

SOUTHERN DISTRICT MEETING

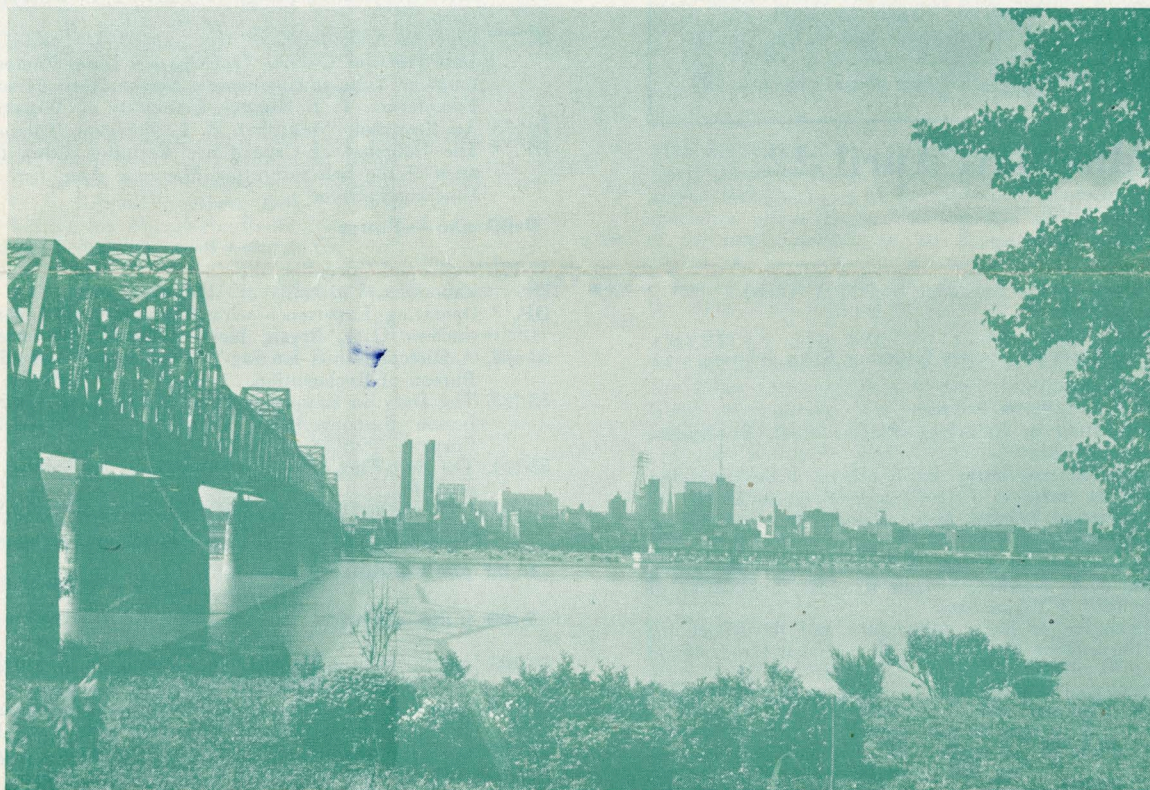
including

Appliance Technical Conference

Louisville, Kentucky
APRIL 22 - 24, 1953



Headquarters
Seelbach Hotel



Louisville, Kentucky as seen from Jeffersonville, Indiana.

THEME: Industry Moves South

This year the Southern District Meeting and Student Branch Meeting will be held concurrently at Louisville, Kentucky, Wednesday, Thursday and Friday, April 22nd, 23rd and 24th. The Committee on Domestic and Commercial Applications of the General Applications Division will hold their appliance conference during this meeting.

The Opening session of this meeting will convene at 10:00 a.m. on Wednesday, April 22, 1953, in the Grand Ballroom of the Hotel Seelbach. An official welcome to Louisville will be given by Mayor Charles Farnsley. The principal address, "Recent Power Expansion in the Louisville Area", will be given by F. W. Russell, Vice President in Charge of Operation, Louisville Gas and Electric Company. Short addresses will be given by Donald A. Quarles, President of the Institute and E. S. Lammers, Jr., Vice President of the Institute for District 4.

