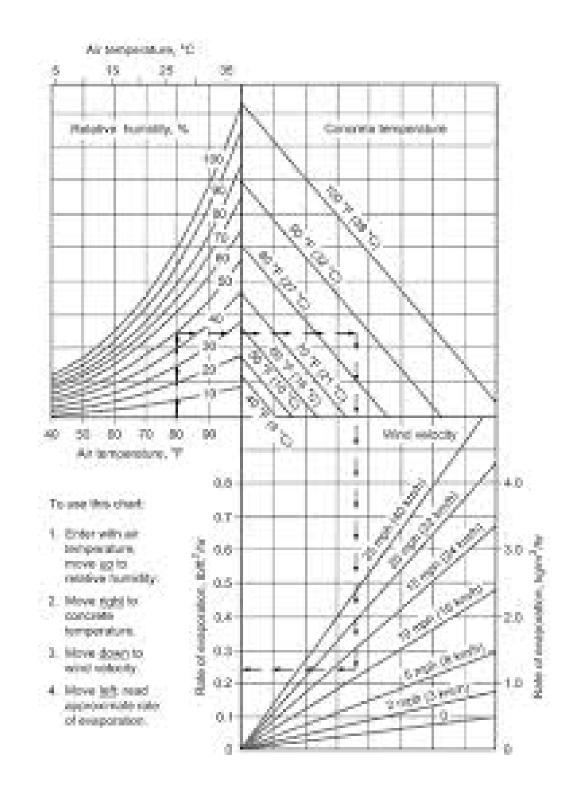


Who is Carl Menzel?

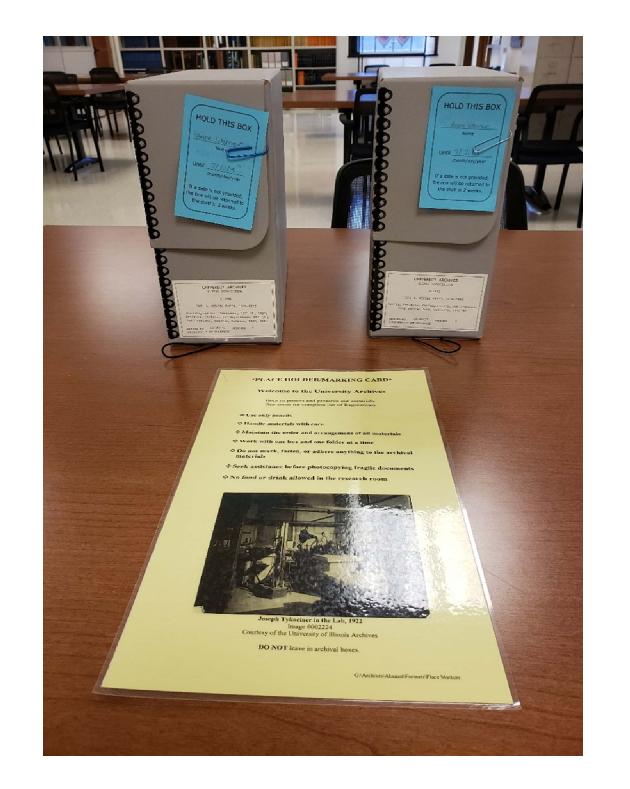
Fall 2018 ACI Convention

Anne Werner, PE, PhD Associate Professor









Education and Employment

1913 – 1915

Armour Institute of Technology Chicago, Illinois

1915 – 1917
 University of Illinois
 Urbana, Illinois BS in ME

1912 – 1916

Draftsman

1917 – 1918

Machinist



1918 – 1921 Forest Products Laboratory Madison, Wisconsin



- In charge of research studies
 - Drying and shrinkage of wood
 - Accurate temperature and humidity control for drying kilns and conditioning chambers
 - Design of apparatus for this work
- Made first experiments on drying wood electrically.
- Research studies to stabilize wood propellers for use in World War I.

"Research studies to stabilize wood propellers for use in World War I."



