THE AMERICAN ARCHITECT

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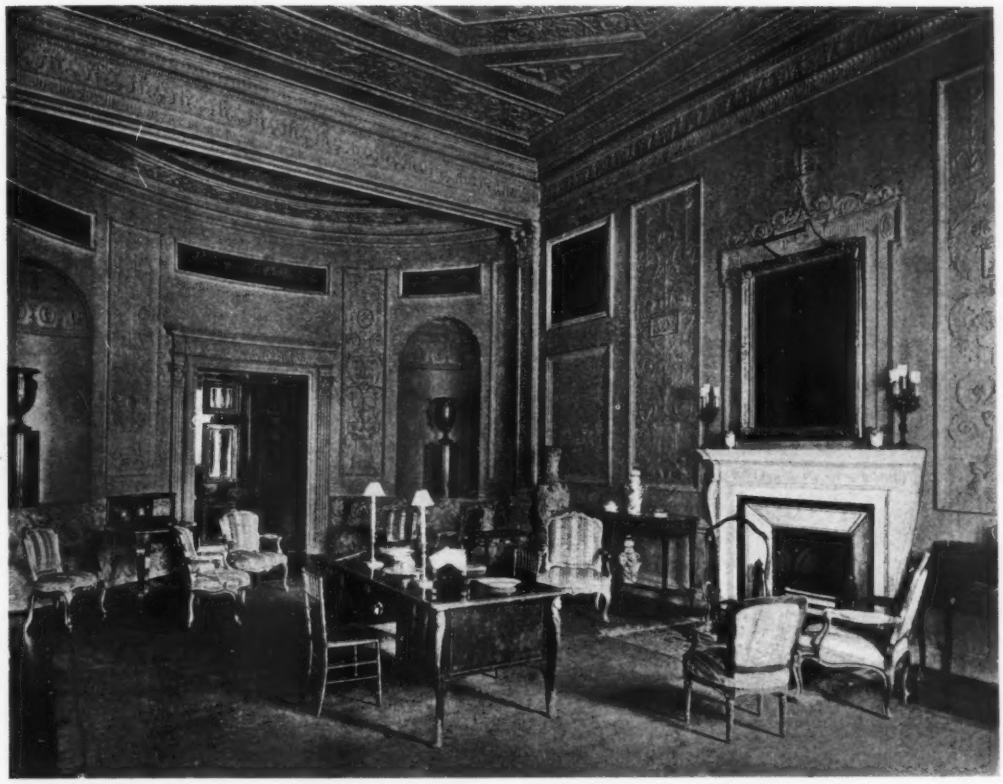

A TYPICAL ADAM INTERIOR—DRAWING ROOM, LANSDOWNE HOUSE

(From Robert Adam and his brothers)

CHAIRS

THEIR INFLUENCE ON THE DESIGNING OF FURNITURE

IN the furniture equipment of modern buildings, chairs are perhaps the most important feature of utility. They are the one piece of furniture, more than any other, that indicates the steady refinement in furniture design, starting with the common stool or bench without a back—earlier known as "forms"—and passing through progressive stages of development to the elaborately designed modern chair. In early days the chair was a little known piece of furniture, and forms were the usual type. When the family possessed a chair it was generally set apart for use by the master of the house and became in a sense a domestic throne from which he ruled his household. In the middle of the seventeenth century, and when higher and better ideals of life were developing, chairs were more commonly used. They were strong and cumbersome without cov-

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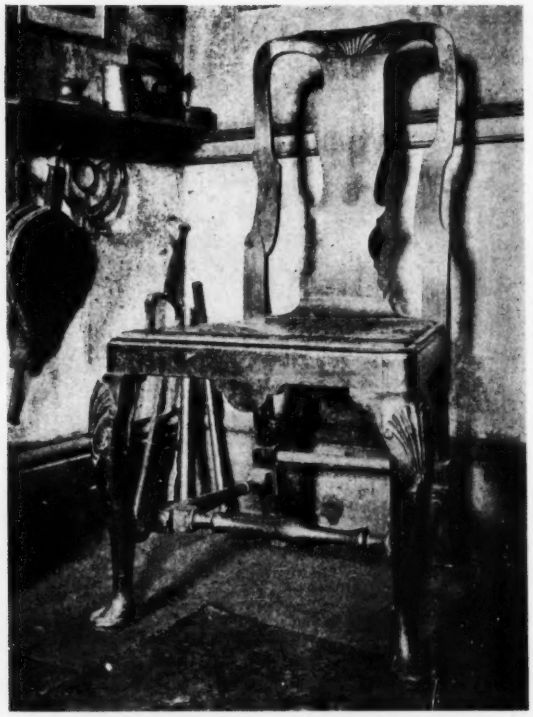


FIG. 1—CHAIR WITH CABRIOLET LEGS, AND STRETCHERS

(From The Seats of the Colonists)

ering of any description, save perhaps a movable cushion, the forerunner of leather seats and backs and hair-filled upholstery. Chairs of this period are rare and few examples are to be found. Their bulky, inartistic forms did not commend them to collectors, and aside from historical collections of furniture or ancient buildings of the period, there are few genuine examples of mid-sixteenth century chairs to be found.

The growing tendency to apply elements of good craftsmanship that marked the opening years of the seventeenth century resulted in a considerable refinement of chairs. The hitherto rudely formed legs and stretchers were now rounded and sometimes rudely carved, and the back posts often curved.

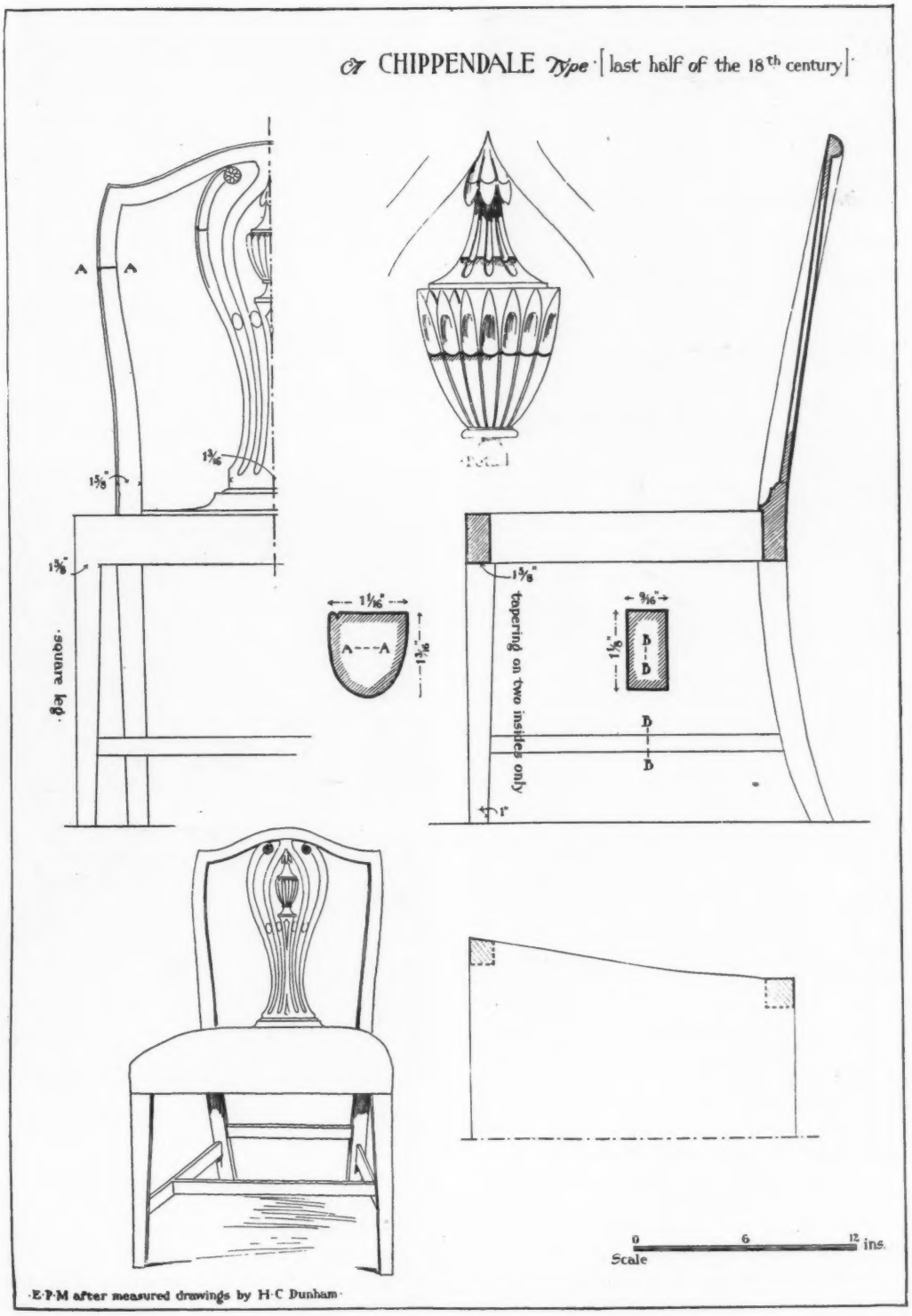
About 1700 the "slat back" chair was introduced, soon to be followed by the spindle back and other forms. Comfort suggested the curving of slats and spindles to fit the form of the body. From that period up to the present time, the artistic development of the chair has been steadily going forward, and as other pieces of furniture were from time to time added, the principles governing their design were controlled by the chair design of the period.

