First Percy Nicholls Award Is Presented to E. G. Bailey

High Point of Joint A.S.M.E.-A.I.M.E. Fuels Meeting

REACHING a high point in the presentation of the Percy Nicholls Award to E. G. Bailey, vice-president, Babcock and Wilcox Co., at a dinner on the first evening of the two-day session in St. Louis on September 30–October 1, the sixth annual Joint Meeting of the Fuels Division of the Society with the Coal Division of the A.I.M.E. fully maintained the high standard of excellence of the former meetings.

The central theme of the four technical sessions at which ten papers were presented was that of adaptation of utilization of fuel to the demands of wartime conditions. Despite the pressure of increasing production for war and the diverting call of the simultaneous sessions of the St. Louis Cardinals and the New York Yankees in the World Series Games at Sportsman's Park, some 250 members and guests of the two societies registered and participated in the sessions.

The award presented to Mr. Bailey was established by joint action of the two Divisions during the past year to be granted annually, or as merited, for achievement in the field of solid fuels. It was named for the late Percy Nicholls to commemorate the outstanding contributions that he had made in the science and technology of fuels utilization. A committee of five, two from each Society who elect the fifth member, select the recipient.

E. G. BAILEY

In presenting Mr. Bailey to Eugene McAuliffe, president of the A.I.M.E., Julian E. Tobey, toastmaster, stated that the Committee had little difficulty in the choice of the recipient of the first award. He recounted Mr. Bailey's many achievements since graduation from Ohio State University in 1903, first as a chemist with Consolidation Coal Company, then with Arthur D. Little Co., Boston, with his own company, the Fuel Testing Co., the invention of the Bailey steam-flow air-flow boiler meter, the founding of the Bailey Meter Co., the invention of the Bailey waterwall, and his many accomplishments in the design of pulverizers and boilers with the Fuller-Lehigh Co. and the Babcock and Wilcox Co. Equally important to the inventions and contributions to the literature of fuels that Mr. Bailey has made, Mr. Tobey pointed out, are the training and inspiration that he has given hundreds of young men.

The citation on the beautifully engraved and framed scroll presented to Mr. Bailey read:

THE PERCY NICHOLLS AWARD

Awarded for Notable Scientific or Industrial Achievement in the Field of Solid Fuels

In recognition of the outstanding achievement of

ERVIN GEORGE BAILEY

in the field of solid fuels, the Fuels Division of the A.S.M.E. and the Coal Division of the A.I.M.E. confer upon him the Percy Nicholls Award for 1942.

His technical contributions to the art of preparing and utilizing the heat in solid fuel for the benefit of mankind are recognized and applied in all parts of the civilized world.

His inventive genius has always been tempered with practicability and has resulted in the maximum usefulness of the mechanism which he has devised.

In Him We Recognize
A Lifetime of Service
Four Decades of Accomplishment
An Inspiration for Those Who Follow Him

NEWELL G. ALFORD
Chairman, Coal Division
A.I.M.E.

A. R. MUMFORD
Chairman, Fuels Division
A.S.M.E.

In his address following receipt of the award, Mr. Bailey cited the appropriateness of St. Louis for this award as it was in St. Louis at the Louisiana Purchase Exposition in 1903 that the Fuels Testing Branch of the U. S. Geological Survey initiated the research on fuels that was the forerunner of the U. S. Bureau of Mines with which Mr. Nicholls had served for so many years. He paid tribute to Mr. Nicholls' classic investigations of underfeed combustion, his original research on the viscosity of slags, and his contributions to the theory of coal sampling.

Turning to the war and the responsibility of the fuel engineer, Mr. Bailey said that the production of war materials now necessary would have been impossible without the improvements in coal mining, preparation, and utilization of the past twenty-five years. He called attention to the heavy task before us in converting boiler and metallurgical plants to coal because of the transportation crisis in oil and inspired all to meet the challenge.

