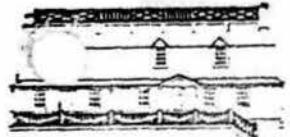


MARYLAND
HISTORICAL



TRUST

William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

INDIVIDUAL PROPERTY/DISTRICT
MARYLAND HISTORICAL TRUST
INTERNAL NR-ELIGIBILITY REVIEW FORM

Property/District Name: Penn Street Post Plant Survey Number: B-1053

Project: Demolition 700-726 N Pratt Street Agency: Uof MD, Baltimore Campus

Site visit by MHT Staff: no yes Name: Beth Harrold
Jo Ellen Freese Date: 10/24/91

Eligibility recommended: Eligibility not recommended:

Criteria: A B C D Considerations: A B C D E F G None

Justification for decision: (Use continuation sheet if necessary and attach map)

See attached

Documentation on the property/district is presented in: Maryland Historic Sites Inventory
form #1053

Prepared by: Trueries

Elizabeth Harrold

11/6/91

Office of Preservation Services

Date

NR program concurrence: yes no not applicable

R. Anderson

@ Nov 91

Date

gms

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA - HISTORIC CONTEXT

I. Geographic Region:

- Eastern Shore (all Eastern Shore counties, and Cecil)
 Western Shore (Anne Arundel, Calvert, Charles, Prince George's and St. Mary's)
 Piedmont (Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery)
 Western Maryland (Alleghany, Garrett and Washington)

II. Chronological/Developmental Periods:

- Paleo-Indian 10000-7500 B.C.
 Early Archaic 7500-6000 B.C.
 Middle Archaic 6000-4000 B.C.
 Late Archaic 4000-2000 B.C.
 Early Woodland 2000-500 B.C.
 Middle Woodland 500 B.C. - A.D. 900
 Late Woodland/Archaic A.D. 900-1600
 Contact and Settlement A.D. 1570-1750
 Rural Agrarian Intensification A.D. 1680-1815
 Agricultural-Industrial Transition A.D. 1815-1870
 Industrial/Urban Dominance A.D. 1870-1930
 Modern Period A.D. 1930-Present
 Unknown Period (prehistoric historic)

III. Prehistoric Period Themes:

- Subsistence
 Settlement
 Political
 Demographic
 Religion
 Technology
 Environmental Adaption

IV. Historic Period Themes:

- Agriculture
 Architecture, Landscape Architecture, and Community Planning
 Economic (Commercial and Industrial)
 Government/Law
 Military
 Religion
 Social/Educational/Cultural
 Transportation

V. Resource Type:

Category: BuildingHistoric Environment: UrbanHistoric Function(s) and Use(s): PowerplantKnown Design Source: J. Winthrop Wolcott

The Penn Street Sub-station consists of two connected buildings constructed in three stages. The earliest section dates to circa 1888 - 1896. Before the electrical plant was erected on the site, the property was a granite and slate yard. Two small buildings located at the northeast and southeast corners of the property appear to be the only structures remaining from this period.

The Penn Street Sub-station is an integral part of the history of electrical power in Baltimore. It is one of the earliest electrical powerhouses in Baltimore, and may in fact be the first. The westernmost structure was constructed circa 1888 - 1896 for the Maryland Electric Company for the generation and distribution of electrical power. The Penn Street Sub-station was the primary power source for the western districts of the city, including the nearby industrial sector. In addition, it supplied power for street lighting throughout the city and county. Increased demand for electricity resulted in changes to the equipment and expansions in 1923 and 1926. The eastern portions of the building and a rear addition were added at this time.

The Penn Street Sub-station reflects the growing influence of architects on industrial design and contrasts with the plain, utilitarian appearance of many industrial 19th century structures. Essentially large, open boxes to hold machinery, all architectural detail is focused on the Pratt Street facade. While the designer of the earliest section is unknown, the Romanesque style building presents an imposing facade to the street. It consists of two bays with tall arched windows flanking a projecting central entrance bay with decorative brickwork panels and corbeled arches in the upper story. The classically detailed later addition was designed by J. Winthrop Wolcott. The three-bay structure utilizes many of the design features of the original structure, including a central arched entrance flanked by large arched windows.

Of the two small buildings, presumably associated with the earlier stoneyard, the building located at the southeast corner is particularly interesting. From the exterior it suggests a stable, while the finished interior suggests use as an office. The tiny rectangular brick structure has a prominent clipped gable roof. The roof is of slate and the windows and doors are trimmed in stone.

Although the power station buildings retain little equipment, the exteriors remain basically unchanged from the 1920s and are in good condition. The imposing Pratt Street facades still convey a sense of the facility's importance to the late 19th- and early 20th-century city and serve as important reminders of history of power generation in Baltimore.

Survey No. B-1053

Magi No. 0410535616

DOE yes no

Maryland Historical Trust State Historic Sites Inventory Form

1. Name (indicate preferred name)

historic Penn Street Sub-Station

and/or common Baltimore Gas and Electric Substation

2. Location

street & number 700-726 W. Pratt Street not for publication

city, town Baltimore vicinity of congressional district

state Maryland county city

3. Classification

Category	Ownership	Status	Present Use	
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input checked="" type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial	<input type="checkbox"/> park
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational	<input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment	<input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input checked="" type="checkbox"/> industrial	<input type="checkbox"/> transportation
	<input type="checkbox"/> not applicable	<input type="checkbox"/> no	<input type="checkbox"/> military	<input type="checkbox"/> other:

4. Owner of Property (give names and mailing addresses of all owners)

name

street & number telephone no.:

city, town state and zip code

5. Location of Legal Description

courthouse, registry of deeds, etc. Baltimore City Courthouse liber

street & number Calvert and Fayette Streets folio

city, town Baltimore state Maryland

6. Representation in Existing Historical Surveys

title

date federal state county local

depository for survey records

7. Description

Survey No. B-1053

Condition		Check one	Check one
<input checked="" type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved date of move _____
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Prepare both a summary paragraph and a general description of the resource and its various elements as it exists today.

SUMMARY

The BG&E Substation (Figure 1) is a late 19th century/early 20th century industrial structure which was constructed in several stages.

Located on a traditionally industrial site on W. Pratt Street, the original BG&E building dates to approximately 1888-1896. It is the westernmost of the two attached buildings which make up the present complex. Built to house electrical equipment, its interior is a large cavernous space. In the 1920s additions were made by architect J. Winthrop Wolcott to the rear and east of the building, greatly enlarging the size of the structure. (Dates of the various additions are clarified by Figure 7 and the "Significance" section of this inventory.)

The Original Structure

The original Penn Street Sub-station building is a late 19th/early 20th century structure which appears today much as it did in early photographs. The two-story, three-bay structure displays a decorative brick facade in a Romanesque commercial style. Round-arched entrances and fenestration, blind arcading, and decorative brickwork are all integral elements of the symmetrical facade composition.

The central bay projects slightly, and holds a large, recessed, round-arched door at the ground floor. The door consists of two glazed and paneled units which slide on rollers to open.¹ Directly above the doorway are four, narrow, round-arched, inoperable windows which, according to historic photographs, appear to be unaltered. Flanking the central doorway are two, recessed, tall and narrow round-arched openings. The easternmost opening is a door while the others are all nine-over-nine, double-hung windows. Above the door is a nine-paned window which is level with the upper portion of the other windows. Although there has historically been a door in this location, the door in place today does not appear to be original.

A brick beltcourse runs the length of the building, joining the windows and doors of the side bays at the springline of their arches.

The second story features a corbelled blind arcade articulated with white terra cotta bands at the springline of the arches. This blind arcade incorporates the arches of four, narrow, round-arched windows in the central

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bay. Other design elements include diapered panels in the side bays, and three broad recessed panels below the cornice line. Above the blind arcade is a parapet wall which conceals a glass skylight behind it. The central bay is stepped higher than the side bays and has a box cornice with white terra cotta trim.

Because this is an industrial building, the simple interior of the building lacks ornamentation. The machine room has been cleared of its original generating equipment and stands empty today. A stair along the west wall of the room leads to a bridge which extends the length of the building. The bridge gives access to a door on the east wall which opens into the 1923 addition. According to plant reports, this bridge was installed in 1916. The ceiling is supported by a steel truss system. (See Figure 3.) A monitor skylight runs north to south down the center of the building and is supported by the same truss system. This system appears to be the same as seen in photographs dating from the 1910s and could be original to the building. The floor is concrete slab. There is a full basement with vaulted ceilings.

1923 and 1926 Additions

The 1923 machine room addition (Figure 9) to the east of the original structure is classical in design, yet utilizes many of the design features of the original structure to create a compatible addition. (The original intention of the architect was to incorporate the old building under a new facade to create the appearance that the old building was a contemporary wing of the new. This plan was never implemented.)

The 1923 addition is three bays wide. Each bay has large, round-arched openings of equal size. The central bay holds a double door, while the side two have windows. The door is glazed, and slides to open. The arched portion of the doorway and windows contain double fanlights. Ornamental features of the building include rusticated brickwork below the stone beltcourse, heavy stone quoining above the beltcourse, and a second wider stone beltcourse below a heavy stone cornice.

Because the small 1926 addition (the easternmost bay of the entire structure) was part of the same design scheme as the 1923 addition, it does not appear to have been built at a later date. It is smaller and simpler in design than the 1923 addition. It has no door, but features instead a group of three tall, rectangular narrow windows on the ground floor. The brick rustication, the two beltcourses and the cornice are all continued onto this addition. The wall surface is otherwise blank.

