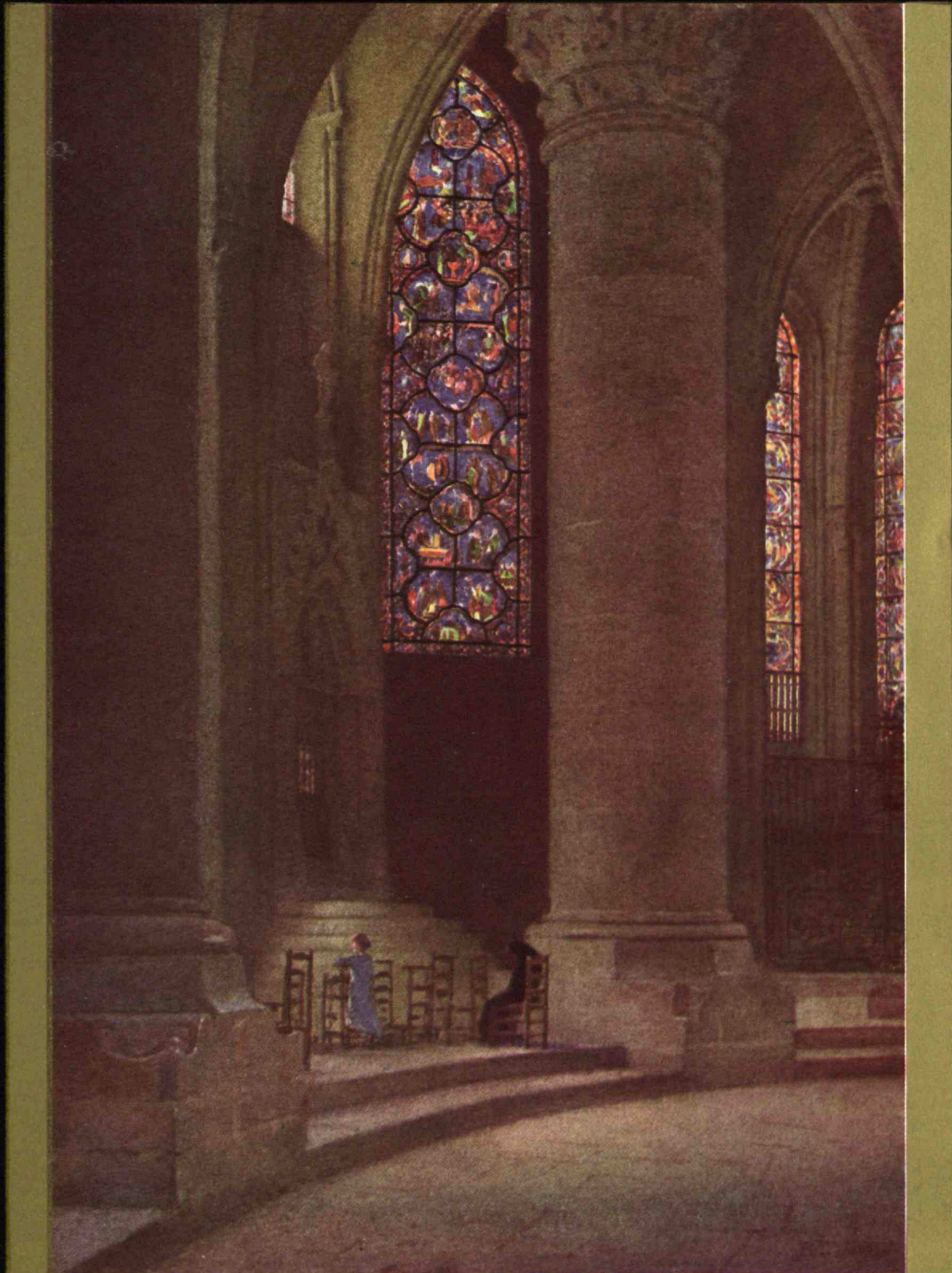


# THE TECHNOLOGY REVIEW

DECEMBER 1930



# SERVICE THAT IS WITHIN 24 HOURS OF WHERE YOU ARE

Johnson Service Company maintains thirty branches on the North American continent: one in each of the twenty-five largest and geographically best situated cities in United States, and five likewise in Canada.

