



CAMBRIDGE HISTORICAL COMMISSION

831 Massachusetts Avenue, 2nd Fl., Cambridge, Massachusetts 02139
Telephone: 617 349 4683 TTY: 617 349 6112
E-mail: histcomm@cambridgema.gov URL: www.cambridgema.gov/Historic

APPLICATION FOR CERTIFICATE

1. The undersigned hereby applies to the Cambridge Historical Commission for a Certificate of (check one box): Appropriateness, Nonapplicability, or Hardship, in accordance with Chapter 40C of the Massachusetts General Laws and/or Chapter 2.78 of the Municipal Code.
2. Address of property: 11 GARDEN STREET, 02138, Cambridge, Massachusetts
3. Describe the proposed alteration(s), construction or demolition in the space provided below:
(An additional page can be attached, if necessary).

REPORT OF FIRST CHURCH IN CAMBRIDGE ON THE TEMPORARY CERTIFICATE OF HARDSHIP....

(PLEASE SEE ATTACHED SHEET FOR FULL TEXT.)

I certify that the information contained herein is true and accurate to the best of my knowledge and belief.
The undersigned also attests that he/she has read the statements printed on the reverse.

Name of Property Owner of Record: FIRST CHURCH IN CAMBRIDGE
 Mailing Address: 11 GARDEN STREET, CAMBRIDGE 02138
 Telephone/Fax: 617-547-3724 E-mail: parishadmin@firstchurchcambridge.org
 Signature of Property Owner of Record: [Signature] APRIL 4, 2024
 (Required field; the application will not be considered complete without the property owner's signature)

Name of proponent, if not record owner: PETER BYERLY CHAIR: BUILDINGS & GROUNDS
 Mailing Address: 25 MEDWAY STREET, APT D, DORCHESTER CENTER, MA 02124
 Telephone/Fax: 617.201.3837 E-mail: p.byerly@comcast.net

(for office use only):

Date Application Received: _____ Case Number: 5029 (continued) Hearing Date: 5/2/24
 Type of Certificate Issued: _____ Date Issued: _____

April 4, 2024

CHC application

Supplementary information for Item 3.

3. Describe the proposed alterations ...

Report of First Church in Cambridge on the Temporary Certificate of Hardship (Case No. 5029, November 8, 2023) on its Cockerel Weathervane and Application for Replacement with Replica.

Pursuant to the CHC's request, First Church in Cambridge is pleased to Report on the condition, historical research and consultation with experts regarding our cockerel weathervane and the proposed course of action, as decided by the First Church congregation, to replace the weathervane with a faithful replica that will recapture the profile and traditional appearance of the original.

After the November 3, 2023, CHC hearing, First Church performed the following actions: 1) Removed cockerel weathervane and safely stored it in a secure location; 2) Completed an expert 3D digital model of cockerel; 3) Invited and consulted with conservation experts and replica makers to visually inspect cockerel; 4) Conducted a comprehensive historical survey of comparable American 18th century and other weathervanes and replicas; 5) Completed the FCC Congregational discernment process, culminating in a January 28, 2024 vote to create and install a replica of the cockerel weathervane.

FCC proposes the following course of action: Select a replica maker, review replica design, create replica, perform necessary repairs to First Church Tower mount for secure installation of the replica, and installation of the replica.

The replica weathervane would be a faithful reproduction of the cockerel that recaptures the profile and traditional appearance of the original, including as appropriate: 1) same size, shape, and configuration as the original, 2) consistent appearance of the surface with the original.

FCC anticipates that the CHC will wish to review replica progress at appropriate, agreed upon, stages.