Picture of Propeller Laboratory Staff at Forest Products Laboratory in August 1918 at Madison, Wisconsin

Top Row, from left-- 3.---Kindschi, 4. Charlie Schuetz, 5. Carl Menzel,
7. Louis Suetter, 9. Sam Morell, 10. Eugene Horn, 11. Geo. Stidgen
13.---Schlack, 14. Sam Peterson, 15. ---Gaffnev
Middle Row, from left--1. Fred Gastrow, 2. Leo Sommers, 3. Ben Torgensen
Bottom Row, from left--1. Gertrude Green, 2. Miss Howard, 5. Mrs. Knauss
8. Archie Knauss, 9. Arthur Heim, 10. --- Medicelo

Patent 1,484,129

- Forest Products Laboratory Madison, Wisconsin
- Developed and patented
 Forest Service wet bulb for
 use in inaccessible locations

"Kilnboy" – the last word in instruments for lumber drying.



Patent 1,484,129

- Jointly developed by Carl Menzel and Albert Herman while employees of the Forest Products Laboratory.
- Granted on 3 March 1924 and dedicated to the general public.
- Later the Foxboro Company used it in their line of psychrometers and humidity controllers.

"The porous sleeve wet bulb is useful for determining the relative humidity in inaccessible locations as in high temperature wood drying kilns, high pressure gas mains, varnish spraying rooms, etc."

Patent 1,484,129

Jointly de while em

Granted general r



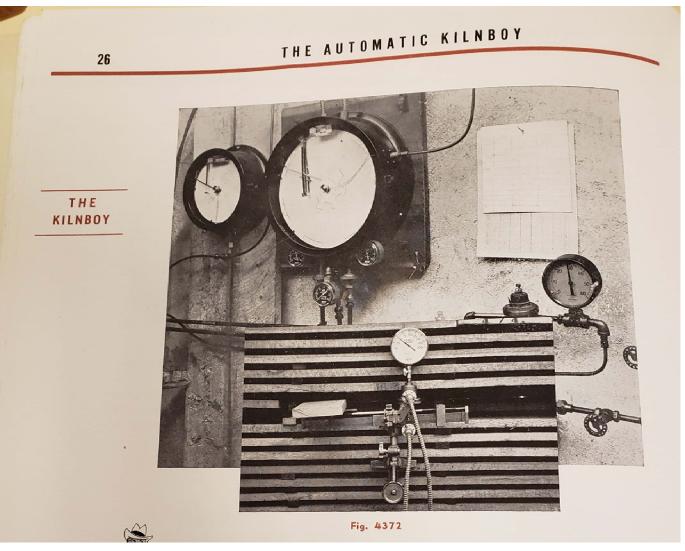


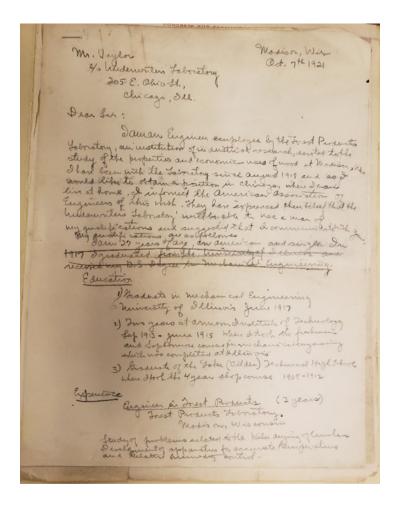


Fig. 5432

Foxboro Wet and Dry Bulb Recorder-Controllers on a Rayon Dryer in a prominent New England Rayon Mill

1921 - 1928 Underwriter's Laboratories

Chicago, Illinois



"I am an Engineer employed by the Forest Products Laboratory, an institution of industrial research, devoted to the study of the properties and economic uses of wood at Madison, Wisconsin. I have been with the Laboratory since 1918 and as I would like to obtain a position in Chicago where i can live at home, I informed the American Association of Engineers of this wish."