Each branch is Johnson *Service Company*; not an agency, dealer or contractor, but thoroughly *Johnson*.

Whatever the requirement, wherever the job is located, Johnson "Service", with direct attention by Johnson Company personnel, is available within twenty-four hours time.

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ESTABLISHED 1885



200 Johnson Dual Thermostats control 532 radiator valves in Union Gas & Electric Company Building: maintaining normal temperature during the day, automatically lowering the temperature for the night, and automatically returning the temperature to normal again each morning. In addition, this installation includes Johnson system fan control and Johnson cut-off fresh air and vent dampers on the building's ventilating system.

Union Gas & Electric Company Building, Cincinnati, Ohio

Architects:

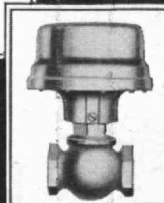
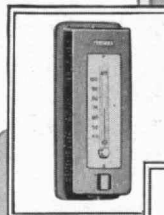
Garber & Woodward . . . . . Cincinnati

John Russel Pope . . . . . New York City

Fosdick & Hilmer . . . . . Consulting Engineers

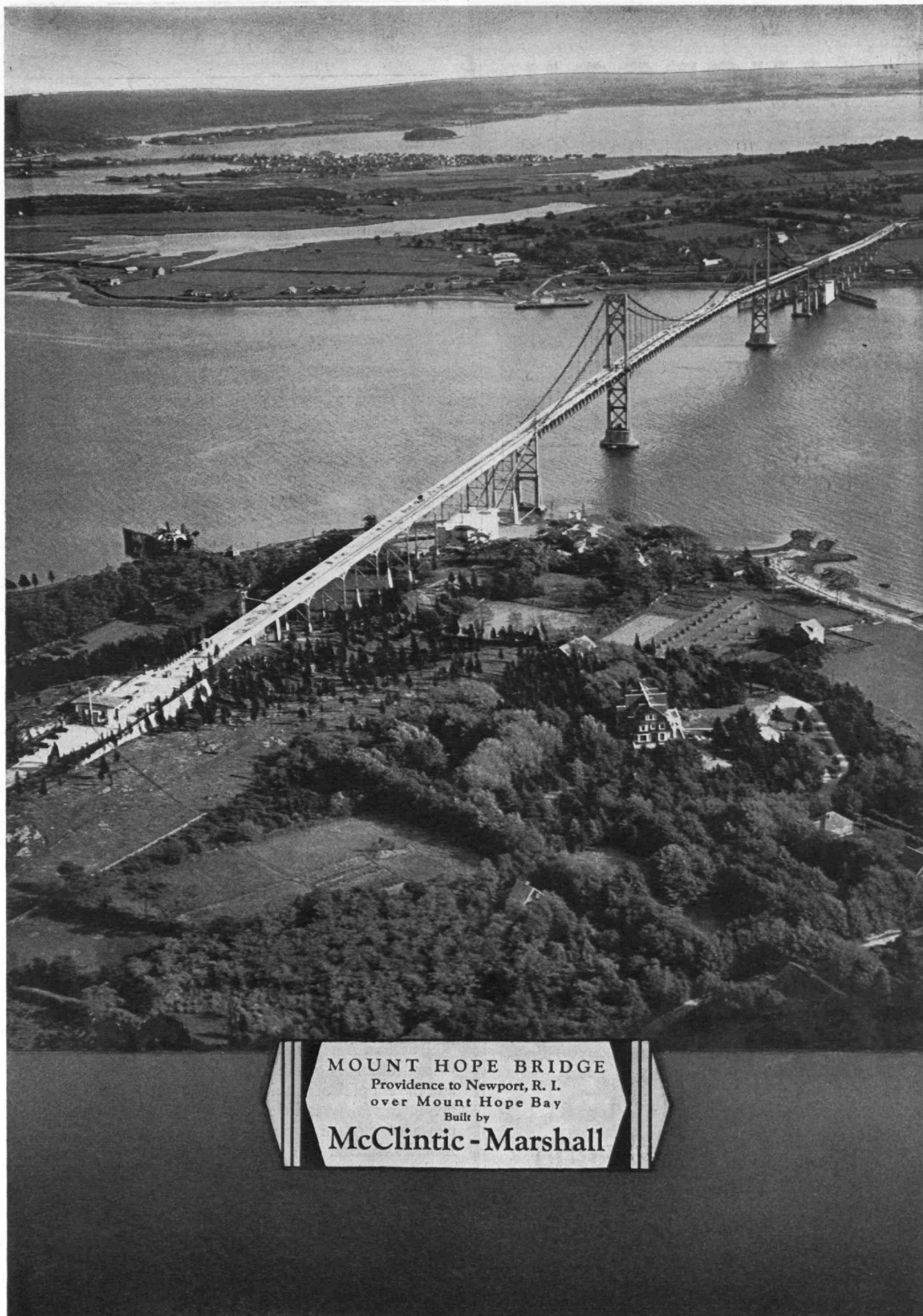
The All-Metal System. The All Perfect Graduated Control of Valves and Dampers.

