IN THE BASQUE COUNTRY, BY SAMUEL CHAMBERLAIN & SPANISH GOTHIC, BY RALPH ADAMS CRAM, F.A.I.A. & WORKING PHOTOGRAPHS, ILLUSTRATED BY PHOTOGRAPHS BY JOHN RUSSELL POPE, F.A.I.A. & CURRENT ARCHITECTURAL PRESS, BY EGERTON SWARTWOUT, F.A.I.A. & HENRY BACON, AN OBITUARY AND AN APPRECIATION & INTERIOR ARCHITECTURE

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CONTENTS

VOL. CXXV. WEDNESDAY, FEBRUARY 27, 1924 NUMBER 2440

RINGWOOD, HANTS .......................................................... Frontispiece
The Basque Country ......................................................... Samuel Chamberlain 181
Spanish Gothic ............................................................... Ralph Adams Cram 187
Henry Bacon, 1866-1924 ................................................... 195
Working Photographs ....................................................... 197
Review of Recent Architectural Magazines. ... Egerton Swartwout, F.A.I.A. 203
Beaux-Arts Institute of Design ......................................... 207
Architectural Engineering ............................................... 211
Interior Architecture ..................................................... 219
Economics as Relating to Architecture ................................ 226

Plates

Working Photographs—Illustrations Reproduced from Photographs by John Russell Pope, F.A.I.A. 16 Plates

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RINGWOOD, HANTS

"WORKING PHOTOGRAPHS"

(From a photograph by John Russell Pope, F.A.I.A., Architect)
The BASQUE COUNTRY

Notes and sketches by SAMUEL CHAMBERLAIN

UNDENIABLY, the idea of sending back to America a manuscript of bubbling observations upon the Basque country is not a new one. The foreign correspondents of our more haughty journals of "le monde ou l'on s'amuse" have dealt with it often and well. But in vain does one scan their paragraphs for even the faintest mention of the architectural charm of the place. To gap this dismal void these few lines are written, with a solemn promise to make no mention of who composed Lord Whataberry's foursome or what Mrs. Sheckle wore at the opening of the Casino.

A most individual corner of the world these black-eyed Basque people have made for themselves. They retain their own language, costumes, games, dances. The fact that they are scattered over the frontier of two countries does not divide them. The Basque tongue, unique in Western Europe, defies one who searches to disclose in it a bit of Latin ancestry. There is a bewildering juxtaposition of letters, featuring k's, x's, z's and every other awkward letter in the alphabet. Heard by the garden variety of auditor, the words are as unfathomable as Sanscrit. To the eye, a spoonful of alphabet noodles is equally intelligible. Spoken, it has a crackle like a bonfire of pine needles.

A fez in Turkey is no more universal than the tight fitting, dark blue beret which is worn by every male inhabitant of the Basque country from two to eighty. The lace caps worn by the women have a greater variety. Some resemble glorified cornucopias, some are simple lace hand-
kerchiefs, but the prize exhibits look like nothing more than the paper decorations on the unupholstered end of a mutton chop.

And they have their own games, particularly the fascinating "pelote," a distant country cousin to both handball and lacrosse. And the bullfights at San Sebastian—but this is no sporting column. A genuine fandango is danced by the natives on those frequent occasions when the buildings in the pure Basque style are invariably marked by a broad passageway in the middle of the structure, in which the wagons and often the horses and oxen are housed. The urban buildings with their vast overhanging eaves and heavily shuttered windows, usually look as though they had received their last coat of whitewash but a month before. Their timbers, slender and strong, are not closely spaced as one finds them in Northern France, and the lintels are strung with only a simple bead-like ornament. It seems unprecedented to paint the timbers in any colors but a box car red, a sage green or a strange salt water blue.

Biarritz is, of course, the much touted city of the region. But Biarritz has sprouted from a forlorn fishing village to the most ornate of fashionable watering places in less than a century, and looks it! What picturesque spots there are in the town, although protected by rustic wooden fences which prove to be cement, appear weary and worn from the endless inspection of lolling tourists. Architects in search of aesthetic tonic here are advised to concentrate their attention on the shop windows of the English haberdashers.
A BACK ALLEY IN ST. JEAN-DE-LUZ
Atlantic Ocean against the jagged blue backdrop of the Pyrenees—and your artistic obligations are at an end. Assuming, of course, that no invigoration is to be found in the spectacle of marvellously made up demoiselles and senoritas, smoothly bedecked in Paris robes a day old and studded with several ounces of glistening stones, gazing languidly from their Hispano-Suizas and feeding chocolates to their Russian wolfhounds—but this is not a society sheet.

St. Jean-de-Luz, populated chiefly by English tourists and native fishermen, has more to recommend it. As a fishing village it is ideal, the combination of a naturally protected harbor, an elaborate series of breakwaters and jutting stone wharves giving it an extraordinary security. The most picturesque touch in the town is found in the fishermen, who for some unknown reason, wear overalls and jumpers not in the conventional, locomotive engineer blue, but in a gorgeous brownish red, the tone of which changes with each frequent washing. A cluster of fishermen loafing on the pier resembles nothing more than

a large, brilliant blotch of Autumn foliage. Some of the finest of the Basque houses are here; the streets are spotlessly clean; the hotels seemed palatial after not having been in a town with edible soup, a bathtub or civilized plumbing for two months. Louis XIV was married in the quaint, balconied Basque church here, and had the door, through which he emerged a much married king, sealed up and properly labelled. It is therefore evident that recent generations of pleasure seekers have not been the first to discover the charms of this untroubled village. The wonder is that it has not suffered the fate of a “ville de luxe” and become overrun with villas, ultra modern shops, and utterly useless guides.

Many curious and anticipatory thrills take possession at the frontier at Hendaye, despite the discomfort of being herded bewildered through a shuttle of corridors and corrals, past money changers, ticket punchers, passport inspectors, baggage snoopers and trunk gougers. One has an ineradicable idea that, as soon as the border is crossed, a complete change will take place everywhere. Rather a childish idea, no doubt, but the transformation in this extreme corner of Spain was even more decided than expected. Dumped unceremoniously into the streets of the uninspiring border town of Irún, one feels a thousand miles from France. Architecturally the buildings were but little different from those across the border, more frosted perhaps, and more bestrewn with flah flah. But multi-colored clothing hung over every iron balcony, strings of red peppers and onions garnished most of the doorways, and bright plaid blankets ambled by, concealing and smothering some chilly Spaniards beneath their heavy folds. Decidedly a new touch of color.

Fuenterrabia, a bouncing trolley ride away, is perhaps the quaintest walled town in the Basque
A GROUP OF SKETCHES IN THE BASQUE COUNTRY

(From the original water colors by Samuel Chamberlain)

185
country. Its narrow streets, overhung with elaborate jutting cornices and bulging balconies, were so sheltered that a shower of rain could scarcely moisten a narrow strip in the middle of the stony pavement. The beautiful old wooden consoles, used to support the balconies, are a joy to behold. One house in every five seemed to be adorned with a bit of ironwork of incontestable antiquity. And that touch as unmistakably Spanish as the click of a castanet, the carved stone escutcheon, is to be found in a dozen spots. The old Spanish Renaissance church, distinguished from a distance by its vast buttressed walls and its finely detailed tower, was a fascination inside. Dark and ominous, the smoky heights of its vaults were filled with the blue haze of incense. Its air of solemnity was marred by the scamperings and exaggerated whisperings of a dozen ragged children who were fishing under chairs for candle remnants, hiding behind confession coops and grimacing behind the backs of passing ecclesiastics. High up on the stony roof of the huge dismal dungeon in which Charles V kept his lunatic mother, one has a superb view of the seacoast, far up into France—but this is not a guide book.

Climatically, the Basque seacoast is as near all year round perfection as you can hope to find anywhere. Tennis and golf flourish at all times. No more restful place could be chosen for a vacation—but this distinctly is not a real estate sales letter.
ONE of the great marks of Gothic is its almost infinite mobility and the facile way in which it adapts itself to varying nationalities, so achieving myriad forms which are yet at one in principle, however diverse they may be. No one would ever confuse English Gothic with French or this with that of the Teutonic countries, while in Spain the intense, indomitable racial character, so wholly different from that of France or Italy, has wrought a variant that has almost the isolation of a new style. And yet it is not this, but rather a national form of Gothic so infused with vitality, so daringly original yet so consistent, so blended of austerity and voluptuousness, that it takes rank with the other two great Gothics of the world, those of France and England.

For some reason or other it was long disregarded in spite of occasional efforts at forcing its recognition, our old friend Ferguson being, I think, one of the first to treat it with respect. Generally, however, it was accepted as a modified and rather debased form of French Gothic and even Street, who dealt with it honestly, always seemed to be trying to prove the French origin of all its motives. In a way, of course, this was true; the style did indeed come over the Pyrenees with the pilgrims, administrators, friars and bishops, as the decadent Moors were pushed back from the paradise they had made, but except at Leon, which certainly is French in spirit and in form, and in monasteries like Poblet which seemed to be both and failed because of defective master builders, whatever there was that was French in the beginning was transmuted by racial energy into "something rich and strange." Perhaps if Street had taken the trouble to go from Toledo to Seville (apparently he visited every other church of importance in Spain) he would have seen there something that would have opened his eyes to the national quality of other work than this.

The strictly Spanish Gothic churches fall into three groups, those that consciously try to be French and succeed in varying degrees, such as Leon, Toledo, Burgos (in its original estate); those that in plan, organism and spirit are purely Spanish, such as Seville, Salamanca, Segovia, Barcelona; and finally the Cataluan group of the type of Gerona, Santa Maria del Piño, Santa Maria del Mar and the Cathedral of Palma. The lines of demarcation are none too clear and influences are always interacting, but certain churches stand out as supreme and definite examples, amongst which I should certainly place, as representative of the three groups, Seville, Segovia and Santa Maria del Piño.

Burgos certainly began as a French sort of church, but its vicissitudes during the ages have made it almost the most Spanish of all in its general effect. Not only have chapels been broken out all around, some twelve in all and of the most varied sizes and styles, but the whole crossing with its amazing piers and lantern is of the most
purely Spanish blend of Gothic and Renaissance; the western towers are capped with openwork spires, German in impulse but very Iberian in quality; the triforium throughout is the most Spanish thing imaginable, and the famous stairway in the north transept is Spanish Renaissance at its best. Rejas of gilded iron, sumptuous altarpieces, tombs and shrines crowd the church with glory until it becomes an epitome of Spanish artistic genius. Of course it has no stylistic consistency, but this in itself is Spanish, for this people, driven by a burning spirit mingled of

adventure, piety, sacrifice and emulation, was always tearing down, building up, inventing new modes of art, lavishing the gold of the Indies, and never resting satisfied with what had been accomplished. For six hundred years Spain seemed to be in a paroxysm of passionate creation and its art has a fire that is paralleled nowhere else except for brief and brilliant periods. When this fire died the sort of things that followed may be seen in the hideous triple doors of the Burgos west front, cheap and barren classical formulas that were stuck in during the XVIIIth century, fine Gothic portals of the Cathedral’s first period being hacked away to this ignominious end. Of course the Cathedral is not all in Burgos; the whole city reeks with great architecture, both Gothic and Renaissance, and nearby are the monasteries of Miraflores, Las Huelgas and Silos, the first with tombs of incredibly rich late Gothic and one of the most splendid altarpieces in the world, the second invisible except to a few specially privileged women since it is a convent the members of which are all of noble blood and strictly enclosed, while the third has unique cloisters with sculpture of the XIIIth century that stand alone in their curious perfection. It is necessary, however, to content one’s self with hitting a few high spots, for Spain is too rich in great art to permit here any detailed consideration, so we pass on to

Seville as the great exponent of the true Spanish Gothic in its highest estate.

I believe I have seen every great cathedral in the world except four, and I can give it now as a considered opinion that Seville, in respect to its interior (its exterior is nothing, or less) is the noblest of them all, and this can be said while clearly remembering Bourges and Chartres, West­minster and Exeter, St. Mark’s and Monreale. When in 1401 the Canons determined on a new cathedral to replace the converted mosque they said: “Let us build such a church that those that come after us will say that we were mad!” No one has brought this charge against them, but instead they, or their architect, is credited generally with the most magnificent idea since Hagia Sophia. Who this great genius was, no one knows,
though the names of practically all the other great master builders have been preserved. Baedeker, with his usual ineptitude, says he "came perhaps from Germany" which is silly. It is far more likely that the scheme was the result of divine inspiration. There never was another cathedral like it either in its general idea or the sublime grandeur of its scale. To all intents it is a seven-aisled church, for its outer aisles, though divided into chapels, are so lofty and open that they count for full value. Antwerp is the only other seven-aisled church in the world, but here the wide outer aisles were an afterthought, while in Seville they are part of the original plan. The vast church is 450 feet long and about 230 feet wide inside. The nave is 50 feet clear width, the four main aisles 35 feet each, the chapels 20 feet deep. Fifty-four vast columns, each 11 feet in diameter and about 70 feet high, carry the vaults which are 85 feet to the crown in the aisles and 120 feet for the high vault. There is no triforium and only a narrow gallery at the spring of the nave vault. The piers are set diagonally and are approximately square in plan, and the manner in which these enormous columns, delicately striated, develop into arches, vault ribs and colonnettes at different stages, is the most perfect piece of articulation I know. In place of capitals there are narrow bands of foliation, the arches and ribs do not overhang and are immensely stilted, those of the high vaults at least six feet, the result being a soaring lightness without rival. The double side aisles are of the same height (the chapel aisle about 30 feet lower) and the spring and outward curve of the vault ribs take away one's breath. The windows are comparatively small but the stone is silvery gray so there is sufficient light, and the colored rays from the high windows stream across on the pale shafts, staining them and the rosy marble floor with every hue of opals and the iridescent plumage of birds.

Of course the major part of the nave is blocked below by the choir with its walls of gorgeous marbles in Renaissance design, but it does not matter for the church is so lofty the eye ranges clear above the choir screens. The effect in looking diagonally across the building is just what one gets in a vast forest; walls disappear and there is only a soaring myriad of enormous silvery columns, lifting incredibly into the air and curving into dim vaults that seem as far as the sky.

If you enter from the west and go down one of the south aisles, the shock that comes as you reach the transept is staggering. The sanctuary occupies only a bay and a half east of the crossing; it is surrounded on three sides by rejas of gilded iron in the richest possible designs, some forty feet high, and within, eleven steps, the full width of the chancel, sweep up to the altar platform and above rises the reredos, 50 feet wide with 15 foot returns on the sides, a hundred feet high, canopied at the top, and all of marshalled niches with groups of figures in full relief, the whole structure being covered with gold leaf now toned to a luminous bronze, and dull, faded color. There never was anything quite like it on earth, and I suppose never can be again. As for the chapels, some thirty in all, they are crowded with towering Renaissance or late Gothic altar-pieces, also plated with gold and set with paintings; tombs of all periods, pictures innumerable, shrines, banners and I know not what of splendor and solemn magnificence. Truly this church is the wonder of the Christian world, and its essential greatness lies not in its wealth of allied arts but in itself as a consummate work of architecture. It is simple to the point of classicism, perfectly articulated, faultless in balance and composition. Except in the late and ugly vaulting of the crossing, there is nowhere a thing too
much or a detail that detracts from the majesty of its great, informing idea. Other churches grew; this, it almost seems, came down from heaven, the Holy City, “The Bride” of the Vision of St. John.

To a great extent it influenced the second group of churches I have referred to as particularly Spanish, those that were the work of Juan Gil de Hontañon and his son Roderigo. Their great works were Salamanca and Segovia, with smaller churches here and there, but they represent a large school that during the XVIth century effected a most marvelous blending of Gothic and (Spanish) Renaissance motives. The new work at Burgos is of this sort, the colleges of Salamanca are full of it. Guadalajara offers its palaces, Toledo its San Juan de los Reyes, while every major town has its examples. It is not a fantastic assembling of two opposed ideas but a true blending in real vitality. Great “Masters of Masonry” like the Gil de Hontañon could combine domes and crocketed pinnacles in perfect unity and give to Gothic carving the suavity and finesse of early Renaissance. In such churches as Segovia, Palma and Salamanca the vast masonry masses of Seville are reduced to slender shafts, the spans are widened, the whole thing made more open and luminous, but the soaring height obtained by the elimination of the triforium is retained and the result is a lightness that has some of the elements of ecstasy. Incidentally the Cathedral of Segovia is all of gold colored stone, glowing like a tawny sunset; in fact the whole magical town is yellow, russet, amber and pale sienna, with ivory, rose-pink and faint lavender for accents, and as it mounts and rides its great rock, with the golden Cathedral at the crest, the Lohengrin Castle of yellow ochre at the far end, and little rivers down below under slim, tall, silver-green trees, it is more like an impossible ship out of faery than anything else I can think of. An artist should go to Segovia and find all his dreams fulfilled.

