

BUILDING.



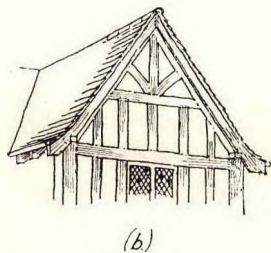
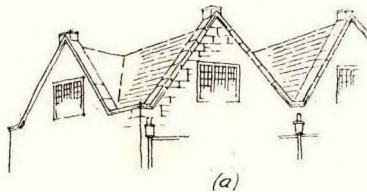
Mr. D. M. Burton, our President for the year 1919—20, has been a member of the Council of the Association for 5 years. He is also a past President of The Society of Architects, (London), S.A. Branch, and at present Hon. Treasurer of the Branch. A member of the Royal Sanitary Institute, The Institution of Sanitary Engineers, London, and a Fellow of The Royal Colonial Institute.

THE PEDIMENT AND GABLE.

By T. G. ELLIS, A.R.I.B.A.

(Continued).

It is easier to give the derivation than a definition of the word gable, and perhaps it would not be too much to say that a satisfactory definition has yet to be invented; but "gabele," meaning a fork in German, is the same word as our gable, and has reference only to the shape of the feature. Gables are of two kinds: (a) those surmounted by a coping and concealing the termination of the roof, and (b) those over which the

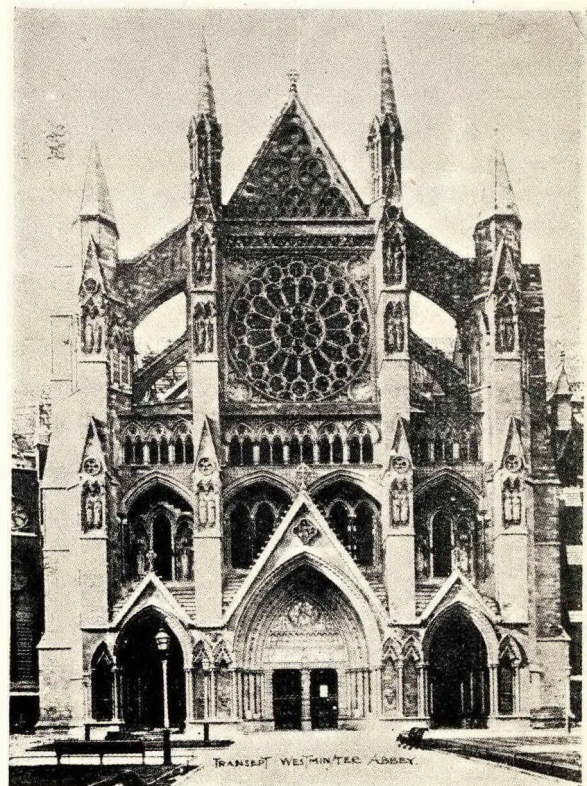


covering materials of the roof are allowed to project. The former used more often for churches and mansions, while the latter being the usual method adopted for ordinary domestic work. The gable accordingly can only be defined as a wall-veil, which on plan is generally at right angles to the ridge of a roof stopping against (or projecting beyond) it, and taking the form of the roof; putting it another way, it is the wall terminating the roof serving the same purpose as the pediment in classic architecture, and known as the gable in Gothic. And, further, it has a vertical tendency forming in outline two sides of a triangle (although the knee stones are sometimes joined by a string course), while its counterpart, the pediment, is in sentiment horizontal and usually partakes of a complete triangular form.

Turning to a closer study of the gable, we find it impossible to pervade the whole geographical extent of Gothic architecture in the present instance, so perhaps it is only right and excusable if we limit our enquiry to the growth of the gable through the English and French periods. As in the previous styles, as in this, the question of pitch offers itself for our examination first of all.

In the Norman period the roof is of comparatively low pitch, and consequently the gable; in the transitional period we note a rise in the pitch, which becomes further increased in the period we call Early English. In the decorated it more or less approaches an equilateral triangle formation, while in the perpendicular buildings it becomes increasingly flat as the style advanced, indeed a very secondary feature, and often ignored so far as possible. Thus it shows a number of variations, which appear to be an infringement of the principle that the pitch of the gable is regulated by atmospheric conditions. How is this to be accounted for? The change of pitch between the Norman and Early English might be explained by saying that the former carried on the traditions of the Roman style, while the latter was a growth of modern Europe. But this explanation cannot be pressed too far, as in the perpendicular period, which is essentially our own, and which therefore should have the highest pitch of roof, fails to fulfil our expectations.

The use of the arch, especially the pointed arch, is one of the strongest characteristics in all Gothic buildings, its variations being dictated partly by taste, and partly by the increasing knowledge of the capabilities of materials, affected the general proportions of the buildings, and it may be reasonably supposed led to the modifications in the pitch of the gables. The



Norman style being a descendant from Roman work and retaining the semi-circular arch, naturally adopted a gable of moderate pitch of 45° . Although this was a considerable increase on the Roman pediment, it is a nearer approach to it than most Gothic examples; besides, this form is more suitable to surmount the circular arch.

Following it through its variations, and taking each stage in order, we come to the transitional period, noting a gradual tendency for the arch to become pointed, until finally we arrived at its most acute development in the early English style, and it was natural that the gable, preserving its relations to the arch, should be made of steeper pitch in accordance.

In the decorated period the equilateral formation is the ruling principle, and thus it comes about that the angle of 60° is selected for the roof-pitch, and consequently for the main gables. In the perpendicular period with the flattest arch in English Gothic architecture, the gables accordingly show the same feeling. In addition, fan vaulting is extensively used in buildings of the Tudor period, and as lead was constantly used for roof coverings, it became more convenient to form a flat roof, and therefore a low pitch gable. Although the above is more or less a brief chronological outline of the variations in the history of the gable, there are many exceptions, and even in a single building a variety of gable pitches may be noticed. For example, it may often be found in churches built throughout in one style, the gables of the transept differ from those of the east or west ends, and the gables of the porches, too, may show another variation. These are inconsistencies which at first sight seem rather baffling, and may in some cases be due to obscure and local causes,* but they may possibly be ascribed to the general feeling (or principle) whether applied consciously or unconsciously—that where there exist in a building several gables, or sloping members, such as the weatherings to buttresses, disposed at different heights, those that are highest up and further away from the eye should be of steeper pitch than those nearest the ground. The motive of this tendency is purely aesthetic, and it asserts itself in opposition to the climatic rule whose principle is really utilitarian.

Turning to the adornment of the gable, we note first of all the remarkable contrast between the genius of the classic and Gothic styles. The Gothic is the style of experiment, fancy and profusion, the Classic of reserve and conformity to law. Take, for instance, the Parthenon, we can read in every line that restraint which is so characteristic of the climax of Greek art, while, in French Gothic architecture shall we say, the wonderful flow of medieval exuberance has been

allowed full licence, especially in their porches. On a closer examination it is evident that just as in the best periods of classic work when the pediment was never disturbed, so also in the stricter Gothic times the gable is seldom allowed to wander from its original prescribed lines. Crockets surmounting the coping, and a finial adorning the apex, are the only forms given licence to, but these always follow the lines of the gable and are held in subjection to it.

