



# TOOLS & TECHNOLOGY

AMERICAN PRECISION MUSEUM • SUMMER 2013

Vol. 31, No. 1

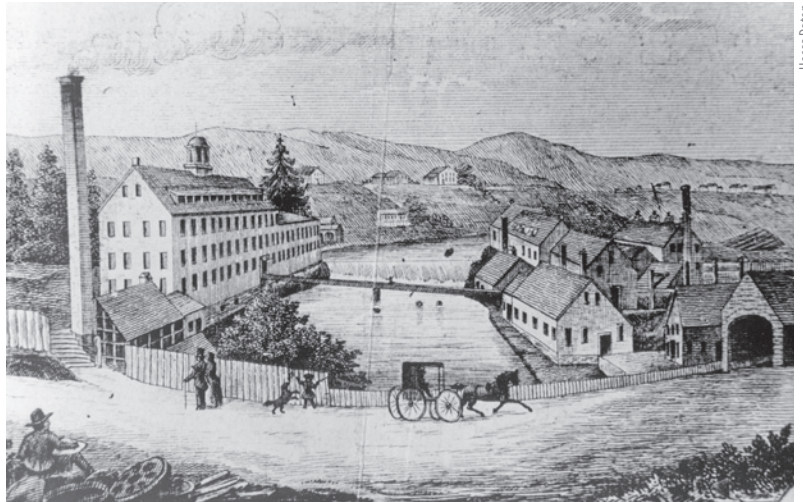
*The American Precision Museum is open daily 10 am - 5 pm, Memorial Day weekend through October.*

*The American Precision Museum preserves the heritage of the mechanical arts, celebrates the ingenuity of our mechanical forebears, and explores the effects of their work on our everyday lives. The museum holds the largest collection of historically significant machine tools in the country.*

## The Robbins & Lawrence Legacy and the American Civil War

By William McCarthy, Museum Trustee

Robbins & Lawrence, the rifle manufacturer, founded in Windsor, Vermont in 1846, had a meteoric rise to prominence and almost as steep a fall. International recognition of the company happened in 1851 when they participated in London's Crystal Palace Exposition, the first World's Fair, and demonstrated the Windsor-made rifles with interchangeable parts.



*Engraving of the Robbins & Lawrence Armory, circa 1851*

The British were shocked to learn that they had been eclipsed by their American cousins across the ocean!

Realizing the potential long-term ramifications of this technological leap forward, Parliament appointed a special commission to travel

to America and study "the American System." As a result of the commission's visit, Robbins & Lawrence received two contracts. One to supply all the specialized machine tools to outfit the new Royal Armouries in Enfield, and second to supply the British Army with rifled muskets for the Crimean War.

However, in the mid-1850s Robbins & Lawrence decided to diversify and manufacture railroad cars, a decision that caused them to become over-extended. After successfully completing the machine tool order for the new Enfield armory, they defaulted on the contract because the rifled muskets were not finished on time. As a result of this breach of contract, the British gained control of the Windsor armory to finish their order. With the completion of the order and Robbins & Lawrence's subsequent bankruptcy, many of the armory's highly skilled workforce left Windsor to work for other New England arms makers.

In a few years, with the onset of the American Civil War in 1861, the former Robbins & Lawrence Armory reorganized as Lamson, Goodnow and Yale. The Robbins & Lawrence legacy in arming the Union was a tripartite role. LG&Y produced 50,000 rifled muskets for the Union Army, while at the same time providing the bulk of the highly special-



*photo by First Light Studios*

*This breech-loading rifle was designed by Christian Sharps and made by Robbins & Lawrence, circa 1852. As demand for the gun rose, Richard Lawrence left Windsor to set up a Sharps factory in Hartford, CT.*



196 Main Street  
PO Box 679  
Windsor, VT 05089  
802.674.5781 tel  
www.americanprecision.org  
info@americanprecision.org

Find us on: **facebook**

**Civil War continued on page 8**

# Calendar of Events 2013

## EXHIBIT

### **Arming the Union: Gunmakers in Windsor, Vermont**

uncovers the surprising influence of the machine tool firm Lamson, Goodnow & Yale operating out of the Robbins & Lawrence Armory, and the critical role they played in outfitting the Union Army. Altogether the North produced more than 1.5 million rifles in the span of about three years, along with tens of thousands of pistols and carbines. The majority of those weapons were made using machinery designed and produced in Windsor.

### **Full Duty: The Civil War Collection of Howard Coffin**

presents the first-ever exhibition from the private collection of Vermont's foremost Civil War historian. The exhibition explores the day-to-day life of Vermont soldiers in camp and on the battlefield.

## HIGHLIGHTS FROM THE COLLECTION

This special 'Highlights' exhibit features important firearms from the museum's collections, including the work of early Windsor gunmakers like **Nicanor Kendall**, whose 1840 rifle, serial number 915, is considered to be a 'deluxe' model. This rifle is unusual because the serial number, in addition to being on the gunstock, also appears on the hammer, sight, and ramrod. This rifle was a gift from Terry Tyler, from Dorset, Vermont, a distinguished gun collector and author, whose collection is now on exhibit at Vermont's Shelburne Museum.

