

THE AMERICAN ARCHITECT

VOL. CX

WEDNESDAY, OCTOBER 18, 1916

NUMBER 2130

THE EVOLUTION OF THE PRISON PLAN—PART I

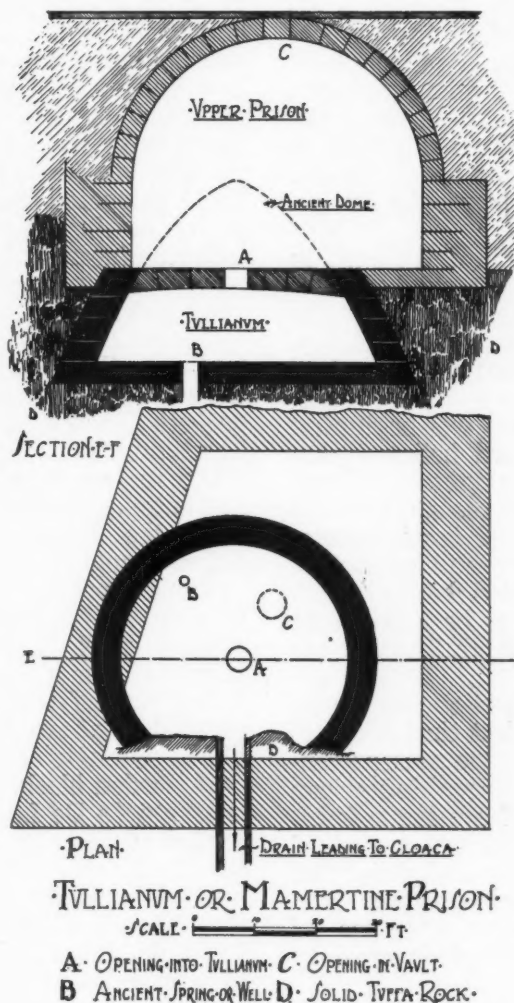
By REXFORD NEWCOMB, B. S., M. A.,
University of Southern California.

WINES* states that there have been four distinct stages in the evolution of criminal law, namely: the era of vengeance or retribution, the era of repression, the era of attempted reformation and the fourth the era which is just appearing, that of prevention. In the first three stages the prison has had an important part. Beginning as an accessory of the barbarous chief or lord for the securing of the accused until trial and after trial serving as his abode until such time as he should be executed, it has grown in importance with the system of social correction until in the period of attempted reformation it bids fair to become the great laboratory for the remaking of mentally diseased and misguided individuals.

In the beginning retaliation was considered a private right and was exer-

cised as such. With the growth of communistic ideas, however, the private right became the public duty. In this early period the death penalty was the universal cure for crime and was perhaps a great

deal more human than the punishments of the second period, which took on the form of all manner of torture, such as drawing and quartering, horrible mutilations of the body, shameful exposures, exile and selling into bondage. These were the forms of punishment employed by the church and state alike, during the Middle Ages and indeed down to modern times. These measures were, of course, designed not only to punish the criminal, but to serve as a warning to would-be criminals and in this way check criminality. On the contrary, however, the witnessing of this sort of thing only served to harden those criminally inclined and to promote all sorts of



*F. H. Wines, "Punishment and Reformation," New York, 1895.

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vice and wrongdoing. Banishment or transportation was introduced in Europe as a humane alternative for the tortures practised, but all society of the time believed that bodily torture or punishment of some kind was due the criminal for his misdeeds. This idea has not lost its hold even to this day and perhaps has held back, more than anything else, modern penal improvement.

Throughout this age of development the prison occupied practically the same place that it had in the first era and it continued to be a place where the accused awaited trial and the condemned awaited death. This was the age when London Tower, the Bastille of Paris, the Seven Towers of Constantinople and the Castle of Spielberg flourished. Beccaria's efforts against torture and capital punishment practically secured a reduction of these punishments to a minimum needed for social defense and assured the criminal against society.¹ From this time on there is evidently a mission for the prison to perform, some real excuse for its existence.

Our interest in prisons dates back to the beginning of this third period of criminal law, for it is in this period that our modern penal science has its beginnings. While Beccaria was fighting for revised penal legislation in Italy and France, John Howard, in England, was beginning prison reform.² Howard believed that imprisonment in itself might be a legal penalty for crime and at the same time a means of reformation of law-breakers. Reform in criminal law and prison reform go hand in hand and due to the efforts being made it is to be hoped that crime may be largely diminished if not entirely wiped out.

With the era of prevention the prison will tend to disappear, but that era is so far off that it is safe for the present generation to do all it can in making prison conditions better and of a more reforming nature. To usher in the period of prevention, our efforts must be directed toward the sources of crime rather than toward the ultimate resting place of criminals, but nevertheless, it is our duty

to reform, if that be possible, all such as have fallen under the wheel of society's machine.

Before proceeding to an investigation of the modern prison, its architecture, sanitation and construction, let us turn to the prisons of history and learn, if we can, something of their appointments. Prisons are as old as society, perhaps. Many ancient records make mention of them. They are known to have existed in ancient Egypt as a place of detention. They are frequently mentioned in the Bible and in the writings of the classic authors. The story of Joseph tells of a prison in Egypt. In none of the ancient writings is imprisonment spoken of as a punishment. As has been said, the function of the early prison was one of detention. The Jewish Encyclopedia says, "Imprisonment as a punishment is not known in Mosaic law. The few apparent cases mentioned in the Pentateuch refer in fact to the temporary detention of the criminal until sentence could be passed upon him." At the time of the coming of the Chaldeans under Nebuchadnezzar into Jerusalem, there were three prisons in the city. They were places of detention as their names indicate: (a) Beth-ha-keli (house of detention), (b) Beth-ha-asourim (house of those in chains), and (c) Beth-ha-mah-pecheth (house of those with chained hands and feet). The usual type was that of an underground cistern with grating at the top. It is this sort of cell in which John the Baptist was confined when Salome sought his head.

There were prisons in ancient Greece, notably at Athens. The prisons of Athens were under the rule of the Eleven. The prisoners were not separated and friends and family were allowed great freedom in visiting the confined. Sometimes the feet were attached to a wooden block. Plato speaks of prisons thus, in *De Legibus*:

"Let there be three prisons in the city, one for the safe keeping of persons awaiting trial and sentence; another for the amendment of disorderly persons and vagrants, those guilty of misdemeanors, to be called a 'sophonesterion' (house of correction), which should be visited

¹ Wines, "Punishment and Reformation."

² De Quiros, "Modern Theories of Criminality," Boston, 1911.

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at night by the magistrates, called 'sophronestoi'; a third to be situated in the country away from the habitations of man, and to be used for the punishment of felons."

From this it will be seen that Plato in a way anticipated the modern system of punishment of criminals by imprisonment. When it is remembered that this prison system was put forward by him as an improvement over the existing system at Athens, it is not difficult to see why he might have come to his decision.

Rome had prisons and at least one of them has come down to our own day. This is the Tullianum, now called the Mamertine Prison, a name given to it in medieval times from the fact that a statue of Mars (Mamers) stood nearby. A section of this ancient prison is shown on page 243. As will be seen, it consisted of an upper rectangular room with a dome-like dungeon below. The prisoner was confined to the upper and if condemned to death was thrown into the lower dungeon through an opening in the roof to be strangled or to starve. The upper portion was lighted by the hole in the roof. This prison, located at the northeast corner of the Forum Romanum and near the Capitoline Hill, is often said to have been called Tullianum from Servius Tullius, who is said to have added the dungeon. This is said by Prof. Harry Thurston Peck to be a mistake. He derives the name from "tullia" or springs and says that Tullianum means spring-house and is named for the waters which from times immemorial have issued from the hill at this point. If the cuts are trustworthy, the dungeon could not have been of Roman construction, as the arch is of the construction known as Etruscan and must antedate Roman civilization many centuries. It appears then to have been an old watering hole, taken for a dungeon and in the process of time to have lost its old function, but to have retained its old name. An ancient stairway, leading from this prison to the Forum served as a show place for dead criminals after they had been removed from the prison. However, Roman prisons were not the chief method of detention. By the laws of Rome, a Roman

citizen could not be cast into prison except by direct command of the Emperor. The usual method of detention was to chain the right arm of the prisoner to the left arm of a soldier. Houses of deten-

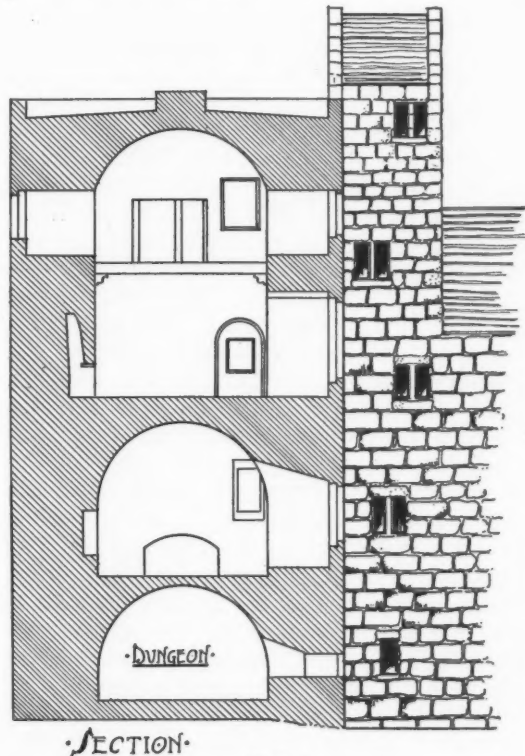


FIG. 2.
A MEDIEVAL KEEF, CAMPBELL CASTLE,
SCOTLAND.

tion in Rome were used for the holding of slaves.

The prisons of the Middle Ages were the dungeons in the castles of the feudal lords and consisted of a damp, dark cell with thick stone walls, a stone floor and little or no light. Fig. 2 shows the section of the typical medieval keep. Medieval Europe was dotted with castles and each had its cell or keep. A great many of the romantic stories of medieval times have to do with imprisonment in these picturesque but unhealthy dungeons. The sanitary conditions of the cells were, to say the least, very bad. The sanitary appointments of the medieval town were almost beyond imagination. A heap of straw usually sufficed for the bed and the

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awful dark and dampness made the place very unhealthful.

With the passing of the feudal system the arbitrary power of the feudal lord disappeared and no longer were the castle towers the prison houses of the country. Magna Charta says that "no free man shall be taken or imprisoned unless by lawful judgment of his peers, or the law of the land." With the decay of feudalism the towns and cities established jails as places of detention and finally places of punishment. Here were imprisoned in common rooms men and women offenders, murderers and innocent debtors. The jails were constructed so as to create discomfort and terror on the part of the prisoners, the idea being that the more loathsome the prison was, the better the people would be in order to keep out of it. The old theory that people can be "scared into being good" has been exploded a long time ago, yet it is called into use, especially with children.

The horrors of the old "pozzi" or wells for imprisonment in the Ducal Palace at Venice were, perhaps, no greater than those of the Tower of London, the Bastille, the Seven Towers of Constantinople or the Castle of Spielberg. The London Tower has seen many executions of royalty and was in its day one of Europe's worst prisons. The Bastille, demolished in 1789, was one of the worst of French prisons. "It consisted," says August I. C. Hare,* "of eight round towers, each bearing a characteristic name, connected by massive walls ten feet thick, pierced with narrow slits by which the cells were lighted. In early times, it had entrances on three sides, but after 1580 only one with a drawbridge over the moat, on the side toward the river, which led to the outer court and a second drawbridge, and wound by a defended passage to an outer entrance opposite the Rue de Tournelles."

So much for the ancient and medieval keeps. The beginnings of the modern prison system, as we know it, were due, perhaps, to the efforts of the Christian Church. We hear that in early Christian times the bishops purchased freedom for prisoners. Saint Charles Borromeo re-

formed and organized the prison system of his diocese on a humanitarian and Christian basis. Under the Popes the Roman prison system became a model. Popes Eugenius IV, Paul V and Innocent X passed regulations improving the conditions of prisons and Clement XI, in 1703, constructed what was known as the Hospital of Saint Michael. Called a hospital, it was in reality a house of correction for youthful offenders, as is recorded on its façade, "*Perditis adolescentibus corrigendis instituendisque ut qui insertis oberant instructi republicae serviant.*" His methods were separation, silence, work and prayer. Here we have the beginnings of cellular separation, the basis of all prison architecture of to-day. Each prisoner had his cell at night but all worked in common during the day. A religious order supervised them and undertook their education. Each one was taught some trade and encouraged by a system of rewards. As regards prison treatment, we have here the germs of our two modern systems and in the punishments, which consisted of four stages of severity, namely: bread and water diet, work in cells, flogging and black holes, we have, likewise, the prototypes of many of the modern punishments, for infraction of rules.

With the establishment of the idea that the prisoners should be separated at night, each having his own cell, the cell becomes the unit of which the main feature in prison architecture, namely, the cell-house, is builded. Thus we see that the rise of the cellular system dates from Saint Michael. It is only logical to suppose that having originated with the church, the cellular system must have been borrowed and developed from the traditional monastery cell. Certainly the idea underlying each institution was that the providing of separation and silence, offering opportunity for meditation and prayer was conducive to reformation.

In 1735 a prison was erected, for women, by Clement XII. Here begins, then, the separation, the segregation of the sexes in southern Europe long before it was practised in England. About this same time Filippo Franci, a priest, after experimenting at Venice and Naples on

*A. I. C. Hare, "Walks in Paris," David McKay, 1880.

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the effects of the separation of prisoners according to sex, age and social rank, succeeded in making his House of Refuge at Florence the model of its kind. His success he claimed to be due to his segregation scheme. With the success attained, at such places as the Saint Michael and the House of Refuge at Florence, to say nothing of the same success attained at House of Good Counsel at Turin, built in 1757, and the House of Correction at Milan, built by Maria Theresa in 1759, the segregation idea had a great impetus. The system of individual, nocturnal, cellular confinement with common work by day, with those of one's own kind and class, formed the basis for a subsequent, greatly used system of penal treatment—the Auburn.

The allotment of cells as made at the House of Correction at Milan was as fol-

lows: 95 in the men's department, 25 for women and 20 for children. Saint Michael was itself built up on the departmental basis. It had a department for accommodating 200 orphan boys, other departments for aged and infirm men and women and the department for about 50 criminal boys. It is the housing of these 50 criminal boys that requires our attention at this point. There were 60 single cells built in three tiers one above another (a method of arrangement used to this day), ten cells in a row on two sides of a large hall, well lighted by large windows.* The large corridor between the cells became the day workroom and in the center there is said to have been suspended a large placard with the single word "SILENCE" in large letters upon it.