The third group (I must leap lightly from one to another) is that amazing Catalan development represented by Gerona, Manresa, Santa Maria del Piño, Santa Maria del Mar, and the Cathedral of Palma. This is all pure Catalan work, evolved by that singular race of the northeastern corner of the Peninsula that seems to be more French, or perhaps Provençal, than it is Iberian. I attribute these churches to a race but there is a coincidence in dates that suggests that one surprising genius may have been responsible for all,
THE COURTYARD. GRANADA CATHEDRAL
at least for the novel idea. The chief characteristic is an enormously wide nave, sometimes with, sometimes without columns. All but Gerona were begun about 1328, and all have the great, clear naves necessitated by the crowds that always flocked to Mediaeval preaching. Santa Maria del Mar has four great square nave bays of 45 feet with twenty-foot aisles, niched chapels in the fortress walls, and an apse with ambulatory. Manresa has a fifty-foot nave and is on the same general plan as is Palma, with a span of 60 feet. Santa Maria del Pi is aisleless, a splendid basilica of seven bays and polygonal apse, 55 feet wide in the clear, with wall chapels. It must be remembered that Chartres and York are only 50 feet wide. All these churches are very lofty and vaulted throughout in stone, the most daring adventures along this line up to the time they were built. Gerona leaves them in the shade. Here the choir was built between 1300 and 1346 in the standard and modest fashion, with three aisles, but when in 1416 it was decided to build a new nave an architect of parts, one Guillermo Boffy—or as we should say, William Boffy—advanced the novel project of going Santa Maria del Pi several better and, omitting columns altogether, build a vast hall equal in width to the existing three aisles of the choir, 73 feet in clear span, and vault the whole thing in solid masonry! This was too much for the judicious canons and they promptly called on all the Spanish architects they could get hold of, some twelve in number, to pass on the audacious project. The records of this Commission have been carefully preserved and make most interesting reading. The verdict was favorable and Master Boffy proceeded with his work, having to his credit, to this day, the biggest Gothic vault in Christendom.

This Catalan group, including the Cathedral of Barcelona of course, which is really contemporary though with no unusual width of nave, is one of the most original in the whole history of Gothic art. The enormous clear areas, the widely spaced, soaring columns, the lighting effects, curious and dramatic as at Barcelona, high up and mysterious as in the basilican churches, the close-set little chapels in the lower walls, the austere simplicity of design—all these things work together to set these churches in a group apart and as the great Catalan contribution to architecture.

I am sorry that no photograph of any of them, except Palma alone, seems to be available either in Spain or here, and so bare description must suffice. That they may be useful as inspiration for architects who confront the contemporary objection to interior columns in a church, is a reasonable assumption, for here certainly are Gothic churches of great beauty that offer the largest possible uninterrupted areas for a congregation of sermon addicts. One could wish also that the grandeur of their scale and the majesty of their dimensions might be taken to heart by modern cathedral builders, rather than the parochial or monastic setting-out of the crowded and constricted English type. New York Cathedral was wisely determined on these lines long ago, with its fifty-foot-square areas, but even these are small compared with the lordly width of sixty-foot Palma and of Gerona with its span of seventy-three.

Altogether a great and varied era of supreme Gothic building in Spain, quite commensurate with any other in the world. What happened when the gold of the Indies poured into the Peninsula like a flood and the movements of the Renaissance began to manifest themselves at the same time, I shall try to indicate, or rather sketch, in the next article.
HENRY BACON
1866–1924

HENRY BACON died on February 16. Born in Watseka, Ill., in 1866, he came to New York at the age of twenty-three to find employment with McKim, Mead & White. In 1889 he won the Rotch Travelling Scholarship. Returning to New York after his scholarship tour abroad, he again entered the office of McKim, Mead & White where he remained for six years. The architectural firm of Brite & Bacon followed until 1903, since which time Mr. Bacon practiced independently.

At the time of his death, Mr. Bacon was a Fellow of The American Institute of Architects, Fellow of The American Academy of Arts and Letters, and a member of many civic organizations and clubs in the field of art. He was awarded the Gold Medal of Honor in 1918 by The Architectural League of New York, and in 1923 received the highest distinction an architect may attain in this country, the Gold Medal of The American Institute of Architects. This award was in recognition of his work in designing the Lincoln Memorial at Washington.

Perhaps no man in the profession of architecture was more generally respected or held in greater affectionate regard. His passing creates a feeling of great loss. No words can more fittingly set forth the true character of Henry Bacon than those contained in an editorial printed in the New York Tribune. They are so truthful and so calmly appreciative that they could only have been written by a man sufficiently intimate with Bacon thoroughly to know his worth. This editorial stated:

"When a great artist dies he takes from us the embodiment of an idea. He is the representative of a principle, a style, an individualized vision of beauty. Such a type was Henry Bacon. As a man he was modesty itself, gentle, generous, all sunny kindness to his friends. As an artist he stood for the severity of the Greeks and figured in his profession as the most consummate exemplar of the grand style we have ever had. This fact, which is confirmed by a large number of buildings designed by him, is made most triumphantly manifest in the Lincoln Memorial at Washington. Bacon's genius reached its culminating point in that famous temple. There he expressed in its noblest estate his idea, his style, his vision of beauty.

"It is a fine thing when we can thus conceive of an artist's character, for it means recognition of something constructive, something durably fertilizing that he has brought into the world. Beauty is a living force. It does more than please the eye. It stimulates the brain, it warms the heart and brings the better self of mankind into action. The tribute that we pay to certain of the architects of America is a tribute of gratitude to men who left American art better than they found it. Richard M. Hunt did that when he brought here from Paris the motives of French classical design and used them with distinction in his own work. Henry H. Richardson was another significant contributor to our artistic experience through his exploitation of Romanesque. Charles F. McKim was in his turn a profoundly fruitful disseminator of the ideas of the Italian Renaissance and of the Roman principles underlying them. Henry Bacon, who, as a creative artist, was the peer of them all, dedicated himself to the majestic inspiration of the antique. With unique power he truly revived the large utterance of the early gods."

"He used it with much more than the authoritative skill of a craftsman mastering a technical instrument. It was for him the means whereby he instinctively expressed an inner spiritual
A TRIBUTE TO THE MEMORY of HENRY BACON by the NEW YORK CHAPTER of THE AMERICAN INSTITUTE of ARCHITECTS

The New York Chapter of The American Institute of Architects records the death of our fellow member, Henry Bacon, on February 16, 1924.

As we realize that the friendly voice of Henry Bacon is forever stilled, there come to us reflections of profound significance.

We recall first how that voice was never raised except in the ways of kindness, never expressed any other humor than that which has no sting. We think of the deep essential sweetness that radiated from the good man. And as affection moves us it is mingled with reverence at the thought of his pervasive modesty, the absence in him of any exploitation of himself, of his utter singleness of purpose and his sincerity.

True, devoted student of that great art of Greece that he so deeply loved, he came to know it as only the lover can know. Unfaltering in his fidelity, his long striving was not for what so many seek: bigness and loud acclaim and the driving bustle of the market place, but ever to capture and make to live again the exquisite ness of the most perfect moment of man's past.

Let us all now be glad that the fine crown of his career was bestowed upon him by his own brethren, as they charged him with the task of serving his country by commemorating its great hero.

We may hold what views we like about the forms of our art; we can have but one as to the nobility of him who is gone away from us and of whom we shall with pride tell our sons. Grief is with us, and sympathy for the afflicted, but above the grief is thankfulness for what he was.

Resolved, that this minute be filed in the Chapter and Institute records and that a copy be sent to the family of our revered and beloved friend.

D. Everett Waid, President.

Hobart B. Upjohn, Secretary.

COPY OF TELEGRAM FROM THE PRESIDENT OF THE AMERICAN INSTITUTE OF ARCHITECTS

D. E. Waid, President,

New York Chapter.

American Institute of Architects.

Through the death of Henry Bacon the Nation sustains a deep aesthetic loss and our profession is bereft of one of its luminaries. The Lincoln Memorial in Washington, of which he was the architect, reveals in its beauty his architectural mastery and his integrity of spirit and it now becomes a lasting and glorious memorial to the worthiness of his character. The National Organization joins the New York Chapter in its bereavement over this irreparable loss.

William Baker Faville, President.
The charm of the English country roadside is no greater than in this locality whose history dates back to the VI century. The buildings show the mellowing effect of time and blend harmoniously with the landscape. Some of the oldest topiary work in England is in this neighborhood.

WORKING PHOTOGRAPHS*

Notes on a series of hand camera photographs by John Russell Pope, F.A.I.A., for use as adjuncts to Specifications and Working Drawings

Architects in this country are largely influenced in designing, and particularly in the handling of material, by the ability of craftsmen to execute. Specifications and working drawings are statements of cold facts. Even to trained architects, they fail to convey the subtleties of execution contemplated in the finished structure.

The architect who has originated a design sees "in his mind's eye" every single detail. He knows exactly how he wants his materials handled to produce the desired effect. To impart this knowledge to the builder and through him to the man on the job is among the hard tasks of an architect's practice. Rendered drawings, water color sketches, pencil notes, are all supplied and yet the craftsman has not grasped the essence of the thing. In desperation the architect goes on the work in exactly the same way as did the "master builders" of the middle ages. He endeavors to the full extent of his mental power to "get it over" to the workmen.

For many years architects have pursued the same methods in preparing working drawings. While specifications have become more specific, working drawings more complete, they only touch the rim of the artistic handling of materials. When the workman knows his craft, the architect's work is simplified, but it seems to be the rule that our so-called "skilled labor" can, to use a printer's term, only "follow copy," and that their ability to originate is limited. The problem is, therefore, to give the workman "copy" that he can understand, and with which he may proceed to a certain degree of success. In the office of John Russell Pope, architect, this difficult problem has been solved very successfully.

All worth while things are evolved from the simplest elements. During many years of successful practice Mr. Pope has designed and completed a wide range of types of buildings. These buildings, mostly of large size, have been marked

*The illustrations of this article as well as the series presented in the plate section following have been reproduced from Mr. Pope's original negatives.
HOUSE OF STUART DUNCAN, NEWPORT, R. I.

JOHN RUSSELL POPE, F.A.I.A., ARCHITECT

Built in 1914. This photograph made in 1923.Compare with the photograph of Compton Wynyates, on opposite page.
The building of this house dates from 1515-1520. It is built of thin red brick with stone freely introduced. The walling in places is relieved by simple diapers. The gable is half timber with plaster filling. Contrast this picture of a house more than 400 years old with that of the Duncan house built less than ten years ago.

(From a photograph by John Russell Pope, F.A.I.A., Architect)
by distinctive features of planning, designing and more particularly in the original manner of handling materials, as in the patina on new metal that produces an appearance indistinguishable are not always essential to good building construction or the best artistic result. We are reminded of the young artist who, when asked why he didn't paint glorious skies of rich vermilions, cad-

from century old exposed materials, slate weathered in all the lichen grown qualities of old tiles, stonework and wood in a manner believed a craft secret and buried with the early craftsmen who originated it. All of Mr. Pope's buildings and particularly his pretentious country houses are existing evidence of this artistic handling of materials.

In a number of instances where houses by the Pope office have been illustrated in The American Architect, attention has been directed to the fact that the finest architectural and artistic effects have been secured by the use of the lowest priced materials. The highest priced materials miums and purples, replied that he couldn't afford it. "That sort of thing," he said, "cost two dollars a tube." Great painters, particularly the "Old Masters," produced pictures that are now worth fabulous amounts, that were done with the cheapest colors on a painter's palette. It is difficult to impress on the modern workman the fact that high cost does not mean the best results.

Mr. Pope has but recently returned from England. This was no vacation visit, no architectural junket to wander afield in search of recreation. The motive was created as a result of a carefully thought out plan to procure material for a series of graphic presentations suggestive of
The wattled fences, climbing rose vines and the weathered slate and stone of this neighborhood present the finest suggestions for the artistic handling of modern materials.
details of construction. These details were primarily to aid him in “showing the craftsmen” how certain results were to be obtained. While in England he made a series of hand camera snapshots. Along highways and byways, in cathedral cities and smoke begrimed manufacturing towns, on the banks of slow moving picturesque rivers, Mr. Pope searched for everything that had a practical and artistic value. These things he photographed with much skill and a well educated artistic sense of the point of view. The result of this artistic effort is a series of enlargements from well made negatives. No architect’s office in this country, we feel sure, possesses a more complete series of details. Every detail of exterior building construction is represented. Odd combinations of materials and every material known to the English builder are shown. In short, a wonderful collection of most valuable stuff.

These photographs are not merely to refresh the mind of the architect or to provide suggestions for designers. They have a more practical value. They are “working photographs” to accompany working drawings. From the negatives selected showing the detail and general aspect of the work desired, a full sized enlargement or solar print is made and these photographs are incorporated with the drawings. By this means the man on the job can visualize a result that he can easily comprehend, and with the example before him proceed with certainty to carry forward an effect that he could not by any other means produce.

The accompanying photographs are enlargements to fit these pages and illustrate the idea it is meant to convey. In addition they show how valuable an adjunct to construction a simple and inexpensive method can be made to serve.
OXFORD

"WORKING PHOTOGRAPHS"

The artistic handling of materials and the fine effects of centuries of weathering are shown in this illustration.

(From a photograph by John Russell Pope, F.A.I.A., Architect)
OXFORD

"WORKING PHOTOGRAPHS"

A characteristic detail in a locality abounding in material of the finest suggestive value

(From a photograph by John Russell Pope, F.A.I.A., Architect)
SALISBURY, ENGLAND

"WORKING PHOTOGRAPHS"

A characteristic bit in this old English town. There appears no incongruity in this intermingling of architecture of widely apart periods. The color and good form are evident even in this black and white reproduction.

(From a photograph by John Russell Pope, F.A.I.A., Architect)
Salisbury, on the Avon, is one of the oldest of English towns. Its history dates from the early part of the XIII century. The fine result of a combination of well handled materials, and the mellowing touch of time is well shown in this illustration.

(From a photograph by John Russell Pope, F.A.I.A., Architect)
WINCHESTER, ENGLAND

"WORKING PHOTOGRAPHS"

Fine example of English half timber work

(From a photograph by John Russell Pope, F.A.I.A., Architect)
GATEWAY AND PART OF THE OLD CITY WALLS OF WINCHESTER, ENGLAND

"WORKING PHOTOGRAPHS"

Here again, old and newer periods of architecture live in absolute harmony

(From a photograph by John Russell Pope, F.A.I.A., Architect)
NEAR WINCHESTER

"WORKING PHOTOGRAPHS"

A good example of an English country house, a style that has exerted good influence on the trend of design in the United States

(From a photograph by John Russell Pope, F.A.I.A., Architect)
BEAULIEU ABBEY, HANTS

"WORKING PHOTOGRAPHS"

Early English stonework at its best in color and texture

(From a photograph by John Russell Pope, F.A.I.A., Architect)
BEAULIEU ABBEY, HANTS

"WORKING PHOTOGRAPHS"

(From a photograph by John Russell Pope, F.A.I.A., Architect)
NEAR BEAULIEU, HANTS

"WORKING PHOTOGRAPHS"

The suggestive value of a "bit" like this is very great. In an effort to approach a similar effect in modern work, this illustration will convey more truth than the most carefully prepared drawing.

(From a photograph by John Russell Pope, F.A.I.A., Architect)
THE COURTYARD, COMPTON WYNYATES, WARWICKSHIRE

"WORKING PHOTOGRAPHS"

(From a photograph by John Russell Pope, F.A.I.A., Architect)
COMPTON WYNYATES, WARWICKSHIRE

"WORKING PHOTOGRAPHS"

The arms over the doorway are those of Henry VIII

(From a photograph by John Russell Pope, F.A.I.A., Architect)
RINGWOOD, HANTS

"WORKING PHOTOGRAPHS"

(From a photograph by John Russell Pope, F.A.I.A., Architect)
RINGWOOD, HANTS

"WORKING PHOTOGRAPHS"

(From a photograph by John Russell Pope, F.A.I.A., Architect)
RINGWOOD, HANTS

"WORKING PHOTOGRAPHS"

(From a photograph by John Russell Pope, F.A.I.A., Architect)
RINGWOOD, HANTS

"WORKING PHOTOGRAPHS"

(From a photograph by John Russell Pope, F.A.I.A., Architect)
REVIEW of RECENT ARCHITECTURAL MAGAZINES

BY EGERTON SWARTWOUT, F.A.I.A.