The Headquarters for this Southern District Meeting will be at the Hotel Seelbach located in the heart of downtown Louisville. Excellent facilities are awaiting those members and guests attending this meeting. All meeting rooms and many of the guest rooms are air conditioned. The hotel coffee shop is open around the clock and the hotel Derby Room is ready to serve the usual Kentucky refreshments.

The Brown and Kentucky Hotels which will also be used for housing are within easy walking distance of Headquarters. Arrangements have been made to have students in dormitory type rooms at the Seelbach. The ladies will be interested to know that Louisville's best stores and dress shops are within a few steps of the hotel. The Belknot Campus of the University of Louisville is within fifteen minutes walk of the hotel. Several of the student meetings will be held on the campus at the Speed Scientific School, the Engineering College of the University.

INSPECTION TRIPS—The Trips Committee has arranged for a number of inspections of Louisville and surrounding industry. Ad-

vance reservations for these inspection trips should be made by means of the advance registration card. However, remaining available tickets will be obtainable during the meeting at the Inspection Trips Desk.

GUNNISON HOMES, INC., NEW ALBANY, INDIANA (Wednesday, April 22nd at 2:30 p.m.)—All manufacturing operations in the Gunnison Homes plant are performed in a series of assembly lines. These lines produce the various component window, door and roof panels, and the interior and exterior wall panels which are used in the erection of a home. The production rate of each line is coordinated to produce homes at a capacity of 43 houses per day.

COLGATE-PALMOLIVE-PEET CO., JEFFERSONVILLE, INDIANA (Wednesday, April 22nd at 2:30 p.m.)—One of the country's outstanding manufacturers of soap and cosmetics. In this plant, you will see the latest processing equipment, packaging machinery and material handling equipment, most of it electronically controlled. The factory building itself is a landmark in this area because mounted on it is the second largest clock in the world, the face being 40 feet in diameter.

AMERICAN RADIATOR & STANDARD SANITARY CORPORATION, LOUISVILLE, KENTUCKY (Friday, April 24th at 2:30 p.m.)—This is the largest of American Radiator's plants—56 acres under one roof—and employing at present about 4,000 people. Here you will see a complete cast iron enameling plant producing a full line of both household and specialized plumbing fixtures. Also, you will see a complete brass foundry and finishing plant producing about 2 million pounds of brassware per month.

Continued on page 3

AIEE Southern District Meeting—Program—Louisville, Kentucky, April 22-24, 1953

ADVANCE COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 30¢ each (60¢ each to nonmembers), by sending enclosed order form and remittance to the AIEE Order Department, 33 West 39th Street, New York 18, N. Y. Mail orders (particularly from out-of-town members) are advisable, inasmuch as an adequate supply of each paper at the meeting cannot be assured. Coupon books in \$9 denominations are available for those who wish to avoid remittance by check or otherwise. Numbered papers ultimately will be published in the Bimonthly Publications and in the Transactions. Conference and District Papers denoted by CP.** and DP.** are intended for presentation only and are not available.

Wednesday, April 22

8:00 a.m.—Registration

10:00 a.m.—General Meeting

Welcome by Mayor Charles Farnsley
Address by President Donald A. Quarles

12:15 p.m.—Luncheon

Address by Former Governor Keen Johnson

2:00 p.m.—Industry

Junior Ballroom

- DP.** Relay Coordination in Industrial Plants. F. P. Brightman, General Electric Co.
DP.** A Variable Frequency Drive for Synthetic Fibre Spinning Machines. H. L. Stiltz, E. I. DuPont de Nemours & Co.
DP.** Magamp Controlled Winder Drive. Robert Posey, Westinghouse Electric Corp.
53-179. Power Equalizer Systems for Aircraft Alternators. J. A. Granath and A. K. Hawkes, Armour Research Foundation of Illinois Institute of Technology.
DP.** The Determination of Rotor Inductance and Resistance for Drag Cup Servomotor. W. A. Stein, U. S. Naval Postgraduate School.
53-180. Multi-Transformer Welding Presses. J. Ogden, General Motors Corp.