On the interior, the 1923 and 1926 additions are simple two-story spaces, naturally lighted by large windows and a monitor skylight in the machine room extension. All original machinery has been removed from this room and it stands empty. Rear additions to the original machine room are used to house a combination of working and obsolete equipment.

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Description of Other Small Structures on the Site

Two additional small brick buildings sit at the southeast and northeast corners of the BG&E property. The first (Figure 4), directly east of the BG&E Substation structure, features a clipped gable roof, simple fenestration with flat-arched stone lintels and stone sills, and a large square opening set high into the gable end. The second structure (Figure 5) is a small brick cube distinguished only by a shallow dentilled parapet on its east face.

FOOTNOTES

¹ Early photographic views indicate that the doors themselves were not as tall at one time. A c.1923 view (Figure 6) indicates that the upper half of the arched doorway was glazed with five vertical rows of panes reaching from a brick stringcourse to the top of the arch, with the operable door appearing to begin below the level of this stringcourse. Today, the operable door is taller and the glazed portion is smaller. The overall appearance of the door is not significantly altered, however, because there are still five rows of panes--three supported by a brace above the door and two incorporated into the paneled doors.

8. Significance

Survey No. B-1053

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates c. 1888-96; 1920s ^{additions} Builder/Architect unknown; J. Winthrop Wolcott (additions)

check: Applicable Criteria: A B C D

and/or

Applicable Exception: A B C D E F G

Level of Significance: national state local

Prepare both a summary paragraph of significance and a general statement of history and support.

SUMMARY

The BG&E Substation at 700-726 West Pratt Street, historically known as the Penn Street Sub-station, has provided electricity to West Baltimore for over ninety years. It is one of the earliest electrical powerhouses in Baltimore. Further research may prove that it was actually the first source of electricity in the city. The site has clear importance to Baltimore's industrial history, not only as a power station, but also for its earlier history. Before the electrical plant was erected on the site, the property was a granite and slate yard.

History and Support

The history of gas and electric power in Baltimore dates to the 19th century. In 1816 the Baltimore City Council passed an ordinance which allowed franchises to lay gas mains and to supply gas to the city. Baltimore thereby became the first city in this country to have gas power. In fact it was among the first cities in the world.¹ The first electric company in the city was incorporated in 1881. Over the years, the administration of the generation and distribution of gas and electricity in Baltimore was consolidated into a single company. Its control has changed hands several times.

The BG&E Substation at 700-726 West Pratt Street is an integral part of the history of gas and electrical power in Baltimore. The current substation consists of two connected buildings which were built at three intervals.

The westernmost building¹ is the oldest of the two structures. (See Figure 6.) However, there are no sources which precisely date the building. In an article on the Edison Electric Company in Baltimore, Gateway to the South, The Liverpool of America, reference is made to the fact that the Maryland Electric Company became an active business concern in 1888. (It was succeeded by the Edison Light Company in 1896.) The Maryland Electric Company's power house and

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station, located at 700 W. Pratt Street (the site of the extant older building), generated and distributed electrical power to the city. Inference from this article can be made which narrows the date of construction of the power house down to a period between 1888, when the company was founded, and 1896, when a building first appears on this site on a city map. There are no city maps with buildings indicated on them between 1888 and 1896. It is also possible that the building predates the Maryland Electric Company since electricity was introduced to Baltimore in 1881. Other evidence suggests, however, that the structure mentioned in the above article may not necessarily be the extant one. Plant reports made by Consolidated Gas Electric Light and Power Company of Baltimore, a predecessor of BG&E, contain information which can be interpreted in two ways. In a 1936 report, reference is made to a 1910 inventory which lists the substation building and its value. It is unclear if the inventory is referring to an extant building and is just dated 1910 itself, or if it refers to a 1910 date of construction. Stylistically, the building could date from either the late 19th or early 20th century.

According to a leaflet, Consolidated Gas Electric Light and Power Company of Baltimore, Its Properties and Plants (which dates to approximately 1911-1914 according to the BG&E librarian), the western districts of the city were supplied with electricity chiefly from this substation. It contained motor generator sets, static transformers, and rotary converters. This apparatus also supplied power for street lighting throughout the city and county.

By the 1920s, a rapid increase in demand for electrical power required the expansion of the Penn Street substation. New and more modern equipment was installed in the plant, and more space was added. Plans for an expansion are detailed in an article in The Baltimore Gas and Electric News (February 1923), the company's monthly newsletter. (See Attachment A.) According to the article, the switchboard room to the rear of the original building was extended in 1922 and a machine room extension was under construction east of the original structure, fronting on Pratt Street. (See Figure 7.) The article gives lengthy architectural descriptions, photographs, and plans and elevations drawn by the architect, J. Winthrop Wolcott. The plans call for placing a new facade on the original building to create a unified design image with the addition. (See Figure 8.) The 1923 machine room extension was planned as the central bay of the structure and a wing to match the new facade of the original building was to extend to the corner of Pratt and Penn Streets. The expansion plan was implemented in stages, but never completed. A photograph of the Pratt Street extension shows completion of the initial phase: a compact brick building with white stone trim. (See Figure 9.) Specific information about the type of equipment installed in the new Machine Room is described in detail in the September 1923 issue of Baltimore Gas and Electric News. (See Attachment B.) Names of the contractors who provided materials and labor for the erection of the building are listed in plant reports of the Consolidated Gas Electric Light and Power Company.

A September 1926 issue of Baltimore Gas and Electric News includes an article, "Penn Street Sub-Station Extension." (See Attachment C.) The article

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describes the 1923 architectural plans for the substation, shows again the 1923 rendering (Figure 8) and provides a photograph showing the latest addition described as "one more step toward this ultimate development." (See Figure 10.) A lengthy architectural description is included as well. Only the westernmost bay of the east wing and a large rear addition (a rectifier room) were built (as shown in the 1926 photograph and 1923 floor plan). The rest of the scheme, including placing a new facade on the original building, was never completed.

Perhaps because the eastern wing of the substation was never built, evidence of earlier industry is still on the site today. This is in the form of two small buildings which sit directly on the two eastern corners of the BG&E lot. Buildings of slightly similar proportions appear on the same site on the 1869 Sachse bird's-eye view of the city--as part of a site identified as a lumberyard. (See Figure 6.) According to the 1879 Sanborn Insurance map of Baltimore, this same general site was later the M. Gault and Son Granite and Slate Yard. Stylistically, it is possible that the extant buildings do date to the middle of the 19th century; however, not enough information has surfaced to date to determine their exact date of construction or use.

Recommendations

The BG&E Substation (Penn Street Sub-station) is a likely candidate for nomination to the National Register of Historic Places. It carries a strong potential significance for its association with the history of gas and electric power in Baltimore, a city which was evidently the first in this country to have gas power, and perhaps one of the first in the world.¹ The structure's potential significance is further tied to the city's commercial history through the Baltimore Gas & Electric Company (and its predecessors) and its role in the expansion of electricity in Baltimore.

However, before any nomination can be undertaken a number of unanswered questions must be resolved. Additional research is imperative to clarify certain issues and establish an adequate context for such a nomination. First, the history of both gas and electric power (both nationally and internationally) should be investigated to establish more clearly BG&E's place in its development. Secondly, further research is required to answer questions about the architecture of the BG&E buildings themselves. (Are they in keeping stylistically to other substations? Was there an architectural style commonly used for substations? Are the structures themselves significant stripped of their original equipment?) An attempt should be made to date the structures more exactly. Finally, due to the long history of the site, further research is recommended to determine its earlier industrial significance both as a granite/slate yard and a lumber yard, as well as as an electrical power station.

This final research into the industrial history of the site would help determine the potential significance of the small earlier structures on the

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property which appear to be remnants of earlier industry. (In addition, if these structures have been used by BG&E for a period of 50 years or longer that fact makes it more likely that they should be incorporated into an overall nomination for the Substation.)

#3 → Certainly, until the issues of a National Register nomination are resolved the buildings should be retained. Then, no matter what the outcome of the nomination, they are intact structures in good condition which have an integrity that it is desirable to protect *if economically feasible.*

FOOTNOTES

¹ Consolidated Gas Electric Light and Power Company of Baltimore. American Gas Centenary, 1816-1916. Baltimore: 1916.

BIBLIOGRAPHY

Baltimore Association of Commerce. The Century Honor Roll of Baltimore Business. Baltimore: 1940.

Baltimore Gas and Electric Company. "Company Observes Its 140th Anniversary." Baltimore: 1956.

Consolidated Gas Electric Light and Power Company of Baltimore. Consolidated Gas Electric Light and Power Company of Baltimore, Its Properties and Plants. Baltimore: c.1911-1914.

_____. American Gas Centenary, 1816-1916. Baltimore: 1916.

King, Thomson. Consolidated Of Baltimore, 1816-1950. Baltimore: Consolidated Gas Electric Light and Power Company of Baltimore, 1950.

Maryland Mercantile Company. Baltimore, Gateway to the South, the Liverpool of America. Baltimore: 1898.

Sachse, E. & Co. Birds'-Eye View of the City of Baltimore. Baltimore: 1869.

Tobias, A. "Penn Street Additions," Baltimore Gas and Electric News, September 1923.

Wolfe, T.R. "Penn St. Extensions," Baltimore Gas and Electric News, February 1923.