The Dual Thermostat (Night & Day) Control: Fuel Saving 25 to 40%.



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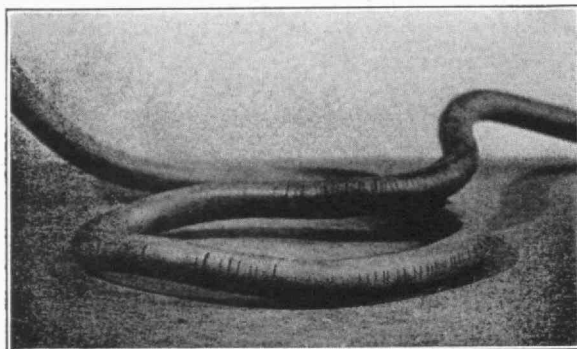




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over Mount Hope Bay  
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**Solves the ozone problem  
for rubber insulated  
high tension cables**



The usual methods of attempting to solve the corona and ozone problem in relation to cable insulation, to prevent ozone cuts such as are shown in the illustration, have been with metallic shields, protective coverings or with so called ozone proof, ozone resisting or ozone repelling insulation.

To obtain positive, dependable results the problem must be attacked from the opposite angle. Formation of corona and ozone can be controlled by using properly designed cables insulated with "ANOROC", (corona from the opposite angle) a new type of rubber insulation, which positively prevents the formation of corona and ozone in or about a cable at normal operating voltage. The efficacy of this method of protecting cable insulation from ozone has been amply demonstrated by laboratory tests fully substantiated by actual service under operating conditions.

"ANOROC" insulation retains all of the electrical, chemical and physical properties which have made rubber the most adaptable and desirable insulation for cables.

Further information and details of tests are contained in a recent Simplex publication entitled "Corona Prevention and Ozone Elimination". May we send a copy to you?

*Patent applied for.*

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## THE TABULAR VIEW

HAROLD B. RICHMOND, '14, author of "Radio's Growing Pains" in this issue of the Review, is especially qualified to write upon the problems of the radio industry. As a prominent figure in the radio field, he presents here information that is authoritative, and nowhere have we seen such a lucid explanation of the complicated patent situation that faces the radio industry or of the difficulties besetting the Federal Radio Commission. ¶ Last year Mr. Richmond was President of the Radio Manufacturers Association and at the present time occupies the position of Treasurer of the General Radio Company in Cambridge. During 1916 and 1917 he was a member of the instructing staff of the Department of Electrical Engineering at the Institute, and he has always been active in Institute affairs. His home is in Winchester.