(To be continued)

*Wines—"Punishment and Reformation."

SOUTHERN CYPRESS

By SAMUEL J. RECORD

SOUTHERN cypress is primarily a tree of the deep swamps. Logging operations are attended with difficulties not encountered elsewhere and which formerly were considered unsurmountable. It is due to their peculiar habitat that stands of one of our most valued timbers remained almost untouched while more accessible but often less desirable kinds were being extensively exploited. Had conditions for lumbering been favorable, cypress would now be commercially extinct. The enormous waste which then would have been unavoidable can now happily be prevented.

Although cypress is found throughout a wide strip of coast from southern New Jersey to lower Texas, and up the Mississippi and tributaries to Indiana, its commercial range is much more restricted. The heaviest stands are in the lower Mississippi Valley and in Florida and South Carolina. The total amount of this timber remaining is estimated to be 40 billion board feet, of which Louisiana is credited with 40 per cent and Florida

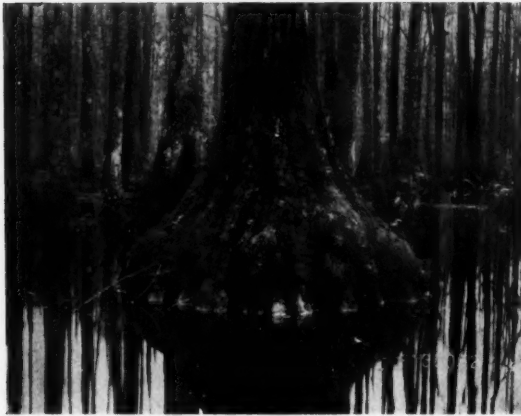
with about 27 per cent. In 1899 the amount of cypress lumber manufactured was less than 500,000,000 feet, but in the succeeding decade there was an increase of 93 per cent. The present annual cut is over a billion feet and of this amount Louisiana contributes about 70 per cent. Assuming the estimate to be correct, there is at the current rate of consumption about 40 years' supply of first-growth cypress timber in sight.

Cypress is one of the few coniferous trees to shed all its leaves annually like most of the hardwoods and is for this reason often called bald cypress. It is a veritable patriarch of the forest and may attain an age of upward of 2000 years. Many of the trees now being cut for lumber were in various stages of development before America was discovered. In form the tree is tall and straight, often with a much enlarged buttressed or ridged base and terminated abruptly above with a coarse, spreading crown. Although maximum diameters of 12 feet and heights of 150 feet have been recorded, the aver-

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age for mature timber in ordinary situations is from 3 to 5 feet in diameter and from 100 to 120 feet in height. In some of the less favorable locations the average dimensions may be only half so great.

The oozy muck of the swamps would seem to provide the poorest foundation imaginable for the support of such large trees, but the cypress is so securely anchored by means of its extensive root system, reinforced with peculiar pro-



A CYPRESS BUTT. SHOWS SPREADING OUT TO FORM FOUNDATION. HELL HOLE, BERKELEY CO., S. C.

tuberances called "knees," that it is able to withstand the strongest winds. The wetness of the locality of growth affords protection from fire, and insect injury to living trees is negligible. The only serious injury to which cypress is subject is the attack of a fungus which tunnels the heartwood of trees after they have reached an age of some two hundred years and produces the well-known "pecky" or "peggy" condition. It is estimated that one-third of the cypress in the United States is thus affected. About 9 per cent of the lumber manufactured is graded as "peck." The disease does not continue after the tree is felled, and pecky cypress is equal in durability, though not in strength, to sound wood.

From the date of the earliest settlements in the South, cypress has been prized locally for its durability and ease of working. A hundred years ago there were few houses in New Orleans of which

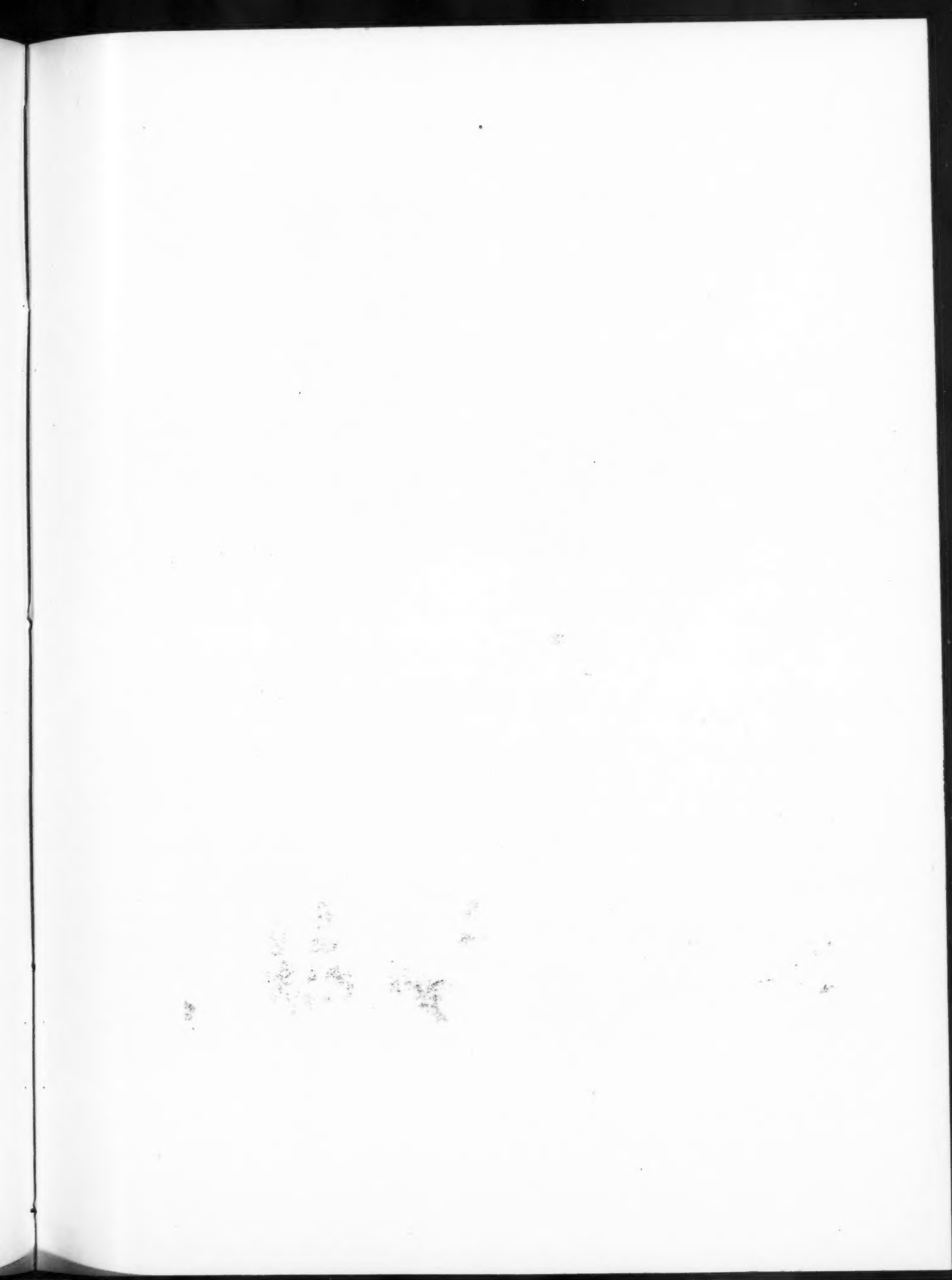
this wood did not form an important part, and its use extended to other settlements. In that warm, moist climate it proved the most desirable material for shingles and as these were easily split out by hand the use of cypress for this purpose became general and extensive. The logging of cypress in the early days was limited to the accessible trees along the water courses where the logs could be floated out. The stands in the great interior swamps and the higher portions of the river swamps were left intact.

With the decline of the white pine industry in the East, lumbermen turned their attention to the South, and some of the more farsighted saw an opportunity in these swamp lands. Acquisition was easy and inexpensive, and eventually ownership became concentrated in a few hands. This situation has had a decided bearing on the development of the cypress industry, making possible a degree of co-operative effort not attainable in any other group of lumber manufacturers.

The logging of cypress by modern



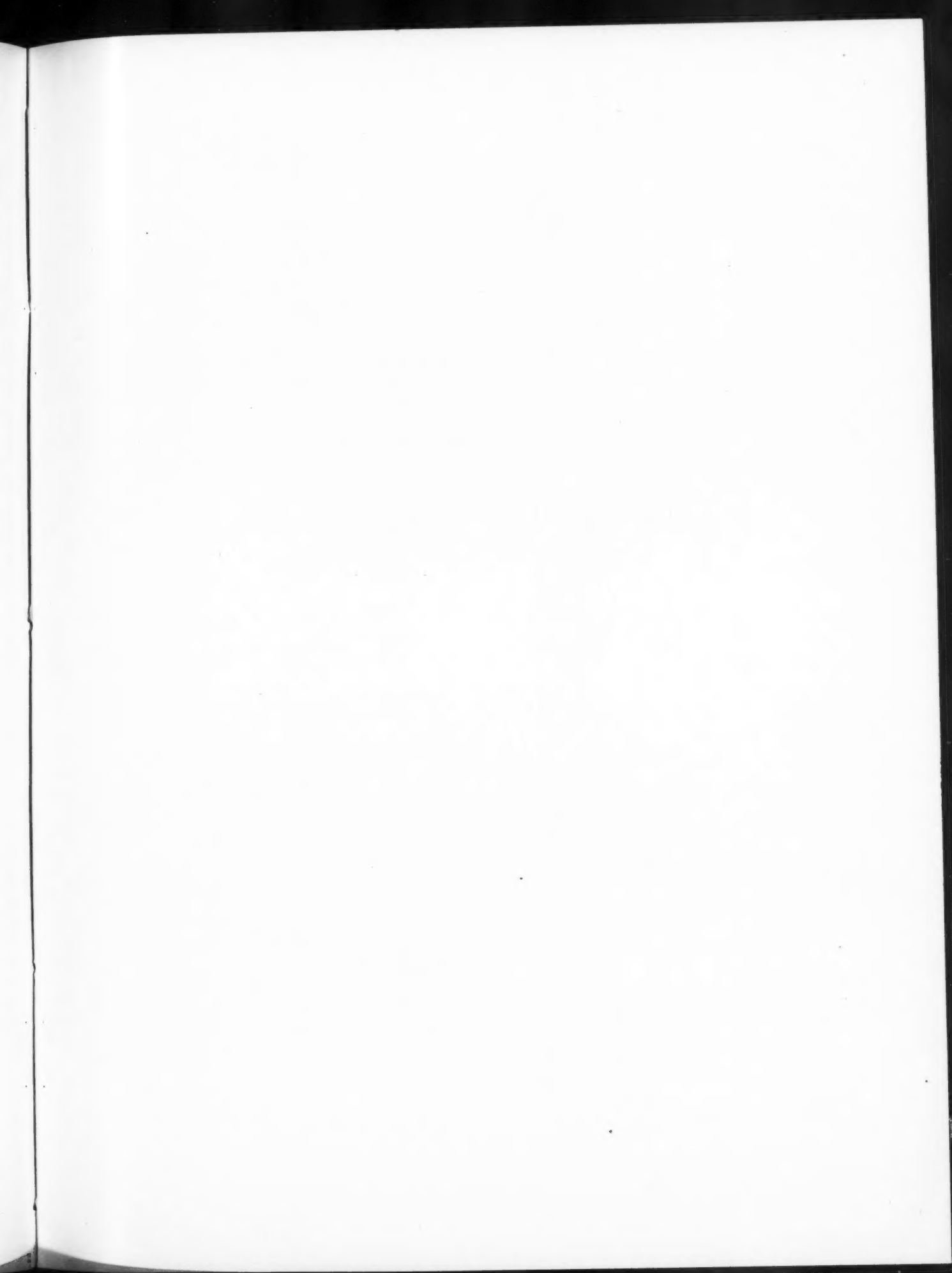
MEASURING CYPRESS AND ASSOCIATED HARDWOODS IN A SOUTHEASTERN MISSOURI SWAMP.

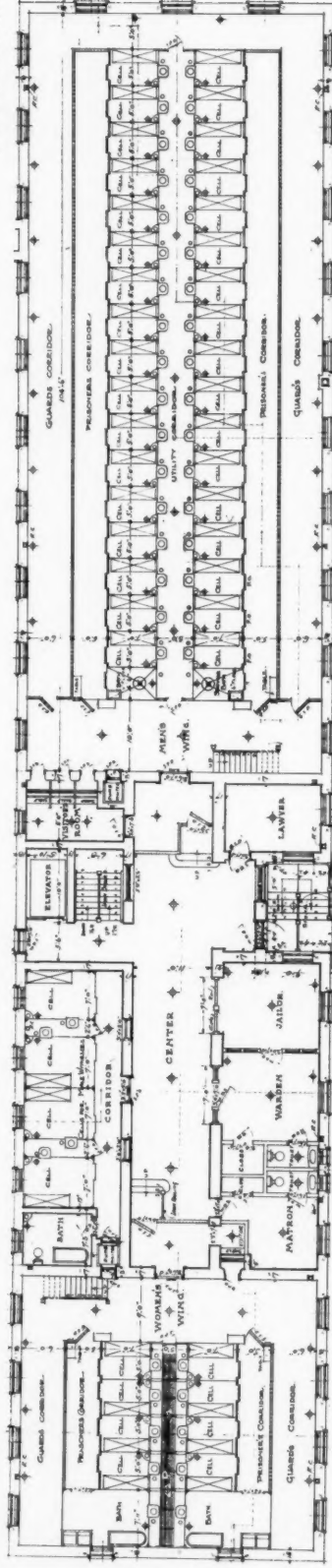




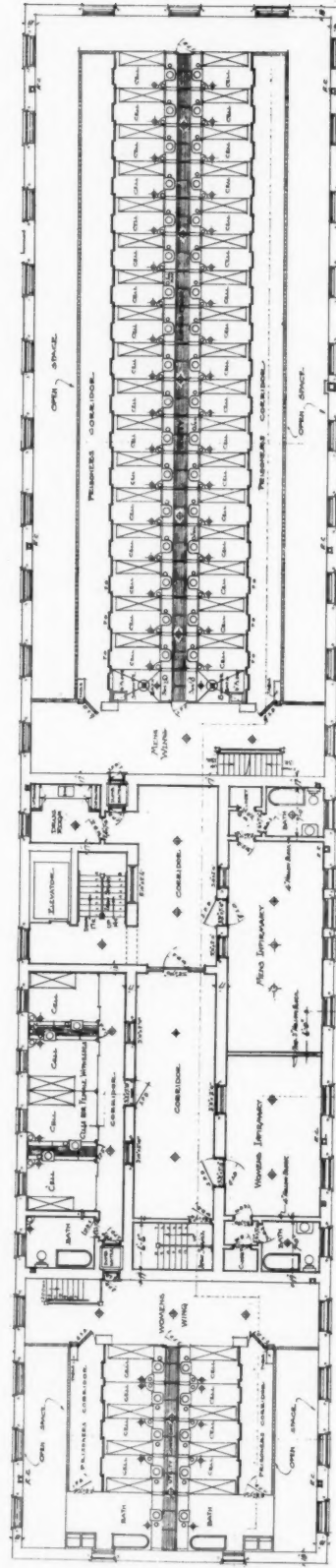
MERCER COUNTY JAIL, TRENTON, N. J.