_____. "Penn Street Sub-Station Extension," Baltimore Gas and Electric News, September 1926.

ARCHIVAL RESOURCES

Baltimore Gas and Electric Company, Library. Miscellaneous and unmarked files.

Commission for Historical and Architectural Preservation. Vertical files.

Consolidated Gas Electric Light and Power Company of Baltimore. Miscellaneous plant reports.

Enoch Pratt Free Library, Maryland Room. Vertical, map and photographic files; books.

B-1053

Library of Congress, Maps and Geography Division.

Maryland Historical Society. Prints and Photographs Division.

Peale Museum. Prints and Photographs Collection.



FIGURE 1

TO: 115 Feb



PHOTO: William Lebovich

FIGURE 2

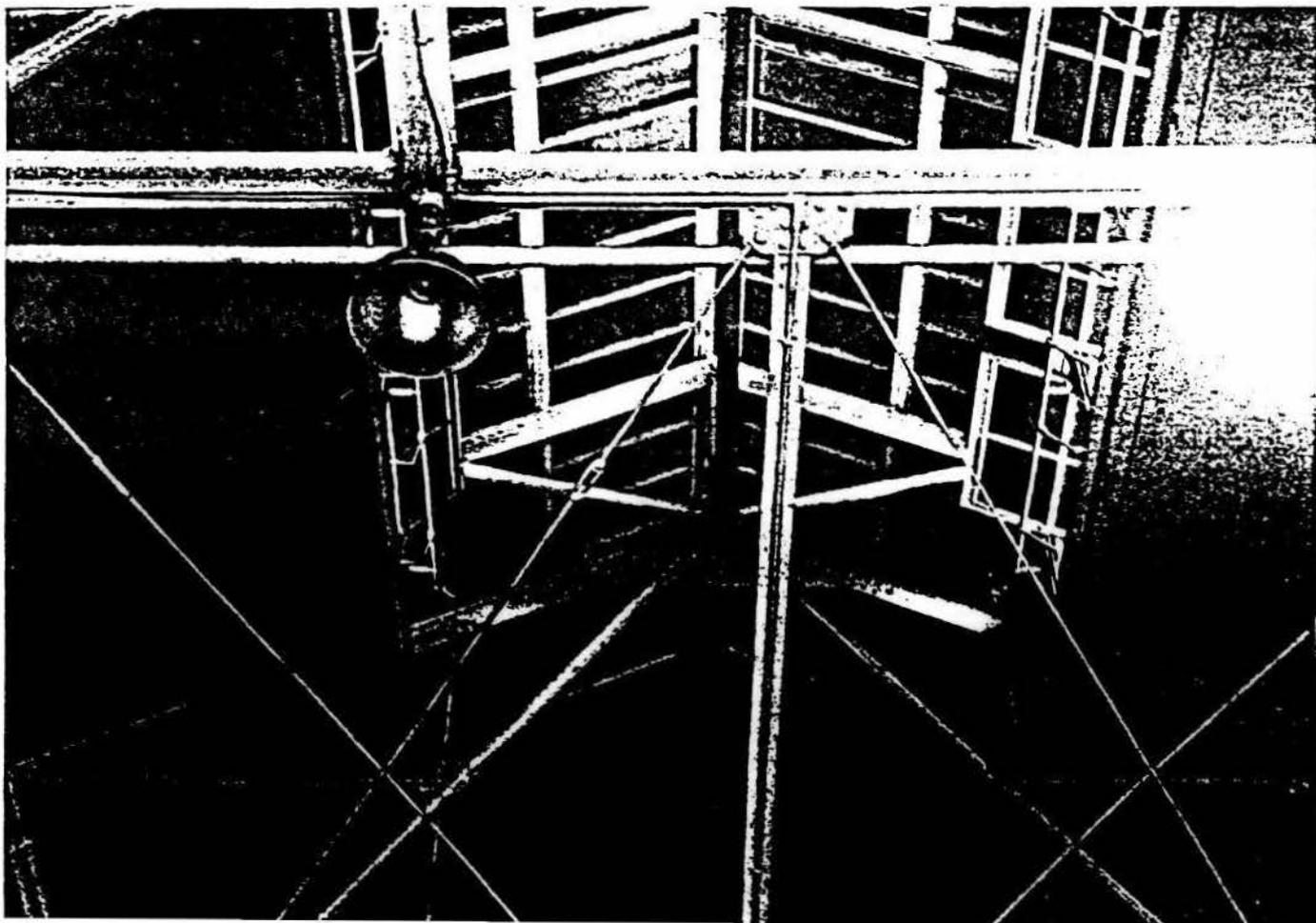


PHOTO: William Lebovich



PHOTO: William Lebovich

FIGURE 4



PHOTO: William Lebovich

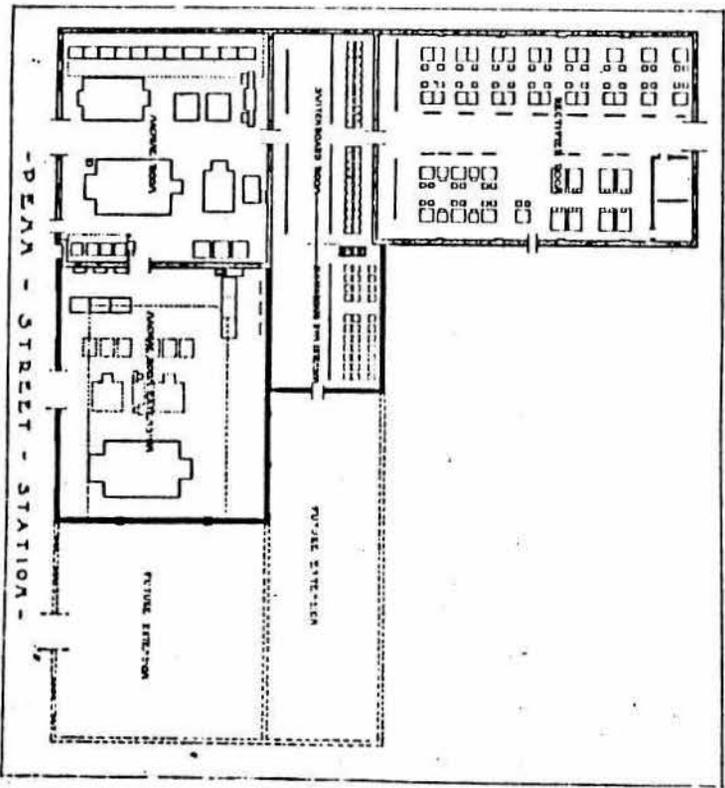


FIGURE 7

From: The Baltimore Gas and Electric News,
February 1923.