THE article on aerial mapping was also written by a Technology graduate, Crockett A. Harrison of the Class of 1926. Mr. Harrison has worked in various aviation fields since his graduation from the Institute, and at one time he was engaged in aviation journalism. He is now in charge of Fairchild Aerial Camera sales in addition to doing advertising work for the Fairchild Airplane Manufacturing Corporation and Fairchild Aircraft, Ltd., of Montreal. ¶ Like radio broadcasting, the science of aerial surveying and mapping has grown from infancy to adulthood in the short period of ten years. Vast areas of the earth's surface never before mapped accurately are now being mapped and surveyed by airplane. Mr. Harrison describes the methods used in making the airplane and camera tools for the surveyor and cartographer.

KARL T. COMPTON needs no introduction to Review readers for, apart from his position as President of the Institute, he is well known as one of the most distinguished of living physicists. His article appearing in this issue of the Review is based on an address prepared by him for the radio. ¶ This is the second article the Compton family has contributed to the Review this year. Dr. Arthur Compton, author of "Looking Inside the Atom" which was published in the October Review, is President Compton's brother.

FROM an American engineer in Germany we learn the real opinions of the German people about Americans and the era of Americanization. The criticism is unbiased, presenting fairly and clearly the foreign attitude on this phase of modern society. In the light of this article Americanization is a growing movement — a modern tendency — not merely a patriotic and national characteristic. ¶ Hunter Rouse, '29, holds a fellowship from the Institute for the study of Hydraulic Engineering in Germany. In the time that Mr. Rouse has lived abroad, he has learned much that the summer traveler cannot possibly apprehend during a short sight-seeing visit.

*(Continued on page 116)*



*The Commons Room of the New Technology Dormitory is floored with \*CELLized Oak Blocks, size 11¼" square. Architects — Coolidge and Carlson, Boston. General Contractors — Chase and Gilbert, Boston. Flooring Contractors — Bloom, South and Gurney, Inc., 176 Federal Street, Boston.*

## **\*CELLized Oak Floor Blocks in the New M.I.T. Dormitory**

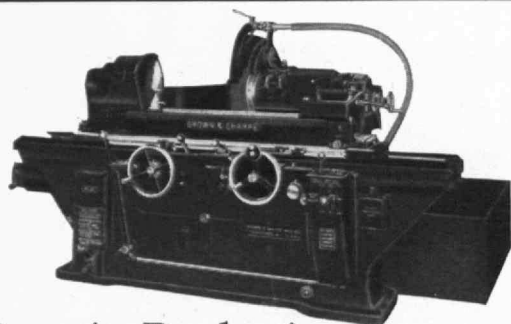
Laid right over the concrete slab in the ever-plastic EVERBOND cement \*CELLized Blocks afford a quiet, comfortable floor which retains all the nature-given qualities of the sovereign hardwood, Oak.

Wood was selected for the flooring in the new dormitory because of its combined durability, natural warmth and beauty. \*CELLized Wood Blocks were chosen because they add the element of practicability.

**\*CELLIZED OAK FLOORING Inc.**

**MEMPHIS, TENNESSEE**



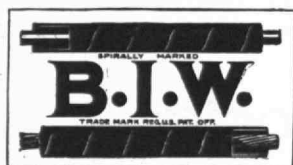


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**High Tension Wires  
for Oil Burner Ignition**

with flameproofed interlayer braid in the wall of  
rubber insulation



U. S. Patent No. 1458803

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1. Protection against the absorption of oil
2. Two flameproof braids, one within the insulation
3. Ample insulation to withstand the high voltage

For 25 years manufacturers of high grade  
rubber covered wires and cables

**BOSTON INSULATED WIRE  
and CABLE COMPANY**  
Boston, Mass.

## THE TABULAR VIEW

*(Continued from page 114)*

OUR book reviewers for this issue are Messrs. Tenney L. Davis, George W. Adams, and Clair E. Turner. Mr. Davis has been a member of the Institute's faculty in the Department of Chemistry since 1919. He is also active in the American Chemical Society and was appointed Secretary of a division of the history of chemistry in 1927. Beside contributing other book reviews, he was the author of "Primitive Thinking," an article which appeared in the July (1929) Review on the beginnings of authentic science. Mr. Adams was formerly an instructor in English and History at Technology and is now studying at Harvard for his Ph.D. in History.

