

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1949 VOL. 1 NO. 1**

**SOCIETY OF ACTUARIES**

(ARTHUR A. MCKINNIE, *Executive Secretary*)

208 SOUTH LA SALLE STREET, CHICAGO 4, ILLINOIS

NOVEMBER, 1949

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SECRETARY-TREASURER: HENRY F. ROOD

EDITOR: JOHN R. LARUS

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	J. GORDON BEATTY	1951
	<i>Elected</i>	
	JAMES R. HERMAN	1950
	M. ALBERT LINTON	1950
	JOSEPH B. MACLEAN	1950
	WENDELL A. MILLIMAN	1950
	RAY D. MURPHY	1950
	JOHN G. PARKER	1950
	JOHN D. BUCHANAN	1951
	RICHARD C. GUEST	1951
	JAMES E. HOSKINS	1951
	VALENTINE HOWELL	1951
	WILMER A. JENKINS	1951
	EDWARD W. MARSHALL	1951
	HENRY S. BEERS	1952
	GEORGE W. BOURKE	1952
	VICTOR E. HENNINGSSEN	1952
	REINHARD A. HOHAUS	1952
	WALTER O. MENGE	1952
	CHARLES A. TAYLOR	1952

## FELLOWS

(June 3, 1949)

- ABBOTT, ELEANOR A.  
 ADAMS, SAMUEL P.  
 ADAMS, WELBURN J.  
 AINSLIE, OLIVER R.  
 ALBRIGHT, LUCILE M.  
 ALBRIGHT, MARIAN R.  
 ALLAN, WILLIAM  
 ALLEN, HAROLD G.  
 ALLEN, J. FINLAY  
 ALLISON, SINCLAIR E.  
 ALLSTROM, HENRY W.  
 ALVORD, MORGAN H.  
 AMBLER, ARTHUR B., JR.  
 AMERMAN, GUY H.  
 AMES, ERNEST C.  
 ANDERSON, ALBERT W.  
 ANDERSON, WILLIAM M.  
 ARCHIBALD, A. EDWARD  
 ARCHIBALD, JOHN C.  
 ARLINGHAUS, CLEMENS G., JR.  
 ARMANTROUT, EVERETT D.  
 ARMSTRONG, EWEN C.  
 ARMSTRONG, ROBERT H.  
 ARNOLD, OSWALD J.  
 ASHMAN, CARL R.  
 ATRUBIN, HARRY M.  
 BABBITT, ALBERT E.  
 BAGLEY, W. NELSON  
 BALDWIN, RICHARD D.  
 BARBER, WILLIAM P., JR.  
 BARNSLEY, JOSEPH C.  
 BARNSLEY, REGINALD C.  
 BARTLESON, EDWIN L.  
 BASSFORD, HORACE R.  
 BATHO, ELGIN R.  
 BEACH, MORRISON H.  
 BEATTY, J. GORDON  
 BECKETT, CHARLES H.  
 BEERS, HENRY S.  
 BÉGAULT, AMÉDÉE  
 BELL, MAX S.  
 BELL, WRAY M.  
 BENJAMIN, ROY R.  
 BENNETT, MELVIN D.  
 BERGSTRESSER, ROBERT L.  
 BERKELEY, EDMUND C.  
 BERRY, WILLIAM J.  
 BEVAN, JOHN A.  
 BEVERIDGE, JAMES R.  
 BINGHAM, GORDON R.  
 BITTEL, W. HAROLD  
 BITZER, J. FREDERICK  
 BJORN, WALTER  
 BLACKADAR, W. LLOYD  
 BLAGDEN, HENRY E.  
 BLAIR, B. FRANKLIN  
 BLAKEMAN, HERBERT H.  
 BONNYCASTLE, LAWRENCE C.  
 BOOHER, J. EARNEST  
 BOOKE, SAMUEL L.  
 BOURKE, GEORGE W.  
 BOWERMAN, WALTER G.  
 BOWLES, THOMAS P., JR.  
 BOYLE, STANLEY W.  
 BRADDOCK, JAMES H.  
 BRADSHAW, HENRY  
 BRADY, GEORGE V.  
 BRANAGAN, THOMAS F.  
 BREIBY, WILLIAM  
 BRERETON, C. ROSS  
 BRETT, JOSEPH H.  
 BREWSTER, JOHN E.  
 BROCK, STANLEY E.  
 BRODIE, NORMAN  
 BRONSON, DORRANCE C.  
 BROWN, ARNOLD B.  
 BROWN, EVERETT G.  
 BROWN, LLOYD J.  
 BROWN, WILLIAM C.  
 BRUCE, JAMES G.  
 BRYCE, GEORGE M.  
 BUCHANAN, JOHN D.