MR. WILLIAM W. SLACK, ARCHITECT





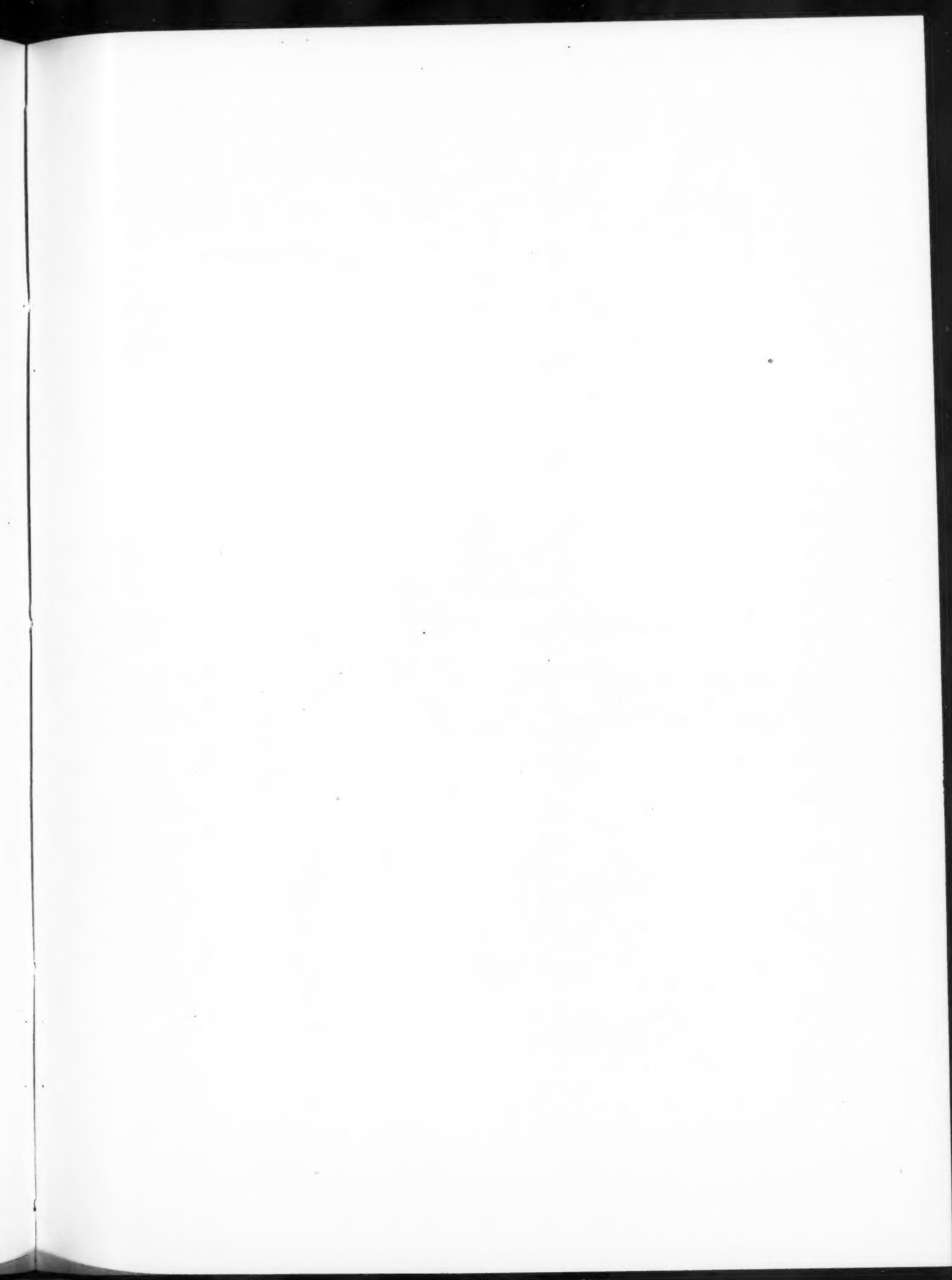
FIRST FLOOR PLAN



SECOND FLOOR PLAN

MERCER COUNTY JAIL, TRENTON, N. J.

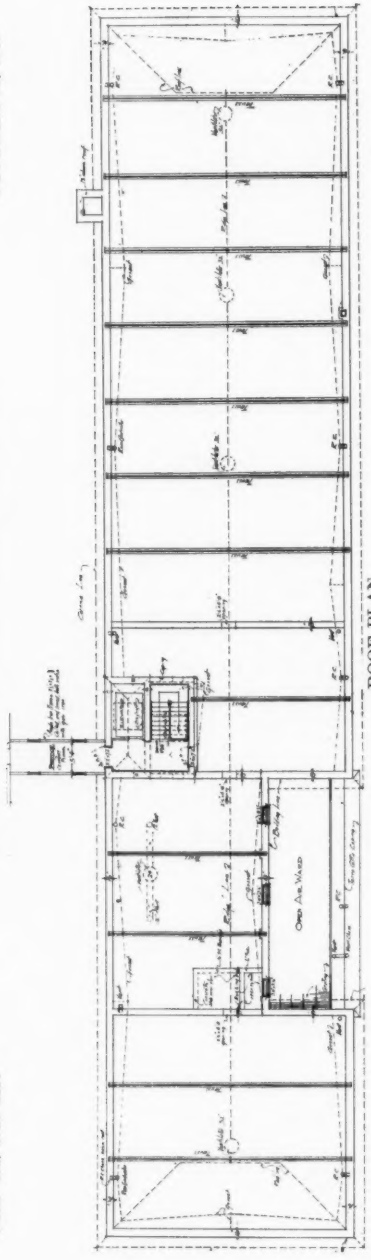
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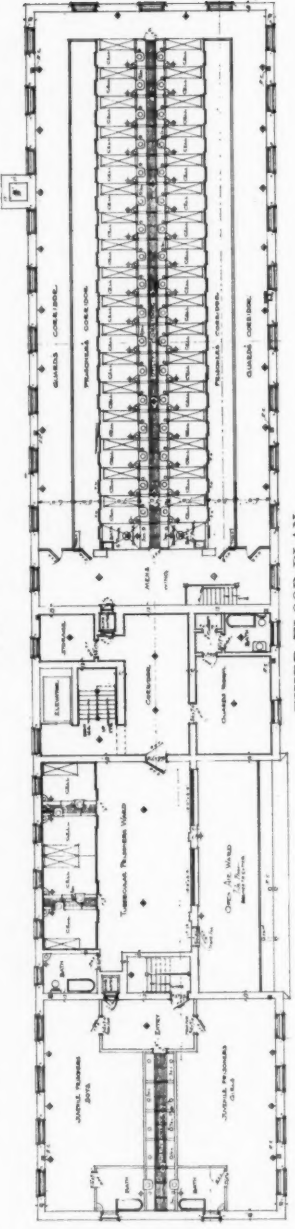
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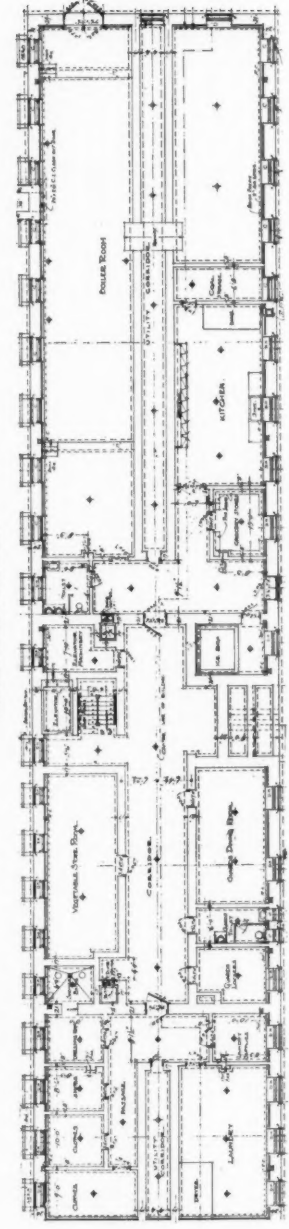
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ROOF PLAN



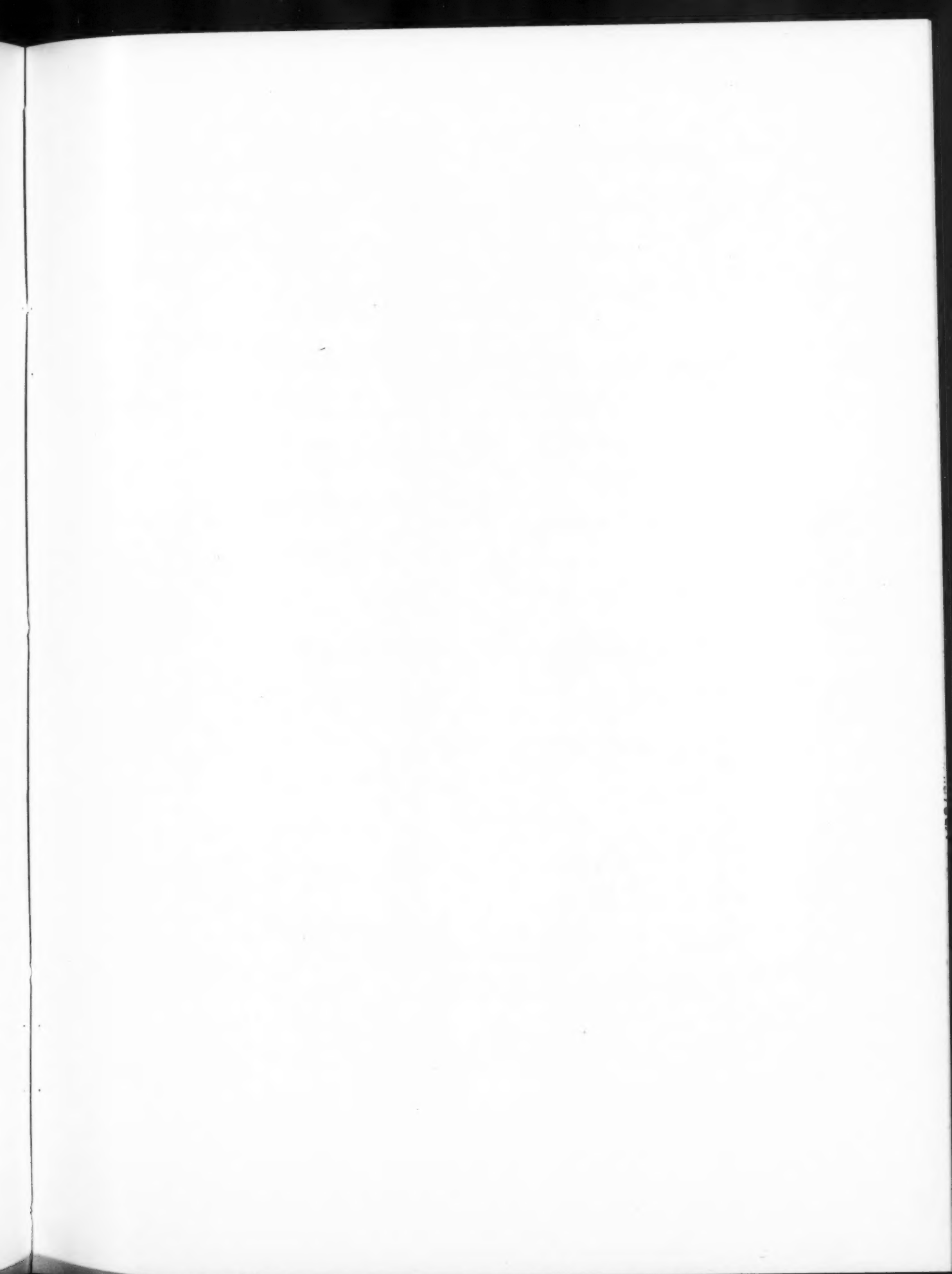
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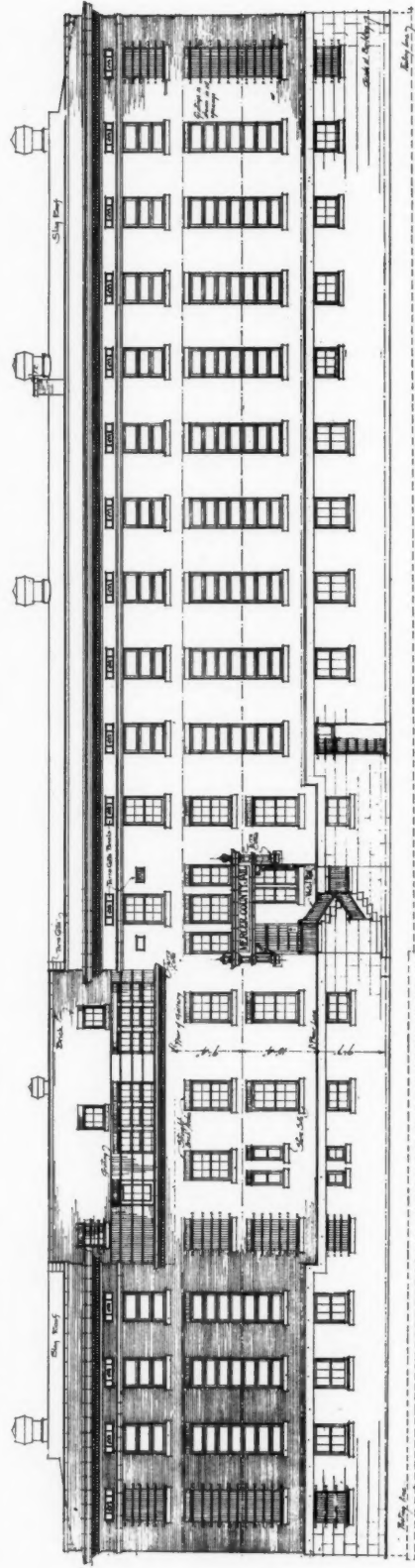
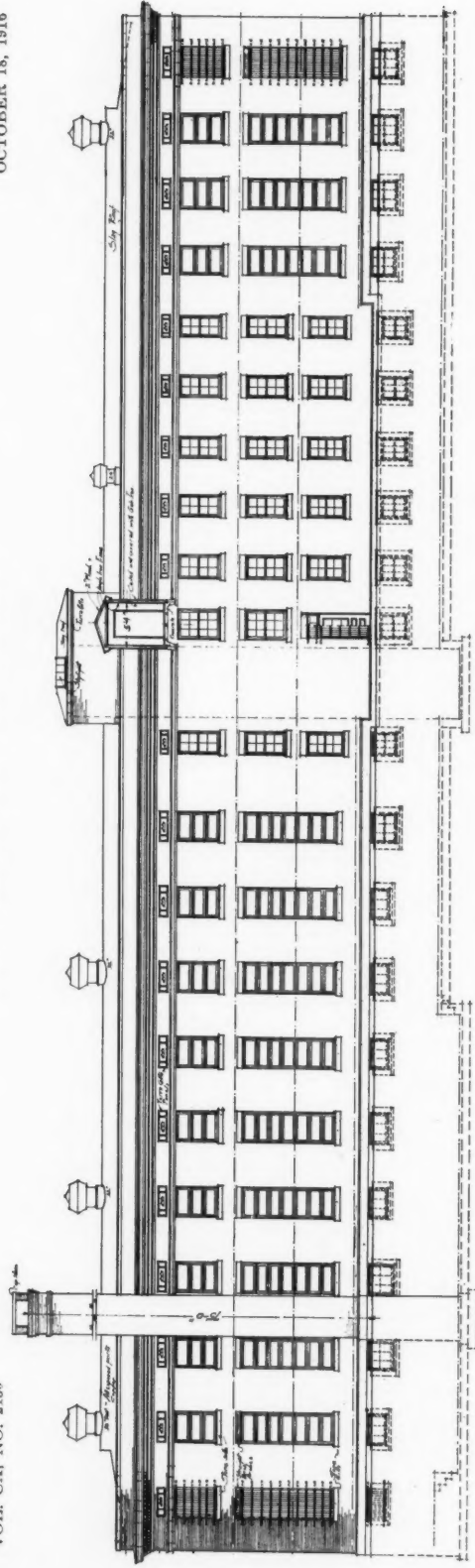