In the history of the development of furniture making, great names are found associated with the craft; men whose artistic impulses found an outlet in the refinement of furniture forms and brought them to the highest perfection. With each name is connected some characteristic of design. It will be interesting to review their work chronologically and trace their influence, one on the other. It may be well to state, at the outset, that so subtlely do these "periods" of furniture design merge that it is only the expert who can

FIG. 2—CHAIR WITH CABRIOLET LEGS, WITHOUT STRETCHERS

(From The Seats of the Colonists)

with accuracy assign to each piece its authentic date and authorship. In fact, the modern decorator is often beset with difficulty in his selection of period styles



(From The Seats of the Colonists)

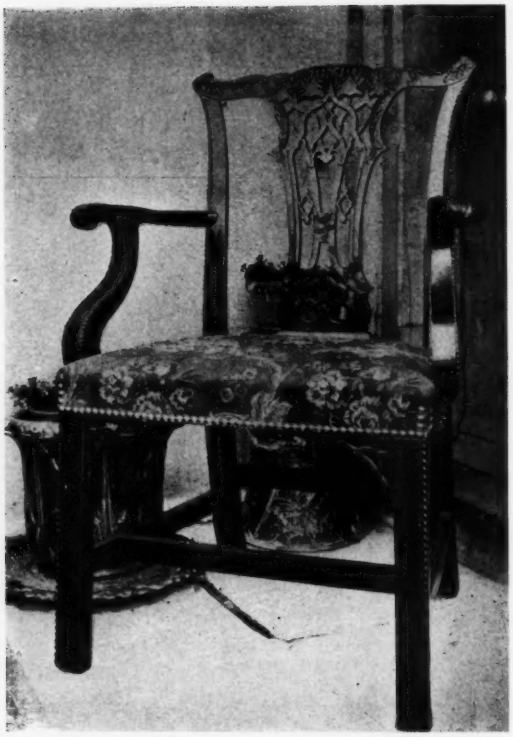


FIG. 3—A LATE TYPE OF CHIPPENDALE ARM CHAIR

(*From The Seats of the Colonists*)

in furnishings to maintain a consistency that will meet the approval of expert criticism.

As has been stated, the form of the chair and the elements of its design have controlled those of all the many other pieces of furniture, and, in referring to the work of master furniture designers, the chair will be the basis of illustration and description.

Of all the great designers of furniture, Thomas Chippendale was probably the leader. His shop in London during the middle period of the eighteenth century and for about fifteen years, produced designs rarely if ever excelled, and are even at the present time regarded as standard. In form, chairs designed by Chippendale were but little if any different from those prevailing at that time in Holland, France and England. But a Chippendale chair differed in its artistic ensemble from those of his contemporaries just as a plain wooden panel does from the carved and embellished example by Grinling Gibbons.

The solid backs Chippendale pierced with patterns that will always be associated with his name, while the straight tops and sides he changed to graceful curves, and the straight legs were bent to pleasing lines. The Cabriolet form of leg with carved or turned stretchers were first introduced by Chippendale, while the "ribbon back" and carved types of chair backs are attributed to his artistic invention.

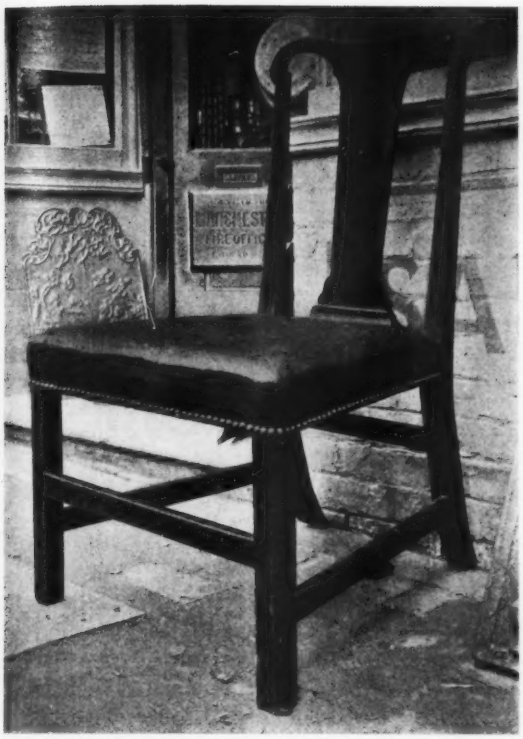
In the true Chippendale type, the inlay is never to be found and in this fact we have one of the means of detecting Chippendale examples. Later designers, adhering closely to Chippendale patterns

FIG. 4—A LATE TYPE OF CHIPPENDALE ARM CHAIR

(*From The Seats of the Colonists*)

introduced inlay in many forms, so when it appears in a chair attributed to Chippendale, it is safe to assume that error has been made.

Illustration of examples of Chippendale's work accompany this article. Fig-



AN ENGLISH CHAIR, SHOWING DUTCH INFLUENCE

(From The Seats of the Colonists)

ure 1 shows an early type. Here the back is not pierced and the form is a survival of Dutch influence, but the Cabriolet legs appear. In Figure 2 the back is pierced and the legs terminate in a claw clutching a ball. This feature met with prompt approval and will be found in many Chippendale chairs. In this example the stretchers have been omitted and much carving added.

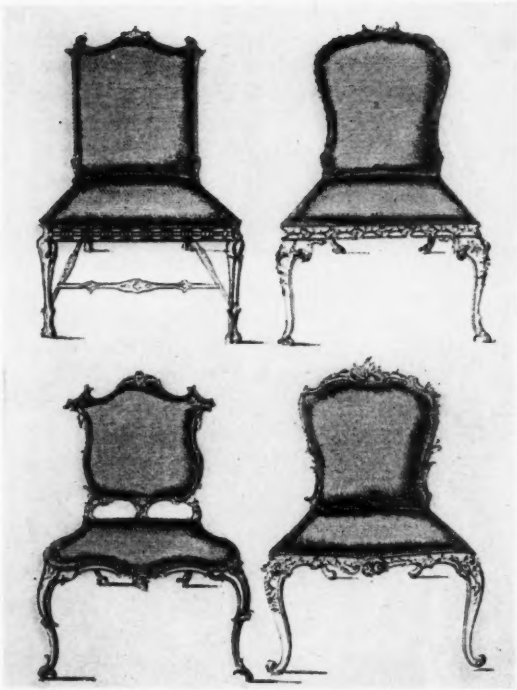
Figures 3 and 4 illustrate two late types of Chippendale armchairs. In these the Chippendale piercing of the backs is elaborately carved. Note the straight legs of the chair shown in Figure 3, the square stretchers and the addition of the corner brackets, which are suggestive of the Chinese influence that later was very largely developed by Chippendale. As further guide to proportions controlling work by Chippendale, two measured drawings, from The Seats of the Colonists, are reproduced.