PROBABLY not more than one in a thousand American readers ever sees an English architectural magazine, and there is an equal probability that the same relative proportion holds true in England. This is a great pity. The variety and beauty of our illustrations would be most attractive over there, and the high quality of their printed matter would, or rather should, appeal to us; and more than all this, is the good that would come to both of us in the exchange. It has been, therefore, the policy of these reviews to pay rather more attention to the English magazines than to our own, so that there could be conveyed to our readers some general idea of what is being built in England and what is being said there about matters architectural. To our way of thinking by far the most constant and by far the most valuable feature in the English magazines for the past two years is their attitude in regard to commercialism and the evils attendant upon its blatant modern development. The proposed destruction of many of Wren’s London churches to make way for commercial buildings, the cheap-john-building, the electric signs, the disfigurement of the country lanes and roads following the advent of the charabanc, the dismemberment of beautiful estates and the building upon the ground thus obtained the smug and depressing housing developments, the high building propaganda and the thousand and one things by which beauty is destroyed in the name of efficiency, but in reality for a pittance, and often only for a promise, of profit. There is nothing particularly new to us in all that; perhaps we might even say that the more rampant forms of commercialism had their origin in this country, the only difference being that very little is said about such things over here, and that being a younger nation we have relatively few old buildings the destruction of which would be regarded as a crime, and few streets whose demise would attract the attention given to the passing of Regent Street.

For there has been given to it a good deal of attention. Quaint old engravings showing the original design have been unearthed and printed together with histories of the scheme and portraits of Nash who designed it, and old photographs, one of which we reproduce, showing a quiet, leisurely sort of street with hansom and no motors, a street where people could and did shop with pleasure and profit; views of the Quadrant and the Arcade and then, in contrast and as a sort of horrible example of what not to do, photographs of the new Regent Street of plate glass and signs and motors, each newer building doing its level best to elbow its neighbor out of the limelight. Architecturally such a comparison is, if not odious, rather unfair. Some of the new buildings are good, that is to say, good of their kind; no better indeed, but certainly no worse,
unity and scale in the old street that was remarkable. The buildings were inexpensive and of stucco, and the design and detail of the units were nothing notable, but as a big scheme it was remarkably handled. There was variety in its unity which is well worth studying. Note in the illustration the projecting pavilions at the bend in the street, the rounded and domed corner and the projections and gables further down. It had not the dignity of the Rue de Rivoli nor of the Place Vendome, and it was built of cheaper materials but somehow it was more interesting, and its destruction is a great loss to London. We here in New York have nothing, nor ever had anything, to compare with it. The old terrace on Twenty-third Street was interesting largely because of the trees and gardens in front of it; Lafayette Terrace was very good but small, and the North side of Washington Square was charming before the alterations, but these were fragmentary and domestic.

There was an article some months ago in Architect, London, which brought up a very good point, that the charm and the fitness of the street were due to the fact that the scale was a human scale, and that a man standing in front of an old shop window seemed to be about five feet nine and the articles in the window seemed in scale with him, whereas in the new buildings a man seems relatively about three feet high and the articles made for children, and that this correct feeling of scale was really a commercial asset. There is a good deal to this point, and there are even now in New York many indications of appreciation of it. The more expensive and exclusive places are relatively small and are on side streets, the scale of the front is small, even the glass is subdivided into small panes; everything is subdued and the doors and ceilings are low, rather in contradiction, we understand, to the prices quoted inside. In commenting on this point we are not, of course, suggesting that new stores should be affectingly built in the manner of the small shops of a hundred years ago; it is merely a question of the correct scale and not of imitation of bygone work.

And, anent imitations, there has been a good deal of attention given lately to a short article in a recent number of The Architects' Journal, London, by Clough and H. Williams-Ellis with the rather unusual title "Mock Turtle or Guile Defended" in which the authors have some nice things to say about the use of imitations, imitation marble, imitation glass and synthetic stone and other shams, the gist of it being that it is often wiser to use these fakes than to spend the client's money on the real thing, etc., etc., all cleverly written and as it seems with the tongue in cheek with the gentle idea of getting a rise out of someone. If that was their intention, they have succeeded admirably. The average Briton reads his paper hard, and with difficulty resists his first inclination to sit down and write a letter to the Editor about it, and in this case there are many letters for and against. In this country as in all countries there is a good deal of guile and some Mock Turtle, but it is rather happily confined to the cheaper grade of theatrical or commercial work. There has been rather a run on synthetic things lately, on stone as well as on other materials, not quite so solid. Necessity may excuse the latter but imitation stone is just imitation stone, and that only at first; after a time it ceases to be anything at all. One does not have to stand on the high ground of ethics in dealing with sham building materials; they fall because they are unpractical and unenduring.

In The Architectural Review (London) for January there are a number of very good photo-


SOUTH ELEVATION
THE STADSHUS, STOCKHOLM


SOUTH FRONT
THE STADSHUS, STOCKHOLM
graphs of the Stadshus at Stockholm, a recently completed building by Ragnar Ostberg of which we reproduce interior and exterior views. It is very large and very original and very theatrical and, being novel and theatrical, it will probably attract a good deal of attention and much favorable comment. Like most modernistic work it seems unstructural. The massive brick tower appears firm enough but the plain brick wall adjoining comes heavily down on an unsatisfying arcade, the brick arches having but one rowlock course. The Golden Hall is probably gorgeous but an exaggerated effect of scale is obtained by the disposition of the furniture and by the broad, low stools. There is more than a little Mock Turtle about it and some guile.

In the same magazine Mr. Walter Bayes writes on the “Grammar of Drawing and on the Establishment of Relativity” and seems very much put out because Mr. Frank Emanuel referred somewhere to him, Mr. Bayes, as one of a “little ring of art anarchists and revolutionaries.” Mr. Bayes is quite sure he is not, and to prove it shows some results of his teachings—for example look at exhibit 4 which he calls the Vale of Health, Hampstead Heath. To be sure there seem to have been no seekers after health in the vale when the drawing was made but what of that? If Mr. Bayes was a Bolshevic would he not have had the vale filled with soap box orators and approving mobs? What he has not done surely proves his case. The trees, of course, are novel but at least they are not wild; very self-contained trees, we should say, and so also in that charming little bit “The Lake” which at first glance seems to show a flock of cash registers going West in a strong breeze, but by reading the text you discover that they are not cash registers but clouds. None of your free, wild Bolshevic clouds but controlled and shaped as clouds should be. How could a man who can so control nature be a Bolshevic? Mr. Emanuel clearly has lost his case.

In the field of American architectural magazines there is a newcomer, The Architect, of New York, of which five numbers have appeared. In offering our congratulations to the Editor we add also our apologies for this belated reference, which is only excusable because until a week or so ago no copies of it had reached our office, and naturally no reviewer ever buys a magazine. That is one of the few things that recommend us to our

![Council Chamber, The Stadshus, Stockholm](image1)

![The Golden Hall, The Stadshus, Stockholm](image2)

3. Is it right for architects to do business on the reputation of the dead or retired, especially when they lack the inspiration and touch of the vanished hand, and need restraint, as by the voice that is stilled; and what should be the attitude of architects to this business method?

4. Should architects practice on a strictly professional basis, or should they be unprofessional and yield to the embraces of the commercial elements of the building business?

Now, as we happen to have no relations who have anything to do with architecture we do not quite understand the allusions to group practice or as it is poetically called “hunting in packs,” so we can only define our attitude as one of watchful waiting.

"There is a Freudian significance to number four which is repellent to us and we refuse to answer, but number three is really very fine, very fine indeed. It only goes to show what a grand thing poetry is and how a touch of it can enliven the most prosaic work. If the canons of ethics now could only be reduced to iambics! or even free verse. Everything is getting better and better, thanks to the Post-War Committee.

AS THE ARTIST PAINTER SEES ARCHITECTURE
REPRODUCTION OF A PAINTING BY ABBOTT GRAVES OF A DETAIL OF A HOUSE BUILT IN KENNEBUNKPORT, MAINE, IN 1812
Special Notice to Students

By special arrangement with the Society of Beaux-Arts Architects, there appears in each issue of The American Architect an average of five pages devoted to the presentation of drawings selected from the Beaux-Arts Institute of Design exhibitions, and also the listing of awards and the promulgation of all notices to students. These matters will be exclusively presented to students of the Beaux-Arts Institute of Design through the pages of The American Architect. By arrangement with the publishers of The American Architect, a special student subscription rate of $5.00 per annum has been secured. Further particulars with reference to this service to Beaux-Arts students may be obtained by addressing The Beaux-Arts Institute of Design, 243 West 39th Street, New York City.

Official Notification of Awards

Judgment of January 22, 1924
FIRST PRELIMINARY COMPETITION FOR THE 17TH PARIS PRIZE OF THE SOCIETY OF BEAUX-ARTS ARCHITECTS
"MONUMENTAL ENTRANCE TO A THOROUGHFARE"

A passage for pedestrians is pierced through the center of a city block 200 ft. deep. This is a much used and important circulation. It is 40 ft. wide, between two buildings whose cornices are both 50 ft. from the sidewalk. One end of this thoroughfare faces on a public square, and an entrance motive of a beautiful and monumental character is desired and is the subject of this competition.

These two buildings are placed 10 ft. back from the building line and are classical in style.


NUMBER OF DRAWINGS SUBMITTED:—112.

AWARDS:

PLACED FIRST AND FIRST MENTION:—P. Goodman, Atelier Licht, New York City.

PLACED SECOND AND FIRST MENTION:—G. Smith, Univ. of Minnesota, Minneapolis.

PLACED THIRD AND FIRST MENTION:—A. F. Easton, Atelier Hiras, New York City.

PLACED FOURTH AND FIRST MENTION:—R. H. Crawford, Univ. of Southern Cal., Los Angeles.

PLACED FIFTH AND FIRST MENTION:—L. I. Kahn, University of Pennsylvania, Phila.

PLACED SIXTH (FIRST ALTERNATE) AND SECOND MENTION:—N. J. Schlossman, The Chicago Atelier, Chicago.

PLACED SEVENTH (SECOND ALTERNATE) AND SECOND MENTION:—J. L. Evans, Univ. of Pennsylvania, Phila.


THE PARIS PRIZE

The judgment in the First Preliminary Paris Prize, which appears above, will be followed in the May 7 issue with results of the Second Preliminary. The final award and illustrations will be in the issue of August 13.
FIRST PRELIMINARY COMPETITION FOR 17TH PARIS PRIZE, SOCIETY OF BEAUX-ARTS ARCHITECTS
A MONUMENTAL ENTRANCE TO A THOROUGHFARE
UNIV. OF PENN.
J. L. EVANS
PLACED SEVENTH (SECOND ALTERNATE)
SECOND MENTION

CHICAGO ATTELIER
N. J. SCHLOSSMAN
PLACED SIXTH (FIRST ALTERNATE)
SECOND MENTION

UNIV. OF PENN.
L. I. KAHN
PLACED FIFTH
FIRST MENTION

FIRST PRELIMINARY COMPETITION FOR 12TH PARIS PRIZE, SOCIETY OF BEAUX-ARTS ARCHITECTS
A MONUMENTAL ENTRANCE TO A THOROUGHFARE
ARCHITECTURAL ENGINEERING

FOUNDATIONS for the GEORGE WASHINGTON NATIONAL MASONIC MEMORIAL, ALEXANDRIA, VA.

HELMLE & CORBETT, Architects—OSGOOD & OSGOOD, Consulting Architects

The construction of the George Washington National Masonic Memorial at Alexandria, Virginia, has progressed beyond the cornerstone laying early in November, 1922. This, our finest, most dignified and largest memorial is located in a commanding position on the edge of a high plateau overlooking the city and the Potomac valley. It dominates the entire surrounding country and from great distances will be the visual focus from every viewpoint. It is a fit and worthy memorial to a great American, erected by members of the Masonic Fraternity. The memorial was designed by Helmle & Corbett, architects and Osgood & Osgood, consulting architects.

The site was thoroughly explored by means of test wells sunk to considerable depths. Unusual soil conditions were encountered. The underlying clay formation was found to be of a disintegrated character indicated by well pronounced fissures, generally of a vertical trend. Through these fissures, at a comparatively shallow depth, there was a considerable flow of water. As a protection for the building foundations an intercepting drainage system which surrounds the building, has been installed. By this means a known moisture condition is maintained in the supporting soil and the load distribution was designed accordingly.

A general excavation was made of the building site approximating the level of the underside of the foundation. Other excavations and fills were made for the terraces and approaches in front of the building. At points distributed about the site of the building, spaces were leveled off to the exact elevation of the underside of the foundation and protected from the weather during the making of the tests to determine the resistance of the soil to loads. The test records are therefore a measure of the virgin soil resistance. The test blocks were made of 28" and 42" metal pulleys which were filled with concrete, both faces level and true. On each test block was placed a square steel plate on which was imposed the test load. A mast was erected on the test block and held in a vertical position by six steel cables, each of which passed over the top of an A frame to a suitable anchorage. The mast was adjusted to a vertical position and so maintained by turnbuckles inserted in each guy line. On cross arms near the base of the mast the test load of railroad rails was placed in regular increments which were proportional to the area of the test block. From two A frames on opposite sides of the area a couple of steel cables were suspended which continued over the A frames to suitable anchorages. From these cables was suspended
an apparatus for raising, moving and placing the railroad rails in position.

At regular intervals within the building area, long bolts were driven into the ground with the heads projecting. The bolts were protected by pieces of cylindrical tile. Before the load was applied elevations were taken of the test block and boltheads. As the loads were increased new loads thus established, the foundation was designed. Instead of a number of isolated foundations, they are combined into one reinforced concrete slab or mat, covering the entire building area. The thicknesses of the mat and the disposition of the reinforcing steel are so proportioned as to distribute the total load uniformly over the entire area. The extreme dimensions of the mat are 171'-0" x 254'-4". It is of different thicknesses, 4'-6", 6'-9" and 9'-0" respectively. The thickest portion is 87'-0" x 100'-2" in size and is immediately under the high portion of the main structure. Outside of this foundation is an extensive system of foundations which support the retaining walls that limit the terraces and which support the steps of the approaches.
In constructing the concrete mat, a 3" layer of plain concrete was placed over the area as fast as the ground was brought to the proper level. On this 3" sheet of concrete, ridges were formed as shown in the illustration. These served to support the reinforcing steel at the correct level and also in some instances to outline the walls of the superstructure. This 3" sheet of concrete serves another and very important function in construction. When the supporting soil of a foundation becomes saturated by rain it is extremely difficult, almost impossible, to place and maintain the reinforcing steel in correct position. There is also an intermixing of mud and concrete in the lower portion of the foundations which is not desirable. It was found that the added cost of this sheet of concrete was more than offset by the savings in labor cost resulting from working on a substantial and clean surface. The quality of the foundation was also maintained as designed.

The concrete was made of a 1:2:4 mix with gravel as the coarse aggregate. Of the 12,500 cubic yards of concrete placed in the foundations, 9,000 cubic yards were contained in the mat foundation. The reinforcing steel consisted of 720 tons of bars and 18 tons of tie steel. The construction plant was carefully planned and the working forces well organized. The mat was placed in
PLAN AND SECTIONS OF FOUNDATIONS FOR TERRACE WALLS AND PRINCIPAL APPROACH

GEORGE WASHINGTON NATIONAL MASONIC MEMORIAL, ALEXANDRIA, V.A.

HELMILE & CORBETT, ARCHITECTS—OSGOOD & OSGOOD, CONSULTING ARCHITECTS
PLAN AND SECTIONS OF PRINCIPAL FOUNDATION

GEORGE WASHINGTON NATIONAL MASONIC MEMORIAL, ALEXANDRIA, VA.

HELMLE & CORBETT, ARCHITECTS—OSGOOD & OSGOOD, CONSULTING ARCHITECTS
fifteen sections, poured alternately. The mixing and placing of the concrete were carried on continuously during 302 hours of elapsed time. Of this time, but 6 hours were consumed in shutdowns for oiling and minor repairs, making the net working time 296 hours. The contract was executed by the Cranford Company under the immediate direction of C. A. Warthen.
CONTRACTORS FAVOR the QUANTITY SURVEY

I t is always with interested anticipation that one awaits the annual convention of the Associated General Contractors of America. This association is one of the all too few organizations that assume definite positions and accomplish positive results. Since its organization five years ago, it has favored the use of quantity surveys. It has entered into discussions and agreements with other technical and professional organizations, including The American Institute of Architects, concerning the desirability and use of quantity surveys.