Production of Blast-Furnace Coke

Following a brief speech of welcome by M. M. Leighton, director, Illinois Geological Survey, and a response by A. R. Mumford, chairman, A.S.M.E. Fuels Division, the first technical session, with Martin A. Mayers and Frank H. Reed as cochairmen, devoted attention to the production of coke under wartime conditions. I. M. Roberts, LaClede Gas Light Co., in a paper, "Increasing the Percentage Production of Large-Sized Coke at Fast Coking Rates to Meet Wartime Demands," stated that a mixture of 60 per cent high-volatile and 36 per cent low-volatile coal with 4 per cent anthracite fines was giving them 50.5 per cent foundry coke in 19 hours' coking time as compared to 32 per cent obtained with a 55–45 per cent blend of high- and low-volatile coal coked for 21.5 hours. Walter T. Brown, Jones and Laughlin Steel Co., presented a comprehensive survey of the expanding properties of high- and low-volatile coals of West Virginia and Pennsylvania in his paper, "Plan to Improve Blast-Furnace Coke," and related these properties to the geology of the seams of coal. Uniformity of size was said by Brown to be the most important characteristics of blast-furnace coke.

New Data on Clinkering

The first paper of the second session under the cochairmenship of Carl T. Hayden and Ralph A. Sherman was that of Ray S. Weimer, Northern Illinois Coal Corporation, "A New Criterion for the Clinkering Characteristics of Coal Ash." Because of the author's illness, the paper was presented by Mr. Sherman. It presented a completely new concept of the measurement of the clinkering characteristics of coal ash by the apparent specific gravity of clinker formed in burning coal in an underfeed stoker of residential size. Several years of experience with the method had proved it a better guide for the selection of coals for various types of service and for the modification of clinker by the addition of silica or fire clay to the coal than the ash-fusion temperature or the chemical composition of the ash that are now in general use.

Although the paper had not been available previously in preprints, the discussion was spirited and had to be cut short because of lack of time. Much more will undoubtedly be heard of this new tool for the fuel technologist.

"Some Ways to Avoid High Stoker Maintenance and Inefficient Combustion" summarized the experience of the author, A. R. Mumford, Combustion Engineering Co., and other engineers that he quoted that will aid in the elimination of boiler outages and reduced production of war materials. Harmon C. Ray, Carter Coal Co., in his paper, "The Distribution of Coal Dust by Tank Car as Pulverized Fuel," told of the experience of his company in the collection of dust from the tipple and

Committee on Education and Training for the Industries, presiding, the first session on women in industry was held on Monday morning. The experience of Stevens Institute of Technology in training women for engineering posts was described by Robert H. Baker and Mrs. O. S. Reimold, of the War Industries Training School of the Institute. It was found that few women apply for training in engineering subjects and reasons given for this were less interest in engineering, lack of training for engineering study, and less aptitude in basic subjects.

This paper was followed by an able presentation of the factors influencing women in engineering, by Mrs. Lillian M. Gilbreth. Discussion of the two papers by men and women in educational, engineering, industrial, and personnel fields covered a wide range of points of view and experience. It was pointed out by Harvey N. Davis of Stevens Institute of Technology that with the reduction of the draft age to 18 years, 90 to 95 per cent of the freshmen in engineering colleges will be drafted or will join the reserves so that industries cannot expect to recruit young men for the duration of the war. This means, he said, that work in progress on the drafting board can be put through, but by 1944 the nation will fall behind in the steady improvement of its military equipment. This condition implied the need to train women for engineering position, preferably college graduates with a background of mathematics and physics. Was Stevens foolish in trying to train such women, he asked.

The second session sponsored by the Committee on Education and Training for the Industries took the form of a panel discussion on education for industry, with Carl L. Bausch as chairman. It was concluded on time to hear the President's address to the Nation on Monday night. Discussion leaders who comprised the panel were introduced by Mark Ellingson, president of the Rochester Athenaeum and Mechanics Institute of Rochester. Each member of the panel described the training work of his own organization. In addition to Mr. Ellingson the discussion leaders were: S. C. Hollister, dean of engineering, Cornell University; Verne Bird, assistant superintendent in charge of vocational education, Rochester Public Schools; Ralph C. Welch, chairman of the Training Committee of the Industrial Management Council, Rochester; L. J. Fletcher, director of Training, Caterpillar Tractor Company, Peoria, Ill.; R. L. Goetzenberger, vice-president, Minneapolis-Honeywell Regulator Co., Philadelphia; M. J. Kane, Training Within Industry, W.P.B., Washington, D. C.; and Emile J. Pelletier, Bell Aircraft Corporation, Buffalo, N. Y.