BASEMENT PLAN

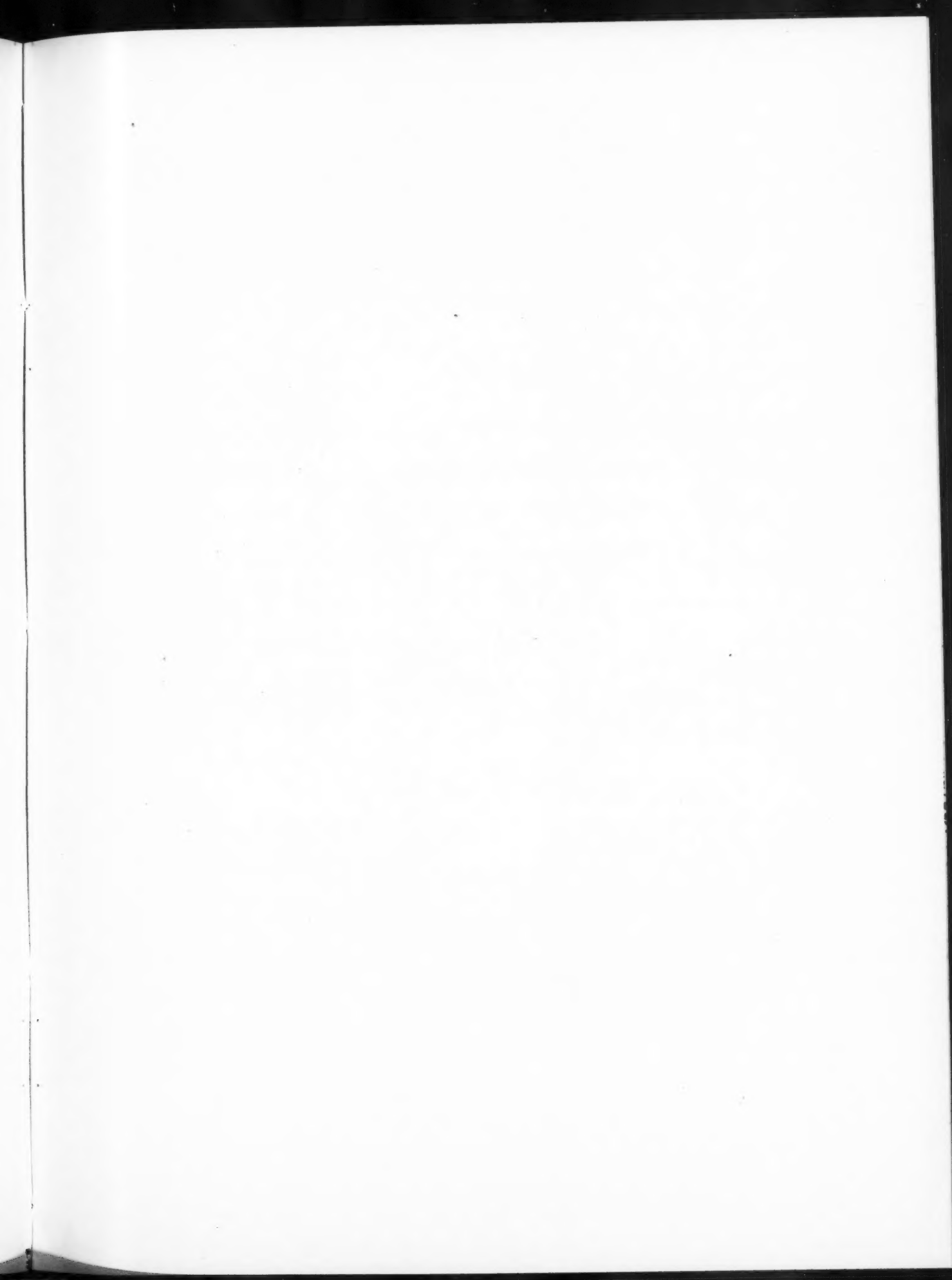
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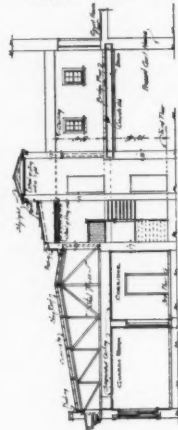
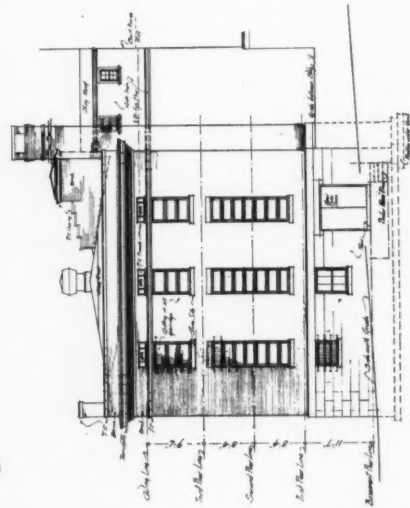
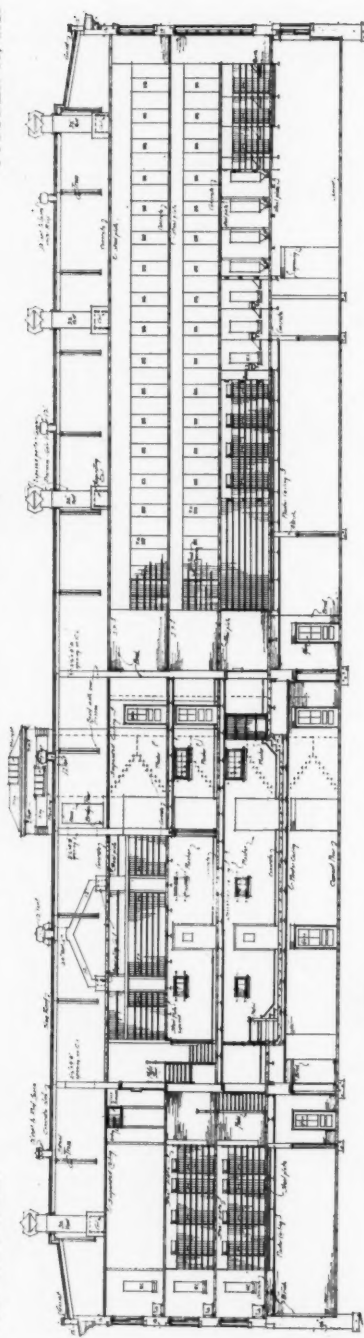
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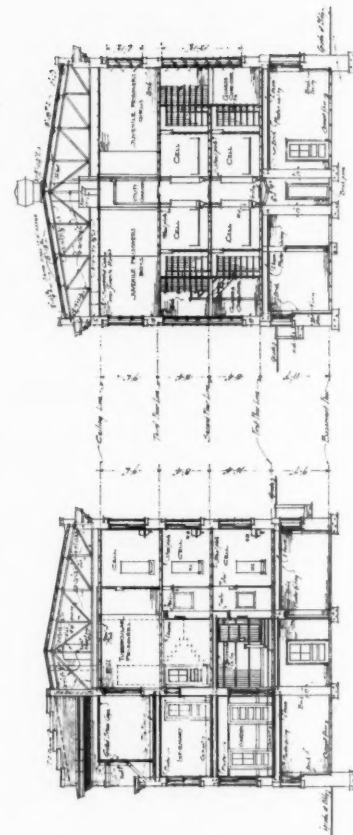
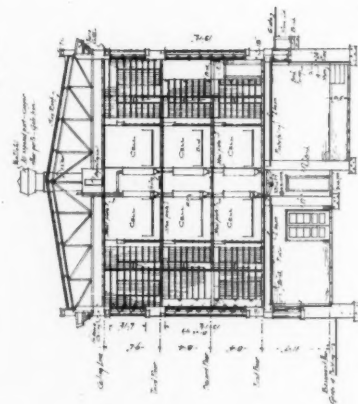
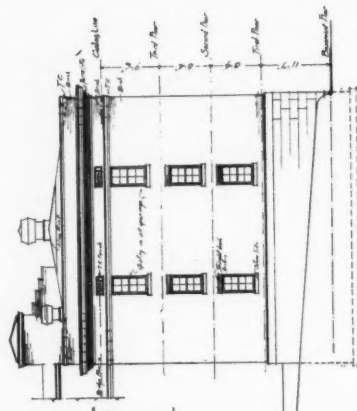


MERCER COUNTY JAIL, TRENTON, N. J.
MR. WILLIAM W. SLACK, ARCHITECT



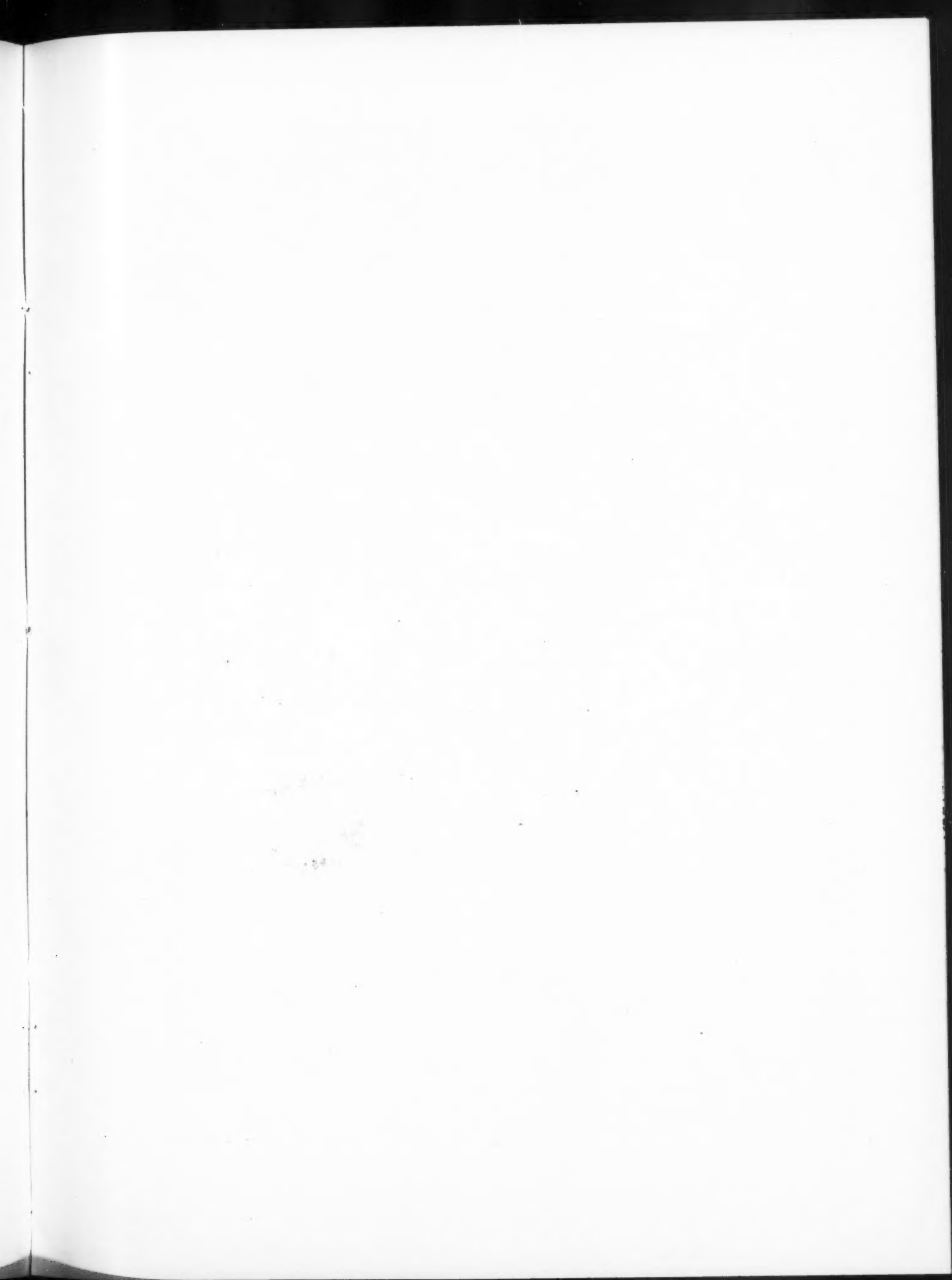


SECTION THROUGH LEAVING ROOM AND HALLS IN COURT HOUSE



MERCER COUNTY JAIL, TRENTON, N. J.