The majority of such organizations meet and resolve, adjourn and forget. This is not true of the A. G. C. and realizing the pressing need of the protection secured by quantity surveys it has, through several of its chapters, made use of them. The institution of Survey Bureaus has, like many other desirable activities, had its greatest growth in the Central and Western states.

At the fifth annual convention of the Associated General Contractors held in Chicago, January 21-24, 1924, R. L. Reisinger of the R. L. Reisinger Co., Milwaukee, Wis., made a report of the workings and benefits of the Survey Bureau which is operated by the Milwaukee chapter. Two things Mr. Reisinger clearly establishes—the practicality and the desirability of the quantity survey. A brief abstract of Mr. Reisinger's address follows:

The pioneering work has been done. Quantity survey is now established nationally as is evidenced by the fact that during the past year we had inquiries from fifteen localities, including ten chapters of the Associated General Contractors, asking for information regarding organization and operation and asking us to supply forms and methods of take-off. Several of those making inquiry have already started to function and others will soon do so.

The question has been asked, whether a Bureau of Quantity Survey can successfully function as a chapter activity. Permit me to submit to briefly the financial activity. This Bureau has been in operation for more than ten years. We have a surplus fund of $9,000.00 invested in high-grade securities. We have on hand today in cash $60,000.00. We have over $7,000,000 in gilt-edge accounts outstanding. Practically $5,000,000 has been apportioned back to our members in the form of dividends and we intend to disburse an additional $5,000,000 some time in February. In addition to this we have paid in the form of dues, fees and underwriting expenses and the expenses for the attendance of our members to the A. G. C. conventions, etc., approximately $950,000. In addition to this, we have paid the dues of our membership in the State Association and in the Employers' Council. We spent approximately $1,000,000 fighting a strike in 1920. We spent over $200,000 in an advertising campaign to boost building in the dull period of 1921. We have contributed to all worthy charities and to community funds; our association has two dinners a month. This money has all been earned by our Quantity Survey Bureau.

In a general way, Quantity Survey Bureaus are bringing about a much closer relationship between the architect and contractor; and this is being done through the sifting down and the correct interpretation of plans and specifications. We all know that there is rarely a set of plans and specifications that do not need considerable renovating, questioning and correcting and, to be more specific, they are very often incorrectly drawn.

Through the work of the Quantity Survey Bureau and the direct contact thus brought about between the Bureaus and the architects and engineers, the ambiguous and doubtful statements in the specifications and the specifications in the plans are being clarified. There still seems to be a considerable aloofness between the contractor, architect and engineer and the specifications. We have yet to hear of a loss sustained by a member through the incorrectness of estimated quantities. On projects ranging from $5,000.00 to $10,000.00 the fee is one-half of 1%; on projects ranging from $100,000.00 to $300,000.00 the fee is three-tenths of 1%; on projects ranging from $300,000.00 to one million dollars the fee is slightly less than two-tenths of 1%. Estimates are payable thirty days after the signing of the contract.

Of course, we fully realize that quantity surveys should come from the architects and engineers. That day is still in the future and consequently we have done the next best thing to assure the elimination of error in the most practicable degree possible, by establishing our own Bureaus for the contractor's benefit. Architects are daily becoming more impressed. We do not, at this time, recommend the guarantee of the survey in the event of its being furnished by the architect or engineer, but we do recommend the use of it as a check against error. We sincerely believe the task of preparing quantities is a part of the architect's duty and that it could be done more economically in the architect's office by the draftsman making the plans because he would be more familiar with the items entering into the structure. Allow me to digress for a moment from the subject to one that is very much akin to quantity survey. That is the subject of incomplete plans and specifications. One of the worst abuses that are heaped upon the contractors, is a set of plans and specifications that leave much to the imagination. A contractor is asked to guess what the architect or engineer has in mind and to guess what it will cost to complete this mind picture. And after he has his proposal made and accompanied it with a certified check, he then finds out that the designer had something entirely different in mind and it is up to the contractor to go through again.

In this connection, I desire to read three paragraphs from an article by E. L. Harrison, an architect, appearing in a recent issue of the Members' Service Magazine of the Memphis Chapter of the Associated General Contractors:

"We believe the time will come when contractors will require a clear idea of the building requirements before bidding on work."

"The first step in awarding a fair contract for building construction is the furnishing of a complete and definite set of plans or drawings supplemented by a concise and comprehensive specification. Probably more disputes have arisen between owner, architect and contractor through ambiguity of plans and specifications than any other single cause of 1921."

"It is very easy for the architect whose office is crowded with 'rush work' to turn out a half finished set of plans and specifications, but it is not so easy for the builders to guess what the architect will require built into the job afterward."
The practicability of preparing quantity surveys in an architect's office by the draftsman who makes the plans, is questionable. In the first place, the architectural draftsman is rarely a competent estimator. Experience in that work and a wide acquaintance among estimators establish the fact that men who are educated as civil and structural engineers are the best fitted for that work. The reason is apparent. They are so taught and the nature of their work and its responsibility are such that extreme accuracy is one of their characteristics. This is not a distinguishing trait of architectural draftsmen. A competent estimator is a specialist and his work cannot be done by inexpert persons. There is but a limited number of architectural offices that have a sufficient volume of work to justify the regular employment of a quantity surveyor.

The rational solution of the matter appears to be the use of independent Survey Bureaus which supply the quantity lists to the architect and the contractors. This service should be paid for by the owner either direct or through the architect. The owner pays for estimating expense in any event and it can be done much more cheaply and better by well organized Survey Bureaus than by the present unscientific method. It is incomprehensible why architects do not actively favor the use of quantity surveys. The benefits to them, as well as to the owner, are clearly shown by Mr. Reisinger. The outcome of this movement is assured because it is an economic necessity, and its general acceptance will be established by the Associated General Contractors and allied contracting organizations. This could be accomplished more quickly with the co-operation of architects, individually and organized, who should adopt the quantity survey in their practice.

HANDBOOK FOR ARCHITECTS AND BUILDERS

The annual handbook published by the Illinois Society of Architects has become a recognized institution. It is a very tangible evidence of the service which this organization renders to its members as well as to all other architects who may have occasion to design buildings in Chicago and the state of Illinois. With the special articles, tables and working data comprising a large part of its contents, this handbook has become a valuable reference work for everyone having to do with the design and construction of buildings. Aside from the membership lists of the Illinois Society of Architects, the Illinois Chapter, A. I. A., and the registered architects in Illinois, it contains the registration laws, the building code of Chicago and other codes and regulations which pertain to building construction.

The new matter in Vol. XXVI, 1923, includes the newly adopted Chicago zoning laws and the revised sanitary code. The 656 pages of this publication are an indication of the scope of its contents. The painstaking work devoted to the preparation of this handbook is characteristic of everything which the Illinois Society of Architects undertakes and stamps it as a leader of architectural organizations.

LIMESTONE HOUSES OF MODERATE COST

A North Central limestone house is generally associated with an impression of costliness, which is really unwarranted. In order to demonstrate that this material can be used in houses of moderate cost, the Indiana Limestone Quarrymen's Association, Bedford, Indiana, has published a portfolio of designs for dwellings constructed with walls faced with rough-sawn quarry-run stone. The portfolio consists of sixteen designs of different styles of architecture on different sized lots. A plot plan, floor plans and perspective illustrate each house. A description of the principal features of the plan and the plot plan accompanies each design.

The designs were made by Olsen & Urbain, architects, Chicago. This publication is well worth the consideration of architects and is furnished to them free of cost, and also to draftsmen applying for it on the business stationery of their employers.
The term “panelled room” was originally used to describe a room in which the walls from floor to ceiling were constructed of a series of wood panels, varying in size and shape according to the period or style of the design. As generally applied, this embraced the Elizabethan, Jacobean, William and Mary and Queen Anne periods, although there were frequently rooms in the Georgian and the contemporary styles of France which might accurately be called panelled rooms. Today, however, the expression is used to describe a room of any style of decoration in which the wall treatment takes the form of panels, no matter how constructed. Wood rails applied to plaster walls forming panels, in which wallpaper is sometimes hung, or even wood mouldings applied to and painted in the same color as the plaster seem sufficient to specify it as a panelled room. Of the several types of original panelled designs, none is more applicable to the proportions and structural conditions of the modern house than the Jacobean period. For lack of any other way in which to limit the beginnings and endings of different period designs, the dates of the reigning House that occupied the throne, and for whom the style was named, have been considered as the dates of the style. These dates are not, of course, accurate in any connection, but as much so, no doubt, as any could be.

The Jacobean period follows immediately after the Elizabethan and dates from the accession of James I in 1603. It is positively known that Inigo Jones carried on the details of the Elizabethan style for at least forty years after that date, however. The Jacobean period comprises the House of Stuart, and covers the reigns of James I in 1603. It is positively known that and James II, ending in 1688. Theoretically, the Jacobean is the second stage of the Renaissance in England. The influence of the Italian, with whom the Renaissance originated, is evidenced in many of its details but many of its later ideas came bodily from the Flemish. This whole idea has been well summed up by some one who said that the English “saw the Italian Renaissance through Flemish spectacles, and then gave it a native interpretation.” That was possible, as the relations between England and the Low Countries were very close at the time, being bound together by ties both political and religious, and all at swords points with anything Italian.

Still growing slowly away from Gothic ideas, at a time when the home was but a man’s fortress, the Jacobean house was yet far from comfortable. Architectural decorations were its main feature and what furniture there was, was not made for comfort or mere decoration. Every piece in the room had its purpose from a practical standpoint, and, although ornamented so as
not to appear out of place in its decorative surroundings, it was noticeably simple in outline and construction and so was typical of all the work of the period. The furniture of the Jacobean style has always been closely cherished by Americans through purely sentimental reasons, for the first pieces of furniture to be brought into this country after the settling of the Colonies were original Jacobean pieces.

The principal characteristic of the period, accentuated above any of its other features, is simplicity of construction. In every detail it is carpenter-built. Ornament and decoration were added afterwards, and, although there was often abundance of it, it did not depart from the original straight lines and flat surfaces and seldom appears in the outline. Thus occasioned by the manner of the carving, the ornament is formed by gouging, generally in low relief. Even slanting lines with the carver’s tool often sufficed. The

An interesting Jacobean ceiling, formed of intertwining ribs, and ornamented with the characteristic Tudor rose, fleur-de-lis, and sprigs

Illustrating the earliest form of Jacobean panel construction. Rail were of one piece and wooden pegs were used for securing the framework. Mouldings were worked out of the solid and returned on themselves at the top corners, stopping against a splayed surface at the bottom. Later, the top moulding was replaced by a simple scratch mould. Out of this developed the modern form of construction, of applying loose mouldings to the square edges of the frames, mitred at the top corners and stopping against a splay at the bottom

marks of the carpenter and joiner are evident throughout all wood construction by its grooves, dovetails and framings, and the effect of the artificer is also to be seen in the coarseness of the plaster and stone details.

Generally speaking, for it is only in this way that any style can be considered, walls of Jacobean period rooms were formed of a series of oak panels surmounted by a barrel-shaped ceiling, elaborately enriched. The panels were small, of nearly square proportion, averaging in an ordinary sized room about ten inches wide by twelve inches high, and were arranged in a series of from five or six to the height. An interesting feature of the original construction was the free-hand manner of laying out the panels. Slight variations in widths produced an effect that relieved the paneling of any monotony which might be due to equal spacing. Examples of this method of construction in modern work are all too scarce, but the Commons Room in the Harkness Memorial at Yale University by James Gamble Rogers, and the restoration of an old London house by Wm. Gielney Beatty, both of which have been illustrated in The American Architect, are notable exceptions.

The capping of Jacobean paneling consisted of a small architrave, frieze and cornice moulding, the members of which were frequently enriched. Often the top row of panels was treated with a carved motive, in the effect of a decorative frieze, and a cornice moulding alone served as a capping. The panels in the top row were sometimes made of slightly different proportions from the lower ones, to act in this same manner. The panel mouldings, as were all mouldings in fact, were in the crude style of the carpenter and generally continued around three sides of the panel, stopping at the bottom against a chamfered surface, evidence again of the joiner’s hands. Unlike the preceding style, the panels were not often carved or ornamented, but the plainness thus brought about was more than compensated for by the rich and elaborate ornamentation of the chimney piece and the ceiling. The chimney piece was strictly the feature of the wall
A carved shelf moulding was, as a rule, supported by simple flat pilasters, sometimes carved in an eccentric pattern inspired by the Flemish, or by a strap motive taken from the Elizabethan style. This shelf in turn supported other pilasters or caryatides which flanked richly carved or inlaid panels and all were surmounted by an enriched entablature. The fire arch was of stone, in the flat pointed effect of the Tudor, with stone facings, hearth and curb.

The lines of the ornament of the Jacobean style were marked by Italian influence, as suggested, although the scrolls were drawn in a more free-hand and crude manner. In general design, they adhered to the Italian motives, starting from a vase or leaf and combining in its course fruit and foliage, and ending with a real or mythical treatment of the human figure or an animal form. Another typical design of enrichment, in fact one which is distinctly Jacobean in character, is also based on classic motives. It is in the shape of an arch supported by two pedestals. This design was used on practically all square panels where ornament was desired. Wainscot panels, over-
mantels, chair backs and cupboard doors abounded with it. The various members of its composition were richly carved in typical ornament, gouged out of the flat surfaces, the elongated acanthus

Roman guilloche. The semicircle inscribing a leaf motive was also used as a repeating or running pattern. The Tudor rose, grapes, pineapples, and their leafage were often in evidence.

The entire room is now set up in the galleries of Charles of London, Decorators. It is a beautiful example of early Jacobean work in rich oak. The arch treatment in the overmantel panels is very conspicuous and the carving of the frieze is very characteristic of the style. The carved ornament of the mantel proper in strap designs is reminiscent of the preceding Elizabethan period. The fire arch, hearth and curb are of stone.

Floors in Jacobean times were generally in keeping with the crude, free-hand feeling of the other details. Rough hewn oak planks, of random widths, were frequently seen and made a pleasing setting for the other work. They were
JACOBEAN ROOM IN OFFICE OF IRVING & CASSON—A. H. DAVENPORT CO., DESIGNED AND EXECUTED BY THEM.

The arch design with which the top row of panels is carved is a distinguishing feature of the period. Notice the same treatment on the doors of the cabinet. The chair is a good example of the Flemish influence, with its richly carved back frame and stretcher. Observe the character of the carving, especially in the seat frame of the chair, where the design is gouged out of the flat in low relief.
joined in the carpenter manner so typical of all the wood construction, with dovetails and pegs. Although such floors, by their irregularity and interesting unevenness needed no covering, especially in those days when home comfort was unknown, still they were often spotted with beautiful Oriental rugs, imported from the Far East. Simple, but heavy old brass lighting fixtures were a conspicuous part of a Jacobean room. Chandeliers frequently had as many as twenty-four candles. Throughout the entire room is a decided air of mellowness, pronounced in the oak wall panels and floor, but always present, even in the colorings of the draperies, furniture covering and lighting fixtures.

To describe the features and peculiarities of the architectural work of the Jacobean period is to describe its furniture also, for in those days furniture was so much a part of the construction. The simple and crude lines of the carpenter are just as much in evidence here. Legs of chairs and tables were square and straight, and chair backs arose straight from the seat. The earliest type of chair of this period was what is now known as the Wainscot Chair, so called on account of its similarity in design and construction to the wainscoting. The seat was nothing but a plank of wood, the back was a framed panel in straight lines and the legs were square and straight. If there were arms, they projected straight from the back, of the same width throughout, shaped slightly to the arm at the top. Besides this type of chair, the early furniture included few different pieces. Chests, cupboards and benches were practically the only other pieces to be seen. With the inauguration of the Flemish influence, at a slightly later date, furniture took on a more varied design, twisted and turned legs appeared and ornament increased and changed somewhat in character. Frames of chair backs, stretchers and legs were richly carved in strikingly Flemish designs, while the flat surfaces were brought into unity with the constructive ornament by the application of enrichments after the manner of original Jacobean tendencies. Acknowledgment is made to Wm. A. French & Co., Jacobson & Co., and James F. Nuno for illustrative material supplied.
NEW YORK CHAPTER IS BUSY

THE New York Chapter, A. I. A., has held two very interesting meetings this month. On February 8, a luncheon meeting was held at which Thomas Hastings gave an interesting account of the inception and development of his design for a Soldiers Memorial to be erected in Central Park. Mr. Hastings illustrated his address with lantern slides and drawings. Considerable discussion followed concerning several phases of the project which indicated a lively interest among the members of the Chapter.

