

Video Programs

All Programs are available on both VHS and DVD unless marked otherwise

[Titles in Blue](#) indicate that the video is available for Online Viewing. Click on the video's title to watch it online. You must be logged in to view videos. Please note that online videos require Flash and cannot be viewed on iPad or iPhone.

[**501. HELPFUL HINTS FOR THE RESTORATION OF A VIENNA CLOCK MOVEMENT**](#), by Chapter #75 (75)

502. VHS Only **ELECTROMAGNETIC CLOCKS**, by Iain Cleator (45)
A comprehensive program covering the many electric clocks, their movements, actions, & makers from the earliest to present-day quartz. Good slides. Recommended for group and individual viewing.

503. **HOT STICK SHELLAC CASE RESTORATION & HARD PUTTY GLAZING**, by Hal Wehling (80)

505. **CLOCKS & WATCHES OF THE FORD & SMITHSONIAN MUSEUMS**, by Lloyd Porter (25)
This program shows many of the fine & rare clocks & watches in these well-known museums. Hard to see slides. Recommended for individual viewing only

506. VHS Only **A HISTORY OF EARLY AMERICAN EXPERIMENTAL CLOCKS**, by Dorothy Glenk, Arthur Rekedal, & Richard Calicura (35)
Arthur Rekedal acts as moderator & questions Dorothy Glenk as she presents the history & origin of the early American clocks. Richard Calicura is behind the camera following the descriptions of the clocks & movements.

507. **WHAT TO LOOK FOR IN BUYING A WATCH**, by Joe Shaffer & Bill Meggers (33)
Aimed at the beginning collector of pocket watches. Shows how to take the movement from the case, the dial & hands off, to inspect for rust, replacements, & faulty parts. Good slides. Recommended for group and individual use.

508. VHS Only **JOSEPH KNIBB TALL CLOCK WITH JOHN METCALFE**, by Pat Tomes (47)
Our NAWCC Museum Conservator takes this clock movement apart & reassembles it. He points out the repair work that has been done to the movement over the years & the characteristics of a Knibb movement.

[509. CLOCK CASE RESTORATION TECHNIQUES WITH DICK OSGOOD](#), by Chapter #75 (87)

Dick does an excellent job showing how to dismantle a case and restore it to prime condition.

511. VHS Only **HISTORY OF COLUMBUS & GRUEN WATCHES**, by Robert D. Gruen (60)

515. **HOW TO CAST METAL CLOCK CASE PARTS ON YOUR KITCHEN TABLE**, by Glenn Seeds (70)

This informative program is particularly helpful to those clock case restorers who need to replace a leg, finial, ormolu, etc. He names products, temperatures, and equipment that can be used in making parts that would otherwise be irreplaceable.

516. VHS Only **HOWARD WATCHES & THE HOWARD WATCH COMPANY**, by Dana J. Blackwell (85)

Dana covers the movements & cases of many Howard watches in this talk. Having been associated with the Howard Company for many years, he discusses the organization of the Company & some of the non-horological items that were manufactured by the Howard Company.

517. **TERRY CLOCK COMPANY & TERRY CLOCKS**, by Chris Bailey (45)

This tape was recorded at the North Coast Regional in March 1988. Chris always presents an excellent talk, & in this one he covers the many different styles of Terry clocks made during the middle & latter part of the 1800's & the Silas B. Terry era. The problems & changes in ownership are covered in a most interesting & informative program.

518. VHS Only **WESTCLOX FACTORY MAKING BIG BEN ALARM CLOCKS IN 1938**, by Jim Whitaker (25)

This film documents Westclox's production techniques used in assembling Big Ben alarm clocks in the 1930's.

The following programs were recorded at the 1988 NAWCC Annual Seminary October 20-23 in Los Angeles, CA.

520. **FRENCH CLOCKS FROM 1690-1790, & A TOUR THROUGH THE SHEPRO COLLECTION**, by Justice Shepro (60)

A tour through one of the finest collections of early French Clocks identifying the individual pieces & their makers. This talk came from the 1988 Seminar.

522. **CLOCKS OF THE GETTY MUSEUM**, by Gillian Wilson (60)

This talk is from the 1988 Seminar. It is very interesting & informative with a touch of humor. Miss Wilson is Curator of Decorative Arts of the Getty Museum. The lecture focuses on the chasing, ornamentation & the quality of these beautiful cases. She tells how the cases were dated & who were their makers. She also touches on the origin &

history of the Getty Museum.

523. VHS Only **FRENCH WATCHES FROM THE BEGINNING TO THE 1800'S**, by Adolphe Chapiro (60)

This talk was given at the 1988 Seminar held in Santa Monica, CA.

524. VHS Only **JAMES ARTHUR LECTURE - IMPORTANCE OF HOROLOGY IN OUR LIVES**, by Seth Atwood (60)

This 1988 Seminar talk shows the progression of horology through the years as our needs increase. The lecture is accompanied by slides of outstanding pieces of the Time Museum from the earliest pieces up through the present time.

525. **CLEANING OF A WALTHAM POCKET WATCH**, by Keith Merchant (80)

An excellent how-to-program showing & explaining the disassembly of a pocket watch including cleaning & reassembly.

526. **RADIUM CITY**, by Carole Langer (102)

Praeses Productions produced the tape which investigates the radium dial painting done in the small town of Ottawa, Illinois, at the Radium Dial Co. Beginning in the 1920's, young women were hired, and paid well, to paint luminous dials on clocks with radium paint. To sharpen brush points for the fine work, employees often twirled the brushes in their mouths. Many employees sickened and died at an early age from cancer.

While much emphasis in the film is placed on the impact of this factory on both the lives of the employees and on the town itself, the film is horologically important for its scenes showing the factory, the workers and the work in process.

527. VHS Only **HOROLOGICAL TREASURES OF RUSSIA: NAWCC TOUR, SEPTEMBER 1990**, by Thomas Bartels (70)

This is a colorful description of the 1990 tour by NAWCC members to Russia, where they were permitted to view rare clocks in the storage rooms of Russian museums. The program includes slides of many ornate horological items seen by the group.

528. **REPAIRING A PATEK PHILIPPE FIVE-MINUTE CHRONOGRAPH**, by J. Michaels (115)

529. **TIME DISSEMINATION & ELECTRIC CLOCKS**, by Joe Singer (32)

Joe discusses how the need for timekeeping led to the development of timekeeping services, master & slave clocks, self-winding clocks & shows many examples of early electric clocks used in those applications.

530. VHS Only **WEBB C. BALL**, by Robert Winslow, Joel Savich & Chuck Gallagher (76)

This program is an in depth look at the personality & business acumen of Webb C. Ball, his influence on standard & railroad watches, & many of the clocks sold by Ball.

531. REFINISHING AND POLISHING BRASS, by Gordon Sooy (45)

The techniques for polishing brass clock case parts & the proper tools, materials & products necessary to restore clocks to their original condition are discussed & demonstrated.

532. THE MAKING OF A BANJO CLOCK, by Foster Campos (35)

Taped at the 1990 Florida Regional, Foster shows step by step how he creates those beautiful Campos Banjo Clocks.

533. FINISHING CLOCK CASES, by Foster Campos (35)

Taped at the 1990 Florida Regional, Foster shows how he finishes his new cases & how to refinish old & antique cases.

534. RESTORING OF A CLOCK CASE, by Alex Cipriano, Old Dominion Chapter #34 (42)

Alex discusses the restoration of clock cases. He covers several methods using different products & the results obtained.

535. WHITE DIALS ON LONGCASE CLOCKS, . by Lewis F. Cowgill (34). Bud Cowgill discusses the design and features of painted white dials and how the various and sometimes subtle differences in design can be used to determine the age of a dial. Bud shows slides of 28 different dials which he uses as examples to support this method of dating dials. This DVD and VHS program is a digital remake of a slide/tape program recorded December 8, 1985 at a meeting of NAWCC Ohio Valley Chapter 10 and November 8, 1987 at a meeting of NAWCC Lake Erie Chapter 28.

536. VHS Only **TOUR OF RUSSIAN MUSEUMS**, by Bob Powell (104)

537. THE FRENCH MORBIER: THE MOST UNIQUE CLOCK EVER, 1680-1900, by Steve Z. Nemrava (44)

This program is a detailed story of the origin, invention, and development of the French Morbier and its influence on horology. Mr. Nemrava also discusses the technical features of the Morbier and gives many pointers on repairing the movements.

538. CLOCKWORK TOYS, by Judy Emerson (49)

Judy Emerson, curator of recreational artifacts at the Strong Museum in Rochester, New York, discusses the use of clock-like movements in toys manufactured in the nineteenth and early twentieth centuries and the clock companies that supplied the movements. The program includes many slides of such toys and their motion works.

539. VHS Only **RIPPLE MOULDINGS & WOOD INLAYS**, by Irvin Rosen videotaped by Paul Westerholm (40)

Irvin tells how he developed a machine for making ripple mouldings for ripple-front clocks. This process had been a lost art for many years. Irvin also shows a method for inlaying.

540. VHS Only **PRIMITIVE TOOLS USED IN THE MAKING OF CLOCK CASES**, by Irvin Rosen videotaped by Paul Westerholm (39)
This tape shows a number of primitive tools & how they were used. Many have been passed down through generations.

[541. THE ENGLE CLOCK: A MONUMENTAL AMERICAN TIMEPIECE](#), by Hellam Hills Production with NAWCC Staff (30)
A demonstration & discussion of the history of the Engle Monumental Clock.

542. VHS Only **PETRODVORETS PALACES-LENINGRAD-NAWCC TOUR, OCTOBER 1990**, by Jack Napp (60)
Mr. Napp's video record of the Petrodvorets Palaces during the NAWCC Russian Horological Tour.

543. VHS Only **HISTORY OF THE MCCLINTOCK CLOCKS**, by James Bland West (30)
This lecture was presented at the Tower Clock Chapter Meeting at the 1991 National Convention, Denver, CO.

544. VHS Only **A SURVEY OF THE CLOCK MUSEUM IN PHARR, TEXAS** with Jim Shawn (60)
A tour of the collection of this Museum with emphasis on N. Mueller's clocks.

545. **DIAL PAINTING**, by James Bland West (17)
As part of an NAWCC Chapter 139, San Jacinto meeting, Mr. West repainted the dial of a clock. This program shows step-by-step how the repainting was done. Interesting subject and clear bright slides. Group and individual use.

546. VHS Only **THE EARLY CLOCKS OF NEW JERSEY**, by Steve Petrucelli (65)
This video reviews, in detail, the clocks assembled for an exhibition at the Museum of the Cranbury Historical & Preservation Society in Cranbury, NJ. This exhibition was co-sponsored by NAWCC Chapter 142, Central New Jersey.

[547. JEWEL MAKING: A PRESENTATION OF THE ELGIN WATCH COMPANY](#) (73)

This film was made during WWII at the Elgin Watch factory. The process of jewel making is shown step-by-step. This film has been presented to our Library by NAWCC Chapter 94, DeAnza.

548. **ANNIVERSARY CLOCKS--HISTORY, REPAIR & MAINTENANCE**, by Bill Ellison (89)
In this program, Bill Ellison, owner of the Horolovar Co., discusses the history & development of Anniversary clocks. He also discusses methods of disassembly, cleaning, repairing, re-assembly & timing of Anniversary clocks.

The following programs were recorded at the 11th Annual NAWCC Seminar October 25-

27, 1990 in Houston, TX.

549. VHS Only **DECORATIVE ENHANCEMENTS ON 19TH CENTURY AMERICAN MASS PRODUCED CLOCKS**, by Chris Bailey (69)

This presentation, given at the 11th Annual NAWCC Seminar by Chris, covers the decorative aspects of clock cases, dials & tablets used in the manufacturing of 19th century American mass produced clocks. Chris also discusses stenciling & painting & compares clock design with furniture design of the period.

550. VHS Only **ENGLISH CLOCKMAKING**, by Julian Gibbard (60)

In this speech, given at the 11th Annual NAWCC Seminar, Julian Gibbard discusses the clockmaking industry in England from the perspective of an expert restoration specialist.

551. **HOROLOGICAL TOOL EVOLUTION**, by Theodore R. Crom (78)

This presentation, given by Ted Crom at the 11th Annual NAWCC Seminar, details the transition of hand tools to early production tools for clock & watchmaking.

552. VHS Only **THE EFFECT OF THE INDUSTRIAL REVOLUTION ON THE SWISS & ENGLISH INDUSTRIES**, by Doug Caulkins (59)

In this lecture, given at the 11th Annual NAWCC Seminar, Doug traces & compares Swiss watchmaking to that of the English during the mechanization of the industry in both countries. This program also includes a study of relatively inexpensive Swiss watches with added mechanical or decorative features to give them a broader market appeal.

553. ELI TERRY, WOODEN MOVEMENT PRODUCTION & THE ORIGINS OF THE AMERICAN SYSTEM OF MANUFACTURING, by Donald Hoke (50)

This lecture, given by Don Hoke at the 11th Annual NAWCC Seminar, is a discussion on the American system of manufacturing between 1789 & 1876. Don discusses the manufacturing of clocks in the context of the American manufacturing system which can be defined as the mass production of interchangeable parts on specialized machinery arranged in sequential operations. In this lecture, Don stresses the importance of wooden clock movements in the development of the American manufacturing system.

554. VHS Only **ANIMATED CLOCK DISPLAY** (27)

This program features Lux Clocks & other animated clocks that were on display at the Pacific Northwest Regional hosted by Chapter 31, February 13-16, 1992.

555. VHS Only **PIECES OF TIME** (35)

This program shows the Chapter 99, Palm Beaches of Florida exhibit at the Flagler Museum, Palm Beach, Florida during February 1992. This exhibit was an outstanding success with over 23,000 people viewing it during the month it was open.

556. INTERNATIONAL TIME RECORDING COMPANY: ITS HISTORY AND PRODUCTS by Don Cate (68)

This program is a detailed history of the International Time Recording Co., which was

the predecessor of the IBM Co. Mr. Cate discusses how the company was formed, why it was formed, the individuals who formed it, and its product line, with specific coverage given to time clocks.

558. MASTERING WOOD-WORK CLOCK REPAIR with George Bruno (75)

In this presentation, George Bruno discusses bushing wood movements & adjusting & making verges for wood movements. Mr. Bruno also answers many questions from his audience.

561. VHS Only PATEK PHILIPPE CALIBRE 89 THE MOST COMPLICATED WATCH IN THE WORLD, donated by Patek Philippe (30)

Taking 9 years to develop the Calibre 89 has 2 main dials, 8 display dials, 24 hands, 36 indicators, & 1728 parts. This tape reviews the historical aspects & technical developments of each of the functions of the Calibre 89.

562. THE MANUFACTURING OF BANJO CLOCK MOVEMENTS, by John Grass (46)

In this program, Mr. Grass describes materials, manufacturing methods & costs involved in making movements for banjo clocks.

563. THE STORY OF A WATCH (51)

This silent, black and white movie was made circa 1922 by the Bureau of Mines in cooperation with the Illinois Watch Company. The intricate processes in the manufacture of watch parts and their assembly is shown. Also shown are the instruments in an astronomical observatory used to check the time of master clocks. Views of social and welfare facilities of the watch factory are included. Gift of Central New York Chapter 55 and Kent L. Singer. This movie is currently playing in the NAWCC Museum.

The following videos were recorded at the 1992 NAWCC Annual Seminar October 22-24 in Cleveland Ohio.

564. VHS Only THE EARTH AS A CLOCK, by Gernot M.R. Winkler, Ph.D (53)

In this lecture, Dr. Winkler discusses the Earth's rotation & various conditions that affect the rate of rotation (as measured by the Atomic Clock.)

THE ATOMIC CLOCK, by Norman F. Ramsey, Ph.D. (63) Ramsey describes Atomic Clocks, discusses why we need them & tells how they are being used. This was the James Arthur Memorial Lecture for 1992.

565. VHS Only EARLIEST PRECISION CLOCKS, by John Redfern (47)

In this presentation, Mr. Redfern details some of the earliest known Precision Clocks, & specifically describes a unique wall clock that was commissioned for observatory use in 1673. Mr. Redfern uses computer generated animation to describe the tic-tac escapement & to demonstrate the advantages using animation techniques as a tool in learning clock design & repair.

MODERN PRECISION CLOCKS, by R. J. Griffiths (59)

This lecture covers recent works by several English & European-based horologists on modern precision pendulum clocks for public & domestic use. Mr. Griffiths explains their design & construction.

566. VHS Only **ACCURACY OF PENDULUMS AND MANY FACTORS THAT INFLUENCE IT**, by Douglas A. Bateman (56)

Mr. Bateman summarizes his extensive work on precision pendulum clocks and the important factors that affect their accuracy. He discusses energy losses, escapement effects, shape of the pendulum bob and measurement methods.

TEMPERATURE EFFECTS ON CLOCKS, by Wilbur L. Pritchard (70)

Mr. Pritchard discusses the effects of temperature changes on the accuracy of pendulum clocks and several principal devices invented to minimize the effect. He has done considerable research in this area and recounts his results.

567. VHS Only **THE E. HOWARD COMPANY**, by Martin Ruddock, M.D. (57)

Dr. Ruddock discusses the role of the Edward Howard Company in precision timekeeping and its relation to others in the field.

PORTABLE TIMEPIECES AND THEIR PRECISION AS COMPARED TO CLOCKS, by Henry B. Fried (69)

Mr. Fried discusses the development of portable timepieces in relation to their precision as compared to clocks. He explains design principles and precision as they evolved into highly accurate mechanisms.

568. VHS Only **CLOCKS PROTECTED FROM ATMOSPHERIC CHANGES**, by Iain G. M. Cleator, M.D. (61)

Dr. Cleator discusses clocks inside air-tight enclosures that insulate the movement from changes in barometric pressure. He discusses the development of these clocks as well as their timekeeping.

THE FEDCHENKO CLOCK OF RUSSIA, by George Feinstein, Ph.D. (70)

Dr. Feinstein discusses the Fedchenko clock that was made in Russia after World War II. It is a pendulum clock enclosed in an airtight chamber and is said to have excelled the Shortt clock in accuracy. Dr. Feinstein discusses how the clock was made and his related research.

569A,B,C Set of 3 tapes VHS Only **NEW ENGLAND HANDCRAFTED CLOCKS, 1730 - 1850** NAWCC New England Chapter 8, 1992 Educational Seminar (260)

The focus of this seminar was hand-crafted clocks of the 18th and 19th centuries that are part of the Old Sturbridge Village J. Cheney Wells Clock collection. The presentations include Connoisseurship: A Critical Perspective by Robert C. Cheney, From Craftsmanship to Tradesmen: Interpreting the J. Cheney Wells Collection of American Clocks by Philip Zea, Conservation and Restoration: Clock Cases by Douglas Currie, and Conservation and Restoration: Clock Mechanisms by John Losch.

570. **CASE FINISH RESTORATION**, by Tom Spittler (33)

In this program, Tom Spittler demonstrates and narrates, in a very detailed manner, the procedure in restoring the existing finish on a British grandfather clock case. He discusses materials and the method and offers many suggestions in case finish restoration.

571. VHS Only **THE WATCH AND CLOCK MUSEUM OF THE NAWCC** (40)

The NAWCC Collections are presented through a walking tour which follows the chronological development of time- pieces as they are exhibited in the Museum. The video uses a voice over narration and discusses every area in the galleries. Individual pieces are examined along the tour with a detailed look at movements and cases.

572. VHS Only **THE NAWCC TOWER CLOCK** (120)

This tape shows the construction of the NAWCC Tower Clock at the Headquarters of the NAWCC in Columbia, Pennsylvania. There is a discussion of the Tower Clock including a description of the movement and how it works. The dedication ceremony that took place on May 15, 1993 is also included.

The following videos were recorded at the 24th Annual Workshop in Syracuse, NY

573. VHS Only **RETAFF A POCKET WATCH**, by Lee Bufano (45) (1993 24th Annual Workshop in Syracuse, NY)

574. VHS Only **BUILD A SKELETON WALL CLOCK**, by William R. Smith (48) (1993 24th Annual Workshop in Syracuse, NY)

575. VHS Only **LUX - CUCKOO CLOCKS**, by Paul Kostelny & Douglass Tingué (28) (1993 24th Annual Workshop in Syracuse, NY)

576. **VENEER MASTERY-PHASE I**, by Dick Baker (52)

Dick Baker, a member of the NAWCC, gives a presentation including sources of veneer, methods of removal of old veneer, patching methods, using molded forms, using a homemade assembly alignment jig and the plaster mold method.

The following videos were recorded at the 1993 NAWCC Chapter 8 Educational Seminar September 11 at the Charles River Museum of Industry in Waltham, MA.

577. **NAWCC CHAPTER 8, NEW ENGLAND - 4th ANNUAL SYMPOSIUM, 1993**
(TAPES MUST BE BORROWED SEPARATELY.)

Pt. 1: Joseph Brown - The Watch Factories in Waltham
Dr. Norman Friedman - The Waltham Watch Company (1hr. 40min.)

Pt. 2: Michael Harrold - The Rise of American Industrial Watchmaking (1hr. 14min.)

Pt. 3: Pasquale Caruso - Life in the Waltham Watch Factory

578. VHS Only **STENCILLING**, by Gladys Weller (49)

In this presentation, the process of stenciling American wood clock cases is described and demonstrated by Gladys Weller. The materials and tools needed in the stenciling process are also described.

579. **CLOCK REPIVOTING**, by Anthony Montefusco (44)

Anthony Montefusco demonstrates his method of removing a worn pivot, drilling the arbor and installing a new pivot in the arbor in this presentation.

580. **EARLY AMERICAN CLOCKS**, by Snowden Taylor, Ph.D. (30)

This program, recorded at the 1993 NAWCC Convention in Dallas, Texas, is a lecture by Snowden Taylor on the development and manufacturing of mass-produced clocks in the United States in the first half of the nineteenth century. Snowden discusses Sheraton and Empire case styles, the design and transition of wood to brass movements and the business practices of clock makers of the period. Eli Terry, Chauncey Jerome, Joseph Ives, John Birge, Silas Hoadley, and William Gilbert are among clock makers discussed in the program. Examples of various clock case styles of the period are shown in this tape. Snowden touches on the expansion of the clock industry from Connecticut to New York and to the Western Reserve.

The following videos were recorded at the 1994 NAWCC National Convention February 2-6 in Orlando, FL.

581. VHS Only **BLACK FOREST CLOCKS**, by Richard Muhe, Ph.D. (55)

Recorded at the 1994 NAWCC Convention in Orlando, Florida, this slide presentation and lecture covers the history, design, production and marketing of black forest clocks. Dr. Muhe also discusses the tools used in the making of black forest clocks.

582. **METAL CASTING FOR HOROLOGY**, by Carlton Cranor (61)

This presentation, recorded at the 1994 NAWCC Convention in Orlando, Florida, is a demonstration and discussion that acquaints us with sand and lost wax metal casting as applied to horology. Carlton shows simple equipment and techniques which an amateur can acquire and use to replace missing parts of clocks and tools.

583. **REFINISHING BRASS CLOCK CASES**, by Tony Montefusco (56)

In this demonstration, which was recorded at the 1994 NAWCC Convention in Orlando, Florida, Tony shows his methods used in refinishing brass parts of carriage and crystal regulator cases. He covers case disassembly, de-lacquering, cleaning, polishing, re-lacquering and assembly of the brass cases.

584. VHS Only **GOLD, FROM THE GROUND TO GORGEOUS**, by Rolland Fischer (62)

Odyssey of gold recovery, refining, milling, and forming into watch cases, with emphasis on common pitfalls and misconceptions about the material and its processes. The

presentation was recorded at the 1994 NAWCC Convention in Orlando, Florida.

585. HOW TO MAKE A GLASS OR MARBLE CLOCK CASE, by Father John Bernbrock (40)

In this presentation which was recorded at the 1994 NAWCC National Convention in Orlando, Florida, Father Bernbrock describes the materials that can be used in making clock cases from glass and marble. He also shares his methods and the tools he uses. His lecture is supplemented with many slides of tools, materials and finished clock cases that he made.

586. THE CHELSEA CLOCK COMPANY, by Everett Jones (64)

In this presentation, Everett covers the 130-year history of the Chelsea Clock Company from the founding of its predecessor, the Eastman Clock Company, through its transition into the Boston Clock Company and to the present-day Chelsea Clock Company. Everett also narrates a walk through an exhibit of Chelsea clocks at the Eleventh Annual North Coast Regional held March 11 & 12, 1995 in Cleveland, Ohio.

587. RESTORING A ONE PIECE BARREL, by Tony Montefusco (43)

In this program, Tony describes his method of repairing a one piece spring barrel on which most of the gear teeth had been either bent or broken. He first describes his method with the aid of sketches and diagrams and then demonstrates the process as he did it in his own shop. He removes the broken teeth from the barrel, makes a new brass ring, solders the ring onto the barrel, cuts the new gear teeth and finishes the barrel by machining off the excess brass, sanding and polishing.

588. CLEANING OF A POCKET WATCH, by Jim Michaels (99)

This program, recorded at the NAWCC headquarters, is a demonstration by Jim Michaels on how to disassemble, clean and reassemble a pocket watch. For the demonstration, Jim used a 16 size Waltham Riverside pocket watch.