PROFESSOR Clair E. Turner, '17, is a leader in the field of public health work and training and a member of the Department of Biology and Public Health at the Institute. The phase of public health in which he is most interested is child health and its promotion in big public school programs. His belief in the value of visual aids in learning has led him to direct the filming of several highly interesting and informative motion pictures dealing with health subjects. Besides lecturing in this field he has written several books on health. The Public Health movement has become international in scope, and in 1927 Professor Turner became Chairman of the Health Section of the World Federation of Education.

THE REVIEW takes pleasure in announcing that it has arranged with the Scientific Book Club, Inc., to publish each month the books selected by that organization's Editorial Committee as the outstanding scientific books of the month. The book marts are flooded with popular science books, many of which are worthless and misleading in their information. It is the purpose of the Book Section of the Review to point out scientific books that are accurate and worthy and to present the comments of authorities on a few of these titles. By presenting the selections of the Scientific Book Club, Inc., we are enlarging the scope of this department for the benefit of the Review's growing roster of readers.

"INDUSTRY and Engineering in the Union of Socialist Soviet Republics" which the Review published in October and November created widespread comment. Among the letters received, the Review is happy to present the following.

*To the Editor:*

"I returned from U.S.S.R. a few weeks ago, where I lived for seven months of this year. The articles in the Review on 'Industry and Engineering in the Union of Socialist Soviet Republics' were of great interest to me, as they offered an opportunity to compare notes on that fearful country. While reading the articles, I could not dismiss two thoughts from my mind: One was that the anonymous engineer's impressions were produced in Moscow. The other, that he was probably in an advisory

*(Concluded on page 118)*

# First modern subway in South America built in 21 months

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*Five-mile, double-track system  
at Buenos Aires built and fi-  
nanced by American companies*

THE new Lacroze Subway at Buenos Aires—The first modern high-speed system in South America—was placed in operation October 18th by the Ferrocarril Terminal Central de Buenos Aires.

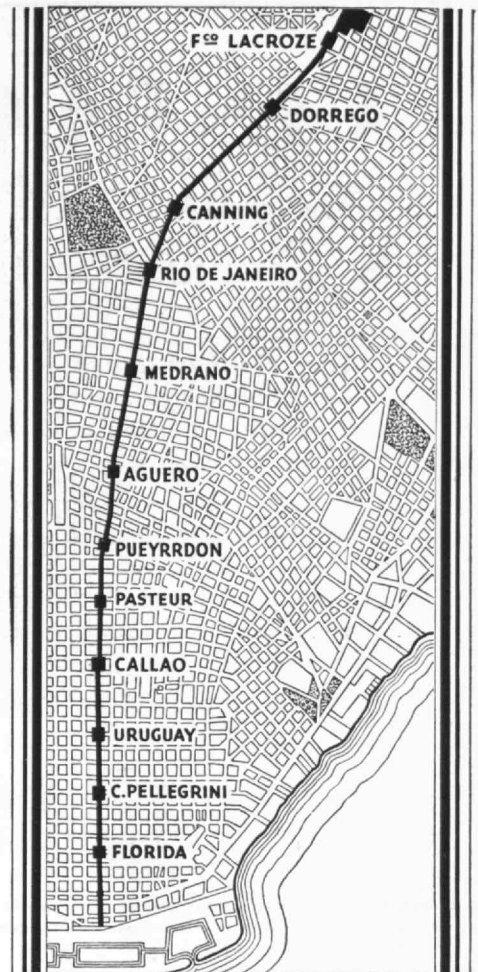
American bankers financed the project; American engineers designed, built and equipped it—complete and ready to operate.