Family





- Wife Regina
- Children
 - Alberta
 - David
- Recreational interests: golf, fishing, swimming, photography and study of solar energy

The Menzel Report, 1927

- Chairman of the Water,
 Drainage and Sanitation
 Committee
- Village Trustee
- Secretary of the Homewood Board of Local Improvements

 Investigation of the Sanitary Sewer System in Homewood

MENZEL, PEARSON AND COWING TO MAKE SURVEY OF OUTLET PIPE AS PRELIMINARY TO RECONSTRUCTION

Action of Board Follows Successful Prosecution Of Suit By Village Attorneys In County Court

By G. R. BLAKLEY

After bringing to a successful close its long and bitterly fought battle to obtain satisfactory adjustment of its sanitary sewer system, the board of local improvements of Homewood last Monday night took the first steps to remedy the existing defects in the system when the sewer committee of the board was instructed to consult competent engineering authority on

WANT ADS CALL 206

VOLUME V

FOUNDED BY THE HOMEWOOD CHAMBER OF COMMERCE SUBSCRIPTION PRICE—\$2.00 A YEAR—FIVE CENTS A COPY PUSH SEWER SYSTEM NAME COMMITTEE

PROPOSE MERGER OF CHURCHES IN HOMEWOOD AREA

Community Congregation Outlined At Meeting of Protestant Representatives

Vitally interested in the betterment of the community and feeling that Homewood, like so many other small communities, is over-churched, a group of Homewood citizens met last core of years of experience in his possibility of a community church.

brought out the fact that before any is only resorted to when the conditions project of this kind could be contem- make it imperative, plated, it would be necessary to find "I don't know of anything that can feel towards such a federation of paving in certain cases of gas leaks,"

amount of good would result from any of the 46 villages which come such a union by combining the efforts under my jurisdiction in this disof the small separate church groups trict." into one unified congregation, though Mr. Dowdy pointed out that where it would doubtless entail mutual sac- the breaks are made they are repaired

differences in creed, thought or pro- the village authorities. The work of perty rights, could be amiably settled if there was a real desire on the done only under the direction of expart of Homewood citizens for a perienced men, he claimed, and breaks Community church, chose a "Fact are made only when it is necessary as Finding" committee to determine a safeguard to life and property. whether such a desire exists.

Mrs. C. C. Collier, Mrs. F. P. Frey, Melvin Griffith, Claude Campbell and R. E. Milligan compose the commit-

I am interested in a community Trustee Prindiville pointed out that without the expenditu

W. C. Dowdy And Homewood Board Discuss Paving

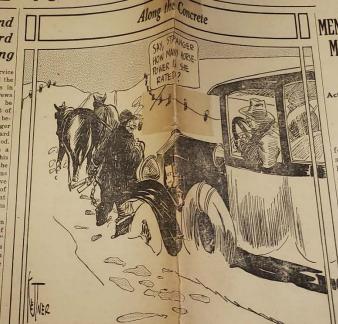
Friction between the Public Service ompany of Northern Illinois and the illage of Homewood over breaks in the pavement made by repair crews for the utility corporation, may be avoided in the future as the result of a conference last Monday night between W. C. Dowdy, district manager for the P. S. C. N. I., and the board of local improvements of Homewood.

Sunday afternoon to consider the field and who is acquainted with the Individuals from almost every Protestant group in Homewood were gas mains, assured the members of present. Discussion at this meeting the board that breaking of pavement

out how the Homewood Protesants be done to prevent the breaking of Dowdy declared. "However, there is It was argued that a tremendous less breakage in Homewood than in

at the expense of the Public Service This gathering, feeling that any corporation and to the satisfaction of mending leaks and replacing pipe is

While assuring Mr. Dowdy and numbers of the board that he wished to avoid any breaks in the pavement wherever possible, Trustee Gladville declared that he saw the solution of the poblem only in the application of Although recovering in



Suit Conducted Without Cost To Homewood

the poblem only in the sphared proof business methods is the relations sands of dollars as a relative of the willage with the willity comof Homewood obtained its vic

Sewer Case of

Importance To

All Engineers

MENZEL, PEARSON AND COWING TO MAKE SURVEY OF OUTLET PIPE AS PRELIMINARY TO RECONSTRUCTION

Action of Board Follows Successful Prosecution Of Suit By Village Attorneys In County Court

By G. R. BLAKLEY

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No repairs or replacements will be made in any residential sewer, centered. sections nor will any street paving be torn up. All work contemplated is to be done in the open stretch containing the last mile and a quarter of the main outlet, it is understood.