Beginning with Chippendale and ending with Sheraton and the Adam brothers, there was in the intervening period a host of smaller men, each working independently and each aiding in a greater or less degree the artistic progress of furniture design. One maker and designer of considerable ability was George Heppelwhite, whose period may be said to date about 1760. He died in 1786. His immediate predecessors, Ince, Mayhew and Mainwaring, had each attained some measure of prominence as designers, but their work so closely followed that of Chippendale as to lack originality and

AN ENGLISH CHAIR, SHOWING DUTCH INFLUENCE

(From The Seats of the Colonists)

those qualities that would insure distinction. Heppelwhite, if lacking the higher artistic ability of Chippendale, had the rare quality of originality. He intro-



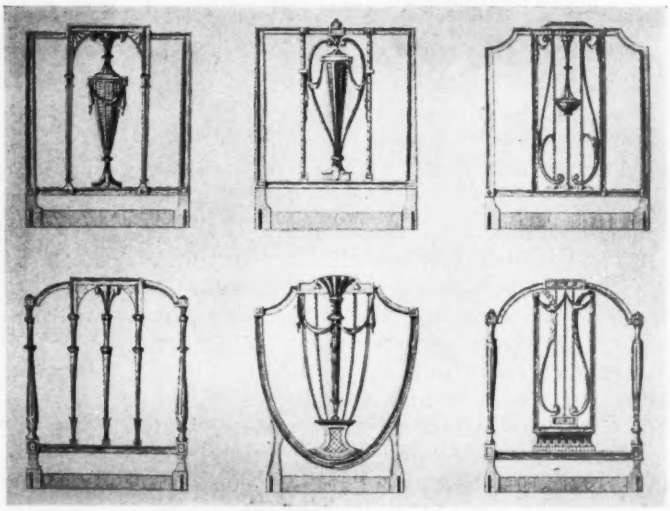
"BACK STOOLS"
(From Ince & Mayhew's "Universal System")

duced features of design that will always be identified with his name.

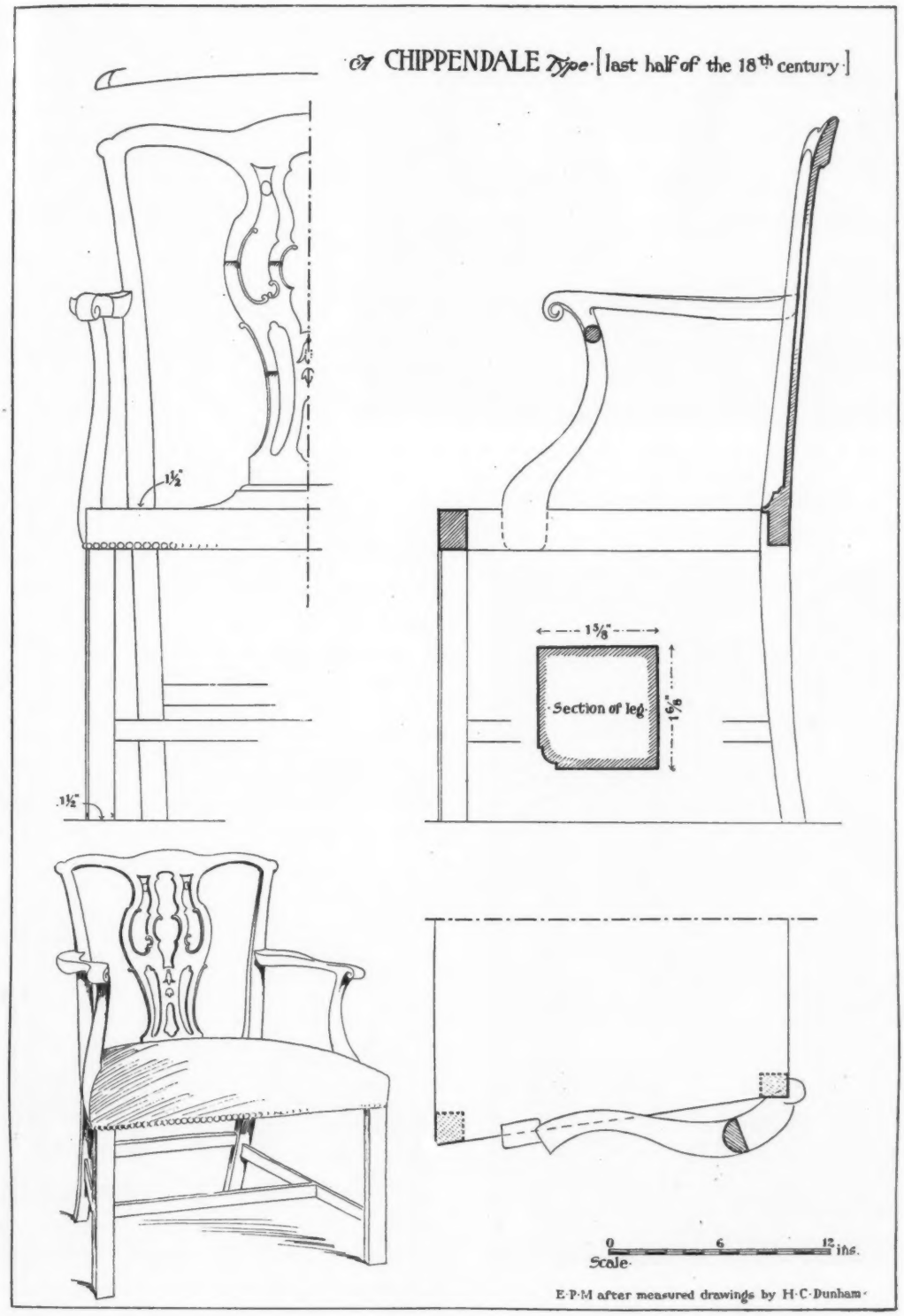
A. E. Riviers-Hopkins, who has written a number of books on period styles of furniture, states in "The Sheraton Period" that the back frames and arms of Chippendale chairs, when not practically flat, are carved in relief on handworked, more or less concave surfaces. In the Heppelwhite period the grooving and reeding plane comes into use, together with other labor-saving tools. It would therefore appear that such ornament as might be added to a Chippendale chair was all freely executed with the chisel or hand carver, while a chair where the handwork was evidently executed with planes or special tools, its origin could be definitely fixed as subsequent to Chippendale's time. Bearing these fine distinctions of workmanship in mind, as also the fact that peculiarities of design were similar in each period, it will be realized how difficult it is to assign an exact, or even an approximate, date of origin.

Thomas Sheraton was at the height of his popularity as a designer of furniture toward the close of the eighteenth century, and the early years of the nineteenth. He was probably the last of the great historical furniture designers in England. One of a host of so-called "cabinet makers" of his time, it was due to his well developed skill as a designer that his name has outlived most of his contemporaries. Canework, as formerly used, was confined to the humbler types of furniture. Sheraton used it largely in his designs and demonstrated its artistic possibilities. He has also been called the master of inlay. His work shows little, if any, carving, but when applied it was in the daintiest and most refined forms. The characteristics by which Sheraton's designs may be distinguished are in chairs with rectangular backs, straight fluted legs, square or turned, satinwood inlay and classic detail.

A reference to period design in furniture making would be incomplete without mention of the Adam brothers. Origi-



CHAIR BACKS
(From Sheraton's "Drawing Book")



(From The Seats of the Colonists)

ADAM TAPESTRY CHAIRS—HAREWOOD HOUSE, YORKSHIRE, ENGLAND
(From Robert Adam and his brothers)

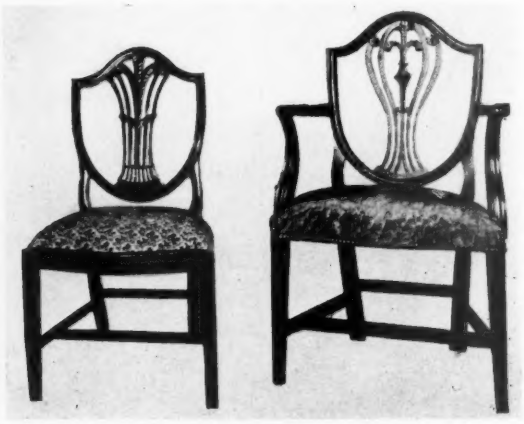
nality of design as introduced by them had its inception in detail that had been brought to light at Herculaneum and Pompeii. They are known to have introduced a molded composition ornament that was applied to the wood. They also used painting, inlay and gilding.