Construction, involving both open cut and tunnel work, was completed in 21 months—a speed record for large undertakings anywhere. Three thou-

sand men were employed, with 32 different languages represented—an indication of the administrative problem.

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Page Golsan - - '12  
J. K. Heller - - '16  
G. I. Rhodes - - '05  
A. A. Uebelacker '18  
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## Design Construction Management Reports

**Ford, Bacon & Davis, Inc.**  
Engineers

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## THE TABULAR VIEW

(Concluded from page 116)

capacity and missed the trying but instructive task of working day after day with the Soviets upon whom the Moscow Dictators depend for the execution of details.

"Having been slightly deranged by the profuse display of red table covers at committee meetings, I shall employ the Soviet method of destruction in stating my variances with the author's views. I was surprised to know of the dancing, as public dancing was absolutely prohibited in our city. House parties were allowable, and I attended one at a Communist's apartment. The decrease in liquor consumption was not evident there, in spite of the rise in price of cognac to \$12 a liter.

"Working four days and attempting relaxation the fifth proved a constant strain to our commission. I think that the Russians are similarly affected and predict a gradual decrease in production due to health failure. At times they are forced to work the fifth, never regaining their lost rest day. The five-day week may have been 'purely economic,' but many a Moscow edict smacking of 'Industrialization' severs the tree from its roots. In Russia, the Church was the tree, its roots about 90 per cent of the people.

"My experience was that waiting crowds not only indicated 'very bad management' but generally a lack of everything. Our only abundance was in matches and kerosene, but who in hell can live on kerosene? About one-third of the eggs (if available) in government stores were rotten. Half the time, the milk was sour when purchased, or soon turned.

"The greatest strain on me, however, was at the office. Try as we might for weeks, we could get nothing to do. Then, we would be overwhelmed and work nights, only to find that someone had changed the requirements or location just before the plans were completed. Once I waited three weeks for information on railroad grades; then what I received was not right. The Russian in charge of us spoke excellent English, and he, personally, co-operated as well as he could. He had lived in America for many years. One morning he came to the office and on his door was a notice to the effect that he had been replaced. His successor, an ardent Communist, was a laborer with a few years' university training. No wonder the Five-Year Plan, or any other plan, fails.

"Now, the question is: who must shoulder the blame in 1933, when the Five-Year Plan is due to be completed? The Communistic Party? Never! The Soviet Engineers? Possibly some. The Foreign Specialists? Probably. The Germans were involved a few years ago and the British a few months ago. Now, there is a large demand for American Engineers in Russia."

Russell W. Ambach, '24.

**H**AROLD B. WARREN executed the water color which is reproduced on the cover of this issue. For many years he has been a Professor of Landscape Architecture at Harvard University and in 1916 and 1917 he was a Professor of Architecture at the Institute.



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WE LIVE and work as no other people have ever done. Our activities are pitched to the swiftness of the instantaneous age.

Whatever happens, wherever it happens and however it may affect you, you may know it immediately over the wires or the channels of the air that carry men's words with the speed of light. Business and social life are free from the restrictions of time and distance—for practically any one, anywhere, may at any time speak with any one, anywhere else.

The widespread and co-ordinated interests of the nation depend upon an intercourse that less than sixty years ago was not possible in a single community. This is the task of the telephone wires and cables of the Bell Telephone System—to make a single community of our vast, busy continent wherein a

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It is the work of the Bell Telephone System to enable friends, families and business associates to speak clearly and immediately with one another, wherever they may be. Its service is as helpful and accessible on a village street as in the largest cities.

To match the growing sweep and complexity of life in this country, to prepare the way for new accomplishments, the Bell System is constantly adding to its equipment and bettering its service.

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