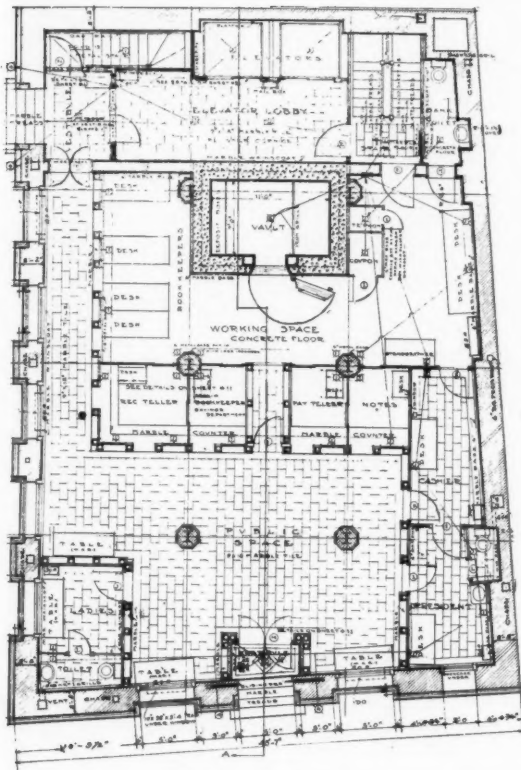
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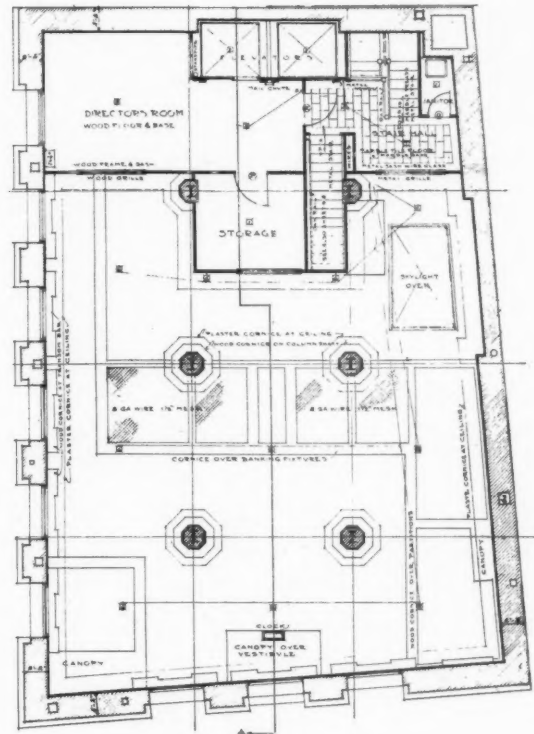


NATIONAL BANK OF SUFFOLK, SUFFOLK, VA.

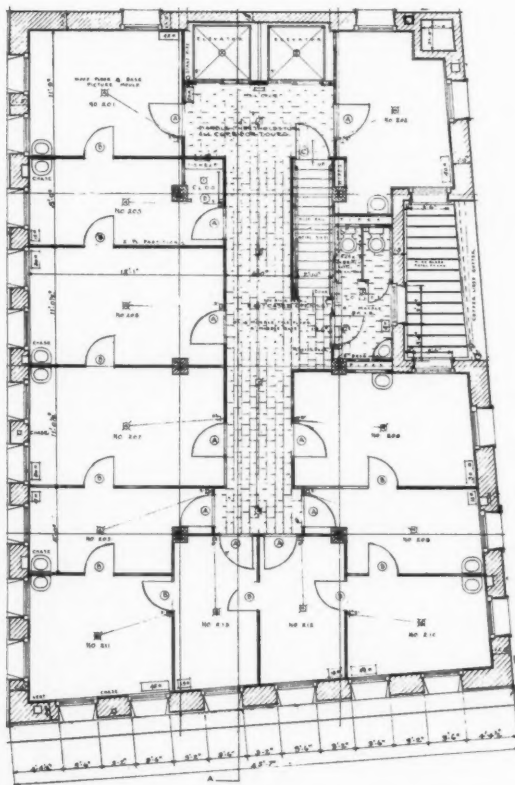
MR. ROSSEL EDWARD MITCHELL, ARCHITECT



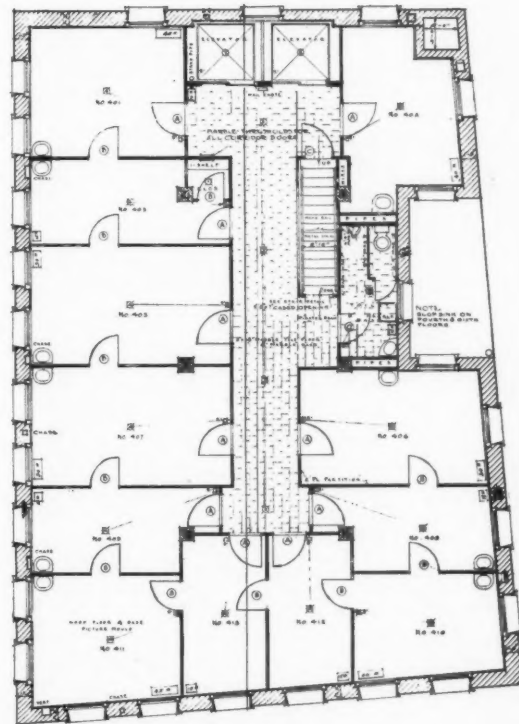
FIRST FLOOR PLAN



MEZZANINE FLOOR PLAN



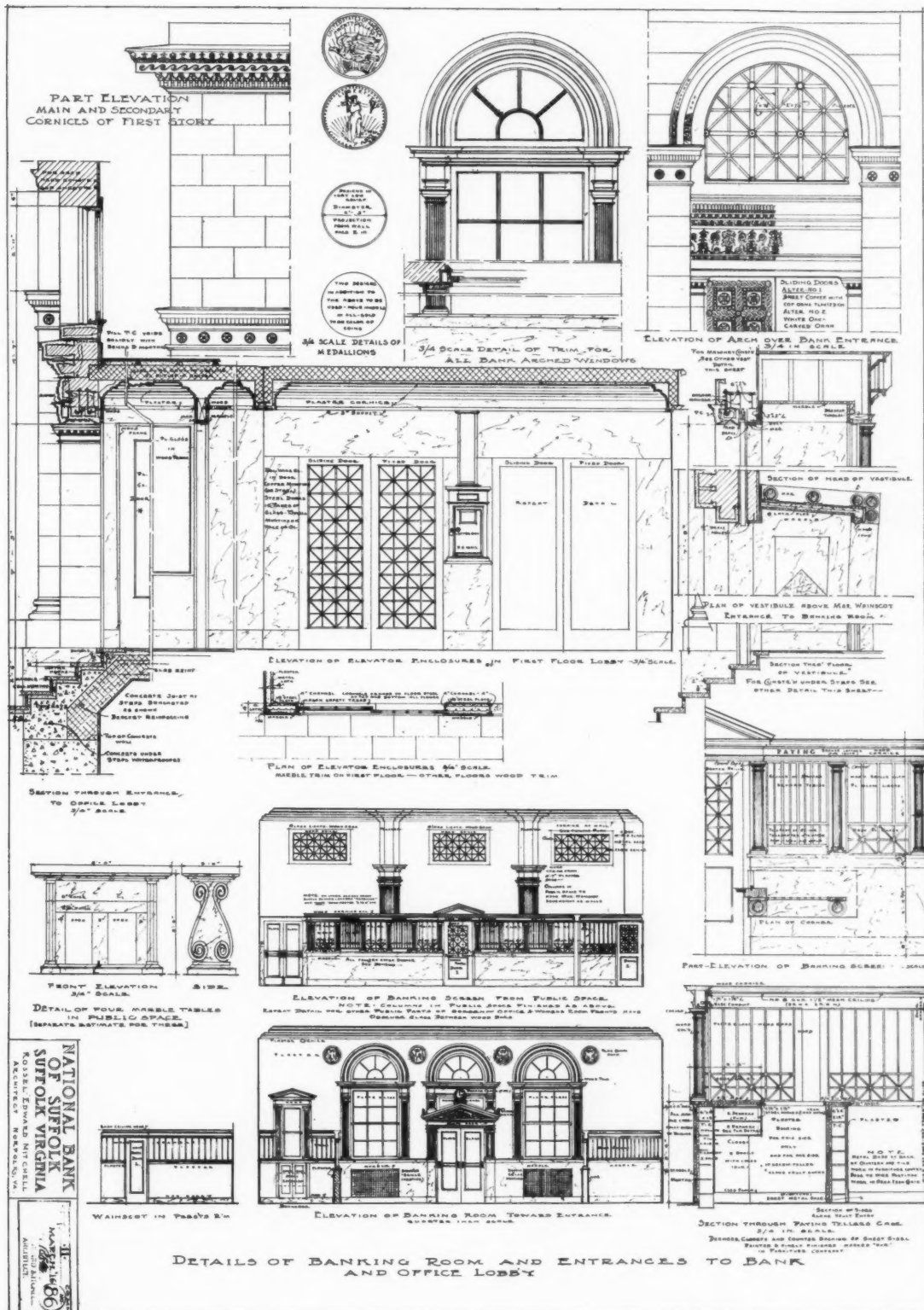
SECOND AND THIRD FLOOR PLAN



FOURTH AND FIFTH FLOOR PLAN

NATIONAL BANK OF SUFFOLK, SUFFOLK, VA.

MR. ROSSEL EDWARD MITCHELL, ARCHITECT



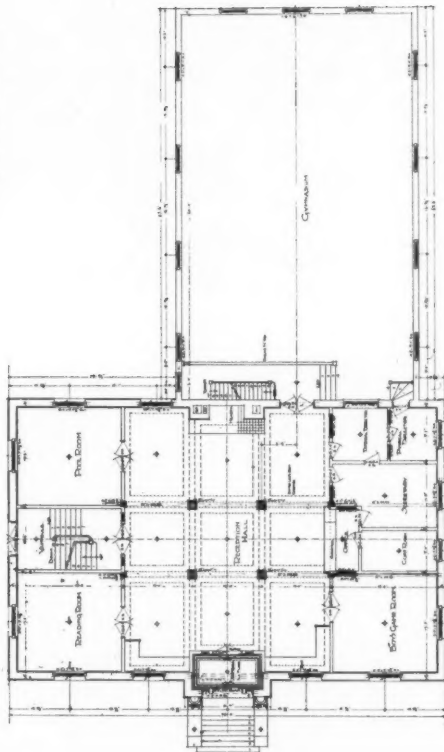
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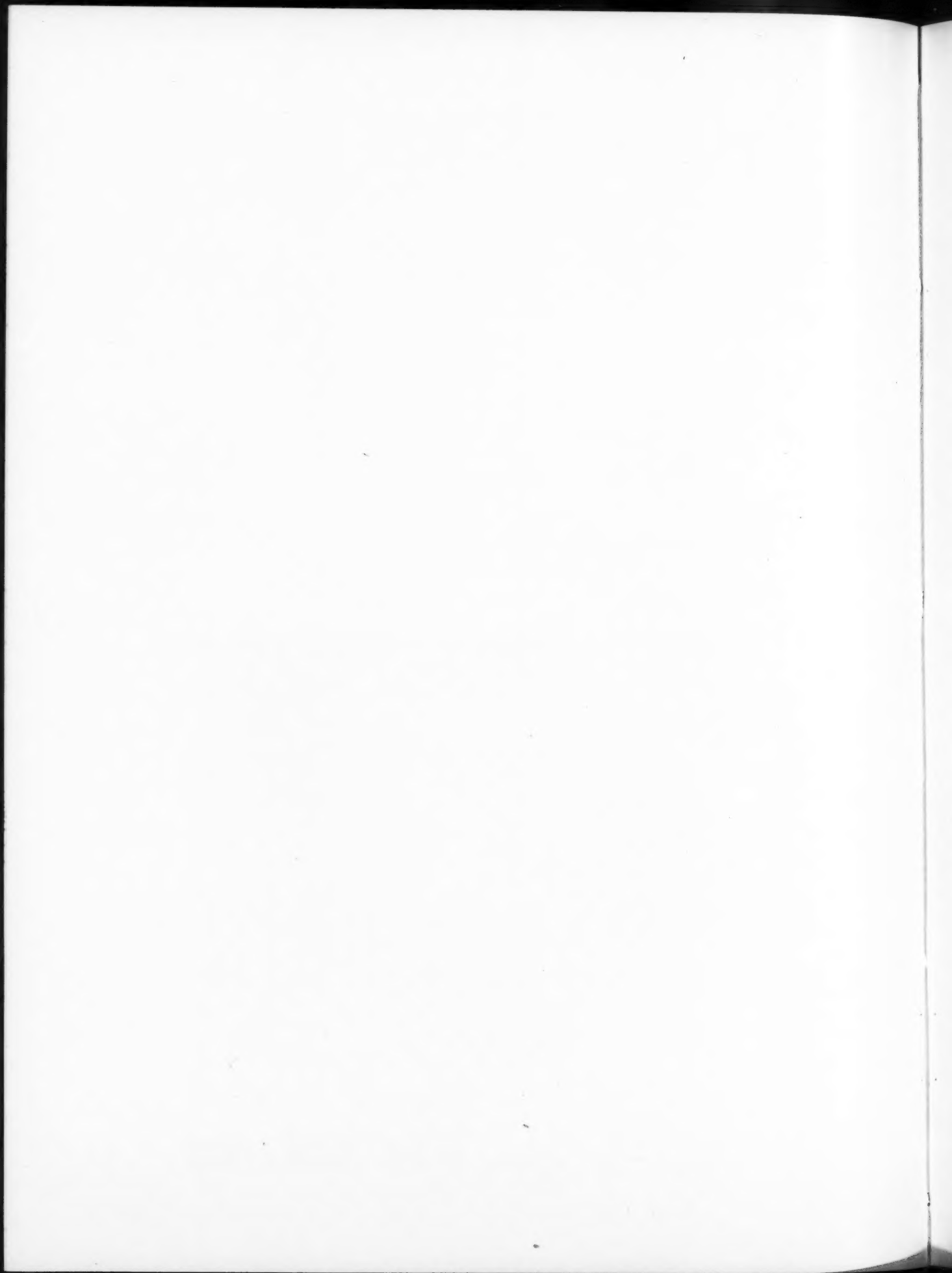
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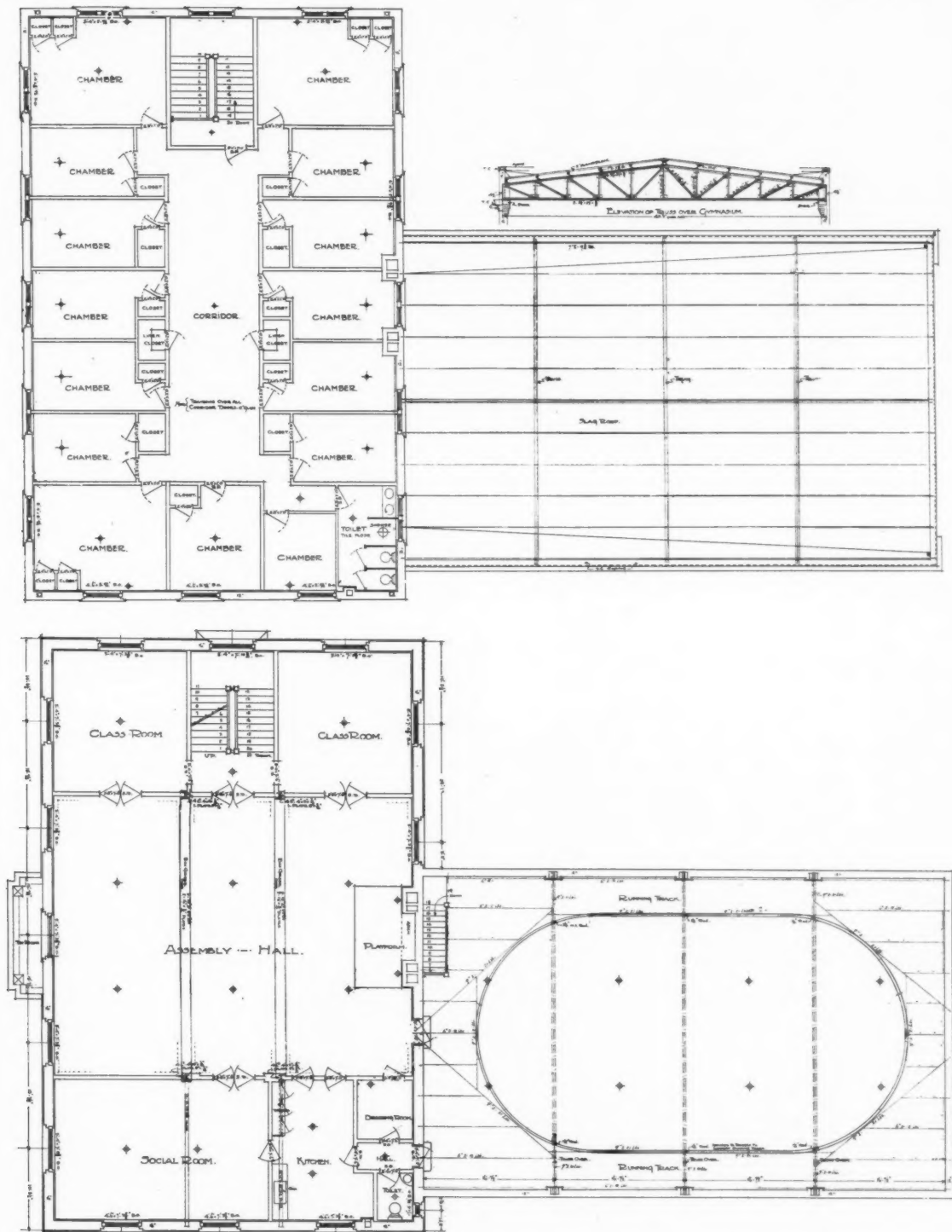