Women In Industry

Under the auspices of the Management Division and with J. M. Talbot serving as chairman, a session on Women in Industry completed the discussion of the man-power problem. Dr. Leonard Greenburg, executive director of the Division of Industrial Hygiene, State of New York, presented an important paper on the physical, physiological, and psychological differences between men and women which should serve as a guide to employers contemplating the hiring of female workers. The animated discussion of Dr. Greenburg's paper introduced many important problems, such, for example, as wage differentials.

Following Dr. Greenburg, L. L. Park, superintendent of Welfare, American Locomotive Company, spoke on the experiences of employing women in the shops of the Montreal Locomotive Works, Limited, in Canada, where, since the middle of 1941, four hundred women have been employed on 19 different jobs.

Many Technical Papers Read

Time and space do not suffice to record the subjects presented in many technical papers that constituted the programs of the other sessions of the meeting. Divisions sponsoring these sessions were Fuels, Aviation, Power, Production Engineering, Industrial Instruments, and Materials Handling.

On the concluding day the Management Division sponsored its second session at which the subject was industrial salvage. Geo. Sutherland, Regional Conservation Manager, Conservation Division, W.P.B., New York, N. Y., served as chairman and the speakers were B. D. Kunkle, vice-president, General Motors Corporation, Detroit, Mich., and Robinson D. Bullard, Reclamation Engineer, Bullard Company, Bridgeport, Conn.

Walsh Speaks on "Science of Survival"

At the Tuesday luncheon, at which Wallace D. Wood, chairman, A.S.M.E. Rochester Section, presided, the speaker was Col. James L. Walsh, chairman, A.S.M.E. War Production Committee. Colonel Walsh's subject was "The Science of Survival." His address was a stirring appeal for wholehearted all-out effort of every citizen in the winning of the war, and it contained also a brief report of the activities of the A.S.M.E. War Production Committee.

R. B. Woodward Addresses Students on the Character of a Profession

Speaking at the Wednesday luncheon, at which Howard Harding, technical engineer, Rochester Gas and Electric Company, was chairman, Roland B. Woodward, senior regent, chairman of Committee on Higher Education, University of the State of New York, had as his subject "Engineering as a Profession." In view of the fact that Dr. Woodward found himself facing more than 100 students from Cornell University, the University of Rochester, and the Rochester Athenaeum and Mechanics Institute, he abandoned his prepared paper and spoke with inspired sincerity on the responsibilities of a profession. Going back over the history of the British craft guilds, Dr. Woodward showed how they had disappeared because they failed to serve the public. On the other hand the professions, which had devoted themselves to public service, had grown and prospered.

Canadian Minister of Labour Banquet Speaker

The speaker at Tuesday night's banquet was the Honorable Humphrey Mitchell, Canadian Minister of Labour, Ottawa, Canada, who was introduced by the toastmaster, H. H. Sullivan, president, Paragon Revolute Corporation and H. H. Sullivan, Inc., of Rochester.

HUMPHREY MITCHELL

Mr. Mitchell described the Canadian war effort in the military and industrial fields and the attempts resorted to in Canada to peg prices and stabilize wages in order to avoid inflation. On December first, he announced, the Ministry of Labour will assume complete control of man and woman power in Canada.

The Minister's comments on the status of engineering students greatly interested all present. He said in part:

"The decision was made not to accelerate the courses for engineers, as practical experience gained in industry during the long summer vacation was considered an essential part of their training.

"The Wartime Bureau of Technical Personnel, however, undertook to arrange summer employment along the line of their training for all engineering students."

Many Rochester Plants Visited

Visits to nine Rochester plants were arranged for the afternoons of Monday, Tuesday, and Wednesday. The plants visited were the Rochester Athenaeum and Mechanics Institute, University of Rochester, Men's Division, Thomas Edison Technical High School, Consolidated Machine Tool Corporation, General Motors Corporation, Rochester Products Division, Howard C. Clapp, Inc., Eastman Kodak Company, Kodak Park Works, Gleason Works, and Hickey Freeman Company.