The Gable form plays an important part in Gothic architecture, we find it in all conceivable positions. Besides forming the end-wall feature of the main roofs, it serves the same purpose to the porches. Further, we find the same form repeating itself in later work over door and window heads, niches, etc., where it acts as a roof protecting the mouldings below from the weather. Buttresses, too, come in for their shares of the gable form merely as a decorative feature to the off-sets, and in addition the pinnacles, though serving a construction purpose, gave the opportunity for many exquisite examples of the gable form termination. Indeed we find it everywhere, it is one of the chief characteristics of the Gothic period, and its formation gives true delight to the eye.

Now there are certain ornamental gables used in places where they cannot be said to fulfil their original function, that is to represent a roof. They are beautiful traceried screens in stone of gable form, and are found in works of the best periods. The only defence they may claim for their existence is that if a stone screen is to be constructed, the best form to adopt to withstand the weather is the form of the gable. But since the form is adopted for interiors, where no weathering is required, it is better to excuse them for their obvious beauty, and to admit that they place themselves beyond the reach of the theorist and the bounds of his laws.

Considering now the treatment adopted to ornament the wall-surface of the gable, we observe that the surface is usually broken up by arches, windows, and sunk panels, etc. These features served a constructional use, apart from their introduction as being merely decorative. From the form of the gable it is evident that its greatest weight occurs immediately under its apex, that is to say, if a line be drawn across the base of the gable, a weight more or less considerable, according to its pitch, is placed at the centre of that line, and this weight gradually diminishes towards the sides until it is reduced to nothing. Therefore, it follows that to distribute the encumbent load, or to transfer it to the sides, no better expedient could be found than the arch. Examples of effecting this transfer are to be seen in any of the large west

windows of French Cathedrals, and in the east windows of our square-ended English churches.

In the domestic work of the Gothic period, half-timbered construction was common to most parts of this country, and in the decoration of the gable we note how well the construction of the roof (the tie beam, king-post and struts, etc.) is expressed on the face of it, by allowing the end truss of the roof to finish flush with the gable-wall, instead of being concealed behind or within it, and the spaces between the timbers are filled in with brickwork and often plastered. The barge-board following the lines of the roof, became an additional feature to gables of this description; and it is a feature which lends itself to many abuses in the hands of tasteless builders, as is still witnessed in our own times.

Now before we are able to turn our attention to the Renaissance, it is necessary to carry our investigations a little further and ascertain if possible the connecting link by which the pediment passed from its original classical forms to those belonging to the Middle Ages. Where must we search for our desired information but to the buildings of the Eastern Empire: and what light does Byzantium art throw on the development of the pediment?

Buildings of this period show a variety of plan shapes which at first sight seem rather confusing, and in many cases the long continuous ridge is avoided, the roof-ends often square-hipped, and sometimes terminated in an apse. Those too of a circular or polygonal form on plan show a domed covering which give no opportunity for the introduction of the pediment; but wherever it does occur we find it bears a strong family resemblance to the regular Roman form.

Now there is one valuable and interesting point to be noted in many Byzantine churches, and that is the combination of the arch and pediment. Here we see the application of that feature mentioned above, which serves both a decorative and constructional use, that is, the distribution by the arch of the otherwise unequal weight of the pediment or gable. The pediment belonging to the preceding strictly Classical periods always had the lower angles connected by a horizontal cornice surmounting the frieze, so that when the arch was made to break through the space which the cornice and frieze would occupy we discover a new variation, introduced by the Byzantine builders and springing from the Roman style. We have already observed that in Classic architecture that the main effects are horizontal, and in the Gothic the vertical lines are accentuated, but in Byzantine we find something between the two, so that here we are able to trace the gradual feeling from one style to the other. And,

further, it may be noted here in passing that the circular or segmental form of the pediment, more or less afterwards extensively used, especially in Venice, probably owed its origin to Byzantine examples.

Turning now to the pediment of the Renaissance, we must first of all examine it in Italy, then follow it through its English development with an occasional observation as may be necessary on French and German examples. Although France and Germany contribute largely to the history of the subject in hand—the latter country especially famed for the contortions the pediment and gable had to perform—it is just as well for brevity's sake to limit ourselves to the country which gave it a "rebirth," and to own which concerns us most.

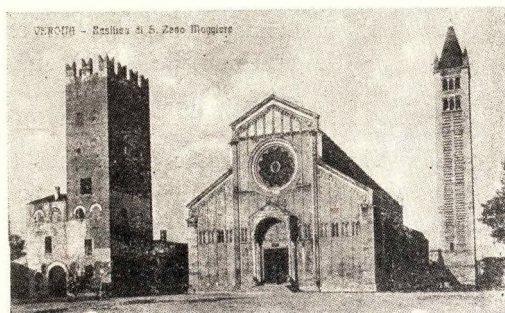
To start, then, with the earliest Renaissance example in Italy, let us take the Church of San Francesco at Rimini (also known as the Temple del Malatesta) by Alberti. Here we see the old difficulty



confronting the architect in designing the western facade for churches of either side aisles or chapels with a lofty central nave. The difficulty was undoubtedly increased by the desire to use the "orders." Unfortunately the central pediment to the west end of the church has been partly destroyed or probably never completed, but it appears that the half-pediment is here used in unpretending austerity, the lean-to roofs of the aisles being simply terminated by a wall which exactly fits the slope.

Another interesting example of the early Renaissance to study is the western facade of the Certosa at Pavia. In this, as in other buildings of the period, the pediment is employed not only to crown the various parts of the facade, but also used over window and door openings. Here we are able to see the beginning of those fantastic uses of the pediment which are really the combination of those fancies which originated at Rome, and, further, this example is one of a long series

of facades that were constructed without any reference to the form of the building behind them. What explanation can we then deduce from the transference of the pediment from its original function of represent-



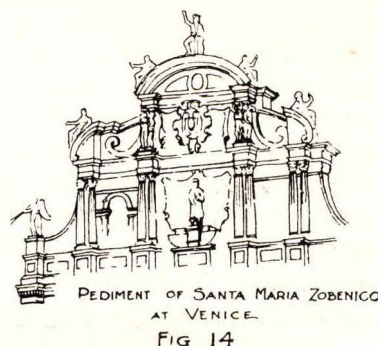
ing the termination of a roof? Rome, of course, in the first place supplied the precedent for the Renaissance architects to follow. Secondly, we find that in Classic architecture some member analogous to the label or hood-mould of the Gothic is necessary, especially in case where jambs are surrounded with mouldings of any kind, and this is adequately supplied more or less by the use of the pediment. Also for the slight projections from the face of the wall, the pediment again was called into use, as is exemplified in the facade under examination, and it likewise has the same excuse, that is, if these projections and window and door openings with their mouldings wanted a form of protection from the weather, no better method of supplying the need could be found other than by using the pediment. Still, though rational, we must not class this use of the pediment as one of its secondary applications, for instead of representing a roof, it forms in itself a covering of protection: it is no longer a mere symbol, but is the roof itself.