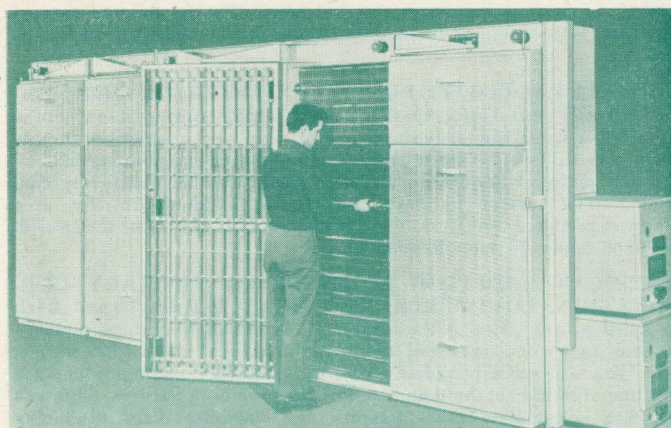
2:00 p.m.—Power

East Room

- DP.** Fan Cooling of Transformers and Their Economics. Charles Jaeger, Alabama Power Co.
DP.** Measuring and Recording Small Voltage Variations Produced by Variable Loads. R. W. Baker, Georgia Power Co.
DP.** Design of a Dispatching Office. W. J. Wortman and H. E. Redding, Duke Power Co.
DP.** Shape Correction Factors for Calculating Short Circuit Forces of Busses Composed of Double Channel Conductors. C. M. Siegel, University of Virginia, T. J. Higgins, University of Wisconsin.
DP.** Duplex Current Limiting Reactors. Their Application and Forces. L. E. Sauer, Westinghouse Electric Corp.

2:00 p.m.—Students Session

Plantation Room



Final plate assembly inspection of electro-cell type electrostatic precipitator, American Air Filter Company.

Thursday, April 23

9:00 a.m.—Communications and Electronics

Oak Room

- DP.** A Discussion on Methods of Measuring Space Charge. William Dodson, American Air Filter Co.
DP.** A Semi-Empirical Equation of Electrostatic Precipitation. E. A. Walker, Pennsylvania State College and J. E. Coolidge, Borg-Warner Central Research Lab.
DP.** Dielectric Heating Design Problems. T. L. Wilson, The Girdler Corp.
DP.** Rigorous Calculation of the Capacitance and Characteristic Impedance of Coaxial Transmission Lines Composed of Rectangular Tubular Conductors. Shizuo Hori, Armour Research Foundation, T. J. Higgins, University of Wisconsin.
DP.** An Electronic Multiplier. E. L. Peterson, Tulane University.
DP.** The Influence of Capacitance Variation Upon the Performance of the Self-Saturating Magnetic Amplifier. Yun Chang, Cincinnati, Ohio.

9:00 a.m.—Power

East Room

- 53-181. Skin and Spiraling Effect in Stranded Conductors. John Zaborsky, University of Missouri.
DP.** Operating Experience with Connectors for Aluminum Conductors. C. E. Bryan, Jackson Electric Co.
53-182. A Direct Method for Sag-Tension Calculations. T. P. Harley, Bureau of Reclamation.
53-183. The Duty on Expulsion Type Lightning Arresters for Distribution Systems. Otto Ackermann, Westinghouse Electric Corp.
53-194. The Zero-Flux Current Transformer. A. Hobson, Smith Hobson Ltd.
DP.** Progress in Current Transformer Designs. F. J. Vogel, D. R. Laib, Allis-Chalmers Mfg. Corp.

9:00 a.m.—Students Session

Plantation Room

2:00 p.m.—Industry

Grand Ballroom

- 53-185. AC vs. DC for Underground Mining. J. Z. Linsenmeyer and A. G. Owen, Westinghouse Electric Corp.
DP.** Some Considerations Concerning Electrical Hazards in Coal Mining. G. C. Barnes, Jr., Virginia Polytechnical Institute.
DP.** Technical Aspects of Electric Equipment Applications in Coal Preparation Plants. W. R. Morton, General Electric Co.
DP.** Out-door Motor Enclosures. W. S. Hines, Westinghouse Electric Corp.
DP.** Grounding of Industrial Power Systems. L. J. Carpenter, General Electric Co.
53-186. A Mechanism for the Fuse Pre-Arcing Period. E. B. Carne, Remington Rand, Inc.