**Cambridge Historical Commission: First Church in Cambridge,
Temporary Certificate of Hardship (Case No. 5029)**

April 15, 2024

RE: First Church Update Report on the FCC Cockerel Weathervane and Application for Replacement with a Replica

FCC is pleased to provide this update on steps taken since the CHC's hearing and Temporary Certificate of Hardship (dated November 8, 2023), approving First Church's request to remove and safely store its cockerel weathervane, pending further assessment of its condition, consultation of art and conservation experts and completion of FCC's decision-making process with respect to the future of the weathervane. Pursuant to CHC's request, First Church is pleased to share the results of its research, expert consultations, and the proposed course of action, as decided by the First Church congregation, to replace the weathervane with a faithful replica that will capture the profile and traditional appearance of the original. To this end and as part of this update, FCC has filed an Application for Replacement with a Replica with the CHC to pursue next steps to create such a realistic and visually appealing replica of the cockerel weathervane to be placed on the FCC steeple.

Since the CHC's approval last November, FCC has been on a "research sprint" to gather historical, physical, expert, and other information relevant to the First Church's discernment process to carefully consider the best stewardship options and decision for this iconic 18th century Shem Drowne weathervane. In this regard, it is important to stress that "good stewardship" is the primary touchstone of FCC's discernment process, a highly fact-informed, democratic, collective decision-making by the congregation that FCC has practiced for over 400 years on matters of significance to the church.

On November 15, 2023, the weathervane was removed by an experienced steeplejack firm, carefully placed in a custom-made crate, and safely transported to and stored in a secure Boston storage facility. Since then, FCC's Research Team has consulted with over thirty (30) experts and professionals, including: experienced experts, gilders and artisans in "conservation" practices (assessment, repair, restorations); replica-makers; experts in metallurgy and replica technology; broker/dealers, collectors and curators of American Folk art; regulation: museum loan agreements; and public, church and museum officials.

In early January, FCC hosted a first-hand inspection day of the cockerel at the storage facility. As part of our stewardship, we engaged an expert to create a digital 3-D scan of the cockerel, and learned more about its condition from several conservation and artisan experts who inspected or had previously examined the weathervane.

The FCC Research Team conducted a comprehensive historical survey of comparable American 18th century and other weathervanes and replicas. Of significance, we learned that many other churches and institutions have faced similar decisions about the fate and future of their historic weathervanes, and made stewardship decisions to replace the original with a replica and to preserve the original in an indoor location with public access, wherever possible. FCC will present the results of this research at the CHC May 2nd hearing.

In late January, First Church completed its five-month congregational discernment process, including listening and learning sessions, culminating with presentation of the historical and expert research and top options for stewardship of their beloved, symbolic weathervane at the full congregational annual meeting. After careful consideration, the FCC congregation voted on January 28, 2024, to create and install a replica of the cockerel weathervane and authorized the Research Team to pursue this option.

At the May 2nd CHC session, FCC's Research Team will present the results of this historical research, expert consultations, including the 3-D scan, three (3) expert reports related to the cockerel's condition and photographs of the cockerel weathervane and comparable weathervanes of interest.

Proposed Course of Action: As noted in its Application for Replacement with a Replica, First Church's proposed course of action is to create a replica to replace the original cockerel weathervane, including: selection of a replica maker, review of replica design, performance of necessary repairs to the First Church Tower mount for secure installation of the replica, installation of the replica, and funding for the foregoing steps. FCC's intent is that the replica would be a faithful reproduction of the cockerel weathervane, recapturing the profile and traditional appearance of the original, including as appropriate: 1) same size, shape, and configuration of the original, and 2) consistent appearance of the surface with the original.

FCC anticipates that CHC will wish to review the replica progress at appropriate, agreed-upon stages of its development and installation. FCC will work with CHC staff to determine appropriate milestones for coordination and review points with the Commission.

End

First Church of Cambridge

Cockerel weathervane – Original cockerel documentation

April 14, 2024

FCC COCKEREL PHOTOS



- Cockerel weathervane was created by Shem Drowne of Maine and Boston in 1721. It was the first weathercock to be made in United States.
- It is 5'- 5" high, 5' -4" wide and weighs 172 pounds. It was created from two large copper kettles.
- It originally was created for the New Brick Church in Boston, then the Second Church Congregational, then the First Methodist Episcopal Church. It blew off its perch in 1869.
- Cockerel was purchased and relocated to First Church in Cambridge in 1873 and placed on the steeple. The stone steeple was lowered in 1938 to the present tower configuration.