Early in the 16th century the Basilican type of plan was usually adopted. This form of such requires, and almost demands, as pointed out before, the use of half-pediments in the facade. This, however, is no excuse for any wanton vagaries of form which it led



CHURCH OF SAN ZACCARIA
AT VENICE.
FIG 16

to, it need only produce some such harmonious and perfectly tranquil design as San Giorgio at Venice by Palladio. But the Venetians preferred to adopt, for some reason or other, the segmental form, both for pediments and half-pediments. It is true in some cases a curved roof called forth the employment for a segmental pediment, but in many instances, for example, the Church of San Zaccaria, the architect has deliberately ignored in his composition for the facade the outline of the building behind it. This was only the beginning of that spirit of licence which continued through the post-Palladian period, and finally reached at the close of the 17th century to an extraordinary pitch of exuberance as exhibited in the Church of Santa Maria Zobenico.



PEDIMENT OF SANTA MARIA ZOBENICO
AT VENICE.
FIG 14

In the facade of the Basilica di S. Giovanni in Laterano 1734 at Rome, we find exhibited the purely ornamental use of the pediment. When the pediment made false pretences it was often with an attempt of truth, but in this example, if the pediment wished to suggest a roof behind, its suggestion would at once be contradicted by the parapet which is at the level of its apex. This, as we have seen before, is a reproduction of the variation introduced by ancient Rome; and has at least the merit of candour in that it opening professes, together with the order, to have no other than an ornamental connection with the building.

Continuing our examination to buildings other than ecclesiastical, we find that in Italian domestic and palatial architecture the roof as an architectural feature finds no expression in the facade. Except in the use of the pediment for door and window heads and the like, the Renaissance architects of Italy ignored it altogether, for in almost every case the palaces are so composed as to be crowned so far as any visible elevation is concerned, with the horizontal lines of a cornice. The pediment in these cases serves, one might say, the purpose of a hood-mould to the doors and windows, in which office it generally alternates with a segmental shape performing a similar function.

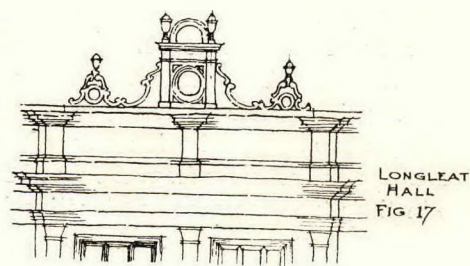
Leaving the pediment as a more or less pure

introduction by the Italians from the classic Roman forms throughout their work, we must now turn to the English Renaissance, which may be classed with that of Germany and France. In these three countries the revival was a form of grafting of the new modifications of Classicism; the Gothic style, though rapidly falling into decay, possessed a great amount of vigour which made the introduction of new forms in their purity a matter of great difficulty. The result was that for a hundred years or more we find in these countries that while the Gothic gave the form, the Classic supplied little more than the ornamental covering.

Of the Renaissance in France, we find that her early craftsmen were so imbued with the achievements and methods of her great Gothic periods, that the country abounds in many vagaries of the pediment. But in Germany the gable shows greater unrestraint in the grafting on of the new style. These two countries, but in Germany more particularly, are so profuse in specimens of these distorted gables—examples may be seen in this country; and even if they were arranged and systematised in order before us, we should find the forms so varied and numerous as to make a thorough examination of them beyond the scope of this thesis. It will, therefore, be better to study our own English Renaissance examples.

The introduction of the Renaissance into England took place about 100 years after its beginning in Italy, so we find accordingly by the time the English builders had made up their minds to adopt the new foreign style, the examples they had to copy from were many and varied. On glancing, then, first at the variety of pediment shapes and gables found in the Elizabethan and Jacobean periods of English architecture, it is evident that except in a general manner it is impossible to trace any chronological development. Buildings of almost identical date vary greatly in the shape of their pediments or gables, that but for the information to be gathered from the appearance of the architecture we should be inclined to ascribe them to different periods. When a country is slowly working out a national style, with an occasional introduction of some foreign feature or method of treatment, it is only rational that that style which at the time of its introduction had already undergone a great deal of differentiation consequent on an extension over many countries and many years, it follows that its importation is bound to show that intricate variety which baffles chronological analysis. This may be said of English Renaissance. Further, another cause for diversity in the works of a new country was the result of indifferent knowledge and taste displayed in the value and meaning of many of the details employed. For instance,

let us look at three of the earliest productions of the Renaissance in England, Longleat and Wollaton Halls, and the Gate of Honour at Caius College, Cambridge. In all three examples the pediment serves an ornamental purpose, and no effect is made at any pretence that there is a roof behind them. Longleat Hall begun in 1570 (Fig. 17) and Wollaton Hall in 1580 (Fig. 18)



LONGLEAT
HALL
FIG 17



FIG 18

show in their pediments, that is so far as the eccentric scrolls and curves composing the pediment shapes are recognisable, the least classic feeling of their design.

In the Cambridge example (1574) (Fig. 19) the

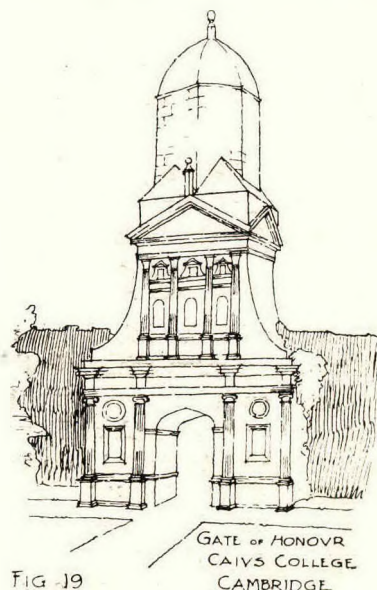


FIG 19

GATE OF HONOUR
CAIUS COLLEGE
CAMBRIDGE

form of the pediment is rectilinear, and varies but slightly, if at all, from the usual Roman pitch, and this work having been under construction at an intermediate date, it would not be unreasonable to look for some similarity between all three in their detail, but as regards the pediment at least this is far from being the case. The example at Caius shows a rectangular block, with a pediment on each side, used purely decorative in the same way that the Romans introduced it as the appropriate superstruction to the merely ornamental order. Built above the pediments is a domed hexagonal block which precludes any possibility of their representing a roof, or of having any other function than protecting the pilasters from the weather, and the pilasters in their turn serve no constructional function, thus have no reason for their existence than the support of the pediments.

At Longleat we find the pediments assume an ornate character of the most eccentric scrolls and curves which we must admit as composing the pediment shape, but so situated that any supposition of their representing a roof is impossible.

Wollaton only a few years later shows a plentiful supply of pediments, and surely here the first impression these monstrosities make is one of warning. As in the case of Caius Gateway, there is a pediment placed on each side of a rectangular tower, an arrangement which could only have a rational origin in the intersection at right-angles of two ridges of equal pitch and equal height. Though this is not an unprecedented device, we find at Wollaton no intention of suggesting a roof behind the pediments. The sky may be seen through the pierced portion of the pediment, and rising behind is a cluster of chimney stacks, the whole forming a very strange piece of composition.

Here, then, we are able to note the spirit, or one of the spirits, of the age which led to the strange forms to which the pediment was distorted in Britain. Our early Renaissance architects apparently felt themselves bound by certain restrictions in the body of their designs, yet allowed themselves a free hand by placing on top of their buildings masses of stonework either solid or open, and of any shape provided they approached in some degree the form of the pediment.