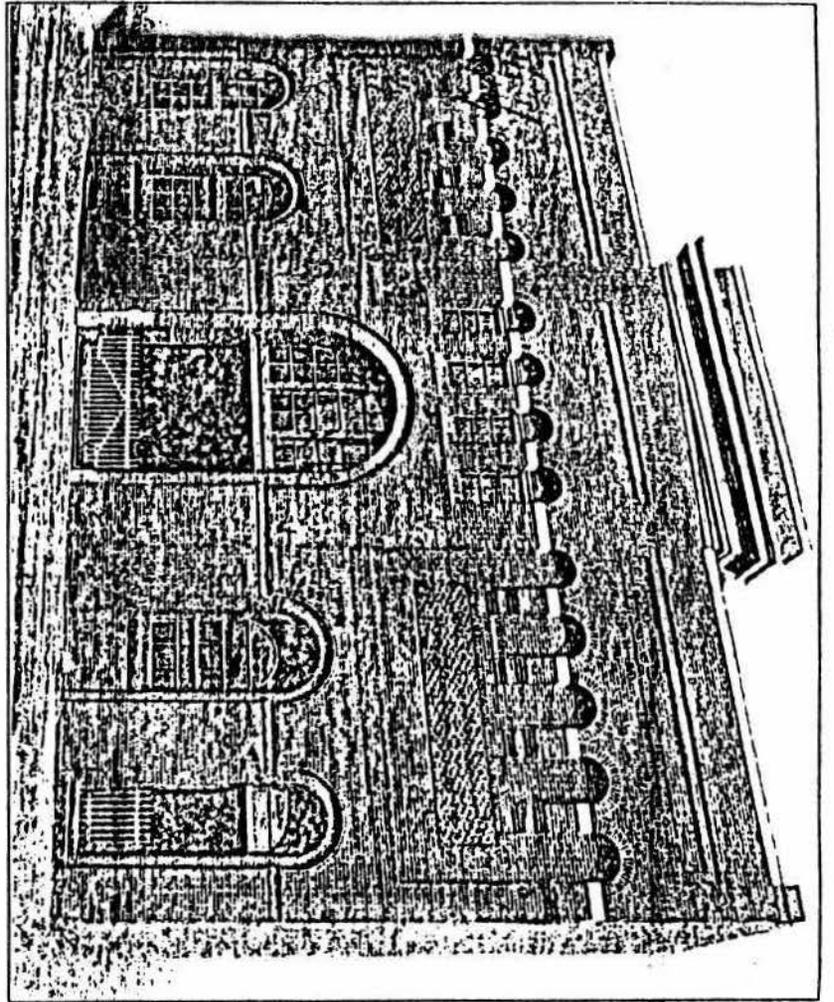
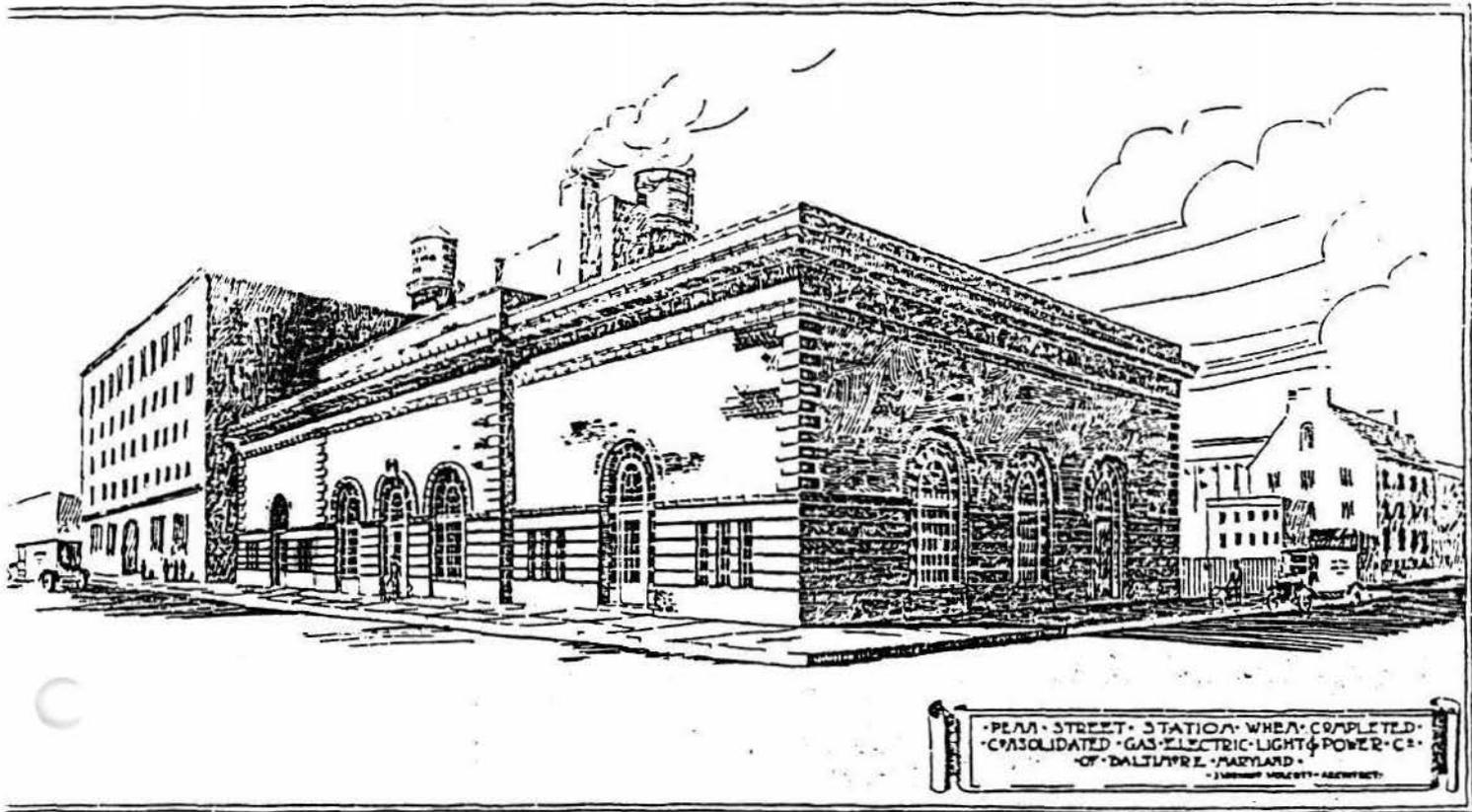


FIGURE 6

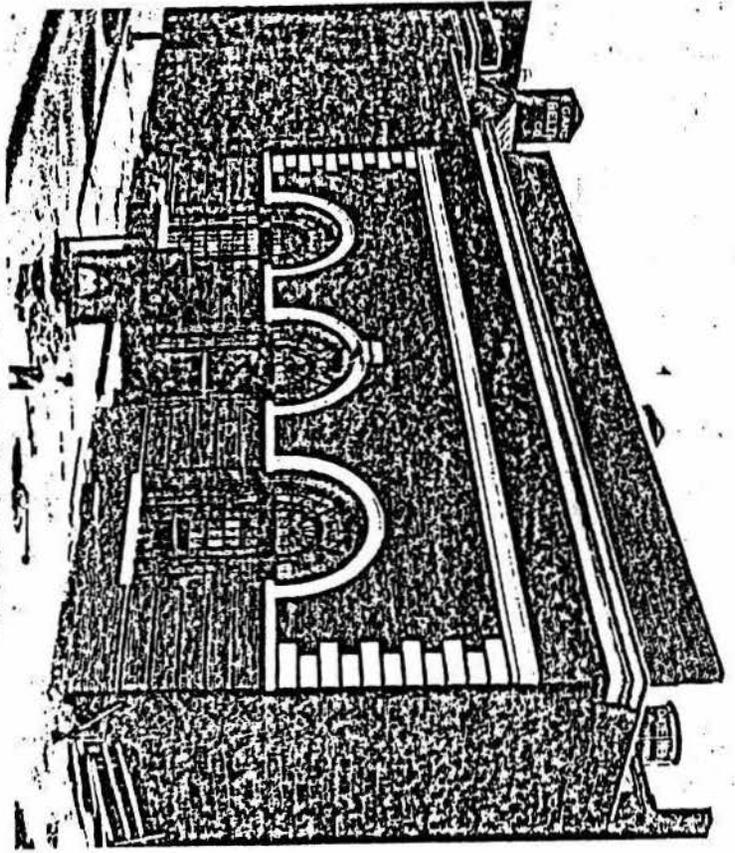
From: Consolidated Gas Electric Light and Power
Company of Baltimore; Its Properties and
Plants



