means of the aggregate. In the pastelles, tones are produced by hatching and cross-hatching with lines of pure color without blending on the surface of the drawing; in the paintings, by spotting with pure colors one beside the other and without blending. In both cases the tones are effected by the blending of the light rays reflected from the picture to the observer. Wonderful depth and clarity of tone are characteristics of this school of coloring, and in it are to be found a great deal of exact knowledge and valuable precedent. When this knowledge is translated in terms of concrete aggregates, it is obvious that if the aggregates are carefully selected and carefully placed, all the elements are present for the successful coloring of concrete surfaces. The results obtained in practice bear out the theory given above, and there is every reason to believe that the aggregate is the proper source of color for concrete.

Hence it was a most important conception that a similar result might be obtained with stucco. The success of this depended, first, upon securing a suitable gradation of the stucco aggregate, and second, upon being able to apply such a mixture, once it were satisfactorily compounded. It was known at the outset that these mixtures would be harsh, therefore plasticity no longer played any part in the calculations.

The laboratory program was fairly simple. The plan consisted simply in working first with



Detail of Sixteenth Street entrance to Meridan Hill Park, Washington, D.C. Massive construction in which ornamental detail is well executed in concrete. Three textures are shown: fine on the reveal of the arch (left), medium on the panel of the wall wing (right), and coarse on the rusticated blocks (center). The blocks are precast, the wing wall is monolithic, cast in place. The color is uniform throughout.

concrete mixes in miniature, in which the sizes of cement particles, sand particles and coarse aggregate particles were reduced from the normal sizes in the ratio of about 1:10, this being taken as the approximate ratio of the size of particles passing a No. 8 sieve to pebbles one inch in diameter. It was assumed that the density of such mixes would depend mainly on relative sizes of the component particles, with due allowance for the water content. If these mixes appeared to be satisfactory for the purpose, it was assumed that any reduction within the 1:10 ratio would also be satisfactory, and the actual reduction to be employed in compounding any given stucco mixture of this type would be as slight as the requirements of texture and the difficulties of application would permit. These experiments in the laboratory with the miniature concretes were very successful. Not the least important part of the laboratory work was the microscopic examination of the structures of these little concretes, which yielded many valuable suggestions for the gradation in size of particles, and for the proper proportions of the various sizes, to yield the desired effects in the treated surfaces.

The first attempt to apply the new product to a vertical wall was not wholly discouraging. Small areas were treated successfully, and eventually a portion of one of the new laboratories of the Bureau of Standards was coated with the exposed aggregate stucco. This example while it is not as free from imperfections as the more recent work, has attracted most favorable notice. Fortunately, the mechanics who were selected for this work developed a real interest in the new type of finish, and subsequently a pride in the results of their work, which made for very rapid progress in the development of the methods of application and treatment. New requirements in thoroughness of mixing, consistency, and control of the absorption of the undercoats were met, and other improvements in the general process were gradually introduced as essential parts of the routine. Not all of the problems have been solved, but there has been very gratifying progress in the comparatively short time that the new stucco has been applied commercially.

The writers believe that the work here described shows progress in the development of concrete and stucco as materials worthy of a place in the highest type of buildings or structures. It is to be noted especially that none of this work is an imitation of stone. Close inspection shows at a glance that it is concrete, with textures that vary widely, but always characteristic of concrete. Furthermore, the material may be cast in any form the architect may desire, with all details complete; no cutting, tooling or dressing is required other than the pre-

scribed treatment of cleanly exposing the aggregate. Finally the material provides a medium for the expression of color in infinitely greater variety than that which obtains in the natural building stones.

In conclusion the writers would add a word about stucco. The new type of exposed aggregate finish cannot fail to arouse new interest in stucco, as a product, regardless of the nature and treatment of the finishing coat. The product should be more widely used, and, the reason it is not more widely used is that it has too often been applied by contractors or mechanics who consider it only as an outside plaster. This paper has attempted to convey the impression that cement stucco is more like concrete than plaster, and that plasticity is not essential. The point the writers wish to emphasize is that the art of applying durable stucco is very different from the art of plastering, and in their opinion, stucco will take the place it deserves among building products only when this fact is generally recognized.