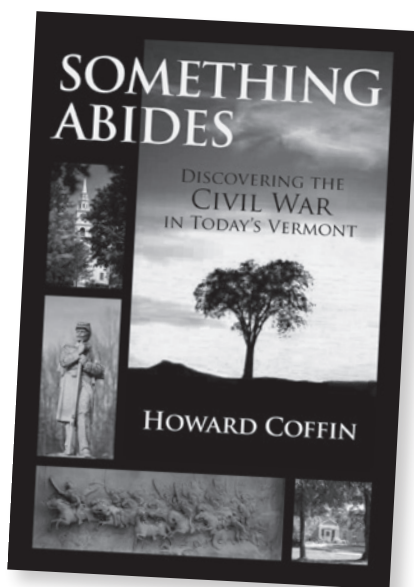
## Friday, June 7

### **Opening Reception and Book Launch 5:30-7:30 pm**

### **Something Abides: Discovering the Civil War in Today's Vermont**

Historian and author Howard Coffin's newly published book takes us through every Vermont town documenting Civil War sites that were touched by the war and are extant today.

Sponsored by Mimi Baird, Woodstock, Vermont



## Tuesday, June 25

### **10 am - noon**

The bi-annual New England Brass and Gas Tour of the Horseless Carriage Club of America will be visiting the museum with over 100 antique cars, all made before 1916. Stop by and visit!



John Ernst Worrell Keely's Etheric Force Machine

## Sundays

### **June 30, July 28, August 25, October 27**

### **Behind The Scenes Tours at 3 pm \$10**

Would you like to learn more about the museum's artifacts that are not on exhibit and see the collections storage area? Then Behind the Scenes Tours are for you! Space is limited to 12 so please call ahead or reserve online.

### **Museum Admission**

Adults: \$8.00

Students: \$5.00

Family: \$20.00 (2 adults, 2 children under 18)

Special Group Rates: Call the museum for details

## Sunday, July 14

3 pm

### **Vermont and the Civil War**

This is the first in a series of special Sunday afternoon programs, sponsored by Vermont Senator Peter Galbraith, with Civil War historian and author Howard Coffin. He will discuss the important role that Vermonters played in Civil War battles, particularly the Battle of Gettysburg.

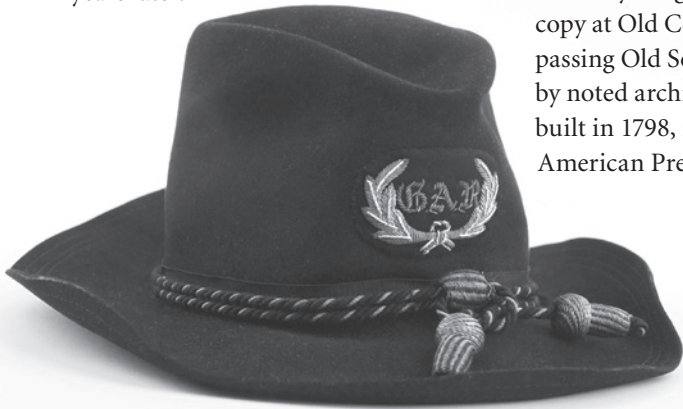


## Sunday, August 11

3 pm

### **A CIVIL WAR SHOWCASE with Howard Coffin**

You are invited to bring your own Civil War objects and family stories to share as part of an informal discussion about the war and its lasting significance 150 years later.



*This Grand Army of the Republic hat belonged to Levi Derby from Grafton, VT. He enlisted at age 18 and served in Company D, 16th Vermont Regiment. He fought at Gettysburg.*

## Sunday, September 22

3 pm

### **THE VERMONT BRIGADE:**

#### **The Best Brigade in the Union Armies**

Howard Coffin will talk about the Vermont brigade, which was the only Union brigade made up of regiments from a single state that served throughout the war. And they were the best! This is their story.



photos by First Light Studios

*Wesley Sturtevant was killed at Gettysburg when his regiment rose to repel Pickett's Charge. His diary (shown here) bears his bloodstains.*

Begin your afternoon in Windsor at Old Constitution House on Main Street. Windsor is the birthplace of the Republic of Vermont, and Vermont's Constitution was adopted in this building in 1777. Continue down Windsor's historic Main Street with the *Historic and Architectural Walking Tour* as your guide. You can purchase a copy at Old Constitution House. After passing Old South Church, designed by noted architect Asher Benjamin and built in 1798, it is a short walk to the American Precision Museum.

## Saturday, September 28

10 am - 5 pm



### **Behind the Scenes Tour at 2 pm, \$10**

It's Smithsonian Day at museums around the country! Download the Museum Day Admission Card from the Smithsonian's website and visit us, as well as other area museums – all offering free admission for the day.