During the earlier Colonial days in America, many examples of Adam design found their way to this country, and, used as patterns by makers here, largely dominated our early period furniture design.

The history of furniture making in this country presents characteristics identical with other branches of higher craftsmanship. It has its periods of monotony and bad forms and a renaissance to better ideals. The present state of high artistic perfection is undoubtedly due to the influence of architectural design. The modern interior must be well balanced in its period style. Not only must the design as originated by the architect be essentially correct, but all the various accessories of furniture, floor and wall coverings, hardware and lighting fixtures, so

(Continued on page 133)

AN ADAM CHAIR, IN HAREWOOD HOUSE, YORKSHIRE, ENGLAND
(From Robert Adam and his brothers)



HEPPELWHITE CHAIRS, WITH OSTRICH PLUME DECORATION
(From Little Books About Old Furniture)

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HOUSE AT NORTH EASTON, MASS.

MR. GUY LOWELL, *ARCHITECT*

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HOUSE AT NORTH EASTON, MASS.

MR. GUY LOWELL, *ARCHITECT*

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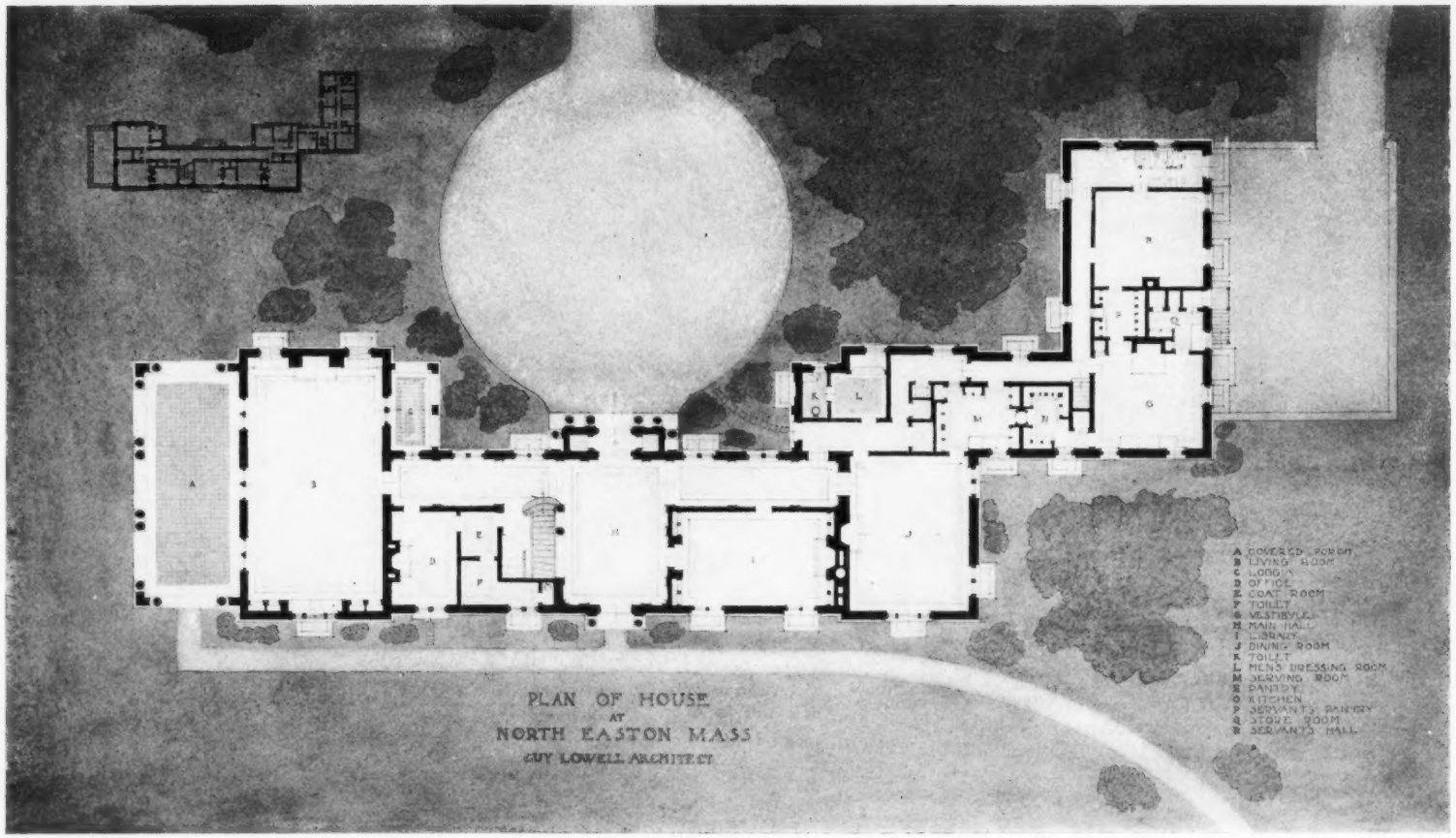

HOUSE AT NORTH EASTON, MASS.

MR. GUY LOWELL, *ARCHITECT*

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HOUSE AT NORTH EASTON, MASS.

MR. GUY LOWELL, *ARCHITECT*

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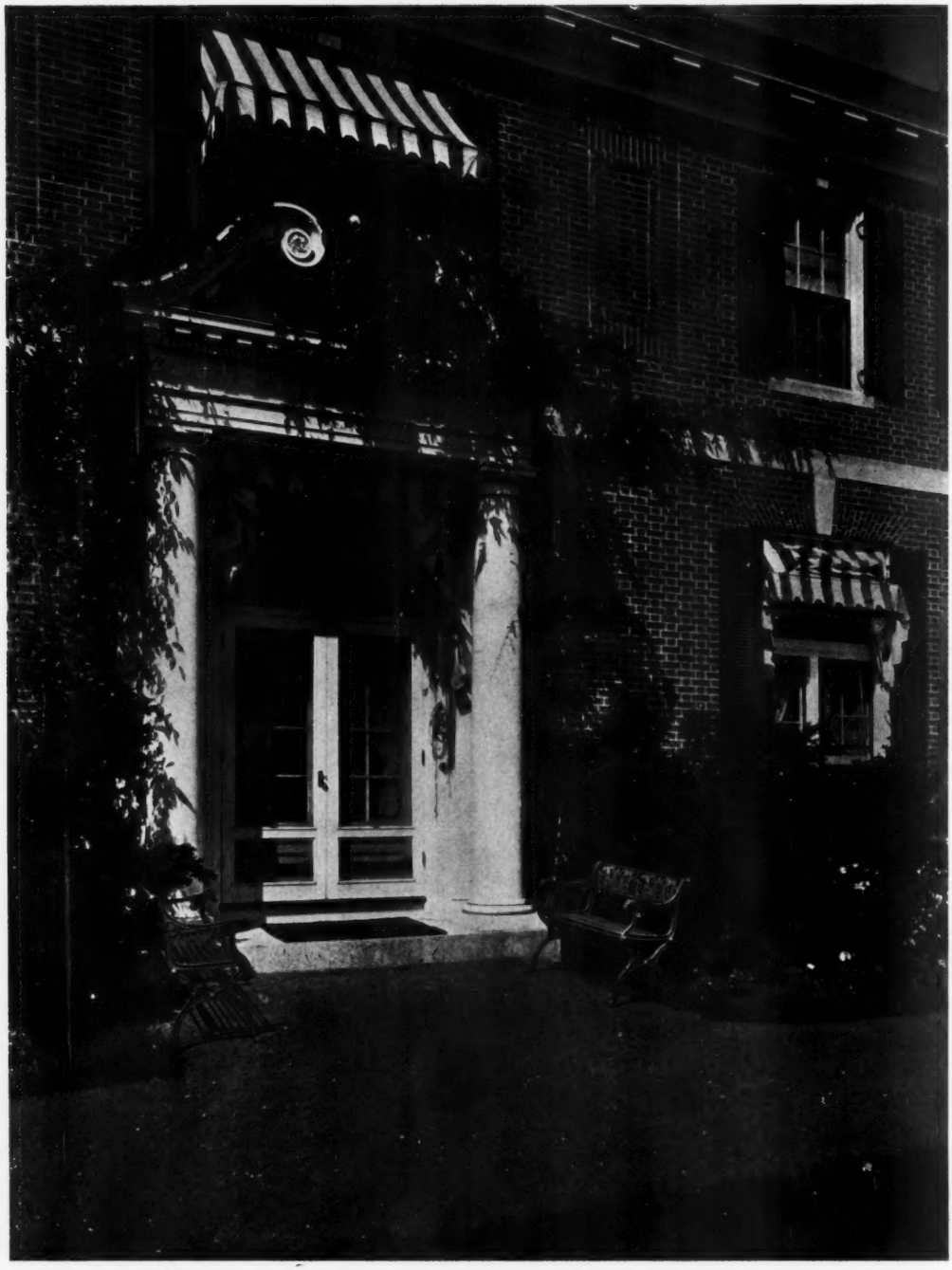