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### Rapid Electric Riveting

An electric riveter recently developed in Great Britain is capable of snapping a rivet of five-eighths of an inch in diameter in three seconds. All that the operator has to do is place the rivet in position and close a switch. The current used is so small that three hundred rivets can be closed for each kilowatt-hour of electricity consumed. The cost of current for such purposes is only a penny or two per kilowatt-hour.

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### New Map of Western Provinces

A new edition of a map of Manitoba, Saskatchewan and Alberta giving the number of quarter-sections available for homestead entry in each township with the boundaries and offices of Government land agencies has been issued by the Natural Resources Intelligence Branch of the Department of the Interior. This new edition clearly indicates all railways, forest reserves, parks and Indian reserves, also the land which has been reserved for soldier settlement purposes. The size of the map is 24 inches x 36 inches, and the scale 35 miles to one inch.

The importance of the new edition at the present time is apparent to prospective settlers, officials of banks, railway companies and land agencies, in fact everyone interested in the development of land in the Western provinces. A copy of this publication, which is known as the "Small Land Map of Manitoba, Saskatchewan and Alberta," may be obtained free of charge by applying to the Superintendent of the Natural Resources Intelligence Branch of the Department of the Interior, at Ottawa.



## THE "GENERAL" OF THE BUILDING TRADES

**S**UCCESSFUL building operations, like successful army operations, call for the appointment of one man who shall have final authority for all practical decisions as to materials and methods.

In the army, the man best fitted by training and experience to fill this position is the General. In the realm of construction activities, the Director-in-Chief is known as a Qualified Architect.

The scope of the architect covers every branch of the building industry. He has at his command full and complete knowledge of practical methods, suitable men and available material.

After his plans are approved the Architect co-operates with the owner and with the various contractors. He directs the work at every stage, and assumes full responsibility for carrying through every detail of the specifications to the complete satisfaction of those who are to own or use the finished structure.

The Architect is paid by the owner. His standard of practice forbids the acceptance of fees from other sources.

Safeguard your building investment by employing a "Registered Architect." Make use of the specialized skill of a trained mind. Membership in this Association is restricted to men capable of rendering the highest type of service.

**ONTARIO ASSOCIATION OF ARCHITECTS**

R. B. Wolsey, Secretary.

96 King Street West

TORONTO



## EVERY MAN TO HIS PROFESSION

**I**N these days of intense competition in the business world, the man who is to succeed must concentrate every thought upon his own particular field of endeavor.

It naturally follows that when the need arises for building a factory, office building, or residence, the prospective owner finds himself lacking in that specialized knowledge of building methods so necessary to the attainment of successful results. He must seek some one fitted by training and experience to analyze his requirements and assume direction of the project, from the drawing of the plans to its satisfactory completion.

An Architect is the one man best qualified for this important job. Based on a careful analysis of your building problem, his Plans and Specifications will present practical methods of meeting every requirement of owner or occupant.

The superintendence of an Architect is not that of a mere overseer—but rather that of a trained director, who so co-ordinates the various features of the work as to insure satisfaction both from an economic and from an artistic standpoint.

The Ontario Association of Architects maintains a high standard of ethics. Its members are "Registered Architects"—men of high standing in their profession—fully equipped to plan and carry out whatever building enterprise you may have in mind.

**ONTARIO ASSOCIATION OF ARCHITECTS**

R. B. Wolsey, Secretary.

96 King Street West

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TORONTO



## ARE YOU BUILDING?

**T**HEN the projected building has a purpose. Tell that purpose to a qualified architect and let him analyze your requirements. The plans and specifications he will present will provide for the practical and economical answer.

If it be a factory, he will consult with specialists in the various phases of the work and co-ordinate and summarize their views.

If it be an office building, or an apartment, or a hotel, or a theatre, the architect knows the sources for the latest development in that type of structure.

If it is housing, your architect will bring to bear his training and experience as well as knowledge acquired by study of the leading authorities of the world.