589. VHS Only BRITISH CLOCKS-1800 to 1900, by Doug Cowan & Tom Spittler (79)

In this presentation, recorded at the 1994 Southern Ohio Regional, Doug and Tom discuss the various styles and features of British clocks manufactured between 1800 and 1900. Color slides and the interjection of historical information enhance the presentation. There is also a walk through an exhibit of British clocks of the period.

590. DIAL PAINTING & DIAL LAMINATION, by Jim West (34)

This program contains two segments. The first segment is a videotape presentation of slide program 19 showing a basic metal dial refinishing method. The second part is an explanation and demonstration of the steps required to laminate a warped dial to an aluminum backing plate to provide a flat surface dial.

591. THE ART OF THE PAINTED DIAL, by Mrs. M. F. Tennant (26)

This professionally produced tape is an excellent overview of the steps required to restore a white painted dial. It discusses cleaning, chapter ring and number restoration as well as

art work and gold leaf replacement. This is an introduction to the topic, not a how-to tape. Mrs. Tennant is the author of the book Longcase Painted Dials: Their History and Restoration.

592. **THE LEVER ESCAPEMENT MADE EASY**, by Jim Michaels (15)

This film, by NAWCC Conservator Jim Michaels, reviews the lever escapement. Discussed and shown are: adjusting the lever escapement; what impulse, drop, drop lock, slide and total lock are; the effect of changing the pallet stones; the roller and guard pin; and how to check for the in beat condition as well as the other necessary escapement checks. Filmed using state-of-the-art video equipment, this tape will be beneficial to both the beginning and experienced horologist.

593. VHS Only **CARRIAGE CLOCKS**, by Doug Cowan (42)

In this presentation Doug discusses the history, evolution, model names and descriptions of French carriage clocks. He also briefly discusses English, Austrian, Swiss and American carriage clocks and some of the factors to note to determine age and condition of carriage clocks.

594. VHS Only **ON TIME DOWN UNDER**, 1st Australian Regional (42)

This video tape provides an excellent overview of the activities, clocks and talks at the first Australian Regional held in 1994. The tape is well done and is appropriate for people of all types of horological interests.

595. CONSTRUCTION OF ELI TERRY'S OUTSIDE ESCAPEMENT PILLAR AND SCROLL CLOCK, by George Bruno, Chris Brown, Dick Baker, Mary Etta Roeser, and Carol Buonato (115)

This program, recorded at the 1994 Eastern States Regional, demonstrates how these clocks were constructed. George Bruno planned the program and demonstrates how the wheels were probably cut on a production line basis. Chris Brown describes two probable methods of movement assembly. Using premachined parts, Dick Baker shows how the cases were constructed. Mary Etta Roeser demonstrates gold leafing and describes reverse glass techniques. Carol Buonato demonstrates typical methods the artists used to paint the dials.

596. **CALENDAR CLOCK MECHANISMS**, by A. Leroy Wilkerson (44)

In this program, recorded at the 1994 Eastern States Regional, LeRoy uses copies of U.S. patents and examples from clock movements to trace the development of early American calendar mechanisms. He demonstrates how to disassemble and reassemble them and gives some hints and warnings on cleaning and restoration.

597. **WATCHMAKERS MEASURING TOOLS**, by Dr. Steven Lebduska (50)

In this program, recorded at the 1994 Eastern States Regional, Dr. Lebduska discusses several measuring instruments used both by watch manufacturers and by watchmakers at the bench. A number of early instruments (primarily micrometers) are used to illustrate and trace the development of these devices. Various measuring systems, e.g., Lignes, are explained and compared.

598. WILLARD FAMILY TALL CASES, by Dr. Roger Robinson (68)

This program, which was recorded at the 16th Annual NAWCC Seminar in 1995, gives very detailed descriptions of Willard Tall Cases and some of the distinguishing features of the dials used by the Willards. Dr. Robinson covers in great detail the features by which a collector can recognize a genuine Willard Clock. He also touches on the history of some of the clocks.

599. CARRIAGE CLOCK RESTORATION, by Tony Montefusco (47)

This program describes and demonstrates a method of disassembling, cleaning, oiling and reassembling a French movement. Also, a method of cleaning brass is covered.

600. AMERICAN MASTERPIECES-TALL CASE CLOCKS OF THE EIGHTEENTH CENTURY, by Tom Bartels (49)

This program is a walking tour of rare eighteenth century tall case clocks that were on display at the NAWCC Museum from October 1995 through September 1996 in conjunction with the 16th NAWCC Seminar. Narrated by Tom Bartels, Executive Director of the NAWCC, the program gives the viewer a detailed history and description of each of the clocks in the exhibit.

601. REPLACING A BALANCE STAFF IN A WATCH, by Jim Michaels (40)

602. 8-DAY WOOD SHELF CLOCKS & THEIR MOVEMENTS, by Dr. Snowden Taylor (40)

This program is a walking tour of a grand display of 8-day wood movement clocks arranged by Warren Parsley at the Mid-South Regional at Chattanooga, TN, September 1995.

603. VHS Only THE VERGE WATCH, by Los Angeles Chapter #56 (25)

This program studies the verge escapement from 1600-1900. It shows many early verge watches with enamel & tortoise-shell cases. A 1750 verge watch is taken apart, the fusee chain & escapement are cleaned, the teeth on the escape wheel are fixed, & the watch is reassembled. Detail subject matter. Hard to see slides. Small group and individual use only.

604. THE MARINE CHRONOMETER, by Los Angeles Chapter #56 (23)

This program is a short history of the marine chronometer & the underlying necessity for its development. Included are examples of the works of famous makers & historically significant improvements. A typical chronometer is shown disassembled. Tips on the care of a chronometer are given. Good slides. Recommended for group and individual use.

605. VHS Only THE SOUTH BEND WATCH STORY, by O.B. Frye (42)

The history of the South Bend Watch Co. & the involvement of the Studebaker family in its organization is told in this program. The company name was later changed to Studebaker. There are many pictures of movements, dials & cases. Included are

anecdotes concerning the successes & failures of the company as well as individuals. Interesting topic and good slides. Recommended for group and individual viewing.

607. VHS Only **WELCH, SPRING & COMPANY**, by Jo & Owen Burt (36)
Talks about the history of the company from 1868 to 1884. Shows four main stages & clocks from each period: Standard shelf models; regulators & calendar; fancy models with musical names; the Patti era. Emphasizes role of B.B. Lewis. Interesting topic Good slides. Recommended for Group and individual viewing

608. **PERPETUAL CALENDAR CLOCKS**, by Ray Horner & Roger Dankert (22)
This video shows American calendar clocks from companies such as Ithaca, Seth Thomas, & Southern Calendar Clock Co. Technical data is not included.

609. **ANTIQUARIAN HOROLOGICAL RESTORTION**, by Robert Barfoot (30)
This video is a brief introduction to restoring clocks in different stages of neglect. Shown are a few clocks from England, Ireland, & America which have been restored. Interesting topics, well presented. Slides of small movements limits viewing to small groups and individual use.

610. VHS Only **BERNARD J. EDWARDS WATCH & CLOCK ADVERTISING COLLECTION**, by Bernard Edwards (14)
A unique collection of advertising items. Includes watches, clocks, signs, & other horological items. Interesting subject and clear bright slides. Recommended for group and individual viewing.

[611. ANSONIA & ITS CLOCKS](#), by Marjorie & Charles Partridge (42)
Variety of Ansonia clocks from the collections of the members of Great Lakes Chapter #6. They date from 1840-1930.

612. **AMERICAN CLOCKMAKING FROM A CRAFT TO AN INDUSTRY**, by Chris Bailey (24)
A visit to the American Clock & Watch Museum in Bristol, CT. Gives a brief history of American Clockmaking which started as a craft & developed into a major industry. The emphasis of the talk is on the state of Connecticut. Interesting material. Fine detail hard to see; recommended for individual viewing only.

613. **TOOTH & TEETH REPLACEMENT**, by Tony Montefusco (34)

614. **CLOCK REBUSHING**, by Tony Montefusco (27)

615. **CRYSTAL FITTING**, by Tony Montefusco (43)

616. **WATCHES OF THE TAFT COLLECTION**, by Buckeye Chapter #23 (28)
This program shows 48 watches dating from the 17th & 18th centuries. Main emphasis is on case decoration. Interesting subject and clear bright slides. Recommended for group and individual viewing.

617. **THE SWINGING CLOCK**, by Roger Holmberg (40)
Examples of Swingers from American companies & from France. Interesting topics and good slides. Recommended for Group and individual viewing.
619. **LUX & KEEBLER PENDULETTES**, by Joe Burt & Margaret Horner (25)
Many different models of these animated novelty clocks are discussed. Very little history is given. Interesting subject and clear bright slides. Recommended for Group and individual viewing.
620. **SKELETON CLOCKS**, by Pete Booz (28)
Shows many different skeleton clocks from France, England, Austria, & America. Shows the wide range of styles, escapements, & ages of these clocks, & displays some of the more exotic ones. Interesting material. Fine detail hard to see. Recommended for individual viewing.
621. **8-DAY WOODEN WORKS SHELF CLOCKS**, by W. L. Wadleigh, Jr. (31)
Six wooden 8-day movements are shown by: Eli Terry & Son, Seth Thomas, Atkins & Downs, Jeromes & Darrow, Eli Terry, Jr. & Co., & Henry Terry. Shows many different case styles. Slides of small movements limits viewing to small groups and individual use.
622. **THE 400-DAY CLOCK - ITS HISTORY & RESTORATION**, by Tony Montefusco (47)
623. **SERVICING A BRITISH TALL CASE CLOCK**, by Tony Montefusco (31)
624. **SERVICING A DOUBLE FUSEE ENGLISH BRACKET CLOCK**, by Tony Montefusco (33)
625. **SERVICING THE HERSCHEDE 9 TUBE MOVEMENT**, by Tony Montefusco (65)
626. **SERVICING A FRENCH CLOCK**, by Tony Montefusco (35)
627. VHS Only **AMERICAN WATCH CASES & THEIR WARRANTIES**, by Mike Kahane (38)
Brief history of watch case production & the content of each case. Shows how watch papers can help identify the watch & the gold content of the case. Interesting subject and clear bright slides. Recommended for group and individual use.
- 628B VHS Only **PRODUCTS & HISTORY - ILLINOIS WATCH, PT 2**, by Bill Meggers (36)
Emphasis on the railroad years of the Illinois Watch Co. & the hi-grade watches produced during this period. Interesting subject and clear bright slides. Recommended for group and individual viewing.
629. **THE DR SOBEK COLLECTION**, by Lloyd Porter (35)

Clocks from 1740-1900. Beautiful & unusual clocks of the Biedermeier period. Fantastic collection, well-presented. Dark clock cases lack detail. Recommended for small group and individual viewing.

630. **SETH THOMAS & HIS CLOCKS**, by Charles & Marjorie Partridge (30)
Shows clocks from their 150 years of manufacturing. Gives a brief history of Seth Thomas & how he began to manufacture clocks. The most well-known name in American clockmaking history. Slide detail is lost. Recommended for small group and individual viewing.

631. **THE BALL COMPANY**, by James L. Hernick (18)
This is an excellent program of the watches & clocks that were made for the Ball Co., established 1865, to meet railroad specifications. The very fine photography, in excellent detail, shows on the movements & dials Ball's famous trademark "Official RR Standard." Also shown on the movements & dials are abbreviations of "Brotherhood of Locomotive Engineers," "Brotherhood of Railway Trainmen," "Order of Railway Conductors," & others. Ball's watches & clocks were made for him by the finest watch & clock makers of the period. Good slides. Recommended for group and individual use.

632. **ART DECO & ITS BACKGROUND, ART NOUVEAU**, by John Lord (25)
This well-developed program explains how to recognize the difference between art deco & art nouveau in clock-case style, in ornaments & furniture.

633. **CT. WOOD MOVEMENTS SPREAD TO UPPER NEW ENGLAND USERS**, by Snowden Taylor (64)
This program, recorded at the Sixth Annual Educational Symposium in Concord, New Hampshire, is a lecture by Snowden Taylor on the men who established the mass production of clocks in New England. Snowden also shows slides & exhibit clocks that were characteristic of the case styles & movement designs produced by these industrial pioneers.

634. **WEBB C. BALL & RAILROAD TIMEKEEPING**, by Robert Winslow (70)
In this program, recorded at the 17th NAWCC Seminar, Bob gives a detailed accounting of the life & business career of Webb C. Ball. Bob discusses in detail how Webb C. Ball established his jewelry business & how the business evolved into the largest & most influential company in the railroad watch business.

635. **RAILROAD-MARKED WATCHES**, by William F. Meggers (56)
PANEL DISCUSSION AT THE NAWCC SEMINAR ON RAILROAD TIMEKEEPING (46)
In the first program on this tape, Bill describes & shows many of the unique logos on dials & the unique engravings & markings on movements of railroad watches. Much history of railroad companies & associated information is covered in this presentation. The second part of this tape is a question & answer period held at the conclusion of the Seminar. All of the speakers participated in this panel discussion.

636. **TOOLS & TECHNIQUES IN CLOCKMAKING**, by John P. Wikswo (32)
Shows how to make the different tools needed in clockmaking. A number of books have been published on How-to-Make different kinds of clocks, i.e., skeleton, musical, bracket, 8-day, etc. In this program, the making of the tools is explained. Good slides. Recommended for group and individual viewing.

637. **EXTRACTS FROM A CLOCKMAKER'S WORKBOOK**, by Robert F. Barfoot (30)
This program is on the restoration of horological disasters to their former beauty. Mr. Barfoot illustrates the repair of a variety of pieces, describing methods & processes used in their restoration. It also covers the manufacture of parts not usually treated in the text books. Robert is a Craft Master of the British Horological Institute, & lives in Belfast, Ireland. Good slides. Recommended for group and individual viewing.

638. **THE SONORA CHIME CLOCK**, by Kirk Fallin (25)
This program shows & describes the different models of Sonora Chime clocks & explains how they differ from other conventional clocks of the period. Slide detail is lost. Recommended for small group and individual viewing.

639. **THE CANADA & HAMILTON CLOCK COMPANIES**, by Jane Varkaris & Jim Connell (32)
An excellent program showing the many variations made by three Canadian clock companies during the 12 year period 1872-1884. Slide detail is lost. Recommended for small group and individual viewing .

641. **THE TECHNIQUES OF HAND GRAINING**, by Doris Westerholm & Bob Draucker (23)
The program presents the restoration of an early American clock in a step-by-step procedure. The hand-graining process is explained. The tools & products used while restoring a badly neglected clock case to a beautifully grained clock are shown & explained. Good slides. Recommended for group and individual viewing.

642. **METAL STATUE & FIGURE REPAIR**, by Bruce Clarke (45)
This program shows how repairs on metal figures & statues can be accomplished. It shows the materials needed & some special tooling used to repair several metal types, i.e., white metal, bronze, cast iron & lead. Some figures are shown in a rough condition as well as completely restored. The use of epoxy brazing & soldering are used for repair. Good slides. Recommended for group and individual viewing.

643. **RARE & UNUSUAL WATCHES**, by James Gibbs (34)
Rare watches dating from 1630 to 1810. Makers such as Tompion, Breguet, & Quare. Shows unusual dials, cases & movements. Slide detail is lost. Recommended for small group and individual viewing.

644. **CLOCK CARTOONS**, by Jim West (16)
A collection of amusing horological cartoons cut out of newspapers & magazines. Good

slides. Recommended for group and individual viewing.

645. **EARLY VIENNA REGULATORS**, By Pete Booz & Chapter #75 (21) Some dark or loss of detail slides. Small group and individual use. Mainly floor standing Vienna Regulators from 1700-1825. Pointers are given as to how to date them.

646. **IDENTIFYING POCKET WATCHES**, by Bill Meggers & Joe Shaffer (30) Aims to help identify unmarked American & foreign pocket watches. Classifies them as to type of construction & jewel count. Good slides. Recommended for group and individual viewing.

647. **FLORENCE KROEBER & HIS CLOCKS**, by Chapter #23 (21) Photographed display of the Southern Ohio Regional, held in the Spring of 1984. The historical data included is from a presentation by Chris Bailey given at one of the Seminars. Some dark slides. Recommended for individual use only.

648. **THE ILLINOIS WRISTWATCH**, by Phil Harnage & Chapter #75 (18) While containing a large amount of detailed information for the collector, this program is an entertaining showing of many of the case and dial designs used by the Illinois Watch Company from the 1910's to the 1930's. Slide detail lost. Recommended for small group and individual viewing.

649. **AMERICAN WATCHES**, by James W. Gibbs (44) Shows watches from the collection of Jim Gibbs giving serial numbers & date of manufacture. A basic overview of the changes in American watchmaking. Slide detail lost. Recommended for small group and individual viewing.

651. **HOLROYD FAMILY FESTIVAL EXHIBITION 4/97**, Australia Chapter #72 (24) Chapter 72 mounted this mini display as part of their educating the public about time and time pieces. The members of Chapter 72 put their collections on display & manned the Exhibition in order to answer questions. It also shows some of what is collected in Australia.

652. **INTRODUCTION TO WATCH REPAIR**, by Tony Montefusco (72) This video tape covers all of the steps in the disassembly, cleaning, & reassemble of a wrist watch. It is recommended for the viewer who wants to understand the basic steps required for these operations. It is not recommended as a training film for someone to duplicate the actions because the enlargement is insufficient to show many of the steps in sufficient detail.

653. **HOW TO EXAMINE & ADJUST THE RECOIL ESCAPEMENT**, Presentation made at 1996 Eastern Regional by Dr. David Goodman (75) Presentation begins with Dr. Goodman's overview of the four parts of the mechanical clock, and progresses to the theory and background for examination and adjustments to

the recoil escapement. About 82 minutes run time.

655. EMPIRE AND BIEDERMEIER VIENNA REGULATORS, by Phil and Lynne Rasch, sponsored by Lone Star Chapter 124. (20)

In this program, Phil and Lynne present the essential features of Vienna Regulators made during the first half of the 19th century. A number of examples of Laterndluhr, Dachluhr, early and late Biedermeier style clocks are shown. The features unique to each clock style are reviewed using these clocks as examples. Several movements are removed from their cases, and details of these movements are discussed. The video provides information on Viennese clockmakers and casemakers, dating these clock styles, finding the hidden names of makers, and identifying the beautiful woods that were used in making these classic clocks.

656. VIENNA REGULATOR FAKES, MARRIAGES, AND MINIATURES, by Phil and Lynne Rasch, sponsored by Lone Star Chapter 124 (13)

In this program, Phil and Lynne Rasch present a number of techniques used in the faking of new or partially new Vienna Regulator cases using original clocks as examples. The marriage of movements that are not original to their cases are prevalent in Vienna Regulators, and methods of detection of these marriages are discussed. The video presents eleven tips for identification of fakes and marriages from a detailed examination of a clock's photograph. Six small and miniature clocks are shown in operation, four of which are outstanding examples from the Biedermeier Period.

657. NAWCC CHAPTER 8, NEW ENGLAND - 7TH ANNUAL SYMPOSIUM, 1996

Part 1: Jason G. Gauthier - *The History of Interchangeable Parts*

C. Clark Julius - *Masonic Emblems on Watches and Clocks* (2 hr. 11 min.)

658. NAWCC CHAPTER 8, NEW ENGLAND - 7TH ANNUAL SYMPOSIUM, 1996

Part 2: Ward H. Francillon - *Tall Clock Dial Chronology for Wooden Works*

Snowden Taylor - *The Development of 30-Hour Wooden Tall Clock Movements* (2 hr. 22 min.)

659. RESTORATION OF WOOD FINISHES, by James Mihalcik (50)

This video was recorded at the 1996 Eastern States Regional in Syracuse, NY, during a workshop on Restoration of Wood Finishes by Jim Mihalcik. Jim, with a family background of furniture building and finishing, is a well-known restorer in the area. He demonstrates the technique of French polishing to remove and restore unsightly defects and/or blemishes in clock case finishes. As he points out, the value of the clock will, in nearly all situations, be increased greatly by one or two hours of work. Rather than use materials available only to the commercial furniture restorer, he is very careful to identify and use materials that can be purchased at your corner hardware store.

660. A COMPLETE OVERHAUL OF THE ATMOS CLOCK, by Tony Montefusco (80)

The Atmos Clock videotape by Tony Montefusco, FL, covers servicing tool requirements; complete disassembly; common specific repairs such as poising and suspension spring

replacement, bellows replacement; cleaning; reassembly; and adjustments to the Models 526, 528 and some versions of the 540 Jaeger Le Coultre Atmos Clocks. Included is a reference to a catalog and service highlights pamphlet and its source. In two parts totaling one hour and twenty minutes.

661. **E. C. BREWSTER'S EARLY AMERICAN SPRING DRIVEN CLOCKS**, by Nick Bonura (44)

This 44-minute videotape is by Nick Bonura, LA, and deals with E. C. Brewster's Early American Spring Driven Clocks. It shows the development of the movements and related identifying features for the E. C. Brewster clocks as well as for the Brewster and Ingraham models.

662A. **MISSION MYTH WALL CLOCKS**, by James West (30)

The Myth regarding the origins and development locales of Mission style Clocks (about 1900 to 1920) is exploded, and the real story is told and illustrated.

662B. **MISSION WALL CLOCKS**, by James West (34)

A look at the Mission Style Clocks produced by major American Manufacturers / Assemblers, with style characteristics and technical developments serving as identifiers.

663. **ALARM CLOCKS--FUN AND FUNCTIONAL**, by Paul and Ursula Metsker (32)

This program provides a good look at many automated alarm clocks. The makers and dates of manufacture are provided in most cases. This program is recommended for use by Chapters as a very entertaining and informative presentation.

664. **RESTORATION OF POT METAL AND BRONZE CLOCKS AND STATUES**, by Richard Michael (35)

This program starts out by describing the terms pot metal, white metal, and bronze as well as discussing the desirability and availability of the various clocks and statues. The author describes in detail the methods of restoring the external finish of the statue metal to provide a suitable finish. He also describes a method of repair and/or replacing missing parts of the statues. The video does not show any of the actual restoration process but does include some restored pieces.

669. VHS Only **CANADIAN RAILROAD TIME SYSTEM**, by Iain Cleator (49)

In this presentation, recorded at the 17th NAWCC Seminar, Dr. Cleator discusses time transmission, Canadian time zones and timekeepers unique to Canadian railways. Many of the watches and clocks so used were made in the United States specifically for Canadian railway use. He discusses the importance of standardization of time over the four and a half time zones. Master clocks as well as slave clocks were used, and the use of the telegraph which followed the rail lines was essential. Links between the Canadian Pacific and ocean steamers required the development of chronometers specific to colder climates in the North. Although many of the timepieces used will be readily recognized by American collectors, there were many important style changes in the dials and cases.

TIMEKEEPING IN THE LONDON UNDERGROUND, by David Burton (73)

In this presentation, recorded at the 17th NAWCC Seminar, Mr. Burton traces the development of the London Underground's timekeeping system from 1860, when many small railway companies were organized, to the present. In this presentation, David examines the range of influences that led to various timekeeping systems being adopted by different Underground lines and charts the progress of the technology involved. He discusses the way in which well-known products were adapted to the needs of the Underground and were incorporated into its standard system. He also gives an insight into the department that was set up by the London Transport to maintain over 2500 timepieces.

670. SERVICING THE CHELSEA SHIPS BELL CLOCK, by Tony Montefusco (40)

An informative and interesting demonstration of the disassembly and reassembly of the Chelsea *Model #4L* mechanical clock movement with ships bell strike. Tony explains what the components are, what they do and how the bell timing is derived from normal time striking. He also explains how ships bells are used to time activities on board ships. If time is of the essence, the forty minute videotape can be shortened to about 29 and a half minutes by stopping the tape at the point where the clock is back together and in its case which is the beginning of a twelve minute segment on Tony's Chelsea collection and pictures of more clocks in the Chelsea Ships Bell line.

674. 1940 FACTORY FOOTAGE, by the E. Ingraham Company, Bristol, CT. Vintage film quality (46)

In 1940 the E. Ingraham Company filmed the factory's operations. Edward Ingraham later deposited the film in the American Clock and Watch Museum's library. The Museum has transferred this film to video.

675. CLOCK REPAIR FOR THE BEGINNER, by Tony Montefusco (56)

An informative and interesting demonstration of the disassembly, cleaning, re-assembly, and trouble shooting of an American kitchen clock; great for the beginner using inexpensive tools which are easily obtainable.

676. CALENDAR CLOCKS, by M. R. Shunk (28)

A variety of calendar clocks from companies such as Ithaca, Seth Thomas, Southern Calendar Clock Co., National Calendar Clock Co., & many others. Some dark slides. Recommended for individual viewing only.

678. VHS Only A COLLECTION OF MINIATURE CLOCKS--EUROPEAN, by Jane and Lloyd Porter (21)

Unusually small carriage clocks from the collection of Jane Porter. Good slides. Recommended for group and individual viewing.

679. ALL YOU EVER WANTED TO KNOW ABOUT OGs BUT WERE AFRAID TO ASK, by Earl McHugh (25)

A brief history about Chauncey Jerome and his OG clocks. Shown are some examples of

clocks from the collections of members of Chapter #13, comparing size and variety in the OG style of clock. Slides lack detail. Individual use only.