2:00 p.m.—General Group

East Room

- DP.** The Arnold Engineering Development Center Power System. D. J. Goodman, Electrical Branch, Technical Services Division, ARO, Inc. Tullahoma, Tennessee.
DP.** Electrical Equipment in the Arnold Engineering Development Center Test Facilities. Lt. F. P. Sener, USAF, Arnold Engineering Development Center.
DP.** Electric Power a Creative Force in North Carolina. G. Brenneke, North Carolina State College.
DP.** Educational Training for Living. Claudius Lee, Virginia Polytechnical Institute.
DP.** New Features Incorporated in the New Electrical Engineering Laboratories at the University of South Carolina, Illustrated with Slides. J. H. Noland, Jr., University of South Carolina.

2:00 p.m.—Communications and Electronics

Plantation Room

- 53-184. The XY Toll Ticketing System. H. L. Foote, Stromberg-Carlson Co.
53-187. Communications for Civil Defense. C. A. Armstrong, American Telephone & Telegraph Co. (1½ hour program, illustrated)

Friday, April 24

9:00 a.m.—Power

East Room

- DP.** Cathodic Control of Corrosion. W. T. Zumwalt, Tennessee Valley Authority.

DP.** A Simplified Method of Field Testing Network Protectors. J. H. Miller, Jr., Alabama Power Co.

53-188. Backup Protection for Generators. E. T. B. Gross, Illinois Institute of Technology and L. B. LeVesconte, Sargent & Lundy.

53-189. Economical Loading of Transformers. W. M. Hanna, Consolidated Gas Electric Light & Power Co.

DP.** Application of Narrow Band Frequency Shift Equipment for Power Line Carrier. D. C. Abbott, Westinghouse Electric Corp.

53-190. Multi-Station Supervisory Control over Single Frequency Carrier. E. W. Miller, W. M. Larson, Control Corporation and J. G. Wright, Kansas Power & Light Co.

9:00 a.m.—Communications and Electronics

Plantation Room

DP.** Design Criteria for Tube Aging and Tube Testing Oak Ridge National Laboratory. G. A. Holt, Oak Ridge.

DP.** Radio Telephone from Wilmington to Shallotte, North Carolina. W. C. Burnett, Southern Bell Telephone Co.

53-191. Path Testing for Microwave Radio Routes. R. D. Campbell, American Telephone and Telegraph Co.

53-192. Computation of Impedance and Efficiency of Transmission Line with High Standing-Wave Ratio. W. W. Macalpine, Federal Telecommunication Lab.

53-193. A Capacitively Coupled Field Mapper for Two-Dimensional Distributed Source Field Problems. E. O. & E. G. Gilbert, Ann Arbor.

9:00 a.m.—Student Business Meeting

University of Louisville Campus

APPLIANCE TECHNICAL CONFERENCE

Theme: Appliance Control Components

WEDNESDAY, APRIL 22

10:00 a.m.—General Meeting

2:00 p.m.—Technical Session

Grand Ballroom

Presiding: T. H. CLINE

- CP.** New Oil Burner Heat Control. R. W. Gustafson, General Electric Co.
CP.** Evaluation of Performance for Appliance Controls. G. C. Pearce, Frigidaire Division, General Motors Corp.
CP.** Reversed Bimetal. U. U. Savolainen, General Plate Division, Metals and Controls Corp.
CP.** Electrical Contacts. Frank Spayth, P. R. Mallory Co.
CP.** Fundamentals of Bimetal Performance. C. F. Alban, W. M. Chace Co.

THURSDAY, APRIL 23

9:00 a.m.—Technical Session

Grand Ballroom

Presiding: T. T. WOODSON

- CP.** Kitchen Layout Studies. A. P. MacNamee, McCall's Magazine.
CP.** What Does Design Mean to the Customer? A. N. Bec Var, General Electric Company.
CP.** Static Nonlinear Elements for Appliance Control. R. C. McMaster, W. T. Sackett and R. L. Merrill, Batalle Memorial Institute.
CP.** Dishwasher Controls. G. H. Wotring, General Electric Co.
CP.** Grounding Plugs. G. C. Maplesden, General Electric Co.
2:30 p.m.—Tour of General Electric's Appliance Park.

FRIDAY, APRIL 24

9:00 a.m.—Symposium on Role of Fuses, Circuit Breakers and Thermal Overloads in Appliance Protection.