After his plans are approved, the architect co-operates with you and with the various contractors. He directs the work of building at every stage to the end that the finished structure shall be a credit to all concerned.

The architect is paid by the owner. His standard of practice forbids the acceptance of fees from other sources.

While architects, being human, are not all of equal ability, it is to your interest to select the "Registered Architect." He is a member of an Association whose standards are well maintained, whose membership is restricted by law to men qualified to render a high type of service. He has a stake in this country of ours.

**ONTARIO ASSOCIATION OF ARCHITECTS**

R. B. Wolsey, Secretary

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TORONTO



## THE IDEAL BUILDING

**W**OULD be planned and built by the owner—If the owner could possibly have the training and experience requisite for the work.

But most men have been too busy all their lives with their own enterprises, to study the technique of building design and construction. Bewilderment and chaos would be the result of any attempt on the part of an owner to establish a "Construction Department" of his own.

But he can have a Construction Department at his complete command—simply by calling in a qualified Architect.

The Architect's office then becomes the owner's Construction Department—until the building is up.

It is in this Construction Department, in the Architect's office, that the problem is analysed and solved. The resulting plans, after receiving the owner's approval, become the basis for the tenders of the several Contractors.

The work of the latter is done in conjunction with the guidance of the Architect, whose training and specialized skill are at the owner's disposal.

Employed and paid by the owner, the Architect represents him in the hundred and one decisions involved in the processes of building. He is bound by the ethical standards of his profession to accept no fees from any other source. He must at the same time exercise all fairness in his dealings with the contractor.

All architects are not of equal ability, but a "Registered Architect" is a member of this Association, where ethical standards are well maintained and where membership is restricted by law to men qualified to render a high type of service.

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TORONTO

SPECIMEN ADVERTISEMENTS, O.A.A. PUBLICITY CAMPAIGN.

Four of a series of announcements (reduced half size) recently appearing in the Toronto newspapers with a view to educating the public to the value of competent architectural service.

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A JOURNAL FOR THE ARCHITECTURAL  
ENGINEERING AND CONTRACTING  
INTERESTS OF CANADA



H. GAGNIER, LIMITED, PUBLISHERS

Corner Richmond and Sheppard Streets.

TORONTO . . . . CANADA

M. B. TOUTLOFF, Editor

W. H. HEWITT, Advertising Manager.

**BRANCH OFFICES:**

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**CORRESPONDENCE.**—All correspondence should be addressed to "CONSTRUCTION," Corner Richmond and Sheppard Streets, Toronto, Canada.

**SUBSCRIPTIONS.**—Canada and Great Britain, \$3.00 per annum. United States, the Continent and all Postal Union countries, \$4.00 per annum, in advance. Single copies, 50c.

**ADVERTISEMENTS.**—Changes of, or new advertisements must reach the Head Office not later than the twentieth of the month preceding publication to ensure insertion. Mailing date is on the tenth of each month. Advertising rates on application.

**CONTRIBUTIONS.**—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

Entered as Second Class Matter in the Post Office at Toronto, Canada.

Vol. XIII Toronto, August, 1920 No. 8

## The London Convention

All architects, whether they belong to an architects' association or not, have much in common and are meeting with the same general conditions and problems which are encountered in every day professional practice. It is therefore gratifying to note in the announcement of the executive that the convention of the Ontario Association of Architects, to be held at London on August 30-31, is to be an open meeting, at which all architects in the province, whether they are members of the O.A.A. or not, are invited to attend. Indeed, such a move on the part of the Council is to be commended. The injection of a little outside thought should do much to supply a fresh impulse and give that impetus to architectural deliberations which is so needed to-day.

To be perfectly candid, so far as association work is concerned, it has been chasing itself around in a circle on a few subjects of perennial debate. It has absolutely arrived nowhere as regards practical results and has failed signally in reaching anything in the way of real worthwhile achievement. The whole difficulty has

been that the profession as a whole has not taken sufficient interest in its own affairs or the affairs of other related bodies. Apart from the executive council, such a thing as a general monthly meeting is practically unknown. True, the Toronto convention last October staged one of the finest public exhibitions of architectural drawings ever held in Canada, and set in motion a campaign of newspaper propaganda which should bear results, but aside from this, the most conspicuous feature of the event was the number of architects who attended the daily luncheons and stayed away from the business meetings.