- BUCK, GEORGE B.  
 BUCKMAN, ALFRED L.  
 BUCKNELL, EARL F.  
 BUCKNER, DAVID E.  
 BUCKNER, LEWIS P.  
 BUDINGER, JOSEPH A.  
 BUNYAN, ALDEN T.  
 BURLIAN, OTTO J.  
 BURLING, WILLIAM H.  
 BURTON, RUSSELL C.  
 BYRON, FRANK H.  
 CAMERON, JOHN L.  
 CAMERON, WILLIAM J.  
 CAMMACK, EDMUND E.  
 CAMP, KINGSLAND  
 CAMPBELL, ALISTAIR M.  
 CAMPBELL, DONALD F.  
 CAMPBELL, GEORGE C.  
 CAMPBELL, JAMES A.  
 CAMPBELL, LACHLAN  
 CAMPBELL, NEIL D.  
 CANNON, GARNETT E.  
 CANNON, LESLIE A.  
 CARLSON, K. E. VERNER  
 CARTER, EDWIN R.  
 CATHLES, LAWRENCE M.  
 CHALLENGER, JAMES O.  
 CHAMBERS, J. WILFRID  
 CHAPIN, WALTER L., JR.  
 CHAPMAN, FREDERIC P.  
 CHENEY, DONALD B.  
 CHESTER, GEORGE D.  
 CHODORCOFF, WILLIAM  
 CHRISTMAN, JOSEPH A.  
 CHRISTMAS, WILLIAM R.  
 CLAIR, JOSEPH J.  
 CLARK, DONALD G., JR.  
 CLARK, FREDERICK W.  
 CLARK, HELEN L.  
 CLARKE, JOHN W.  
 COATES, BARRETT N.  
 COATES, ROBERT P.  
 COBURN, ARTHUR  
 CODY, DONALD D.  
 COHAGAN, WILLIAM J.  
 COIT, RALPH B.  
 COLEMAN, JAMES F.  
 COMFORT, MAURICE E.  
 CONNELL, WILLIAM S.  
 CONROD, STUART F.  
 COOKE, GEORGE A.  
 COPPLE, JAMES B., JR.  
 CORBETT, HENRY R.  
 CORCORAN, WILLIAM M.  
 CRAIG, DOUGLAS S.  
 CRIMMINS, JOSEPH B.  
 CRIPPEN, LLOYD K.  
 CROSS, CECIL F.  
 CROWE, ERNEST W.  
 CROWTHER, T. ARNOLD  
 CRUESS, LEIGH  
 CUETO, MANUEL R.  
 CUNNINGHAM, FREDERICK J.  
 CUSIC, MARY M.  
 DALRYMPLE, JAMES R.  
 DALY, BRIAN L.  
 DANDY, JOHN P.  
 DANZINGER, LEO J.  
 DARK, THOMAS A.  
 DAVIDSON, JOHN C.  
 DAVIS, GEORGE H.  
 DAVIS, MALVIN E.  
 DAVIS, MERVYN  
 DELANEY, ANDREW  
 DEVITT, HENRY G.  
 DEWEY, HARLEY W.  
 DIXON, JOHN S.  
 DODD, THOMAS K.  
 DODSON, MARWIN R.  
 DORFMAN, EUGENE F.  
 DORN, LOWELL M.  
 DOUGHERTY, EDWARD A.  
 DOUGLAS, DAVID L. S.  
 DOW, HAROLD E.  
 DOWSETT, REGINALD E.  
 DOXSEE, M. IRWIN  
 DUFFIELD, DICKINSON C.  
 DUNCAN, ROBERT M.