ENTRANCE FROM GARDEN

HOUSE AT NORTH EASTON, MASS.

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GALLERY AND STAIRCASE

HOUSE AT NORTH EASTON, MASS.

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FIREPLACE IN DINING ROOM

HOUSE AT NORTH EASTON, MASS.

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GEORGIAN DINING ROOM FROM ENGLAND

LIBRARY

HOUSE AT NORTH EASTON, MASS.

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DOOR IN LIVING ROOM

CORNER IN LIVING ROOM

HOUSE AT NORTH EASTON, MASS.

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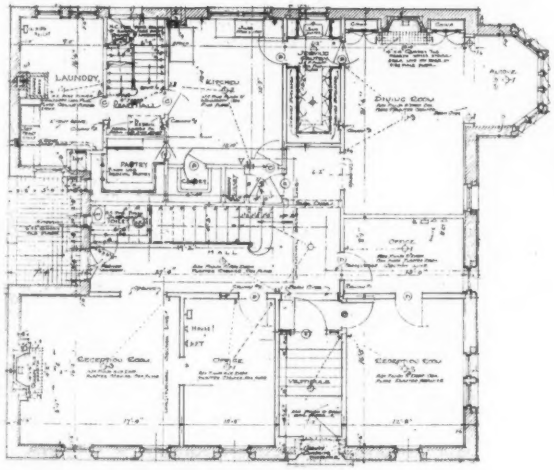
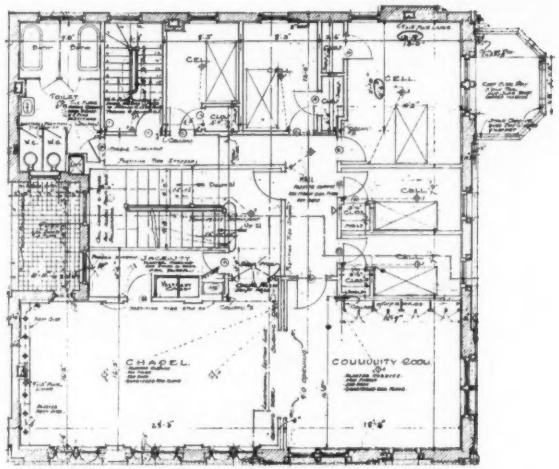
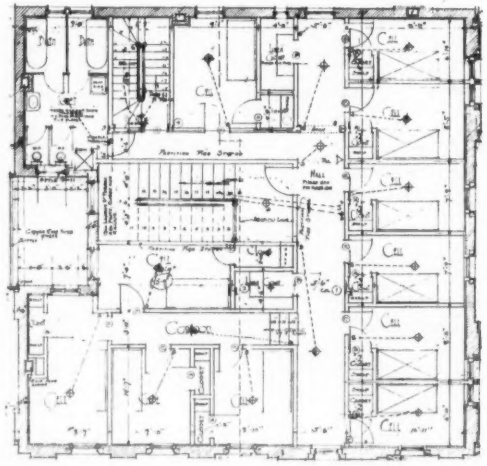
CONVENT FOR THE CATHEDRAL OF THE HOLY CROSS, BOSTON, MASS.

MR. EDWARD T. P. GRAHAM, *ARCHITECT*







CONVENT FOR THE CATHEDRAL
OF THE HOLY CROSS,
BOSTON, MASS.

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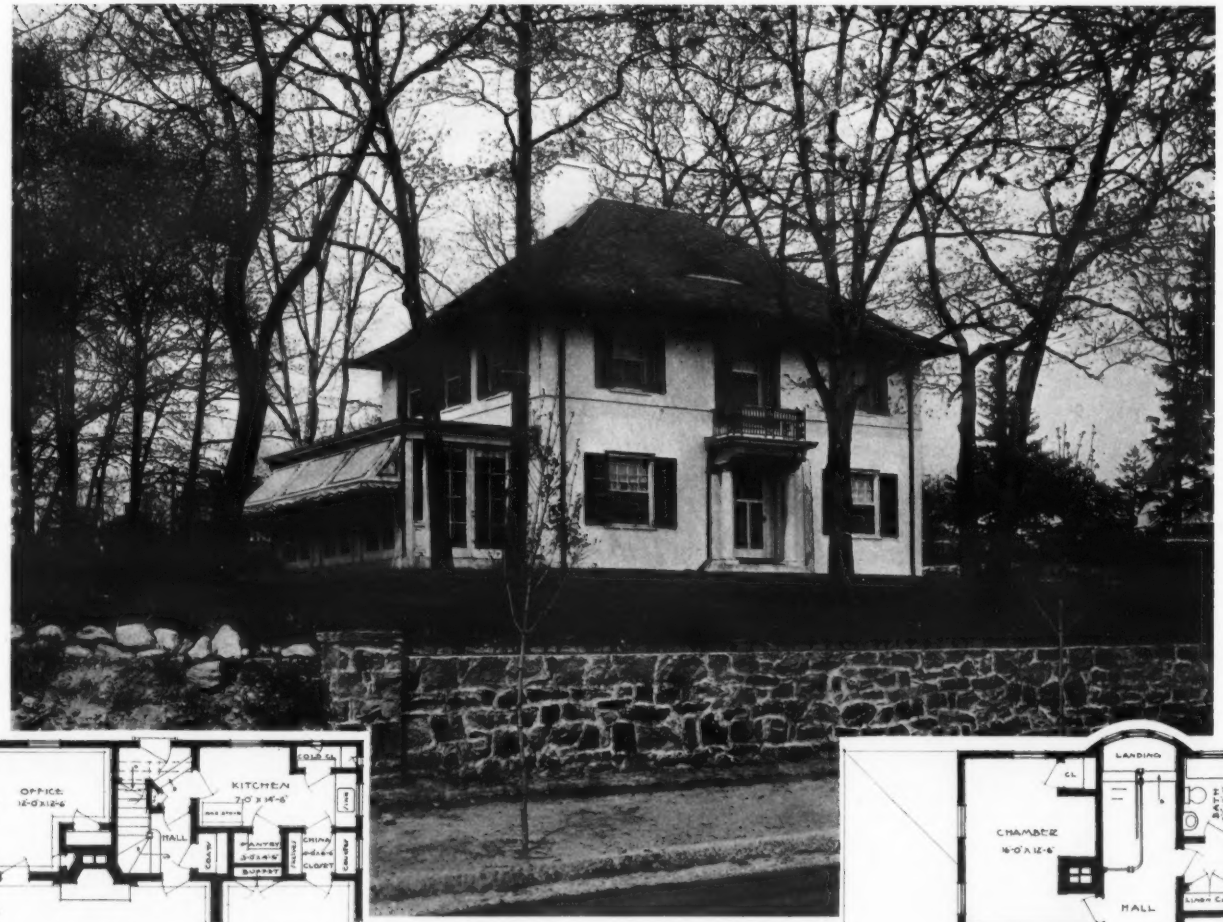
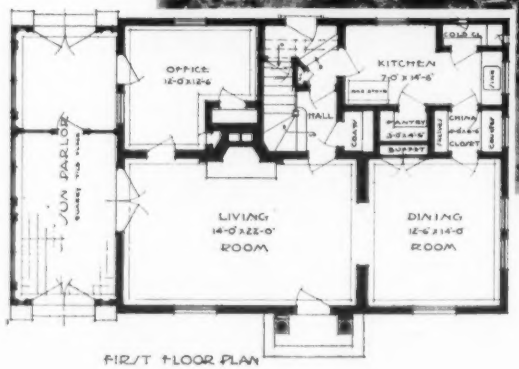
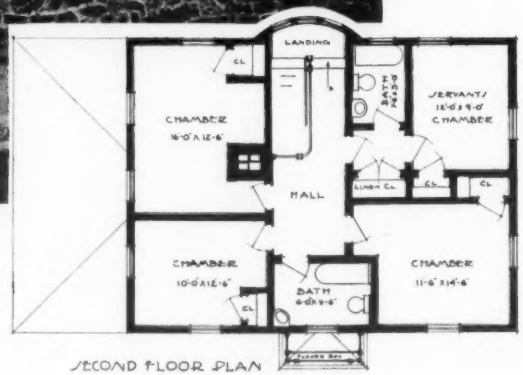