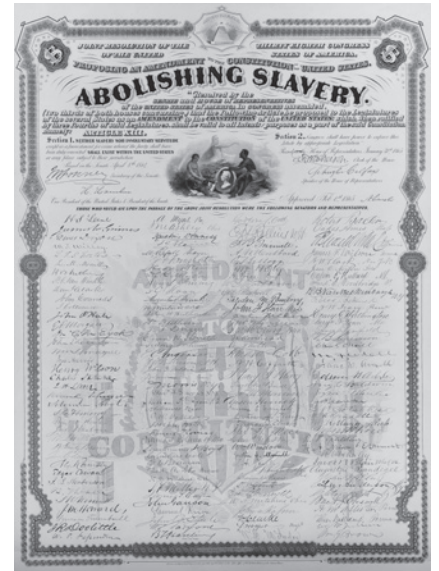
## Friday, October 4th

5:30 - 7:00 pm

### **THE CIVIL WAR: A Conversation**

**James McPherson**, George Henry Davis '86 Professor Emeritus of U.S. History, Princeton University; Pulitzer Prize, *Battle Cry of Freedom*  
**Howard Coffin**, Civil War historian and author, *Something Abides: Discovering the Civil War in Today's Vermont*

Sponsored by Mimi Baird, Woodstock, VT



*This certificate, printed in 1868, commemorates the passage of the 13th Amendment, which abolished slavery. The Vermont legislature ratified the amendment 217-0.*

## Saturday, October 12

### **14th annual Model Engineering Show, Museum and Windsor Recreation Center**

9 am - 5 pm

#### **Admission to show and museum \$10**

Visit with New England's finest model engineers and experience informative workshops and demonstrations throughout the day.

## A Plan for a Sustainable Future

During the past decade the number of visitors to many museums has steadily declined, causing some to reduce staff, curtail activities, merge with others with similar missions, or close. But at the American Precision Museum, visitors have steadily increased in number. Last year's admissions were the best in more than a decade. This is proof that our mission is relevant and our stories compelling.

But we cannot be complacent. We share challenges with other museums — generational shifts, quantum changes in messaging technology, the effects of virtual realities, and many other factors that must be addressed. However, admission fees are not the primary source of income for any museum. Those that are viable have ample endowments, a strong and loyal donor base, or both. Our endowment is modest. Its income funds a smaller percentage of operations than in the past. While APM has been blessed with generous donors over the years, we must further strengthen our base of support for the future.

We recently made significant adjustments in our annual operating budget, but we know these changes are not enough. Our long-term viability depends on increasing our donors in number and their donations in size.

Our new, two year strategic plan focuses on meeting these current challenges. Our goal is to have a compelling case, interpreted, understood, and participated in by a growing number of friends and adherents.

We invite you to participate in shaping our future.

Gene Cesari  
Chair, Board of Trustees

### A Note of Thanks

On behalf of the Board of Trustees, I am pleased to have this opportunity to thank Gene Cesari for his service this past year as Board Chair. He has served three different times on the museum's Board since 1995 and twice as Chair. He co-founded the Model Engineering Show with Trustee Bill McCarthy in 1995 and continues to co-chair the organizing committee and play an active role with the show. Recognizing our need to increase support for our annual operating budget, he continues to generously open doors for the museum with special friends and colleagues. It has been a privilege for me to work closely with Gene during this past year. The museum has benefited from his thoughtful, focused leadership and experience during this challenging time.

– Ann Lawless for the Board of Trustees

## Financials

### Condensed Balance Sheets\*

for the years ended April 30, 2012 and April 30, 2011

	2012	2011
<b>ASSETS</b>		
Cash and equivalents	\$ 35,757	\$ 25,716
Grants receivables	48,348	40,960
Other current assets	11,328	11,629
Property and equipment, net of depreciation	750,686	761,914
Investments	1,370,546	1,613,713
<b>TOTAL ASSETS</b>	<b>\$2,216,665</b>	<b>\$2,453,932</b>
<b>LIABILITIES AND NET ASSETS</b>		
Current liabilities	40,105	17,836
Unrestricted net assets	1,002,488	1,245,825
Temporarily restricted net assets	441,885	458,084
Permanently restricted net assets	732,187	732,187
<b>Total Net Assets</b>	<b>\$2,176,560</b>	<b>\$2,436,096</b>
<b>TOTAL LIABILITIES AND NET ASSETS</b>	<b>\$2,216,665</b>	<b>\$2,453,932</b>

### Condensed Statement of Activities and Change in Net Assets\*

for the years ended April 30, 2012 and April 30, 2011

	2012	2011
Donations, bequests, grants	\$ 363,162	\$ 276,116
Admissions	17,279	17,571
Memberships	29,420	26,490
Investment Income	56,499	54,822
Unrealized gain (loss) on investments	(70,624)	161,647
Other income, net	9,358	8,629
<b>TOTAL REVENUE</b>	<b>\$ 405,094</b>	<b>\$ 545,275</b>
<b>EXPENSES</b>		
Salaries and benefits	282,471	248,739
Depreciation	51,655	51,362
Occupancy, insurance & maintenance	38,848	34,687
Office and publication costs	21,278	24,332
Professional services	22,204	21,768
Contracted services	14,534	15,030
Other expenses	160,781	106,166
<b>TOTAL EXPENSES</b>	<b>\$ 591,771</b>	<b>\$ 502,084</b>
<b>REVENUE LESS EXPENSES EQUALS CHANGE IN NET ASSETS</b>	<b>\$ (186,677)</b>	<b>\$ 43,191</b>

\*Complete reviewed 2012 and 2011 financial statements with accompanying notes and opinions are available at the museum office.