680. VHS Only AMERICAN WALL HANGING SECONDS BEAT REGULATORS, by Dorothy and Glen Marsh (29)

Shown are a variety of large regulators from the collections of Chapter #4 members. Companies such as New Haven, Waterbury, Ansonia, Seth Thomas, Welch, and Howard are shown. Shown are some of the different escapements used on these regulators with compensated pendulums. All of these clocks beat seconds. Some dark slides. Individual use only.

682. ELI TERRY, CONNECTICUT CLOCKMAKER, by W. L. Wadleigh, Jr. (27)
Highlights of Eli Terry's career and his competitor's activities. Shown are his first five models and their differences. Featured is the 1816 patent for his box clock through his mass-produced shelf clock. Stressed is his importance on the clockmaking business in Connecticut. Some slides loss detail. Recommended for small groups and individual use.

683. DIAL REPAINTING, by Jim West (23)

Repainting an OG dial. Step-by-step procedures are shown including: making a copy of dial, removing old paint, spraying dial white, penciling in dial face, inking in dial face, spraying dial clear. Supplies needed to complete job are listed. Good slides. Recommended for group and individual viewing.

684. IN THE WORKS, by Henry Horne and Lloyd Porter (39)

Illustrates three basic repairs on a single train movement: replace pivot, rebush, replace or repair bent or broken teeth. Shows cleaning the movement and checking the beat with an inexpensive amplifier.

685. DAVID BOYCE'S BACKYARD TOWER CLOCK, by David Boyce and Lloyd Porter (20)

The procedures of moving a Howard tower clock from a church tower to a back yard. Included are the steps in constructing the tower, some of the materials used and a look at the parts. Good slides. Individual use only.

686. RUNNING A RAILROAD ON TIME: 1996 JAMES ARTHUR LECTURE, by Dr. R. Bartky (75)

In this excellent overview of the history of railroad timekeeping, Ian exposes such myths as the 1892 Kipton, Ohio, train accident having been caused by a slow-running watch and that formal watch inspections and certification had already been in place since at least 1853. Interesting lecture, history, and story. Story in two parts. Group and individual use.

687. HISTORY OF THE WATCHMAKERS LATHE (PART I), by William Muir and **WATCHMAKERS LATHE ACCESSORIES (PART II)**, by Stephen Lebduska (59) Interesting material. Recommended for group and individual use

Bill's very thorough presentation of a number of different watchmakers' lathes--an unnamed Swiss, the Bottum, Daniels, Stark, and Hart--is complemented by Stephen's

comprehensive discussion of various different lathe accessories--collets, slide rests, milling attachments, and pivot polishers. Interesting program. Group and individual use.

688. REPAIRING & ADJUSTING THE HERMLE FLOATING BALANCE CHIME MOVEMENT, by Tony Montefusco (59)

This informative program presents a systematic process for servicing these movements. Tony gives a detailed explanation and rationale for all his techniques for disassembly, cleaning, polishing, reassembly, testing and adjusting. He provides many shortcuts which will be a time-saver for anyone servicing these units. Some detail hard to see. Individual .

689. TIME, THE UNDERLYING ORDER, by the National Watch and Clock Museum (17)

This professionally produced video provides an introduction to your journey through time at the new National Watch and Clock Museum. A must-see for anyone who has not visited the new museum. Group and individual use.

690. THE EXHIBITS OF THE 1972 CONVENTION AT JACKSON, MS, by Lloyd Porter (26)

This tape showcases some of the fine items on display at the Convention. It also includes footage of some of the NAWCC officers who attended the meeting. Interesting clock presentation; however, the slides are dark and with hard-to-see detail. Recommended for individual use.

691. CARRIAGE CLOCKS, by O. B. Frye & Chapter #46 (17)

This tape shows carriage clocks from the collections of members of Chapter #46. Slides do not show detail and some are dark. There is a faint slide beep. Recommended for individual viewing.

692. VHS Only MINIATURE AMERICAN CLOCKS, by W. L. Wadleigh, Jr. (22)

This tape deals with scaled-down versions of the larger clocks. Good information with some rare clocks presented. Faint slide change noise. Recommended for group and individual viewing.

693. A NEW ENGLAND COLLECTION, CIRCA 1950, by W. L. Wadleigh, Jr. (27)

A variety of clocks from the collection of Art and Millie Bloom are shown. This also features a brief history of some of the early New England clock makers. Good slide presentation of some interesting clocks. Group and individual viewing.

694. THE LANGMAID COLLECTION, by Norman Langmaid and Lloyd Porter (27).

A showcase of interesting clocks, with an emphasis on skeleton clocks, that was photographed in June 1972. The slides, however, are hard to see and lack good detail. Recommended for individual viewing.

695. VHS Only WELCH CLOCKS, by Dorothy & Glenn Marsh (30)

The empire of E. N. Welch, the most prominent and wealthiest man in the Connecticut

area during the 19th century. The clocks are from the collections of the members of Chapter #69. Very interesting material. Some slide detail difficult to see. Recommended for small groups and individual use.

696. VHS Only **EXHIBITS OF THE NORTHWEST REGIONALS**, by Lloyd Porter (30)

Many varieties of clocks exhibited at the Northwest Regionals, both European and American. Dark, hard-to-see slides throughout Recommended for small groups and individual use.

697. **RESTORATION OF THE WILLARD HOUSE & CLOCK SHOP**, by Dr. Roger W. Robinson (40)

Shows some of the steps taken to restore a much-neglected historical home. Shows the interior of the building after restoration and describes the clocks and contents. Interesting story, with good slides of the House; however, the clock slides are dark and hard to see. Recommended for individual viewing only.

698. VHS Only **AN OUTSTANDING WESTERN COLLECTION**, by Lloyd Porter (40)

Interesting mechanical varieties of European clocks. Other data such as maker, date, escapement type, and size are given. Hard-to-see slide detail. Individual use.

699. **WATCHES**, by W. F. Meggers & J. J. Shaffer (36)

An introduction to the pocket watch, illustrating the most common escapements, how they work and why some are better timekeepers than others. Interesting material for beginners, but with hard-to-see slides lacking detail. Recommended for small groups and individual viewing.

[702. THE LIFE AND TIMES OF LEWIS EBERHARDT](#), by Chris H. Bailey (61)

A 1998 NAWCC Williamsburg, VA Seminar presentation covering Eberhardt's clockmaking career, the products and techniques he employed to create his tall clocks, and examples of several clocks he produced. Filmed and edited by the National Program Committee. Recommended for individual viewing.

[703. WASHINGTON STYLE WATCHMAKING](#), by Michael C. Harrold (75 min.)

A 1998 NAWCC Williamsburg, VA Seminar presentation on the activities of Washington area watchmakers, Jacob Kerr and Jason Hopkins, the evolution of the American watch industry until the time of the development of the dollar watch, the economics of mass watch production and distribution, including mail ordering; and concludes with graphs detailing the activity of the industry from 1870-1930, and facts about the Ingersoll brothers. Filmed and edited by the National Program Committee. Recommended for individual use only.

704. **SOUTHERN CLOCK CASES AND FURNITURE**, by Jonathan Prown (65)

A 1998 NAWCC Williamsburg, VA Seminar presentation that covers not only the cultural context in which the Southern clock and furniture makers worked, but also

provides examples of their works, including movements and design features unique to Southern clocks, and the innovations they made. Filmed and edited by the National Program Committee. Recommended for individual viewing only.

705. EXPLORATION OF CONNECTICUT CLOCKS TO THE SOUTH, by Snowden Taylor (73)

A 1998 NAWCC Williamsburg, VA Seminar presentation which not only covers the business practices, methods of distribution and sale of clocks in the South by early clockmakers from Connecticut, but it also shows the details of many of these movements and their case style. Filmed and edited by the National Program Committee. Individual use only

706. CONSERVATION AND SCIENTIFIC ANALYSIS OF VIENNA REGULATOR CASES, by Bob Tjaden (60) and **REPAIR AND RESTORATION OF HIGH GRADE MOVEMENTS** by Richard Cox (52)

Two 1999 NAWCC Minneapolis, MN seminar presentations—the one utilizing slides of Vienna regulators, wood samples, and repair and replacement part techniques in conjunction with a discussion of clock case construction, wood identification, adhesives, castings, scientific determination of finish and wood identification, and cleaning methods and waxes used in restoration, and the other covering the methods utilized in the restoration of a Vienna regulator movement, via the showing of slides, as well as actual clocks which were made. Filmed and edited by the National Program Committee. Recommended for individual viewing only.

708. VHS Only **MODERN MARVEL CLOCKS** (50)

A documentary covering the history of timekeeping from Stonehenge to the developmental the atomic clock and Swatch watches, with individual pieces shown from the Time Museum, the Getty Museum and Huntington Art collections , along with film footage from the National Archives. History Channel Broadcast quality. Highly recommended.

709. VHS Only **“LEARN TO TURN,”** by Robert J. Tascione (140)

Discusses different types of lathes, what to look for in a lathe, what tools to use with the lathe, and how the lathe and tools are used for obtaining the best results. Interesting subject and clear, bright slides. Group and individual viewing.

710. VHS Only **EUROPEAN PUBLIC CLOCKS**, by Albert Odmark (43)

Covers a large number of clocks throughout Europe and England, ranging in age from 50 BC until 1977, with the most well known being the Tower of Winds water clock in Athens, and the Salisbury and Westminster clocks in England. Slides lack detail. Recommended for individual viewing only.

711. **INGERSOLL AND OTHER DOLLAR WATCHES**, by Ralph Witmer (37)

Shows examples of dollar watches, including the first watch sold by Ingersoll, with Ansonia, Waterbury, and New Haven also being represented, along with advertising and exposition watches. Slides lack detail. Recommended for individual viewing only.

712. VHS Only **OLD DOMINION CLOCK TREASURY**, by Robert Draucker (27)
Shows original, but not rare clocks from the collections of Chapter 34 members.

713. VHS Only **CLOCK REPAIR COURSE**, by Robert J. Tascione
Lessons 1-5 on 1 videotape: 2 hrs. 15 min.

(1) Discusses the differences between 30 hr. and 8 day clock mainsprings, and the use and function of the pendulum; (2) how to let down the mainsprings and to determine if a new one is needed; (3) how to remove and replace the cap and mainsprings from a barrel, clean a movement, polish the pivot, and bush a bad pivot hole; (4) how to use the bushing tool and straighten teeth and the escape wheel and also oil the mainspring and reassemble and oil the movement, with explanations of the different escapements and the motion or time train; (5) and how to use the run/test stand, and set the beat, with explanations of the strike train, and reassembling the complete movement. Very good camera shots, and the various procedures are well explained. . Interesting subject and clear, bright slides. Group and individual use.

714. VHS Only **POCKET WATCH COURSE**, by Robert J. Tascione (287)
Two VHS tapes Lessons 1-3 (152) & Lessons 4-6 (135)

(1) Discusses disassembling a lever set watch, including jewels, with an explanation of the tools needed; (2) how to remove mainsprings, balance/hairsprings and rollers, and clean parts, including the balance, and also clean and replace the mainspring and hairspring; (3) continuation of reassembling and demagnetizing the hairspring; (4) how to use staking tools and staff the balance; (5) what to look for in a high-grade roller table and how to replace the balance staff; (6) removal and replacement of the bow and crown, and setting the crown. Very good camera shots, and the various procedures are well explained. Interesting subject and clear, bright slides. Recommended for group and individual use.

715. VHS Only **TOWER CLOCKS OF AMERICA**, by Dr. Joseph G. Baier. (38)
Views of movements as well as towers, and discussion of escapements. Good overview and general history of tower clocks and the companies that made them. Includes some anecdotes of his personal experiences exploring tower clocks.

716. VHS Only **TOWER CLOCKS OF SOUTH CENTRAL TEXAS**, by Jim West (21)

717. VHS Only **TOWER CLOCK DISPLAY: BUFFALO CONVENTION, 1989**, by Jim West (16)

Shows the many fine tower and street clock movements that were on display at the Convention. They have been excellently restored; and to have had so many in one location made this display most unusual.

718. **REPAIRING EIGHT-DAY AMERICAN STRIKING CLOCKS** by Steven Conover (33)

This video is ideal for beginning Clock repair students. Follow along as Steven works on movements in his workshop. This video shows the complete strike cycle and how each part works. In addition it teaches how to let down the main-spring safely, use the spring winder to uncoil the mainspring, disassemble a movement and much more. This is a quality video.

719. CRYSTAL REGULATORS: HISTORY, THEORY, DESIGN, AND REPAIR by Bernie Tekippe (58)

This program was recorded at the Mid-South regional on Sept 3, 2000. Mr. Recipe explores the various movement designs and gear configurations developed by clock companies in the United States, France, and England. He gives opinions on estimating, repairing and dealing with clock owners. Mr. Tekippe provides a step by step procedure for diagnosing what is wrong with a non-operating unit. He very descriptively provides a method of diagnosing and repairing Brocot escapements, commonly used on Crystal Regulators. He concludes his presentation with a discussion of the pendulum swing and its effect on the accuracy of timekeeping. He then presents and attempts to develop a more accurate timekeeper that compensates for circular error. This program presents a wealth of information on movement design and repair presented in an easy to understand manner.

720. RAILROAD TIME SERVICE INSPECTION by Kent Singer (60)

This program was recorded at the Mid-South Regional Sept 3, 2000 and is a presentation on the evolution of time service rules. Mr. singer also discusses in detail the timekeeping practices of railroads from 1830 to the 1950s. The presentations enhanced by many detailed slides of watches that show the design features used in manufacturing railroad grade watches. Recommended for small group and individual viewing.

721. SERVICING THE MODERN GRANDFATHER CLOCK (70)

Andy Anderson demonstrates his techniques for servicing the modern grandfather clock--SLIGH, HOWARD MILLER, and RIDGEWAY--in the home. Program made at the Dearborn regional in 1993. Not recommended for group viewing.

722. THE ATMOS CLOCK: HISTORY AND MECHANICS (72)

Reviews the history of the Atmos clock including slides of early prototype clocks. Shows slides of the factory production line in Switzerland, including clocks that sell for \$150,000. Presents an overview of the mechanics of this unique clock. Gives very worthwhile tips and discusses prices and values of clocks and parts. This isn't a step by step repair video, but a must see for anyone interested in Atmos clocks. Recommended for small groups and individual viewing.

**2001 NAWCC SEMINAR (22nd) ON WRISTWATCHES--COVINGTON, KY
OCTOBER 27, 2001**

The following programs are all very interesting and well presented. There are two programs per video tape or DVD. The program titles are self-explanatory of the content. A must see for those interested in wristwatches. Recommended only for individual

viewing due to the detail involved.

[723. ENGLISH WRISTWATCHES](#) by David Penney (57)
MILITARY WRISTWATCHES by Lehr Dircks (45)

[724. HAMILTON ELECTRIC](#) by Rene Rondeau (39)
GRUEN WRISTWATCHES by Charles Cleves (61)

[725. JAMES ARTHUR LECTURE: AMERICAN WRISTWATCHES](#) by Bruce Shawkey (74)
ROLEX by Ken Specht (47 min.)

[726. EVOLUTION OF THE QUARTZ WATCH](#) by Benjamin Matz (33)
WADSWORTH CASE CO. by Charles Cleves (31)

[727. THE HISTORY OF WATCH DIAL RESTORATION](#) by Robert Miller (30)
CHARACTER WATCHES BY JULIA MUELLER (80)

**Our appreciation to NAWCC Eastern States Regional - Syracuse, NY
Chapters 13-33-55 who produced and submitted the following programs:**

[728. HOW TO BUY A WATCHMAKER'S/CLOCKMAKER'S LATHE](#) by Harvey Schmidt (28) ESR 2001

This program presents the history and basic styles of lathes. Gives good tips on several things to look for and what to avoid when purchasing a lathe. Stressed the importance of condition and availability of accessories. Very knowledgeable and fluent speaker. You may want to view twice! Recommended for small groups and individual viewing.

729. **160 YEARS OF TORSION CLOCK MANUFACTURING** by John Hubby (82) ESR 2001

In depth review of Torsion clocks from their invention to the present day. A wonderful display of approximately 75 Torsion clocks (many rare) arranged chronologically, representing the 160 year period. This is very interesting and well thought out program. Worthwhile for any clock collector but, a must for Torsion enthusiasts! Recommended for group and individual viewing.

[730. CASTING MISSING CLOCK CASE PARTS](#) by Paul Kostelny (25) ESR 2001
Speaker shows examples of making molds and decorative clock case parts. Demonstrates how to make clock case parts using various materials. Very useful information to help get started. Recommended for individual viewing.

731. **LOSTWAX CASTING OF WATCH CASINGS** by Guy Wallace (29) ESR

2000

A short general discussion with some demonstrations of hot wax shows tools used including some he made. Guy has a pleasant easy going speaking style. Recommended for individual view only.

732. 200 YEARS OF DUTCH DOMESTIC ANTIQUE CLOCKS 1670-1870 by Arnoud Meurs (30) ESR 2000

Very good history of Dutch clocks by periods and clock types by regions. Mixes clocks and photos to illustrate his points effectively. Gives tips on dating cases, movements and dials. Very interesting program recommended for individual and small group viewing.

734. A PRECISION PENDULUM CLOCK- by Robert Matthys (45)

A conversation and demonstration with Robert Matthys regarding the many experiments necessary to develop his unique Precision Floor Clock. This program is not for everyone, but is a must for those interested in the technical detail and the amount of effort required to design a Precision clock. Recommended for individual use.

735. CLOCK DIAL REFINISHING- by Mike Harasuik (58)

This presentation gives the viewer a very detailed explanation and visual account of how to restore a worn dial. Mike Harasuik demonstrates the techniques he uses for re-inking worn Roman numerals and Chapter Rings on a painted white dial. A worksheet listing materials and the process is included with the tape. Borrowers of the tape may copy the worksheet for future reference.

Our appreciation to the NAWCC Eastern States Regional, held in Syracuse ,NY and Chapters 13, 33, and 55, who produced and submitted the following programs. They are all well done and appropriate for their subject matter. All are recommended for small groups and individual viewing

736. DISASSEMBLING, CLEANING & OILING A POCKET WATCH- by Leon Bufano (55) ESR 2002

Leon demonstrates at the workbench the step by step process of disassembling, cleaning & oiling a pocket watch. Good comments on the proper tools and how to use them. Lots of helpful hints. Handout included.

737. SO YOU WANT TO FIX A CLOCK? by Eric Hooker & David Richardson (51) ESR 2002

Eric & David show several examples of problem areas to look for before purchasing a clock. They point out several problems with various clock parts and discuss many helpful tips primarily for the beginner. This is very useful but is not a step by step how to fix a clock.

738. VENEERING-MAKING VENEER REPAIRS TO CLOCK CASES by Dick

Baker (57) ESR 2002

Dick lectures and demonstrates all aspects of veneering from where to obtain it to the appropriate tools for working with veneer. Sound practical advice & tips. Very worthwhile. Handout included.

739. AN EMPIRE IN TIME--CLOCKS AND CLOCK MAKERS OF UPSTATE NY by Russ Oechsle (85)

Russ surveys clocks and clockmakers from the ninetieth and twentieth centuries operating in upstate New York from Albany west. Included are dealers, numerous and inventive case-makers and clockmakers ranging from early wood and brass shelf and tall clocks to many unique and important New York contributions to horology, including the perpetual calendar clock, unique advertising clocks, time recording clocks and tower clocks. A must see classic.

740. ENGLISH BRACKET CLOCKS by Dennis Radage (45)

Dennis uses his personal collection to provide a tour-de-force of English bracket Clocks including cases, decorations, dials, gilding, spandrels, castings, hands, movement & makers. Slides are of the highest quality. Must see classic presentation.

741. THE APOSTLES CLOCK by Marvin DeBoy (45)

This is a very unusual, one of a kind, grandfather like clock, built by Myles Hughes over 35 years from 1881--1916. It was presented to the Buffalo County Museum in 1923. Marvin describes it's many functions and how they operate. It is little technical for some viewers, but very interesting to the craft builder and those seeking technical detail. Recommended for individual

742. VHS Only BAIRD ADVERTISING CLOCKS by Jerry Maltz (20) 1999 ESR in Syracuse.

A very interesting review of the wonderful display of Baird Clocks at the 1999 Regional. Approximately 25 Baird clocks are discussed-many of them rare. Jerry reviews the history of the company and the many changes made over the years. A must see program by THE Baird expert.

743. ADJUSTING 400 DAY CLOCKS . by Joe Rabuska (61)

Joe covers the most important adjustments procedures using good illustrations. After each adjustment, he leads a very good question & answer session that brought additional worthwhile tips & suggestions. Very effective!. Video has some minor color, sound & focus problems but overall an excellent program. Recommended for small group and individual viewing.

The following eight programs were digitally recorded at the 2003 National Convention in Charlotte.

745. A.L. BREGUET AND THE SOUSCRIPTION TIMEPIECE by John Heisler (50)

a fascinating presentation of the history of the genius Abraham -Louis Breguet, highlighting the design and production the Souscription Timepiece.

746. REAP HUGE PROFITS FROM QUARTZ WATCH REPAIR by Ken Pell (52)

Quartz watches, although not considered by many as collectible, can present an opportunity for a highly profitable repair business. This presentation focused on the skills required in choosing the most profitable strategy when repairing quartz-powered watches.

747. IDENTIFYING WATCH MOVEMENTS by Alice Carpenter (61)

The potential buyer of watches, and the watch repair person benefit from presentation and discussion on how to identify the many types of watch movements.

748. MODERN TIMING TOOLS FOR THE WATCH AND CLOCK REPAIR by Bryan Mumford. (40)

He discusses and demonstrates putting clocks and watches in beat, measuring the rate including Atmos and 400-day clocks, determining the correct rate of a movement and finding flaws in the strike train. Features the MicroSet Precision Timer.

749. HOW TO BUY AND MAINTAIN ATMOS CLOCKS by Jeffrey Hamilton (40)

Discusses the history of Atmos clocks, the various models and dates of manufacture. he points out what to look for when purchasing a Atmos clock, such as condition and potential repair costs.

750. CERAMIC CLOCKS: DOUBLY COLLECTIBLE by Bill Keller (43)

Ceramic clocks, usually driven by synchronous motors, are of great interest to pottery collectors, who will pay much higher prices than would a clock collector at a Mart. Shows many interesting examples.

751. CUCKOO CLOCKS 101 by Rick Dunnuck (43)

A demonstration and discussion on how to replace a modern cuckoo movement in one hour or less.

752. NAWCC CONVENTION REGISTRATION PROGRAM by the three developers Gene Volk, Dr Bob Chapman & Meredith Hutto. (88)

This presentation covers the background including the need for the new registration program. Some of the problems with the DOS-based program are reviewed and then compared to the improvements in the new Windows- based program. Much more covered. This is an overview of the program and not a tutorial. A must see for those planning to use the new program.

GOLDEN OLDIES

from SYRACUSE EASTERN STATES REGIONAL. The following three program were taken from displays in the 1980s, in the early days this Regional taping their programs. These early programs are not technically perfect by today's standards, but they are wonderful in showing the quality and rarity of clocks available then by these famous early makers. The speakers are legendary and cover unusual case styles, rare movements, the history and follow-on companies of their respective makers. These are must see classics.

753. **THE CLOCKS OF CHAUNCEY JEROME.** with Chris Bailey (48) 1984 ESR Display .

754. **THE CLOCKS OF SILAS HOADLEY** with Chris Bailey (30) 185 ESR Display

755. **JOSEPH IVES CLOCK INVENTOR** with Chris Bailley, Ken Roberts and Snowden Taylor.(57) 1988 ESR Display

[756. THE HOWARD CLOCK BUILDING](#) by Steve Abrams (32)

A tour of the old Howard Clock Building in Waltham Massachusetts just before its deconstruction in 1999. The tour by Steve Abrams, preserves the building in its state just days before the end. The tour begins in the basement and ascends to the roof, following form and function along the way. Professionally recorded by Nescon Production.

757. **THE AMERICAN HALL CLOCK & ITS BRITISH CONNECTION** by Tom Spittler (80)

This is a video of Tom's 80 slide talk which details the invention of the tubular bell hall clock in Coventry England and its almost immediate spread to America. case styles popular in England and Europe ,those styles sold in both England and America, and theses styles unique to America are presented.. The facts reviewed cover the patents that controlled the industry and made several men rich. In the end the product cheapen to appeal to the masses and patent control was lost. A very interesting and detailed program covering what are likely the biggest and best hall Clocks ever made. Also available in side/audio tape.

Programs 758-769 were recorded at the 2003 NAWCC Symposium and cover the origins, history, inventers, patents, makers, dating, identification, and what the future holds for torsion pendulum clocks.

758. VHS Only **THE LONG NOW** (James Arthur Lecture) by Alexander Rose (47)
The Long Now Foundation origin and purpose is discussed. Looking back 10,000 years and forward 10,000 years was decided as time frames that the Foundation would use. Long term thinking of the Foundation led to the idea of building a 10,000 year clock. The first prototype was finished in 1999 and is now at the Science Museum in London. Clock design principles of longevity, maintainability, transparency, evolvability and

scalability are detailed. Design criteria, materials and the manufacturing of the 10,000 year torsion pendulum clock are covered in detail by the presenter.

759. **THE EARLY MAKERS** by John Hubby (45)

A review of known makers who applied the torsion pendulum to their timepieces, covering a 220 year period starting with Huygens in the 1670's through Schnekenburger in the 1890's. The major accomplishments of each one are noted, including stories of success and failure.