This is a condition which should not exist. Unless architects take an interest in their own affairs, and voice in meeting the views and opinions which they privately express, nothing of a definite character can be accomplished. Association work cannot function entirely through executive council alone, but must represent the collective effort of the members who comprise it. What is required is more co-operation and a frank discussion of issues, such as will lead to some unanimity of opinion and a definite course of action.

Indeed the London convention which is scheduled to be a get-together-meeting will give an opportunity for initiating a progressive policy, and the fact that it is to be held at a place which is central to many points should warrant a large attendance and a full discussion of the subjects to be considered. Besides extending a welcome to architects in general throughout the province, the executive is also inviting the presidents of the Builders' Exchanges at London, Hamilton, Sarnia, Windsor and Ottawa to take part, and this should assure a most representative gathering. Among subjects on the program is a discussion to be led by Mr. Watt, of London, on "The Services and Value of the Association to its Members and the Public," and an address to be delivered by President Jackson of the Toronto Builders' Exchange on "The General Relations of the Contractor and the Architect." The latter, especially at the present time, represents an important subject, and might help clear up certain existing differences and promote a more mutual feeling between architects and those who do their work. There are likewise other vital issues to discuss, and it is sincerely to be hoped that the architects from all parts of the province will be on hand to lend their support and to help further the interests of the profession.

## The Question of Publicity

A matter which will undoubtedly be given attention at the O. A. A. London Convention is the campaign of publicity which the association has been conducting in the daily press. Certain con-



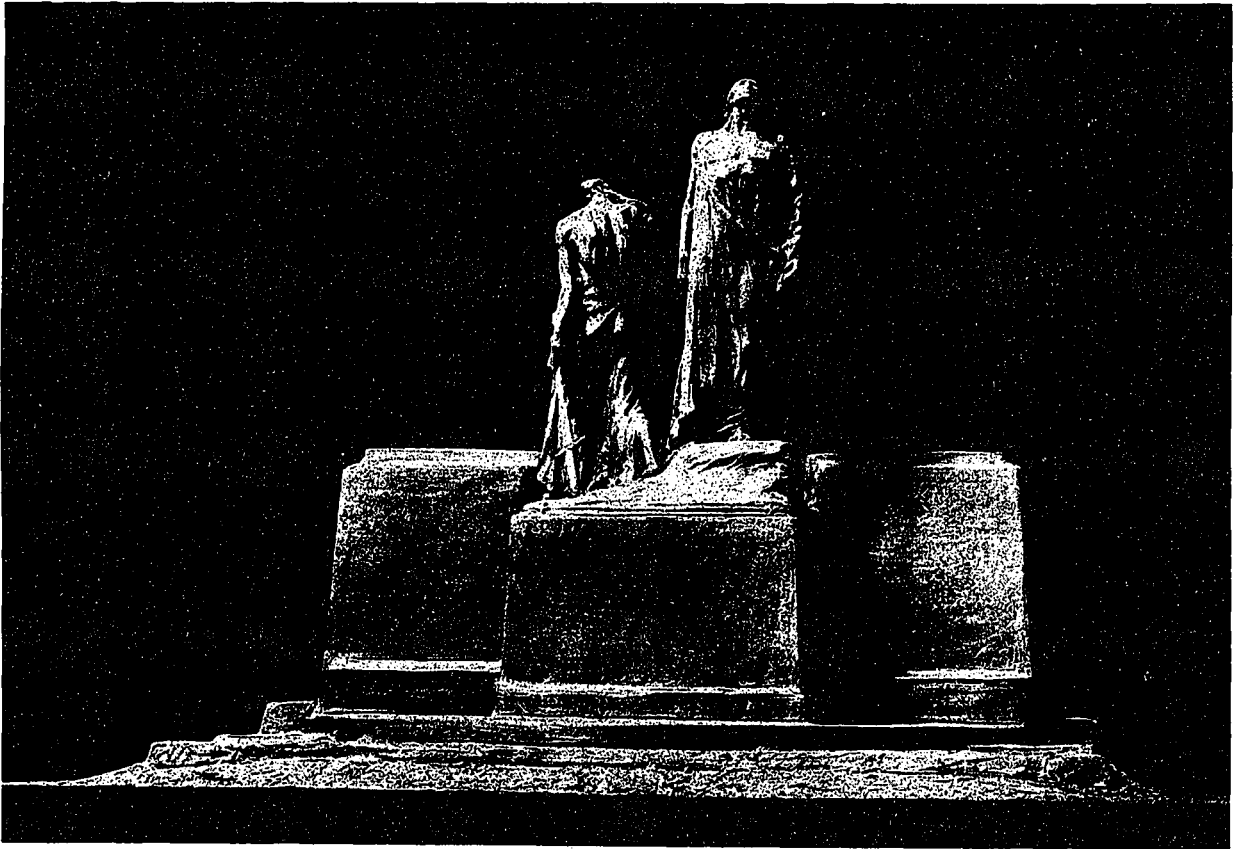
ditions have arisen which at the meeting in Toronto last fall made the step in this direction advisable, and while the experiment is as yet to near its inception to determine its benefits, there is no question that in time it will exert an inculcating influence in educating the public as to the value of competent architectural services. In fact a much wider scope of propaganda is at present being considered by the R.A.I.C. Council which is in correspondence with the various provincial associations with a view to securing subscriptions to a fund for this purpose. Specimens of the advertisements which have so far appeared are published elsewhere in this issue, and will enable architects in other parts of Canada to judge of their merits and the points of argument developed. We believe that they can in no way be constructed as being of a character which contravenes the code of ethics in the sense of commercial advertisements on the part of individual firms, but can be regarded more particularly as a series of dignified statements which are intended to benefit both the public and the entire profession.