# 2012 Report on Giving

It is with grateful appreciation that we recognize here all those who have contributed so generously to the museum in 2012. Every gift we receive is important and helps us preserve and maintain the 1846 Robbins & Lawrence Armory and our unparalleled collection of historically significant machine tools.

We especially want to thank the Association for Manufacturing Technology (AMT) for making it possible for the museum, once again, to have our own booth at the 2012 International Manufacturing Technology Show in Chicago last September. Being part of the largest trade show in the country with over 100,000 people attending is an opportunity not to be missed. We could not have done this without the AMT's support, as well as the generosity of Heidenhain, Morris Group, and INDEX. We introduced our new Corporate Membership Program at IMTS, and industry membership is growing. By joining the museum, the machine tool industry can provide important annual support for our operating budget.

A special thanks must also go to Demonstratives, Inc. of Ames, Iowa who worked with us for months to create a video animation showing how the 1853 Robbins & Lawrence rifling machine operates. This project advanced our goal of demonstrating machines in motion and can be seen on our website, YouTube, and at the museum.

Support for the museum comes in many ways — memberships, annual and special purpose gifts, planned gifts, grants to the museum for specific projects, gifts in kind and gifts made in honor or in memory of a loved one, as well as gifts to strengthen our collections. This support is even more important today as we focus our energies on strengthening our fundraising substantially over the next year to put down healthier roots. We do not expect the road ahead to be without bumps and detours. But we believe the journey will be stimulating, worthwhile, and deserving of your participation and support.

*Gene Cesari*

*Chair, Board of Trustees*

## ANNUAL AND SPECIAL PURPOSE GIFTS

*January 1 - December 31, 2012*

### **Robbins & Lawrence Society**

*(\$2,500 and up)*

Association for Manufacturing Technology  
Mimi Baird  
James N. Farley (*deceased*)  
Heidenhain Corporation  
Douglas M. Loudon  
Rick and Linda Roesch  
Alden O. Sherman

### **Mill Brook Society**

*(\$1,000 - \$2499)*

C. Thorrez Industries  
Steven C. Carter  
Cone Automatic Machine Co. Charitable Foundation  
Peter W. Galbraith  
INDEX Corporation  
Seymour Lehrer  
Morris Group  
Michael Newbold  
Jane Osgood and Ted Hilles  
Thomas P. Putnam  
Merritt Roe Smith  
Vermont Antique Automobile Society  
Susan K. Williamson

### **Precision Valley Society**

*(\$500 - \$999)*

John K. Grady  
Donald S. Whitney  
Mark and Michele Aldrich  
Jay Boeri  
Bryant Chucking Grinder Charitable Foundation  
Stephen F. Christy  
Richard and Barbara Couch  
Elmer and Bernadette Duellman  
Robert Dufresne  
Dr. Fukuo Hashimoto  
James N. Heald II  
Bill McCarthy  
Eric and Margaret Rothchild Charitable Fund

### **Edwin Battison Society**

*(\$250 - \$499)*

Liora Alschuler  
Gene Cesari  
Iréneé du Pont Jr.  
E. Hubbard Yonkers  
Dana and Kristi Fenner  
Newell Flather  
Shirley J. Grainger  
Clark A. Griffiths  
Thomas H. Hughes  
Joseph Jablonowski

Richard A. Johnston  
Ken Kranzusch  
Anthony and Susan Morris  
Richard and Nancy Pitkin  
Jane E. Sherman  
Alex and Debra Slocum

### **The 1966 Society**

*(\$100 - \$249)*

Nancy Nash-Cummings and Richard Cummings  
Darlyne and Bruce Franzen  
Stewart Ayotte  
Denis A. Bassett  
Edward and Judith Becker  
Daniel and Florence Belleville  
Dennis C. Bely  
Robert L. Boyd  
Peter Brink  
Michael and Pamela Brown  
Phil Cannon  
Ray Clark  
Blaine Cliver  
Carolyn A. Coker  
R. E. Coleberd  
Connecticut Plastics  
Edmond S. Cooley  
Cota & Cota Inc.  
Russell P. Craig  
Dennis Cross