First Church of Cambridge

Cockerel weathervane – Original cockerel documentation

April 14, 2024



Drone photo taken of cockerel in place on tower– June 2023.
Substantial damage to the surface finish was noticed.



Sexton B.F. Wyeth of First Church in Cambridge w/ Cockerel – 1873

First Church of Cambridge

Cockerel weathervane – Original cockerel documentation

April 14, 2024



Steeple jacks removing cockerel weathervane from tower – November 2023

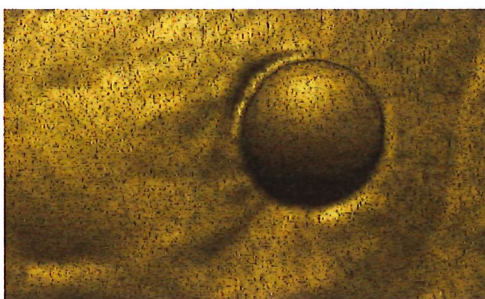


Experts viewing cockerel at Fortress Storage, Boston – January 2024

First Church of Cambridge

Cockerel weathervane – Original cockerel documentation

April 14, 2024



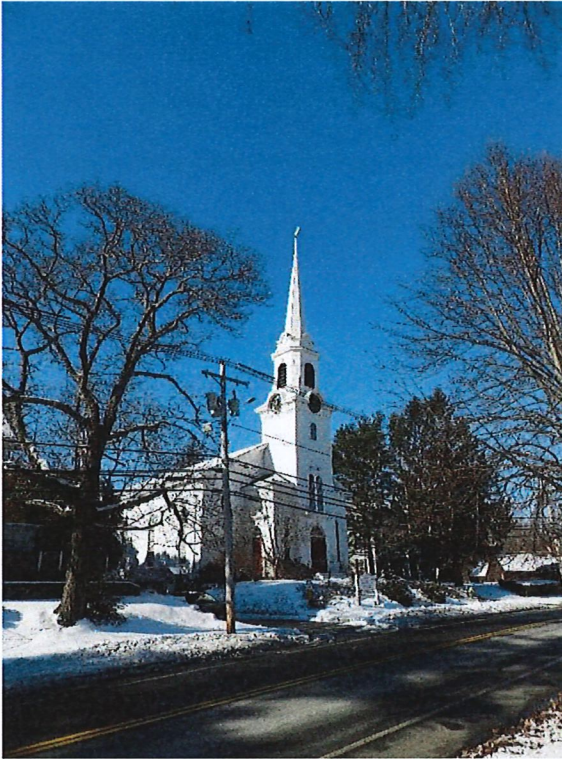
Screenshots of 3D digital model scan performed on cockerel in January 2024.

First Church of Cambridge

Cockerel weathervane – various replica examples

April 14, 2024

FIRST PARISH CHURCH; NEWBURY, MASSACHUSETTS



Replica
View from High Road.



Replica
Detail view

- Thomas Drowne (son of Shem Drowne) created a weathercock for First Parish Church in Newbury, MA in 1772.
- Materials are gilded sheet copper, iron lead and glass eyes. – 32" high by 46" wide.
- Church building burned in 1867, weathercock survived and reinstalled on newly constructed building in 1869.
- Weathercock is purchased by Boston Museum of Fine Arts in 2008. It is on display in the American Wing. A replica is now installed on the Church.