### **R. A. I. C. General Assembly Dates**

Notices have been sent out by the Council of the Royal Architectural Institute of Canada, announcing the dates of the Thirteenth General Annual Assembly which is to be held at Ottawa on October 1st and 2nd next. A meeting of the 1919-20 Council will be held at 9 a.m. on the first day and a meeting of the 1920-21 Council on the second day of the Assembly. The announcement states that a very interesting program is being prepared and that a large gathering of the profession is anticipated. Copies of the program will be mailed to members of the Institute early in September.

### **Architects to Compete for Monument**

A press despatch states that architects and artists in Canada have been invited to submit designs for a monument to be erected over the grave of the late Liberal leader, Sir Wilfrid Laurier, in Notre Dame cemetery, Ottawa. The competition is under the direction of a sub-committee of the National Liberal Committee of Canada, and it is announced that in view of the



SKETCH MODEL FOR WAR MEMORIAL TO BE ERECTED BY THE CITY OF STRATFORD, ONTARIO.

The design, which is from the gifted hand of Mr. Walter S. Allward, of Toronto, is quite out of the ordinary run of "soldiers' monuments." The base will be granite and the figures bronze. The total width will run eighteen feet, and the total height sixteen, the figures being eight feet high. The tall figure on the high ground expresses the better, the spiritual man, while going down into the valley is the disarmed figure of strife, the group showing the supremacy of right over brute force. On the face of the centre base will be the words: "They Broke the Sword and Brought Peace to Our Land." On the side bases will be inscribed the names of Stratford's fallen heroes. The memorial when complete will be placed at the end of Erie Street, where it joins Ontario Street.

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This Surety Bond, issued by a Prominent Fidelity and Guaranty Company, absolutely protects the owner from all expense for roof maintenance during the life of the bond.

Our only requirements are that The Barrett Specification revised April 15, 1920, shall be strictly followed and that the roofing contractor shall be approved by us and his work subject to our inspection.

Copies of The Barrett Specification and further details regarding these Bonded Roofs free on request.



Note the thickness of this heavy, waterproof blanket. After the piece of roofing has been replaced and the cut covered by an equal amount of material, 75 lbs. of pitch, a protecting layer of 400 pounds of gravel or slag is applied to each 100 square feet.