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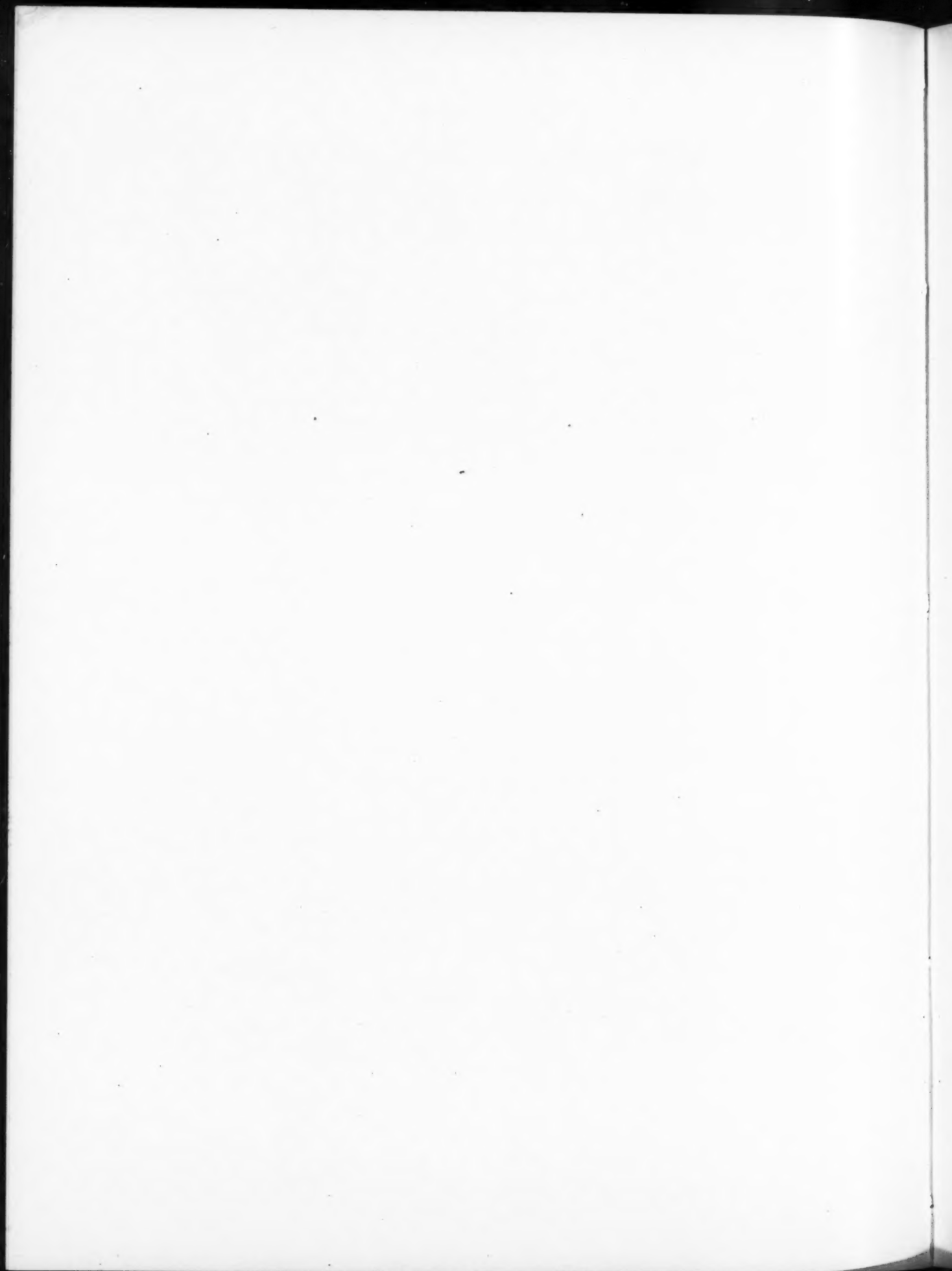
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TRENTON, N. J.

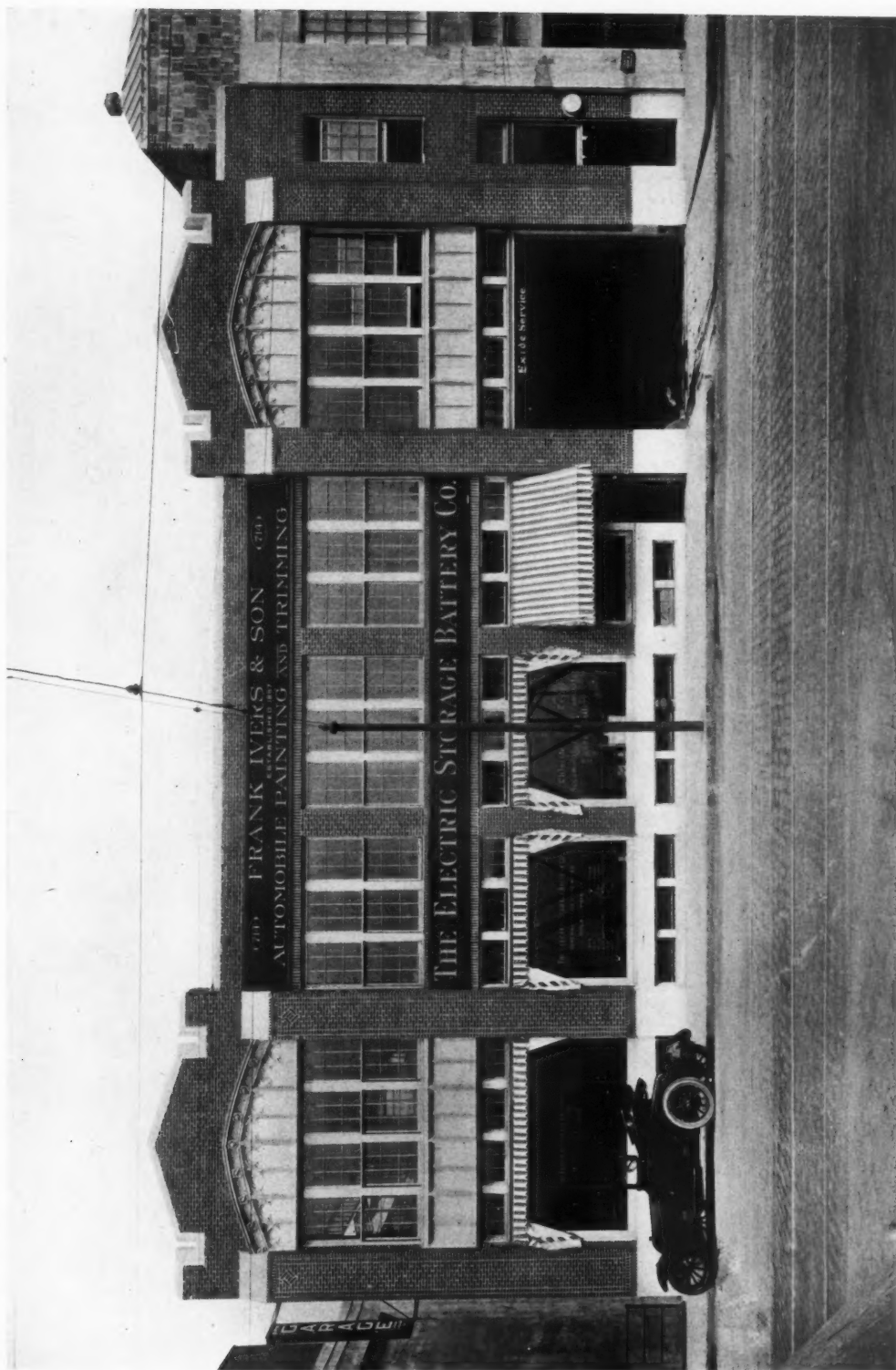
MR. WILLIAM W. SLACK, ARCHITECT





WILLIAM G. COOK MEMORIAL Y. M. C. A. BUILDING, TRENTON, NEW JERSEY
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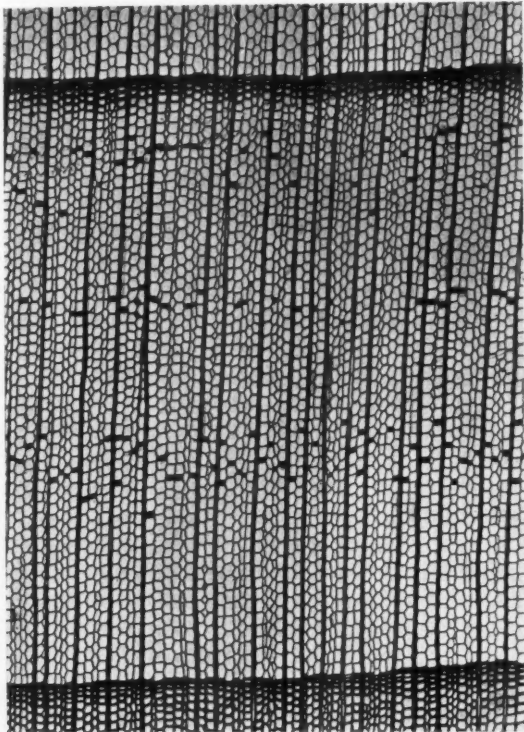
OFFICE AND GARAGE BUILDING, BEACON STREET, BOSTON, MASS.

MR. FRANK J. ROBINSON, ARCHITECT



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methods involves costly equipment. Railroads are built into the deepest parts of the swamps at a cost often exceeding \$10,000 per mile. In the overhead-skidder system a powerful cable is suspended between two trees and the logs hoisted and brought in over it to the cars. With the latest device, which costs up-



CROSS-SECTION OF CYPRESS WOOD SHOWING ONE RING OF GROWTH AND PORTIONS OF TWO OTHERS.

Note uniform structure and the presence of three bands of resin cells, which give a fine mottled appearance to the wood and are associated with durability.

ward of \$30,000 installed, a strip 2000 feet long and 200 feet wide can be logged at each set. Logging in this way is costly and beyond the means of small operators, but it has opened up large areas of cypress timber that defied all ordinary methods of lumbering.

But the problem before the lumbermen was not limited to surmounting the natural barriers and making cypress available. There was still a need for a dependable and adequate market for the product. The demand of the general trade was at first small and subject to frequent fluctu-

ations which interfered with business. The fault was not with the material but was due to lack of appreciation of it on the part of the consumer. An organized effort was begun to place the merits of cypress before the public and so well has it succeeded that the wood now enjoys a national reputation and has become a standard commodity throughout the eastern half of the United States. The success of this advertising campaign has stimulated other lumber manufacturers to similar efforts which are proving generally beneficial through the standardization of forest products and the development of intelligent discrimination on the part of the user.