From: The Baltimore Gas and Electric News, September 1923

AS THE PENN STREET STATION WILL APPEAR WHEN COMPLETED

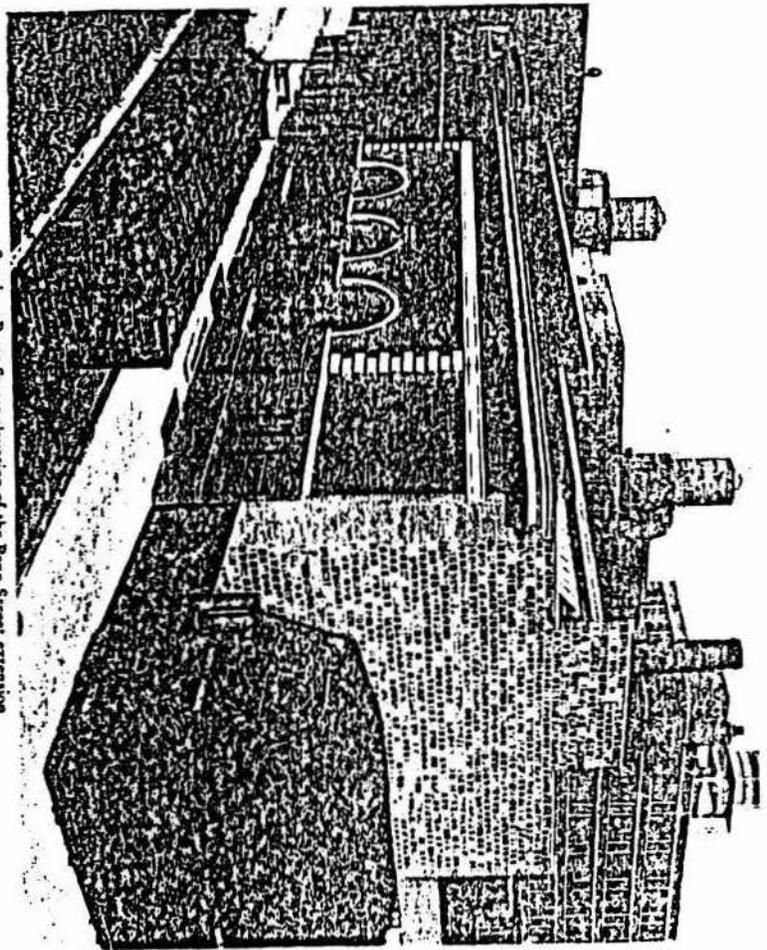
FIGURE 8



Extension to Machine Room, Penn Street Sub-Station

FIGURE 9

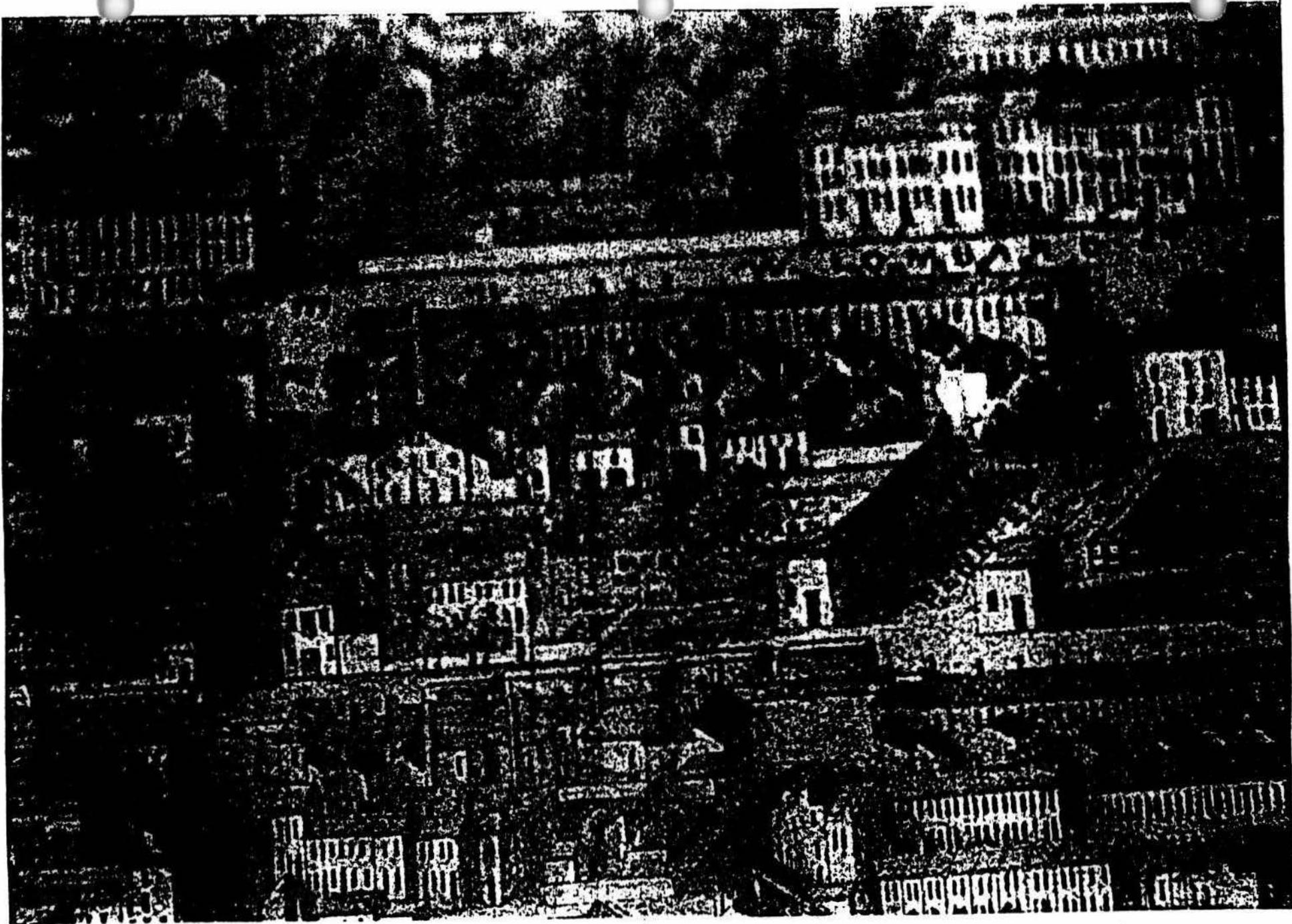
From: The Baltimore Gas and Electric News,
September 1926



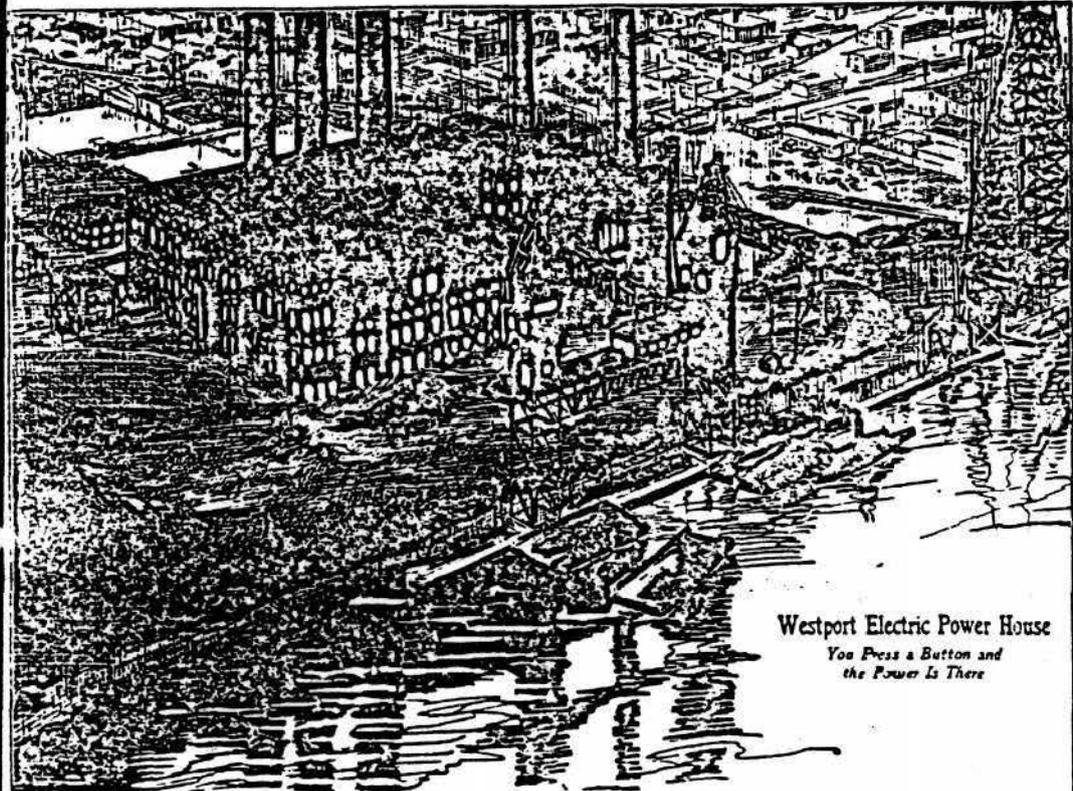
South or Pratt Street elevation of the Penn Street extension

FIGURE 10

From: The Baltimore Gas and Electric News



From: Sachse Bird's-Eye View of Baltimore, 1869



Westport Electric Power House
*You Press a Button and
the Power Is There*

THE BALTIMORE GAS AND ELECTRIC NEWS

FEBRUARY · 1923

CONSOLIDATED GAS ELECTRIC LIGHT AND POWER COMPANY

Penn St. Extensions

*Switchboard Room Completed
Machine Room Addition Ready in Spring*

By T. R. WOLFE, Electric Operating Department

THE Company's electrical output is growing by leaps and bounds, and to meet these increased demands for electrical energy it is necessary to plan, build, equip and have ready sufficient capacity at our various stations when the demands are made. With this idea in mind, extensions to Penn Street sub-station were started in 1922. The switchboard room extension has been completed, the machine room extension is now under way and will be ready for equipment in the spring of 1923.

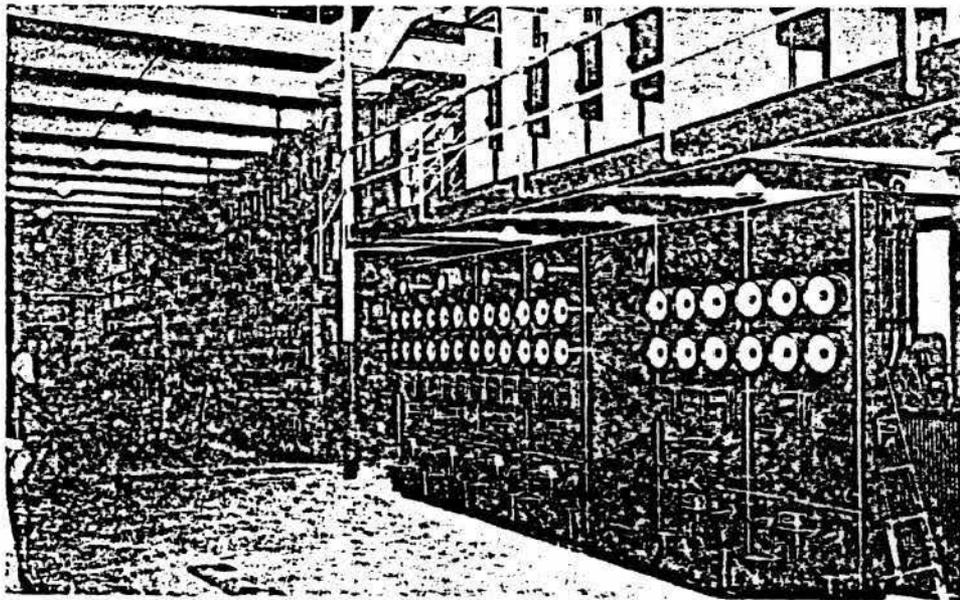
Completed Switchboard Room

The extension to the switchboard room was started in May and was completed ready for service in October, 1922. The old switchboard room was extended to the east approximately thirty-nine feet and two concrete and steel galleries were constructed along the north wall. The main or ground

floor is to be used for switchboard and operating room, while the galleries will provide space for the extension to 4,000 volt buses and electrical equipment.

Machine Room

This extension will consist of a single story brick building fronting on Pratt Street, to the east of the present machine room. The building will be 57 ft. 10 in. by 69 ft. 7 $\frac{3}{4}$ in., and 45 ft. from the ground level to the top of the parapet wall. Below the ground level there will be a cable vault along the north side of the building, another along the west side, and an air vault along the south side. The cable vaults provide space for the duct lines, in which will be placed incoming cables supplying the sub-station with high tension energy and outgoing cables supplying energy to the northern and western portion of the City. The air vault provides a



Interior View of Switchboard Room

means for taking fresh air from outside the building to the equipment for ventilating purposes.