Local Committees

The local arrangements for the Rochester Meeting were under the general supervision of Virgil M. Palmer, general chairman, Albert E. Schell, vice-chairman, and O. Lawrence Angevine, general secretary. Chairmen of the subcommittees were: Reception, James E. Gleason; Information and Registration, Albert E. Schell; Technical Events, Theodore F. Hooker; Plant Trips, Cleland C. Ross; Hotels, O. Lawrence Angevine, Printing and Signs, Arthur W. Schuster; Publicity, Wallace D. Wood; Entertainment, Lewis B. Swift; and Program for Women, Mrs. Karl H. Hubbard.

its transportation for use as pulverized coal without further preparation by the user. Discussers foresaw greater application of this method of handling coal dust after the war.

Colloidal Fuel in Wartime

A. R. Mumford and Martin A. Mayers presided over the third session at which H. L. Crain of the Kansas City Power and Light Co. discussed his experience in combination coal and gas firing. War demands for gas are expected to reduce the amount available to the plant, but the experience has been so favorable that a greater use is anticipated by the author after the war. The excellent summary of the available information on colloidal fuel made by W. C. Schroeder of the Bureau of Mines in his paper, "The Use of Mixtures of Oil and Coal in Boiler Furnaces," brought out a long discussion. This disclosed two schools of thought. Manufacturers and users of equipment burning coal were predominantly of the opinion that the installation of stokers or pulverized-coal burners to replace oil where coal could be burned with reservation of the available oil for those that could only use oil, was to be preferred to the mixture. Oil producers, on the other hand, favored the use of colloidal fuel as an emergency measure. Complete information on the performance of colloidal fuel was admitted to be lacking.

General Fuel Problems in War

In a clear straightforward presentation of the difficulties to be expected with the use of fuel in coming months Ollison Craig, Riley Stoker Corporation, gave his paper, "Meeting Wartime Fuel Problems," at the final technical session where A. W. Thorson and J. E. Tobey were cochairmen. W. A. Carter, L. A. Shipman, T. A. Marsh, and others added valuable suggestions from their experience. D. L. McElroy, in peacetime, professor of mining engineering, West Virginia University, but now in charge of mine supplies in the War Production Board, brought to the session the latest information in his paper, "Priorities in Mine Supplies." Discussers paid high tribute to the skillful and sympathetic handling of the industry's supplies problem by Professor McElroy. In the closing paper, A. Lee Barrett, Pittsburgh Coal Co., described how his company had used its machine shops for subcontract work and to repair and salvage equipment that formerly would have been scrapped, thus adding to the war effort.

Secretary Ickes Addresses Banquet

Joining with the Regional Meeting of the A.I.M.E. which held sessions devoted to mining problems on October 1 and 2, the fuels men heard an informal address at luncheon on the 1st by Louis Ware, president, International Agricultural Corporation, who recounted some of his many interesting experiences in mining metals, nitrates, and coal.

At the banquet of the Regional Meeting, Harold L. Ickes, Secretary of the Interior, gave an address, "War on Waste," in which he decried the prodigality with which we have produced and used our waning supplies of petroleum. He said that victory may depend on the amount of oil we can produce and transport for ourselves and the other United Nations.

Technical Committees Meet

The fuels meeting was preceded on September 29th by meetings of Subcommittees on ignitibility, on plasticity and swelling, and on sampling of coal, of Committee D-5 on Coal and Coke of the A.S.T.M. Two sessions of the Model Smoke Law Committee of the A.S.M.E. were also held during the two-day meeting at which substantial progress on its assignment was made.

RALPH A. SHERMAN.[1]

[1] Supervisor, Fuels Division, Battelle Memorial Institute, Columbus, Ohio. Mem. A.S.M.E.

A.S.M.E. Calendar

of Coming Meetings

Nov. 30–Dec. 4, 1942
Annual Meeting
New York, N. Y.