Grand Ballroom

Moderator: M. M. BRANDON

W. H. Farrell, Underwriters Lab.
F. G. VonHoorn, General Electric Co.
E. P. Jastram, A. P. White, Spencer Thermostat Co.
J. C. Lebens, Bussman Mfg. Co.
Arthur Steele, Littlefuse Mfg. Co.
G. W. Heumann, General Electric Co.

CP.** and DP.**—Conference and District Papers; no advance copies are available; not intended for publication in the TRANSACTIONS.

Continued from page 1

INTERNATIONAL HARVESTER CO., LOUISVILLE, KENTUCKY (Friday, April 24th at 2:30 p.m.)—The Louisville Works of the International Harvester Company specializes in production of four models of farm tractors. The Louisville plant is one of the 21 Harvester plants throughout the United States producing products for the farm, home and industry.

JOSEPH E. SEAGRAM & SONS, INC., LOUISVILLE, KENTUCKY (Thursday, April 23rd at 9:00 a.m.)—The Louisville plant is one of the largest and most modern whiskey manufacturing plants in the world having been specifically designed as a distillery. Visitors touring the plant may expect to see a complete self contained whiskey manufacturing process from the unloading of the raw materials through the milling, cooking, yeasting, fermenting and distilling phases.

THE MENGEL CO., LOUISVILLE, KENTUCKY (Wednesday, April 22nd at 2:30 p.m.)—The Mengel Company is one of the largest manufacturers of modern wood furniture in the world. They specialize primarily in bedroom and dining room furniture. One of the prime interests at the manufacturing plant is a new glue drying process using electrostatic heating units.

The Mengel Company also generate their own power for operating the many wood working machines in the plant.

AMERICAN AIR FILTER COMPANY, LOUISVILLE, KENTUCKY (Thursday, April 23rd at 9:00 a.m.)—The American Air Filter Company is a leading manufacturer of air filters, electronic precipitators, dust collecting equipment and specialized heating and ventilating products.

In the Louisville plants, AAF manufactures a complete line of air filtration and dust control products. As pioneers and leaders in this highly specialized field, the company has devoted many years to the study of dust, the analysis of problems it creates, and the development of equipment for its elimination or control.

GENERAL ELECTRIC CO., APPLIANCE PARK, LOUISVILLE, KENTUCKY (Thursday, April 23rd at 2:30 p.m.)—

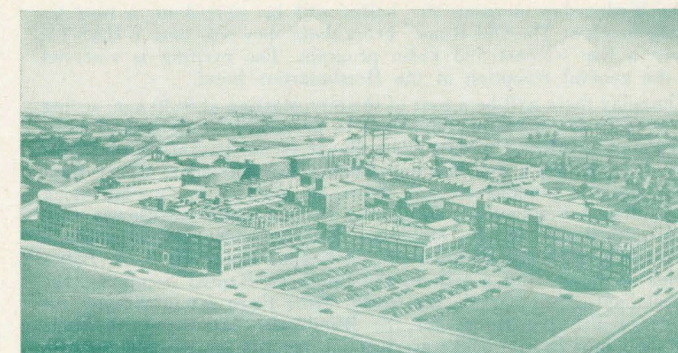
Appliance Park, when completed will be the largest manufacturing plant in the world producing major appliances such as refrigerators, food freezers, ranges, dish washers, kitchen cabinets, room coolers, garbage disposals, water heaters and home laundry equipment.

Some of the buildings constituting appliance park have already been constructed, and some production lines are in operation. During the tour you will be given opportunity to observe the very latest in factory building construction.

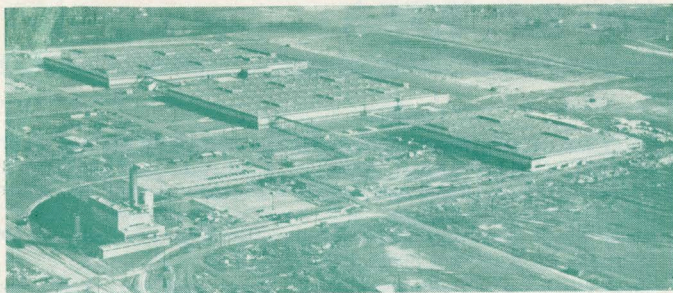
PHILIP MORRIS & CO., LTD., LOUISVILLE, KENTUCKY (Friday, April 24th at 9:00 a.m.)—One of the newest and most modern cigarette manufacturing plants in the country. In the tour these intricate cigarette machines will be viewed at close range.