FIRST FLOOR PLAN

HOUSE OF DR. HENRY C. HALL,
PROVIDENCE, R. I.

MR. ELEAZER B. HOMER, *ARCHITECT*



SECOND FLOOR PLAN

XUM

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A STREET TREE SYSTEM FOR NEW YORK CITY

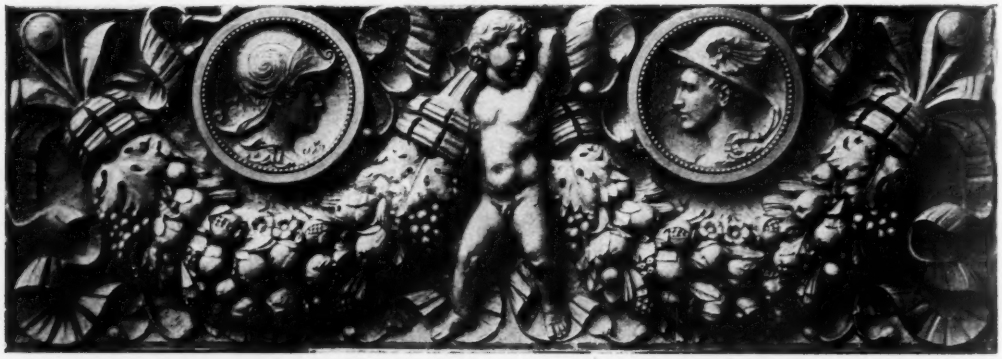
AFTER years of earnest but usually ineffectual efforts by architects and city planning experts to increase the number of shade trees in the streets of our cities, it is a source of gratification to note the changed official attitude that is gradually being taken toward this important subject. Through the activities of the Honorable Cabot Ward, New York's Commissioner of Parks, an exhaustive study of the shade trees of this city has recently been completed by Laurie D. Cox, assistant professor of landscape engineering, New York State College of Forestry, and a report embodying the results submitted to the commissioner. In addition to presenting a comprehensive plan for restoring and extending the tree-shaded thoroughfares, once one of the city's most cherished possessions, this report contains the first complete census made in recent years of the trees of Manhattan and Richmond, and indicates more clearly than anything else the inevitable loss of all shade trees in the city within a comparatively brief space of time unless measures are soon taken to protect those now existing, as well as to provide for losses that apparently cannot be prevented and extensions of certain plans for planting to thoroughfares now treeless. The observations of Commissioner Ward soon after taking office are said to have convinced him that the city is losing thousands of trees annually through failure to select and plant the proper species of trees, as well as through improper care or neglect. Investigations which included obtaining the history of every tree in Manhattan and Richmond, date of planting, condition of soil and environment, and the life of the tree previously occupying the same spot, tended to confirm this belief.

The report of Professor Cox does not dwell on the many advantages of trees on city streets as affecting the health, the beauty and even the real estate values of the community. It is assumed that these values are understood and that the public in general is willing to pay for them. It is stated, however, that in spite of this popular interest and the support of all movements in behalf of street trees, the progress which has been made in the art and practice of growing trees upon the streets of our principal American cities has been largely negative. This is mainly because the street tree problem, on account of its apparent simplicity, has not received the amount of serious attention from experts which it has demanded. For example, successful tree-growing on Manhattan streets, it is pointed out, is something considerably more than a question of ordinary planting and care. To secure any appreciable number of permanent shade trees on the streets of this island is a problem which is without question one of the most difficult ones yet approached by street foresters or park authorities in this country. It appears that even a partial enumeration of the difficulties which surround the growth of trees in this city include: pavements which shut out water and air from the roots; trunk injury due to heavy traffic; weakened ability to resist insects

and disease due to gas-poisoned soil, smoke and dust-burdened air; the general presence of high buildings on comparatively narrow streets, causing lack of sunshine, light, air and the prevalence of tearing, swirling winds; the extensive use of the area beneath the streets for subways, sewers, conduits and vaults.

It is obvious from a consideration of these matters that it is neither possible nor desirable to plant trees on every street; also that there are but few trees that will live and thrive under so many and peculiarly adverse conditions. The streets to be planted, kind, type and size of trees to be used, the methods to be employed, consisting in some instances of concrete tree-pits supplied with prepared soil, the cost of doing the work on different streets, the form of organization necessary for securing and maintaining satisfactory street tree growth, are all considered in order in Professor Cox's report, which constitutes one of the most useful as well as interesting documents that have recently come to our notice. Architects engaged in city planning in particular will find it of the greatest assistance in their work.

Discussing the need of municipal planting and care of street trees, Commissioner Ward is reported as stating: "It is my belief that as long as the property owner is alone relied upon to plant city trees, there will never be a sufficient number. In the whole city, and particularly in Manhattan, it has been the experience of my department that the property owner will not plant trees even on his own property when such property is leased to others. It naturally follows that tenants will seldom if ever plant them on property belonging to another person." If this be true, the only logical solution is the assumption of responsibility for the systematic planting and subsequent care of street trees by the municipality. This work appears, in fact, as an integral and important part of the design, construction and care of the streets, not differing materially from that of the park systems. Until this view of the matter is generally accepted and the work involved, as indicated in Professor Cox's report, assumed by our city governments, there is little prospect of any real improvement over present conditions. The interest manifested in the subject, however, has amply justified the preparation of this report, and inspires the hope that its adoption will be prompt and followed by similar action in other cities.



CHAIRS

(*Continued from page* 130)

nicely balanced and adjusted as to create a correct and artistically satisfying result. Insistence on these details on the part of architects has proved incentive to all the crafts and to none more than the furniture maker. Replica of good early examples and the origination of new forms have made it possible to select with satisfactory accuracy furniture for every purpose. While most manufacturers are alive to the advantages of keeping in touch with those in charge of the furnishing of large buildings such as clubs and hotels where there is need for considerable quantities of furniture, it has been shown and is the experience of most architects that they do not realize the possibilities of an equal or greater opportunity in the furnishing of the smaller units over which architects are beginning to exercise more control than formerly.

Grinling Gibbons

THE accession by the Metropolitan Museum of Art in this city of a richly carved overmantel from the salon or drawing-room of Holme Lacy, and attributed to Grinling Gibbons, revives interest in the work of this master technician.