First Church of Cambridge

Cockrel weathervane – various replica examples

April 14, 2024

UNITARIAN-UNIVERSALIST SOCIETY CHURCH, NEWBURYPORT, MASSACHUSETTS



Replica
View from - Hales Court Street



Replica
Detail view

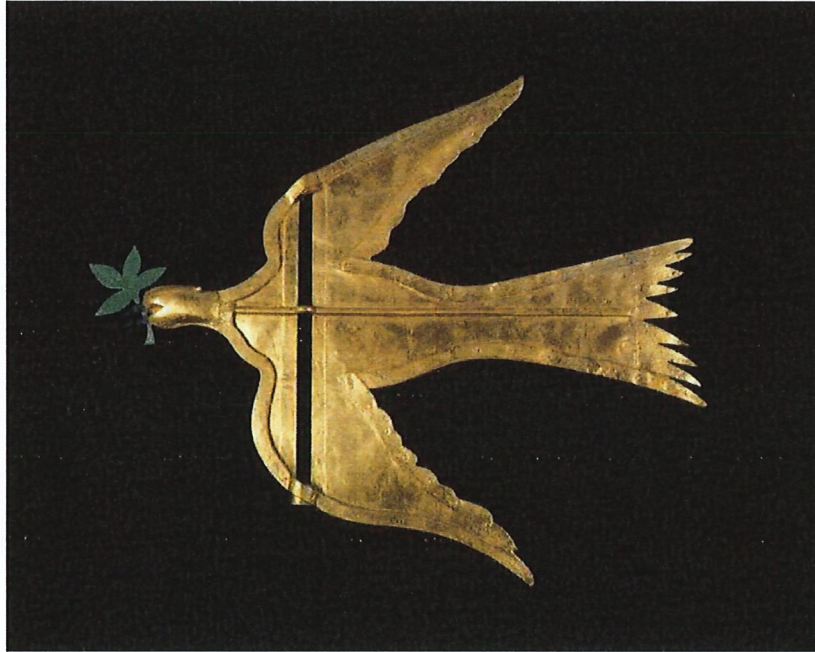
- Weathercock was designed and constructed by Shem Drowne 1725 for Third Parish Church (First Religious Society) in Newburyport.
- Materials are gilded copper and wrought iron – 38" high, 40" wide and weighs 40 pounds. It was regilded five times over the years.
- In 2013 Weathercock was removed from perch for safekeeping. In 2019 Weathercock given to Museum of Old Newbury.
- A replica was created and installed.

First Church of Cambridge

Cockerel weathervane – various replica examples

April 14, 2024

DOVE OF PEACE – MOUNT VERNON – MOUNT VERNON VIRGINIA



Dove of Peace Replica



Replica of Dove of Peace installed

First Church of Cambridge

Cockereel weathervane – various replica examples

April 14, 2024



Replica restoration and team - 2019

- While presiding over the Constitutional Convention during the summer of 1787, George Washington took advantage of being in Philadelphia to commission master builder Joseph Rakestraw to construct a weathervane for his cupola. Washington determined the ornament's dove-of-peace design. He also instructed his nephew George Augustine Washington, who oversaw the weathervane's installation that August, to paint "the bill of the bird...black, and the Olive branch in its mouth...green." Drawing on classical iconography, Washington's weathervane symbolized domestic peace for the new nation that would endure no matter which way or how hard the winds of time might blow.
- Original was transferred to the Mount Vernon Ladies' Association through the generosity of John Augustine Washington III, 1860.
- Overall (Dove of Peace): 34 3/4 in. × 42 1/2 in. (88.27 cm × 107.95 cm).
- The replica was most recently restored and reinstalled at Mount Vernon in July of 2019.

March 12, 2024

Phone memo of conversation with Steve Quinn (SQ), Skyline Engineers
Ph. 978-430-4115