Why, then, should the introduction of classical architecture into a country where Gothic was still lingering, produce such extraordinary excrescences, which are in form no more Greek or Roman than they are Gothic? The answer is found in the reflection that, as pointed out above, the English Renaissance was late; its beginnings were subsequent to that period in Italy when licence had already set in, just as the Italians, as we have seen, thought fit to allow their

fancy to run wild in the application and design of the pediment; it followed that the English, knowing the Italians their masters, gave such liberty to devising of the pediment, and feeling the unnatural restraints of a new style which they did not understand, would not be slow to avail themselves of what seemed a lawful outlet for their exuberant enthusiasm. This, then, doubtless explains in some measure the early work done by English workmen under English architects.

At Peterborough there is a picturesque little Market Hall which shows a mixture of Classic and Gothic feeling, in fact we might say the architect shows here to a remarkable degree this intolerance of the Classic restraint which marks our early Renaissance examples (Fig. 20). The lower part of the building shows the

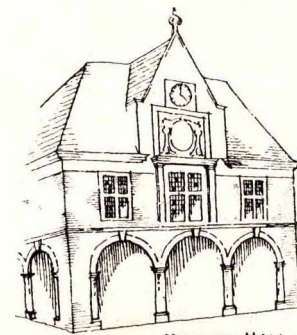


FIG 20.

intention of abiding by the regulations of the new style, but the vigour of the not yet extinct Gothic, smuggling against the horizontal genius of the Italians, proves too much, for in the upper part there arises up above the more or less regular order, a pure Gothic gable crowned by a Gothic finial. One redeeming word we might say for this example is, that it was not, as sometimes, some freak of fancy.

Now there are some shapes in our Renaissance gables, though not abiding to the line of the roof which they terminate, possess in the materials of which they are built a valid reason for their existence. The "Stepped Gable"—or as known in Scotland "Corbie-steps"—is the most rudimentary of these. The simplest method to approach any oblique angle when working with rectangular materials, such as bricks or ashlar, and without cutting the material, is obviously to build them up by a series of more or less abrupt gradations following the pitch of roof. This form of gable applies more to Scotland and the North of England, and through its delightful simplicity and severity we are able to trace the beginning of the more florid irrational gables which followed their form with a scroll or other piece of ornament placed on every step.

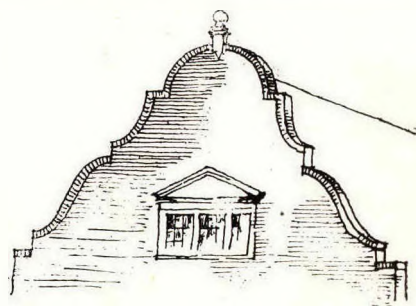
Theoretically it may be wrong for the gable to wander from the roof line, yet we have to acknowledge the combination of angles and curves are so graceful and harmonious to the eye, as to compel us to call them beautiful. But on further examination we find a certain constructional reason why these gables should adopt curvilinear forms, and it is that bricks were largely used for buildings of this period, *i.e.*, Queen Anne.

Gables, as we have already pointed out, are of two sorts—those which the roof covering surmount, and those which the roof butt against. The former naturally follows the pitch of the roof, but it is to the latter form where any liberty of shape is possible, and it is to these that we must now turn. First of all, then, it was necessary to have a coping to keep the wet out of the wall, and this being a raking line presented to the building a problem for solution, *i.e.*, how to prevent the coping sliding down the pitch of the wall. If the material should be of stone, which may be cut or moulded to special forms, the difficulty may be overcome by joggle points or by securing the stones to one another with metal clamps. Another method is to allow certain blocks of the coping stones to have a good horizontal bed and to place a weighty knee stone, also on a horizontal bed, at the foot of the coping. These knee-stones gave an opportunity for sculptural treatment, but were more often worked into a gablet (Fig. 23). But with brick construction the difficulty



increased. It was impossible to give any parts of a raking brick coping a substantial horizontal bed, nor can a brick be joggled or doweled together like stones. The stepped gable was of course the simplest way to solve the problem, but by way of variety we find the steps were used in conjunction with the curves exemplified above. They were an efficient and interesting means of giving the coping a secure bed upon the gable, though, of course, by the introduction of curves it became necessary to cut the brick adjacent to the curved parts of the coping. But by adopting the form

of an arch, the curves enabled the oblique thrust of the coping's weight to be turned into a vertical or lateral one, according to the design of the gable (Fig. 24).



BRICK GABLES

from near Broadstairs

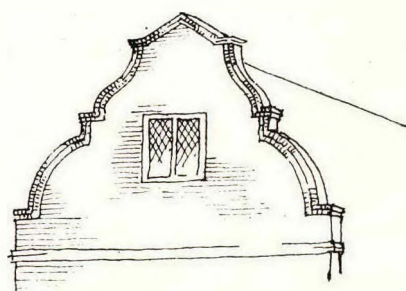


FIG. 24.

This, then, is no excuse for the same shapes when executed in stone, it serves only as an apology for some of the most modest deviations, and while there is much that appears extravagant in brickwork, it offers no justification except that of analogy.

Having now briefly traced the historical outline of the pediment and gable, and although we have not mentioned any of the later examples of Jones, Wren and their followers, in which the pediment was more or less a reproduction of Italian work, yet our purpose has been fulfilled by gathering up into a short thesis the gradual development of these important features which owed their existence to a primary need. We have seen how the full-grown off-spring of Greek art which flourished for a time in a strict spirit of purity, which was the very life of Greek nobleness, became when borrowed by the bourgeoisie opulence of Rome, a mere passive prey to her unsentimental patronage. And when in the Renaissance, after passing through a long series of misapplications it finally reached the extravagant climax of the 16th and following centuries, in which the pediment and gable became blended together, and often produced a beautiful, but sometimes useless offspring.

Of the Gothic we have attempted to show how it was the pediment in Gothic terms—a descendant of Roman work—and in a few words followed it through its various modifications until it finally gave way to the Renaissance.



CHURCH OF THE GESÙ,
AT ROME - about 1568
*Scroll used for half Pediment
Pediments to Windows and Niches.
Pediment within a Pediment over Entrance*

To conclude, then, with a reference to our own times, we find that from the latter half of the last century, following that period when the roof form was concealed behind a gloomy parapet, the pediment and gable are reasserting themselves. And though they may sometimes fall under the censure of a few axioms of propriety, still they are allowed to stand forth visibly and publicly on the sky-line of our buildings.

District Grand Lodge, Transvaal, E.C., JOHANNESBURG.

Architectural Competition.

Competitive Designs are invited from qualified Architects for new Masonic Buildings, to cost about £20,000, at Noord and Klein Streets, Johannesburg. The competition is limited to those who are subscribing members of an English Lodge within the Union of South Africa, and have been for the past twelve months.

PREMIUMS £150, £75 and £25.

Full particulars can be obtained from the undersigned not later than the 29th March, 1919.

P. N. HEATH,
Dist. Grand Secretary.

Box 1117,
Johannesburg.

SPECIAL GENERAL MEETING.

A Special General Meeting of members was held in the Board Room, Exploration Building, Commissioner Street, Johannesburg, at 8.30 p.m., on Saturday, 22nd February, 1919.