The end of the seventeenth century in England was a period when the classic dignitaries of art marked their highest accomplishment. The work of Sir Christopher Wren in architecture, that of the Adam brothers in the broad field of decorative design was in a sense no more epoch-marking than the carving executed by Gibbons. The artistic excellence of his work created great interest and was generally accepted as the highest and best demonstration of the art of wood carving. We are not able, however, to trace with accuracy Gibbons' origin, nor have we many details of his life or personal characteristics. It is generally accepted as a fact that he was of Dutch parentage, born about 1648. Nor is the place of his birth known, although his biographers are inclined to the belief that he first saw the light of day in London. It is fairly well established that he was early apprenticed to an architect in Yorkshire, and that his "discovery" and subsequent popularity were due to John Evelyn, who in his diary records the circumstance, with much evident satisfaction, in the following words:

"This day I first acquainted His Majesty with that incomparable young man Gibbons, whom I had lately met with in an obscure place by accident as I was walking near a poor solitary thatched house in a field in our parish near Sayes Court. I found him shut in; but looking through the window I perceived him carving that large cartoon or crucifix of Tintoretto." In this seclusion he worked so that he might "apply himself to his profession without interruption." On asking the price of the carving Evelyn was told that £100 would purchase it. Evelyn continues: "In good earnest the very frame was worth the money, there being nothing in Nature so tender and delicate as the flowers and festoons about it, and yet the work was very strong."

Through the influence of Evelyn, Gibbons received an appointment from Charles II, and this mark of royal approval was the means of an easy path to popularity and ultimate fame. In fact, no work of magnitude or importance at that period was considered perfect that failed to receive the touch of Gibbons' hand, and from fame to affluence was but a short and easy step.

At a period when royal favor was largely responsible for success, Gibbons was able, by the masterly character of his work, to hold the approval of Charles and his court and to continue as the best and most popular exponent of the art of wood carving during the successive reigns of William and Mary, Anne and through that of George the First, up to 1721, the year of his death.

Probably all of the carved woodwork of St. Paul's Cathedral felt the touch of Gibbons' hand.

It is, however, fairly well proved that the choir stalls and Library were executed by him.

At the palaces of Windsor and Hamp-

ton Court there is considerable carving by Gibbons, while in the "seats," or great houses of the nobility throughout England, there are a great many examples of his work, notably such places as Holme Lacy, Petworth and Chatsworth.

Undoubtedly a great many works attributed to Gibbons were executed during his time but were carved by pupils who studied and worked with him, as it would not appear to be physically possible for one man to execute so great an amount requiring time and the most painstaking care within the span of his working years.

During the period of his life and since his death Gibbons, like all great artists, has had many imitators. With a well-established knowledge of his methods, based on examples of his carving that are thoroughly authenticated it is not difficult to detect the spurious work.

A certain technic, combined with an intimate knowledge of the characteristics of wood, enabled Gibbons to produce results that are far removed in their artistic excellence from those of his imitators.

Decoration and Sentiment

DECORATION is not so much a matter of material as it is of atmosphere, sentiment and effect. This explains why some seemingly simple items of furniture are so expensive, and why others are so cheap—and we might add worthless. A battered helmet from the Metropolitan Museum would easily bring $500, while the same thing made by a modern artisan might not be worth three dollars. And the reason why? The old helmet has sentiment. It brings to mind days that are gone, and carries with it the power to awaken imagination. The new helmet, on the other hand, has nothing to commend it. It has no sentiment or associations behind it, it cannot awaken the imagination, for it has never existed in any other time but the present. In the one case, there is an acquired value obtaining from associations, and in the other case, there is no satisfaction obtaining from anything—except work well done. And the same reason explains why a decorator can take six kitchen chairs, carve them a bit here and there, paint a few flowers on the back of each and sell them to one of our wealthy New York citizens for $270. This particular citizen wanted a certain type of chair (an old New England kitchen chair), but with a certain amount of ornamentation on it, and a certain individuality of character. Solid mahogany chairs, carved in the shop of Thomas Chippendale, would not have filled his requirements even at $12.00 a chair. But these kitchen chairs were just what he wanted—they had atmosphere, character, "effect," and a certain sentiment for him, for he comes of old New England stock. The $45 he paid for each chair, therefore, was a small amount in comparison to the satisfaction the chairs gave him. Speaking of chairs brings to mind the universality of this particular item of furniture, and the wonderful range of materials that have entered into its construction. For every nation has its own style of chair—and, strange to say, they all possess a certain startling family resemblance. They are generally of the same average height, they are designed with a certain restful curve to the back, and have a certain sameness of the arm supports. But think of the strange materials from which they have been made. There are stone chairs, ivory chairs, wooden chairs, ebony chairs, iron chairs, vegetable fiber chairs, bamboo chairs, coral chairs and even solid silver chairs. This last material is not so common for the making of chairs as are some of the other materials mentioned. But, nevertheless, two solid silver chairs, great massive affairs, were made for the Durbar celebration when their Majesties the King and Queen of England visited India in 1911. When the chairs were finished (they were made at the English mint at Calcutta) they were heavily gold plated, and both of them, with their two footstools, tipped the scales at slightly less than two thousand pounds.—*Decorative Furnisher.*

PHILIPPINE NARRA

NARRA is a native of the East Indies, where two varieties are said to occur, the white and the red, so called from the color of the heartwood, but these varieties are probably occasioned solely by differences of soil, situation and climate. The tree is known botanically as *Pterocarpus indicus*, belonging to the pea family of plants.

This important timber tree is widely distributed throughout the tropical parts of India, Ceylon, Burma, the Andamans, Siam, Cochin China, Malay Archipelago, Borneo and Philippine Islands. In fact, it is found in nearly all parts of the tropical East, and consequently has a great many vernacular and trade names. In the Philippines the wood is known as narra, naga, asana and angsana; in the Fiji as cibicibi and in India it is called Padouk or Tenasserim mahogany. Lingoa, Burmese rosewood, amboyna wood, a name it takes from the islands of Amboyna, in the Moluccas, Andaman mahogany or redwood and vermillion wood are among a number of other local and trade names for the wood of this tree. It is the *lignum nephriticum* of the early Jesuits in the Philippine Islands. The rose-colored variety was at one time called male narra and the paler kind was referred to as the female narra.

The narra is a tall tree, attaining a height of 80 or 100 feet and a trunk diameter of from two to five feet. The trunks, which are usually cylindrical above the buttresses, are free from branches for the first thirty-five feet. The tree has been described as yielding enormous dimensions, furnishing boards of such great width that a single one is sufficient to make a door or a table. Unfortunately, however, the trees are found growing with large buttresses extending to the height of from six to ten feet from the ground. The best portion of the trunk of a tree felled for timber is generally left in the forest, because a tree of this character is usually felled by cutting it above the root swelling.

When narra wood, or narra, as it is commonly called, is first cut, the heartwood is of a splendid red, beautifully variegated, grading from deep crimson through cherry red, dull red and reddish brown to very dark red near the roots. It often remotely resembles certain dark-colored pieces of true mahogany and for this reason some grades of it are called mahogany. Contrary to a number of other cabinet woods narra does not turn dark or improve with age. As a matter of fact, it tends to fade or turn slightly brownish gray if it is not kept properly varnished, filled and rubbed. The most desirable logs are of a reddish brown or even orange with a finely mottled and curled figure. The majority of the logs are cross-grained and show alternate lines of light and dark shades resembling the figured mahogany. The burrs are highly esteemed by European cabinet-makers. They are usually beautifully figured with spots and mottled, curled and matted together. Very large burrs are sometimes procured in the Philippine forest. A burr from the East Indies, that is now in the Museum at Kew, measures over seven feet in diameter. These burrs are sold usually by weight and converted into veneers, which bring high prices. The root wood is beautifully figured and is highly prized in India. Some of the narra lumber produced in the Philippines is sold as Philippine mahogany. It is slightly softer, coarser and lighter in weight than true mahogany, but it is highly esteemed by a number of furniture manufacturers and other users of fancy woods. Narra is strong, tough, durable, works easily, splits with difficulty and is susceptible of a high polish which it retains indefinitely. When freshly cut or planed it emits a slight aromatic odor, which is true also of other species of this important group of timber trees. Narra is said to be proof against the attacks of white ants which are so destructive to woods in the tropics. There are no definite records showing that narra is immune to the attacks of sea

creatures. All writers on the subject seem to agree that the wood is very durable in contact with the soil and resists the action of the weather. This quality of withstanding the action of the elements is due probably to the presence of a resin in the wood and bark which is known in the trade as gum kino. Narra and several related species of this group yield kino in commercial quantities by making V-shaped incisions in the bark, from which the juice exudes and hardens into a brittle mass, easily broken into little angular shining fragments of a bright ruby color. It is highly astringent and is used medicinally and for dyeing and tanning.