The principal feature that has contributed to the success of cypress for many exacting purposes is the great natural resistance of its heartwood to the agencies of decay. This valuable property, however, does not extend to the sapwood which here, as in all other woods, is comparatively short-lived when exposed to conditions favorable to rot. This fact should be borne in mind in order to avoid the unsatisfactory results which are sure to follow the use of sapwood (unless treated with antiseptics) in contact with the ground or exposed to moisture. Decay is due to the action of low forms of plant life which require moisture for their vital activities, hence any wood if kept sufficiently dry will never rot. Even dry-rot, which is so destructive in some buildings, requires at least a humid atmosphere for its development. In choosing a wood for a position where decay must be guarded against the list of desirable kinds is limited and cypress is one of the best obtainable.

In cypress, as in all durable woods, there is some variation in the degree of durability. This is shown by the fact that some posts in a fence will last longer than others of the same kind; or that some stumps will resist decay indefinitely while others of the same age will show varying signs of unsoundness; or that some shingles on a roof or some planks in a boat will decay while those adjacent are perfectly sound. Just why this should be so is not understood but it seems probable that it is governed by the oil or resin con-



A DOORWAY AND PANELING OF CYPRESS WOOD.

tent of the wood. Cypress, having no resin ducts, is not resinous or pitchy like pine, but it does contain numerous resin cells and the wood is more or less permeated with a resinous compound having antiseptic properties and which imparts a characteristic waxy or soapy feel to the surface of planed lumber. The writer would expect to find the darker, colored specimens giving the longest service in exposed places, but data to substantiate this view is lacking.

Cypress heartwood is suitable for all parts of a building which are exposed to the weather or likely to remain moist. It makes excellent siding and shingles. One feature of a cypress roof that is sometimes considered quite important is that it does not impart taste to the water collected from it. When made into porch and portico columns it retains its shape, holds paint, and is strong enough for the purpose. It is also adapted for porch floors, steps, railings, cornice, gutters, outside blinds, sashes and doors. In the construction of greenhouses, where the conditions of heat and moisture test the

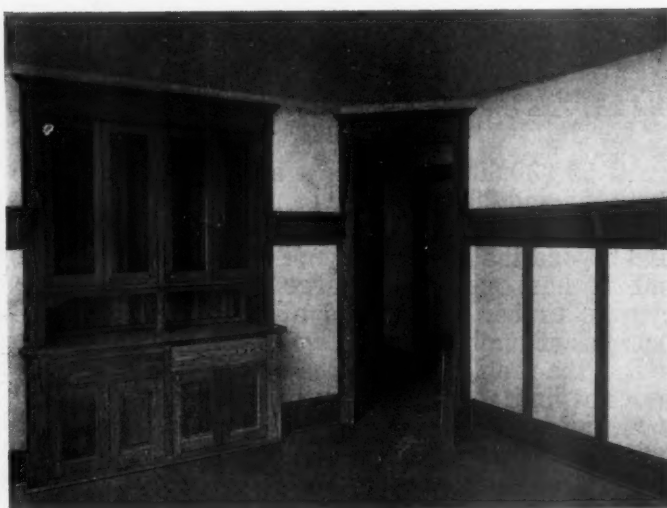
mettle of the best of woods, cypress is extensively and satisfactorily used.

But durability is not the only property that gives value to cypress. Associated with it are moderate strength, slight response to changes in humidity, pleasing grain and figure, and ability to take and retain stains, paints and varnishes. There are no pitch exudations to cause surface coatings to scale or discolor.

In weight and strength cypress is intermediate between the hard and the soft pines. The average weight per cubic foot of the wood when thoroughly air-dried is about 28 pounds, though varying between 22 and 37 pounds.

According to investigations of the U. S. Forest Service, the wood of trees growing in swamps with acid soil averages much heavier, as a rule, than that of the typical form growing along fresh, active streams. Experiments have clearly demonstrated that there is a close relation between the weight of the dry wood and the strength both in compression and in cross bending. Hence in choosing wood for strength the heavier the material

(Continued on Page 253)



AN INTERIOR WITH CYPRESS TRIM AND FINISH

THE AMERICAN ARCHITECT

THE AMERICAN ARCHITECT

Founded 1876

PUBLISHED EVERY WEDNESDAY BY

THE AMERICAN ARCHITECT (INC.)

No. 50 Union Square, New York
(Fourth Avenue and 17th Street)

G. E. SLY, PRESIDENT

E. J. ROSENCRANS, SECRETARY AND TREASURER

Address all communications to "THE AMERICAN
ARCHITECT"

SUBSCRIBERS' RATES

In the United States and Possessions (Porto Rico,
Hawaii, Philippine Islands and Canal Zone),
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TEN DOLLARS PER YEAR, POSTAGE PAID
ALL OTHER COUNTRIES . . . \$12.00 PER YEAR
SINGLE COPIES (Regular Issues), 25 CENTS

CHICAGO OFFICE, *Insurance Exchange*
Page A. Robinson, *Western Manager*

Entered at the Post-office, New York, as Second-class
Matter

VOL. CX OCTOBER 18, 1916 No. 2130

LICENSING BUILDERS

AS one result of the recent collapse of a tenement house during construction in the Bronx borough of New York, and the investigation which followed it, there will probably be a number of radical changes and additions made to existing regulations governing building operations in this city. During the course of this inquiry, which revealed overwhelming evidence of faulty construction, the builders as well as the owners admitted their inexperience. Further than this, it has been established that no competent person was employed to supervise the construction work. It is plain that under such conditions the disaster might have been expected, but there appears to be nothing to prevent the conditions being duplicated at any time. In fact, they probably are duplicated many times each year in this and other cities, and only by reason of good fortune have accidents been comparatively rare. That adequate protection is lacking under present laws, both to workmen employed in

the construction of buildings and to the public which is expected to occupy the premises after completion, is the inevitable conclusion. Defective workmanship or materials sometimes leads to the collapse of a building during construction, as in this instance, but in others the weakness is not sufficient to cause failure until the building is in use and receives its full load. In such cases the lives of the occupants are put in gravest danger.

Obviously, one remedy lies in establishing the competency of the builder before permitting him to undertake construction work, and the suggestion that builders be required to take out licenses after they have shown that they are properly qualified has much to commend it. But what would appear to be of even greater importance is a law requiring expert supervision of all building operations. Architects' license laws based on the theory of affording greater protection to the public are of little value so long as it is entirely possible for incompetent builders to undertake construction work in accordance with plans evolved by themselves or equally ignorant employees, without supervision of any kind except the rather perfunctory and generally inadequate attention given the work by municipal inspectors. Adopting measures to insure the preparation of plans and specifications providing for buildings of adequate strength is a necessary first step, but when that is done means should be devised to insure their being followed, and also the employment of proper methods in the execution of the work.

TRADEMARKED MATERIALS AND DEFINITE SPECIFICATIONS

THAT the definite specification now generally employed by architects and engineers who have given the subject intelligent study has encouraged the extension of the trademark to cover almost every class and character of building material and equipment is evident, or will become so to anyone upon very little investigation of the matter. The use of a trademarked name makes for brevity and convenience, and where

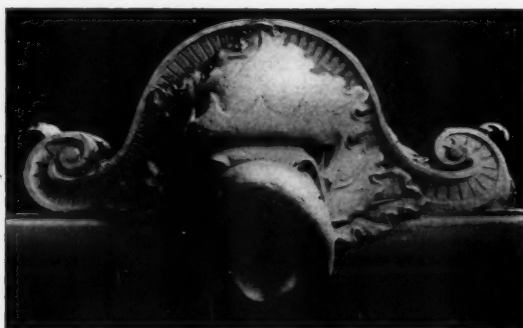
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sufficient attention has been given by the architect or his representative to the selection of the material or accessory that fulfills the requirement, no sacrifice of quality is invited or rendered possible when the trademarked name of the article desired is stated without any qualification or description. Reputable manufacturers are spending vast sums in advertising their products under trade names, and regardless of their honesty, their business sense alone impels them to use every possible means to uphold the quality of their goods.

Moreover, the adoption of the definite specification and the selection of trademarked building products does not in any way limit proper and legitimate competition. Where two or more articles meet the requirements both or all should be mentioned by name, and the bidder required to state the one upon which his bid is based. If properly followed, the definite specification does, however, prevent selection and substitution after contract is awarded, which practically always results in loss to the owner in one form or another. It also greatly simplifies the work of the specification writer. Where the definite specification is employed, it is the investigator, the man designated to determine between competing materials the one or more that most nearly meet his requirements, who is obliged to use the greatest amount of technical ability and patience. Further than that, he must

continually be on the alert examining and testing new products and new materials of every kind and nature proposed as substitutes for others with which he is perhaps already familiar. Not to examine them carefully would be to neglect the interests of clients who are depending upon the architect to adopt the best available under the existing conditions. After these examinations, tests and experiments have been made and the equipment and materials for a given purpose have been selected, the work of writing a specification becomes comparatively simple.

The modern method entirely reverses the plan which obtained a score of years ago in accordance with which the specification writer proceeded without investigation, simply calling for a material belonging to a general class, or something else equal. The older method, which in spite of every defense offered was in the majority of cases founded on ignorance or indolence, resulted in endless controversies, substitutions, and adjustments after contracts were let, when almost every change meant either loss in quality or additional expense to the owner. By means of the trademarked building material and definite specification this work is invariably done in advance of awarding contracts, and the possibility of subsequent changes is reduced to a minimum. The undeniable result is better building produced in shorter time at relatively less expense.



SOUTHERN CYPRESS

(Continued from Page 250)

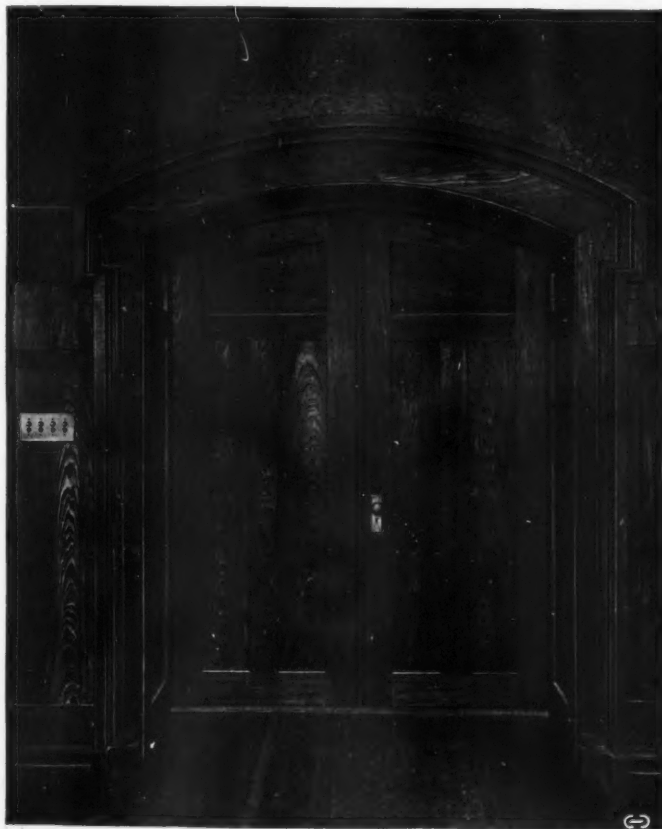
(other things being equal) the stronger it will be.

Comparative strength of different specimens can also be inferred from their appearance. Examination of the smoothly cut end of a piece of the wood shows numerous fine concentric rings, each of which represents the growth of

greatly thickened cell walls and is, of course, much heavier than the spring wood. The proportion of summer wood is thus a direct indication of the dry weight of the wood and, therefore, of the strength. The smaller the amount of summer wood the lighter, softer, weaker, and easier working the material. Cypress is as uniform in strength as any conifer and much more so than many.

The color of cypress exhibits a wide variation not only in different localities but also in different specimens from the same site. On the whole, however, wood from the Gulf and South Atlantic region averages the darkest and becomes correspondingly lighter northward along the Atlantic coast and up the Mississippi Valley. In this connection a recent report by a member of the U. S. Forest Service says: "The cypress of the deep St. Johns swamps, Florida, averages an amber or light orange-brown, and is referred to under the trade name of 'yellow' cypress. Nearby, in shallower isolated swamps of different soil and moisture conditions, the wood is decidedly darker, with a more pronounced grain when sawed. Along the lower Apalachicola River and in similar deep alluvial river plains, the prevailing orange-brown of the heartwood is occasionally varied to the deepest brown or chocolate color often streaked on a lighter background. This wood is very handsome in its color markings and mottling.

Much of the lumber from the lower Mississippi delta and other southern regions shows prominently the harder and darker colored bands of the heavier summer wood in each annual ring, and has come to be known commercially as 'red' cypress. * * * The wood from both of the northern regions is spoken of in the market as 'white cypress.' In logging, this term means that the wood floats high. Along the Atlantic coast 'black' cypress



CYPRESS DOORWAY IN ASSOCIATION OF COMMERCE,
NEW ORLEANS

one year. Upon closer examination each ring is seen to be composed of two portions. That originally nearer the center of the tree is softer, more open textured, and lighter colored than that forming the outer portion. The inner layer was formed early in the season and is known as the spring wood; the harder outer layer is known as the summer or autumn wood, as it was produced in the summer or early fall. The summer wood has

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refers more especially to distinctions in color rather than buoyancy, since in respect to weight dark wood is often not noticeably heavier than the lighter shades. The cause for variations in color cannot now be completely pointed out."

The alternating bands of spring and summer wood give to cypress a decided grain when flat-sawn. In many trees there is a marked irregularity or eccentricity of growth that produces remarkable figures of delicate and intricate design. The combination of grain and color renders cypress a desirable wood for interior trim, panels and doors. At least half of the high grade cypress manufactured is used for this purpose.

By proper staining, cypress woodworking can readily be made to harmonize with the furnishings of any room or rendered some neutral shade that will appear well under all conditions. Penetrating stains can be used to give an even tone to the wood without obliterating the grain or concealing the variations in the natural color. In this way richness of effect and quietness of tone may be secured which does not become tiresome or "get on one's nerves." Another method adaptable to cypress is to rub the stain soon after applying. In this way the stain penetrates only the softer spring wood and is removed from the flaky summer wood which in consequence appears in bolder relief. Cypress woodworking may also be painted or enameled if desired.

Cypress has proved very serviceable for use in kitchens where it is subjected to considerable dampness and heat. It shrinks, swells and warps very little and is used successfully for drainboards, sinks, kitchen and pantry tables, cupboards, kitchen cabinets, and floors.