Present. Mr. M. J. Harris (in the chair), Messrs. D. M. Burton, D. M. Sinclair, F. L. H. Fleming, N. T. Cowin, R. Howden, E. M. Powers, J. S. Donaldson, D. A. McCubbin, H. G. Veale, T. G. Ellis, Allen Wilson, E. H. Waugh, Chas. Hosking, Cyril Reid, A. H. Gibbs, H. Porter, J. F. Kroll, A. Leitch, J. W. Small, H. W. Spicer, W. B. T. Newham.

20 members were represented by proxy.

All members present and represented by proxy were in good status and eligible to vote.

The Registrar read the notice of the 7th February, convening the meeting, which was to consider and, if approved, to adopt the following suggested addition to Bye-law 47, recommended by Council:—

“Or such examination or examinations as shall from time to time be provided by the Council of the Association of Transvaal Architects in its absolute discretion, when the examinations held by the South African School of Mines and Technology are not regularly available, or when the Council of the Association of Transvaal Architects decides that the same are inapplicable or unsuitable.”

Mr. F. L. H. Fleming, in formally moving the adoption of the foregoing recommendation of Council, stated that owing to the exigencies of the war, the School of Mines had found it impossible to hold its usual architectural classes, and consequently found it impossible to hold qualifying examinations, and therefore the machinery for registration was inoperative, further, Council wished to restore to its original basis the power the Act conferred in the matter of setting examinations.

Mr. E. H. Waugh seconded.

Mr. M. J. Harris, in the absence of any discussion, put the motion to the vote, and it was carried unanimously.

The President, Mr. M. J. Harris, thereupon stated that more than sufficient members were present to make this Bye-law operative.

The meeting then closed.

NATAL INSTITUTE OF ARCHITECTS.

The Annual General Meeting of the members was held in the Secretary's Office, Field Street Buildings, Field Street, on Thursday, the 13th March, 1919.

The President, Mr. F. J. Ing, being in the chair; those present were Messrs. W. S. Payne (Vice-President), W. Paton, E. O. Payne, B. V. Bartholomew, Thos. Read, L. Mason, M. Holmes, R. N. Jackson, and T. H. Chaplin (Secretary).

Apology for absence was received from Mr. S. G. Hudson.

The minutes of the last Annual Meeting were read, and confirmed.

The President, prefacing his report, said, all will appreciate the fact that Greatest Event of the year or in the History of the World is the Allies' Victory in the Great War, and the signing of the Armistice, which it is sincerely hoped will secure a lasting peace.

The following is a summary of the principal items of interest dealt with by the Council of the Institute since the previous General Meeting, held on February 14th, 1918.

There have been 13 Council Meetings and one Special General Meeting held during the last 12 months. Meetings have been well attended.

It is satisfactory to be able to state that our Membership has been maintained, one new member having joined during the year. The roll of Membership now standing at 20.

The Durban Town Council were approached with reference to placing the carrying out of Municipal Building Schemes into the hands of local practising Architects, distributing such work between them as far as practicable; instead of preparing plans and other work necessary for calling tenders, departmentally, and the principal of giving out work to local Architects has been acknowledged by the members of the Town Council, and to a considerable extent acted upon.

The Durban Town Council requested that two members of the Council of our Institute be nominated to sit on the Special Committee appointed to consider the Town Housing Scheme, and the two members appointed have attended several meetings in connection with this important matter, and the Town Council are applying for necessary statutory powers to carry out the recommendations of the Special Committee.

Two Conferences with representatives of the Master Builders' Association have been held during the year, at which matters of general interest effecting Architects, Builders and Building public, were discussed, and agreements come to as to the proper methods to adopt in connection with the points raised.

The Durban Town Council requested the Council of our Institute to give opinions and suggestions for amendment of Bye-Laws regulating the erection of verandahs and balconies over public thorough-fares, and after considerable discussion certain recommendations were drawn up and approved and forwarded to the Borough Engineer.

The Architects' Registration Bill which, with few exceptions, is looked upon by members of the Profession as a matter of utmost importance, the passing of which would not only establish the status of Qualified Architects, but be a protection and advantage to the general public.

The possibility of bringing this Registration Act into force by means of Legislation has received a great deal of attention by members of the Institutes of Architects in each Province, and considerable correspondence between the different Institutes has passed on this subject. Early this year a Conference was held in Cape Town of representatives of the different S.A. Institutes and others interested in this matter: the thanks of our Institute are due to Mr. W. S. Payne who was deputed to attend, and ably represented us on this Conference, a copy of Mr. Payne's report was forwarded to each member of our Institute, and a copy for reference is to-day laid on the table.

Thanks are due to the Royal Institute of British Architects, The Victoria Institute of Architects, and the New Zealand Institute, for forwarding us their journals and calendar.

At the beginning of the year the resignation of our Secretary, Mr. Newton, was received with regret. Mr. T. H. Chaplin was appointed as Secretary, and our thanks are due to him for the interest he has taken, and the able manner in which he has carried out his work.

In accordance with the General Rules of the Institute, your Council retires, but members are eligible for re-election.

The following gentlemen were elected members of the Council for the ensuing year:—

Messrs. W. S. Payne (President), B. V. Bartholomew (Vice-President), W. Paton, L. Mason, M. Holmes, F. J. Ing, and Thos. Read.

PRIZE ESSAY—

The President has generously offered a prize of £5 5s. 0d. for the best essay, not exceeding 2,000 words, on Town Planning on general lines. Essays should reach the Registrar of the A. T. A. not later than 25th May, 1919. The adjudication will be in the hands of the Editor and Sub. Editors of this Journal, whose decision will be final. The submission of essays in this competition confers the right to free publication.

OFFICERS AND COMMITTEES FOR THE YEAR 1919.

The following officers and committees have been elected for the current year:—

President: D. M. Burton, M.S.A., M.R.San.Inst.

Vice-Presidents: Mr. D. M. Sinclair, M.S.A.; Mr. E. M. Powers, A.R.I.B.A.

Council: Mr. N. T. Cowin, Mr. J. S. Donaldson, M.S.A.; Mr. T. Gordon Ellis, A.R.I.B.A.; Mr. F. L. H. Fleming; Mr. R. Howden, A.R.V.I.A., M.S.A.; Mr. D. A. McCubbin, Licentiate R.I.B.A.; Mr. H. G. Veale, M.S.A.; Mr. Allen Wilson; Mr. M. J. Harris, M.S.A.

Finance Committee: Mr. D. M. Sinclair (Convener), Messrs. J. S. Donaldson, T. G. Ellis, D. A. McCubbin, D. M. Burton, E. M. Powers.

Practice Committee: Mr. H. G. Veale (Convener), Messrs. F. L. H. Fleming, Allen Wilson, R. Howden, J. S. Donaldson, D. M. Burton, D. M. Sinclair, E. M. Powers.

Draft Act Committee: Mr. M. J. Harris (Convener), Messrs. H. G. Veale, R. Howden, D. M. Burton, D. M. Sinclair, E. M. Powers.

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Journal Committee: Mr. E. M. Powers (Editor and Convener), Messrs. E. H. Waugh, R. Howden, M. J. Harris, Gerard Moerdijk, E. J. Wellman, D. M. Sinclair, D. M. Burton, G. W. Nicolay, D. A. McCubbin.

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Witwatersrand University Committee: Mr. D. A. McCubbin will be the Association's representative on this body.