Architectural Features

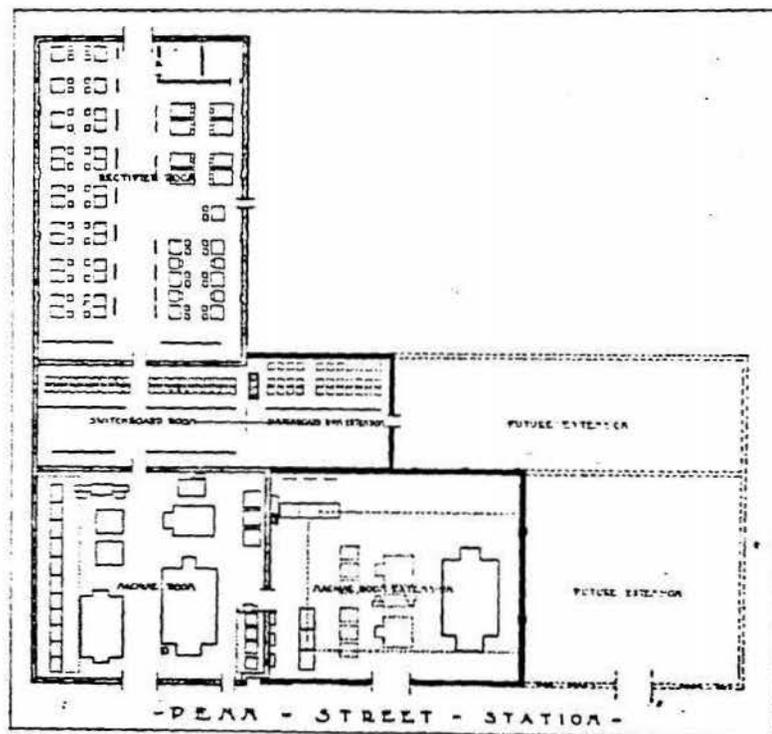
The south wall of the building, which fronts on Pratt Street, will be of red colonial face brick, laid in Flemish Bond with raked joints. The trim will consist of architectural terra cotta, six cut granite finish, and granite sills. The windows and doors will be of rolled steel members, of ornamental circular head design glazed with $\frac{3}{4}$ -inch wire glass. The roof will consist of concrete slab supported upon structural steel trusses and surfaced with red quarry tile set in asphalt pitch, making a watertight and fireproof roof. In addition to the windows in the south wall, natural light will enter through monitor type skylight running the length of the building. The side walls of the mon-

itor will have top hung sash, which will be motor operated to permit opening for ventilating purposes.

Future Plans

The present extension is only a unit in the final development of Penn Street sub-station, so the east wall will only be temporary and of terra cotta tile construction, so that it may be easily removed when additional growth requires the addition of the next unit. This building now being constructed will house the new 6,875 K. V. A. frequency changer scheduled for delivery in March, as well as the new 13,000 volt, 25-cycle and 13,000 Volt., 60-cycle switch structures, with their reactance galleries.

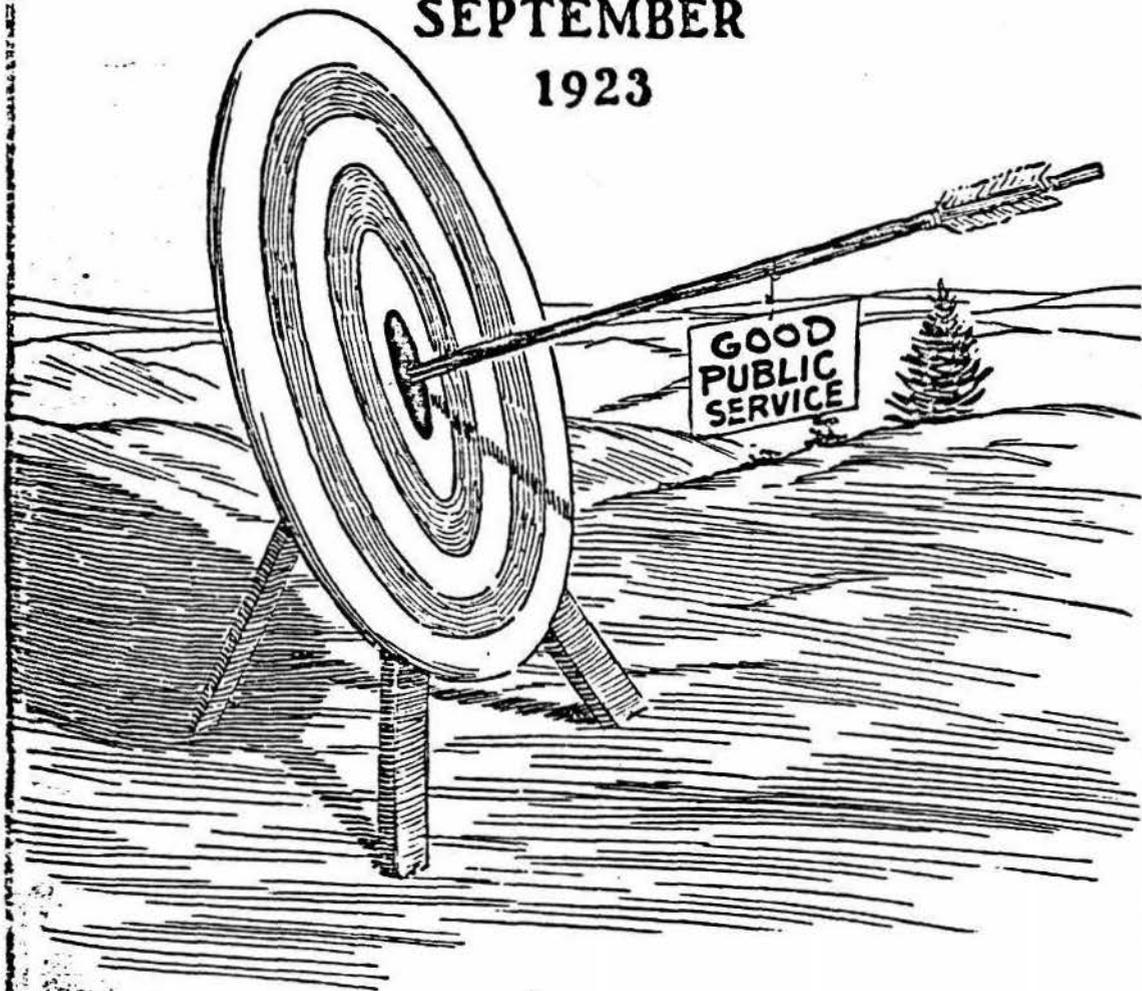
The excavation was started in October for the foundation of the building, and work is progressing as the weather permits.



FLOOR PLAN

THE BALTIMORE GAS AND ELECTRIC NEWS

SEPTEMBER
1923



Penn Street Additions

*Improvements to Sub-Station Made Necessary by
Rapidly Increasing Demand for Electric Service*

A. TOBIAS, Electrical Engineers Department

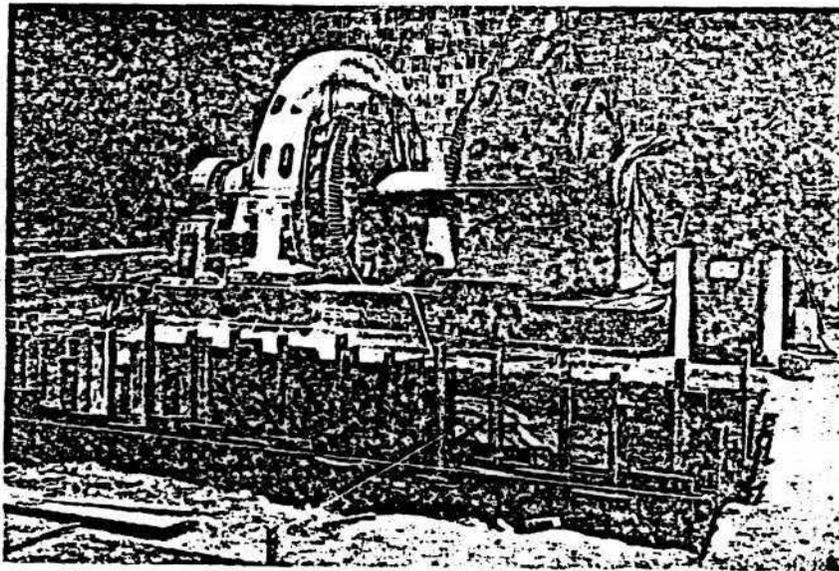


In view of the rapidly increasing demand for electric service supplied from Penn Street Sub-Station it has become necessary to install approximately 20,000 K.V.A. additional capacity, consisting of one 6,875 K.V.A. frequency changer, and two 6,000 K.V.A., 60-cycle transformers. The two 300 K.W. rotary converters in the old machine room will be replaced by two 500 K.W. units. It has also become necessary to build another extension to the switchboard room in order to make suitable provision for accommodating switches and regulators for the 4,000 volt, 60-cycle feeder circuits.