David A. DeGhetto  
Rolf Diamant  
David and Jeanne Esterquest  
Christopher J. Evans  
Robert B. Fearing  
Gardner Business Media  
Mr. and Mrs. James L. Garvin  
Eric Gilbertson  
Douglas Graham  
Karl Gurcke  
R. Avery Hall  
Jonathan Hall  
James Hamilton and Judy Boucher  
Hammond Roto-Finish  
Charles and Kathryn Heide  
Glenn Hopkins  
Alan Huffman  
Robert L. Johnson  
James M. Kerr  
Paul Kuenstler  
Ann Lawless  
Mrs. Thomas Levesque  
Bill Lewis  
David Lindquist  
Mark Long  
David C. McClary  
Greg Menke  
Richard C. Meyer  
Ron and Laura Mitchell  
Wayne Moore  
Charles R. Morris  
A. E. Motzer  
David G. Murray  
Joseph Nemes  
Charles and Carol Nettleship  
Ann and Gaylord Newcity  
O&H Holding Company  
Eleanor H. Prevo  
Michael Protenic  
William Rewinski  
John and Emily Sands  
Sheafe Satterthwaite  
Ann Satterthwaite  
Gene Seidler  
Gerhard and Sigrid Sihler  
Ronald K. Smeltzer  
Mark B. Sorensen  
T. Michael Speidel  
Kirk Stackhouse  
Jim Steiner  
Earle C. Stubbs  
William J. Tansey  
John S. Taylor  
Peter Teale  
David Hamilton Toland  
Robert Van Etten Jacobs  
Vermont Historical Society  
Donald Weigt  
Mike and Rosemary Whitney, Creative Strategies  
Debra L. Williamson  
Windsor Lodge of Elks #1665

**Friends***(up to \$99)*

Mr. and Mrs. Charles Allison  
 Dr. Howard W. Andrews  
 Dietrich Apel  
 Paul Austin  
 Charles E. Baldwin III  
 Mr. and Mrs. H. J. Barth  
 Paul and Jesse Beber-Vanzo  
 Grant Benson  
 Arthur Beutler  
 Ron Bouffard  
 Anna and Emile Brochon  
 Jean Brown  
 Alan Bugbee  
 Sarah F. Carter  
 Caterpillar Foundation, matching gift  
 Robert E. Charles III  
 Thomas Cheney  
 Michael and Nancy Clark  
 Bill Corley  
 Pama Dangelo  
 Susan Davidson  
 Douglas M. Dawson  
 Howard de Rosa  
 George DeSantis  
 David and Cathy Donath  
 Gene N. Duffy  
 James Emery  
 Bob England  
 Edward Ferguson  
 James T. Fett Sr.  
 Robert Finucane  
 C. Quentin Ford  
 Ernest and Shelah Gaudet  
 Steve and Roberta Giroux  
 Mr. and Mrs. Edward J. Goldman  
 James Haaf  
 David Hallenbeck  
 Michael Harnett  
 Ruth E. Hewett  
 Keith Hezmalhalch  
 Leo Hickey  
 Frank B. Homan  
 Charles and Louise Horsken  
 Richard and Leslie Hudson  
 Wilhelm Huxhold  
 Margaret Jackson  
 Robert B. Kancir  
 Thomas Keily  
 Francis E. Kennedy  
 Veronica Kivela  
 Verna M. Kloos  
 Robert Knox  
 Emil Koller

Bob and Vera Lake  
 James H. H. Lampert  
 C. J. LaSonde  
 Lawrence Livermore, matching gift  
 William L. Lermond  
 Frederick Lorenzen  
 Herb Loughery  
 J. W. Lozier  
 George F. Luthringer  
 Joseph W. Martin III  
 Donald E. Maurer  
 Bruce Moseley  
 Barbara M. Naef  
 George Naperstek  
 Nicholas Niles Jr.  
 Anonymous  
 Bill and Nancy Osgood  
 Steve Ott  
 David and Mary Otto  
 Rudy Parhaniemi  
 Marjory Pierce and James Pallutto  
 Willis L. Platt  
 Dave Robinson  
 Clayton W. Robson  
 Karl Ruger  
 Harry and Ilene Schall  
 Anonymous  
 Anonymous  
 Jim Sindelar  
 John W. Snarski Jr.  
 Gerhard Spielmann  
 Irving Spitzberg and Virginia Thorndike  
 Christopher C. Steele  
 Steven and Arline Stocking  
 Jay Stryker  
 Donna Sweaney  
 John Tatlock  
 Anonymous  
 Wayne Vaughn  
 Paul Warndorf  
 Peter Wenk  
 Harland Whitcomb  
 Jeff and Jill White  
 Neil Wiernicki  
 John C. Wyman  
 Alan Young

**In Memory Of:**

*Ed Battison*  
 Robert Knox  
*Charles F. Carter Jr.*  
 Steven C. Carter  
*Ralph Cross*  
 Dennis Cross  
*Peter Flesch*  
 Harry and Ilene Schall  
*William A. Knack*  
 Richard and Leslie Hudson  
 Ann Satterthwaite  
*Thomas M. Oleksak*  
 Bob and Vera Lake