The **Barrett** Company  
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fact that it is the Government's intention to erect a statue to Sir Wilfrid's memory on Parliament Hill, it has been decided that the monument shall not take the form of a statue, but be a simple, dignified monument, fitting his character and career. The first prize will be \$500 and the next two designs will receive \$200 each, according to the information given.

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### Personal

The associated architectural practice of Messrs. LaChance and Kearns of Welland, Ont., has been discontinued. Mr. N. A. Kearns has opened an office in the Edgar Building, and Mr. La Chance will continue practice in the Temple Building.

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### Industrial Art Exhibition, London

The British Industrial Art Exhibition will be open until 16th September, inclusive, at Knightsbridge, London. This Exhibition comprises textiles, wall papers, furniture, pottery, glass and metal work, also building and other crafts. A number of buyers are expected at the Exhibition from Canada, other overseas Dominions and foreign countries.

Canadian buyers who propose to visit the Exhibition should secure further information from the nearest British Trade Commissioner in Canada. Their names and addresses are:

Capt. E. J. Edwards, 248 St. James St., Montreal.

F. W. Field, 260 Confederation Life Bldg., Toronto.

L. B. Beale, 610 Electric Railway Chambers, Winnipeg.

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### Opens Big Addition to Plant

With its spacious interior transformed for the time being into a veritable fairyland of flags, streamers and bunting, the new machine shop for the Iron Valve Division at Jenkins Bros., Ltd., plant, 103 St. Remi Street, Montreal, was recently the scene of a very enjoyable social entertainment. The event very fittingly inaugurated the opening of this latest addition to the company's big valve manufacturing establishment, and its success was noticeable both as regarded the number in attendance and the excellent arrangements which characterized it throughout. More than 400 couples were present, including the management, employees and invited guests, and all enjoyed every instant of the time from the moment of their arrival until the hour of departure.

Mr. W. F. Trimble, the managing director, after tendering the gathering a very cordial welcome, outlined the provisions made by the company for the future welfare of the employees under the group insurance system, as well as the pension scheme. The hearty applause which greeted the conclusion of the speaker's remarks

was evidence of the keen interest and whole-hearted approval displayed by those directly concerned. The remainder of the evening was spent at euchre and dancing to the music of the Grenadier Guards Band, with an intervening period for rest and refreshments.

A feature of the occasion was a group of photographs showing the steady growth of the institution from the period of its establishment in 1864 in the United States, and 1906 in Canada, up to the present day. With the increased manufacturing facilities which the new machine shop will afford the iron valve division, the company will be in a splendid position to handle their steadily increasing business.

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### New Fire Alarm Publications

The Northern Electric Company has just issued two new fire alarm bulletins. One of these describes fire alarm systems for municipalities, the other fire alarm systems for industrial plants, schools, hospitals, hotels and public buildings.

The intricate and important problems connected with fire protection are treated in detail with descriptions and illustrations of the various systems and equipment used. The books also contain some very vital statistics on fire losses and an outline of the history of fire alarm development. They are excellently printed on first-class stock and the cover designs are in an appropriate scarlet; appearance and contents combining to make a most impressive exposition of an impressive subject.

Sample copies of both publications were distributed to the Fire Chiefs at the International Fire Chiefs Convention just held at Toronto and met with very favorable comment. We feel sure that the Northern Electric Company will gladly send copies to any parties interested.

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### Catalogue 700

This is a new catalogue issued by the Canadian Blower and Forge Company, Kitchener, Ont., and is really something more than a catalogue. It is an informative and illuminating book on the subject of heating, ventilating, and air conditioning, and is intended to place carefully prepared data at the disposal of architects and others interested in such problems. A large part of the text is made up of a general treatment on natural versus mechanical ventilation, heat losses, room temperature, humidity, methods and installations. There are also a number of graphs or charts based on engineering tests and conclusions, as well as photographic illustrations showing installations of the "Buffalo System" in various types of commercial and public buildings. It is a book well worth a place in every architect's and engineer's office library, and will be promptly mailed to any interested party upon receipt of request.