The sewer committee, composed of Trustees Menzel, Cowing and Pearson, will consult with Risk and Griffith, village attor-

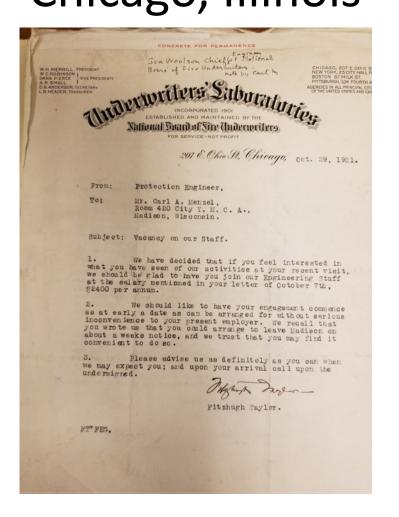
neys, Horace P. Ramey, conneys, Horace P. Ramey, Consulting engineer, and McCoy Sewer History and Mulford, village engineers. In addition, it is expected that further engineering counsel will be obtained to guarantee a satisfactory completion of the sewer adjustment program.

Is Fascinating To Community

Back of the final decision in the lizing the sewer committee to make a suit brought against the village of preliminary survey followed the for- Homewood by the Blackhawk Conmal announcement by Julian C. struction company lies an interesting Risk attorney for the board of local and important history of the whole improvements of Homewood and sewer problem which research itself

n-Stevens, Kink a cal J. G. Van Kuren of the county court While several mem.

1921 - 1928 Underwriter's Laboratories Chicago, Illinois



"We have decided that if you feel interested in what you have seen of our activities at your recent visit we should be glad to have you join our Engineering Staff at the salary mentioned in your letter of October 7th, \$2400 per annum.

1921 - 1928 Underwriter's Laboratories Chicago, Illinois

 Research in drying and shrinkage of wood and in temperature and relative humidity controls





1928 – 1959 Portland Cement Association

- Initially designed a furnace and fire tested concrete masonry and concrete walls
- Techniques were incorporated into ASTM E-5

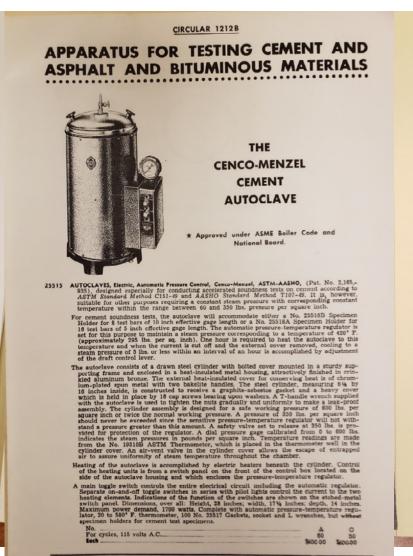


Patents 2,121,439, 2,165,935 and 2,171, 066 (1938 – 1939)



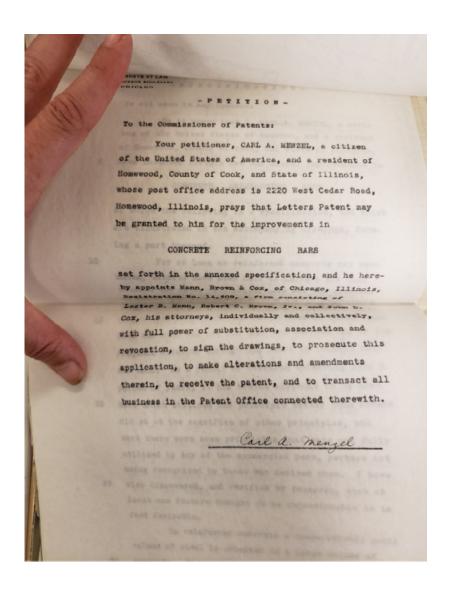
- 2,121,439 Mold for making Cement Mortar bars for Autoclave test
- 2,165,935 Autoclave for testing Soundness of cement
- 2,171,066 Comparator for measuring length change of mortar bars
- Design, development of the proper precision apparatus consisting of an autoclave, comparator and molds now used universally by the cement industry and various testing laboratories in the conduct of the autoclave soundness test for cement.