760. **GERMAN PATENT CLUES** by Douglas Stevenson (59)

The theme of this presentation is Historical German Horological Patents and how these patents are of interest to the study of torsion pendulum clocks. Doug discusses the old German Patent System and how it differed from the British and American systems. He then specifies the connection between torsion pendulum research and the project to assemble, for the first time, a listing of German historical horological patents. He shows, by rolling out a very long scroll, what is involved in researching German patents. Doug finishes by providing a survey of current findings related to patent research.

761. **THE ANTON HARDER STORY** by John Hubby (50)

Anton Harder is known as The Father of the 400-Day Clock. He was not the first to apply the torsion pendulum to a timepiece, but his efforts resulted in the clock we know today as Anniversary Clocks. A review of his life and accomplishments is discussed.

762. **THE 400-DAY CLOCK-PATENT TO PRODUCT** by Linday Bramall (59)

Patents that led to the development of the 400 Day clock are discussed. Beginning with the Joseph Ives clock and the February, 1841 patent by Aaron Crane, developments in Germany, France and The United States are developments traced to the present day designs. Inventors and their specific patents are discussed in detail. Designs and business strategies of the major manufacturers are also discussed.

763. **THE HOROLOVAR STORY** by Bill Ellison (69)

Problems with timekeeping accuracy of early torsion pendulum clocks and attempts by various manufacturers to improve accuracy is discussed. The lecture details Charles Terwilliger's path from repairing torsion pendulum clocks to the development of NiSpan C, creation of the Horolovar Company, publishing of repair books, and selling of suspension springs and parts. Bill Ellison details his involvement in The Horolovar Company and production of suspension springs.

764. **CONSERVE OR RESTORE** by Doug Minty (55)

Doug Minty discusses the difference between and reasons for conservation and restoration. Valuation for various purposes is discussed. Cleaning and polishing of various finishes and clock parts is covered in detail. Included in the lecture are suggestions and methods used by the presenter in repairing clock and watches. Methods of tooth replacement, spring repair, pivot repair & polishing are covered. The lecture is

concluded with a show & tell of making new brass bases for 400- Day clocks.

766. EXPERIMENTAL TORSION ESCAPEMENTS by John Shadle (50)

Two of eleven experimental torsion pendulum clocks made by the presenter are discussed in detail. Close-up video of the two unique clocks and a very detailed description by the presenter will give the viewer a very good insight into their operation. The presenter details the development process in the creation of both clocks.

767. THE TIFFANY NEVER-WIND by Len Brenner (83)

Recent information on Tiffany Electrics is discussed. G. S. Tiffany Clocks (not Tiffany and Company) and the companies that made clocks for G.S Tiffany are discussed. Tiffany Electric Manufacturing Company, Tiffany Never-Wind Company, Never-Wind Company, Cloister, Niagara and National Magnetic companies are discussed. History, patents, trademarks, repair techniques are covered in this presentation. Len concludes his presentation with a bibliography and a very entertaining demonstration.

768. CLAUDE GRIVOLAS, FRENCH MAKER by John Hubby (57)

The only known French maker of 400-Day Clocks, Claude Grivolas produced the first successful suspension spring to compensate for temperature changes, based on a Guillaume patent. He also produced elegant and finely made timepieces from 1906 until the beginning of WW 1.

769. EXHIBIT OF TORSION PENDULUM CLOCKS by John Hubby, (101)

A spectacular exhibit of 142 torsion pendulum clocks of all makes and varieties. The earliest clock is a Joseph Ives of about 1810, the newest an Atmos Atlantis made in 1995. These clocks represent the entire commercial manufacturing history of torsion pendulum clocks and are described in detail by John Hubby.

770. - THE HAMILTON WATCH COMPANY by Rene Rondeau (44)

This excellent program covers company history and shows many interesting innovations in watch and case styles. Very well done by the 'expert on Hamilton watches.

771. THE CRAFT AND INGENUITY OF THE SALEM BRIDGE CLOCK by Dr. Joseph Arvay (50)

This is another classic exhibition from the Eastern States Regional in Syracuse. Joe Arvay presents the most complete display ever offered of Salem Bridge clocks, from the invention by Eli Terry, to the production models by his apprentice Heman Clark and his successors. Included are nearly half of the know surviving models of the Curtis & Clark 8-day spring-driven shelf clock .

772. LUBRICATION by Mel Kaye (50)

Mel begins his History of Lubrication with the Cave dwellers oily discoveries . He expertly leads the viewer through the ages up to the modern synthetic lubricants. Very useful background information with superb history and contemporary lubrication techniques.

773. NAVIGATION AND TIMEKEEPING FOR THE 18TH CENTURY by Fred Powell (42)

Fred presents a humorous look at early mariners hit & miss navigational techniques over the last 500 years. He reviews the importance of Horology in navigation.

774. THE INVENTION OF THE PENDULUM CLOCK by Dr. David S. Goodman (42)

An interesting look at the history and people involved with the invention of the pendulum.

775. HERSCHEDA CLOCK COMPANY by Randy Thatcher (55)

Randy, owner/president since 1992, gives a very informative lecture on the past, present and future of the Herschede Clock Company

776. DISASSEMBLY & REASSEMBLY OF A SWISS WATCH MOVEMENT by Ken Pell (50)

This is very effective PowerPoint program demonstrating showing the logical steps and techniques for disassembling and reassembling a Swiss watch movement.

777. THE LITITZ WATCHMAKING PROGRAM by Hermann Myer (60)

This PowerPoint presentation focuses on a unique process for making "missing watch parts". Also, two students from the school give practical demos of watch parts they made as part of their studies. Very interesting for the watchmaker but the sound does suffer due to the high background noise. Recommended for **individual** viewing only.

778. SERVICING THE MODERN URGOS CABLE WOUND TRIPLE CHIME MOVEMENT by Tony Montefusco (40)

Tony provides a complete service call on this movement. He disassembles, cleans, services including bushing and reassembles. He provides many valuable tips along the way. Recommended for individual viewing only.

779. ELECTRIC AND SELF-WINDING CLOCKS AND EXHIBIT by J. Rodney King (80)

This is a presentation on the history of electric and self winding clocks including design evolution and the individuals who developed them. The discussion touches on the uniqueness of these time-pieces and their contribution to horology. Physical examples of these types of clocks are shown during the lecture. A 17 minute tour of the electric clock exhibit by Mr. King gives the viewer a good overview of electric clock development.

780. WHEEL AND PINION CUTTING WORKSHOP by Richard Cox (54)

Richard Cox presents a slide show on a variety of wheel and pinion cutting techniques that has been his business for many years. He shows examples of worn out wheels and the process of making the replacement finished product. He concludes showing some of his techniques for silver dial restoration.

781. STATUARY CLOCKS by Dick Michael (46)

Dick Michael discusses what to look for in buying, selling and collecting statue clocks. Composition of metals used in statue clocks is discussed, emphasizing the difference between bronze and white metal. Clues in identifying the metals used in statue clocks are given.

782. WATCHES: HOW TO BUY & WHAT TO AVOID by Dan Nied (50)

Dan Nied presents the viewers with a tutorial on how to buy a pocket watch in the mart room and how to avoid pitfalls. Dan covers the basic criteria in watch collecting, especially for the beginning collector.

783. POCKET WATCH ESCAPEMENTS by Jack Heisler (59)

Jack Heisler discusses the evolution of a variety of pocket watch escapements and their advantages and disadvantages. The viewers will see a slow motion computer animation of many of the escapements.

784. CONNOISSEURSHIP, IDENTIFICATION, RESEARCH, AND EVALUATION OF CLOCKS & WATCHES by J. C. Cohen (101)

This presentation gives the viewer a methodology on evaluating and pricing antique clocks. The evaluation exemplifies specific problems a time-piece may have and how each of these issues affect the overall price of the clock. Reference documents are also discussed.

785. ATKINS COLLECTION by Phil Gregory (55)

Phil Gregory lectures on clock manufacturing by Irenus Atkins. The lecture, augmented by slides, covers the company chronology and pattern of relationships in Bristol's clock manufacturing community.

786. ATKINS COLLECTION EXHIBIT: A WALKING TOUR by Phil Gregory & Robert King Atkins (43)

This exhibit, narrated by Phil Gregory and Robert King, is a comprehensive tour of the clocks made by Irenus. The exhibit has clocks of virtually every case style and movement design that were made by Atkin's companies and partnerships

787. VIENNA CLOCK EXHIBIT by George Poole and Richard Cox (41)

George Poole and Richard Cox describe the various styles, construction features and historical facts about a wide variety of Vienna Regulators and other German Clocks.

788. OKLAHOMA CITY NAWCC CONVENTION EXHIBITS (43)

This tape consists of segments showing items on exhibit at the 2004 NAWCC National Convention in Oklahoma City. Pocket watches from Oklahoma, an exhibit of rare swingers, blinking eye clocks, horological scarves and ties and a large display of novelty clocks, featuring Lux clocks.

789. THE ENGLISH LONGCASE CLOCK by Dennis A. Radage (65)

Dennis Radage shows slides and discusses introduction, development and decline of the English Longcase Clock. The various components and styles will be discussed along with

dating techniques.

790. PRE-PORTER WOODEN TALL CLOCKS: TERRY'S CONTEMPORARIES & THEIR PRODUCTS, A COMPARISON by Ward Francillon (67)

In this presentation, recorded at the 18th annual NAWCC seminar, Ward begins with a brief survey of activities of a few early post-revolutionary makers of wooden movement tallclocks. He then presents a detailed comparison of Eli Terry's major competitors and their technology.

791. THE CLOCK DESIGNS OF ELIAS INGRAHAM by Joyce Wahler (68)

In this presentation, recorded at the 18th annual NAWCC Seminar, Joyce covers the period of Elias Ingraham's clock and clock case design, from 1827 to 1885. She presents biographical details of his life and shows many of his popular designs and patents.

792. ELECTRIC CLOCK REPAIRS by Marty Swetsky (63)

This video includes many and varied concepts. Marty speaks of the "New" ideas presented in early clocks as well as mechanical functions necessary to keep proper time. This includes electromechanical and electromagnetic action. He talks about Tiffany never wind (Torsion Pendulum), the Bulle clock, and the Poole & Barr (Hipp Toggle). In Marty's opinion the three most commonly found electric clocks.

793. ELI TERRY, "PORTER CONTRACT, CIRCA 1806Demonstration by George Bruno (36)

This video captures the essence of how Eli Terry used relatively simple jigs and fixtures to fulfill the Porter Contract. This includes how wooden gears were cut, wooden plates made and wooden pinions cut - mass production style! Although it is a bit difficult to see each and every operation clearly, Mr. Bruno demonstrates how mass production was conducted...nearly 200 years ago. A must see for anyone interested in wood clock movements.

794. DIAGNOSING AND CORRECTING POOR BALANCE WHEEL MOTION by August Cornell (53)

August Cornell presents a very informative class in which he describes the various parts and functions of the balance assembly for both watches and platform escapements. He explains the terms and dispels several myths often associated with balance assemblies. He lists the most common problems encountered by the repairman and shows how to diagnose each of them. He also offers excellent practical bench techniques for solving each one. This is an excellent lesson for the novice and a good review for the experienced watch or clock repairman.

795. TURNING SPINDLES ON AN ANCIENT WOOD LATHE, CONSTRUCTION AND OPERATION by Bill Hean (34)

It presents a light but fascinating demonstration of the construction, assembly and operation of an ancient wood turning lathe. He explains the benefits of using a turn rather than a collet lathe for turning both wood and metal. He also demonstrates the use of the

bow and explains why it is, in some ways, superior to the motorized lathe. His excellent examples of fine wood turnings produced on his ancient lathe gives credence to his contention that the use of such a simple ancient tool can be beneficial to, and fun for, the modern repairman.

796. SETTING UP TO REPAIR CLOCK by Tom Borkowski and Everett Jones (60)
This presentation, recorded at the Mid-Eastern Regional at Greensboro, NC is a discussion on what a collector should learn and tools necessary to maintain and/or repair clocks. Beginning, intermediate and advanced levels of repair are discussed, with slides of tools shown as a supplement to the discussion. This presentation is geared to newer members, beginning collectors and those contemplating learning clock repair. A very worthwhile program.

797. UNDERSTANDING COUNT WHEEL STRIKING by Dr. David Goodman (87)
Dr. Goodman uses a moveable sketch to give a very detailed explanation of how count wheel striking works, primarily in American clocks. He describes the warning cycle and how to locate the various parts of the strike train. Importantly, he explains how to setup the strike train for reassembly. Recommended for individual and small group viewing. A must for new repairers

798. DVD Only SIMPLIFIED MECHANICAL WATCH REPAIR FOR PROFIT by Dan Gendron (100)
This very worthwhile series comes in three DVD video programs. Part 1-Glossary of tools and parts. Part 2-Mechanical overhauls. Part 3-Escapements and repairs, plus 4-An audio CD of one of Gendron's seminars. Gendron's Illustrated Reference Guide of the same title is also included. Requires additional \$4.00 to insure the set for \$100.00.

799. DVD Only A COURSE IN PROFITING WITH QUARTZ WATCH REPAIRS by Dan Gendron (120)
This excellent course comes in six DVDs and is primarily focused on quartz watches, with one section on clocks. 1. Tune-ups. 2. Crystals. 3. Stems and crowns. 4. Quartz movements. 5. Quartz retrofits. 6. Quartz clocks. Also includes Gendron's 400 plus page book, *It's Time to Make More Money with Clock Repairs*. Requires additional \$4.00 to insure the set for \$100.00.

800. SCIENCE & HOROLOGY (James Arthur Lecture) by Jonathan Betts (98)
Jonathan Betts, Curator of Horology at the Royal Observatory in Greenwich, England, discusses scientific discoveries and the effect that those discoveries had on the development of accurate timekeeping. This presentation covers development in accurate timekeeping from the earliest mechanical clocks up to atomic clocks. The development of the pendulum, escapements, other horological mechanisms and materials used in timekeeping devices are discussed. Harrison's work is covered in considerable detail.

801. PENDULUM SCIENCE: THEORY, MODELS, & MEASUREMENTS by Bob Holmstrom (51)
After discussing the many resources available on pendulums Bob briefly talks about

gravity pendulums and the theory of pendulums. He then quantifies error sources and continues with examples of computer tools. Bob reveals some of the many websites with information about pendulums. He discusses sensors (do theory and experiment agree?) He discusses earth tides (the ultimate test), the field of "Chaos" and concludes with gravity wave detection, and where they have been re-discovered.

802. PRECISION PENDULUM MATERIALS by Robert Matthys (54)

After a brief explanation of the structure of materials, Robert gives a detailed explanation of the characteristics and properties of various materials that have been tried and used in the making of pendulum rods, pendulum bobs and suspension springs. Stability of metals is discussed at length. He concludes the presentation listing the worst and best materials for use in pendulums.

803. MEASURING CLOCK & WATCH PERFORMANCE by Bryan Mumford (43)

He discusses the techniques of measurement beginning with the time base of electronic timers and the use of precision reference sources for more accurate measurements. He covers the different types of sensors used to measure clocks and watches and the benefits and drawbacks of each. Also covered is the measurement of environmental factors such as temperature and barometric pressure, and how all these measurements can be brought together with the personal computer to document the performance of clocks and watches.

804. TIME TRIALS: A HOROLOGICAL GAME SHOW by David Weisbart (26)

A very creative and entertaining program full of interesting clock and watch facts. The game show format and short run time make an ideal program for a Chapter meeting. Should be previewed and setup by the Chapter host so as to get audience participation/competition throughout the program. Highly recommend.

805. EXPERIMENTS WITH A PRECISION CLOCK by Bernard Tekippe (62)

Bernard gives a detailed explanation of his thought process in designing and building a precision pendulum clock. He discusses his design decisions which were made through experimentation and years of experience working on clocks.

806. DOUBLE PENDULUM CLOCK by Stephen Gagneux (59)

Stephen Gagneux, of Basel, Switzerland, discusses mechanically driven resonance clocks. First he discusses principles of double pendulum clocks, followed by a review of double pendulum clocks with which he is familiar. Stephen then relates his experiences and shows data on his resonance clock with pendulums in an air tight compartment. He closes his presentation by sharing his plans on future projects.

807. FOUCAULT PENDULUM - Horological Database Demonstration by Bob Holmstrom (45)

Bob opens his presentation discussing why the Foucault pendulum is important. He then discusses Foucault's experiments and the theory of the Foucault pendulum. He shows eight examples of Foucault pendulums and discusses the design features of each. Bob presents methods of measuring performance of Foucault pendulums and closes by giving resources available for those doing research.

808. HUYGENS, HOOKE AND THE ROOTS OF HOROLOGICAL SCIENCE IN THE 17th CENTURY by Paul Middents (82)

Paul's begins his presentation with biographies of Huygens and Hooke. He then gives a very detailed presentation of the scientific and horological experiments and developments by Huygens and Hooke. The work of other individuals of the period is discussed. Because of its length and very detailed nature, this program is more suited to individual viewing or small groups interested in the mathematics, physics and scientific developments in 17th century horology.

The following presentation was recorded at the 2005 NAWCC National Convention in Ft. Lauderdale, FL.

809. CLOCKS, WATCHES & CHRONOMETERS OF GREAT BRITAIN by Dennis Radage (132)

Dennis Radage's presentation covers the development of clocks, watches and chronometers in Great Britain. Mechanical design, case style, dial design and the individuals involved are covered in detail. The work of Harrison and others in the quest for an accurate method of measuring time at sea is covered in detail. Photographs of superb quality are used throughout the presentation to show examples of clocks, watches and chronometers as Dennis gives his narration. Because of its length, this presentation is more suited to individual or small group use. However, each of the three segments can be shown separately at chapter meetings. The clock segment is 69 minutes, the watch segment is 28 minutes and the chronometer is 35 minutes.

The following presentation was recorded at a meeting of British Horology Chapter 159 at the NAWCC National Convention in Ft. Lauderdale, FL.

810. RESTORING A GEORGIAN WALL MOUNTED CARTEL CLOCK by Dennis Radage (62)

Dennis Radage gives a very detailed account, supplemented by superb photographs, of the restoration of a large Cartel Clock. He describes each step, stating materials used and resources for services that were required in the restoration process. His presentation covers restoration of the movement and the clock case. The case restoration involved re-gluing, gesso and gold leaf application and carving of missing parts.

The following three presentations were recorded at the 2004 (25th) Ward Francillon Symposium in Portland Or

811. THE CLOCKS OF THE TRANSIT OF VENUS by Matthew Read (62)

Matthew Read begins this presentation with an explanation of "Transit of Venus" and the years in which it occurred. He then describes in detail, with the aid of very good photographs, astronomical regulators used by astronomers in their observations of the transit of Venus. Clocks by Ellicott, Rittenhouse, Graham, Dent and E. Howard are discussed. The activities of several astronomers and their methods in observing the transit of Venus are discussed.

812. **PRECISION TIMEKEEPING SINCE THE PENDULUM** by Tom Van Baak (74)

This presentation follows the development of quartz crystals and atomic clocks. How they work: what varieties exist: what do they look like; and how accurate are they? The world of quartz crystals is described, from the smallest 32kHz watch crystal accurate to a second per day to the most advanced 5 MHz laboratory quartz frequency reference stable to a picosecond a second. The world of atomic clocks is described, from the smallest palm-sized, portable Rubidium clock, to the classic, commercial Cesium frequency standard, to a closet-sized ultra-stable Hydrogen maser. While the pendulum clock will keep time to the second, quartz clocks keep time to the millisecond and atomic clocks to the nanosecond. By the end of the presentation you will appreciate the significant progress made in timekeeping since the pendulum.

813. **LITTLEMORE CLOCK** paper by Philip Woodward, presented by Timothy Treffry (38)

Timothy Treffry presents a paper by Philip Woodward that describes a single pendulum clock built by Professor Teddy Hall in England. The clock, an attempt to build the world's most accurate pendulum clock, was in a vacuum and mounted on a 20 ton block of concrete. Professor Hall called his clock "The Littlemore Clock". In his paper, Philip Woodward describes tests on Professor Hall's clock and has graphs showing accuracy as compared to #13 and #41 Shortt clocks. A discussion period followed. The clock is now at the NAWCC Museum. Timothy Treffry and Bob Holmstrom speculate and have suggestions as to what might be done with the clock in the future.

814. **CLOCKS AND WATCHES OF THE ORIENT** by Bernard Stoltie (74)

Bernard's presentation covers the development of timekeeping devices from 200 B.C. to the present. His lecture, primarily about Japanese clocks & watches, is sprinkled with anecdotes and examples of the Japanese language symbols and names. His lecture includes photographs and actual examples of Japanese timekeeping devices from water clocks and incense clocks to quartz watches and clocks.

815. CLOCKS AND WATCHES OF THE USA Lecture Material by Chris Bailey, Presented by Tom Grimshaw (97)

The presented material, which was written by Chris Bailey, covers the development of timekeeping devices from the time the first tradesmen came to America from England up to the atomic clock. The presentation is a detailed account of the clockmakers, their working relationships and the development of their businesses, Examples of clocks and watches developed in America are shown and discussed, along with the people who created them.

816. CLOCKS AND WATCHES OF FRANCE by Philip Poniz (135)

Mr. Poniz gives a detailed chronological history of the development of timekeeping in France. With the aid of slides, he shows and describes examples of clocks and watches from the first recorded mention of a mechanical clock in 1271 AD to the present. His presentation covers technological developments, individuals and companies involved in French horological development.

817. CLOCKS AND WATCHES OF CENTRAL EUROPE by Philip Rasch & Kathleen Pritchard (105)

Philip Rasch covers the development of clocks in Central Europe from 1300 AD into the early 1900's. This is a PowerPoint slide presentation with photographs of some of the finest and most attractive ever built. The photographs are supplemented with historical and descriptive text. Philip describes the significant scientific developments affecting clock design. Clock makers and companies are discussed. Philip's narration is thorough and provides a very descriptive supplement to the slides. Kathleen's presentation covers the development of watches in Central Europe from time technological developments led to the downsizing of clocks to the year 1900. Fuseses, springs, escapements and case designs are discussed. Watchmakers, case makers and watchmaking companies are also covered.

The following 11 presentations were recorded at the 2005 Ward Francillon Time Symposium in Houston, TX.

818. THE INVENTIVE MIND (James Arthur Lecture) by Dr. David Collard (46)

Dr. David Collard admits at the beginning of this 2005 Symposium James Arthur Lecture that he isn't an expert, nor does he collect American clocks or watches. In spite of this, or perhaps because of it, Collard succeeds in synthesizing 200 years of American horological invention. With supporting visuals, he introduces the industry's luminaries, including Thomas Harland, Eli Terry, Joseph Ives, Charles Vander Woerd, and Charles Fasoldt. The inventors are presented within some historical context, ranging from the Watts steam engine to the 1876 Philadelphia Centennial.

819. WILLARD EIGHT DAY CLOCKS: INNOVATION IN MANUFACTURE OR BUSINESS AS USUAL by Robert Cheney (36)

Robert Cheney presents his compelling analysis of the movements found in the clocks of Simon and Aaron Willard. In counterpoint to John W. Willard's 1911 recounting of Willard clock craftsmanship, Mr. Cheney shows that the more highly organized and resource-rich Liverpool region, including Prescot, most likely provided the Willards with clock parts necessary to out produce their more traditional contemporaries, such as Daniel Burnap and the Dominy family.

820. EARLY AND LATE AMERICAN WATCH INVENTORS AND INVENTIONS by Tom McIntyre (62)

The inventions and patents of three nineteenth-century watchmaking innovators are examined in this presentation. This first is Charles E. Jacot, who developed 12 patents,

five of which, including the star duplex movement, were created in America between 1840 and 1858. Dr. McIntyre next discusses the inventions of Ezra Fitch, first a salesman, then general manager, and finally president of Waltham, and also an inventor of the dustproof case and other product enhancements. Finally, the highlights of Charles DeLong's inventions are presented, including the DeLong wind indicator and escapement.

821. CHARLES FASOLDT: THE PREEMINENT AMERICAN CLOCKMAKER
by Don Saff (85)

This presentation includes every aspect of Charles Fasoldt's (1818-1889) inventive production, starting with his move from Saxony to New York in 1849. Fasoldt created high-end watches for the carriage trade in New York State while also developing unique precision clocks, astronomical instruments, and measuring devices. Dr. Saff utilizes very effective animated visuals to describe the Fasoldt's clockwork mechanisms.

822. JOSEPH IVES, FOR GOOD AND FOR BAD by Snowden Taylor (72)

Snowden Taylor's lively discussion of Joseph Ives encompasses Ives career, inventions, and family life. Dr. Taylor points out that Ives, inventor of the wagon spring, roller pinions, and 30-hour count wheel, served as the eighteenth century equivalent of a consulting engineer to Connecticut clockmaking firms.

823. THE INVENTIVE GENIUS OF CHARLES VANDER WOERD by Craig Risch (54)

Charles Vander Woerd's inventions are clearly explained in this presentation by Craig Risch. Woerd is best known for his automatic screw making machine but other inventions, such as his pinion cutting and gear cutting machines, were also vital elements in the mechanization of watch making during the Industrial Revolution. Risch shows Woerd's successful patents and touches upon later improvements by his successors, such as Duane H. Church and Ezra Fitch.