Seymour Memorial Library: The President, Mr. D. M. Burton.

Architectural Classes: The President (Mr. D. M. Burton) and Mr. Allen Wilson will be the visitors for the ensuing year.

Pretoria Practice Committee: Mr. W. J. de Zwaan (Convener), Messrs. N. T. Cowin, P. J. Hofman,

F. Soff, J. G. Kraan, J. B. Weyers, F. Roberts, V. S. Rees Poole, J. R. Burg, F. G. McIntosh, P. Westmaas.

Propaganda and Education Sub-Committee: Mr. T. G. Ellis (Convener), Messrs. M. J. Harris, W. B. T. Newham, D. M. Burton, E. M. Powers, F. L. H. Fleming, A. J. Marshall.

Town Planning Sub-Committee: Mr. H. G. Veale (Convener), Messrs. G. S. Burt Andrews, E. M. Powers, H. W. Spicer, D. M. Burton, D. M. Sinclair, F. L. H. Fleming.

Dean of Guild Sub-Committee: Mr. E. H. Waugh (Convener), Messrs. T. G. Ellis, H. G. Veale, G. Moerdijk, Frank Emley, D. M. Burton, D. M. Sinclair, E. M. Powers, F. L. H. Fleming, A. Leitch.

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UNION PUBLIC HEALTH BILL AS IT APPLIES TO SANITARY INSPECTORS.

Why Inspectors Require Protection.

By R. Beattie, A.R.San.I. (London), A.M.I.S.E. (London), M.S.I.A. (Hon. Secretary, Sanitary Inspectors' Association of South Africa, Transvaal Centre).

This draft Public Health Bill for the Union is before Parliament at present and, after having been read twice, has been referred to a Select Committee. There are two clauses guaranteeing security of tenure to the Medical Officers of Health and certificated Sanitary Inspectors respectively. *The clause referring to Medical Officers of Health reads as follows:—*

"Until the Minister has notified to the Local Authority his approval no Medical Officer of Health of a Local Authority shall, without his own consent, be removed from office or have his salary or emoluments reduced."

That referring to Sanitary Inspectors is as follows:

"Until the Minister has notified to the Local Authority his approval, no certificated Sanitary Inspector shall be dismissed or have his salary or emoluments reduced: Provided that the Local Authority may suspend the appointment of any such Sanitary Inspector for gross incapacity, neglect, or misconduct pending the sanction of the Minister as to his dismissal, and in the event of such sanction being granted, the said Sanitary Inspector shall be deemed to have been removed from office from the date of such suspension."

Why Protection is Necessary.

It is necessary to point out that on account of the peculiar work and duties of sanitary inspectors they are liable at all times to incur the displeasure of such persons as influential property owners, slum landlords, licensees of premises, including bake-houses, butcheries, Kaffir eating-houses, restaurants, factories, and so forth. Persons engaged in these and the like businesses are very frequently represented on Municipal Councils and Health Committees.

To review concisely the reasons for the absolute necessity of some measure of protection for these officers, I cannot do better than put the following question:—

"Would any judicially-minded man expect a

Sanitary Inspector, under the present conditions, to report adversely and fearlessly upon premises registered in the name of a member of a Health Committee? Or would it be reasonable and human to suppose that such an official would recommend prosecution of a Town Councillor, a member of a Health Committee, or the Chairman, say, of a local Ratepayers' Association for allowing his licensed premises, such as a cow-shed, skin-yard, bake-house or restaurant to be in such a condition as to be a nuisance or dangerous to health?"

And if he did, would his salary be increased?

In Scotland the Inspectors have security of tenure.

The Local Government (Scotland) Act, 1889 (52 and 53 Vict., C. 50), reads: *"Every Medical Officer and every Sanitary Inspector appointed under this Act or under the Public Health Acts shall be removable from office only with the sanction of the Board of Supervision."*

The Provincial Council would appear to have recognised the desirability of protecting Municipal Mines Sanitation Inspectors in their work, for the Local Government (Transvaal) Ordinance, 1912, Chap. XI., Section 180 (3) dealing with the appointment of Mines Sanitation Inspectors, reads as follows: *"A Mines Sanitation Inspector appointed under this section shall not be removed from his office or suspended from his duties by the Local Authority without the approval of the Administrator."*

Mr. Blackwell Misinformed.

The Johannesburg *Star* of 4th February, 1919, reporting Captain Blackwell's (M.L.A., Bezuidenhout) criticism in the House of the Public Health Bill, made use of the following words: *"He challenged the clause which provides that Sanitary Inspectors are not to be dismissed without Ministerial approval, holding that though this is reasonable enough in the case of a Medical Officer of Health, it is undue interference with the Local Authority in the case of subordinate inspectors, who number in Johannesburg, he said, a hundred or more."* And again, in the *Mail* of 6th February, 1919, the following remarks are attributed to Mr. Blackwell: *"Johannesburg had twenty-seven Sanitary Inspectors, Sanitary Engineers, Building Inspectors and Meat Inspectors, and thirteen Sanitary Supervisors."*

Furthermore, the Johannesburg *Star* of 6th February, 1919, reports Mr. Blackwell as follows: *"Referring to the immunity of sanitary inspectors from dismissal, he pointed out that in Johannesburg*

there were 91 inspectors, who would be immune under the clause. He thought that to give immunity to so large a proportion of employees was going too far."

From whatever source Mr. Blackwell obtained his information, he would appear to have been hopelessly misinformed. Unfortunately, such erroneous and misleading statements from a reputable citizen are likely to result in irreparable harm being done to sanitary inspectors generally throughout the Union.

The Facts of the Case.

There are in the Johannesburg Council's employ a total of 25 certificated sanitary inspectors (including meat and food inspectors), who would be affected by the security of tenure clause. Mr. Blackwell's "hundred or more," his sanitary engineers, building inspectors, and sanitary supervisors exist in imagination only. There is no mention of these latter officials in the security of tenure clause, and it is not understood what is meant by the term "sanitary supervisors." Certainly there is no mention of it in the Council's By-Laws, and no sanitary inspector in Johannesburg can explain its meaning.

Mr. Lloyd George Agrees.

The Sanitary Inspectors' Association of England recently had a conference with such noted authorities as Sir Arthur Newsholme, Medical Officer of Health to the Local Government Board of England; the Right Hon. Herbert Samuel; Sir James Crichton-Browne, M.D., F.R.S., the eminent authority on Public Health and President of the Inspectors' Association; and Mr. Lloyd George regarding security of tenure for Inspectors in the new Public Health Bill of England, and all were unanimously in favour of it.

Mr. Lloyd George's exact words to the delegates were: "I have never heard a case more irresistible. In general, I agree there should be security of tenure, not only for the Medical Officers, but also for the Sanitary Inspectors. The Inspectors' position is often even more precarious, as Sir James Crichton-Browne has pointed out with eloquence and force, than that of the doctor. He is a poorer man; his standing is not firm; and if anyone needs protection, the Inspector needs it as fully as the Medical Officer."

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I venture to state that the opinion of Mr. Lloyd George, Premier of Britain, and Sir Arthur Newsholme, M.O.H. to the Local Government Board of England, would rank at least equal with Mr. Blackwell's, of Bezuidenhout.

What Dr. Porter Thinks.