OHIO FALLS HYDRO PLANT OF THE LOUISVILLE GAS & ELECTRIC CO., and THE LOUISVILLE-PORTLAND CANAL, LOCKS AND DAM (Friday, April 24th at 2:30 p.m.)—Inspection of 80,000 K.W., 37 ft. head Hydro Electric Plant, consisting of eight 10,000 K.W. G. E. Co. generators coupled to Allis Chalmers turbines. Of interest is special wall bracing which has been added to improve flood protection. Trip to the plant will include view of the U.S. Government navigation locks and dam.

PADDY'S RUN POWER PLANT AND TRANSMISSION SUBSTATION (Friday, April 24th at 2:30 p.m.)—Louisville Gas & Electric Company's modern 315,000 K.W. Steam Electric Generating



Louisville plant — American Radiator and Standard Sanitary Corp.



General Electric's Appliance Park

Station, located in the heart of a new synthetic rubber industrial area. The sixth unit in the station was placed in service in December, 1952 and has a capacity of 65,000 K.W. At this site there is also located a 138 KV. switching station which serves as a major tie and transfer point for power transmission between the north and south. Of special interest is carrier current equipment for communication, relaying and metering, and a separate control house for the plant and substation.

GIRDLER CORPORATION (Friday, April 24th at 9:00 a.m.)

—Primary manufacturing composing two divisions will be visited—

(1) Thermex or electronic heating. Several dielectric heating units in various stages of production ranging in size from 3 kw to 200 kw will be seen. Also a 40-mega watt pulse generator for signal corps is being constructed.

(2) Votator for food processing; essentially heat exchanger for viscous liquids; many electrical controls utilized.

COURIER JOURNAL and TIMES—RADIO and TV (Friday, April 24th at 2:30 p.m.)—A visit to one of the large printing establishments in the South. Visitors will be able to see complete modern high speed automatic printing equipment including a flying paster and a photoelectric register for color printing. The radio station WHAS is one of the few clear channel stations. WHAS-TV has the highest power rating of any TV station in the country. This is a chance to see three types of news coverage at one location.

SOCIAL EVENTS—A luncheon for members, students and guests will be held at 12:15 p.m. Wednesday, April 22, 1953, in the Grand Ballroom of the Hotel Seelbach. Keen Johnson, former Governor of Kentucky, will be the speaker. Advance registration should be indicated. The price of tickets will be \$1.75, including gratuities, for members and guests and \$1.00 for students. Tickets should be purchased at the time of registration.

Wednesday evening, April 22, 1953, at 6:30 p.m. a reception will be held in the Grand Ballroom for members, guests and students. This will give you the opportunity to renew old acquaintances and meet new ones. A buffet supper will follow. Later entertainment of the "floor-show" style will be presented. Tickets for this evening will be priced at \$2.75 per person, including gratuities, for members and guests and \$1.25 per person for students. Advance registration should be indicated. Tickets are available at time of registration.

Presentation of Student paper award will be made at this Banquet, to be held in the Hotel Seelbach Grand Ballroom Thursday, April 23, 1953, at 7:00 p.m. Dancing after dinner until midnight. Tickets will be \$5.00 per person, including gratuities, for members and guests, and \$2.00 for students. Tickets should be purchased at registration. Advanced registration should be indicated.

LADIES' PROGRAM—The ladies will have an opportunity to see a lovely spring time in Kentucky at Louisville, which is famous for its large and beautiful parks, hills covered with beautiful residences, and points of historical interest.

On Wednesday morning the ladies will be started on a tour by having lunch at The Old House. From there they will tour WHAS-TV to see a live telecast and radio program. The evening is reserved for the general reception at the Headquarters hotel.

Thursday there will be a tour of the city, starting at 9:30 a.m. seeing the river front where the falls used to be and the only inland coast guard station in the United States, thence to the University of Louisville, Iroquois Park and the out-of-doors Amphitheatre, where light opera and the popular current shows are put on by summer stock companies. A conducted tour of the famous Churchill Downs race track with lunch in the clubhouse follows with a drive through Cherokee and Seneca Parks, a stop at Garden Court, the University's school of music, and a trip to the Southern Baptist Seminary, the largest baptist seminary in the world. From there a trip through the American Printing House for the Blind, also largest of its kind; will show how Braille books are printed, records are cut and pressed, etc. The evening is reserved for the dinner-dance.