- DYER, JOHN K., JR.  
 ECKLER, SAMUEL  
 EDDY, C. MANTON  
 EHRENCLOU, ORVAR A.  
 EISNER, STANLEY L.  
 ELLIS, DONALD M.  
 ELLIS, MILTON A. K.  
 ELSTON, JAMES S.  
 ELY, RAY M.  
 ESPIE, ROBERT G.  
 EVANS, JOHN H.  
 EVANS, PERCY H.  
 FACKLER, EDWARD B.  
 FAITH, EDWARD L.  
 FALLON, JOSEPH P.  
 FASSEL, ELGIN G.  
 FEAY, HERBERT L.  
 FEAY, MAURICE F.  
 FELLERS, WILLIAM W.  
 FILE, LORNE K.  
 FINELLI, JOHN J.  
 FINNEGAN, PHILIP F.  
 FISANICK, GEORGE  
 FITZHUGH, GILBERT W.  
 FONDILLER, RICHARD  
 FOSTER, CLARK T.  
 FRAZER, PAUL K.  
 FREDA, PHILIP J.  
 FRIEDMAN, LLOYD K.  
 FUHLRODT, NORMAN T.  
 GAMERDINGER, CHARLES W.  
 GANNON, JOSEPH T.  
 GARABEDIAN, HAROLD A.  
 GARDINER, JAMES B.  
 GARDNER, HERBERT S.  
 GEDDES, G. WILSON  
 GELLES, MANUEL  
 GEORGE, HAROLD J.  
 GERHARD, F. BRUCE  
 GERSHENSON, HARRY  
 GIBB, EDWARD D.  
 GILBERT, DATON  
 GILL, ERNEST C.  
 GILL, THOMAS E.  
 GILMOUR, NEIL  
 GINGERY, STANLEY W.  
 GLAZIER, RICHARD L.  
 GLENN, JOSEPH B.  
 GOLDBERG, MILTON J.  
 GOODRICH, CLARENCE R.  
 GOULD, WILLIAM  
 GRAHAM, WILLIAM J.  
 GRANT, MILTON D.  
 GRAY, ALBERT H.  
 GRAY, J. ROSS  
 GREEN, EDWARD A.  
 GREENE, W. W.  
 GREVILLE, T. N. E.  
 GRIFFIN, FRANK L., JR.  
 GRISWOLD, ROBERT N.  
 GROTH, ALTON O.  
 GROUT, HAROLD A.  
 GROVER, MYLES L.  
 GUERTIN, ALFRED N.  
 GUEST, RICHARD C.  
 GUNDY, HARRY F.  
 GUNN, MARCUS  
 GUY, HARRINGTON L.  
 HAIGHT, FRANK J.  
 HALL, ARTHUR F.  
 HALL, DAVID  
 HAMILTON, JAMES A.  
 HANN, ALFRED G.  
 HANSEN, STEFAN  
 HARPER, NORMAN  
 HARRIGAN, HAROLD F.  
 HARRIS, DAVID H.  
 HARRISON, WILLIAM H.  
 HART, WARD VAN B.  
 HARVEY, ROBERT W.  
 HASBROUCK, RALPH J.  
 HASTINGS, SETH  
 HAYES, REA B.  
 HECKMAN, JOHN F., JR.  
 HENDERSON, EARL C.  
 HENDRICKSON, JAMES T.  
 HENNINGSEN, VICTOR E.  
 HENNINGTON, HOWARD H.

