

Nicholas V Ross Collection
YSU Archives
Inventory

Notes on collection: Nicholas V. Ross's patents are primarily contained in box seven. Boxes four and five contain some items that may be of pertinence to Ross's patents. Much of the collection has to do with presentations and conferences, Ross's employment with Ajax Magnethermic Corporation, and his schoolwork. There is a small amount of press clippings and personal items. The majority of the collection is on paper, either loose or bound, with the exception of some transparencies, two audiocassette tapes in box six and the contents of box eight, which consists of videocassette tapes and slides in carriers.

Box 1

Summary: Mostly old leather notebooks from circa 1946-1952 which seem to hold handwritten schoolwork. Also includes an obit, business card, high school report card, and a notebook of track listings for audio tapes of some sort

- 1 Photocopy of obituary for Ross dated 1-4-04
- 2 IHC business card
- 3 Notebook labeled "Atomic Physics Physics III" book, handwritten and bound, waterdamaged, date unknown, 9in x 11.5in
- 4 Unlabelled notebook, handwritten and bound, waterdamaged, consisting of math problems, 9in x 11.5in
- 5 Notebook labeled "EEW 271 – Design of Transformers, Fall 1952-53" sparsely annotated, 9in x 11.5in
- 6 Notebook, front pages read "Youngstown College: Department of Electrical Engineering – Louis A Deesz" with NV Ross homework assignments, Fall semester 1946, 9in x 11.5in
- 7 Notebook labeled "Review problems for engineering exam – NV Ross" January 1951, 9in x 11.5in
- 8 Notebook labeled "experiments in chemistry" detailing various experiments by Ross, 1945-46, 9in x 11.5in
- 9 Notebook, unlabelled, unknown date, 9in x 11.5in
- 10 NV Ross report card, Niles City Schools 1941-1942, 6in x 4in
- 11 Notebook circa 1950, has sticker of pinup girl inside back cover, 6.75in x 8.75in
- 12 Notebook from 1946 on electricity, with loose pages from 1952, 6.75in x 8.75in
- 13 Notebook, loose pages, circa 1955, 6.75in x 8.75in
- 14 Notebook, loose pages, notes and homework, 1956, 9in x 11.5in
- 15 Book labeled K&E Feld Book W 380-1, handwritten graph pages, mostly blank, 4.75in x 7.5in

- 16 Book labeled "Journal" with track listings of tapes, circa 1950s-1970, includes timing chart for tape recorder and loose instructions on "How to use your tape splicer" in back 5.25in x 7.75in
- 17 Notebook labeled "Experiments in Spectroscopy – by Nicholas V. Ross" typed and handwritten, apparently graded 90, circa 1950, 9in x 11.5in
- 18 Notebook, some loose homework assignments and notes, date unknown, 9in x 11.5in
- 19 Notebook labeled "Theory and Application of Microwaves" 1949, 9in x 11.5in

Box 2

Summary: Mostly monographs from conferences and symposia that may have contributions by Ross, primarily from the 1980's and 1990's

- 1 Notebook holding mostly pages from magazines and some homework assignments, 1953-54, 10in x 11.5in
- 2 Notebook labeled "Inducton Heater" in raised print, spiral bound, mostly blank graph pages and a few ambiguous sketches, undated, 6in x 8.5in
- 3 ASM Handbook labeled "Volume 4 Heat Training" 1986, three post-it notes as bookmarks, 9in x 11in
- 4 Stapled monograph labeled "Sixth Biennial IEEE Conference on Electrical Heating" inscribed N.V. Ross, dated April 9-10, 1963, 8.5in x 11in
- 5 Book labeled "Electrotech 92," June 14-18 1992, 6in x 9in
- 6 Book labeled "37th Mechanical working and steel processing conference and international symposium on recovery and recrystallization in steel proceedings" 1995, Ross section on page 515, includes loose form letter dated March 12, 1996 on the accidental omission of some photographs in earlier pages of the book, 8.5in x 11in
- 7 Binder labeled "Academy for Metals and Materials" inscribed "N.V. Ross" in red marker, consisting of photocopies of a book and a course overview, circa 1985-1988, 10.75in x 11.5in
- 8 Binder labeled "Materials Engineering Institute" holding some monographs on induction heating, the second of which, "Preheating prior to hot working," is by Ross, date unknown, 10.75in x 11.5in

Box 3

Summary The materials in this box mostly have to do with Nicholas V Ross's involvement with Ajax Magnethermic Corporation. There are also two 1940's-era notebooks containing schoolwork