June 14–16, 1942
Semi-Annual Meeting
Los Angeles, Calif.

(For coming meetings of other organizations see page 34 of the advertising section of this issue)

Actions of A.S.M.E. Executive Committee

At Meeting in Society Headquarters on September 16

THE Executive Committee of the Council of The American Society of Mechanical Engineers met on Thursday, September 16, at Society headquarters, New York, N. Y. There were present James W. Parker, chairman, Clarke F. Freeman, vice-chairman, G. E. Hulse and C. B. Peck, of the Committee; K. W. Jappe (Finance), J. N. Landis (Local Sections), G. B. Karelitz (Professional Divisions); W. D. Ennis, treasurer; C. E. Davies, secretary, and Ernest Hartford, executive assistant secretary. After luncheon the Committee met with the following members of the Research Committee: W. Trinks, chairman, Herman Weisberg, J. F. Downie Smith, E. G. Bailey, and C. B. Le Page, assistant secretary.

The following actions are of general interest.

Revision of 1941–1942 Budget

Upon recommendation of the Finance Committee the appropriation for the Engineers' Council for Professional Development was increased by $850, an additional $3000 was appropriated to complete redecoration of the Society rooms, and $300 was added to the Publications budget for MECHANICAL ENGINEERING.

Production Clinics

The Secretary reported that six production clinics had been held, with satisfactory results, at Dayton, Ohio, on May 5; Cincinnati, Ohio, on May 27; Newark, N. J., on May 29; Bridgeport, Conn., on June 6; Birmingham, Ala., on June 11; and Boston, Mass., on June 26. (A fairly complete story of the Newark War-Production Conference, with a résumé of the principal addresses, appeared in the July issue of MECHANICAL ENGINEERING, pages 569–572.) These clinics were financed by the A.S.M.E., S.A.E., and other engineering societies. The Secretary announced that the War Production Board had contributed money for the holding of 20 to 25 additional clinics and that the Society had entered into a contract with W.P.B. to conduct these clinics in cooperation with other engineering societies.

Magazines for Army and Navy Bases

It was reported that, in response to a suggestion of the Engineers' Council for Professional Development, MECHANICAL ENGINEERING was being sent regularly to some 52 Army and Navy Post libraries.

Rubber and Plastics Group Approved

Upon recommendation of the Committee on Professional Divisions the Rubber and Plastics Subdivision of the Process Industries Division was advanced to the status of the Rubber and Plastics Group.

Examinations in Mechanical Engineering

The Secretary reported that V. M. Palmer, chairman of the Committee on Registration, has asked for men to serve on a State Committee on Examinations to co-operate with the New York State Board of Engineering Examiners in preparing examinations in mechanical engineering. A.S.M.E. Local Sections in New York State have been requested to make the necessary appointments. A similar committee was set up in 1939.

Appointments

The following appointments were reported:

Committee on Meetings and Program, E. J. Nobles as junior adviser, to serve until December, 1943.

Committee on Local Sections, S. R. Beitler, as alternate for F. W. Marquis.

Sectional Committee on Standardization of Letter Symbols and Abbreviations for Engineering and Scientific Terms, R. E. Peterson.

American Co-ordinating Committee on Corrosion (Research), C. H. Fellows.

Joint Research Committee on Effect of Temperature on the Properties of Metals, John H. Romann.

Inter-American Development Commission, A. M. Greene, Jr., Warren H. McBryde, and C. M. Muchnic.

1942 Local Section Group Conferences: Group I, Clarke F. Freeman; Group II, E. B. Ricketts; Group III, J. W. Parker and P. B. Eaton; Group IV, S. B. Earle; Group V, J. H. Herron; Group VI, Linn Helander; Group VII, J. W. Parker, and Group VIII, W. R. Woolrich.

A.S.M.E. WAR PRODUCTION COMMITTEE POSES IN FRONT OF AN M-4 TANK AT ABERDEEN PROVING GROUND

(Left to right: Col. C. E. Davies, Brig. Gen. J. S. Hatcher, Col. W. A. Borden, Carl F. Dietz, F. T. Letchfield, Brig. Gen. G. M. Barnes, Sol Einstein, Maj. Gen. C. T. Harris, Jr., W. L. Batt, A. R. Stevenson, Jr., G. A. Stetson, W. C. Dickerman, Col. James L. Walsh (chairman), R. C. Muir, Milton Katz (WPB), C. B. LePage, T. H. Wickenden, K. H. Condit, D. S. Ellis, John Lord O'Brien (WPB), Col. W. B. Hardigg.)