In lieu of the annual regional conference, the New York Chapter extended an invitation to the members of the Brooklyn, Buffalo, Central New York, Connecticut, New Jersey, Philadelphia and Rhode Island Chapters to attend the meeting of February 13, with the approval of Regional Director, B. W. Morris. Every member outside of the New York Chapter was invited to be the personal guest of Mr. Morris.

The principal matter of discussion was the relationship between the real estate and financial interests and the architects. President D. E. Waid introduced Mr. Morris who conducted the conference. Charles G. Edwards, President of the New York Real Estate Board; Dr. Charles V. Paterno, a leading real estate and building operator; Frederick H. Ecker, Vice President of the Metropolitan Life Insurance Company, and E. A. McDougall, President of the Queensborough Corporation, explained the position of the real estate operator, owner and financier. Lansing C. Holden spoke of architectural ethics and William P. Hannon discussed certain phases of the registration law.

The symposium was conducted after dinner and as a natural result of a meeting of so many elements of the building industry a lively discussion was maintained until a late hour.

The meetings of the Chapter held this month are up to the high standard set by President Waid.

PERSONALS

Orrin F. Stone, architect, has moved from 750 E. Washington Street, Pasadena, Cal., to 993 North Wilson Avenue, that city.

Orville L. Clark, architect, has moved his office from 928 to 517 Chapman Building, Los Angeles, Cal.

Henry Pruess, architect, announces a change of address from 3121 South Jefferson Avenue to 2115a Arsenal Street, St. Louis, Mo.

Wm. Herbert, architect, has moved his office from the City Hall to the Rosenberg Building, Santa Rosa, Cal.

Howard Leland Smith, architect, announces the removal of his office from 101 Park Avenue to 505 Fifth Avenue, New York City.

Clyde M. Hites has recently established an office at 300 Commercial Building, Louisville, Ky., for the practice of architecture. Manufacturers are requested to send catalogs and samples.

Walter Earle Bort, architect, announces the establishing of offices for the practice of his profession at 601-602 Wilson Building, Clinton, Iowa.

M. J. Murphy, architect and builder, announces that he has moved his offices to 1209 Bardstown Road, Louisville, Ky. Manufacturers' catalogs and samples are desired.

It is announced that William F. Bowen, architect, has moved his office from 818 Union League Building, Los Angeles, Cal., to suite 508 in the same building.

Arthur Kelly and Joseph Estep, architects, announce that they have moved their offices from 1201 Van Nuys Building to 2512 West Seventh Street, Los Angeles, Cal.

D. Harry Jamieson announces the opening of a suite of offices in the Campbell Building, Paducah, Ky., where he will be available for consultation on any problem or contemplated plan in architectural or structural engineering.

Announcement is made that Jefferson D. Powell, architect, has moved his office from 709 Bisbee Building to 412 Professional Building, Jacksonville, Fla., where he would be pleased to receive manufacturers' catalogs and samples.

WAID RESIGNS AS PRESIDENT OF NEW YORK STATE BOARD OF EXAMINERS

It is learned that D. Everett Waid who, since the foundation of the New York State Board of Examiners for Registration of Architects has been president of that body, has resigned. Donn Barber has been appointed to fill the vacancy on the board created by Mr. Waid's resignation. The new president of the board has not yet been designated.

A CORRECTION

The Philadelphia shop front, designed for Joseph C. Ferguson and presented in our issue of January 30, was, due to misinformation furnished by the photographer, incorrectly attributed to William B. Koelle. This shop front, we now learn, was designed by Savery & Scheetz, architects, Philadelphia.
ECONOMICS as RELATING to ARCHITECTURE

Economic Factors Which Underlie Construction Activity—Prepared for THE AMERICAN ARCHITECT by the American Chamber of Economics, Incorporated*

The Outlook

New building continues to progress with extraordinary intensity and velocity. Final January statistics have not appeared at this writing, but early estimates indicate a heavy building month. Final figures may fall short of November and December heights, however, for January construction normally is about 4 per cent less than December’s volume, and again, the weather in January was more rigorous and severe in its inclemency. Nevertheless, demand for shelter retains all the vigorous and energetic insistence that it so conclusively displayed in the late Autumn and early Winter months. Fostered and stimulated by somewhat lower costs, and a desire on the part of builders to get their jobs started before these costs begin their expected Spring ascension, demand for new building has been prodigious considering the season of the year.

The short term outlook very strongly favors a continued busy Winter and an active Spring. Six months of record building appear to face the industry. The actual total of construction for the year will be determined largely by the nature in which this Spring building is accomplished. At best, however, unmistakable signs of a slowing down of the general pace in which the industry has been progressing for the past two years are expected to develop in the late months of 1924. A moderate decline would have a wholesome effect upon business. A decided slump is emphatically not in prospect—not with general economic conditions as fundamentally sound as they are today—but the industry will have achieved its big job, the effacing of its deficit, and will settle down to a more normal pace consistent with the year to year requirements of the industry.

The Statistical Position

Final statistics show 1923 to have been a record year in the building trades. The value of contracts awarded in the 27 states covered by the F. W. Dodge Corporation last year ran about 5 per cent ahead of 1922. The uncommon surge in new building during the final three months of 1923 is manifested by the fact that the volume of new construction started during that quarter ran some 20 per cent ahead of the same period in 1922. Contracts awarded during December, 1923, surpassed new jobs begun in December, 1922, by 25 per cent. All previous construction records in New York State, Northern New Jersey, the Pittsburgh district, and the Northwest were broken. Contemplated work reported during the year and in the 36 states was 86 per cent in excess of work actually started during that period. The normal excess is about 50 per cent. This may be taken as a rude index of the existing demand. The excess of contemplated work, however, has been abnormally large since the war.

Building started in January and February hints at a projection of this same heavy movement. The seasonal variation favors February...
The Rich Mellow Tones of an Old Painting

To those who enjoy the richness of subdued color the wallpaper treatment of this modern dining room in an English type of house will appeal.

The crisp, chintz wallpaper, a wealth of color on a white background, has been mellowed to the tones of an old oil painting by the application of several coats of shellac.

While the dark oak woodwork and dark floors are particularly appropriate media for developing the full warmth of such a treatment, wonderful effects may be obtained in other modern or period rooms.

Walls are the most important influence in interior decoration. The wide range of authentic designs in wallpaper permits a diversity of treatment which the versatile may utilize to advantage for interiors of any particular period or architectural style.

Send for our Architects' Service Bulletin which offers practical cooperation in supplying architects samples of wallpaper and other aids to the solution of specific problems in the decorative treatment of walls.

WALLPAPER MANUFACTURERS ASSOCIATION of the United States
461 EIGHTH AVENUE NEW YORK
over its predecessor in the volume of the new jobs to be started, for the normal excess of February over January is about 3 per cent. In February the Spring rise usually begins to assert itself.

**The Vanishing Deficit**

The volume of Spring business will probably play a role of more than ordinary importance this year. A normal season would undoubtedly prolong the good times that the industry enjoys today. A hectic and wildly active season, on the other hand, would only shorten the present prosperity. The significance of the movement of building during the coming six months is disclosed in a very interesting statistical picture of the state of demand for new construction prepared by the Copper and Brass Research Association. This Association estimates that the building deficit on July 1, 1921, totalled approximately $8,085 million. On January 1, 1922, this scarcity has been reduced to approximately $6,564 million. The Association believes that some $4,910 million was expended on building in 1922, of which some $3,125 million financed normal requirements of the year. It follows, then, that in 1922 the shortage was reduced some $1,785 million. In 1923 approximately $5,923 million was invested in new construction, and $2,618 million applied against the deficit. The dearth of new building on January 1, 1924, the Association says, approximates $1,961 million, and estimating normal building requirements at $3,125 million, and expenditure of $5,000 million—or a year of building equaling in volume either 1922 or 1923—would practically eliminate the deficit. Now it must be asserted in all candor that estimates of the volume of building accomplished, the normal annual requirements, and the amount of the deficit, all vary widely. They are as different as their sources. There is common feeling, however, in the fact that a great deal of the deficit that has been accruing since 1914 has been obliterared.

Obviously the industry is entering its most speculative and hazardous stage. The uncertainty of the duration of the present volume of building is, of course, developing as the deficit shrinks. Speculative builders will find the status of future profits more than ordinarily perilous. It is more than doubtful whether speculative construction on a very wide scale will afford compensation commensurate with the risk. Six or eight months ago, when the shortage was more substantial and the prospective duration of the demand promised a prolonged period of high yields, increasing rents and a quick turnover of improved property in a reality market that was rising, the speculative advantage was in its ascendency. Today it appears to have passed its zenith. Some speculators will make money in 1924, but the hazards will be greatly multiplied.

Speculative building for these reasons is not expected to be as heavy in the coming month as it was last Spring. If this expectation becomes an actuality, the menace of bonus payments, premiums for immediate delivery of materials, and the snowballing of wages will be largely mischief-making of the past. It is reasonable to suppose, on the contrary, that that cult of speculators who always begin operations on the peak of a movement will begin again with their usual vigor this Spring. It is further reasonable to suppose that their kind may be numerous enough to make the situation uncomfortable and expensive for the builder who has a legitimate job in hand.

A number of factors existing by virtue of the persisting potency of the dwindling deficit, still cloud the direction of the true economic trend underlying the industry. Rents, for example, are at record heights, and rentals for some classes of shelter are still rising. This trend of yields is always an attractive bait to the speculative builder. In the early stages of a very active movement in the building industry, rising rents undoubtedly reflect the widening spread between the demand for and the supply of shelter. In the later stages of the cycle, however, when the intensity of a movement has apparently passed its culmination, high rents no longer reflect a statistical position of ascending strength. Rents are like wages, their movement is very sluggish, and the equalization of the supply of shelter with the demand for it will have become a rather well matured actuality before the fact is registered in the trend of rents. Rents, then, are not an index of sufficient sensitivity to depict trends of underlying importance.

Another attractive feature, which frequently deceives the prospective builder, is the active market for improved construction. The turnover of such property in the early part of last year was very heavy. Prices were rising, and they have since held their strength. A moderation, suggestive of stabilization, has characterized this market of late months, and conservative opinion has it that the peak of its activity has passed. The trend of events in the coming Spring will tell definitely. Meanwhile, the builder has been able to get out of a piece of construction as much as he put into it, and a sufficient margin to pay him for his trouble.

All of these more or less temporary factors tend to lure the opportunist element, which is always seeking to make the most of any given set of conditions. Such factors distort the perspective, and by a display of gaudy lights obscure the main trend. There is no denying the fact that they do reflect a need for some types of building, but can the builder turn this need into cash before the demand crumbles? Cheaper apartment houses, tenements, and the moderate to low-priced dwellings are in active demand. Slightly less urgent
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is the call for public buildings, schools, hospitals, and certain kinds of public utilities. The indications are that 1934 will erase completely the existing deficit in many of these types of structure if the movement within the industry develops to the proportions it now suggests.

The Industrial Outlook

With the building shortage becoming both an uncertain and negligible factor in the situation, the backbone of the demand in months to come will be measured by the income of individuals and enterprises. Their income will measure their power to build homes, to pay taxes or buy bonds to build schools and public buildings, to buy securities to erect apartment houses and industrial structures, and to make the generous donations which finance the buildings of memorials, clubs and churches. In the immediate past the industrial future has leaned very heavily upon the prosperity of the building and construction industry. This has been an abnormal relationship. Now the drift is slowly the other way. The building industry will look for its demands in the fortunes, actual and prospective, of industrial, commercial and financial enterprise.

Business has had a good year, a reasonably profitable year in most industries. A similar period of active turnover of merchandise at a moderate, and in a large number of cases adequate margin of profit is in prospect. For the past three months the average price of twenty representative industrial stocks, selected by Dow, Jones & Company, has been rising without any marked interruptions. Confidence is progressing in an elevated plane. Easier money, prospects of lower costs through a reduction in taxes, and early activity in some of the more important and more representative of the basic industries, all point to a heavier volume of more profitable business. These factors, together with such positive demonstrations of earning power as the declarations of increased and in some cases extra dividends, explain the buoyant trend of stock prices.

Prosperity, however, is still of a checkered character. Good times, to be truly profitable, should be more general. Activity and the margin of profit in such industries as iron and steel, railroad equipment, automobile, and building and construction have been reasonably satisfactory. On the other hand, such industries as chemicals, dyes, leather, tires, rubber, paper, agriculture, copper, and farm equipment are sluggish in their progress and discouraging in their profits. The new year may bring a further equalization of this prosperity for the trend, although very slow, is in that direction.

A second weakness, and one of long standing, is the persisting lack of balance in the purchasing power of various commodities. So many bushels of corn used to buy so many pairs of shoes. War and post-war economic disturbances stretched and warped these old relationships beyond all recognition. Since 1920 the tendency has been toward the correction of this lack of equilibrium in the exchange value of the products of industry, and the time will probably come when something near their former relationships will have been re-established.

The situation has been made worse by the inequitable distribution of incomes since the war. Owners of enterprises in the more fortunate industries and the organized workingman have received the lion’s share of the increases since the cessation of hostilities. The farmer, the salaried man, and the owners of the less fortunate enterprises have suffered to the extent that the other classes have gained.

It is unlikely that these features will reflect themselves in a declining rate of consumption, particularly if employment continues full. Nevertheless, it is difficult to see how such spotted purchasing power can support a pronounced advance in commodity prices. Yet persistently high wages, low inventories, and especially the prevalence of cheap and abundant credit favor very strongly a moderate rise in values. A wider margin between costs and selling prices will put business in a much easier position. Consumers’ resistance to repeated advances in prices, however, may prevent the attainment of a comfortable margin, and heated competition to make a profit on turnover alone may ensue. An easier employment condition and the prospective cut in taxes are the two bright spots on the horizon of costs.

An early liquidation of industrial and agricultural indebtedness, and the continued importation of gold, together with the usual year-end settlements, transfers, and disbursements have increased the supply of money seeking employment and resulted in a depression of interest rates. All through January and the opening days of February the market was easy and credit was abundant. Reawakening industry and the preparation for Spring needs in agriculture will again employ the surplus funds which the demands of an active stock and an active bond market have not absorbed. The immediate outlook favors slightly firmer interest rates, but the fractional rise shows no indication of impeding the present and prosperous progress of industry.

Costs Are Rising

Construction costs are rising slightly. The Engineering News-Record’s index for January 1 was 218 compared with 217 on December 1. The gain was only moderate, to be sure, but reflects slightly firmer values in all components of the index. Costs open the new year 13 per cent above
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last year's opening. The outlook strongly favors a rising level of costs, with the earliest increases occurring in the materials markets.

Materials prices, according to the Bureau of Labor, closed the year at the lowest level for the twelve-month period. They are still more than 25 per cent above the general commodity price level. January's index, which has not appeared at this writing, will probably reveal a further decline, but if recent gains are held, a rise will probably be disclosed when the February figure is computed. Dealers report that stocks in general are low, and that demand, although governed largely by the weather, is firm and lively beneath these surface hindrances. Repeated cold snaps have made buying spurt, and chiefly for immediate needs, but the comparatively heavy demand is said to be absorbing shipments as fast as they are received.

Stocks of cement are accumulating as production and shipments decline during the season when plants are usually running on part time because of repairs and the necessity of taking inventories. A strong prospective demand, comparatively moderate reserves, and unrevised cost factors make lower prices improbable. Quotations were at their lowest point in the late weeks of November, when The American Contractor's composite price was $2.44. By slow stages this quotation has worked up to $2.47. The market's undertone is firm, and higher prices will probably feature the Spring months.

Conservative opinion holds that plant stocks of brick are adequate for immediate needs, but some apprehension is evinced as to the Spring demand, which is expected to be huge. Some plants, consequently, are being run throughout the entire Winter. Prices have displayed moderate irregularity, and February has opened with demand temporarily lighter, and prices slightly weaker.

A stronger market is in prospect.

Lumber prices have also been moving with some irregularity. Southern pine has been in good demand, and the market strong. Douglas fir, on the other hand, has been weak. Closing of the mills for repairs and inventories has caused production to dip slightly under normal, according to the National Lumber Manufacturers' Association. Orders and shipments during the past four weeks have been 25 per cent and 10 per cent respectively ahead of production. This strong statistical position, prospects of good demand, and no moderation in costs all presage firm and higher prices as the season advances.

Sales of structural steel have been the heaviest since the early months of last year, and are reported to be running more than 25 per cent ahead of a year ago. Bookings are increasing, and the industry is said to be operating at about 85 per cent of capacity. Heavy contracts have put the industry in a strong position, and unyielding costs suggest a firm to rising market.