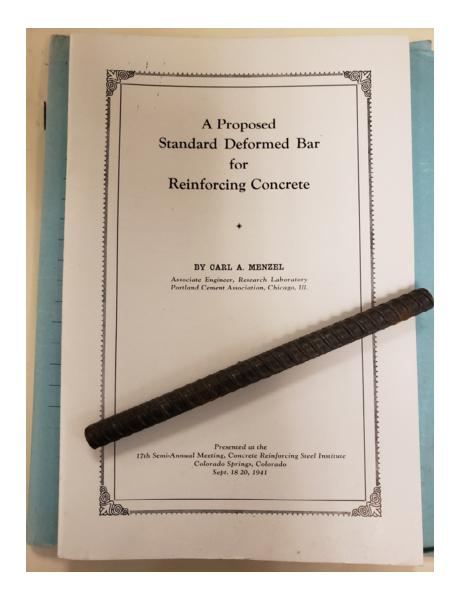
Patents 2,121,439, 2,165,935 and 2,171, 066 (1938 – 1939)

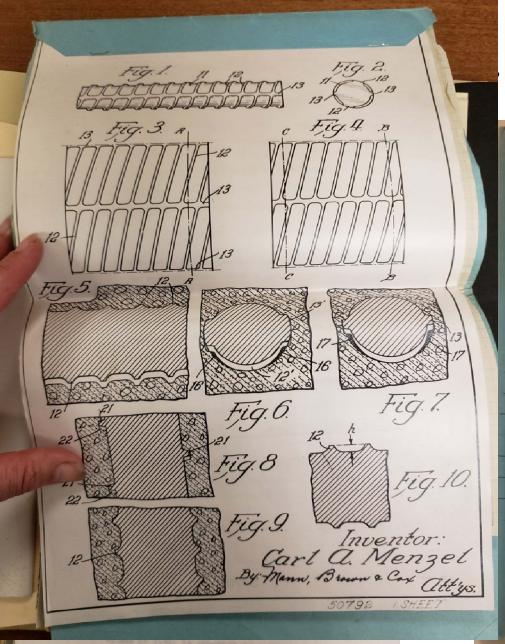


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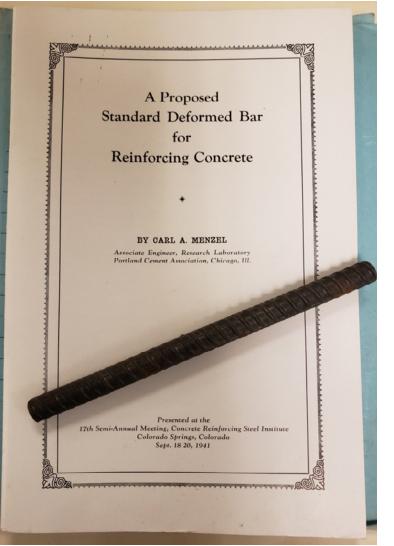
Patent 2,374,827 (in 1945)







7 (in 1945)



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Papers

PROFESSIONAL RECORD (continued)

C. A. Menzel

UBLICATIONS -- 17 Technical Papers Prepared and Published During Employment with PCA

Enter data on articles, papers, texts, books or other works you have had published.