A.S.M.E. War Production Committee Inspects Aberdeen Proving Ground

Many Officers of Ordnance Department Accompany Group

MEMBERS of the War Production Committee of The American Society of Mechanical Engineers, Col. James L. Walsh, chairman, were guests of the Ordnance Department at the Proving Ground, Aberdeen, Md., on Wednesday, October 7.

During the morning the various types of weapons, from the pistol to the 8-in. howitzer, were explained and fired, including one piece of captured German ordnance. Antiaircraft fire under remote control was demonstrated.

Tanks Are Demonstrated

A line-up of several tanks and other pieces of mechanized equipment was next visited and, following a description of each vehicle, a demonstration run was witnessed from an elevated vantage point, with some spectacular maneuvers which indicated the adaptability to various types of terrain and the stability of the firing platform under difficult conditions. An opportunity was afforded for members of the party to ride in the tanks.

Following luncheon the committee inspected some of the extensive training facilities where methods of instruction were explained, beginning with the elementary shop work given to enlisted men in the Ordnance Replacement Training Center and ending with an inspection of some of the facilities of The Ordnance School, including the reproduction department, where printed and illustrative material are prepared, the antiaircraft fire-control facilities and the fire-control building, the machine shops, small-arms section, aviation ordnance section, and one of the mess halls, kitchens, and barracks.

Courses—One Week to Three Months

The Ordnance School is the largest institution for training personnel in the Ordnance Department beyond the training normally given men in Replacement Training Centers. The courses of instruction vary in length from one week to three months. There are 59 different courses of instruction included in the curriculum. Students come from ordnance organizations stationed in all parts of the country and foreign service. There are three divisions of training. The largest of these is the Officer and Officer Candidate Division. The Enlisted Division directs the training of students in a wide variety of courses in which the trainee is taught the technique of ordnance supply and maintenance activities. The attendance in the Base Shop division of the school varies with the organizations assigned. The training is obtained by the practical application of theoretical knowledge in the actual repair of unserviceable ordnance matériel.

Accompanying the committee in its inspection of the Proving Ground and Training Center were numerous officers of the Ordnance Department, including Major General C. T. Harris, Jr., in command of the Aberdeen Proving Ground, Brigadier General J. S. Hatcher, in charge of the Military Training Division, Brigadier General G. M. Barnes, chief of the Technical Division, Colonel G. W. Outland, commandant of the Ordnance School, and Colonel C. E. Davies, Secretary, A.S.M.E. and chief of the Control Branch, Office of the Chief of Ordnance.

1943 A.S.M.E. Mechanical Catalog and Directory Out

Over 550 Pages of Information

THE thirty-second annual A.S.M.E. Mechanical Catalog and Directory, 1943 edition, published October 1 by The American Society of Mechanical Engineers, was distributed to A.S.M.E. members during October.

In its catalog section, manufacturers describe and illustrate their products that are of interest to mechanical engineers. This section is followed by a Directory which gives the user a practically complete and authoritative index to manufacturers of metals and alloys, power-plant equipment, power-transmission equipment, instruments, materials-handling apparatus, aircraft power plants and instruments, foundry and machine-shop equipment, heating, ventilating, and air-conditioning equipment, electric motors and controls, equipment for process industries, pumps, fans, compressors, and many other types of mechanical apparatus. A page-reference system in the Directory ties up with the catalog, providing descriptions of the desired machine or equipment.

According to the editors of the volume, it is the only book which covers the field of mechanical engineering so thoroughly.

A 16-page insert describing all A.S.M.E. publications, such as power test, boiler construction, and safety codes, American Standards, fluid meters, engineering biographies, bibliographies, research reports, and manuals, is included in this volume for the ready reference of A.S.M.E. members and other users.