Labor costs appear to be stabilizing. According to The American Contractor, there were fewer wage changes in December than during any month in the past two years. The disappearance of bonus payments has resulted in reduced construction costs, but wage increases still exceed the cuts. The number of these increases has been diminishing since August, but the highest wages in history are being paid the skilled laborers.

The outlook promises no reduction in these costs. Prospects of a heavy building season ahead, promises of a moderate rise in prices of the necessary of life, and with no increase in the supply of labor apparent, it is difficult to see how wages can be expected to work lower. They may move still higher.

The greatest shortage exists in the plumbing, steamfitting, plasterers, bricklayers and tilelaying trades, but the supply of skilled mechanics in other lines is also below normal. Some skilled workmen are said to be coming in from Europe, but not in sufficient numbers to have any appreciable effect upon the situation. New methods of apprenticeship have likewise been summoned to relieve the stringency. There is no shortage of unskilled laborers.

Mortgage money rates have not changed, but the increased supply of credit has made accommodation slightly easier to get. Bankers still insist upon ample protection in the form of sufficient equity to absorb any moderate decline in values. Lower costs, lower valuations, and a reappraisal of the whole situation on a lower and more deflated plane will be necessary before the banker can revise his opinion of the risk involved in new construction loans. The time when such a reappraisal can be made is still many months removed, but it is approaching. The indications are that the transition from a higher to a lower plane will be a gradual one.
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Serial No. 63.10

I. CONTRACT AND LEGAL
1. Parties:
2. Drawings:
3. Agreement:
4. Terms of Payment:
5. General Conditions:
6. Regulations and Codes:
7. Standards:
8. Patents:

II. ECONOMIC
9. Scope of Contract:
9-1. Work Included:
9-2. Work not Included:
10. Methods of Analysis and Comparison of Bids:
10-1. Methods:
10-2. Basis:
11. Conditional Payments:

III. GENERAL DESCRIPTIVE
12. Characteristics:
12-1. Type:
12-2. Schedule:
   a. Capacity:
   b. Speed
   c. Travel
   d. Landings
   e. Car Guide Rail Location:
   f. Hatchway Size
   g. Platform Size
   h. Car Height
   i. Use
12-3. Current Available:
12-4. Engine Location:
13. Service Conditions:
13-1. Number of Passengers:
13-2. Weight and Bulk of Freight:
13-3. Time for Loading and Unloading:
13-4. Rate of Acceleration and Retardation:
13-5. Time for Travel at Full Speed:
13-6. Accuracy of Stopping:
13-7. Interchangeable Parts:
14. Visiting Site:
15. Railroad Siding:
16. Working Limitations:
17. Working Facilities:

IV. PRELIMINARY PREPARATION
18. Field Measurements:
19. Shop Drawings:
20. Samples:
21. Designs:

V. MATERIALS
22. Properties, Chemical and Physical:
23. Sizes, Weights, Gauges:
24. Quantities:

VI. DESIGN AND CONSTRUCTION
25. Hoisting Engine:
25-1. Worm Gear Winding:
25-2. Chain Drive Worm Gear:
25-3. Tandem Gear Winding Drum:
25-4. Internal Gear Worm Drive:
25-5. Rear Geared Winding Drum:
25-6. Herring-Bone Gear:
25-7. Gearless Traction:
25-8. Spur Geared Traction:
25-9. Worm Gear Traction:
25-10. Internal Gear Worm Drive Traction:
25-11. Herring-Bone Gear Traction:
25-12. Car-Leveling Worm Gear Traction:
25-13. Belt Drive:
26. Hoisting Engine Assembly:
26-1. Worms and Gears:
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  31-12. Automatic Warning Bell:
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  32-3. A.C.:
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    f. Full Magnetic Push Button, for Slip Ring Motors
34-3. Signal:
34-4. Cable:
34-5. Conduit:
35. Signals:
  35-1. Mechanical:
  35-2. Electrical:
    a. Pushes
    b. Annunciator
    c. Lamp
    d. Telephone
36. Floor Indicators:
36-1. Mechanical:
36-2. Electrical:
37. Bed Plates:
38. Elevator Pits:
39. Machine Foundations:
40. Anchor Bolts, Sleeves:
41. Overhead Supports:
42. Special Soundproofing:
43. Idler Sheaves:
44. Grating:
45. Drip Pan:
46. Beams:
47. Ropes:
48. Cables:
49. Cable Compensation:
50. Braking:
  50-1. Mechanical:
  50-2. Dynamic Braking:
51. Elevator Sling Construction:
52. Guide Shoes:
53. Car:
  53-1. Passenger:
  53-2. Freight:
54. Inspection Certificate Frame:
55. Emergency Opening in Cars:
56. Hatchway Doors and Gates:
57. Guides:
  57-1. Fastenings:
  57-2. Splicing:
  57-3. Grips:
  57-4. Guide Lubricators:
58. Counter Weights:
  58-1. Oil Buffer:
  58-2. Speed Governor:
  58-3. Wrenches:
  58-4. Finish of Machines:

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The Bayley Manufacturing Company, 724-726 Green-


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480. Radiators No. 29. This bulletin is descriptive of the Bayley
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ditioning, heating, cooling, tempering, humidifying and
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ARCHITECTURAL IRON WORK—See also Ornamental
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John-Manville Co., New York, N. Y.


372. Catalog No. 94. A treatise on the manufacture and uses
of John-Manville Building Materials. The science of asbestos
mastic for all places exposed to fire or corrosion. 100 pp. Ill.


ASBESTOS ROOFING—See also Roofing
The Philip Carey Co., Lockland, Cincinnati, Ohio.


380. Asbestos versus Fire. Booklet in colors. Contains in-
formation about asbestos; data on Carey Prepared and Built-up
Asbestos Roofing. Illustrations of buildings on which they have
been used. 15 pp. Ill. 6 x 9 in.

ASH HOISTS—See also Hoists
Gillis & Geoghegan, 545 West Broadway, New York,


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329. General Catalogue. Contains specifications in two forms,
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American Face Brick Association, 1764 People's Life
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1796. The Meyer Manual Catalogue No. 38. A manual of fire-
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317. Truscon Plywood Construction. Form D-332. Contains
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452. Durastone Brand Cement. Contains the tentative specifications of the American Concrete Institute for concrete floors of all kinds and gives a list of various, typical construction designs and computing data. 16 pp. Ill. 8½ x 11 in.

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453. Bristem for Perfect Mason. A description of the chemical and physical properties of Bristem, advantages of its use in mortars for brick and stone masonry, tests of strength of concrete and rock, and use in cover for filling. 16 pp. Ill. 8½ x 11 in.

Portland Cement Association, 111 West Washington St., Chicago, Ill.
454. Concrete Data for Engineers and Architects. A valuable book containing the results of the specification for concrete data for architects and engineers in connection with the search laboratories at Lewis Institute, Chicago, in abbreviated form. Describes a complete line of concrete products. 18 pp. Ill. 8½ x 11 in.

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Loory Column Co. of New York, 234 Calver Street, Brooklyn, N. Y.
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Dobslaw Metallic Door Co., Jamestown, N. Y.
473. Architectural Catalog. Describes various types of Dobslaw Standard Construction Hollow Metal Doors and Trim, Conduit-Base, etc. Also various types of frames, jacketed doors and architectural shapes. 178 pp. Ill. 8½ x 11 in., in loose leaf.

Henry Hope & Sons, 162 Park Ave., New York.

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475. Steel Rolling and Folding Doors and Shutters, Catalog No. 42. This catalog is devoted to service doors adaptable to buildings of all classes, piers, factories, warehouses, etc. Illustrates their advantages and has complete data with tables for designers and detailers. 96 pp. Ill. 3 x 11 in.

S. H. Pomeroy Company, 282 East 134th St., New York, N. Y.
476. Solid Metal Double Hung Window. Type "A." Bulletin A. Contains complete specifications and details of sash, frame, stools and steel and glass. Size 8½ x 11½ in.

Truscon Steel Co., Youngstown, Ohio.
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The J. G. Wilson Corporation, 2 East 36th St., New York City.
480. Wilson Rolling Partitions and Hydraulic Washroom. Catalog No. 77. Complete specifications and details of sash, frame, stools and accessories. 75 pp. Ill. 9 x 12 in.

481. Steel Rolling and Folding Doors and Shutters, Catalog No. 42. This catalog is devoted to service doors adaptable to buildings of all classes, piers, factories, warehouses, etc. Illustrates their advantages and has complete data with tables for designers and detailers. 96 pp. Ill. 3 x 11 in.

DRAFTING MATERIALS
American Lead Pencil Co., 220 Fifth Ave., New York, N. Y.
482. Booklet C-Ca. Venus Pencil in Mechanical Drafting. An interesting and illustrated booklet showing possibilities of the Venus Drawing Pencil for drafting. 8 x 9 in.

Joseph Dixon Crucible Pencil Company, Pencil Department, Jersey City, N. J.
483. Finding Your Pencil. A book explaining the various degree of hardness of the Eltrode pencil and the grade most suitable for every man who uses a pencil be he business or professional man, clerk or draftsman. Contains complete data with color chart of Dixon colored crayons, 16 pp. and 4 pp. in color charts. Ill. in colors. 5½ x 8½ in.

DRAINS—See also Plumbing Equipment
485. Joanne Floor, Shower and Roof Drains, Catalog No. 7. A loose leaf catalog illustrating complete line of adjustable drainage devices for floors, shower baths, roofs, swimming pools, railroad and industrial use. Described are various types of strainers and specialty items. 116 pp. Ill. 8½ x 11 in.

486. Joanne Floor, Shower and Roof Drains, Catalog No. 7. A loose leaf catalog illustrating complete line of adjustable drainage devices for floors, shower baths, roofs, swimming pools, railroad and industrial use. Described are various types of strainers and specialty items. 116 pp. Ill. 8½ x 11 in.

487. Joanne Floor, Shower and Roof Drains, Catalog No. 7. A loose leaf catalog illustrating complete line of adjustable drainage devices for floors, shower baths, roofs, swimming pools, railroad and industrial use. Described are various types of strainers and specialty items. 116 pp. Ill. 8½ x 11 in.

488. Joanne Floor, Shower and Roof Drains, Catalog No. 7. A loose leaf catalog illustrating complete line of adjustable drainage devices for floors, shower baths, roofs, swimming pools, railroad and industrial use. Described are various types of strainers and specialty items. 116 pp. Ill. 8½ x 11 in.

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REFERENCE LIST OF BUSINESS LITERATURE—Continued

DUMB-WAITERS—See also Elevators - Sedgwick Machine Works, 141 West 15th Street, New York.


ELECTRICAL EQUIPMENT—See also Lighting
Franklin Electric Mfg. Co., St. Louis, Mo.

206. Catalog No. 25. A catalog and price list of line switches, switchboards, panel boards, switchboard material. 4 pp. 3 x 15½ in.


671. Benjamin Industrial Lighting Equipment. Bulletin No. 25. Contains lighting data and general information, complete catalog of reflectors, interchangeable devices, vapor proof units, indoor and outdoor equipment, stores and office fixtures, show case lighting, fittings and accessories. 80 pp. Ill. 8 x 10½ in.

Harvey Hubbell, Inc., Bridgeport, Conn.

287. Electrical Specialties. Catalog No. 17, 1921. This catalog contains descriptions with prices of the thousand and one items connected with electrical appliance installations in modern buildings. 104 pp. 8⅛ x 5½ in.

The Hart & Hegeman Mfg. Co., 442 Capitol Ave., Hartford, Conn.

610. H & H. Electrical Wiring Devices. Catalog "R." Catalog of a complete line of switches, sockets, plugs, receptacles, plates, switch-out, switches and accessories. Two identical catalogues in two sizes. 100 pp. Ill. 5 x 9½ and 8 x 9½ in.

700. Gold and Silver Switches. A new type of switch with composition base having a gold or silver luminous finish. 11½ x 5¾ in.

Minneapolis Heat Regulator Co., Minneapolis, Minn.

570. The Minneapolis Thermostatic Relay Switch. Used in connection with any Minneapolis Thermostat, provides a means of temperature control for automatic oil burners, electric refrigerators, electric heating units, electric heating and any similar equipment where it is necessary to operate an electric switch automatically, in accordance with temperature changes. 18½ x 11 in.


491. Liberty Rubber Insulated Wires, Cables and Cords. A descriptive catalog of insulated wires, cables and cords for electric wiring. Contains much information together with useful tables. 20 pp. Ill. 6 x 9 in.

ELEVATORS—See also Dumb-waiters and Hoists
A. B. See Electric Elevator Co., 52 Vesey St., New York.

109. Photographs and description in detail of elevator equipment manufactured by the A. B. See Electric Elevator Co. Size 6 x 8 in.

Kaestner & Heck Co., 1550 North Branch St., Chicago, Ill.


Kimball Brothers Company, Council Bluffs, Iowa.

319. Kimball Elevators. An illustrated catalog of hand power, sidewise movement elevators and domino elevators and electric passenger, freight and push button elevators. 32 pp. Ill. 7½ x 10½ in.

Otis Elevator Co., 260 Eleventh Ave., N. Y. C.

651. Otis Gearless and Gearless Traction Elevators. Leaflet describing types of gearless and geared traction elevators with details of mechanism, motors and control for these types. Illustrated. 8½ x 11 in.


319. "Ideal" Elevator Door Equipment. Catalog showing elevator door hangers for one, two and three speed doors, also doors in pairs and combination swing and slide doors. Door closers and checks. 24 pp. Ill. 8½ x 11 in.

ELEVATOR LOCKS

536. McC Safety Elevator Locks. A description of locks for elevators which mechanically lock the power and gate automatically, while gate is open; keep power locked until gate is securely closed; securely lock gate before power can operate; control the landing. Contains several pages of names of contented users. 24 pp. Ill. 4 x 5½ in.

ESCALATORS
Otis Elevator Co., 260 Eleventh Ave., N. Y. C.

652. Elevators and Inclined Elevators. A comprehensive catalogue for the use of engineers transporting people in stores, subways, railroad stations, theatres and mills; also includes complete catalog of storage elevator stations, factory, warehouses and docks adjustable to tide levels. 32 pp. Ill. 8½ in.

FENCE
The Stewart Iron Works Company, Cincinnati, Ohio.

430. Book of designs, "B." A book of fence designs full of suggestions for architects. All illustrations are from photographs. 80 pp. Ill. 9½ x 12 in.

FILTERS—See Air Filters
FINANCING OF ENTERPRISES
S. W. Strauss & Co., 545 Fifth Ave., New York, N. Y.


FIRE DOORS AND SHUTTERS—See Doors and Windows

FIRE ESCAPES
The Dow Co., Louisville, Ky.

F700. The Dow Safety Slide Fire Escape. A folder containing a general description, advantages and diagrams of this type of fire escape. 8 pp. Ill. 4 x 6½ in.

FIREPLACES AND MANTELS
Colonial Fireplace Co., 616 Roosevelt Road, Chicago, Ill.

675. Everything for the Fireplace. A catalog showing a complete line of well designed andires in various finishes; portable, club and kitchen grates; wood holders, fire screens and Franklin stoves; folding screens, spark guards and tenders; hood and set grates; gas logs, electric fires, ash traps, covers and beauty and head throats and dampers. 24 pp. Ill. 8½ x 11 in.

H. W. Covert Co., 127 East 46th St., New York.


92. Dampers, Chutes, Doors and Dummies. Illustrated catalog. Equipment for the maintenance of fire escapes. Catalog shows all types of geared and gearless traction elevators. 32 pp. Ill. 5 x 7 in.

FLOOR COVERING—See Flooring

FLOORING, SUB—See also Stucco Base

FLOORING
Armstrong Cork Co., Linoleum Department, Lancaster, Pa.


283. Armstrong Linoleum Floors. A handbook for architects, published in the file form ($1.50 x 11 in.) recommended by the American Institute of Architects. A technical treatise on Limonite containing general information, tables of grades, gauges and applications, specimen specifications, etc., together with descriptions and illustrations of all kinds of flooring. 150 pages with many illustrations in color. 18½ x 12 in.


659. Genesis Trinidad Lake Asphalt Mastic. A book describing its manufacture, types and methods of application, including application over old floors. Separate specifications for flooring, waterproofing and roof reeding. 24 pp. Ill. 3 x 7 in.


553. Gold-Seat Treadtile Tile. An illustrated booklet showing Treadtile Tile installations and containing general information, specifications and directions with reproductions of the product in color.


The Long-Bell Lumber Co., R. A. Long Building, Kan­sas City.

294. The Perfect Floor. Tells how to lay finish and care for Oak Flooring. 16 pp. 14 illus. 6 x 9½ in.

The Marshalls, Inc., 463 Eighth Ave., New York, N. Y.