824. HALF A CENTURY OF INNOVATION AND TRIALS: A STORY OF SILAS B. TERRY, HOROLOGIST by Chris Bailey (63)

Mr. Bailey steps into Silas Burnam Terry's shoes and brings the clockmaker to life by reading from his "journal," thus providing insight into Terry's family life, as one of eight children including three clockmaking brothers, and business struggles. Mr. Bailey presents some of Terry's clocks in the second half of his talk and discusses Terry's development as an inventive craftsman and indefatigable clock manufacturer.

825. A TWIST ON TIME: THE TORSION PENDULUM APPLIED by John Hubby (36)

John Hubby provides an overview of torsion pendulum technology in this presentation. He begins by dispelling myths that 400-day clocks are inferior timepieces and then presents noteworthy developments in the technology, beginning with Huygens. He concentrates on American innovations, from Aaron Dodd Crane to the Clock of the Long Now.

826. **HENRY ELLIS WARREN** by Bill Ellison (63)

This is an instructive lecture on the life of Henry Ellis Warren, starting with a tale of childhood inventiveness. Mr. Ellison discusses Mr. Warren's early career, his work developing the Telechron motor, and Warren master clocks. The growth of Warren's company is detailed, along with insights into Warren's exemplary character.

[827. INVENTING THE ELECTRIC WATCH](#) by Rene Rondeau (51)

Rene Rondeau describes the events that led to his writing *The Watch of the Future*, his first encounter with Hamilton's electric watches and his pursuit of the experts who taught him what they knew. He also explains the inside story of Hamilton's struggles to bring an electric watch to market.

828. **A SELECTIVE SURVEY OF AMERICAN PRECISION PENDULUM CLOCKS** by Donald Saff (111)

The following presentation was recorded at the Antiquarian Horological Society on October 28, 2005

829. DVD Only **RECHARGE YOUR BOTTOM LINE WITH WATCH BATTERIES** by Dan Gendron (30)

This program covers and demonstrates the procedures, tools, and techniques for replacing watch batteries. Excellent quality and content. Particularly for shop owners to train staff in battery replacement. Made with assistance of Energizer.

[831. ANSONIA CLOCKS & MOVEMENTS](#) BY A.L. STEVENSON (60)

This program is a study of Ansonia mantle and shelf clocks from the period 1850-1930, with equal time given to the movements that are contained therein, and limited to only 8day, striking movements, weight, spring, pendulum, and marine balance; and of course, an overview of the company's history to compliment and round out the overall program. Featured in the program are examples of the main mantle and shelf clocks that Ansonia manufactured.

[832. A HIGH POINT IN SWISS WATCH ADVERTISING FEATURING KATHY PRITCHARD](#) hosted by Dr. Lloyd Lehn (24 min)

[833. THE HISTORY OF SETH THOMAS TOWER CLOCKS](#) by Ian Roome (64)

Ian divides this wonderful program into eleven periods. Early history, Henry Sperry, Post Sperry, W.S. Hill, Acquisitions of Hotchkiss Tower Clock Company, Seth Thomas Tower Clock Models, Ordering and Installing Tower clocks, Specific Seth Thomas Clocks, Demographic Statistics, Demise of the Tower Clock Business This is a must see program for all tower clock enthusiasts.

[834. BALANCE WHEEL CLOCKS BY THE MARINE CLOCK](#)

MANUFACTURING COMPANY by Doug Cowan with Comments by Snowden Taylor (62)

Doug studied 25 years of the “Day Books” of this little known but important Company to develop this very interesting presentation. He covers the history of the company, its competition, cases, movements and causes of its demise. Snowden Taylor adds several comments explaining recent information.. A very worthwhile program.

835. HIGH CLASS WATCH REPAIR: THE ROLEX METHOD by Kent Dickerson (46).

This presentation is an overview of the techniques recommended by Rolex and other high-end watchmakers to service and repair their products. Kent discusses how to maintain the beautiful appearance of such watches while providing superior service. Use of proper tools is discussed. Kent also discusses parts replacement, checking jewel end shake, precision timing, and refinishing of cases and bands.

836. BUSHINGS: WHY, WHEN & HOW by Mike Dempsey (45)

Mike, chairman of the NAWCC education committee and a Field Suitcase instructor, gives a presentation on the essential information needed in the bushing of clock plates. Using slides to show examples, Mike discusses in detail why bushing worn holes is necessary, how to determine when bushing worn holes is necessary, and the actual process of renewing worn holes with bushings.

837. ELMER STENNES: MAKER OF TOMORROW’S TREASURED CLOCKS by Joseph Martines (102)

Joseph, who knew Stennes, gives us historical background of furniture and clockmaking in the Boston area and family history leading into the life story of Elmer Stennes. He weaves this background into the story of how Elmer got into making reproductions of early American clocks. He also gives us an insight into Elmer—the person, his approach to life, and his eventual demise.

838. CLOCKS OF NORTHEAST OHIO by Bill Alexander, Mark Baker, Chris Klingemier, Stan Kaufman, Tom Barrett, and Dave Martin (100)

This presentation is an overview of horological activities that took place in Northeast Ohio in the first half of the nineteenth century. Each of six Northeast Ohio residents gives a short presentation on his area of interest. Bill Alexander shows slides and discusses clockmaking activities of C. H. Strieby in Salem and Hill in Steubenville. Mark Baker shows slides and presents facts on the Hostetter family of New Lisbon. Chris Klingemier’s presentation is on clocks of Trumbull County. Stan Kaufman discusses Norton Clocks, said to be manufactured in Concord, which is located in Lake County. No examples of Norton clocks have ever been found. Dave Martin discusses clocks by Allison Turner of Ashtabula County. Tom Barrett concludes the presentation by showing slides and discussing clockmaking and other business activities of the Humphrey brothers in Parma, Ohio.

839. OILING AND BEAT SETTING by David Gorrell (60)

Dave Gorrell, who is a full-time repairman and NAWCC Field Suitcase instructor,

discusses various lubricants that have been used and those that are used today in clock maintenance. He stresses what not to use for lubricating clocks. He discusses the properties of various clock lubricants and those that are most desirable for use in clock maintenance. His presentation in concluded with a discussion on setting clocks in beat.

840. **MAINTAIN YOUR INEXPENSIVE QUARTZ WATCH** by Lou Merkys (63)
In this workshop Lou uses a camera to project watches on which he demonstrates opening the case, removing the stem, removing the hands, and removing the dial. He tells how to identify the movement. He shows how to replace the movement. There is discussion on testing the movements. Removing links from a band is demonstrated. Where to obtain parts and supplies is covered. During the workshop there is much interaction with the audience whereby many typical questions about quartz watches are answered.

841. FOREIGN WATCHES APPROVED FOR AMERICAN RAILROAD SERVICE by Ed Ueberall (72)

Ed presents a detailed history of various foreign-made pocket watches approved for North American railroad service. Very good closeup photographs are used to show examples of many of these watches. This presentation is a “must see” for anyone interested in railroad grade watches.

The following programs were digitally recorded at the 2006 Ward Francillon Time Symposium, Cleveland, OH.

842. AN ECONOMIC LOOK AT THE AMERICAN WATCH INDUSTRY (James Arthur Lecture) by Michael C. Harrold (62)

Michael makes extensive use of projected graphs to supplement his presentation on the intangible measures of how the American watch industry functioned. He focuses on indicators of what drove their performance and concludes with suggestions of how the industry ultimately declined and failed.

843. HUMAN FACTORS IN THE AMERICAN SYSTEM OF MANUFACTURE by Kenneth P. De Lucca, Ph.D. (57)

Ken provides a basic review of nineteenth-century mass production processes and how workers from farm fields and craft shops adapted to the new mass production work environment. Worker living standards, management relationships, rights, working conditions, and a variety of demographic findings are examined.

844. TECHNOLOGICAL FACTORS: THE MACHINES THAT MADE THE WATCHES by George Collord III (61)

In this presentation, which is a follow-up to his 2002 Symposium on 1850s and 1860s machine innovations, George Collord focuses on watch factory and machinery developments from 1870 to 1890. That period signaled the emergence of an independent American machine tool industry that fed watchmaking industries in many nations. During this presentation George shows many old photographs taken in watch factories during that period.

845. DUANE CHURCH AND HIS CONTRIBUTIONS TO POST-1880 WATCH DESIGN AT WALTHAM by Craig Risch (55)

Craig Risch discusses the development of Waltham's most important watch designs after 1880 which were influenced by Duane H. Church. Supplemented by excellent slides, Craig gives a detailed description of design features of the 18S full-plate Models 1883 and 1892, the 16S split three-quarter Model 1888, and the 16S 1899 bridge models. This presentation is a continuation of the 2002 Symposium at which the Model 1857 full-plate mass-produced watch was discussed.

846. THE RAILROAD BROTHERHOODS AND WEBB C. BALL slides and text by Larry Buchan; presented by Douglas Sinclair (35)

This presentation, written and photographed by Larry Buchan, is a discussion on Webb C. Ball's relationships with the Railroad Brotherhoods and the watches that resulted.

847. THE DEVELOPMENT OF RAILROAD STANDARD WATCHES DURING THE FINAL QUARTER OF THE NINETEENTH CENTURY by Kent Singer (58)

This presentation by Kent Singer is a discussion on the evolution of the American railroad watch beginning in the 1870s. The story begins with the industry workhorse 18S 15-jewel full plates and tracing the introduction of features such as Breguet overcoil hairsprings, antimagnetic escapements, and/or cases, the increasing requirement for adjustment to five or more positions, and the jewelers wars of the 1890s.

848. WATCHMAKING QUALITY REDEFINED by Tim Flower (56)

In his presentation Dr. Flower examines the changing definitions of quality in American and European watchmaking during the late nineteenth and early twentieth centuries.

849. THE O'HARA STORY by Gerrit Nijssen (68)

Gerrit's presentation is on the multitalented and multifaceted individual Daniel O'Hara. O'Hara started his career as a case engraver and progressed to become head of the case department at the Waltham Watch Company. Management changes caused O'Hara to change careers. He went into dial manufacturing and real estate. This presentation is a detailed account of O'Hara's career and the products he manufactured for the watch and other industries.

850. UK EXPORTS TO THE USA OF WATCHES AND HOROLOGICAL TOOLS AND MATERIALS by Alan Treherne (70)

This presentation gives a fascinating window on developments in the English watch industry which is provided by a study of the changing nature of English watch exports to the United States, an important market for the British industry.

851. THE IMPACT OF AMERICAN WATCHMAKING ON THE ENGLISH WATCH INDUSTRY by David Penney (72)

David Penney discusses the influence of American developments in machinery and production methods of the English trade. Supplemented by excellent slides, this

presentation featured representative anti-(and pro-American commentary from period English horological journals and trade literature.

852. A HOROLOGICAL TRAVELOGUE: 2006 U.S. SECTION OF AHS TOUR TO GERMANY by Fortunat F. Mueller-Maerki (70)

Fortunat gives a detailed account of the 2006 study tour to Germany taken by the USA Section of The Antiquarian Horological Society. He makes use of excellent slides to supplement his narration. The itinerary took the group to 37 museums.

853. CUCKOO CLOCK REPAIR, AN EXAMPLE by Lloyd L. Lehn (43)

This DVD covers the steps required to service a specific one-day cuckoo clock with a music box. It doesn't cover all cuckoo clocks, but much of the information applies to other types of cuckoo clocks.

854. MY FAVORITE CLOCK by Dennis Radage (55)

A presentation given at the Pacific Northwest Regional in Kent, WA, May 2006. Dennis Radage describes attributes that make a clock a favorite and presents a nice selection of English, bracket, longcase, and other clocks from his collection. His favorite clock is described in detail, along with its provenance and why it is a "one of a kind" clock. The story of how and why it was acquired and its features are described. Historical background, including life at the time, other clockmakers, and the experience of solving difficult problems with clocks are all a part of this presentation.

855. DVD Only PENNSYLVANIA CABLE NETWORK TOUR OF RGM (60)

RGM watch company owner Roland Murphy takes the viewer through various processes performed on RGM watches, including a rose engine demonstration.

The following presentations were digitally recorded at the 2007 NAWCC National Convention in Chattanooga, TN.

856. AMERICAN CLOCKS IN THE SOUTH 1790 – 1860 (67)

Narrated by Bill Bryan, this walking tour of the exhibit gives the viewer a virtual history of American clocks in the South. The tour includes a discussion, aided by maps, on the various ways clocks made their way to the South.

CRAFT CONTEST ENTRIES AT THE 2007 NAWCC NATIONAL CONVENTION (10)

This 10-minute segment (no narration) is a video recording of the 2007 Convention Craft Contest entries. There are several close-up views of interesting escapements and other features of the entries.

857. IRISH CLOCKS AND THE MIGRATION OF IRISH CLOCKMAKERS TO THE SOUTH by Killian Robinson, M.D (57)

Dr. Robinson's presentation begins with maps showing areas where the Irish clockmakers lived before migrating to the southern part of the United States around the time of the potato famine. He traces the path many of the Irish immigrants took after

arriving in America. The presentation, supplemented by PowerPoint slides, is a very entertaining historical account of the business associations and business practices of Irish immigrants in the South. He also gives many personal anecdotes about the Irish immigrants.

858. RAILROAD TIME SERVICE, SOUTHERN STYLE by Kent Singer & Ed Ueberall (52)

This presentation first covers the implementation and evolution of railroad time service in the South from around 1830 and concludes with watch requirements into the 1990s. Differences in and the evolution of Standard Time is discussed. Many individual railroad companies are discussed. This discussion covers approximately 160 years of time service and watch requirements in the South.

859. EARLY SOUTHERN CLOCK MAKING by Ralph Pokluda (59)

Ralph starts by identifying “Where is the South?” He covers the various early roads and waterways by which clockmakers traveled to the South. He tells where the clockmakers came from and where they settled. He details why they moved to the South. Ralph shows examples of various styles, their makers and what influenced clock design. Prominent clockmakers of the South are discussed at length, and examples of their work are shown via Powerpoint slides. Case styles, case designs, dial designs, and movement designs of Southern clocks are covered in detail.

860. DESIGN OF TALL CASE CLOCK DIALS by Kathi Edwards (slide 26) (Q&A 15)

Kathi Edwards, who paints and restores clock dials, presents the evolution of painted tallcase clock dials. Using PowerPoint slides, she shows and describes the dial materials, paints and gives detailed descriptions of the designs of painted dials. She discusses the more prominent dial painters. She covers the evolution of the development of the scenes, chapter rings, numerals, and other design features of tallcase dials. The 26-minute presentation is followed by a 15-minute question and answer period.

861. J.P. STEVENS: ATLANTA WATCHMAKER, INVENTOR, CLOCKMAKER by Katherine Kittle (41)

Katherine Kittle presents a detailed account of the life of J. P. Stevens, a self-educated inventor, businessman, clockmaker and the South’s only watchmaker. Slides of J. P. Stevens watches are shown and discussed. The J. P. Stevens patent regulator is discussed in detail. His most important invention was an engraving machine for cutting letters in copper. In 1914 J. P. Stevens went into semiretirement and traveled extensively. Of his many ventures, the J. P. Stevens Engraving Company exists to this day.

862. THE HISTORY OF THE WATCH LATHE by Jack Heisler (36)

Jack traces the development of the lathe, the king of tools, from the earliest known examples to the present. He discusses the function of various designs as the lathe evolved. The invention and evolution of the collet and the development of the modern watchmaker lathe is shown via PowerPoint slides and actual examples. The presentation

concludes with a discussion on modern lathes other than dedicated watchmaker lathes.

863. MAINTENANCE OF THE WATCHMAKER'S LATHE by Al Dodson (54)
Al demonstrates and explains the disassembly and assembly of a watchmaker's lathe. He covers cleaning and lubrication in addition to precautions that should be taken when working on the lathe. His presentation consists of PowerPoint slides and two lathes, which are examined by those in the audience.

864. MARINE CHRONOMETERS by Dana Blackwell (63)
The presentation begins with a discussion on the building of the Observatory at Greenwich and progresses through the search for a way of determining longitude. Mr. Blackwell gives a very detailed history of the development of marine chronometers, from the four Harrison clocks through the many designs by the major English clockmakers. Escapements and other components are shown on slides and discussed in great detail. This presentation was recorded at the first North Coast Regional, March 9, 1985, in Strongsville, OH.

865. INTRODUCTION TO WOODEN WORKS CLOCKS by Tom Barrett (55)
Tom gives a presentation primarily for the novice clock collector as an introduction to the history, case design, dial design, and movement design of wood-works clocks. He discusses various makers of wood-works clocks and concludes with sources of information.

The following presentations were digitally recorded at the 2007 Ward Francillon Time Symposium, York, Pennsylvania

866. ELI TERRY, WOODEN MOVEMENT CLOCKS, THE AMERICAN SYSTEM OF MANUFACTURES AND THE ORIGINS OF MASS PRODUCTION (James Arthur Lecture) by Dr. Donald Hoke (72)
Dr. Donald Hoke, author of "The Ingenious Yankees-The Beginning of Mass Production, Eli Terry and the Porter Contract," gives a presentation whereby he traces the development of the first mass-produced, inexpensive consumer "durable" product in the United States, the wooden movement clock. He presents a case for proving that virtually any well-designed and manufactured article could be sold if a demand existed and the cost could be reduced to meet the demand.

867. SIGNIFICANT CONTRIBUTIONS OF CHAUNCEY JEROME, E.C. BREWSTER AND ELIAS INGRAHAM COMPANIES FROM 1835 TO 1850 by Tom Grimshaw (63)
Tom Grimshaw gives a detailed account of the business practices, business relationships, movement design, case design and other contributions of Chauncey Jerome, E.C. Brewster, and Elias Ingraham. He focuses on the years from 1835 to 1850. His presentation is enhanced by slides showing movement design features and many innovative case designs.

868. **JOSEPH IVES: THE MAN AND HIS CLOCKS** by Wayne Laning (53)
Wayne Laning presents a very detailed account of the working life of Joseph Ives. His PowerPoint presentation covers decades of Ives's inventions, movement innovations, and case designs. He details the business philosophy and the business ventures Ives used to market his clocks.

869. **NEW ENGLAND'S REVOLUTION IN PRECISION MANUFACTURING, 1847** by Dr. Kenneth Aiken (44)

Dr. Aiken believes that what transpired at the Robbins, Kendall, and Lawrence gun shop in 1847 changed the world. It's not that it began there, nor that the revolution happened in one building. What happened was a change in perspective that allowed all the mechanical advancements of the previous half-century to be applied in a slightly different manner. It was a revolution and was recognized at the time to be a revolution. It is only history that has dulled the edges of this different mode of thinking: a way of looking at manufacturing that would dominate the next century of world development.

[870. ATKINS AND THE EARLY ENTREPRENEURS](#) by Phil Gregory (50)

Phil Gregory chronicles the 52 years during which Atkins experienced four bankruptcies and started ten companies. He also discusses the activities of other entrepreneurs of the period and their business relationships with Atkins. Phil shows many of the case designs and discusses various movement designs used in those cases. This presentation is embellished with many anecdotes relative to the life and business relationships of Atkins.

[871. THE ANSONIA CLOCK CO. AND THE MOVEMENTS THEY USED](#) by Allen Stevenson (53)

Allen Stevenson presents a history of the Ansonia Company as it is presently known. He shows photographs of many movements and cases in which they were typically housed. He also discusses many patents and features developed by Ansonia.

872. **SETH THOMAS, A UNIQUE WAY OF DOING BUSINESS** by Ralph Pokluda (44)

After a brief biography, Ralph Pokluda chronicles the working life of Seth Thomas and the company he founded. He discusses Seth's founding of the company and the development of the product line, both movement and case design. Most importantly, Ralph goes into detail on the business philosophy that made the company one of the most successful and enduring in the history of American industry.

[873. WORKERS AND THE TWENTIETH-CENTURY WORKPLACE IN BRISTOL, CONNECTICUT'S CLOCK AND WATCH INDUSTRY](#) by Dr. Philip Samponaro (73)

Dr. Samponaro's presentation takes us through the work experience of men and women at the E. Ingraham Company and the Sessions Clock Company into the 1930s. At each firm, employees faced multiple divisions of skill levels and types that reflected both the nature of work performed and customary notions inherent to the clock and watch

industry. The discussion emphasizes and compares the higher paying, and therefore most sought-after, jobs for Bristol's men and women, as well as certain low-paying tasks for each group.

874. IMPACT OF MASS PRODUCTION ON CLOCK TABLETS PRODUCED IN THE BRISTOL, CT. AREA, CIRCA 1820 TO 1860 by Lee Davis (84)

Lee Davis gives a short explanation and demonstrates handling of gold leaf. He then discusses bronze powder. Lee parallels the evolution of painted clock tablets to the increase in clock production from 1820 to 1860. The significant increase in clock production forced tablet painters to continually make changes in design, eliminating time-consuming details and simplifying scenes. He shows many slides to give the viewer specific examples of the tablets used by various clock manufacturers and the features that were changed to keep up with the rapid increase in production.

875. DIRECT FROM HIS MANUFACTORY: THE CONCORD CLOCKMAKING EXPERIENCE, 1790-1825 by David Wood (60)

David shows and discusses the products of the Concord clockmakers—Joseph Muilken, Daniel Monroe, Nathaniel Munroe, Joseph Dyer, Lemuel Curtis, Samuel Whiting, and Joseph Dunning. The Concord shops, which are remarkably well documented, came to be organized around the movement factory of Nathaniel Munroe and the cabinet shop of William Munroe, producing 8-day clocks and timepieces in considerable quantity. Their methods and motivations were recognizably modern, but the industry disappeared completely in the 1820s.

876. SETH THOMAS'S ORIGINAL JIGS, FIXTURES AND GAUGES by Dave Gorrell (56)

Dave shows and discusses a collection of original Seth Thomas factory manufacturing jigs, fixtures, and gauges that were on loan from the Connecticut Historical Society to the NAWCC Museum. He shows slides and demonstrates how the gauges were used in the Seth Thomas Factory in the manufacturing of woodworks clock movements. This informal lecture was given in conjunction with the 2007 Ward Francillon Time Symposium, "The Impact of Mass Production on the American Clock Industry."

877. DAVE'S HOROLOGICAL VACATION IN VIENNA AND PRAGUE by Dave Weisbart (30/41)

This video contains colorful footage of the Vienna Watch and Clock Museum, the famous Prague Town Hall clock, as well as other public clocks and interesting timepieces found in antique stores. Also included are works from the Vienna Art History Museum that depict clocks and rare footage of the Jan Klein clocks at the Klementinum in Prague. An enjoyable tour for all audiences.

878. GEAR CUTTING FOR WOODEN WORKS CLOCKS by George Bruno (30)

879. BUSHING WOODEN WORKS CLOCKS by Amedeo Sylvester (44)

880. **AMERICAN STREET CLOCKS** by Chuck Roeser (27)

[881. DVD Only RGM](#) (25)

Program consists of three short videos on the RGM Watch Company of Mount Joy, PA, by Roland G. Murphy. Short film: This four-minute video introduces the viewer to the company and its products. Made in America: This eight-minute outtake is from a Travel Channel program hosted by anchor John Ratzenberger. The viewer is taken through a tour of the RGM establishment, given some insight into the workings of a mechanical watch, and shown how engine turning is done with a rose engine. CAL 801: This 13-minute interview with Roland G. Murphy, founder of RGM, explains his desire to make a “made in the USA” and a “made in Pennsylvania” watch movement. The design of the movement is based on an E. Howard watch. The plates and bridges are CNC machined and plated locally in Lancaster County and finished in-house. Engine-turned dials are made with the company’s rose engine

The following programs were video recorded at the New England Chapter 8 Educational Symposium, which was held at the National Heritage Museum September 13, 2008, in Lexington, MA.

[882. SOUTHWESTERN OHIO WOODEN WORKS CLOCKS](#) Tom Spittler (56)

Tom gives the viewer a detailed overview of the manufacturing of wooden works clocks in the Cincinnati and surrounding area. He discusses the most prominent makers and gives distinguishing details of their clocks. Also covered is the migration of clockmakers from New England to Ohio.

[883. CLOCKMAKERS AND CLOCKMAKING IN MAINE 1770-1900](#) Joseph Katra (59)

This slide presentation covers the manufacture of handcrafted clocks and timepieces in Maine from 1770 to 1900. The historical and biographical documentation of these makers is supplemented by photographic examples of their craft, the result of nearly 30 years of research on a subject not extensively discussed in early American Horology.

884. **A SURVEY OF SOME WOODEN WORKS TALL CLOCKS: THE WARD FRANCILLON COLLECTION** Philip Morris (47)

This slide presentation is an overview of Ward Francillon’s collection with commentary on each of the clocks.

885. **WILLARD EIGHT-DAY CLOCKS: HARBINGERS OF THE AGE OF MANUFACTURING** Robert Cheney (56)

This presentation offers a re-interpretation of the shop structure and the trade of making painted dial tall clocks during the heart of the federal period (1790 - 1825) in Boston. Robert details the transatlantic trade of horological materials, local and international networks, and complex business and personal relationships among craftsmen of this period. This story is the earliest recorded large-scale production of domestic timekeepers in America.