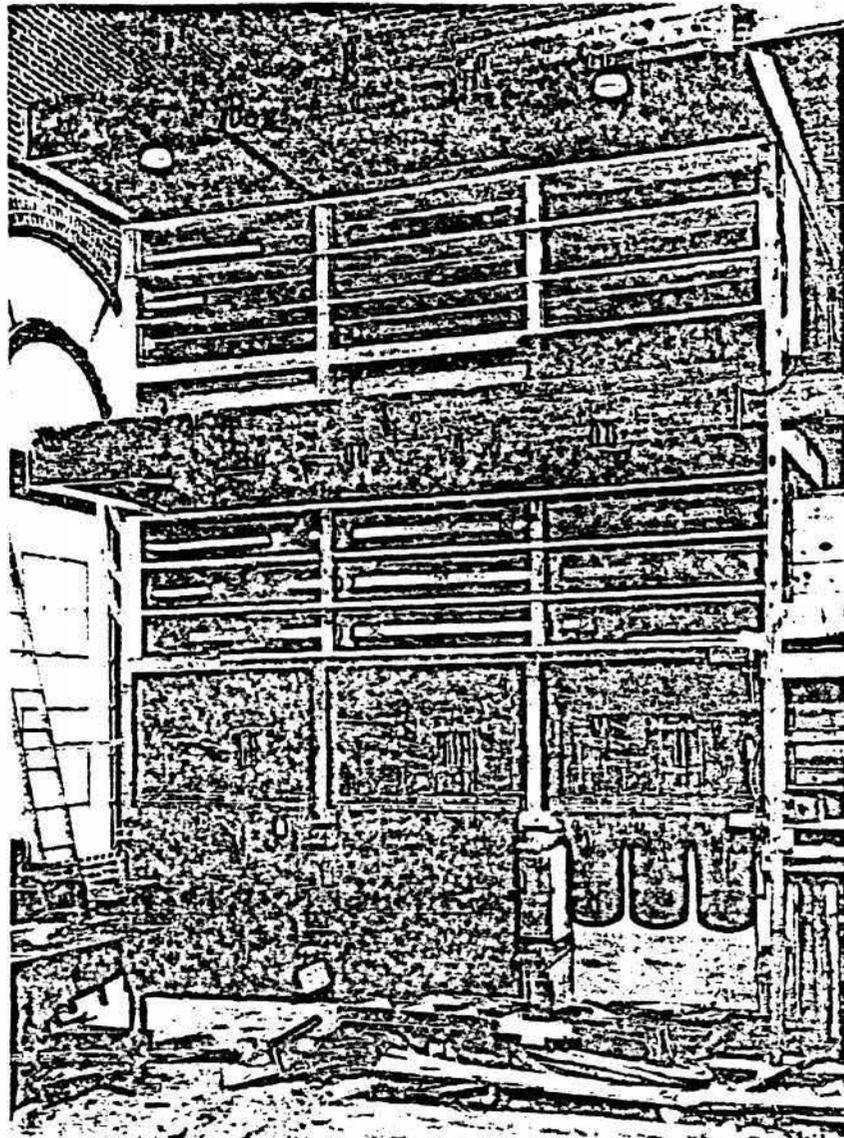
Special attention is directed to the recently improved type of 13,200 volt bus and switch structure which is being installed in the new machine room.

This switch structure has been designed with the object of obtaining maximum reliability to the service as well as for the safety to the operators. It has accordingly been adopted as a standard for future installations, and represents an important development in securing adequate and reliable station switching equipment.

The essential outstanding features embodied in the design of this new switch structure are: 1st, high powered oil circuit breakers; 2nd, manually operated, remote controlled disconnecting switches; 3rd, space for the installation of reactance coils on each cable circuit. Provision has also been made for a ground or test bus, thereby eliminating the danger to the operator when grounding a cable by the use of



6,875 K.V.A. Frequency Changer. In the foreground foundations are being installed for two 500 K.W. Rotary Converters, Penn Street Sub-Station



A portion of the 25-cycle, 13,200-volt switch structure in course of erection at Penn Street Sub-Station

ground plugs as has been previously the case. By means of remote operated disconnecting switches the cable may be switched to it, and the ground switch serving this bus can then be automatically closed. As heretofore, provision has been made for duplicate set of buses, either of which may be readily connected by means of selector switches to the outgoing or incoming

circuit. To isolate disturbances, the two sets of buses are completely separated by a gallery thereby eliminating all possibility of interference of short circuits occurring on the buses.

The structure is of re-enforced concrete consisting of two vertical walls with a large passage between them and two galleries; the upper gallery to be used for the installation of reactance

cells. Individual concrete cells are provided for disconnecting switches, potential transformers and fuses; while each phase of the bus is totally enclosed in a concrete and alberene stone compartment. This method of isolating the various switches, cables, etc., is of considerable advantage in reducing the fire hazard by preventing the spread of conducting gases.

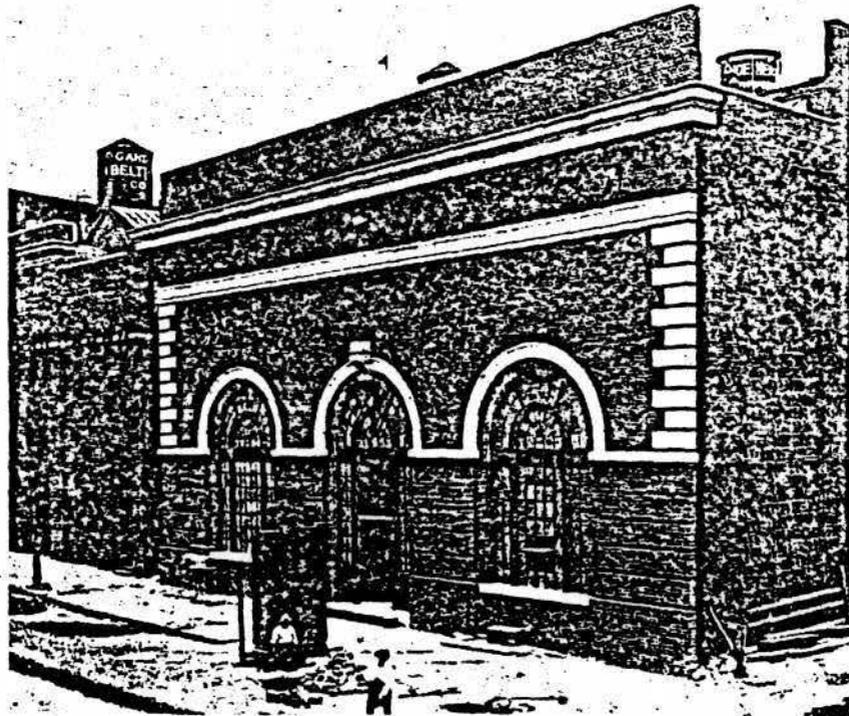
The oil circuit breakers, which are Westinghouse type "CO-11," have a very high capacity capable of rupturing any short circuit that may occur at this station. These breakers are rated at 600 amperes at 15,000 volts, with a rupturing capacity of 20,000 MVA at the rated voltage.

Considerable difficulty has been experienced in the past due to the failure of the circuit breakers under short circuit conditions, resulting in damage to the switch and serious interruption to the service. The type "CO-11" breaker is of substantial construction and has the added advantage that it can be shipped as a complete unit with all adjustments made at the factory, reduc-

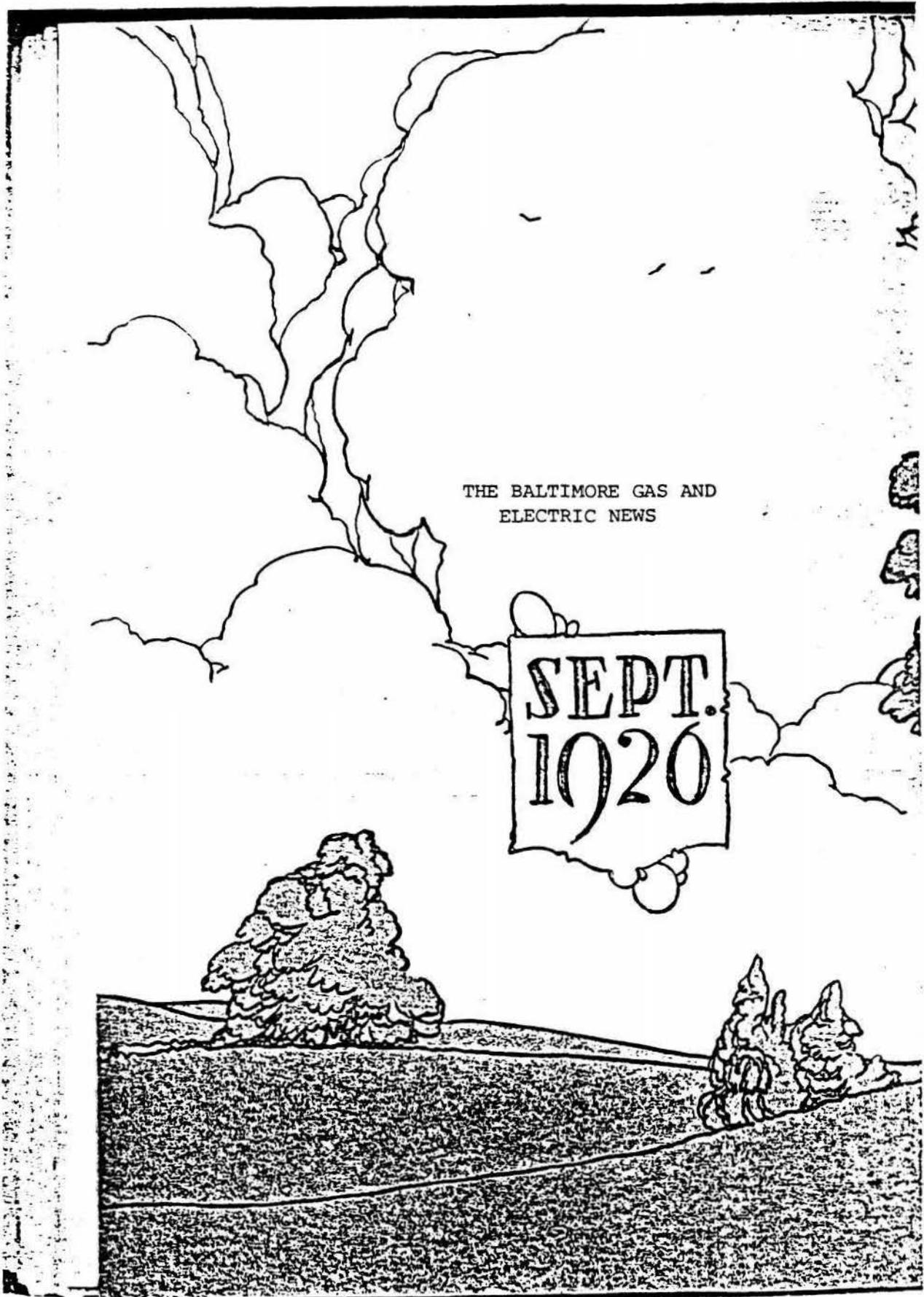
ing the erection work to a minimum.