As showing the difficult position of the officials, I will quote extracts from an address given to the South African Inspectors' Association by the President, Dr. Charles Porter, Medical Officer of Health, Johannesburg, at the inaugural meeting on 1st July, 1913:—

"With regard to the difficulties of Sanitary Inspectors, these officials are very often between the devil, in the form of the Health Committee and the Medical Officer of Health, and the deep sea, in the shape of the public. With respect to the Public Health Committee and the Medical Officer of Health, and apart from actual wrong-doing and obvious neglect, the Inspector is always open to the criticism that by doing too little he has failed in his duty, while by

doing too much he has been indiscreet and over-zealous. It is often not easy to steer a safe course between Scylla and Charybdis.

"In respect of this relations with the public, every Sanitary Officer has to be on his guard against attempts to use him for the gratification of spite arising out of some private difference."

Referring to the mixed population, Dr. Porter said: "... These individuals, many of whom hardly dared breathe the air of heaven freely in the country of their origin or parentage, sling about insinuations of personal spite, bribery, and other improper financial motives in reckless fashion (especially in the Courts), and upon occasion such a proceeding has been accorded literal impunity."

Gentlemen, one has now dealt with the various matters to which one proposes to refer to-night, and the impression has no doubt been conveyed that, like the policeman in the "Pirates of Penzance," taking one consideration with another, the Inspector's "lot is

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not a happy one." It is certainly not a bed of roses. On the other hand, its interest and utility cannot be questioned, and in South Africa, so far as one knows, fixity of tenure is reasonably good. Indeed, in 13 years one has only heard of one case in South Africa, as compared to many reported in England, in which an Inspector appears to have been "fired" merely because he did his duty too well.

There are other cases on record where Inspectors have been interfered with and hindered from doing their duty, and even though one case of "firing" only is mentioned by Dr. Porter, provision should be made in the Bill to guarantee that similar action could not occur again.

Bloemfontein Congress and T.M.A. in Favour.

The recent Bloemfontein Congress on the Bill, including representatives of public bodies from all over the Union, by unanimous vote decided in favour of the same security of tenure for Inspectors as for Medical Officers. Likewise the Transvaal Municipal Associa-

tion, consisting of representatives from every Local Authority, passed a similar resolution unanimously at a general meeting in Johannesburg last week.

I would point out that the Draft Bill does not protect each and every Inspector indiscriminately, for any such official may be suspended for incompetence, neglect or irregular behaviour. In the case of the Medical Officer no such proviso exists—he is guaranteed full protection without any limitations.

So long as intimidation and the fear of dismissal hangs like the Sword of Damocles over their heads, it will continue to be extremely difficult for Inspectors to perform their duties fearlessly and without favour.

It is pleasing to be in a position to record that Mr. Councillor Leggett, Chairman of the Public Health Committee, Pretoria, is a strong supporter of the clause in question, and one can only hope that the chairman and members of the Public Health Committee, Johannesburg, and in other towns throughout the Union are equally sympathetic and enlightened.

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"HUME" CONCRETE PIPES FOR SEWERS.

There has been a considerable amount of discussion as to the suitability of concrete pipes for sewerage. Unfortunately adverse reports have been spread by people interested in sewerage pipes made of materials other than concrete. With a view to showing how false and misleading these statements have been, the following are a few results, collected by Mr. E. S. Hanson, giving the experience of users of concrete pipes for sewerage. It must be borne in mind that the concrete pipes described have been made in the ordinary manner, *i.e.*, hand-made or made by violent agitation of the moulds containing the concrete mixture. If this is understood clearly it will be simple to see how much better a concrete pipe made on the Hume Centrifugal Process would be for the purpose.

In 1910 Mr. Arthur Collins, the City Engineer of Norwich, England, made this statement: "I have concrete sewers under my care in Norwich which were laid in 1891, varying in diameter from 42in. to 24in., the total length of which amounts to several miles. These pipes were brought into use for carrying sewage twelve years ago, and they show no signs whatever of deterioration. The sewage pumped to the sewage farm for forty years has been conveyed in open concrete pipe, and in this there is no disintegration by chemical action." This report was written nine years ago, and the concrete pipes are still in use.

Mr. A. C. James, Engineer and Surveyor to Grays Urban District Council, near London, said before the Concrete Institute that he had charge of some sewerage works where practically the whole of the tanks and other works in connection with sewage treatment were formed of concrete. The districts through which the sewage flowed were very flat, and when it arrived at the works it was not only very strong, but was highly concentrated, and rather in a septic condition, giving off a good deal of sulphuretted hydrogen. The tanks into which the sewage flowed were formed of Thames ballast and cement, 4 to 1 concrete, and they have now been in use between 15 and 16 years. The concrete was absolutely as good as the day it was put down. There was no sign of deterioration whatever. After having been pumped from these tanks, the sewage flowed into some septic tanks, also of concrete, in which there was no sign of deterioration at all.

In a book issued by Prof. Max Gary, Chief of the Royal Testing Station for Building Materials, Berlin, he states that after investigation of the destructive action of sewage and acids upon cement concrete pipes, practically the whole of his records showed that the destructive action of sewage on Portland cement concrete pipes had been very few in number. The official reports showed the existence of concrete pipes over forty years of age.

In Paris a section of concrete sewer pipes was placed in exhibition after being in use 16 years. For 12 years it had been used as a rising main. For four years it had been broken into and exposed to the air. As far as could be ascertained, both internally and externally the concrete was practically as sound as the day it was made, and when the concrete was broken away, and the steel exposed, it was perfectly bright, in fact, it was clean.

Duluth, Minn., has had concrete sewer pipes for 30 years; their length aggregating about 14 miles. There have been no failures, and the sections taken up have been first-class in every respect. The Chief Engineer says they are incomparably better than sewers of other materials.

Portland, Oregon, has put in over 26 miles of concrete sewer pipes within the past 16 years.

Charles J. Poetsch, Engineer of Milwaukee, states: This city has used concrete sewer pipes for over 30 years with entire success, and has now 200 miles of such sewers in use.

A. W. D. Hall, City Engineer, Jackson, Mich., states: "It has been my experience that concrete is more economical and stronger than sewer pipes made of either brick or clay. We have three miles of concrete sewers ranging from 15in. to 66in. in diameter. We not only consider this superior to any other class of sewer, but there is a saving not only in the laying, but in maintaining afterwards.

Atlantic Mills, Olneyville, have put in 3,000 feet of 30 x 20 ovals concrete pipes to carry off dyes. This dye is composed of acids, salt and potash, and is discharged into the pipes at about scalding temperature. The pipe line has been in use 28 years. Two or three pieces have been removed when putting in water pipes, and the cement was in almost as good condition as when put in.

Superior, Wis., has over a mile of 15in. to 20in. concrete sewer pipes laid. Proved entirely satisfactory.

Portland, Oregon, five miles of 9in. to 12in. concrete sewer pipe. Laid over 30 years ago. Has proved perfectly satisfactory.

G. H. Randall, City Engineer, Oshkosh, Wis., states he has concrete pipes in use laid in 1884. In first-class condition to-day.

We could give many other examples, but it will suffice for the present to cite the above.