The following programs were video recorded at the 2008 NAWCC Ward Francillon Symposium, October 23-25, 2008, in Springfield, IL:

886. **BENJAMIN FRANKLIN AND EARLY ELECTRICITY** Bill Ellison (38)
Bill Ellison, role playing Wiliam Norris, a lab assistant to Ben Franklin, reveals many characteristics of one of this country's greatest leaders. Bill covers Mr. Franklin's first venture into electricity, which was the electrostatic generator in 1743. This device was used for entertainment as well as experimentation. Many fascinating details of Franklin's personal and public life are presented. Bill talks of Franklin's international recognition for his electrical accomplishments, especially the development of the lightning rod.

[887. ELECTRICITY FOR HOROLOGISTS](#) Ken De Lucca (48)
Dr. De Lucca's presentation introduces topics related to the electrical components used in early electric clocks—from batteries (more appropriately called cells) to conductors, insulators, and associated materials, and electric timekeeping needed to invent new applications for the first electrical clocks. Practical definitions of common technical words, such as volts, amperes, and ohms, also are described and explained. He examines the historical roots of the pioneering scientists of the time: Volta, Faraday, Henry, and Hertz (among others). This talk was developed for the layperson who wants to know the meaning of the electrical terms related to electrical horology.

888. **THE STANDARD ELECTRIC TIME COMPANY** by Alan Bloore (52)
Alan's interest in electromechanical clocks, especially those tied to systems, led to his investigation of the beginnings of selling standard time. Alan discusses the founding of Time Telegraph Company by Chester Ponds in 1883 and the founding of the Standard Electric Time Company by Charles Warner in 1884. He details the development of master clocks and slave (secondary) clocks and the solutions to problems delivering standard time to schools, cities, banks, railroads, government buildings, and hospitals. Alan shows many examples of master and secondary clocks, briefly discusses restoration, and shows how he runs his own clocks. He concludes by discussing companies that competed with The Standard Electric Time Company and what happened to the key players in the Company.

889. **WHEN THE POWER FAILS** Ken Kerr (42)
Ken's discussion covers major companies that first ventured into making electric clocks and the problems that were encountered. Loss of power was a major problem. Ken's presentation covers how companies such as Telekron, Seth Thomas, New Haven, Sessions, Sangamo, Herschede, Landis & Gyr, Imperial, Standard, International Time Recorder, and Lux worked to eliminate problems with electric clocks. His presentation covers problems and solutions into the 1950s. Ken shows slides of many clocks that typify problems with early electric clocks.

890. HOW I BECAME ADDICTED TO ELECTRIC HOROLOGY Rodney King (47)

Rodney gives an entertaining account of how he started collecting self-winding and electric clocks. He discusses and shows many examples of clocks from his collection. His penchant for the unusual becomes evident as he details the features of clocks from his collection. He points out the unique and unusual design features of many of the movements from his collection.

891. HISTORY OF THE SANGAMO CLOCK Les McAlister (84)

Les McAlister starts his presentation with a brief history of Sangamo Electric, covering early products, personnel, and the venture into clock manufacturing. He discusses problems with early electric clocks and what Sangamo Electric developed to overcome those problems. After covering the development clocks, Les shows slides of many of the products and discusses the advertising strategy, warranties, and marketing. This talk is a very comprehensive presentation on Sangamo clocks.

892. SANGAMO REMEMBERED AFTER DINNER SPEECHES by Robert Lanphier III (37) and Leslie Jones (21)

Robert Lanphier III, grandson of one the founders of Sangamo Electric Company, gives a very entertaining account of how the company was founded, family relationships of the founders of Sangamo Electric, product development, marketing strategy, involvement in products for war, and products for agricultural equipment. His speech is sprinkled with many anecdotes about founders, employees, customers, and products. Leslie Jones, who was an Engineer at Sangamo Electric from 1955 to 1965, focused on the “concept of quality was Sangamo.” He talked about the products, design concepts, and the engineers whose primary focus was to produce a quality product.

893. EVOLUTION OF THE TOWER CLOCK by Mark Frank (76)

Mark Frank takes the viewer through 950 years of the development of tower clocks. He shows examples of tower clocks from the very first known through the last clocks manufactured in the 1900s. Development of materials used in clock manufacturing and significant engineering developments are detailed. Deficiencies in designs and advantages of various developments are discussed in chronological order. This is a comprehensive history that is a must-see for anyone with an interest in tower clocks.

894. AMERICAN CHINA CASED CLOCKS by Brian Stout (47)

A presentation on what led to the development of the china cased clock business in the late 1880s--i.e., after 1800 American clock companies were looking for ways to increase business and consumers were looking for different styles--so a discussion of the various processes that led to the manufacturing of china and ceramics into clock cases is given along with the showing of many examples of label-identified china cased clocks.

895. THE CANADIAN CLOCK MUSEUM: TWO CENTURIES OF CANADIAN HOROLOGY AND THE AMERICAN CONNECTIONS by Allan Symons (50)

A presentation on both the establishment of the Canadian Clock Museum and also on Canadian clock companies, their products, and their business relationships with American clock manufacturers.

896. **CONSTRUCTION OF A WOODEN WORKS TOWER CLOCK** by Frank Del Greco (49 min.)

A May 21, 2010 Kirtland, OH, North Coast Regional presentation in which the author discusses the methods, materials, and tooling he used in building a reproduction of a wooden works tower clock currently on display at the American Clock and Watch Museum in Bristol, CT; and his presentation is augmented with Power Point slides showing the original clock, and then the equipment setups, tools, and techniques for making the wheels, pinions, and other parts.

The following two programs were recorded at the 2010 Ward Francillon Time Symposium in Williamsburg, Virginia

897. **SAVING TIME FOR THE FUTURE: CONSERVATION AND THE PARADOX OF RESTORATION** by John R. Watson (44)

John Watson, who is the conservator of instruments and mechanical arts at Colonial Williamsburg Foundation, discusses conservation vs. restoration. He presents considerations in deciding whether to preserve a historical artifact or restoring it to full functionality while maintaining historical integrity. By use of Powerpoint slides John shows examples of artifacts that support considerations in determining whether to conserve or restore.

898. **COMMON CASE REPAIRS AND SOLUTIONS** by James Hooper (56)

James shows many pieces of furniture that required restoration and gives his solutions to the many problems encountered in the restoration process. He discusses both solid wood and veneer repairs and refinishing. Methods and materials are discussed in detail. This presentation is a must see for anyone restoring solid wood or veneered furniture or clock cases.

911. A STUDY IN CLOCK CASE CONSERVATION: A TALL CASE CLOCK MADE BY EDWARD S. MOULTON IN SACO, MAINE, CA. 1814 by Jon Brandon (49)

Jon Brandon first details the alterations to the clock which, in most instances, were dictated by the needs of the owner. Feet were shortened, fretwork removed, and finials shortened. Flaking paint and loose veneers needed to be stabilized. Jon's primary goal in this presentation is to detail the various considerations in the restoration of the clock. Goals and limits needed to be established. Needs of the object and needs of the user were primary considerations. Using slides, Jon shows the restoration of the clock. During the question and answer period there was much discussion on restoring and conserving finishes.

912. AN ACADEMIC AND COLLABORATIVE APPROACH TO ANTIQUE CLOCK CASE CONSERVATION by Rick Vogt (37)

Rick Vogt, who is in the business of preserving furniture and interior architectural woodwork, presents his approach to planning the restoration of a historical object. He stressed that studying and understanding the non-material aspects of the object are extremely important in the restoration process. He shows slides of clock cases that he restored and goes into great detail on how he determined what was to be done to each. Collaboration with experts and study of methods of the period are keys to proper restoration and conservation of a historical object.

913. THE RESTORATION OF AN EDWARD EAST CALENDAR PRE-HAIRSPRING WATCH, CA. 1635-1645 by David Cooper (69)

Edward East of London was a preeminent maker of English watches. The presentation covers the restoration of the watch, for which Mr. Cooper was awarded the NAWCC Wilbur L. Pritchard Award for excellence in watch repair or restoration. Mr. Cooper begins his presentation by showing examples of several rare watches and explaining his philosophy and approach in restoration of such watches. He shows detailed slides of the Edward East watch and parts that he made in the restoration and conservation process. He explains in detail how he made the replacement parts. Machining, soldering, and plating are discussed.

The following two programs were recorded at the August 2011 42nd NAWCC Eastern States Regional Syracuse, NY.

899 GILDING & BURNISHING CLOCK COLUMNS by David Lima (53)

An August 2011 42nd NAWCC Eastern States Regional Syracuse, NY presentation in which the presenter begins by showing Powerpoint slides and talking about his method of applying gold leaf and burnishing clock case columns and then he gives a live demonstration of his gilding and burnishing methods, and he also lists materials and resources that he uses.

900 PATTI CLOCKS by Andrew Dervan (28)

An August 2011 42nd NAWCC Eastern States Regional Syracuse, NY presentation in which the presenter uses PowerPoint slides to show clock case designs and movements used in Patti clocks, and he also gives a brief history of the Welch, Spring and Company and E.N. Welch Manufacturing Company and their founders, and he tells how the various clock styles were named; he also discusses case styling details, materials, and movement features.

901 STANDARDS, METHODS & AUTOMATIC MACHINERY OF THE WALTHAM WATCH COMPANY by George Collord (99)

An August 2011 42nd NAWCC Eastern States Regional Syracuse, NY Power Point presentation that provides a very detailed account of the Waltham Watch Company's factory, equipment, and manufacturing methods and how the development of automatic machines placed Waltham at the forefront of manufacturing in the world.

902 WALTHAM WATCH COMPANY EXHIBIT AND WALKING TOUR by

George Collord (57)

An August 2011 42nd NAWCC Eastern States Regional Syracuse, NY walk through of the Waltham Watch Company's factory exhibit along with demonstrations of some of the equipment used in the factory, and also a discussion of the engineering drawings and photographs of the products, equipment, and buildings.

[903 THE RESTORATION OF A BROWN STREET CLOCK IN ALHAMBRA, LOS ANGELES, CALIFORNIA WITH ADDITIONS OF AN ELECTRIC WIND](#)

by NAWCC Chapter 116 (37)

A slide tape conversion showing the step-by-step procedures used in the clock's restoration, along with a discussion of the products and equipment that had been used.

The following videos are from the 2011 Ward Francillon Time Symposium

904 CONNECTICUT INFLUENCE IN OHIO WOODEN MOVEMENT TALL CLOCKS (James Arthur Lecture) by Philip Morris (65)

Philip begins by discussing early making of wood works clocks in Connecticut. He discusses the Porter contract. Philip then traces the migration of many clockmakers from Connecticut to Ohio and shows how the clockmaking in Ohio was greatly influenced by the knowledge, skills and designs these clockmakers brought with them.

[905 EARLY BRASS MOVEMENT TALL CLOCKS OF OHIO](#) by Tom Splittler (55)

Tom uses PowerPoint to show examples of clocks and discusses the migration of New England clockmakers to Ohio. His presentation covers the settlement of clockmakers over the entire state and details the establishment of the brass movement industry in Ohio.

[906 WOOD MOVEMENT TALL CLOCKS OF SOUTHWEST OHIO](#) by Tom Splittler (53)

Tom's presentation on the wood movement tall clocks concentrates on the migration and settlement of New England (primarily Connecticut) clockmakers in Southwest Ohio. He uses PowerPoint slides to show the variety of movements and case styles that were made and marketed in Southwest Ohio.

[907 CLOCK DIALS OF TRUMBULL COUNTY \(NORTHEAST OHIO\)](#) by Chris Klingemier (45)

In his quest to learn the history of wood works clockmaking in Trumbull County, Chris found the best way was to study and document the dimensions and styles of over 80 dials that he had collected. Dials were much more prevalent than complete clocks. Chris shows his method of categorizing the dials and subsequently learning who, where, and how the clockmaking industry operated in Trumbull County. The presentation is 33 minutes followed by 12 minutes of questions and comments.

[908 PEDDLERS OF TRUMBULL COUNTY](#) by Rebecca Rogers (54)

Rebecca has been researching the clock peddlers of Trumbull County for 30 years. Her presentation is a very detailed account of the individuals who marketed clocks in Trumbull County, the business relations, the lawsuits, and location from which they were operated.

909 HISTORY OF COLUMBUS WATCHES & NORTH AMERICAN WATCH COMPANY by Lehr Dircks (45 and 12)

Lehr presents a chronological history of the founding and operations of the Columbus Watch Company. He then shows photographs of the large variety of watches that the company made and discusses the design features, dial designs, and patents involved. For the last 12 minutes of the presentation, Lehr gives the history of the North American Watch Company of Mansfield, Ohio, of which there is very little know.

910 EXPLORING THE WORLD'S PREEMINENT CONCENTRATION OF HIGH GRADES HOROLOGICAL ARTIFACTS (The 2011 Horological Study Tour of the AHS Sections In and Around London) by Fortunat Mueller-Maerki (48)
Fortunat uses PowerPoint to show the wide variety of horological items in museums and private collections in and around London. Watches in the Windsor collection, a visit to Greenwich and the BHI were highlights of the Antiquarian Horological Society Tour. The 27 participants visited 34 venues in nine days.

914 TIME IN OFFICE: PRESIDENTIAL TIMEPIECES (40)

Video footage of the National Watch and Clock Museum's exhibit of Presidential watches, "Time in Office." Includes videos of Jim Michaels opening the watches and commenting on their condition and uniqueness.

915 YOUR TOMORROW IN THE MAKING... TODAY by Hamilton Watch Company (14)

A promotional video created for new Hamilton employees.

The following videos are from the 43rd Eastern State Regional, August 2012

916 NICHOLAS MULLER – HOROLOGIST EXTRAORDINAIRE by Arlyn Rath (54)

Arlyn, who has been collection Muller clocks for 40 years, gives a comprehensive history of Nicholas Muller and his years of casting clocks and other products. She gives the family history from the time Nicholas came to the United States until the demise of the company.

WALKING TOUR OF NICOLAS MULLER EXHIBIT by Arlyn Rath (45 and 14)

Arlyn takes us on a walking tour of the Nicolas Muller exhibit that consisted of 45 clocks and other products. She has many anecdotes about the Muller products and discusses the design features of the clocks.

917 THE ATKINS CLOCKS by Phil Gregory (45)

Phil gives a detailed account of the life and business practices of Irenus Atkins. He shows various models of Atkins clocks and discusses and the design features.

[918 RESTORING PORCELAIN AND POT METAL CLOCKS](#) by Ernest Kionke (58)

Ernest uses PowerPoint slides to show many repairs that he made to objects made of glass, porcelain, ceramic, and other various metals. He shares his methods, supply sources, and pitfalls that he has encountered in 37 years of repairing.

The following videos are from the 2012 Ward Francillon Time Symposium

[919 THE SEARCH FOR TRUTH \(James Arthur Lecture\)](#) by John Hubby (55 and 26) John presents his methods of researching facts about clocks. He discusses sources from which he obtains correct information about clocks.

[920 TRAVELING CLOCKS BEFORE 1800](#) by Doug Cowan (64)

Doug Cowan shows photographs of a wide variety of European Traveling (carriage) clocks made before 1800. He discusses the makers, case designs, movement features, and supplements the presentation with the history surrounding the making of these clocks.

[921 VIENNESE TRAVELING CLOCKS IN THE AUSTRIA-HUNGARIAN EMPIRE](#) by Peter Fritsch (57)

Peter's PowerPoint presentation gives the viewer a look at many beautiful European carriage clocks. He discusses the development and gives a historical background and anecdotes about the clocks. He also discusses design features of cases and movements of Viennese traveling clocks.

[922 AMERICAN CARRIAGE CLOCKS – TRASH OR TREASURE?](#) by Ken Hogwood (53)

Ken discusses the carriage clocks manufactured by many American companies. He shows examples of clocks from those made for the mass markets to high quality clocks that rivaled those made in Europe. He showed photographs of some very rare American clocks and discussed the products of which little was known.

[923 HUYGENS'S MARINE TIMEPIECE \(Antiquarian Horological Meeting\)](#) by Philip Poniz (57)

In this presentation, Philip Poniz shows slides of and discusses a clock that became known to the horological community 19 years ago. He discusses Huygen's quest to build a clock that could be used on ships. Movement design is shown and discussed in great detail.

[924 BREGUET CARRIAGE CLOCKS](#) by Philip Poniz (57)

Philip Poniz's talk concentrates on Breguet's beginning in the making of carriage clocks. He shows photographs of several beautiful carriage clocks made by Breguet as well as pages from Breguet's journals that show the purchase of parts and sales of clocks. Evidence shows that it was Breguet who made the first carriage clocks. He then discussed the number of clocks made by Breguet and that Breguet had a policy of buying back clocks that he had made. Case styles and

mechanical features are also discussed in detail.

[925 CARRIAGE CLOCK ESCAPEMENTS](#) by John Kirk (76)

John gives a treatise on many designs of escapements used in carriage clocks. He shows close-up views of escapements and discusses how they work. Several videos of working escapements are shown.

[926 CARRIAGE CLOCK EXHIBIT AND PANEL DISCUSSION \(Q & A\)](#) (62)

Several individuals show and describe dozens of carriage and portable clocks that were on exhibit at the 2012 World Francillion Time Symposium. They described styles, historical facts, and fine points of the clocks. At the panel discussion, speakers fielded questions from the audience, providing attendees with many additional historical facts and technical data.

[927 E.N. WELCH OPERA SERIES CLOCKS: 1868-1893](#) by Robert W. Briggs (43)

Between 1868 to 1893, the Welch Spring & Co. and its parent, E. N. Welch Mfg. Co. used noted mid-19th century opera personalities as identifiers for many of their production clocks. The presentation includes approximately thirty Welch clocks from this time period, each accompanied with lithograph portraits and brief biographies of the famed name sake opera stars. Presented at the NAWCC North Coast Regional May 17, 2013 in Kirtland, Ohio.

[928 RARE AND UNUSUAL CLOCKS, TIMEPIECES, AND WATCHES](#) by Florida Suntime Chapter #19 (22)

This was a professionally narrated slide show of very unusual timepieces, such as a clock that plays on bells, pipes, and an 18th string zither; a small clock designed to look like a pear; and a fan shaped lady's watch. The slides show some deterioration due to age. This video is a converted slide program.

[929 WATCHES OF THE SANDOZ COLLECTION](#) by Henry J. Cole (22)

A professionally produced production of the animated and complicated watches in the collection of the Horological Museum (Musée d'Hologerie) of Le Locle, Switzerland. There is no animation. All photos are still shots from 35mm slides. This video is a converted slide program.

[930 THE RITTENHOUSE ORRERY](#) by Stephen Kramer (35)

From the 1600s to the early 1800s, the Orrery (a mechanical representation of the movement of our solar system) were state of the art educational tools desired by every institution of higher learning, both in Europe and America. Between 1871 and 1873, David Rittenhouse of Pennsylvania, constructed the world's most complex and most accurate Orrery every made. This is the fascinating story of the Rittenhouse Orrery belonging to the University of Pennsylvania. This video is a converted slide program.

[931 INGERSOLL ADVERTISING EPHEMERA](#) by Ralph Whitmer (13)

Ralph Whitmer displays and discusses a large collection of advertising and promotional material used by the Ingersoll Watch Company spanning the many years of that company's existence. This video is a converted slide program.

[932 ALARM CLOCKS ARE COLLECTABLE](#) by Sacramento Valley Chapter #71 (20)

This program examines the history and development of the alarm clock and explains why and how they can be a valuable part of any timepiece collection, or a collection that stands on its own merits. This video is a converted slide program.

The following videos were recorded at the 2013 NAWCC National Convention in Dayton, Ohio

[933 200 YEARS OF SETH THOMAS](#) by Ian K. Roome (78)

December 2013 marks the 200th anniversary of the founding of the famed Seth Thomas Clock Co. of Plymouth Hollow, CT. This one hour presentation captures the remarkable growth, diversification and sustainability of this great business enterprise whose products spanned the globe, from its genesis in the acquisition of the Heman Clark Clock Factory in 1813 to the very recent demise of its parent corporation in Norcross, GA.

[934 JOHN WRIGHT, NEW YORK COLONIAL WATCHMAKER AND DISCOVERY OF AMERICA'S OLDEST WATCH](#) by Richard Newman (61)

935 **SETH THOMAS REGULATORS** by Earl Harlamert (40)

A look at the different models of regulators made by the Seth Thomas Clock Company.

[936 SETH THOMAS PERPETUAL CALENDAR CLOCKS](#) by Greg Gorton (44)

Greg Gorton gives an overview of the different models of calendar clocks made by the Seth Thomas Clock Company.

[937 NEON CLOCKS: THE OHIO CONNECTION](#) by Patti Moore (55)

A look at the Ohio companies who manufactured neon and lighted clocks.

[938 LUMAN WATSON](#) by Tom Spittler (55)

Tom Spittler details the history of Luman Watson and his clocks and movements.

[939 PHILIP SMITH: CLOCKMAKER OF AMBER & MARCELLUS, NY](#) by Russ Oechsle (63)

Russ Oechsle discusses the case, movement, and dial styles used by Philip Smith in making shelf clocks.

[940 CLOCKS IN ART](#) by Bob Frishman (58)

Bob Frishman shows examples of clocks represented in fine art.

[941 WONDERFUL WATCH HOLDERS](#) by Gigi Holladay (44)

This is a delightful, exceptionally well written and narrated program on the now rare watch holders that were once plentiful in the era of pocket watches that were uncommon, expensive, and which had to be kept in an upright position to accurately keep time. This video is a converted slide program.

[942 WEIGHT DRIVEN SHELF CLOCK IN PENNSYLVANIA](#) by Carter Harris and Ed LaFond (60)

J. Carter Harris, Curator, National Watch & Clock Museum, discusses the history and development of the little known weight clock industry in Pennsylvania. Based on the 1983 exhibit at National Watch & Clock Museum. This video is a converted slide program.

[943 CLOCKS OF OLD JAPAN](#) by David Olson and the Los Angeles Chapter #56 (25)

This program discusses and displays the very rare clocks used in Japan before that country was opened to the Western world. These unusual clocks that used pictures of animals on their dials instead of numerals were made obsolete overnight in the mid-1800s when Japan switched to the time keeping methods of the west. This video is a converted slide program.

[944 200 YEARS OF MORBIER CLOCKS](#) by Alan Seymour 44 min.

An excellent presentation on the history of the development of the Morbier Comtoise clock of France, and its amazing production for over 200 years. This video is a converted slide program.

[945 NEW HAMPSHIRE'S CLOCKS](#) by Carter Harris (56)

J. Carter Harris, Curator, National Watch & Clock Museum, discusses the history and development of the spring driven clocks of New Hampshire. This video is a converted slide program.

[946 BEHIND THE DIAL: THE ENGLISH LANTERN CLOCK](#) by George Peterson (40)

Excellent information is provided on the development and construction of the British lantern clock and its very long history in horology. Mr. Peterson has a unique, pleasant presentation that makes his *Behind The Dial* series an outstanding education program.

[947 BEHIND THE DIAL: BUSHING: HOW AND WHY - USING A BUSHING MACHINE](#) by George Nelson (22)

Produced as part of George Nelson's program on clock repair called "*Behind the Dial*", this program discusses the how and why of bushing and explains both methods of bushing, hand and machine, but places heavy emphasis on how to use a bushing machine. This video is a converted slide program.

The following videos were recorded at the 2013 Eastern States Regional August 16-17, 2013.

[948 WALKING TOUR OF CLOCKS THAT CHANGED THE WORLD: THE](#)

DEVELOPMENT OF THE AMERICAN MASS-PRODUCED CLOCK: 1806-1850: EXHIBIT AT THE 44TH EASTERN STATES REGIONAL Narrated by Chris Bailey,

Tom Grimshaw, and Snowden Taylor Two DVDs (95) and (68)

Two walking tours of the exhibit at the 2013 Eastern States Regional which has examples of the clocks that played a significant role in the development of mass-production of clocks in the United States. The narration of the first tour, conducted by Chris Bailey, Tom Grimshaw, and Snowden Taylor includes many anecdotes of the business relationships between clock makers. The second tour was conducted by Chris Bailey and Tom Grimshaw and includes similar narration to the first tour without as many of the side stories.

949 CLOCKS THAT CHANGED THE WORLD: THE DEVELOPMENT OF THE AMERICAN MASS-PRODUCED CLOCK: 1806-1850 by Tom Grimshaw (89)

With this presentation Tom Grimshaw shows digital slides of and discusses how the development and making of clocks in the United States led the world in the development of mass production methods. Interchangeability of parts was a key factor in mass production. His presentation shows clock movements and cases that played a significant role in the development of mass production.

950 SETH WHEELER & CO.: A YANKEE PEDDLING VENTURE IN THE 'TUCKY-HO, 1836-1840 by Mary Jane Dapkus (51)

Mary Jane Dapkus presents a program that is the culmination of 10 years of research on Seth Wheeler & Company, a sales company that transported and sold clocks made by C. & L.C. Ives. She details the methods used by Wheeler in getting the clocks to Kentucky. The clocks were transported from New York City by wagon, trains and on boats by way of rivers, canals and ocean. She details the difficulties with each of the methods of transportation. She talks extensively of the development of rail transportation.

951 MAKING AN E. HOWARD #49 REGULATOR: "THE CREATIVE PROCESS" by Joel Warren (43)

Joel Warren presents the process he went through in planning and building a reproduction #49 E. Howard case and pendulum. He details the thought process and methods used in making the various components of the case and pendulum. He shows slides of drawings, tooling and the components of the clock. Materials, sources of materials and finishing of the case are discussed. The reproduction was made without an original example or original drawings.