HERFURTH, CARL E.  
 HERMAN, JAMES R.  
 HEZLETT, EDWARD H.  
 HILL, FREDERICK W.  
 HILL, J. STANLEY  
 HILL, WALTER C.  
 HILLER, WILLIAM J.  
 HOHAUS, REINHARD A.  
 HOLDERMAN, BERTRAM D.  
 HOLLENBERG, MAXIMILIAN R.  
 HOLMES, BENJAMIN T.  
 HOLMES, GEORGE L.  
 HOLMES, HORACE  
 HOLSTEN, FRED H.  
 HONDORF, PETER  
 HOOKER, RUSSELL O.  
 HOPE, FRANCIS M.  
 HOSKINS, JAMES E.  
 HOWE, LIVERUS H.  
 HOWELL, VALENTINE  
 HOYT, JOHN T.  
 HUBBELL, GEORGE W.  
 HUENERGARD, ARTHUR J. C.  
 HUGHES, NORMAN M.  
 HUMPHREY, PATRICK L.  
 HUMPHRYS, RICHARD  
 HUNTER, ARTHUR  
 HUNTER, JAMES  
 HUNTER, ROBERTSON G.  
 HURD, H. GORDON  
 IMMERWAHR, GEORGE E.  
 INGERSOLL, W. HARRISON, JR.  
 IRVINE, THOMAS  
 IRWIN, PHILIP C.  
 JACK, COLIN E.  
 JACKSON, CHARLES W.  
 JACKSON, EDGAR M.  
 JACKSON, HENRY H.  
 JACKSON, ROBERT T.  
 JACOBSON, REUBEN I.  
 JACOBY, OSWALD  
 JENKINS, WILMER A.  
 JEX, ROBERT L.  
 JOFFE, SOLOMON A.  
 JOHANSON, FRANCIS O.  
 JOHNSON, ESTHER  
 JOHNSON, M. LOUIS  
 JOHNSON, WILBUR M.  
 JOHNSTON, ALBERT W.  
 JOHNSTON, FREDERICK H.  
 JOHNSTONE, WILLIAM C.  
 JONES, HARRY W.  
 JONES, NATHAN F.  
 JONES, W. RALPH  
 JORDAN, C. WALLACE, JR.  
 JOYCE, AUBREY L.  
 KALMBACH, LELAND J.  
 KATTELL, SHERMAN C.  
 KEFFER, RALPH  
 KELTIE, WILLIAM A.  
 KELTON, WILLIAM H.  
 KENIGSON, ABRAHAM  
 KENIGSON, GEORGE  
 KENNON, RALPH E.  
 KILLION, RAYMOND F.  
 KINEKE, FRANK D.  
 KING, ESTELLA C.  
 KIRKPATRICK, THOMAS H.  
 KLEM, WALTER  
 KNIGHT, GARDNER F.  
 KOCH, ELOISE B.  
 KOEPE, ARTHUR J.  
 KOLODNY, GEORGE  
 KRETSCHMER, ALBERT H., JR.  
 KRONHOLM, WILLIAM L.  
 KVERNLAND, JACK T.  
 LACHNER, HAROLD A.  
 LAING, JOHN M.  
 LAING, JOHN N.  
 LAIRD, MORTON A.  
 LAIRD, W. DARRELL  
 LANG, KERMIT  
 LARSEN, ARTHUR W.  
 LARSON, ROBERT E.  
 LARUS, JOHN R.  
 LAWSON, HAROLD R.  
 LEBOURVEAU, ALLAN F.  
 LEHMAN, A. THOMAS