64. The Universal Flooring for Modern Buildings. Illustrated booklet. Describes uses and contains specifications for Marsh­alls MultiFloor, a universal floor for all indoor uses. Size 6¾ x 9½ in. 32 pp.

252. Marshalls for Schools. A bulletin showing schools in which Marshalls MultiFloor has been installed. A composition flooring applied in a plastic state. Other bulletin shows work which has been used in various classes of buildings. 4 pp. Ill. 5¼ x 11 in.

Franklyn Reamer Luber Co., Washington, D.C.

424. Adhesive Flooring Composition. A book describing uses of and giving specifications and directions for Composition Flooring Base, Wallcovering, etc. Size 8½ x 11 in.
Switchboards in Architecture

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REFERENCE LIST OF BUSINESS LITERATURE—Continued

FLOORING
Oak Flooring Bureau, 1914 Ashland Block, Chicago, Ill.
403. Modern Oak Floors. A book that tells the complete story of Oak Flooring. Ill. 6 3/4 x 9 1/4 in.
610. The Redd Oak Block Floor Booklet. A treatise on the advantages of Redwood Block Floors in factories, warehouses, homes, department stores, hospitals, etc. Details, dimensions and specifications for installing. 14 pp. Ill. 4 7/8 x 9 in.
Stedman Products Co., South Braintree, Mass.
585. Stedman Naturalized Reflooring. A circular describing a process formulated from rubber reinforced with cotton fibre, made in various colours and used for doors, windows, coting, sanitary base, stair treads, interior decorative units, wall coverings, table and desk tops and drain masts. 6 pp. Ill. 8 1/4 x 11 in.

FLOORS—See Building Construction
FRAMES—See Doors and Windows
FURNITURE—See Chairs

GARAGE CONSTRUCTION—See also Building Construction

GARAGE INCLINES AND RAMPS
Monarch Metal Products Co., 50 Penrose St., St. Louis, Mo.
428. Monarch Casingment Hardware. A book describing hardware for casement windows. This Manual and folder comply with all suggestions made by the Structural Service Committee of the A. I. A. 18 pp. Ill. 7 3/4 x 10 1/2 in., in heavy folder for vertical files.

333. Modern Hardware for Your Home. Catalog of hangers for window, door, & garage doors; "Alco-Wood" hardwood floor for sun parlors and sleeping porches; "Silidine" garage door hardware. 24 pp. Ill. 8 1/2 x 11 in.

336. Distinctive Garage Door Hardware. Catalog No. A-25. This is more than a catalog. It is a treatise for architects and builders on the door equipment of garages, covering sliding, folding and combination sliding and folding doors, with their hardware. 84 pp. Ill. 8 1/2 x 11 in.


394. Distinctive Garage Door Hardware. A brochure illustrating hardware trim in twelve architectural styles or periods. 71 pp. Ill. 4 3/4 x 9 1/4 in.

399. Rurxus Period Hardware. A catalog of hardware, Volume Fourteen. A complete catalog of locks and hardware, trim, locks, bolts and accessories. 38 pp. Ill. 8 x 11 in.

Sargent & Company, New Haven, Conn.
500. Sargent Catalog. A complete catalog of locks and hardware for architects. The latest complete catalog of locks and hardware, 762 pp. Ill. 8 1/2 x 11 in.

The Stanley Works, New Britain, Conn.
11. Wrought Hardware. New 1941 Catalog. This new catalog describes additions to the Stanley line of Wrought Hardware as well as the older well known specialties and various styles of hinges, door handles, and latches. 116 pp. Ill. 4 3/4 x 7 1/2 in.

12. Garage Hardware, Booklet, illustrated. Garages and their equipment, such as hinges, door handles, latch sets, chain and hand bolts, showing illustrations and text with dimensions of garages, describing the equipment. Size 6 x 9 in. 24 pp.

13. Eighty Years of Their Stanley Hardware. Booklet Plans, drawings and complete hardware specifications. Size 5 x 7 in. 23 pp.


139. Stanley Plan Manual. A catalog in house leaf binder, containing plans for single sections on Butts, Bolts, and Sargent Hardware, Stanley Garage Hardware, Screen and Sash Hardware. Detail drawings are given, showing clearances and other data needed for the detailer. 134 pp. Ill. 8 1/2 x 11 in.

Venneper Hardware Co., Indianapolis, Ind.

216. Prince Self-releasing Fire Exit Devices. Supplement to Von Duprin No. 18. Contains valuable information for architects on the selection, detailing, etc., of Prince devices for doors and windows to insure safety against fire panic. 32 pp. Ill. 8 x 11 in.

HEATERS—See Water Heaters

HEATING
American Radiator Company, 104-108 W. 42nd St., New York, N. Y.
427. Ideal-Arcola Heating Outfits. A booklet describing a system of hot water heating for small and medium sizes houses. The boiler is placed in a room and resembles a stove. No cellar required. The ash carrying reduced to a minimum. 24 pp. Ill. 6 x 8 5/8 in.

241. Steam Catalogue. A book containing full descriptions of the complete line of Crane valves, fittings, etc. 800 pp. Ill. 6 x 9 in.

The Farquhar Furnace Company, Wilmington, Ohio.
20 pp. Ill. 4 x 9 3/4 in.

356. J. P. Practical Preparation to Destiny. A book of selling talk for dealers in Farquhar Furnaces. Four model heating layouts are shown and there is a page of useful "Do and Don't" advice. 14 pp. Ill. 8 1/2 x 11 in.

General Boilers Company, Waukegan, Ill.
444. Catalog No. 7. A catalog containing complete information on the manufacture of Pacific Steel Boilers. Contains also specifications and price lists. 32 pp. Ill. 6 x 9 in.

The Harry W. Sayles Co., New Britain, Conn.
703. H & C Wrought Steel Grilles. A new type of ventilating grille perfect for any purpose. It is a two piece mesh grille, made of steel, bronze and brass. Details and specifications. 4 pp. Ill. 8 1/2 x 11 in.

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Chicago. Hotel Co., 2310 W. Crawford Ave., Chicago, III.

Laundry Appliances. Illustrated catalog. Descriptions of
chutes for hotels and laundries, metal laundry baskets for
department buildings and small institutions. Size 5 x 8 in.
16 pp.

The Atlantic Motor Company, 144 W. Monroe St., Chicago, Ill.

581. Glass Lined Steel Laundry Chute. Catalog describing a
glass-lined steel laundry chute with flushing ring at top
and drain connection at bottom, specifications, dimensions, and
details adapted to hospitals and hotels. 14 pp. Ill. 9 x 6 in.

LIGHTING—See also Electrical Equipment
Frank Adam Electric Co., 3649 Bell Ave., St. Louis, Mo.

629. The Control of Lighting in Theaters. A book describing
means for complete control of lighting the stage, auditioning
and other parts of theaters with distribution schedules and
specifications. Also applications of control to Masonic build-

ings, schools and colleges. 32 pp. Ill. 8 x 11 in.

Cooper Hewitt, Electric Company, 25 River Street,
Hoboken, N. J.

553. Industrial Lighting Briefs. No. 1 deals with Industrial
Lighting in theory and practice. No. 2 deals with the
improvement of illumination with Cooper Hewitt Lamps. No. 3
deals with the effectiveness of light to the Eye. Each 4 pp.
8 x 10 in.


612. Erikson Reflectors, Catalog No. 60. Description of and
details for installing reflectors in show windows, display cases,
art and architectural fixtures, banks, churches, and other buildings.
22 pp. Ill. 6 x 9 in.


150. Light Service for Hospitals. Catalogue 91. A booklet
illustrated in colors showing the types of light for use in hospitals, as operating table reflectors, lino-

broader and broad reflectors, bed lights and microscopic reflectors, giving sizes and dimensions, explaining their
particular fitness for special uses.

215. Frink Booklet 93. A pamphlet describing Frink Reflectors for lighting picture rooms, art galleries, decorated
concert halls, movie houses, and other similar places, giving a list, covering several pages, of banks using Frink Desk and Screen Fix-
tures. 30 pp. Ill. 8 x 11 in.

Harvey Hubbard, Inc., Bridgeport, Conn.

401. Hubbard Flush Door Receptacles. Description of a safe,
convenient and easy wall outlet. It deals with residential
houses, clubs, hotels, public buildings and offices. 4 pp. Ill. 8 x 10 in.

Mitchell Vine Co., Inc., 505-511 West 24th St., New York, N. Y.

309. Catalog No. 86. A descriptive catalog, with prices, of the
complete line of Sheet and Tin Mill Products. Covers the complete
list of metal molding under all conditions; a book
meant to be conveniently carried and used on the job. Size
5 x 8 in. 124 pp.

LIME
The Ohio Hydrate & Supply Co., Woodville, Ohio.

404. A Job that Took a Million Years. A description of how
limestone is formed and how it is later converted into lime. All
the processes are shown in detail and the uses of lime are illus-

trated. 16 pp. Ill. 8 x 11 in.

LINCHESTA-WALTON—See also Wall Covering
The Linchesta-Walton Company, Hackensack, N. J.

519. Linchesta-Walton. This book gives directions for buying,
caring for and applying Linchesta-Walton; together with color
charts and many pages showing patterns. 67 pp. 8 x 9 in.

LOCKERS, STEEL—See Facility Equipment
Arkansas Soft Pine Bureau, Little Rock, Ark.

649. Arkansas Soft Pine Handbook. An exceptionally well pre-
pared book containing technical descriptions, grading rules, standard molding designs including those by the American In-
stitute of Architects and the National Ready-Made Manufacturers’ Association. Price 50 cents. 82 pp. Ill. 8 x 11 in.

E. L. Bruce Co., Memphis, Tenn.

"Bruce Celadine," for lining clothes closets as a complete
protection against moths. 12 pp. Ill. 4 x 6 in.

The Canadian Lumber Co., E. A. Long Building, Kansas
City, Mo.

32. From Tree to Trade. This book tells the story of the
wood, how it is grown, the idea of the scope of the business and the care and attention given to the manufacture and

finishing of the finest grade of fine wood, fine lined products, model homes, mines and engineering projects. 16 pp. Ill. 8 x 11 in.

The Pellicle Lumber Company of Illinois, 2040 McCor-
mitch Blvd., Chicago, III.

203. Construction Digest—The use of California Redwood in
residential and industrial construction. Contains illustrations, grading rules, specifications and other technical data for archi-
tects and builders. 16 pp. Ill. 8 x 11 in.

204. Engineering Digest—The use of California Redwood in
industrial construction. Contains illustrations, specifications, mines and engineering projects. 16 pp. Ill. 8 x 11 in.

LUMBER, ASBESTOS

54. Ambler asbestos Building Lumber. Catalog illustrated. De-
scribes uses of asbestos shingles; a Pre-firmed product for both interior and

exteriors. Tables of sizes and illustrations of various types of buildings in which it has been used. Size 5 x 8 in. 122 pp.

MAIL CHUTES
Cutler Mail Chute Co., Rochester, N. Y.

294. The Cutler Mail Chute. Model F. This brochure describes the Cutler
Mail Chute in its standard form, known as Model F, Contains data for rough floor openings not included in the Mail Chute
contract. 16 pp. Ill. 8 x 11 in.

MANTELS

59. Wood Mantels. Portfolio. Wood mantels designed in various
styles and description of lamps and reflectors. Contains a list, covering
several pages, of mantels using Firebrick and Screen Fix-
tures. 30 pp. Ill. 8 x 11 in.

American Brass Co., Main Office, Waterbury, Conn.

132. Price List. Includes a line of Leader Catalogs. Covers every line of Sheets, Wire Rods, Tubes, etc., in various metals and

refined metals. Size 5 x 7 in. 160 pp.

285. Copper Products. Illustrated price list and tables of weights. Copper for cooking purposes, including strip copper for forming into leaders, gutters, valleys, flashings, etc.

64 pp.

American Sheet & Tin Plate Co., Brick Building, Pittsbur-
gton, Pa.

line of Sheet and Tin Mill Products. 168 pp. Ill. 7 x 4 in.

Bridgeport Brass Co., Bridgeport, Conn.

400. Seven Centuries of Brass Making. A brief history of the
ancient art of brass making and its early (and even recent)
method of production—contrasted with that of the Electric Furnace Process—covering tubular, rod and ornamental shapes.

70 pp. Ill. 8 x 10% in.

Copper & Brass Research Association, 25 Broadway, New York, N. Y.

406. How to Build a Better Home. A book on building writ-
ten for the amateur builder. It contains brief illustrations
of houses and details of houses and should be of value to architects in explaining technical terms to clients. 20 pp. Ill.
7 x 14% in.

Rome Brass & Copper Company, Rome, N. Y.

472. Prize Leaflet No. 70. A leaflet containing full prices and prices on list of Rome Quality products, together with useful tables.

48 pp.

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311. Bramwell, the Perfect Mortar. The reading of this little
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Hickerson Mineral Paint Works, Milwaukee, Wis.

376. Richeson Mortar Colors. Two interesting folders with
color cards for these well known fadeless mortar colors in use
for concrete, plaster and brick. 16 pp. 4 x 6 in.

OFFICE EQUIPMENT
Art Metal Construction Company, Inc., Jamestown.

542. Art Metal Steel Office Equipment. A descriptive catalog of art metal filing cases, letter binding cases, letter

folders, safe and furniture. 128 pp. Ill. 8 x 11 in.
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This is a handbook for Duriron Acid-Proof Drain Pipe.

and stucco. IG pp. HI. 4 x 8^ in.

PIPE COVERING

The Philip Carey Co.,

Lookland, Cincinnati, Ohio.

379. Pipe and Boiler Coverings. Catalog 190. A ranging and

and manual pipe and boiler coverings, cements, etc. Contains

a number of valuable tables and charts. 1 pp. II. 6 x 9 in.

PLEMBING EQUIPMENT—See also Drains

Bridgeport Brass Co., Bridgeport, Conn.

461. Plumbing Supplies. Catalog of adjustable swivel traps;

basin and bath supplies and water; basin and sink; low

tank bowls; iron pipe sizes of brass pipe. 20 pp. II.

8 x 11 in.


240. General Plumbing Catalogue. A very complete and 4 1/4 x 8 1/2 in.

Philip Hans Company, Dayton, Ohio.

554. Catalog B. This catalog contains a complete description of the full line of waterclosets made by this company, together

with illustrations of combinations for every type or class of service. Wall-mounted closets are in limited quantities.

163 pp. 111. 6 x 9 in.

Jenkins Brothers, 160 White St, New York, N. Y.

296. Jenkins Valves for Plumbing Service. This booklet con­

ains all necessary information about Jenkins Valves commonly used in plumbing work. 15 pp. II. 4 1/4 x 8 1/2 in.

Steel paper cover.

Kohler Company, Kohler, Wisconsin.


Ludwig Brothers Co., 1020 W. No. 2.

531. Catalog E. This is a complete catalog of Kohler enameled ware for plumbing installations, including

tubs, sinks, bathtubs. There is also a brief and interesting description of the manufacture of high grade enameled ware and a statement of the facts about Kohler village one of the discussed experiments

in modern industrial town building. 215 pp. cloth bound. III.

75 x 10 in.

Thomas Mudder's Sons Company, Trenton, N. J.

690. Various China Plumbing Fittings. A valuable and com­

plete catalog of various china lavatories, showering founta­

ins, bathtubs, water closets, urinals, slop sinks, bathtubs, kitchen sinks and basins, and all accessories, complete illustrations of roughing in plates with dimensions. 91 pp. III. 8x10 in.

Speckman Company, Wilmington, Del.

601. Speakman Showers and Fixtures, Catalog H. A complete

catalog of fixtures, including all accessories, showing by illustration the relative value of special shape and manufacture of pipes.

Key to features and trade names. 100 pp. III. 8 1/2 x 10 1/2 in.

The Vulcan Brass Manufacturing Co., Cleveland, Ohio.

478. Paragon Brass Goods, Catalog C. A new catalog showing sectional drawings, illustrations and text describing exclusive feature of "Paragon" soft closing basin and sink faucets and stops; high pressure ball cocks, vitreous china bubblers, compression and quick-compression work. 60 pp. III. 7 1/2 x 10 in.

PUMPS

The Dayton Pump and Manufacturing Company, Day­

ton, Ohio.

472. Electric House Pumps and Water Supply Systems. A heavy paper binder containing illustrated bulletins 6 x 9 in. These books describe pumps as well as complete automatic electric and gasoline water supply systems and all accessories, together with specifications, detail drawings and tables of dimen­

sions. 48 pp.

The Goulds Mfg Co., Seneca Falls, N. Y.