Friday will bring a trip through Mary Alice Hadley's Pottery, and shopping and tea at Stewarts, Louisville's largest department store.

Hostesses will be happy to help the visiting ladies to see or do many other things of interest.

HOTEL RESERVATIONS—Everyone who will attend this meeting should make hotel reservations as soon as possible. Special low cost accommodations will be available for a limited number of students at the Headquarters hotel. The room rates are as follows:

Seelbach Hotel (Headquarters)

| | |
|--------------------------------|----------------|
| Dormitory Style | \$ 2.00 |
| Single Room | 5.00 to 12.00 |
| Double Room | 7.50 to 10.50 |
| Double Room (Twin Beds) | 10.50 to 15.00 |
| Connecting Room (single) | 5.50 |
| Connecting Room (double) | 8.50 |
| Suites (one bedroom) | 20.00 |
| Suites (two bedrooms) | 25.00 |

Rooms have also been set aside at the Brown and Kentucky Hotels. Their rates are as follows:

Kentucky Hotel

| | |
|-----------------------|--------------------|
| Single Rooms | \$ 4.00 to \$ 8.00 |
| Double Rooms | 7.00 to 14.00 |
| Parlor Suites | 16.00 to 18.00 |
| Air Conditioned | 1.00 extra |

Brown Hotel

| | |
|---------------------|--------------------|
| Single Rooms | \$ 4.50 to \$ 8.50 |
| Double Rooms | 7.50 to 14.50 |
| Parlor Suites | 16.50 to 18.50 |

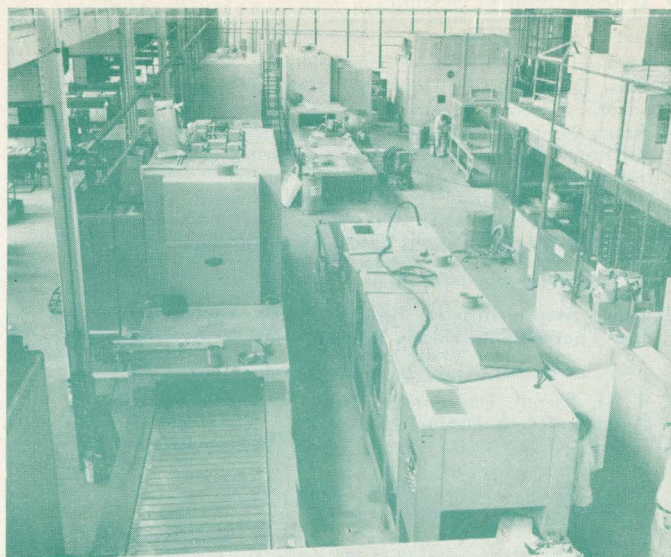
ADVANCE REGISTRATION—Please register in advance by returning the accompanying advance registration card properly filled out. In so doing you will save time in completing registration details upon arrival at the hotel. The registration fee payable at the meeting will be \$2.00 for members, and \$3.00 for non-members. No fee will be required of enrolled students and immediate families of members.

The members of the Southern District Meeting Committee are: M. G. Northrop, General Chairman; J. G. Lips, Vice Chairman; J. D. Warren, Secretary; W. J. Ryan, Finance; J. F. Gregory, Registration; H. T. Smith, Hotels and Meeting Rooms; T. W. Talcott, Meetings and Equipment; J. D. Campbell, Entertainment; O. W. Townner, Publicity; R. D. Spaulding, Transportation; W. B. Watkins, Inspection Trips; S. T. Fife, Student Activities; J. M. Houchens, Printing; L. G. Weiser, Sports.

The members of the appliance group working on the Southern District Meeting Committee are: T. T. Woodson, Technical Program; L. H. Gottliebse, Finance; F. A. Rosenkrans, Registration; S. B. Welch, Meetings and Equipment; W. F. Nindt, Publicity; E. A. Zuercher, Transportation; A. M. Anderson, Inspection.

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Final assembly of dielectric heating equipment — Thermex Division Girdler Corporation.