- LEVINSON, LOUIS  
 LEW, EDWARD A.  
 LIDSTONE, GEORGE J.  
 LIENHARD, JOHN B.  
 LINCOLN, OWEN C.  
 LINK, BERTHA L.  
 LINTON, M. ALBERT  
 LITHGOW, JAMES H. F.  
 LITTLE, RICHARD  
 LIVINGSTON, JAMES A., JR.  
 LOADMAN, A. EARL  
 LOUITT, JAMES F. R.  
 LOWTHER, JOHN E.  
 LUKENS, JAYWOOD  
 LUNDGREN, ERIK A.  
 LYLE, ANNIE M.  
 LYONS, DANIEL J.  
 LYONS, HAROLD V.  
 MABON, J. BERTRAM  
 MACCABE, THOMAS J.  
 MACCHARLES, FRANK D.  
 MACFARLANE, WILLIAM  
 MACGREGOR, KENNETH R.  
 MACINTYRE, NEIL W.  
 MACKINNON, WILL D  
 MACLEAN, ALEXANDER T.  
 MACLEAN, JAMES F.  
 MACLEAN, JOSEPH B.  
 MACRAE, EARL M.  
 MAITLAND, RONALD G.  
 MARCUS, JOHN J.  
 MARSHALL, EDWARD W.  
 MARSHALL, ERSTON L.  
 MARSHALL, GLADSTONE  
 MARTIN, LESLIE R.  
 MCANDLESS, ALVA J.  
 MCAULAY, ARCHIBALD H.  
 MCCANKIE, REGINALD C.  
 MCCARTER, WILLIAM C.  
 MCCOMBS, ALLAN B.  
 MCCONAGHY, CHARLES A.  
 MCCONNEY, EDMUND M.  
 MCCORKLE, H. ROBERT A.  
 MCCORMICK, DONALD N.  
 MCCRACKEN, ARCHIE R.  
 MCDIARMID, FERGUS J.  
 MCDONNELL, JAMES R.  
 MCGREGOR, WILLIAM  
 MCINTOSH, JAMES  
 MCKELLAR, JOHN A.  
 MCKINNEY, GORDON D.  
 MCLEAN, PERCY S.  
 MCLEOD, HUGH  
 MCQUEEN, ROBERT C.  
 MCVITY, LEONARD H.  
 MELCHINGER, CHARLES W.  
 MELLMAN, RICHARD J.  
 MELNIKOFF, MEYER  
 MENAGH, LOUIS R., JR.  
 MENGE, WALTER O.  
 MERRIAM, WALTER A.  
 MILLER, IVESON A.  
 MILLER, JOHN H.  
 MILLER, JULIAN M.  
 MILLER, MORTON D.  
 MILLER, RICHARD L.  
 MILLER, ROBERT A., III  
 MILLER, SAMUEL A.  
 MILLIGAN, SAMUEL  
 MILLIMAN, WENDELL A.  
 MILNE, JACK D.  
 MILNE, JOHN L.  
 MINCKS, W. WALTER  
 MOILLEN, TILMAR  
 MONSKY, MORRIS  
 MONTGOMERY, PAUL V.  
 MOORE, ARTHUR J.  
 MOORE, GENE C.  
 MOORE, JASPER E.  
 MOORHEAD, ERNEST J.  
 MORRIS, DOUGLAS P.  
 MORRIS, WILLIAM O.  
 MORRISON, HENRY P.  
 MORRISON, JOHN E.  
 MORRISON, THOMAS B.  
 MORTON, ALTON P.  
 MOSESSON, ZEHMAN I.  
 MOTHERAL, ANNIE M.

MOYER, ROSS E.  
 MUDIE, MURIEL M.  
 MULLANS, G. ROBERT  
 MUNRO, RUSSELL E.  
 MURPHY, RAY D.  
 MUTH, ALFRED F.  
 MYER, GORDON G.  
 MYERS, ROBERT J.  
 NAYLOR, CARMAN A.  
 NELSON, CARROLL E.  
 NESBITT, CECIL J.  
 NEUMANN, EDWARD M.  
 NEUSCHWANDER, EUGENE H.  
 NOBACK, JOSEPH C.  
 NORTON, ELIJAH H., JR.  
 NOVEMBER, WILLIAM J.  
 O'KEEFE, RICHARD E.  
 OLIFIERS, EDWARD  
 PAFF, HAROLD G.  
 PAGE, CHARLES H.  
 PARKER, JOHN G.  
 PARRY, ARTHUR F.  
 PATTERSON, WILLIAM D.  
 PAULEY, BARTON S.  
 PEDOE, ARTHUR  
 PEIRCE, HARRY H.  
 PEQUEGNAT, A. EUGENE  
 PERKINS, FREDERICK P.  
 PERRIN, OLIVER W.  
 PERRY, ROBERT C.  
 PESTAL, CHARLES F.  
 PETERSON, RAY M.  
 PETTEGREW, ARTHUR A.  
 PETTENGILL, DANIEL W.  
 PHELPS, JOHN  
 PHENIX, PHILIP H.  
 PHILLIPS, JAMES T.  
 PHILLIPS, T. A.  
 PICKERING, GUY W., JR.  
 PIKE, ALBERT, JR.  
 PIPE, SIDNEY H.  
 PIPER, KENNETH B.  
 POISSANT, WILLIAM A.  
 POORMAN, WILLIAM F.  
 PORTER, ELDER A.  
 POWELL, JOHN M.  
 POWER, BRUCE R.  
 PRENTICE, GEORGE T.  
 PRESTON, ROBERT F.  
 PROBST, CHARLES E.  
 PRYCE, MELVIN C.  
 RABENAU, PHILIP A.  
 RAE, WILLIAM M.  
 RATHGEBER, FREDRICK E.  
 REEDER, HOWARD C.  
 REISE, HAROLD A.  
 REYNOLDS, WALTER L.  
 RHODES, EDWARD E.  
 RICE, HENRY I. B.  
 RICHARDSON, CHARLES F. B.  
 RICHTER, OTTO C.  
 RICKARDS, CHARLES E.  
 RIEDER, EDWARD A.  
 RIETZ, H. LEWIS  
 RILEY, ALFRED J.  
 RITCHIE, JOHN W.  
 ROBERTS, HENRY R.  
 ROOD, HENRY F.  
 ROSENTHAL, IRVING  
 ROSS, KENNETH H.  
 ROTH, IRVING G.  
 ROTHSCHILD, STANFORD Z.  
 ROTTER, PAUL T.  
 RUDDOCK, JOHN Y.  
 RUGGER, GERALD K.  
 RUGLAND, WALTER L.  
 RUPERT, WALTER J.  
 RUSE, EDWARD  
 RUTHERFORD, CHARLES D.  
 RYAN, JOHN F.  
 RYDGREN, ADOLPH A.  
 RYRIE, GEORGE  
 ST. JOHN, JOHN B.  
 SARASON, HARRY M.  
 SAUNDERS, RAY A.  
 SCHAFER, EDWARD G.  
 SCHENKEL, JAMES M.  
 SCHMIDT, WILLIAM H.