952 EARLY BATTERY CLOCKS by Glenn Marsh (31)

A very well done presentation by Glenn Marsh on battery powered clocks of the early 1900s. Discussed are the *Reason*; the *Eureka*; the *Le Roy* all from 1910; the *Bulle* and the *Barre* clocks of 1920. This video is a converted slide program.

953 MAKING THE CASE FOR A POCKET CHRONOMETER by Jesse Cannon
Narrated by Gene Partain (8)

A photographic depiction of how one man made a case for his pocket chronometer. This is not a step-by-step-how-to program, but rather a discussion of the procedures followed for this particular case. Many of the photos are difficult to see in detail due to the photographic limitations of the time. This video is a converted slide program.

[954 AUTOMATON, ANIMATED & MUSICAL CLOCKS OF THE SANDOZ COLLECTION](#) (32)

A professionally produced production of the automata, animated, and musical clocks in the collection of the Horological Museum (Musée d'Horlogerie) of Le Locle, Switzerland. There is no animation. All photos are still shots from 35mm slides. This video is a converted slide program.

[955 JOSEPH IVES, NEW ENGLAND CLOCKMAKER](#) by W.L. Wadleigh (27)

This program explores the contributions to horology made by Joseph Ives. It documents many of the unique inventions and technological improvements made to horology by Mr. Ives. This video is a converted slide program.

[956 WATCH ODDITIES](#) by James W. Gibbs (18)

A well done presentation on unusual watches. These timepieces vary in a number of different ways: materials of manufacture, shape, design, or mechanical function, to name a few. This video is a converted slide program.

[957 THE MAKING OF THE JADE CLOCK 1967](#) by Ted Bhend and Lloyd Porter (25)

A close look at the making of The Jade Clock, which was made by the San Francisco Gem and Mineral Society and exhibited at the 1967 NAWCC National Convention. The gears, weights, pendulum and other parts of the movement are made of jade. This video is a converted slide program.

[958 TIMEPIECES EXHIBITED AT WESTERN REGIONALS 1968, 1971, & 1974](#)

Narrated by Lloyd Porter (18)

A collection of photos of the clocks on display in the Exhibit areas of three Southern California Regionals held in 1968, 1971, and 1974. Hundreds of clocks and watches are shown, many very rare, but there is very little information given on any one timepiece. This video is a converted slide program.

[959 HOROLOGICAL NOVELTY PROMOTIONAL PRODUCTS](#) by Robert Draucker (19)

Draucker narrates photos of numerous promotional items that feature horological themes. Most are advertisements for clockmakers, watchmakers, or jewelers. A number of different items are shown including trays, pins, thermometers, ornaments, calendars, and plates. This video is a converted slide program.

[960 THE YANKEE AND HIS CLOCK BOX](#) by Dorothy Glenk (21)

An interesting review of the clock case styles made in the U.S. from the earliest days of clock making in the colonies through the 1930's. Comparisons of clock case styles to the

then prevailing architectural styles are frequently made in this program. This video is a converted slide program.

961 SOME UNUSUAL CLOCKS, MOSTLY AMERICAN by W. L. Wadleigh (22)

This well written program, narrated by Gene Partain, shows approximately 25 very rare and beautiful clocks, several of which only one or two examples are known to exist. Pictures are provided of both the clock and its movement for most of them. This video is a converted slide program.

962 THE TERRY FAMILY CHRONOLOGY AS SHOWN BY THEIR CLOCKS by Bryson Moore (25)

Bryson Moore narrates this genealogical look at the Terry family as expressed in the clocks made by each generation. Beginning with Samuel Burnham Terry and moving down each succeeding generation, the narrator displays examples of the clock designs, both case and movement, unique to each individual in the Terry family. This video is a converted slide program.

963 CLOCKS & WATCHES OF EUROPEAN MUSEUMS by Hap Holladay (26)

A very well done tour of the Theodor Beyer Collection in Zurich and the Konrad Kellenberger Collection on display at the Gewerbemuseum in Winterthur, Switzerland. Each collection contains many rare and one-of-a-kind timepieces. This video is a converted slide program.

964 PUBLIC CLOCKS OF EUROPE by Gigi & Hap Holladay (38)

Public Clocks of Europe is a travel log of some of the most beautiful and unique tower clocks in Europe, from Germany to Turkey. The program shows very little of the actual mechanisms, stressing instead their beauty as seen from the streets. Special emphasis is placed on the Jens Olsen Astronomical Clock in the Copenhagen City Hall building in Denmark, including detailed photographs of the extremely complex mechanics involved. This clock holds the Guinness World Records title as the most complicated mechanical clock in the world. This video is a converted slide program.

**965 INTRODUCTION TO THE AMERICAN CLOCK AND WATCH MUSEUM
BRISTOL, CONNECTICUT: A BRIEF HISTORY OF CLOCKS AND WATCHES**

(20)

This introduction to the American Clock and Watch Museum in Bristol, CT includes an overview of the history of the American clock industry.

966 REPIVOTING AND DIAL RESILVERING by Ferdinand Geitner (82)

Ferdinand Geitner explains and demonstrates repivoting an antique clock movement and resilvering the dial.

967 WATCH AND CLOCKMAKER FIGURINES by Myrtie Simmons (16)

This is an enjoyable tour of the private collection of Myrtie Simmons showing figurines made from numerous materials, from wood to Royal Doulton China. The collection also includes a custom made doll house of a clockmakers shop with his workshop on the first

floor and living quarters on the second level, both floors completely furnished to scale. This video is a converted slide program.

968 THE JAQUET-DROZ AUTOMATON PUPPETS by Musée d'Art et d'Histoire (9)

This is program on the amazingly complex automatons made in the 1770s by Jaquet-Droz: the Scribe, the Draftsman, and the Musician. Still photos are used to show the puppets and the intricate mechanism in each that make these remarkable dolls so life-like in their actions. This video is a converted slide program.

969 RESTORING PENDULETTES by Jim West (11)

This video is a step-by-step procedure for putting pendulettes back into collectable condition. The program includes cleaning, oiling, replacing the mainspring, and making replacement parts such as the bobbing bird, pendulums, heads of figures, and others. This video is a converted slide program.

970 FASHION CALENDAR CLOCKS by Raymond Horner & Margaret Horner (17)

A photographic comparison of Fashion style clocks sold by the Southern Calendar Clock Company as well as those of its competitors, including the National Calendar Clock Company of Brooklyn, N.Y. and the Ithaca Clock Company. This video is a converted slide program.

The following videos were recorded at Time for Everyone, the 33rd Ward Francillon Time Symposium. They are available for chapter use only.

971 RECYCLING TIME by E. C. Krupp (42) Chapter use only

Lecture presented at the 2013 Ward Francillon Time Symposium by Dr. Edwin C. Krupp, astronomer and director of the Griffith Observatory in Los Angeles, California. His lecture, "Recycling Time", explores the ways that the ancients tracked the seasons and leads us through the evolution of the calendar up to the present day tracking of astronomical events at the Griffith Observatory.

972 MEASURING TIME ACCURATELY OVER 250 YEARS by Jonathan Betts (45) Chapter use only

Lecture presented at the 2013 Ward Francillon Time Symposium by Jonathan Betts, MBE, author and Senior Curator of Horology at the Royal Museums Greenwich. His lecture entitled, "Precision Crunching, 1650-1900: Measuring Time Accurately over 250 Years". Jonathan's lecture takes us from the invention of the pendulum up through Harrison and then Thomas Earnshaw's fused bi-metal balance.

973 AFFORDABLE TIME: AMERICA'S CONTRIBUTION by Chris H. Bailey (53) Chapter use only

Lecture presented at the 2013 Ward Francillon Time Symposium by Chris Bailey, former curator of the American Clock and Watch Museum in Bristol, Conn. Chris presented "Affordable Time: America's Contribution". He takes us through the rapid development of production capability for watches and clocks in the first half of the 19th century. This

capability reduced the price of watches and clocks to the point that, by the end of the century, most workers were able to afford a time piece.

974 THE GREAT AGE OF THE TOWER CLOCK Chris McKay (50) Chapter use only

Lecture presented at the 2013 Ward Francillon Time Symposium by Chris McKay who provides an entertaining lecture entitled "The Great Age of the Tower Clock". Chris, author of the most recent definitive book on the great clock of Westminster, Big Ben, presents an overview of the 11 best turret clocks in England.

975 ATOMIC CLOCKS: DOES ANYONE REALLY KNOW WHAT TIME IT IS?

By Thomas O'Brian (42) Chapter use only

Lecture presented at the 2013 Ward Francillon Time Symposium by Dr. Thomas O'Brian, Time and Frequency Division Chief at the National Institute of Standards and Technology, Boulder, Colorado. His lecture entitled, "Atomic Clock: Does Anyone Really Know What Time It Is?" Dr. O'Brian gives a fascinating explanation of the ubiquity of atomic timekeeping and how the quest for improving accuracy is both important and on-going.

976 FROM BAIN TO SHORTT: ELECTRICAL TIMEKEEPING 1840-1940 by

James Nye (44) Chapter use only

Lecture presented at the 2013 Ward Francillon Time Symposium by Dr. James Nye, visiting Fellow at the Institute of Contemporary British History, Kings College, London. His lecture, "From Bain to Shortt: Electrical Timekeeping, 1840•1940", is an insightful, historical look into the adventures of scientists and businessmen trying to capitalize on the availability and advantages of electrical power.

977 THE EVOLUTION OF TOWER CLOCK MOVEMENTS & THEIR DESIGN OVER THE PAST 800 YEARS by Mark Frank (61) Chapter use only

Mark Frank explores the visual and mechanical aspects of tower clock movements and how they evolved from their first appearance from 1100 to 1200 through the end of the commercially economical mechanical era in the 1950s. These concepts will be exemplified by an examination of frame designs, escapements, and the use of remontoire, strike, and winding systems.

978 EXTREME AMATEUR TIMEKEEPING by Tom Van Baak (56) Chapter use only

Lecture presented at the 2013 Ward Francillon Time Symposium by Tom Van Baak, physicist, mathematician, operating systems software engineer, and precision clock enthusiast. His presentation, "Extreme Amateur Timekeeping: From Harrison to Einstein" is an excellent overview of precision timekeeping placed in historical context and includes personal, entertaining anecdotes as well as technical information.

979 TIME AND THE BRAIN by David Eagleman (56) Chapter use only

Most of the actions our brains perform on a daily basis – such as perceiving, speaking, and driving a car – require timing on the scale of tens to hundreds of milliseconds. New

discoveries in neuroscience are contributing to an emerging picture of how the brain processes, learns, and perceives time. David Eagleman will demonstrate new temporal illusions in which durations dilate, perceived order of actions and events are reversed, and time is experienced in slow motion. Questions addressed include: Does your brain work in real time, or do you experience a delayed version of the world? How and why does the brain recalibrate its timing judgments? Does subjective time really slow down during a car accident?

980 THE STANDARDIZATION OF CIVIL TIME by Geoff Chester (65) Chapter use only

We don't have to look back very far in history to find an era when civil time was based loosely on the location of the Sun at a given locale. The simple premise that noon marked the middle of the day was sufficient for the lifestyles of most of the planet's inhabitants. However, the Industrial Revolution and the advent of railroads began to drive a movement toward simpler ways to keep time over larger geographic areas. Our present-day system of standard time consists of a series of time zones spaced at more or less regular intervals along standard meridians around the world. Time in each of these zones is determined by a specific offset (usually in increments of one hour) from a single standard time-scale known as Universal Time, Coordinated (UTC). Geoff Chester's presentation will examine the standardization of time from its turbulent beginnings in the 19th century to the still-unresolved issue of the "leap second" today.

The following videos were recorded at the 2013 Eastern States Regional August 15-16 in Syracuse, New York

[981 WELCOME TO THE NEW CONNECTICUT: WOOD MOVEMENT CLOCKMAKING IN OHIO'S WESTERN RESERVE](#) by Chris Klingemier (56)

Chris Klingemier's presentation is the culmination of 20 years of searching for and gathering dials, clocks, documents and photographs in his quest to document clock manufacturing in Northeast Ohio.

[982 WALKING TOUR OF THE EXHIBIT: WELCOME TO THE NEW CONNECTICUT: WOOD MOVEMENT CLOCKMAKING IN OHIO'S WESTERN RESERVE](#) by Chris Klingemier (64)

Chris takes the audience on a walking tour through the exhibit of clocks and dials that made up the exhibit at the 2014 Eastern States Regional in Syracuse, New York. The exhibited items and the narration by Chris gives the viewers a very detailed account of wood works clock manufacturing in Northeast Ohio.

[983 HISTORY OF THE ROSE ENGINE](#) by David Lindow (48)

David traces the history of the Rose Engine from the 1500's to the present. He shows photographs of many machines and the decorative work that they were able to produce. He shows machines that he has restored as well as the new machines he manufactures. He also discusses the tooling used to make various designs and patterns.

[984 EVOLUTION OF CLOCK MOVEMENTS](#) by David Lindow (41)

David gives an overview of the development of clock movements by showing his collection of "basket case movements". His collection consists of clocks from the 1600's to the present. He stresses the engineering features of the clocks developed in various countries. He concludes his presentation by telling the audience what movements he and other present day manufacturers are making.

985 A HOROLOGICAL TOOL: THE LATHE by Ozzie Nelson and Len Rutlin (17)
Nelson and Rutlin take a detailed look at their lathe and show many of the parts and tools they made using it. This video is a converted slide program.

986 EPHEMERAL ART: HERE TODAY AND GONE TOMORROW by Patricia Holloway (47)

The program provides an overview of the evolution, distribution and imagery of 19th century advertising trade cards with a special focus on horology. These cards were an integral part of many Victorian homes, often appearing in prominently placed albums. The art work provides an interesting view of turn-of-the-century American life and industry. This program was presented at the 2014 NAWCC National Convention. NAWCC Webinar recorded September 28, 2014.

987 THE BEGINNING OF THE WRISTWATCH by Adam Harris (59)

This webinar is a timeline walk through the beginning of the wristwatch, both in Europe and America. Adam Harris, our Gallet guest curator of wristwatches at the National Watch and Clock Museum discusses the fascinating amount of discoveries we have learned in past two years. This webinar will truly bring you up to date with the beginning of the wristwatch in Europe and America. There are lots of interesting period advertisements and images included in the discussion. NAWCC Webinar recorded October 27, 2014.

988 THE WALTHAM WORKHORSE by Al Sterns (25)

This is a detailed look at the Waltham 8 day clock movement, which was used in a wide variety of clocks. Examples of the different Waltham clocks are shown. This video is a converted slide program.

989 PEQUEGNAT CLOCKS CANADA by NAWCC Chapter 92 Southwestern Ontario Produced by Harold Leach (23)

This program by Harold Leach and the NAWCC Southwest Ontario, Canada, Chapter 92, covers the history of the Arthur Pequegnat Clock Co.. Many of the clock models produced by this company between 1904 and 1941 are shown. The Arthur Pequegnat Clock Co. was the only commercially successful clock company in Canada at this time. The audio quality varies considerably during the course of this program. This video is a converted slide program.

990 VARIETY OF CLOCKS IN NORTH CAROLINA by Carolina Chapter 17 Rudolph Gereg (26)

This is a compilation of approximately 100 unusual clocks from Chapter #17, North Carolina Chapter. Some of the original photos are out of focus, but overall this is an interesting program. This video is a converted slide program.

991 METAL DECORATION IN HOROLOGY by Chet Lockhart & Dr. Abbott Smith (30)

This presentation is on the amazing techniques used by the late Orville Cooper and Sterling Murdock to replicate a Rose Turning Engine using lathes. The resulting work is beautiful and the presentation is nicely done. This video is a converted slide program.

992 A UNIQUE POCKET WATCH DISPLAY by O. B. Frye (20)

A very nicely done program on how Dr. Fry converted a hotel display unit to a unique pocket watch cabinet. He then gives a detailed description of each of the pocket watches placed into this new display unit. This video is a converted slide program.

The following videos were recorded at the 2014 NAWCC National Convention June 18-21 in Milwaukee, Wisconsin

993 CHARLES GRETTON: WATCH AND CLOCKMAKER 1647-1731 by Dennis & Laila Radage (51)

This lecture looks at the life and work of Charles Gretton. First Laila Radage discusses Gretton's life from his roots in Lincolnshire to working his way through the Clockmaker's Company to become a master and the legacy of charity he left behind. Then Dennis Radage details Gretton's work and examples of his clocks and watches.

994 LET'S GET WOUND UP: HISTORY AND DEVELOPMENT OF THE SELF-WINDING WRISTWATCH by Bruce Shawkey (31)

Bruce Shawkey gives an overview of the history of the self-winding wristwatch and shows examples of various models made over time.

995 THE EVOLUTION OF TOWER CLOCK MOVEMENTS AND THEIR DESIGN OVER THE PAST 800 YEARS by Mark Frank (64)

This presentation explores the visual and mechanical aspects of tower clock movements and how they evolved from their first appearance between 1100 AD and 1200 AD through the end of the commercially economical mechanical era in the 1950's. These concepts are exemplified by the examination of the various frame designs, escapements, types of remontoire and strike systems.

996 THE STREET CLOCKS & TOWER CLOCKS OF MILWAUKEE by Don Bugh (30)

In this presentation Don Bugh shows slides and video of many street and tower clocks in Milwaukee. He discusses the history of many of those clocks and shows slides of many of the clocks as they are today.

997 JOHN HARRISON MEETS RUBE GOLDBERG: A MACHINE ENGINEERED TO AMAZE by Mark Frank (66)

This presentation describes the ongoing construction of a large-scale astronomical skeleton clock. Various aspects explored are the design, fabrication, and engineering concepts that are employed to make a movement which will eventually contain 350 wheels, 30 complications, three remontoire and over 8000 parts and be as practical as possible through the use of modular design and the elimination of oil. This will probably be the last extremely complex machine of its kind to be made by hand without the use of computer aided design or manufacturing.

998 THE LIFE AND ACCOMPLISHMENTS OF MATHIAS SCHWALBACH by Ed Buc (27)

Ed Buc gives the results of his quest to document the life and work of Mathias Schwalbach. He shows photographs of local buildings in which the unique Schwalbach clocks reside. He gives detailed descriptions of Schwalbach clocks.

999 WOODEN WORKS CLOCKS AND THEIR MAINTENANCE by Tom Grimshaw (57)

Tom Grimshaw gives a brief history and shows photographs of Pillar & Scroll clocks. He then gives his methods of repairing and restoring wood movements and cases. He stresses that the methods discussed are his. He also stresses that maintaining originality is of utmost importance.

1000 PAUL POUVILLON'S ASTRONOMICAL CLOCK: A BRIEF HISTORY AND A DESCRIPTION OF THE CLOCK'S RESTORATION by Mark Frank (74)

Mark Frank begins this presentation with a biography of Paul Pouvillon. He then gives a brief history of Pouvillon's clock and then gives a detailed description of the restoration process. He shows many photographs that give the viewer a very graphic description of the clock's construction and restoration.

1001 ON THE CLOCK: CHANGING THE INDUSTRIALIZED WORLD by Kim Jovinelli (27)

This program is an overview of the National Watch and Clock Museum's latest special exhibit and will focus on time recorders as accents to the Labor Movement in America. This will not only be an exhibit walkthrough, but also a look at how the work day has changed over the years, the advancements that had to happen to get us where we are today, and what the future could look like as technology progresses. NAWCC Webinar recorded July 12, 2015.

1002 THE BEGINNING OF THE SELF-WINDING WRISTWATCH: AND INTERESTING FINDS IN THE MUSEUM WATCH COLLECTION by Adam Harris (69)

Our Gallet guest curator of wristwatches, Adam Harris will discuss the “genesis” of the automatic wristwatch 1922 to 1940s. Adam will also present some of his research findings during his stay as a guest wristwatch curator, including important and updated NAWCC collection items descriptions, early patents and WWI photographs. NAWCC Webinar recorded November 16, 2014.

1003 THE REMARKABLE CLOCKS OF ANDREW V. STRAIT OF SIDNEY, NY

by Russ Oechsle (72)

While the name Andrew V. Strait might not be recognizable to many advertising clock collectors and aficionados, his clocks, generally referred to as "Sidney Advertising Clocks" surely are. Strait's story is one of real genius, wherein his skills as a clock maker merged with his unique ideas on profiting through the medium of advertising to create a new segment in American horology. This presentation, based almost entirely on primary sources, will provide the history of Strait and his various advertising clock models, as well as lesser known inventions, including what he called the "first electric alarm clock. NAWCC Webinar recorded February 15, 2015.

1004 THE WAR ALARM: THE CLOCK THAT WENT TO WAR by Al Dodson (52)

Horology played an important role in World War Two. The Hamilton Watch Co. is well remembered for the spectacular achievement of mass producing the Marine Chronometer and the many other timepieces they made for all branches of military. Other watch and clock companies also produced a wide variety of timepieces for the war effort. One product, the War Alarm, was produced for the civilian population in response to a critical need of this cheap and mundane timepiece. This webinar, presented by Al Dodson, will discuss the War Alarm and present photos, vintage advertisements, and other documents to illustrate this need and how the government and manufacturers responded. NAWCC Webinar recorded January 25, 2015.

1005 THE EVOLUTION OF EARLY BATTERY-DRIVEN PENDULUM CLOCKS by Ted Bosschieter (44)

Bosschieter give a detailed history of the battery-driven clock from a largely European perspective. This video is a converted slide program.

1006 THE 7 CLOCK COMPANIES OF JOSEPH HENRY EASTMAN by Ken Hogwood (40)

This program focuses on Joseph Henry Eastman's life and the 7 clock companies he was associated with during his life. NAWCC Webinar recorded August 23, 2015.

1007 WALTHAM'S AMERICAN WATCH COMPANY GRADE: 40 YEARS OF EXCELLENCE by Tom McIntyre (57)

The Waltham Watch Company was the first successful watch factory and was responsible for many of the key innovations in watchmaking in America. In 1859 the name of the company was changed to the American Watch Co. following the merger of the Waltham Improvement Co. and the Appleton & Tracy Co. In the same year Waltham sold its first watches with American Watch Co. as the grade name on the watch. This grade name was used on many models and sizes of watches that always represented the very best product the company could make. The 1899 Bridge Model was the last of these designs to be produced. This talk explores the nine models produced over this 40 year period in the American Watch Co. grade. NAWCC Webinar recorded May 17, 2015.

The following presentations were recorded at the 2014 Ward Francillon Time Symposium October 16-18 in Fort Lauderdale, Florida

1008 FRENCH CLOCKS DEVELOPMENTS AND STYLES 1830-1900 by Tom Targett (120)

1009 FRENCH HOROLOGIA 1600-1710 by Philip Poniz (90)
The audio on this recording is somewhat poor.

1010 ART DECO by Colleen Boyle (37)

1011 ART NOUVEAU by Colleen Boyle (63)
The audio on this recording is poor.

[1016 DO YOU KNOW WHAT TIME IT IS? THE ESTABLISHMENT OF TIME ZONES IN THE UNITED STATES](#) narrated by Robert Gary written and researched by Susan Gary (28)

A historical look at how and why the national time zones came into being. It was not for the reason most people think. NAWCC Webinar recorded March 29, 2015.

1017 PILLAR & SCROLL: EXHIBIT AT THE NATIONAL WATCH AND CLOCK MUSEUM by Phil Gregory (43)

This DVD is a detailed video of the Pillar & Scroll clocks that were on exhibit from November 2006 to May 2007 at the National Watch and Clock Museum.

The following programs were recorded at the 2015 Eastern States Regional August 14-15 in Liverpool, NY.

1018 AMERICAN WOODEN MOVEMENT TALL CLOCKS 1712-1835 by Philip E. Morris, Jr. (57)

Philip Morris uses a powerpoint program to show rare and significant wooden works tall clocks manufactured across New England between 1712 and 1835. He shows slides of the cases, dials, and movements and discusses where each fits in the development of the clocks.

1019 WALKING TOUR OF EXHIBIT: AMERICAN WOODEN MOVEMENT TALL CLOCKS 1712-1835 by Philip E. Morris, Jr. (87)

Philip Morris leads attendees through the exhibit of wood works tall clocks, movements, labels, and dials. He describes case details, dial design, dial materials, movement design, and labels. Also included is a detailed video of the exhibit with no narration. Close-up video of the posters and labels give the viewer an opportunity to study the details of the items in the exhibit.

1020 RESTORING A EUROPEAN FLUTE CLOCK by Craig Smith (42)

Craig Smith's presentation is a detailed account of the restoration of a European flute clock from the Hoffman Clock Museum in Newark, New York. He shows slides of each

step in the restoration process and describes in detail the tools and materials used. The last four minutes are dedicated to playing the tunes, accompanied by computer generated graphics during the final comments by Smith.

1021 WHAT IS A RAILROAD WATCH? by Tom Huber (56)

Tom Huber's lecture concentrates on defining railroad watches. He discusses various manufacturers, designs of movements, designs of dials, and the marketing of watches.

1022 TIFFANY NEVER-WIND by Jay McAlister and Roy Crowe (31)

An in depth look at the Tiffany Never-Wind, including history and technical information. This video is a converted slide program.

1023 THE GERMAN CLOCK ROAD by NAWCC Chapter 53 Inland Empire (38)

This pictorial tour around the German Clock Road features pictures of various clocks on display in the various German cities on the road. This video is a converted slide program.