| on articles, F-F | THE THE PARTY OF T | NAME OF PUBLISHER OF PUBLICATION |
|--|--|--|
| (Article, Text, etc.) | The fire Resistance and Stability of | ASTM Proceedings (Annual Meeting 1931) |
| Tech. Paper | The Strength of Concrete Masonry Walls After | ACI Journal |
| Tech. Paper | Standard Fire Exposure | PCA |
| The state of the s | Strangth and Volume Change in Steam-out ou | ACI Journal |
| AND STATE OF THE PERSON OF THE | Studies of High Pressure Steam Curing of | ACI Journal |
| | Studies of High Pressure Steam Curing of | ACI Journal |
| | Portland Cement as a Binder for Foundry Melding Sand | Journal Amer. Foundry Men's Assoc. |
| A.C. | Some factors Influencing Results of Pull-out Bond Tests | ACI Journal |
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Papers

| | | PUBLICATIONS - Page 2. | C. A. Me | |
|---------|----------|--|-------------------------------------|--|
| DOSPECT | ONAL PRO | CORD (continued) | | |
| Date of | | Title | Name of Publisher or Publication | |
| Public | ation | The state of the s | Proceedings Concrete Rein | |
| Sept. | 1941 | A proposed Standard Deformed Bar for Reinforcing Concrete | forcing Steel Institute | |
| | | Some Factors Influencing the Strength of Concrete | ACI Journal | |
| Jan. | 1943 | Some factors Influencing the Strength of Containing Admixtures of Powdered Aluminum | | |
| | Benefac | Tests of the fire Resistance and Thermal | ASTM Proceedings | |
| June | 1943 | Properties of Solid Concrete Slabs and Their Significance | (Annual Meeting 1943) | |
| | Rensvo | Development and Study of Apparatus and Methods | ACI Journal | |
| May | 1947 | for the Determination of the Air Content of Fresh Concrete | | |
| June | 1947 | Procedures for Determining the Air Content of | ASTM Proceedings | |
| | | Fresh Concrete by the Rolling and Pressure Methods | (Annual Meeting 1947) | |
| Nov. | 1952 | Effect of Settlement of Concrete on Results of | PCA - Bulletin 41 | |
| | | Pull-out Bond Tests | | |
| Nov. | 1952 | An Investigation of Bond Anchorage and Related Factors in Reinforced Concrete Beams | PCA - Bulletin 42 | |
| June | 1955 | A Method for Determining the Moisture Condition | ASTM Proceedings | |
| | | of Hardened Concrete in Terms of Relative | (Annual Meeting 1955) | |
| | | Humidity | A Development Dept, Bulletin | |
| June | 1957 | | | |
| - une | 2771 | Fallacies in the Current Per Cent of Total | ASTM Proceedings | |
| | | Absorption Method for Determining and Limiting the Moisture Content of Concrete Block | (Annual Meeting 1957) | |
| Sept. | 1050 | | PCA- Research Buttetin 84 | |
| J. P. | 1736 | General Considerations of Cracking in Concrete Masonry Walls and Means for Minimizing It. PCA | E. C. C. | |

Papers

| | PUBLICATIONS |
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| PARCETONAL | RECORD (continued) |
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| Date of Publication | <u>Title</u> |
| Sept. 194 | s ct - send Deformed Ba |
| Jan. 194 | Some factors Influencing the St Containing Admixtures of Powd |
| June 194 | Tests of the fire Resistance an Properties of Solid Concrete Significance |
| May 194 | Development and Study of Appara for the Determination of the Fresh Concrete |
| June 194 | Procedures for Determining the Fresh Concrete by the Rolling Methods |
| Nov. 195 | Effect of Settlement of Concret Pull-out Bond Tests |
| Nov. 195 | An Investigation of Bond Anchor Factors in Reinforced Concret |
| June 1955 | A Method for Determining the Mo of Hardened Concrete in Terms Humidity |
| June 195 | Fallacies in the Current Per Ce Absorption Method for Determit the Moisture Content of Concr |
| Sept. 195; | General Considerations of Cracking Masonry Walls and Means for Min |

Research Laboratories of the Portland Cement Association

BULLETIN 19

Procedures for Determining the Air Content of Freshly-Mixed Concrete by the Rolling and Pressure Methods