- SCHNEIDER, WILLIAM G.  
 SCHNELLE, CHARLES S.  
 SCHWARTZ, ADOLPH F.  
 SCHWARTZ, RICHARD T.  
 SCOTT, DAVID G.  
 SCOTT, JAMES  
 SELLERS, EDWARD A.  
 SELLERS, RICHARD M.  
 SHAILER, FRANK A.  
 SHALEN, ROBERT E.  
 SHANNON, SIMON  
 SHARP, JONATHAN G.  
 SHARPE, HAROLD L.  
 SHELLARD, GORDON D.  
 SHEPHERD, BRUCE E.  
 SHEPHERD, CLINTON O.  
 SHEPHERD, PEARCE  
 SHUDE, LOUIS O.  
 SIEGFRIED, CHARLES A.  
 SIMPSON, WILLIAM  
 SINCLAIR, COLL C.  
 SKELDING, GEORGE A.  
 SLATER, PHILIP D.  
 SLATER, ROBERT E.  
 SLOAT, FREDERICK P.  
 SMITH, FRANCIS M.  
 SMITH, J. HENRY  
 SOLENBERGER, CARL W.  
 SOUTHERN, CHARLES W.  
 SPIEGELMAN, MORTIMER  
 SPOERL, CHARLES A.  
 SPRUNG, LYALL M.  
 STAGG, RONALD G.  
 STARK, HERBERT J.  
 STEARNS, JOHN B.  
 STEARNS, JOHN L.  
 STEFFEN, WALTER W.  
 STEIN, CALVERT F.  
 STEMMERMANN, THEODORE A.  
 STENNES, GEORGE V.  
 STEPHENSON, H. ROY  
 STERNHELL, CHARLES M.  
 STEVENS, LAWRENCE L.  
 STEWART, GATHINGS  
 STEWART, W. MURDOCK  
 STONE, DAVID G.  
 STOWE, HUDSON J.  
 STREETER, GORDON C.  
 STROCK, ELLSWORTH E.  
 TARBELL, THOMAS F.  
 TAYLOR, CHARLES A.  
 TAYLOR, J. EUGENE  
 TEBBETTS, WALTER  
 TERRYBERRY, WILFRED W.  
 THALER, ALAN M.  
 THOMAS, WILLIAM S.  
 THOMPSON, JOHN S.  
 THOMPSON, SANFORD M.  
 THOMPSON, WILLARD A.  
 THOMSON, G. PRICE  
 THOMSON, GORDON W.  
 TILLINGHAST, JOHN P.  
 TOMPA, PETER M.  
 TOOKEY, CLARENCE H.  
 TOWNE, ROBERT J.  
 TRABER, RALPH E.  
 TRIMBLE, JAMES R.  
 TROWBRIDGE, CHARLES L.  
 TURNBULL, JOHN  
 UNRUH, HENRY C.  
 VAN KEUREN, DONALD J.  
 VARGA, GEORGE J.  
 WADLEIGH, WILLIAM L., JR.  
 WAGENSELLER, LARUE S.  
 WAGNER, RUSSELL L.  
 WAITES, G. FRANK  
 WALKER, HARRY  
 WALKER, MARGARET  
 WALKER, RALPH J.  
 WALKER, ROBERT W.  
 WARD, WILLIAM F.  
 WARREN, DONALD B.  
 WARREN, LLOYD A. H.  
 WARTERS, DENNIS N.  
 WATSON, ANDREW D.  
 WATSON, GEORGE N.  
 WATT, ARTHUR  
 WEAVER, ARTHUR G.