*Forest E. Shrider*  
 Stewart Ayotte  
*Alan Stubbs*  
 Earle C. Stubbs  
*Charles M. Toland*  
 David Hamilton  
 Toland

**Gifts In Kind**

Albert Albrecht, Jr.  
 Mark and Michele Aldrich  
 Mimi Baird  
 Demonstratives Inc.  
 Gordon Fowler  
 Heidenhain  
 Steven J. Newlan  
 Jonathan Springer  
 Women's University Club Quilting Group, Seattle WA,  
 Margaret R. Rothchild

**MEMBERS****Corporate****Benefactor**

*(\$5,000)*  
 Association for Manufacturing Technology  
 Heidenhain  
 MacLean-Fogg

**Associate**

*(\$2,500)*  
 INDEX Corporation

**Contributor**

*(\$1,000)*  
 The L. S. Starrett Co.  
 Task Force Tips

**Individuals****Benefactor**

*(\$1,000)*  
 John Grady  
 Jane Osgood and Ted Hilles

**Steward**

*(\$500)*  
 Steven Carter  
 Bruce S. Nicholas  
 Richard E. C. White

**Patron**

*(\$250)*  
 Ruth Carter  
 Patrick Harrington  
 Greg Anderson and Helen Samuels  
 Glenn Hopkins  
 Joseph Jablonowski  
 Kinefac Corporation  
 Charles Leni  
 Mrs. Thomas Levesque  
 Stewart McMillan  
 Richard Pitkin  
 Thomas Putnam

Gerhard and Sigrid Sihler  
 Kirk Stackhouse  
 Augustus Stager  
 Larry Vanice  
 Donald Whitney

**Associate**

*(\$100)*  
 Albert Albrecht  
 Joanna Bodenweber and Geoffry Fried  
 Mimi Baird  
 Frank and Betsy Bechdolt  
 Edward and Judith Becker  
 Kimbal Bergstrom  
 Daniel Brammell  
 Peter and Susan Brink  
 Shepard Butler  
 James Carlson  
 Gene Cesari  
 Connecticut Plastics  
 James Cudlip  
 Rolf Diamant  
 Toby Bashaw and Elizabeth Hendrix  
 Silas Felton  
 Mason Ferry  
 Darlyne and Bruce Franzen  
 Ernest and Shelah Gaudet  
 Shirley Grainger  
 Karl Gurcke  
 James Haaf  
 Robert Hall  
 R. Avery Hall  
 Daniel Hertz  
 George Hill  
 Robert Hocken  
 Alan Huffman  
 Thomas Hughes  
 Richard Johnston  
 Mark Elrod and Judith Foulke  
 Sarwar Kashmeri  
 Francis Kennedy  
 Web Kohlhase  
 Ken Kranzusch  
 Paul Kuentler  
 Clifford and Irene LaCount  
 David Lindquist  
 Kenneth McVicar  
 D. Bruce Montgomery  
 David Murray  
 Jeffrey and Patricia Myers-Hayer  
 Mr. and Mrs. Peter Nelson  
 Joseph Nemes  
 Thomas O' Leary  
 David Osier  
 David and Mary Otto  
 Martin Parks  
 David Peterson

Kermit Pratt  
 William Rewinski  
 Gordon and Patricia Richardson  
 John Roe  
 David Russell  
 Ross Sackett  
 Timothy Schafer  
 Gene Seidler  
 Daniel Shegryn  
 Alex and Debra Slocum  
 Ronald Smetzler  
 Ernest Smith  
 Martin Sornborger  
 George Sprowl Sr.  
 David and Mary Talbot  
 David Toland  
 William Tschappat  
 Robert Webster  
 Brian Weller  
 Westminster Tool  
 Allen Yale

**Family**

*(\$55)*  
 David Adamson  
 Mark and Michele Aldrich  
 Crane and Laurie Allen  
 Robert and Esther Allen  
 Howard Andrews  
 Charles and Lola Baldwin  
 Paul and Jesse Beber-Vanzo  
 Allan Bensten II  
 Arthur Beutler  
 David Bono  
 Edmund and Micki Brett  
 Douglas Brown  
 Frank Carey  
 Ronald Clark  
 E. Blaine and Mary Cliver  
 Reuben and Marjorie Cole  
 James Graham and Cybele Merrick  
 Peter and Suzanne Dawson  
 Leonard Day  
 David and Jeanne Esterquest  
 Robert Fearing  
 Marvin and Linda Feldman  
 Edward Ferguson  
 Jim Fett Jr.  
 William Fosdick  
 David Frick  
 Harold Frost  
 George Gardiner  
 Mr. and Mrs. James Garvin  
 Eric Gilbertson  
 Mr. and Mrs. Edward J. Goldman