- 1 Blue binder labeled "Ajax Magnethermic Corporation Warren, Ohio" with some hand-written charts and a stapled monograph labeled "Guide for Loading Oil-Immersed Power Transformers with 65 C Average Winding Rise" by NEMA, circa 1969, 9.75in x 11.5in

- 2 Green binder labeled "Ajax Magnethermic Corporation" holding "System test of a 60 Hz single phase induction heating system" co-authored by NV Ross, August 1968, 9.75in x 11.5in
- 3 Red binder labeled "Ajax Magnethermic Corporation" holding an apparent rough draft of a quote for equipment for a slab reheating facility, dated 1975, 9.75in x 11.5in
- 4 Green binder holding photocopied manuscript by NV Ross on *Induction Technology: Coil Design and Selection (Low and Medium Frequency)*, front of binder has Nicholas V Ross business card taped to it, date unknown, 9.75in x 11.5in
- 5 Book from the University of Michigan Engineering Summer Conferences, June 27-July 1 1966, from the conference on *Precision Radiometry-Calibration and Instrumentation*. Includes as loose sheets NV Ross's application for enrollment photocopy, a calendar of lectures, a final roster, a typed July 7th 1966 letter from Ross to M Tama commending the University of Michigan staff for their capability, course evaluation questionnaire filled out in pencil, and some notes. 8.5in x 11in
- 6 Binder labeled "Ajax Magnethermic Induction Heating Forging Handbook" holding a handbook on induction heating for hot working ferrous metals, with many photographs of different machines, date unknown, 10in x 11.75in
- 7 Green binder labeled "Ajax Magnethermic Induction Corporation" holding photocopied "U.I.E. Induction Heating Industrial Applications" by Ross, circa 1992, 10.25in x 11.75in
- 8 Brown notebook labeled in pen "mechanics," front page denoting a physics course taught by Mr. Deesz in 1944. The notebook contains reports of various experiments by Ross. 9in x 11.5in
- 9 Tan notebook, front page inscribed "Alternating Current Circuits, AC2, May 21 1947, Assign. 30-31, by Nicholas V. Ross." The notebook contains various assignments circa 1947. 9in x 11.5in

Box 4

Summary: This box has three patent-related items. Much of the contents of this box is loose and includes things like certificates of merit. There are also articles and materials related to lectures and diagrams for machines, among other things

- 1 Radiation Electronics Company certificate for satisfactory completion of the course in infrared technology, January 11th, 1961 6in x 9in
- 2 2 transparencies on induction heating, 8.5in x 11in
- 3 Loose clippings and letters on NV Ross, dimensions variable, circa 1974-1984 and undated
- 4 September 1991 issue of *Iron and Steel Engineer* magazine, NV Ross mentioned on page 92 which is bookmarked, 8in x 10.75in
- 5 Folder labeled "Jim Metcalf's Book" containing what appears to be a book printed from a website, printed 10/29/99, 8.5in x 11in
- 6 Folder labeled "Outstanding older worker in Ohio" holding three certificates of appreciation awarded to NVR from the Society of Manufacturing Engineers, dated 1995, 1999, and 2000, a special merit award [?] certifying that Nicholas V Ross was nominated

- by Stella M Camuso as Ohio's 1998 Outstanding Older Worker, copies of Stella Camuso's nomination materials, and an NVR email submission to Reader's Digest
- 7 Loose papers including diagrams, clippings, letters, notes for lectures, and articles
 - 8 Folder labeled "Edge Heating" containing diagrams
 - 9 Red binder labeled "Ajax Magnethermic Corporation" holding diagrams of various machines, date unknown
 - 10 Ticket from Annual Awards Dinner Meeting of the Mahoning Valley Technical Societies Council honoring Mr. Nicholas V Ross, dated Thursday April 20, 1978, 4in x 2.5in
 - 11 Green trapper labeled "Ajax Magnethermic Corporation" holding photographs and diagrams of various machines, date unknown
 - 12 4 copies of "Ajax Magnethermic Induction Slab Heating booklet, date unknown, 10.75in x 10.75in
 - 13 Folder labeled "measure K from Elect. Data," 1999-2000
 - 14 Folder labeled "Coil overlap – overheating ends of bars in continuous stl htrs" November 1976
 - 15 United States Patent form, patent number 5,887,019, dated March 23, 1999, submitted by W. Shane Swanger. Swanger's patent is noted on these forms to be not a new idea, but one similar to the Ajax Wiggle Board, patent number 3,485,983, invented by Nicholas V Ross and Mario Tama, the patent forms of which are included at the end of this bundle
 - 16 Folder labeled "Current Calc March 2001" first page notes a visit to patent lawyer Dan Sullivan on March 7th, 2001 regarding a wedge-shape idea
 - 17 United States Patent form, patent number 4,017,703, dated April 12, 1977, by Paul N. Lavins, Jr. and Willard J Vanek. The patent is for a Multiple station induction heating machine. Ross's involvement is not apparent
 - 18 Folder labeled "Overheads for talks," date unknown