WEAVER, CHALMERS L.  
 WEBSTER, ANDREW C.  
 WECK, FRANK A.  
 WEINSTEIN, MAX S.  
 WEIR, DOUGLAS T.  
 WELLS, EDWARD H.  
 WEST, CHARLES E.  
 WHITBREAD, FRANK G.  
 WHITE, AUBREY  
 WHITE, J. ERNEST  
 WHITE, WILLIAM K.  
 WHITTAKER, EDMUND B.  
 WICKES, HAINES B.  
 WILLIAMS, EDWARD B.  
 WILLIAMS, HELEN J.  
 WILLIAMSON, JOHN D.

WILLIAMSON, W. RULON  
 WILSON, GEORGE W.  
 WINDECKER, ARTHUR A., JR.  
 WINTER, BERT A.  
 WISEMAN, ROBERT T.  
 WOLFENDEN, HUGH H.  
 WOLFMAN, MAURICE  
 WOOD, ARTHUR B.  
 WOOD, MILTON J.  
 WOODLEY, CLIFFORD J.  
 WOOLERY, JAMES M.  
 WRIGHT, BYRON  
 YANO, TSUNETA  
 YORK, WILLIAM S.  
 YOUNG, GEORGE W.  
 ZEIGER, EDWARD C.

## ASSOCIATES

(June 3, 1949)

ABERNETHY, JOHN R.  
 ACKER, ROBERT D.  
 ADAMS, J. ROSS  
 ADNEY, GLENN  
 AIN, SAMUEL N.  
 ALBRIGHT, RAY D.  
 ALEXANDER, PHILIP A.  
 ALLEN, EVELYN P. S.  
 ALLEN, HARRY H.  
 ALLSTROM, H. WILLARD, JR.  
 ALLYN, HORACE W.  
 ALPERN, LAWRENCE  
 AMES, JOHN H., II  
 AMSDEN, JOHN F. B.  
 ANDERSON, ROY R.  
 ANDERSON, T. LOYAL  
 ARMSTRONG, CHARLES H.  
 ARTHUR, CHARLES R.  
 AUDEN, MARCUS F.  
 AULT, GILBERT E.  
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 BAILLIE, DONALD C.  
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 BARRY, DANIEL  
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 BATES, JAMES M.  
 BATHO, M. BRUCE W.  
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 BEASLEY, FLOYD T.  
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 BELL, DAVID W.  
 BELL, JOHN H.  
 BENDER, RAYMOND W.  
 BENEDICT, ELMER R.  
 BERE, GEORGE S.  
 BERTRAM, JOHN C.  
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 BLANKLEY, DONOVAN T  
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 BOSSERT, HENRY, JR.