Thomas and Mary  
Anne Graham  
Helen and Charles  
Greathouse  
Kimo Griggs  
Tom Hale  
David Hallenbeck  
Ray and Barbara Hamel  
James Hamilton  
Thomas Hammond  
Steven Harp  
Emmons Hathaway  
F. Leo Hickey  
Joseph Higgins  
Richard Hoertel  
Charles Horsken  
Wilhelm Huxhold  
W. Thomas Johnson  
Robert Kancir  
John Kauer  
Robert Knox  
Paul Koehn  
Jim Koontz  
Dean Kramer  
Ronald and Anita  
Krauth  
Herman Kubowski  
Don Latham  
Nelson Lock  
Thomas Lowry  
Perley and Donna Lund  
Bruce Magnell  
Kendall and Marcia  
Manner  
Joseph Martin  
Hoyt Masterton  
Jeff May  
Ronald Melvin  
Judy and David  
Montgomery  
Joseph and Amy Morel  
Michael Morello  
Richard Cummings  
and Nancy  
Nash-Cummings  
Cheston and Nancy  
Newbold  
Ann Newcity  
John and Barbara  
Osborn  
Rudy Parhaniemi  
Gwen Ames and Peter  
Crowell  
Marjorie Pierce  
David Pommert  
Dr. and Mrs. Blake  
Prescott  
Eleanor Prevo  
Michael Protenic  
Julian and Frieda  
Reitman  
John Robb  
Geoff and Judy  
Shepherd  
Mark Sorensen  
Jim Steiner  
Steven and Arline  
Stocking

John and Nida Tansey  
David and Susan Taylor  
Pieter van Schaik  
Norman Vanasse  
Robert Vogel  
John Wall  
Donald Wing  
Jeffrey and Maureen  
Woods  
Scott Yanke

**Individual  
(\$35)**

Rod Adams  
Dietrich Apel  
Tony Ashby  
James Atkinson  
Bailey/Howe Library  
Gail Barton  
Denis Bassett  
Jonathan Bateman  
Allen Beehler  
Philip Bell  
Dennis Bely  
Grant Benson  
Iris Berezin  
Donald Bierly  
Ron Bouffard  
Robert Boyd  
Bruce Brenner  
Pamela Brotherton  
Stephen Brown  
Frank Buchsbaum  
Alan Bugbee  
Bruce Campbell  
K. Carriere  
Richard Chandler  
Thomas Cheney  
Richard Claytor  
Carolyn Coker  
R. E. Coleberd  
Doug Copeland  
James Corbitt  
Gary Course  
Dennis Daugherty  
Lloyd Davis  
Wallace Day  
Howard De Rosa  
Peter DeRose  
William Douglass  
Russell Dunham  
Walter Engel  
Christopher Evans  
Charles Fawcett  
Alan Fenton  
James Fett Sr.  
Robert Finucane  
Wayne Fischer  
Peter Flesch  
Daniel Fox  
Todd Friberg  
Ronald Gagne  
Robert Gardner  
Kathaleen Giurtino  
Russell Green  
Ruth Ann Groh  
Jonathan Hall  
James Halvorsen

Marie Hamel  
Michael Harnett  
Allen Hase  
Fukuo Hashimoto  
James Hearne  
Ruth Hewett  
Keith Hezmalhalch  
Greg Holdsworth  
Frank Homan  
Tom Hull  
Carl Hurd  
Eric Jautz  
Edwin Jeffery  
John Johnson  
Marvin Johnson  
Albert Kandarian Jr.  
Daniel Keebler  
Hud Kellogg  
James Kerr  
Verna Kloos  
Emil Koller  
Rich Kremer  
Andrew Krivenko  
Cliff LaBounty  
John Ladd  
Ray Lambert  
Ray Larsen  
C. J. LaSonde  
Jim Leitenberger  
Bill Lemieux  
Charles Levine  
Mark Long  
George Luthringer  
William Martin  
Donald Maurer  
Bill McCarthy  
Davic McClary  
Robert McGinnis  
Fred Menzenhauer  
Richard S. Meyer  
David Minsk  
Peter Mitchell  
Bruce Moseley  
John Muendel  
Barbara Naef  
George Naperstek  
E. Burr Nash  
Hunter Neal  
Daniel Neidig  
Thomas Neilsen  
Nicholas Niles Jr.  
Hugues Noel  
Ohio University  
Library  
John Ordyk  
Steve Ott  
James Pennino  
Willis Platt  
Fred Pond  
Joe Pouliotte  
Richard Powalka  
Purdue University  
Library  
Herschel Rabitz  
Michael Reedy  
Clayton Robson  
John Rochelle  
George Rogers