We might just mention in passing that the city of Hobart, Tasmania, have adopted concrete sewage pipes. That Port Adelaide has 600,000 feet of 4in., 6in. and 9in. sewer pipes, and Melbourne has over 600,000 feet of 4in., 6in. and 9in. sewer pipes also. That in England over 200 municipalities have adopted concrete sewer pipes, and that here in South Africa already large quantities of pipes have been installed for this purpose.

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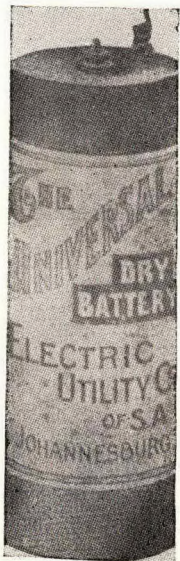
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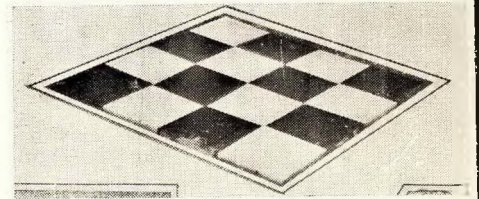
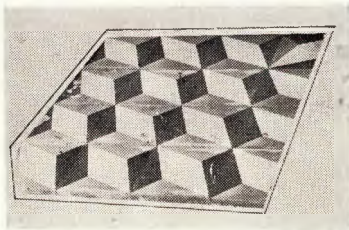
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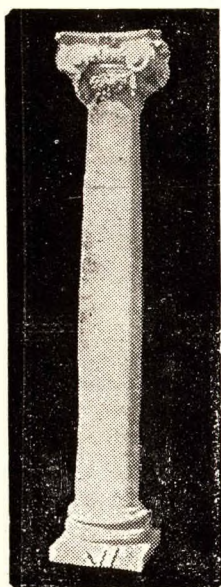
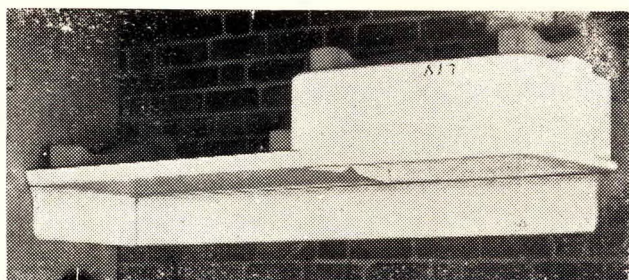
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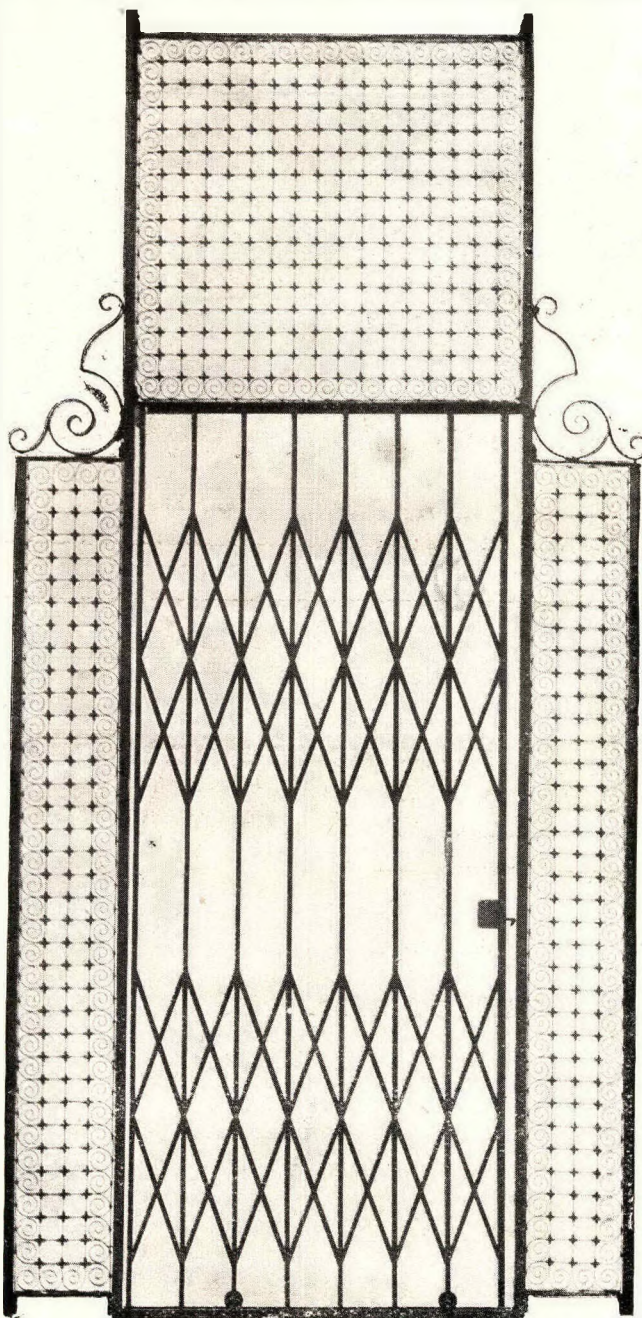
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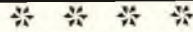


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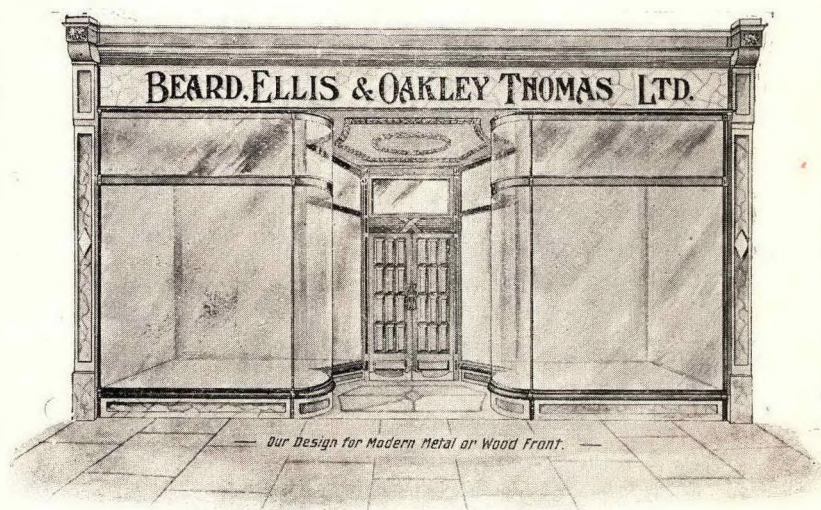
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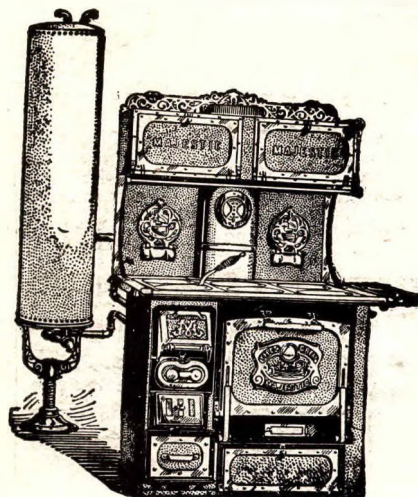
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