Box 5

Summary This box contains a lot of materials written and published by Ross, with two items pertinent to his patents

- 1 folder labeled "All Dad's published papers + 1 patent initial paperwork"
- 2 unlabeled folder with a variety of diagrams and formulae, circa 2001
- 3 folder labeled "Billet Heating Overlap vs Freq" containing US Patent form for patent number 5,799,720 and patent number 4,751,360, among other papers and transparencies
- 4 unlabeled folder containing some diagrams and printed webpages, circa 2003
- 5 brown notebook labeled "Dads masters Thesis (typed by Mom!)" on "The Theory and Construction of Loci Diagrams," June 4th 1948, 9in x 11.5in
- 6 loose articles and documents written by Ross
- 7 brown notebook, no cover, first page reads "Prof. JF Calvert: Unv. Of Pittsburgh My Advisor PhD Degree Nick Ross," seems to be a handmade textbook for a class, circa 1948, 9in x 11.5in

Box 6

Summary This box has includes many materials related to the “Rules of Thumb” among other items written by Ross

- 1 Cassette tape labeled “Russia – Talk: Discussion June 24 1977 in Moscow”
- 2 Cassette tape labeled “1978 outstanding person of the year award – Nick Ross”
- 3 Folder labeled “Dad’s ‘Basics of Induction’” circa 2002
- 4 Binder holding “Coil Design: Induction Heating of Steel” by N.V. Ross, July 18, 1997
- 5 Folder labeled “N.V. Ross Book De- Mystifying Induction Heating” containing photocopied book, date unknown
- 6 Folder labeled “Rules of Thumb” containing various materials on rules of thumb, 1958-1979 and undated
- 7 Folder labeled “Rules of Thumb” containing different iterations of apparently similar material by Ross, 1982-1994
- 8 Brown notebook labeled “Electricity and Magnetism” containing various experiments by NV Ross, probably circa 1940’s-1950s
- 9 Folder labeled “Add to Lil Notebook” with a post-it note reading “Dad’s Book he was going to write”
- 10 Loose materials

Box 7

Summary Patents and patent-related documents and a photocopy of a magazine article

- 1 Patent 3,485,983: Apparatus for Induction Heating of slabs
- 2 Patent 3,497,658: Apparatus for Induction Heating of slabs
- 3 Patent 3,485,986: Apparatus for Induction Heating of slabs
- 4 Patent 3,505,492: Method and apparatus for Induction Heating of slabs
- 5 Patent 3,489,875: Apparatus for Induction Heating of slabs
- 6 Patent 2,988,623: Method and apparatus for induction heating of billets and for determining average temperature thereof
- 7 Correspondence dated December 7, 2000
- 8 Disclosure of Ideas form, August 4, 1986
- 9 Patent 4,751,360: Apparatus for the continuous induction heating of metallic strip
- 10 Patent 5,739,506: Coil position adjustment system in induction heating assembly for metal strip
- 11 Patent 4,694,134: Apparatus for overheating edges of skelp for the production of compression welded pipe
- 12 Patent 5,156,683: Apparatus for magnetic induction edge heaters with frequency modulation
- 13 ID 367 N Ross “Reheat twin belt caster belts” idea form
- 14 Patent 5,710,411: Induction heating in a hot reversing mill for isothermally rolling strip product”