The disconnecting switches are operated by means of bell cranks with the operating handle located in front of the structure. The upper set of handles, approximately four feet above the floor, are for the control of the bus disconnecting switches, while the lower set are for the control of the cable pothead and test disconnecting switches. The three phases of each switch unit are rigidly connected to the common operating shaft. To insure correct sequence of operation, these switches will be interlocked with the circuit breaker, thereby preventing their being opened while the circuit breaker is in closed position. Padlocks will also be provided for locking the switch.

Space for reactance coils are provided for on the upper gallery serving incoming and outgoing circuits. These coils will be designed for limiting the duty on the oil circuit breaker to approximately 10,000 amperes, and also to maintain the bus voltage in the event of a ground on a cable.



Extension to Machine Room, Penn Street Sub-Station



THE BALTIMORE GAS AND
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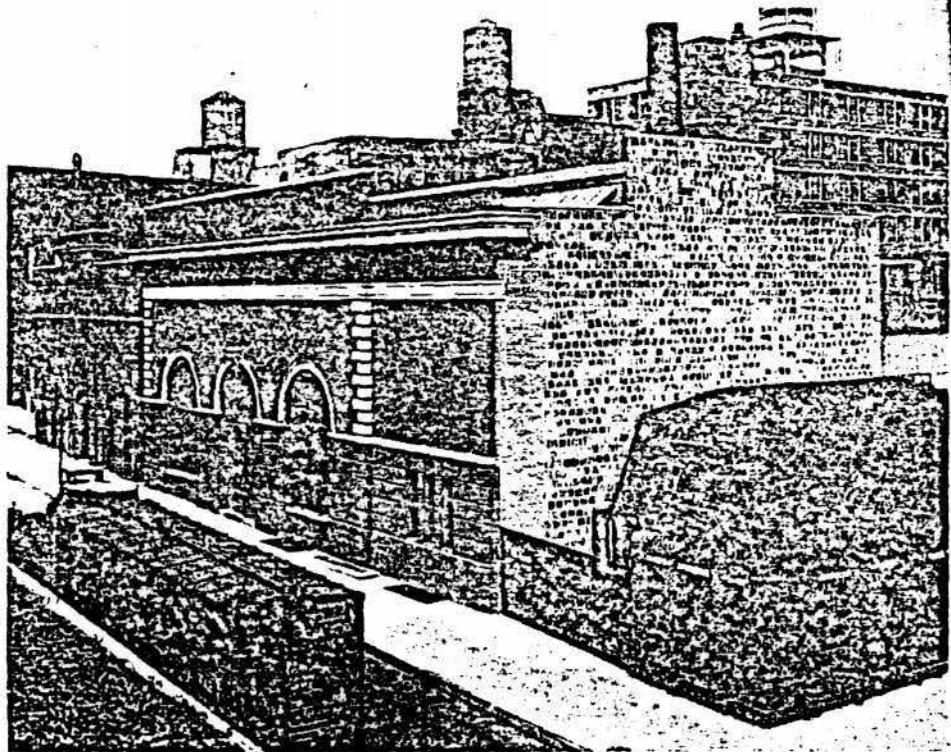
PENN STREET SUB-STATION EXTENSION

T. R. WOLFE, Assistant to Electrical Engineer

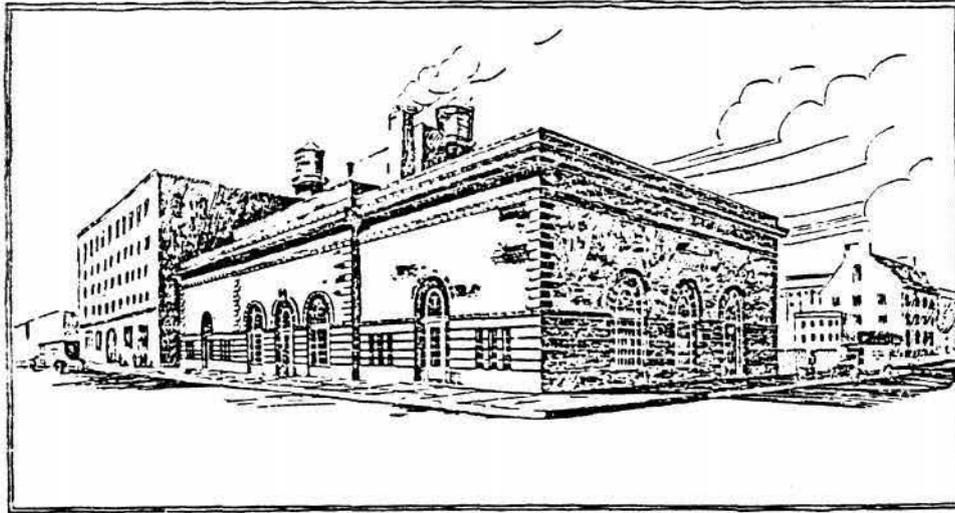
PENN Street Sub-station has recently been extended to provide space for additional 13,000 volt sub-station structures to handle the increased demand on this sub-station.

Architectural plans have been completed for some time covering the complete or ultimate development of the Penn Street Sub-Station and the present extension is one more step toward this ultimate development.

The present addition consists of extension to the building known as the Machine Room and is twenty-four feet wide, extending along Pratt Street toward Penn Street. The same architectural design as used in the development of the Machine Room was followed. The Pratt Street elevation is of Baltimore Colonial red brick, laid with raked joints and trimmed with granite finish terra cotta. Steel sash, glazed with one-quarter inch ribbed wire glass



South or Pratt Street elevation of the Penn Street extension



As the Penn Street Sub-Station will appear when completed.

were used in the side wall and a monitor skylight having top-hung continuous sash is provided the full length of the extension. These monitor sash are provided with electric motor operators for rapid opening and closing. Structural roof trusses span the entire width of the building and support a concrete roof slab, which is covered with a standard five-ply built-up and asphalt roof

surface, upon which is laid red quarry tile for a wearing surface. The east wall is a temporary tile wall which will later be removed when the building is extended to Penn Street.

The new building will house twelve new structures containing 13,000 volt oil switches for cables serving the western and northwestern sections of Baltimore City.

FAIR ENOUGH

A man once rented a plot of ground to a negro neighbor, upon which corn was to be planted, and at harvest time the renter was to receive one-fourth of the yield. Meeting the negro during harvest time, he asked:

"Look here, Sam, have you harvested the corn?"

"Yes, sah, boss, long ago!"

"Well, wasn't I to get one-fourth?"

"Yes, boss, that's the truf, but there wasn't no fourth! Der was jes' three loads, and dey was mine."
—*All Aboard*

The Irate Father: "I can see right through that chorus girl's intrigue, young man."

The Lovesick Son: "I know, dad, but they all dress that way nowadays."
—*Exchange*

She: "How do they get the water in the watermelon?"

He: "They plant the seeds in the spring."
—*All Aboard*

THE REASON WHY

She went down to the power house

And interviewed an oiler;

"What is that thing?" "Why," he replied,

"That is the engine boiler."

"And why do they boil engines?" asked

The maiden, sweet and slender:

"They do it," said the honest man,

"To make the engine tender." *Exchange*

Housewife (to tramp): "Did you notice that pile of wood in the yard?"

Tramp: "Yes'm, I seen it."

"You should mind your grammar. You mean you saw it."

"No'm. You saw me see it, but you ain't seen me saw it."—*Every Day Life*.

"Your speedometer shows you have gone 25,000 miles. Been taking some long tours?"

"No, the 5,000 is the distance I have covered going back and forth to the office, and the 20,000 the distance I have covered looking for parking places."—*Exchange*

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