Raymond Ross  
Scott Rossiter  
Karl Ruger  
Harvey Sachs  
Mark Sandefur  
George Schuetz  
Paul Shannon  
Patrick Sheary  
Jim Sindelar  
Merritt Roe Smith  
Allen Smith  
Smithsonian Institu-  
tion Libraries  
John Snarski  
Grant Solms  
Ralph Sparks  
T. Michael Speidel  
H. Todd Spencer  
Gerhard Spielmann  
Ken Staner  
Robert Steffensen  
Tony Stitt  
Jay Stryker  
Henry Swierczynski  
Andrew Szczepanski  
William Tansey  
Thomas Tate  
John Tatlock  
Pete Thomas  
Rae Tober  
Michael Todor  
Robert Tregaskis  
Derek Trelstad  
Edmund Tremblay  
Nathaniel Tyler  
Wayne Vaughn  
David Waddington  
Sherman Walton  
Paul Wardwell  
Peter Wenk  
Harland Whitcomb  
Kim White  
Robert White  
Neil Wiernicki  
Bob Wilson  
John Winch  
Wisconsin Historical  
Society  
A. David Wunsch  
Herb Yohe  
Roger Young  
Alan Young

**Life**

Suzanne Richardson  
Daniels  
Douglas Graham  
Clark Griffiths  
James Heald II  
Charles Hutchins  
Richard Kuba  
Doug Loudon  
Wayne Moore  
Michael Newbold  
Alfred Purcell Jr.  
Rick Roesch  
Margaret Rothchild  
Alden Sherman

Jane Sherman  
Camiel Thorrez  
Jeffrey Thorrez  
H. R. Thorrez  
John Timken Jr.  
E. Hubbard Yonkers

**Volunteers**

Jen Boeri-Boyce  
Joseph Gresser  
Marita and Bruce John-  
son  
Carl Johnson  
Pamela Levesque  
Mike Riviezzo  
John Turner  
Clay Washburn  
Steve Wright

**Grants**

Cultural Facilities,  
Vermont Arts Council  
National Endowment  
for the Humanities,  
Vermont Humanities  
Council  
Mascoma Savings Bank  
Preservation Trust of  
Vermont  
Timken Foundation of  
Canton, Ohio  
Vermont Division for  
Historic Preservation

*We encourage you to bring any mistakes or omissions to our attention so that we may correct our records accordingly. Thank you.*

**Civil War** continued from page 1

ized machine tools needed by other arms makers. Thirdly, the many skilled workers who formerly worked at the Robbins & Lawrence Armory were now working for other companies arming the Union. Most notable of these was Richard Lawrence, now Superintendent of the Sharps Rifle Company in Hartford, Connecticut, which was completely outfitted with Robbins & Lawrence machine tools. Other notables were Daniel Wesson and his partner Horace Smith and B. Tyler Henry who developed the first model .44 cal. Winchester repeating rifle, also known as the Henry rifle.

With the end of the Civil War in April 1865, the government abruptly canceled all arms contracts as it was faced with a surplus of rifles now considered obsolete because of the rapid technological changes that had occurred in small arms design during the war. Lamson, Goodnow & Yale had already gone to considerable expense to produce two new breech-loading rifles, the bolt-action Palmer carbine and the Ball repeating rifle. After manufacturing only 1,000 of each weapon, their government contracts ended. Because of the military gun surplus after the Civil War, there was little need for any new military rifles to be manufactured, and the post-war market was flooded with used machine tools from closed manufactures of obsolete military small arms. Immediately after the Civil War the government decided to concentrate on converting surplus Springfield and Sharps rifles to accept the new metallic cartridges.

The techniques, technologies and specialized machine tools perfected by the Robbins & Lawrence Armory to mass produce small arms prior to the Civil War, when applied to other forms of manufacturing, enabled the United States to become the world's preeminent manufacture in the last quarter of the 19th century.



196 Main Street  
PO Box 679  
Windsor, VT 05089

[www.americanprecision.org](http://www.americanprecision.org)

Non Profit Org  
US Postage  
PAID  
White River Jct., VT  
Permit No. 86

## Make a Lasting Impact Join the Museum's Legacy Society

Is the museum already in your estate plans? Please let us know so that we can thank you!

A **charitable bequest**, with the museum as a beneficiary, is easy to put in place and can be made with cash, securities, or real estate.

*"I give to the American Precision Museum, Inc., Windsor, Vermont, \_\_\_\_\_ dollars (\$\_\_\_\_\_), or \_\_\_\_\_ percent (\_\_\_\_%) of my residuary estate, to be used for the benefit of the American Precision Museum, Inc. as the Trustees thereof may direct."*

## IRA Charitable Rollover

The Taxpayer Relief Act of 2012 extends the **IRA Charitable Rollover** through 2013, allowing donors 70.5 years or older to make a tax-free distribution of up to \$100,000 directly from their IRA, before January 1, 2014. Only outright gifts are allowed.

Who benefits?

- Donors who do not itemize can now avoid tax on withdrawals from their IRA, which are transferred directly to the American Precision Museum;
- Donors who have large carry-forwards of unused charitable deductions can make additional IRA transfers without affecting their other charitable deductions;
- Donors who live in states which do not allow charitable deductions on their state income tax returns; and
- Donors who are looking for a way to satisfy their minimum distribution requirements.

Consult with a financial advisor for assistance with your estate plans.

 **FREE**   
**ADMISSION**  
**Every Sunday**