- 15 Patent certificate (sample) from order form
- 16 Patent 4,694, 134: Apparatus for overheating edges of skelp for the production of compression welded pipe
- 17 UK patent application GB 2,262,420 A: Induction Heating Apparatus
- 18 Research report on GB-A-2,262,420
- 19 Patent 4,761,530: Electric induction heat treating furnace
- 20 Patentschrift P 41 36 542.9-24: Hochfrequenzerwaermung endloser Baender in einer Stranggussvorrichtung
- 21 Patent 3,031,555: Induction Heating
- 22 Patent 4,761,530: Electric induction heat treating furnace
- 23 Patent 5,156,683: Apparatus for magnetic induction edge heaters with frequency modulation
- 24 Patent 5,133,402: Induction heating of endless belts in a continuous caster
- 25 Patent 5,799,720: Nozzle assembly for continuous caster
- 26 Patent 5,739,506: Coil position adjustment system in induction heating assembly for metal strip
- 27 Patent 3,489,875: Apparatus for induction heating of slabs
- 28 Patent 3,038,055: Inductors for steam welding
- 29 Brevet d'Invention 1,567,477: Perfectionnements aux installations de chauffage par induction
- 30 Patent 3,424,886: Induction heating
- 31 Patent 3,016,412: High Temperature Thermocouple Device
- 32 Patent 3,596,036: Induction Heater
- 33 Patent 4,751,360: Apparatus for the continuous induction heating of metallic strip
- 34 Patent 3,596,036: Induction Heater
- 35 Canadian patent 650,527: Methods and apparatus for induction heating of billets and for determining average temperature thereof
- 36 Canadian patent 827,299: Induction heating
- 37 Patent 3,497,658 certificate
- 38 Patent 3,485,986 certificate
- 39 Patent 3,596,036 certificate
- 40 Patent 3,485,985 certificate
- 41 Patent 3,424,886 certificate
- 42 Patent 3,489,875 certificate
- 43 Patent 3,505,492 certificate
- 44 Patent 5,799,720: Nozzle assembly for continuous caster
- 45 Patent 4,751,360: Apparatus for the continuous induction heating of metallic strip
- 46 Patent 5,156,683: Apparatus for magnetic induction edge heaters with frequency modulation
- 47 Patent 5,133,402: Induction heating of endless belts in a continuous caster
- 48 Correspondence and miscellaneous pages relating to patents in some way
- 49 Yellow *Ajax Magnethermic Corporation* binder containing "Index of U.S. Patents Held by N.V. Ross" and clippings, date unknown
- 50 Green *Ajax Magnethermic Corporation* binder labeled "Ajax Magnethermic Patents on Wide Rectangular Coil Slab Heating," date unknown, possibly 1974

- 51 Green *Ajax Magnethermic Corporation* binder containing some patents, possibly 2001
- 52 Green *Ajax Magnethermic Corporation* binder containing idea disclosures, 1993
- 53 2 photocopies of “Work Progressing for Continuous Annealing of Sheet by Transverse Flux Induction Heating at Steel Plant” *Industrial Heating*, October, 1991

Box 8

Summary Audiovisual presentation materials

- 1 Videocassette in box labeled “TFIH 12-7-89 copy #1”
- 2 Videocassette labeled “Ajax Magnethermic: Induction Galvanizing/Galvanealing; 9/92; 6:27”
- 3 Videocassette in slip case labeled “ASEA Slab Heater” undated
- 4 Videocassette in slip case labeled “Induction heating of slabs and blooms ~ ASEA” undated
- 5 Videocassette in box labeled “TFIH 12/6/89 Misc Inductor Trial”
- 6 Videocassette in box labeled “Tech Ctr TFIH Demo; 3” undated
- 7 Videocassette in slip case labeled “TFIH Promo Ajax; Copy – 11/19/90”
- 8 5 slide carousels for various presentations in boxes

Box 9

Summary This box has photographs of a project and the proceedings of three SME events at which NV Ross presented

- 1 Red binder labeled “Ajax Magnethermic Corporation” holding photographs on “Allegheny Ludlum – Vandergrift TFIH Project” circa 12/90 and 8/91
- 2 Ringbound book labeled “Induction Heating Technology and Applications Clinic; April 12-13, 2000, Arlington Heights (Chicago), Illinois” and “Proceedings” and “Society of Manufacturing Engineers.” Inscribed “N.V. Ross” and “Make some changes to text of N.V. Ross paper for next presentation.” NV Ross gave “Demystifying Induction Heating” presentation (first page), the paper of which is in the text of the book, 8.5in x 11in
- 3 Ringbound book labeled “Induction Heating Technology and Applications Clinic; April 4-5, 2001 Holiday Inn Select, Nashville, TN” and “Proceedings” and “Society of Manufacturing Engineers.” NV Ross gave “Demystifying Induction Heating” presentation day one, 8:45-9:40AM (page 3), the paper of which is in the text of the book, 8.5in x 11in
- 4 Plasticbound book labeled “Induction Heating Technology; May 8-9, 2002 Detroit Michigan” and “Proceedings” and “Society of Manufacturing Engineers.” NV Ross gave “Demystifying Induction Heating 102” presentation day one, 8:00-8:45AM (page 2), the paper of which is in the text of the book, 8.5in x 11in