387. Power Pump Bulletins. There are 22 of these bulletins

on jetting, plungers, air pressure, vacuum, triplex and centrifuge pumps. Bulletin 112 and Bulletin 122 contain the theory of pumps together with pump data of the various types. These bulletins are of the engineer in the design and testing of engines and pumps. 24 pp. III. 8 x 10 in.

Leader-Thomas Co., Decatur, Illinois.

620. The Pumping Engineer. Bulletins containing engineering data, specifications, details and dimensions of hand power, gasoline driven, electric driven and automatic, steam systems with hydraulic-pumps; force, motor and special pumps with complete specifications. 15 pp. III. 8 x 10 in.
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REFRIGERATION

The Automatic Refrigerating Co., Hartford, Conn.

286. Automatic Refrigeration for Hospitals and Sanitariums. Two essential booklets for the library of specification writers.


Baker Ice Machine Co., Inc., Omaha, Nebraska.

661. Baker System Refrigeration. A catalog explaining the application of refrigeration for hotels, hospitals, institutions and restaurants, requiring up to 40 ton daily capacity including mechanical details and specifications. 20 pp. Ill. 9 x 12 in.

Jaminson Cold Storage Door Co., Niagara Falls, N. Y.

599. Heavy Duty Cold Storage Doors. Catalog No. 1. Complete description of both hinged and sliding cold storage doors for every equipment. Also description of cold storage windows and ice chutes. 79 pp. Ill. 83/8 x 11 in.

REFRIGERATORS

The Jewett Refrigerator Company, 27 Chandler Street, Buffalo, N. Y.

525. Manual of Refrigerators. This manual completely describes the construction of refrigerators, types, designs, sizes, and prices, with specifications. Numerous plates showing size and capacity of refrigerators in different kitchens, service and lunch rooms are included. 20 pp. Ill. 83/8 x 11 in.

569. Jewett Solid Porcelain Refrigerators. This improved refrigerator has an interior finish of one-piece solid white porcelain. Information on dimensions, types and prices. 22 pp. Ill. 83/8 x 11 in.

McCray Refrigerator Co., Kendallville, Ind.

472. McCray Ice-Maker and Cooking Room. Cat. 45. A catalog of cooling equipment for hotels, restaurants, hospitals, institutions and ice cream stores. Catalog No. 24 deals with refrigerators for residences. 52 pp. each. Ill. in colors. 73/8 x 11 in.

REINFORCING STEEL—See also Concrete, Reinforced

Ball Steel Products Association, Reinforcing Bar Division, Arcade, Block. St. Louis, Mo.

582. Ball Steel for Concrete Reinforcing. A book describing the manufacturing, fabrication and physical properties of rolled, drawn, and rolled steel mill bars with specifications for their use. 44 pp. Ill. 83/8 x 11 in.

RESTAURANT EQUIPMENT—See Kitchen Equipment

ROOFING—See also Slate—Metals—Shingles

American Brass Company, Main Office, Waterbury, Conn.

515. Copper Roofing. Service Sheet. This service sheet contains details for laying copper roofing together with standard specifications. 17 x 22 in. folded to 83/8 x 11 in. printed both sides.

American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.

483. Copper on Metal Roof. Price List. Describes the merits of grade high roofing tin plates and the advantages of using copper. 28 pp. Ill. 83/8 x 11 in.


52. Ashent Asbestos Curved Roofing. Catalog gives complete information, specifications, methods of application, tables, etc. Size 83/8 x 11 in. 20 pp.

The Barber Asphalt Company, Land Title Building, Philadelphia, Pa.

422. Standard Trinidad Built-Up Roofing Specifications. Contains two specifications for applying a built-up roof over boards and two for applying over concrete. Gives quantities of materials and useful data. 8 pp. 5 x 83/8 in. Also at same time for Good Roof Guide Book. 32 pp. Ill. 6 x 9 in.


The Philip Carey Co., Lockland, Cincinnati, Ohio.


The Copper & Brass Research Association, 25 Broadway, New York, N. Y.

468. Copper Roofing. Weights of various roofing materials. Up-to-date price list of standard types of roofs—Batten or wood shingles. Standing seam metal, flat copper roofs. Copper Roofing, Sheet and Batten. Decorative effects and how to obtain them. Flashings, fumes, gutters, and other architectural details. Copper-covered walls. Specifications. 52 pp. Ill. 83/8 x 11 in.

The Edwards Manufacturing Company, Cincinnati, Ohio.

533. Shingles and Spanish Tile of Copper. This book illustrates in the catalog form, sizes, weights and methods of application of roof coverings, gutters, downspouts, etc., of copper. 20 pp. Ill. in special indexed folder for letter size vertical files.

Ludowici-Celadon Co., Chicago, Ill.

120. Roofing Specifications. A detailed reference for Architects' Use. Sheets of detailed construction drawings to scale of the sections (a new concept in types and dimensions, giving notes of their uses and positions for various conditions of architectural necessity, Size 83/8 x 13 in. 180 plates.

154. The Roof Beautiful. Bulletin. Well illustrated with photographs and drawings, giving history and origin of roofing tile, and advantages over other forms of roofing. Types shown by detailed illustrations. Size 8 x 10 in. 52 pp.

The Richardson Company, Lockland, Cincinnati, Ohio.

408. Metal Roof. Catalog. Contains specifications for applying Membrane roof over roofs and also for applying over concrete. Illustrated with line drawings of several approved methods of flashings. 5 pp. 83/8 x 11 in.

Riding and Nelson Slate Company, 161 Park Ave., New York, N. Y.

498. Tudor Stone Roof. This leaflet discusses colors and sizes of Tudor hand-worked slate. A catalog of the products is included for each product and gives complete data. Also complete specifications are prepared in co-operation with architects. Special grades are simplified in detail and specifications are given of folder with Tudor slate roofs. Contains also specifications of laying slate. 4 pp. Ill. 8 x 11 in.

571. Tudor Stone Roofs. A brochure describing the 7 special grades of Tudor hand-worked slate and the 7 grades of commercial slate produced by this company with illustrations of many structures on which it has been used. 28 pp. Ill. 6 x 9 in.

Vendor Slate Co., Easton, Pa.

293. Occasional brochures on architecturally pertinent phases of roofing and slate. See also listing under Slate.

ROOF CONSTRUCTION

Porete Mfg. Co., 2 Verona Ave., Newark, N. J.

258. Porete Roof Decks. An illustrated circular describing Porete mica-coated membrane waterproofer and Porete mica-coated asphalt roofing. Contains also specifications of laying slate over boards and also for applying over concrete. Illustrated with line drawings of several approved methods of flashings. 5 pp. 83/8 x 11 in.

Veeder Slate Co., Easton, Pa.

503. Occasional brochures on architecturally pertinent phases of roofing and slate. See also listing under Slate.

SAFES

Art Metal Construction Company, Inc., Jamestown, N. Y.

544. Measured Protection. A catalog of steel safes for all office purposes, tested by Underwriters Laboratories, Inc. and bearing the Underwriter label. 23 pp. Ill. 83/8 x 11 in.

SANDBSTONE—See Stone

SAH CHAIN AND CORD

Samson Cordage Works, Boston, Mass.


SCREENS

American Wire Fabrics Company, 200 S. La Salle St., Chicago, Illinois.

305. Catalog of Screen Wire Cloth. A catalog and price list of various styles of screen wire cloth, black enamelled, galvanized, aluminum, bronze, copper. 30 pp. Ill. 83/8 x 6 in.

The Higgin Manufacturing Co., 86th and Washington Ave., Newport, Ky.

335. Screen your Home in the Higgin Way. A description of Higgin door and window screens with practical data. 16 pp. Ill. 83/8 x 11 in.

New Jersey Wire Cloth Company, 614 South Broad St., Trenton, N. J.

410. Guide to Health and Comfort. Catalog No. 25r. A booklet telling all about screens, the durability of copper and its superiority over all other metals for screen purposes. 16 pp. Ill. 8 x 7 in.

SHINGLES—See also Roofing

The Philip Carey Co., Lockland, Cincinnati, Ohio.

521. Carey Asphaltlate Shingles. Describes an extensive series of attractive buildings and residences on which Carey Asphaltlate Shingles have been used. Describes this type of shingle, showing its special claims and advantages.

SINKLIGHTS—See also Vault Lights

SLATE—See also Roofing

Vender Slate Co., Inc., Easton, Pa.

332. The Vendor slate. The largest and most complete line of slate for Architects. Contains complete information on slate in various architectural uses, history, geology, classification of slates, etc. Contains extended treatment on architectural roof design and specifications. 24 pp. Ill. 83/8 x 11 in.
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National Terra Cotta Society, 19 West 46th St., New York City.

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ders in which Northwestern Terra Cotta was used. Size 8 % x 11 in. 78 pp.

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424. Deep-lighting Catalog. A complete catalog on glass prisms for use in transoms, sidewalks and lights, and for lighting planes necessary to direct daylight. Contains also measurements, specifications and other data re­

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REFERENCE LIST OF BUSINESS LITERATURE—Continued

TELEPHONES

Automatic Electric Co., 545 W. Van Buren St., Chicago, Ill.

088. Architect's Specifications for Interior Telephone System. A complete and short specification for the installation of interior telephones, adapted to all kinds of buildings and uses. 4 pp. Ill. 8 % x 11 in.

064. The Straight Line. A booklet devoted to interior com­

munication, showing the use of private automatic exchanges and the P.A.X. Code Calls. Description of switchboards, instruments and accessories. 38 pp. Ill. 8 % x 8 in.


064. Inter-Communicating Telephone Systems. Bulletin No. 107. A pamphlet giving just the information required for the instal­

lation of inter-communicating systems. 8 pp. Ill. 8 % x 10 in.

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Atlantic Terra Cotta Company, 356 Madison Avenue, New York, N. Y.

277. Questions Answered. A brief but full description of Atlantic Terra Cotta and its use in buildings. 32 pp. Ill. 8 % x 7 in.


National Terra Cotta Society, 19 West 46th St., New York City.

064. Standard Specifications. Contains complete detailed specifications for the manufacture, furnishing and setting of terra cotta, a glossary of terms relating to terra cotta and a form specifically prepared for incorporating in architect's specifications. 12 pp. Ill. 8 % x 11 in.

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424. Deep-lighting Catalog. A complete catalog on glass prisms for use in transoms, sidewalks and lights, and for lighting planes necessary to direct daylight. Contains also measurements, specifications and other data re­

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REFERENCE LIST OF BUSINESS LITERATURE—Continued
The Architect's Own Specification For Tilework

The work of the architect or his specification writer, as far as it pertains to tilework can be simplified to a single paragraph such as the following (or one of similar purport) which is quoted from the work sheets furnished as scratch pads for architects offices.

TILEWORK

Furnish all materials and labor necessary for the completion of the tilework according to the accompanying drawings and the following specification and schedules. The Basic Specification for Tilework, First Edition, 1921, as issued by the Associated Tile Manufacturers, Beaver Falls, Pa., in so far as any portion is applicable to this building, is hereby declared to be and is made a part of the contract to have the same force and effect as the written in full in this specification (except as it may be modified herein).

The Basic Specification does not mention by name the product of any manufacturer of tile, but is a general document applicable to any kind of tile installation over any type of construction.

The Basic Specification for Tilework is not a document intended to be copied. It is distinctly a reference document. It was prepared by our consulting architect in cooperation with other architects throughout the country and others qualified to contribute and enhance its value.

A copy of the Basic Specification should be in all reference files. Work Sheets, schedules, specification reminder and checking list will be supplied upon request.

ASSOCIATED TILE MANUFACTURERS

Beaver Falls - Penna.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

VENTILATORS

The Burt Manufacturing Co., Akron, Ohio.

525. The Great Outdoors Brought Inside. In this book is a description of the new rectangular combination skylight and ventilator; the Burt fan ventilator for removing odors, fumes, etc., when atmospheric conditions interfere with the gravity process; and a table giving prices, dimensions, weights and gages of iron of the Burt Ventilator. Some good general information about ventilators is included. 16 pp. Ill. 3 x 4 in.

WALL COVERING—See also Linoleum-Walton


VITROLITE BOOKLET—See also Linoleum-Walton

The Vitrolite Company, Chamber of Commerce Building, Chicago, Ill.

648. Toilet Partitions and Wainscoting. Architects Tile Bulletin No. 2. Describing the uses of Vitrolite, its physical properties, details of installation and specifications. 32 pp. Ill. 8 1/2 x 11 in.

WALL COVERING—See also Linoleum-Walton

Standard Textile Products Co., 320 Broadway, New York, N. Y.

111. Sanitas, Modern Wall Covering. Folio. Plates of color renderings of various interiors, with suggestions for the library, living room, dining room, boudoir, church and church wall covering, using Sanitas. Size 11 1/2 x 6 in. 15 plates.


114. Instructions for Sanitas. Booklet. Instructions and specifications for the application of Sanitas, with notes on finishes and material. Size 5 x 6 in. 20 pp.

WATER HEATERS


567. Rund Gas Water Heaters. Bulletins in filing folder describing instantaneous automatic water heaters for small homes and special uses, multi-coil automatic storage systems, automatic storage systems and tank water heaters. Details for connections, hot water service and specifications. 19 pp. Ill. 8 1/2 x 11 in.

590. Rudn Automatic Storage Systems. Catalog of automatic hot water storage systems for domestic, industrial and commercial uses. Details, capacities, dimensions and other data. 24 pp. Ill. 6 x 9 in.

590. Rudn Multi-Copper-Coil Automatic Storage Systems. Catalog describing automatic hot water storage systems of large capacity for large residences, apartment buildings, hotels, business, department stores, factories, schools, hotels, capacities and dimensions for complete line. 32 pp. Ill. 6 x 9 in.

WATERPROOFING—See also Dampproofing

The General Fireproofing Co., Youngstown, Ohio.


WATER PURIFICATION


690. Ultra Violet Ray Sterilization. Bulletins treating of water sterilization for homes, hotels, offices, buildings, hospitals, schools, industrial plants, breweries, ice plants, swimming pools, water works and other places. Ill.

WATER SOFTENERS

The Permutit Company, 440 Fourth Ave., New York.

105. Permutit (Water Rectification Systems.) Illustrated booklet. Describes all methods of softening water, including the original Zeolite process. For homes, hotels, apartment houses, swimming pools, laundries and industrial plants. Size 8 1/2 x 11 in. 22 pp.

432. Bulletin No. 1000. This bulletin treats of the value of soft water in the home and describes the Wayne Domestic Water Softening System. 6 pp. Ill. 8 1/2 x 11 1/2 in.

Wayne Tank and Pump Co., Fort Wayne, Ind.

687. Water Softening and Filtration. A valuable treatise on the subject of softening and quick-settling types of water softeners and their application to commercial, industrial and domestic uses. The construction of and uses for Wayne Pressure Filters are also adequately described. 32 pp. Ill. 8 1/2 x 11 1/2 in.

WATER SUPPLY—See Pumps

WEATHER STRIPS

The Diamond Metal Weather Strip Co., Columbus, Ohio.

610. The Diamond Way. A catalog of full size details showing the application of the Diamond metal weather strip to double hung and casement windows and doors with complete specifications. 54 pp. Ill. 8 1/2 x 11 in.

The Higgins Manufacturing Co., 4th and Washington Ave., New York, N. Y.


Monarch Metal Products Co., 5830 Penrose Street, St. Louis, Mo.

512. Monarch Metal Weather Strips. The publication embodying all the suggestions for advertising literature made by the Committee on Structural Service of the American Institute of Architects. It contains a treatise on interglass around windows together with description of Monarch Metal Weather Strips. Contains many detail working drawings. 48 pp. Ill. 7 1/2 x 11 1/2 in.

WINDOES—See Doors and Windows

WIRE AND CABLE—See Electric Wire and Cable

WOODWORK—See also Doors and Windows—Lumber

Curtis Companies Service Bureau, Clinton, Iowa.


Hartmann-Sanders Company, 6 East 33rd St., New York, N. Y.

354. Catalog No. 47. Illustrating Kell's Patent Lock Joint wood stave columns for exterior and interior use. 48 pp. Ill. 7 1/2 x 10 in.

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It works as if the up-and-down movement were balanced. As if a helping hand might be lifting on the other end, as you press down the lever.

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The Ideal Window for School Buildings

J. J. Donovan, A. I. A., well known school architect, has spent many years in the study of daylighting and ventilating schools. Finding none of the available windows entirely satisfactory, he developed the Donovan Awning Type Window. It has been successfully used in over five hundred schools.

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Daylight. The full window opening is available for daylight. By attaching shades to each sash and opening the window, daylight is reflected from the window to the ceiling to light the school room. Thus the Donovan window gives ample lighting without glare, at the same time admitting the fresh air.

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