BY CARL A. MENZEL

JUNE, 1947

Authorized Reprint from the
Symposium on Measurement of Entrained Air in Concrete
Published in the Copyrighted Proceedings of the
AMERICAN SOCIETY FOR TESTING MATERIALS
Philadelphia, Pa.
Volume 47, 1947
Also Issued as Separate Pamphlet

 1932 – Charles B. Dudley metal from ASTM, awarded annually to the author of a paper presented at the preceding annual meeting (1931)

"Tests of Fire Resistance and Stability of Walls of Concrete Masonry Units" presented at the 1931 annual meeting in Chicago BULLETIN

C. A. Menzel Awarded Dudley Medal

C. A. Menzel, Associate Engineer, Research Laboratory of the Portland Cement Association, was awarded the Charles B. Dudley Medal for 1932 at the Thirty-fifth Annual Meeting. This medal, commemorating the name of the Society's first president, is awarded annually to the author of a paper presented at the preceding annual meeting, which is of outstanding merit and constitutes an original contribution

to research in engineering materials.

Mr. Menzel's paper, which won for him this seventh award of the medal, covered "Tests of Fire Resistance and Stability of Walls of Concrete Masonry Units." It was presented at the 1931 annual meeting in Chicago. The paper presented the principal results of a comprehensive investigation of the fire-resistant and loadcarrying properties of approximately 100 walls of concrete masonry units, subjected to standard fire endurance and load tests.

Mr. Menzel received the degree of Bachelor of Science in Mechanical Engineering from the University of Illi-



5

C. A. MENZEL

nois in 1917. Since his graduation he has been largely engaged in research, testing and development work on various building materials and constructions, chiefly with regard to their fire resistance. He served three years at the Forest Products Laboratory, seven years at the Underwriters' Laboratories and has been employed for the past four years in his present position.

1948 – Leonard C.
 Wason Medal from
 ACI for the "the
 most meritorious
 paper of the year"

Research Laboratories of the Portland Cement Association

BULLETIN 16

Development and Study of Apparatus and Methods for the Determination of the Air Content of Fresh Concrete

CARL A. MENZEL

MAY, 1947

CHICAGO

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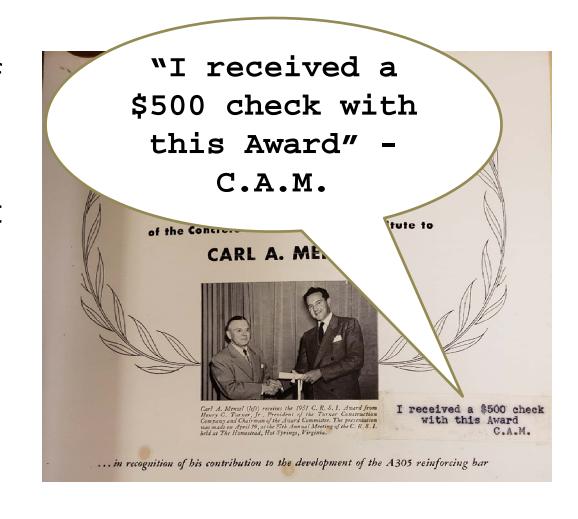
JOURNAL OF THE AMERICAN CONCRETE INSTITUTE
New Center Building, Detroit 2, Michigan