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 BRENTON, WILLIAM P.  
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 BRISTOW, FRANK M., JR.  
 BROWN, EDWARD D., JR.  
 BROWN, ROBERT G.  
 BRUNNQUELL, HELMUTH G.  
 BUCK, NORMAN F.  
 BUCKMAN, HAROLD H.  
 BUDDENBAUM, EDWARD J.  
 BULKLEY, GEORGE E.  
 BURGAR, WILLIAM J.  
 BURSTEIN, RICHARD B.  
 BYRNE, JAMES T.  
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 CAMPBELL, NORMAN L.  
 CARRIGAN, MICHAEL R.  
 CERWINSKE, HERBERT F.  
 CHEN, SSU-TU  
 CHRISTIAN, DELOS H.  
 CLAY, HAROLD P.  
 COATES, BARRETT N., JR.  
 COATES, CLARENCE S.  
 COCHEU, LINCOLN C., JR.  
 COLERIDGE, HOLLIS H.  
 COLQUHOUN, FREDERICK R.  
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 COPELAND, JOHN A.  
 COSBY, BYRON, JR.  
 COWIE, DAVID J.  
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 CULLINAN, CHARLES B.  
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 DANA, FRANKLIN B.  
 DAVIDSON, WAID J.  
 DAVIES, KARL M.  
 DAVIS, J. KENNETH  
 DAVISON, LOUIS M.  
 DEITZ, RICHARD F.  
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 DOYLE, MARTINA E.  
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 DUKE, W. H. BERTON  
 DUNKLEY, HERBERT C.  
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 EASTLACK, ALLEN C.  
 EDWARDS, NORMA L.  
 EDWARDS, RALPH E.  
 ELDRED, ALLEN W.  
 ELLEY, FREDERICK W.  
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 EMERY, E. WARD  
 ENGLISH, CHARLES B., JR.  
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 ERWAY, RICHARD E.  
 ESTES, E. FORREST  
 EYRE, HARRY C.  
 FARRANT, MAURICE H.  
 FAWCETT, WALTON B.  
 FEAY, DALLAS H.  
 FELDMAN, ISRAEL  
 FISCHER, CARL H.  
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 FISHER, JOHN W.  
 FLETCHER, J. GORDON  
 FOLZ, CLIFFORD H.  
 FORD, NORMAN C.  
 FORTUIN, HENRY J. L., JR.  
 FOX, G. KINGSLEY  
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 GALT, THOMAS M.  
 GARFIN, LOUIS  
 GARNETT, WAYNE W.  
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 GETMAN, RICHARD A.  
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 GODDARD, DAVID G.  
 GOODWIN, F. ARTHUR U.  
 GOUGH, ELSIE L.  
 GRAINGER, VINCENT, JR.

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 GREEN, WALTER C.  
 GRIMES, IRVIN L.  
 GRISWOLD, ARTHUR  
 GROESCHELL, CHARLES G.  
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 HALE, JOHN S.  
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 HELPHAND, BEN J.  
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 HILL, GEORGE L.  
 HILLIARD, WILFRID L.  
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 JOHNSTON, HUGH G.  
 JONES, CHARLES H.  
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 KWASHA, H. CHARLES  
 LAKE, MENO T.  
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ROA, EMETERIO  
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ROBERTSON, ARTHUR G.  
RODE, ERWIN A.  
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STROM, NORMAN N.  
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TARR, ALAN E.  
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THOMPSON, JOHN S., JR.  
THOMSON, JOHN W.  
THOMSON, PAUL  
TICKNER, VERNE L.  
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TOOKEY, ROBERT C.  
TOSCH, CHARLES E.  
TOUSAW, ALBERT A.  
TRAVERSI, ANTONIO T.  
TUCK, EDWARD B.  
TUCKER, LYMAN R.  
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VETTER, LESTER H.  
VOGEL, FREDERICK G.

VOGEL, JULIUS  
WALKER, CHARLES N.  
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WALKER, RALPH P.  
WALLACE, M. G. ROY  
WALTON, HAROLD G.  
WARWICK, ROBERT W.  
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WATSON, WILLIAM T.  
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WAUGH, WILLIAM B.  
WELLMAN, ALEX C.  
WELLS, WALTER I.  
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WHEELER, RAYMOND P.

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WHITE, HOMER O.  
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WILCOX, WALTER E.  
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WILSON, GEORGE M.  
WINTERS, HERBERT A.  
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WOOD, R. GRAHAM  
WOODS, CYRIL J.  
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YOUNG, FLOYD E.  
YOUNG, WALTER