The wood possesses a unique property of turning water in which it is soaked to a sea-blue color. Water so colored was considered early in the eighteenth century as possessing medicinal virtues and drinking cups turned from this wood were believed to be the means of curing diseases of the kidneys and bladder and for this reason the wood came to be called *lignum nephriticum*. Water poured into narra cups soon turns color, first light yellow and later to a peculiar blue, which is a remarkable property known as fluorescence. The degree of fluorescence is determined by the color of the wood. The rose-colored, or male, wood affords a more pronounced fluorescence than the pale variety, or female, wood.

It is often impossible to distinguish the different species of *Pterocarpus* by the characters of the wood alone. It is very easy, however, to say at a glance in what respects narra differs from true mahogany, for which it is often substituted. Narra is coarser, deeper red and somewhat softer and lighter in weight. If these characters should fail, the narra can be recognized by its numerous more or less fine concentric lines visible on a smooth transverse section of the wood. These lines of soft tissue are somewhat irregular or wavy, running at right angles to the pith rays, which are fine, barely visible to the unaided eye. The pores are moderately large, evenly distributed and free from cellular masses in their cavities. True mahogany has no concentric lines of soft tissue visible in transverse sections and the pores are invariably filled with whitish or brownish cellular masses.

N. C. Wyeth to Assist in Designing Bridge

In accordance with the provisions of the act of Congress providing for the construction of the Key bridge across the Potomac at Georgetown to replace the antiquated Aqueduct bridge, the Secretary of War has authorized the employment of Nathan C. Wyeth, architect, to assist the engineers of the army in designing the architectural features of the proposed structure. The selection of Mr. Wyeth for that service was based on the unanimous recommendation of the National Commission of Fine Arts, indorsed by General Black, chief of engineers.

The plans and specifications for the bridge are subject to the approval of the Fine Arts Commission.

The site already has been selected, being on a line from Rosslyn, Va., near the approach of the present Aqueduct bridge, to a point in Georgetown on M Street between 34th and 35th Streets. It is also settled in a general way that the new bridge shall be a reinforced concrete structure, spanning the river proper in five long arches, high enough to meet the needs of navigation and wide enough to accommodate all possible vehicular and passenger traffic for many years to come.

About $1,250,000 is available for the construction of the bridge and approaches, including the cost of acquiring the necessary land.—*Washington Star.*

Baltimore Art Museum Competition

A competition will soon be inaugurated to secure a design and plan for the proposed Baltimore Art Museum, to be erected at a cost of approximately $50,000.

Those in charge of the competition are Blanchard Randall, T. J. D. Fuller and

T. C. Corner. Waddy Wood, of Washington, D. C., is acting as architectural adviser.

The museum is to be an unusual structure in that it will possess show-windows on the ground story for the exhibition of works of art to those passing on the street. These windows, too, will be of use if the building is sold later for store purposes, as it is not intended that it shall be the museum's permanent home, but only a temporary one.

The building is to be two stories high, occupying a lot 40 by 150 ft. and will be lighted mainly by skylight. It is probable that the exterior lines will be extremely simple.

Albany to Erect Arches Over Roadways

As a feature of a forthcoming celebration to be held in Albany, N. Y., architects will be asked to submit designs for contemplated welcoming archways to be erected over the principal roads leading into Albany. These are to be erected from a fund provided by public subscription. Mr. Arnold W. Brunner is at the head of a committee that will select the designs. It is proposed to erect a different type of arch over each of the principal arteries into the city.

Chinese Architecture

The monuments of China are among the most conspicuous in the world. Interpreted broadly they range from a coin or an oracle bone to the Great Wall. China has more than 2,000 important specimens of the pagoda, an original form of tower architecture unsurpassed for beauty by any similar kind of structure. The Porcelain tower at Nanking deserved to be ranged with the wonders of the world, and for reasons which made it the superior of the so-called seven wonders. Chinese sculpture has never been surpassed, and there is no evidence in mundane art to show that it ever will be. There is a single fragment in the Metropolitan Museum in New York—a stone head of the Tang period—whose grandeur of plastic mastery since its appearance has conferred distinction upon the sculpture of the world.—*Journal of the American Asiatic Association.*

Plan New Hotel in Volcano

The Volcano House Hotel, Honolulu, which has the distinction of being the only hotel in the world situated within the crater of an active volcano, is about to be torn down and rebuilt on a larger scale.

The new buildings will be erected on the site of the present hotel, which stands upon a wide shelf within the outer wall of the great crater of Kilauea volcano, and commands an uninterrupted view of the dead lava flows and the lake of fire which forms the active portion of the crater itself.

The ancient log cabin smoking-room, which has sheltered many a famous scientist and traveler, will be preserved, together with the record books, in which the opinions and impressions of people of world-wide reputations are written.—*New York Sun.*

Massachusetts Institute of Technology Architectural Department to Remain Housed in Boston

Although the removal of the M. I. T. to Cambridge takes to that city most of the students, a considerable number will pursue their studies at the Rogers building on Boylston Street, Boston.

It has been found that this building is particularly adaptable to the needs and purposes of the architectural department, and with a few minor changes will afford ample accommodations.

Architects to Convene

Efforts to change the dates for the 1916 convention of the Texas Association of Architects have been unavailing and the association will convene in Galveston on October 11-14, as previously announced.

INDUSTRIAL INFORMATION

Ottomatic Coal Chute

Church Appliance Mfg. Co., 937 Hennepin Street, La Salle, Ill., has issued a folder illustrating and describing in detail the Ottomatic coal chute which is presented as a simple and practical appliance for every type of building.

This chute is designed to be set in a basement window, and not only provides a means for conducting the coal to the bin but offers protection to the building itself. A feature of this chute is that when closed as great an area of glass is presented as in the ordinary type of window, and when opened this glass is protected by a shield. It is claimed that this chute is simple to operate, is automatic, durable, attractive in appearance and works satisfactorily with either basket, bag or wagon delivery. It permits the use of entire opening 18 x 24 or 22 x 28 in. The frame is made of cast-iron, body of 16-gage steel with slant bottom. Glass is 1/4 in. thick, wire prism.

Other information will be furnished by the manufacturers upon request.

Water Supply Systems

The Ralph B. Carter Company, 152 Chambers street, New York City, has issue catalog C, which illustrates and describes the various water supply systems and equipment supplied by this company for use on private estates, in schools, factories, etc. It is intended as an aid to the engineer, architect or prospective purchaser in selecting and specifying such equipment as will best meet the conditions of his particular requirements. Special attention is directed to the adaptability of the Carter Pneumatic System, which it is believed is a desirable system for many services. This company does not, however, confine itself exclusively to pneumatic tank systems. It maintains in connection with water supply equipment separate departments of engineering and contracting; also a department for supplying to the trade pumping machinery, equipment and accessories.

Correspondence is solicited with those confronted with problems in water supply. Copy of the catalog, which illustrates various buildings and estates that have been served by this company, may be had upon application.

Perfect Iceless Refrigeration

The Iceless Machine Company, Cleveland, Ohio, has issued a catalog describing the Zicer Automatic Refrigerating machines for home and commercial use. It is claimed that by the Zicer system cold dry air, taking the place of ice, is produced automatically and circulated through a refrigerator. The Zicer maintains a uniform temperature of 32 degrees or below in the brine tank, no matter how the outside conditions vary. The temperature in the warmest part of the refrigerator depends, it is stated, solely on its insulation. This system is usually installed in the basement with two pipes connecting it to the brine tank placed in the ice chamber of the refrigerator. It is claimed that an old principle of refrigeration is used in combination with natural or artificial gas and water to generate and transmit dry, cold air that circulates throughout the food compartments, taking up the moisture and depositing it on the surface of the brine tank in the form of frost.

This system is recommended as a central refrigerating plant for apartment houses as well as private residences, hotels, etc.

Copy of the catalog, which contains illustrations and much technical information, can be had upon request.

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