May 1947, PROCEEDINGS Vol. 43, p. 1053

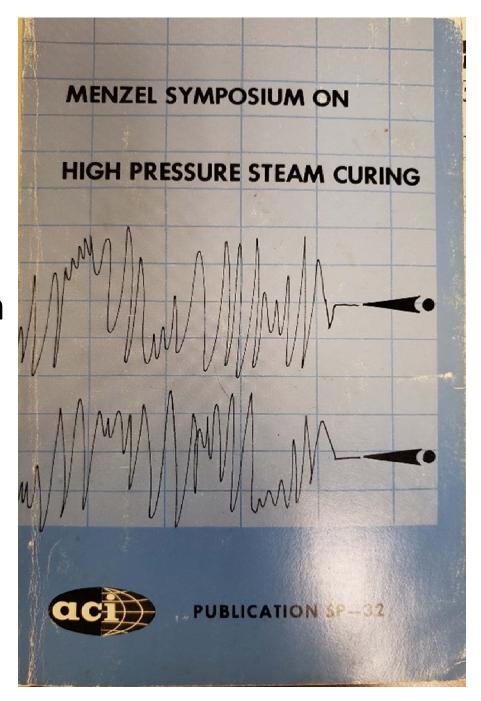
1951 – Award of the Concrete Reinforcing Steel

Institute

"in recognition of noteworthy contributions to the advancement of reinforced concrete construction."



 1969 – Honored by ACI Committee 516
 "Menzel Symposium on High Pressure Steam Curing"





This is to Certify that

in recognition of services of an Extraordinarily Meritorious Character

Tarl A. Menzel

has been elected an

Monorary Member

of this Institute

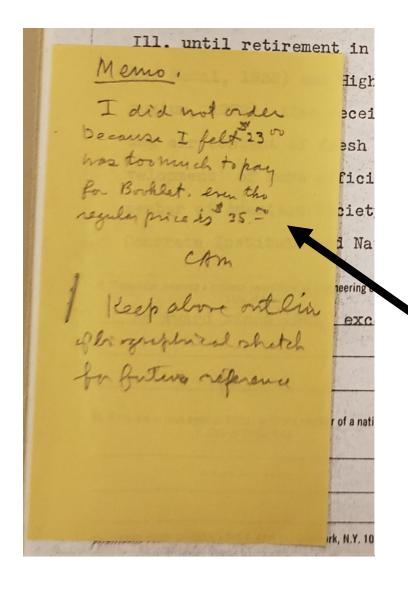
William a. Maple

Secretary

Given this 16th day of April 1970

the burns

Engineers of Distinction, 1972



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| ing work on building | materials and const | ruction: 4 at Forest Prod- erwriters' Laboratories, |
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| *Limited copies of the First Edition | n at special discount prices upor | n reques |

- 1932 Charles B. Dudley metal from ASTM, awarded annually to the author of a paper presented at the preceding annual meeting (1931)
- 1948 Leonard C. Wason Medal from ACI for the "the most meritorious paper of the year"
- 1951 Award of the Concrete Reinforcing Steel Institute "in recognition of noteworthy contributions to the advancement of reinforced concrete construction."
- 1958 Citation for Quality of Presentation at ASTM's 60th annual meeting in 1957
- 1963 The Alfred E Lindau Award presented at the 59th annual ACI Convention
- 1969 Honored by ACI Committee 516 with the "Menzel Symposium on High Pressure Steam Curing"
- 1974 ASTM S. H. Ingberg Award outstanding achievements in fire resistance research and in fire loss prevention, including the development of standards relating to fire tests.

1975 Walter C. Voss Award from ASTM





AWARA VVII II II II

The Association congratulated three staff members, honored by other industry organizations, at a May 20 Awards Recognition meeting. At the same meeting, Bob MacLean, on behalf of the American Society for Testing and Materials, presented the 1975 Walter C. Voss Award to Carl A. Menzel (retired). Here is the day in pictures. The words are Bob MacLean's.

(Mark Fintel was honored in absentia for his award from Engineering News-Record.)



..."His name is almost synonymous with ACI. .. In recognition of his work, ACI last month named Joe Shideler an honorary member."



"In 1959, Carl Menzel closed an outstanding 31-year career with PCA."



... "The papers that have earned, since 1917, the ACI Wason Award, represent a sizeable portion of the body of knowledge concerning concrete technology. In 1974, the man who added to that knowledge was Frank Randall. . a gifted and dedicated engineer."



"It now is my privilege to present, on behalf of ASTM, the Walter C. Voss Award for 1975. . . given for significant contributions to the knowledge of building materials."



"He was adding to the industry's knowledge. . . before many in this room were born."

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