Freshly cut cypress contains a large amount of moisture which renders drying slow. Kiln-drying the green lumber is likely to cause case-hardening, checking, and raised grain. In consequence nearly all cypress lumber is air-seasoned for 9 to 12 months or longer, which requires mills to carry extra large stocks and increases the cost. For doors and other high grade products the best results are obtained from lumber dried from 10 to 16 months, followed by kiln-drying. The manufacturers advise attention to the condition of dryness of the material for interior work as it has usually been stored out of doors and will be used indoors. The ideal condition would be to put the thoroughly air-seasoned material in a kiln long enough to take all moisture out of it and then allow it to lie awhile before working in order to regain a portion of its moisture. Thorough kiln-drying always reduces the tendency of wood to shrink and swell or "work" with fluctuations in the humidity of the air.

There is no wood universally best, and cypress has its limitations—in part intrinsic and in part economic. For girders, joists, rafters, braces, and interior floors there are usually other woods to be had that will serve better and cost no more and probably less. For interior finish and doors there are numerous good native woods, both conifers and hardwoods, available which makes choice largely a matter of taste and permits wide variety of selection. But for permanence under adverse conditions, southern cypress is one of the few woods upon which dependence can always be placed. Though the initial cost may be comparatively high, the reduced maintenance charges will usually fully justify it.

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Federal Parliament House, Canberra, Competition

The Australian Government announces the resumption of the Architectural Competition to select the Architect for the Parliament House in the new Capital City.

This Competition was opened in June, 1914, and suspended in September, 1914, owing to the war, but is now re-opened on the original conditions to all friendly countries (enemy subjects not being eligible), the date for receiving drawings being extended to January 31st, 1917, at London and Melbourne.

Programs can be obtained by application to the High Commissioner for Australia, 72 Victoria Street, Westminster, London, or to the Works' Departments respectively of the British Dominions, or to the British Embassies at Madrid, Paris, Rome, Petrograd, Stockholm or Washington, from which foreign offices, as well as the High Commissioner, supplemental texts in French or Esperanto may also be obtained when prepared.

Outline Sketch designs only are required.

Eight Prizes, aggregating £6,000 are offered, the first being £2,000.

An International Jury of the following Architects is asked to make the awards: George T. Poole of Australia, Sir John J. Burnet of Great Britain, Victor Laloux of France, Louis H. Sullivan of U. S. A., Eliel Saarinen of Russia.

England's Ban on Building

In some parts of our own country the war has had some depressing effect on building operations other than those involved in erecting new factories and warehouses, but these conditions here are due to hesitancy about building, while over in England there is an actual ban on building operations that makes it hard for the makers of building brick and other building material. A part of the propaganda to confine the expenditure of effort and money to things absolutely necessary puts restrictions on building operations, so

that a man virtually has to get special permission before he can build a house or anything else. It is figured, too, that building operations will not be resumed with activity in England itself immediately after the close of the war, but that the materials will all be required in rebuilding the countries that have been devastated. This should really mean an era of prosperity in building material extending over several years after the war ends; but for the time being the government over there has added to the natural depression in the building trade by putting a restriction on this work, so that metal and other material may be available for war needs.—*Clay Worker*.

Pittsburgh Chapter A. I. A.

At the annual meeting and banquet of the Pittsburgh Architectural Club held in the Fort Pitt Hotel the following officers were elected: President, Herbert M. McCullough; Vice-President, Leo A. McMullin; Director, Joseph L. Neal.

The eleventh exhibit of the club will be held in December, at the Carnegie Art Gallery, according to plans formulated at this meeting. The exhibition will consist mainly of the school buildings of Pittsburgh supplemented by those of other large educational centers.

Personal

Mr. James S. Shattuck, formerly of the firm of Shattuck & Gleason, architects, 61 Columbia Street, Albany, N. Y., has purchased the interests of his partner, Mr. Thomas J. Gleason, and will continue the practice of his profession at the address given above.

Charles Peter Weeks, architect, and W. P. Day, consulting engineer, announce the new firm of Weeks & Day, for the practice of architecture and engineering, with offices located after the 1st of October at 933 Phelan Building, 760 Market Street, San Francisco.

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INDUSTRIAL INFORMATION

Hydro-Stone

Hydro-Stone Company, Insurance Exchange Building, Chicago, Ill., has issued a book descriptive of its product, which it terms the aristocrat of building units. Hydro-Stone, it appears, is a building unit made of properly proportioned aggregate, consisting of gravel or crushed stone, sand and Portland cement, with sufficient water to crystallize it thoroughly. It is stated that in the making each unit is subjected to 150,000 lb. pressure, which results in a product that has a smaller percentage of absorption than any other building material. This pressure, it is claimed, forces the moisture to the surface at all points and compacts the aggregates so closely that a perfect bond is insured.

Hydro-Stone is hardened in wet live steam on the theory that this method causes all the moisture to be retained until thorough crystallization has taken place. The result, it is stated, is a hard, dense concrete unit with sharp, keen edges. Hydro-Stone is produced in practically any sized or shaped units desired, and various color schemes are possible.

A number of these printed in colors are shown. The book also contains halftone cuts of buildings belonging to all types and classes in which, it appears, Hydro-Stone has been used as an important material of construction. Letters from architects of prominence are printed, expressing satisfaction with the results obtained under various conditions of use. Copy of this book or any desired information concerning the material will be furnished upon request.

Powell's Buffet

Powell's Built-In Furniture Company, 175 West Jackson Boulevard, Chicago, Ill., has issued a folder illustrating Powell's Buffet Kitchen. This is designed for one, two or three-room apartments, and can be put in a recess or closet 18 inches deep, 7 feet wide and 7 feet high,

opening into either the living room or dining room. Each compartment is ventilated by connection with a flue in the wall. With the buffet is furnished a steel cabinet, refrigerator, electric stove, sliding work tables, metal bins, metal drawer for cutlery, jars for coffee, tea and condiments, drain shelf and vent.

As a space saver it would seem that this buffet kitchen had much to recommend it. Copy of the folder will be furnished architects and builders upon request.

Hy-Tex Brick

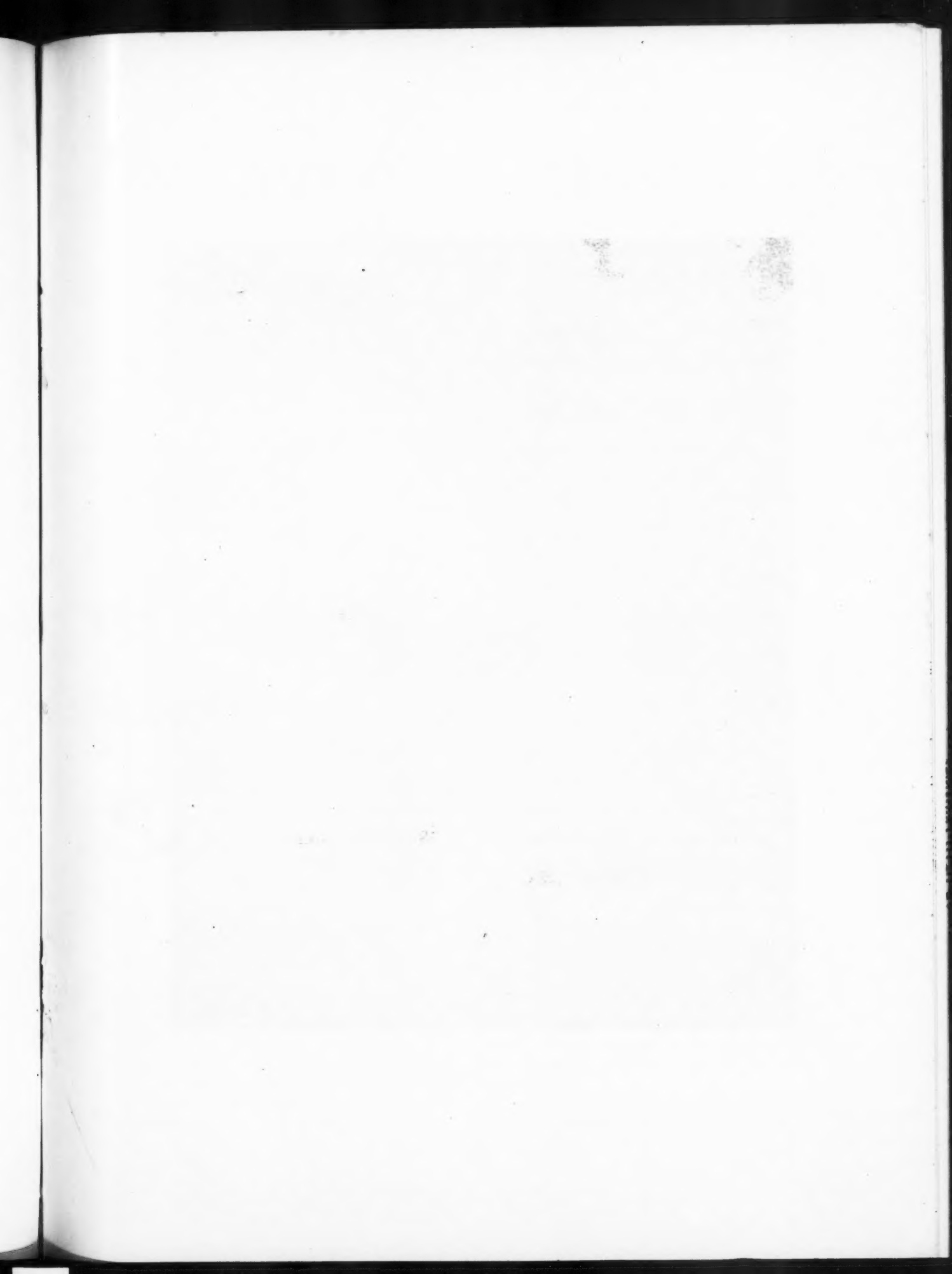
The Hydraulic-Press Brick Company, Central National Bank Building, St. Louis, Mo., has recently issued an exceedingly attractive brochure on the subject of Hy-Tex Brick. The various arguments in favor of the use of this material are set forth in this booklet and include such considerations as beauty, durability, fire safety, comfort, health and economy. The work is illustrated with cuts of a large number of exceptionally well selected residences designed by leading architects. The reproductions are in colors and constitute an excellent example of high class printing. On the cover is mounted an unusually attractive illustration printed in colors which faithfully reproduces a water color sketch of a brick wall and portico.

Copy of this brochure may be had by architects upon request.

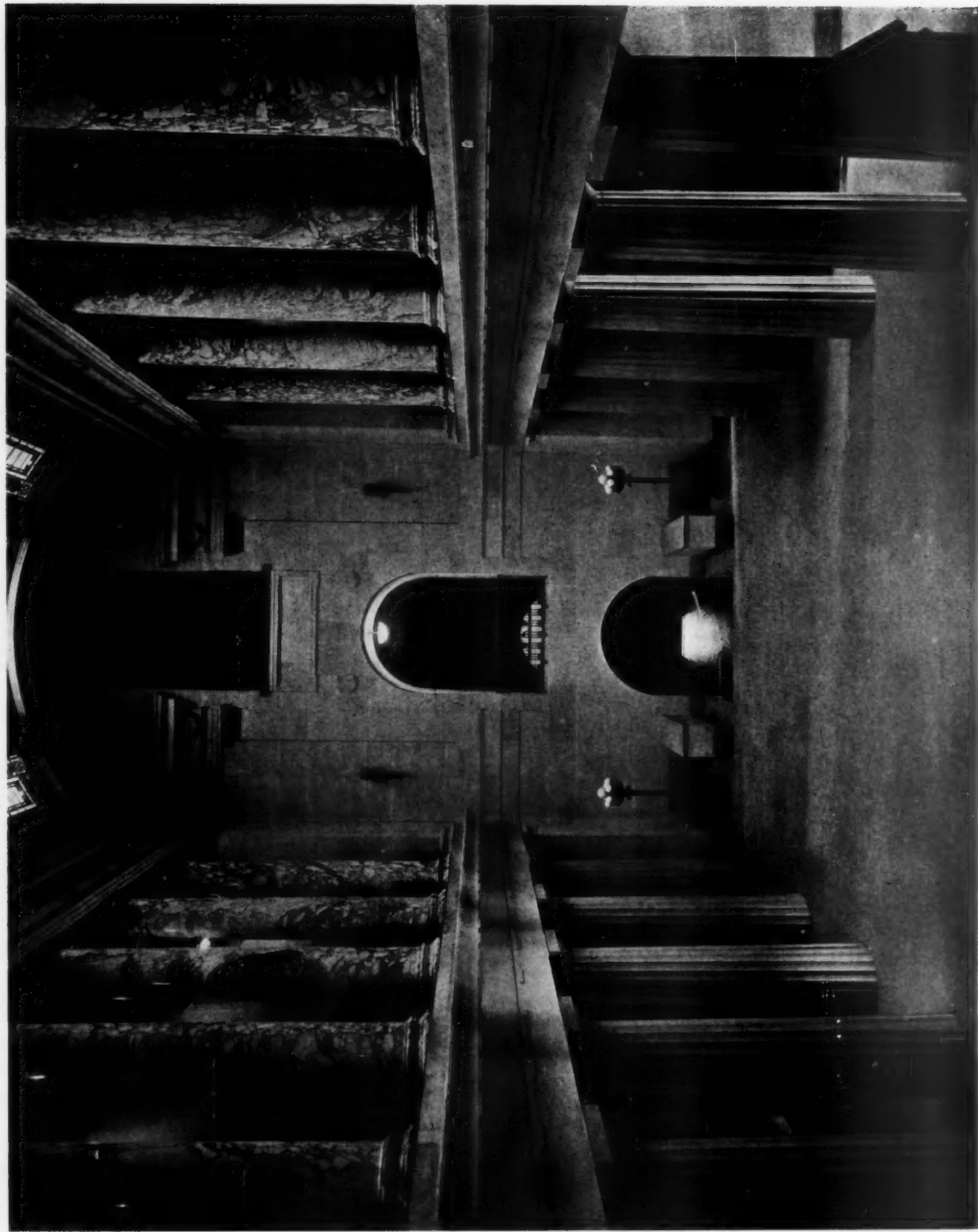
Electric Elevators

A. B. See Electric Elevator Company, 220 Broadway, New York City, has issued an attractive catalog of A. B. See electric elevator equipment. It is stated that this company was established in 1883 and now maintains offices in the principal cities of this country. Each type of elevator illustrated carries a few words of text, explaining the type and service to which it is adapted.

Copy of catalog will be furnished to architects upon request.



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