1024 HOROLOGY IN ART by Bob Frishman (63)

Expanding on his popular series of articles in Watch & Clock Bulletin, Bob Frishman will present highlights from his large collection of fine art images which include a clock or watch within the scene. From Van Gogh to Dali, Titian, Homer, Magritte, Hopper, Rockwell and many more, these artists are familiar to art lovers but have not been joined together in this unique way. More than one hundred artworks from six centuries will be shown and discussed, with special attention to the depicted timepieces, in an entertaining combination of art and horology histories.

NAWCC Webinar recorded February 21, 2016.

1025 OVERVIEW OF THE ROCKFORD WATCH COMPANY: ITS PRODUCTS AND EPHEMERA by Darrah Artzner (56)

The Rockford Watch Company provided the railroad industry and public with quality watches for almost 40 years. Darrah Artzner will present their models for all sizes produced with brief descriptions and noting major differences. Various cases and dials found with these movements are shown. Cases from the little known Rockford Watch Case Company are discussed with examples. And, like their competitors, ephemera from the Rockford Watch Company provided plenty of support for their products in retail shops and news media, and when notify existing and potential customers of new products. Examples of these ephemera are presented along with comments about their purpose and knowledge gained from their study.

NAWCC Webinar recorded March 20, 2016.

1026 QUESTIONS YOU SHOULD ASK BEFORE BUYING THAT WRISTWATCH by Adam Harris (108)

National Watch and Clock Museum Guest Wristwatch Curator Adam Harris returns with a wristwatch webinar that will explain:

- Different types of complications
- Mechanical versus self-winding versus quartz
- Shapes, styles, and bracelet types
- Advantages and disadvantages of buying a "vintage" watch
- Buying modern "second-hand" watches

Important questions to ask the seller or authorized dealer

NAWCC Webinar recorded April 10, 2016.

1027 WHAT'S NEW AT THE FAIR? THE 1893 WORLD'S COLUMBIAN EXPOSITION by Patricia Holloway (59)

Many horological manufacturers took advantage of the advertising and exposure provided by 1893 Columbian Exposition in Chicago. This World's Fair coincided with the growing use of photographs, as well as the widespread use of advertising souvenirs. These artifacts provide a glimpse of the excitement and innovations surrounding the Fair. This webinar will explore this topic.

NAWCC Webinar recorded May 15, 2016.

1028 SACRED TIME: SYMBOLISM AND THE RELIGIOUS CONCEPT OF TIME by Kim Jovinelli (47)

This program is an overview of the National Watch and Clock Museum's latest special exhibit Sacred Time. This will not only be an exhibit walk-through, but will examine the objects on exhibit and explain the inherent symbolism of these timepieces as they relate to the five major religions' view the passage of time.

NAWCC Webinar recorded June 19, 2016.

1029 LAWSON TIME IS MODERN TIME by Neil Kuns (54)

"Lawson time is modern time" will trace the history and development of the Lawson Clock Company from its beginning in Los Angeles through four different owners and three different cities. We will also show the variety of motors used, identification clues as to where and when the clocks were made and the large variety of attractive cases in which they were housed. We will touch on the connections to Disney and the Pasadena Rose Parade, and will also discuss the interactions between Lawson, Pennwood and G. E. Telechron, and company efforts to sell the works for other purposes

NAWCC Webinar recorded August 21, 2016.

1030 A REVIEW OF ENGLISH SKELETON CLOCKS by Bob Schmitt (49)

NAWCC Webinar recorded January 24, 2016.

The following programs were recorded at the 47th annual Eastern States Regional in Syracuse, New York, August 12-13, 2016.

1031 EXHIBIT OF PENNSYLVANIA SHELF & BRACKET CLOCKS 1750-1850 by Will LaFond (53)

Will LaFond narrates a walking tour of the exhibit at the NAWCC 2016 Eastern States Regional. He points out some of the features of the Pennsylvania shelf and bracket clocks from the LaFond collection. The video of the exhibit shows the descriptive posters as well as the photographs of the movements and close-ups of case features and dials.

1032 PENNSYLVANIA SHELF & BRACKET CLOCKS 1750-1850 by Will LaFond (50)

Will LaFond, Ed LaFond's son, shows slides of and discusses clock manufacturing in Pennsylvania.

1033 USING 21ST CENTURY TECHNOLOGY TO PRESERVE 20TH CENTURY TIME PIECES by Robert Pritzker (47)

Robert Pritzker details the electronics that can be retrofitted to early electric slave clocks to have those clocks run without a master clock. He explains how the electronic devices and a computer are programmed and the circuitry used to run the slave clocks.

1034 THE CAZENOVIA SCHOOL OF TOWN CLOCK MAKERS by Russ Oechsle (59)

This presentation by Russ Oechsle is a comprehensive history of the clockmakers and the tower clocks they made in Casenovia, New York in the 1850's & 1860's. Russ discusses in great detail the designs of the tower clocks including mechanical variations and decorative features. He shows photographs and presents the history of many of the churches and public buildings that housed the clocks made by the clockmakers of Casenovia.

1035 A SCHOOL OF WATCHMAKERS: HENRY PLAYTNER AND THE CANADIAN HOROLOGICAL INSTITUTE by Gary Fox (55)

Gary Fox chronicles, in great detail, the life of Henry Playtner who established the Canadian Horological Institute. He discusses Playtner's methods of teaching and many of the students who attended the school and shows many of the watches made by students.

1036 SOME OPINIONS REGARDING INFLUENCES ON SOUTHERN CLOCKMAKING COMING FROM PENNSYLVANIA AND BEYOND by Edward F. LaFond (79)

Ed LaFond gives a comprehensive lecture by which he details design and mechanical features of movements and case style of clocks of the Southern States. He discusses how Southern clock design was influenced by designs of Europe and the Northern states. Many clockmakers were discussed in this lecture.

1037 JOHN L. WHEELER: THE LAST INDEPENDENT CLOCKMAKER IN NEW YORK STATE by Russ Oeschle (41)

Russ Oechsle chronicles the clockmaking career of the somewhat obscure clockmaker John L. Wheeler. He shows slides and discusses the designs of clock cases and movements made by Wheeler from 1837 to 1842. Russ concludes the talk by showing and discussing two examples of clocks made by Mr. Wheeler.

1038 19TH CENTURY CLOCKMAKING - CRAFT TO MASS PRODUCTION by Andrew Dervan (48)

In the 19th Century, clockmaking in Connecticut evolved quickly from craft to small scale production after Eli Terry demonstrated wooden movements could be mass produced and by 1860 many clock partnerships had declined and seven large clock factories had developed manufacturing significant quantities of clocks.
NAWCC Webinar recorded September 25, 2016.

The following programs were recorded at the 72nd annual NAWCC National Convention in Louisville, Kentucky, July 20-23, 2016.

1039 HOW THE DOLLAR WATCH DEFEATED THE MIGHTY PUBLIC CLOCK by Pat Holloway (40)

1040 ASTRONOMICAL TIME: WHERE JOHN HARRISON MEETS RUBE GOLDBERG by Mark Frank (55)

1041 PERSONAL TIME: WATCHES MADE FOR THE INDIVIDUAL by Tom McIntyre (43)

1042 AMERICAN STREET CLOCKS EXHIBIT by Russ Oechsle (35)

[1044 TIMELY RESOURCES: NAVIGATING THE NAWCC LIBRARY RESEARCH CENTER](#) by Sara Dockery (68)

The majority of our members are aware of the existence of the Library & Research Center, but many are not aware of how many of the resources are available to them online. From the comfort of their home computer NAWCC members can find information about watch and clock companies, read back issues of the Bulletin, watch videos, borrow library materials, and more! Library & Archives Supervisor Sara Butler Dockery will walk viewers through accessing the library online and making the most of what is available.

NAWCC Webinar recorded November 13, 2016.

1045 76 YEARS OF ANSONIA CLOCKS by Don Wells (22)

This converted slide program gives an overview of the history of the Ansonia Clock Company and shows examples of the models they produced.

1046 IT'S ABOUT TIME by Bryson Moore and Bob Hughes (38)

This program gives a walkthrough of "It's About Time" an exhibit sponsored by NAWCC Chapter 31 Pacific Northwest at the Oregon Historical Society Museum September to November 1985. The exhibit was presented in conjunction with the 1985 NAWCC Seminar.

1047 CLOCKS AT WINTERTHUR: OCTOBER 6-8, 2016 (788)

These seven discs include 19 of the programs presented at the 2016 Ward Francillon Time Symposium: Clocks at Winterthur.

1054 ON TIME: THE QUEST FOR PRECISION: VIRTUAL TOUR by Bruce Bradley (32)

From sundials to atomic clocks, the fascinating story of increasing accuracy in timekeeping, as documented in rare books and journals is shown in this virtual tour of the exhibit, *One Time: The Quest for Precision*, which was on display at the Grolier Club September 14-November 19, 2016. From the fifteenth century to the present, the tale unfolds in books from the comprehensive collections of the Linda Hall Library in Kansas City, Missouri, an independent research library that specializes in science, engineering,

and technology. Supplementing the books is a small selection of historical clocks and timepieces from the collection of Grolier Club member Fortunat Mueller-Maerki.

[1074 HOW IT'S MADE: THE VORTIC POCKET WATCH CONVERSION](#) by R. T. Custer (80)

A brief background on how Vortic Watch Company got into the world of pocket watch conversions. The founders will discuss how 3D printed titanium is made, the custom Swiss turning they do for the setting and winding functionality, and the sizes of cases made.

NAWCC Webinar recorded January 22, 2017.

[1075 THE EXTRAORDINARY LIFE AND TIMES OF BENJAMIN BANNEKER](#) by Clayton Tongate (25)

Benjamin Banneker was a free African American almanac author, surveyor, naturalist, early civil rights activist, clockmaker and farmer. This webinar gives a brief look at his life and work.

NAWCC Webinar recorded February 12, 2017.

[1076 HIDDEN HISTORY: CLOCK AND WATCH RECORDS IN THE RIGGS ARCHIVE](#) by Bob Frishman (60)

An expansion of the presentation on the resources of the Riggs Archive at Winterthur given at the 2016 NAWCC Ward Francillon Time Symposium by Bob Frishman.

NAWCC Webinar recorded March 19, 2017.

[1077 ESTABLISHING PROVENANCE: ELEANOR WIDEN'S HALL CLOCKS](#) by Christine Griffen (66)

Christine Griffen shares her research process for establishing the provenance of a Hershedde tall case clock. She discusses dating the clock, researching Eleanor Widen's life, and determining the locations where the clock was housed.

NAWCC Webinar recorded April 23, 2017.

[1078 THE RAILROADS AND TIME](#) by Dave Gorrell (60)

This program describes the method of telling time in the early 19th century and why that was not a very useful means of keeping accurate time. It then delves into the development of a more accurate and therefore more useful method of keeping time at the close of the 19th century. Two questions then arise then: One, why didn't the railroad companies embrace the newer time keeping methods? And two, who did lead the charge to force the nation to adopt these new methods? The talk ends with a description of the time system the railroads adopted to meet their needs as a vastly complex and interconnected transportation industry.

NAWCC Webinar recorded July 16, 2017.

[1079 LUTHER GODDARD #462 POCKET WATCH](#) by Noel Poirier (49)

Join Museum Director Noel Poirier for an examination of the Museum's Luther Goddard pocket watch. Noel will discuss the history and importance of Luther Goddard, provide

detailed images of the watch and compare the watch with other examples of Goddard's work.

NAWCC Webinar recorded August 13, 2017.

Recorded at the 48th Annual Eastern States Regional in Syracuse, New York, August 4 & 5, 2017.

1080 TREASURES OF THE AMERICAN CLOCK & WATCH MUSEUM: KEYNOTE LECTURE, WALKING TOUR OF THE EXHIBIT, VIDEO OF THE EXHIBIT by Tom Manning (71)

The first presentation is a powerpoint showing selected clocks and watches from the American Clock and Watch Museum. Tom Manning discusses the history, case design, movements and the individuals who manufactured these timepieces. Tom stresses significant features of these timepieces and their place in the evolution of horology. The second presentation on the DVD is a walking tour of the exhibit at the 2017 Eastern States Regional, narrated by Tom Manning. The exhibit has selected watches and clocks from the American Clock and Watch Museum. Tom points out the unique features of the exhibit items. The third section of the DVD is a silent video of the exhibit items and the accompanying descriptive posters. This video shows closeups of the case features, dials and glasses.

1081 19TH CENTURY AMERICAN CLOCK MAKING: CRAFT TO MASS PRODUCTION by Andy Dervan (34)

This presentation, given at the 2107 Eastern States Regional, is a comprehensive history of the clock industry in Connecticut during the nineteenth century. The lecture, accompanied by Powerpoint slides, shows examples of styles of the period from early expensive hand crafted tall case clocks to the inexpensive mass produced clocks. Economic cycles and their effects on clock manufacturing is discussed. Clock makers, clock companies, clock case design and movement design are discussed.

1082 ANDREW MENEeley: TOWER CLOCK MAKER OF WEST TROY, NEW YORK by Russ Oechsle (40)

This presentation, given at a meeting of the Tower & Street Clock Chapter #134, is the result of 30 years of research by Russ Oechsle. Russ gives a comprehensive history of the life of Andrew Meneeley, his family and his businesses. He shows slides of the tower clocks Meneeley made and shows many of the buildings that housed the tower clocks. He shares many anecdotes about the business relationships Meneeley had with relatives and others. Historical data showing the number of clocks made and revenue generated. Surviving clocks are discussed.

1083 PERILS OF HOROLOGY APPRAISING: A TIMELY, HUMOROUS APPROACH by John Grow (27)

This presentation gives the would-be appraiser examples of situations that may be encountered in appraising watches and clocks. What not to do and precautions are the primary focus of this presentation.

1084 RESTORATION OF A JOSEPH MAYER STREET CLOCK (LOCATED IN SEATTLE, WASHINGTON) by Chuck Roeser (32)

Chuck Roeser shows slides and discusses in detail the restoration of the Joseph Mayer Street Clock in Seattle, Washington.

1085 CLOCKMAKING IN ZEELAND MICHIGAN by Andy Dervan (55)

In the mid 1840's settlers began moving into Western Michigan attracted by its largely untouched virgin forest. Many Netherland immigrants arrived by boat along the state's western shore, and founded a series of towns West of the current city of Grand Rapids and the area still maintains the Dutch heritage. Zeeland was one small town that was established that was named after the province of Zeeland, their former home in the Netherlands. Furniture manufacture became popular industries in this region. By the end of 19th century Grand Rapids was known as the "Furniture Capital" of the US with many companies manufacturing a wide variety of furniture and household items fueled by the United States tremendous population growth its shift from farm to city. In the early 20th century the small city of Zeeland became a major clock manufacturing center that rivaled the region around Bristol, CT. Many clock making companies formed over the years: Colonial Manufacturing Co., Herman Miller Clock Co., Trend Clock Co. and later Trend/Sligh Clock Co. and later Howard Miller Clock Co. They produced enormous quantities of grandfather, mantel, and wall clocks.

NAWCC Webinar recorded September 17, 2017.

1086 STUDEBAKER WATCH COMPANY: THE RISE AND FALL OF A MAIL ORDER WATCH by Sara Butler-Tongate (48)

The Studebaker Watch Company is an excellent example of a good idea that came at a bad time. The company was incorporated as an extension of South Bend Watch Company to sell the first entirely mail order pocket watch. The result was a very well made watch that ultimately failed due to poor management and terrible timing.

NAWCC Webinar recorded October 22, 2017.

1087 1876 PHILADELPHIA CENTENNIAL EXPOSITION: AMERICA'S FIRST WORLD'S FAIR by Tom McIntyre (47)

International Industrial Expositions started in 1851 with the London Crystal Palace Exposition known as "The Great Exhibition." This was followed by exhibitions in Paris, London, Paris and Vienna every three to five years. In 1876, it was the turn of the United States and the "Centennial Exposition" was held in Philadelphia on the theme of American Independence. Royal E. Robbins, of the then American Watch Co. was concerned that there were too many new start-ups in America trying to copy their success in machine made watches. The American Watch Co. had just started production of their new 1872 model watch and Robbins undertook to build an exhibit in Philadelphia of a complete watch assembly line from the Waltham factory to show the upstarts just how difficult it might be for them to compete. The major Swiss watchmakers were all represented in Philadelphia because America was the great new market. The Swiss had mounted a chronometer competition under the supervision of Theophilus Griby. Robbins arranged for the American Watch Co. to provide 10 of their new 1872 models in the brand new American Watch Co. grade out of the original production run of 100 watches.

Many of the Swiss watches on exhibit had performance certificates from observatory trials in Switzerland, but there were no such trial facilities in the United States. Griby and James C. Watson, Director of the Detroit Observatory in Ann Arbor Michigan undertook to provide a certificate service for the American Watch Co. watches during the two-month period of the exposition using the chronometer trial facility. While there was no actual competition, the American watches delivered outstanding performance. Watson then continued the trials for an additional period in Ann Arbor to emulate the Swiss and English Observatory Trials systems.
NAWCC Webinar recorded November 12, 2017.

Recorded at the 2015 NAWCC Ward Francillon Time Symposium October 22-25, 2015 in Houston, TX.

1088 MY MUSICAL CLOCK by Dave Weisbart (28)

Dave presents to a meeting of the American section of the Antiquarian Horological Society the musical clock he designed and built. This clock plays a bit of the Haydn “Clock Symphony” on the hour, and won the People’s Choice Award at 2015 National Convention Crafts Competition. Dave explains how he came up with the concepts, including individual dampers on the chime rods, and the processes he used in building the clock.

1089 MUSIC IN CLOCKS AND CLOCKS IN MUSIC by Dave Weisbart (1089)

In this multimedia program, Dave discusses music written for clockwork musical instruments, as well as music that either depicts clocks or refers to clocks programmatically. You’ll also learn about the many famous composers who wrote for mechanical instruments. The program includes many audio and video examples of this music. There’s even a dancing grandfather clock!

1090 TOP SHELF: 8 –DAY SHELF CLOCK MAKERS OF UPSTATE NEW YORK 1816-1842 by Russ Oechsle (93)

During a brief, but shining, period spanning nearly 25 years in the early 1800s, a collection of innovative 8-day brass movement shelf clock makers emerged in upstate New York who carved for themselves a productive – and even occasionally profitable - niche in the market for high-style, quality and cost brass movement shelf clocks. The collective works of the 11 makers and/or firms that form the substance of this display reveal an absorbing and important history of free enterprise and personal fortune – and misfortune - in an era when upstate New York, and the American clock industry, was being transformed. As such, these clocks remain true, and spectacular, reflections of their day.

NAWCC Webinar recorded January 21, 2018

1091 A CHEAP ONE DAY BRASS CLOCK: THE FIRST “OG” by Al Dodson (77)

In the early nineteenth century Eli Terry pioneered the production of an affordable one day, wood movement clock. By applying industrial processes such as interchangeable parts, volume production, division of labor, and standardized designs he birthed the American clock industry. In 1816 he hired Chauncey Jerome, a young carpenter and

joiner, to assist him as he perfected the wood works shelf clock. Chauncey Jerome went on to become the largest clockmaker in the world and, like Terry, a great innovator. Chauncey Jerome is also remembered for his one day clock though it is has a movement made of metal instead of wood. It was the predecessor of the OG clock and, the majority of industrially produced clocks for the next century. This webinar will take a look at this remarkable achievement and particularly the earliest examples of this clock often referred to as the patent movement models. We will examine these clocks and with a detailed look at the the movement and track the changes as it evolved into the familiar OG movement manufactured for over seventy years by the majority of American clock companies. Please join us for this tribute to one of America's greatest clockmakers and one of his revolutionary designs.

NAWCC Webinar recorded February 18, 2018

[1092 A DAY IN THE LIFE OF A CURATOR](#) by Kim Jovinelli (53)

Follow Curator Kim Jovinelli as she takes you through what it's like to be the Curator of the National Watch and Clock Museum, what a curator does, and what are the more interesting aspects being a curator. She will also discuss: What the Accessioning process entails, how to put together an exhibit, and what her favorite pieces are in the museum.

NAWCC Webinar recorded March 18, 2018.

[1093 COLLECTING PRIVATE LABEL WATCHES](#) by Dave Coatsworth (41)

Private labels add a layer of interest to watch collecting in that they provide us with a glimpse of those who actually sold watches to the consumer. There are literally hundreds of stories out there waiting to be discovered and researched. Simply defined, a private label is a watch (or clock) that has the retailer's or jobber's name on the dial and/or movement instead of, or in addition to, that of the manufacturer. This practice was fairly common in the late 1800's but tapered off after the turn of the century due to railroad standards which required standard markings on railroad grade movements. This webinar will further define the private label, will show numerous examples, suggest collecting strategies, and suggest resources for researching private labels.

NAWCC Webinar recorded April 22, 2018.

[1094 COLLECTING HOROLOGICAL COLLATERAL](#) by Pat Holloway (77)

The word collateral can be used as a noun, defined as materials or content used to enhance sales of products. As an adjective, it can mean parallel, corresponding or accompanying. Another way to describe horological collateral is horological "go-withs." True to all these definitions, horological collateral covers a wide variety of items ranging from advertising materials and catalogs, to watch-keys, stands and papers, to trade cards, postcards and photographs, and beyond. Items are generally small and easily transported, stored or displayed. No more looking for shelf or wall space, or arranging shippers to get your next purchase home. Combined with some inexpensive and plentiful options, this broad category can be an entertaining and educational hobby. Plan to join us to learn more about collecting horological collateral.

NAWCC Webinar recorded May 6, 2018.

Recorded at the 75th Anniversary National Convention in York, PA, July 19-22, 2018.

1095 THE ART AND BEAUTY OF THE CARRIAGE CLOCK by Doug Minty (39)
Doug Minty presents examples of the wide variety of case and dial styles used in making carriage clocks.

1097 THE VINTAGE WRIST CHRONOGRAPH by John Cote (32)
John Cote and Carlo Stepanians talk about collecting vintage chronograph wristwatches. They talk about the social aspects of collecting as well as the current market for chronographs.

1099 THE MOST COMPLICATED CLOCK CONSTRUCTED IN OUR LIFETIMES by Mark Frank (64)
Mark Frank presents the updates to his astronomical skeleton clock. He discusses the complications, showing details of the trains.

1100 TIMOTHY BARNS: PIONEER CLOCKMAKER OF CONNECTICUT AND NEW YORK by Russ Oechsle (36)
Russ Oechsle presents the life and clocks of Timothy Barnes of Connecticut and New York. Oechsle shows examples of Barnes's clocks and discusses how to identify his work and the contributions Barnes made to clockmaking.

1102 CARRIAGE CLOCKS AND HOW THEY WERE MADE by Doug Minty (33)
Doug Minty presents an overview of the history of carriage clocks and how they were made. He also includes tips for buying and collecting.

1103 GEORGE GRAHAM MEAN SOLAR CLOCKS AND REGULATORS by Jim Cipra (31)
Jim Cipra presents a detailed look at tall case regulators and mean solar clocks made by George Graham.

1104 HOROLOGY IN LITERATURE: CLOCKS AND WATCHES IN A BIBLIOPHILES EVERYDAY READING by Richard Ketchen (36)
Richard Ketchen presents a collection of quotes about time, clocks, and watches in literature.

1105 E. HOWARD WATCH & CLOCK CO.: BRACKET CLOCKS NO. 76 & NO. 90 by Eric Ryback (25)
Eric Ryback presents the history of the number 76 and 90 bracket clocks made by E. Howard Watch & Clock Co., and the griffin imagery that they feature.

1106 SCHLENKER & POSNER SCHWENNIGNEN A N., WTTBG : SEPO REVEALED 1928-1938 (1938-40 BY KERN) by John Hubby (45)
John Hubby discusses torsion pendulum clocks made by Schlenker & Posner and how they differ from the Kundo clocks they were once mistaken for.

1107 PILLAR & SCROLL FINIALS: HISTORY/MANUFACTURING by Frederick Ringer (27)

Frederick Ringer talks about the various processes that can be used to cast brass finials. He shows examples of his own work and processes.

1108 MAKING WOOD MOVEMENT GEARS: (MY METHOD) by Thomas Borkowski (33)

Thomas Borkowski gives a step by step demonstration of his method of cutting gears for wood movements.

Recorded at the NAWCC Eastern States Regional August 3-4, 2018

1109 JOSEPH IVES (1782-1862) & THE LOOKING GLASS CLOCK by Mary Jane Dapkus (69)

This PowerPoint presentation by Mary Jane Dapkus is a comprehensive history of the life of Joseph Ives, his family dynamics, and his business practices. By researching legal records, Mary Jane gives the viewer a detailed account of the business and Ives family relationships.

1110 THE MASSACHUSETTS SHELF CLOCK by John Delaney and John Delaney Jr. (100)

This DVD is divided into three sections. The first presentation is a PowerPoint by John Delaney showing a wide variety of Massachusetts shelf clocks. John discusses the many designs and styles by the makers of the Massachusetts shelf clocks. He traces the progression of the development of these clocks and the relationships among the various makers. The second part of the DVD is a video of the exhibit featuring unique and classic designs of Massachusetts shelf clocks. Clocks by many clockmakers are shown in this exhibit, which is narrated by John Delaney Jr. The third part of the DVD is a video of the placards describing each clock and a close-up of each clock.