Peter Byerly – recorder

First Church in Cambridge - Cockerel Weathervane re-gilding -1998

Items Discussed

- SQ regilded cockerel weathervane in 1998. Skyline Engineers were contracted to Consigli Construction who did exterior repairs on the Church. Consigli replaced the mounting spindle that is structurally attached to the pyramidal roof of the tower. This spindle receives the weathervane mount and allows the weathervane to spin. The spindle is stainless steel (SS) and has a rounded top, but is not of the best quality according to SQ.
- SQ inquired if anyone observed if there was a bond breaker between the SS spindle and the weathervane mount when the cockerel was removed in 2023. I said I did not know.
- SQ removed cockerel and worked in shop, He removed all of the gilding and base coat down to the metal. He said the cockerel surface and structure were in very good shape and that he only did some very minor soldering of open joints, no other work.
- SQ described the process of cleaning and re-gilding as such. He said it was a Sherwin-Williams standard process and line of products for the time:
 - Washed surface with chemical stripper - Methylene Chloride.
 - Any contusions were hand sanded, no acid wash.
 - Added coating of Zinc Chromate primer – let dry.
 - Added (2) coats of oil based, white paint- let dry between coats.
 - Washed surface with denatured alcohol.
 - Added tacky sizing (alcohol or linseed oil based, not sure) – wait for proper tackiness.
 - Apply 23 carat gold leaf to surface.

Reinstalled weathervane.

- SQ said that subsequent environmental regulations (to 1998), specifically low VOC regs, have changed the gilding process and chemical products used.
- SQ said that 20 years was the expected lifespan of a gilding process.
- SQ was very puzzled by the fact that one side of the weathervane surface was so degraded and that the other was not. He wondered aloud a number of times during the conversation whether the weathervane turned at all on its mount or if the damaged side was always facing the prevailing wind/weather. I said that I personally have seen the weathervane in various differing positions over the years but that I had not seen it actually turn. I also said that others had seen it turn.
- SQ remarked that this cockerel weathervane was both large and heavy and quite distinctive, a true and unique original piece.
- SQ says that his company, Skyline Structures, has performed many re-gilding projects over many years, including the dome of the Boston State House (a number of times) as well as the domes of (6) other state houses across the country.

END



Daedalus

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WATERTOWN, MA 02472
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CONDITION NOTES & TREATMENT RECCOMENDATIONS

Object: Cockerel Weathervane
Artist/Date: Shem Drowne/ 1721
Material: Gilt Copper
Prepared For: First Church Cambridge MA

Overview

The Cockerel Weathervane was inspected on 1/9/24 @ Fortess Art Storage.
The weathervane had been removed from its perch atop the church in 2023.

The Church's council had asked Daedalus for some guidance about the current condition of the weathervane and some recommendations for future treatment & long term care.

The weathervane is a fabricated from sections of sheet copper. The sections appear to be attached together using (a tin alloy?) solder; this is consistent with the technology of the day. It is unknown if there is an armature in the interior.

Copper alloys vary in the way that they react to an outdoor environment- sometimes a stable layer can form which will act to protect the objects surface, other times a layer of active corrosion can form- which is evidence of an actively degrading surface. The metals in the alloy, and the environmental conditions play a role in how the metal will react over time. The best solution to limit the damage which may occur to an outdoor copper object is the application of a surface coating. In this instance, the artist chose to apply a gilded layer; in most cases the process consist of a very thin layer of gold being adhered to the substate using a substance with adhesive properties. When properly applied gold leaf provides excellent protection from environmental pollutants; gold is extremely stable in most conditions. However, the gold leaf will only stay adhered to the surface as long as the adhesive stays fixed. The gilt coating acts as both protective layer and aesthetic embellishment to the weathervane.

According to the owners, the weathervane was last treated (gilt) about 25 years ago. It is likely that it has been re-gilded several times in its history prior to this treatment. The owners removed the weathervane from the church because a drone photo appeared to show damage to the surface.



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Condition Notes:

- A white base-layer is visible on the majority of one side of the cockerel (about 30% of the gold is still on the surface); the other side shows less loss of gold (about 75% of the gold remains). There are several spots where there is no primer or gold and the copper substrate is visible.
- The white base-layer is brittle. Even on areas where it is adhered the bond to the copper appears slightly compromised. The church does not have a record of what the base layer is—based on its brittleness and thickness it appears to be a commercial primer. Generally, it is best to apply gold leaf to a ground (primer) layer specified for gold leaf applications.
- There are some areas of deformation (dings, bends) on the surface and some openings around the seams of the connected sections—it is likely that more of these will be observed when/if the surface coatings are removed. However, considering the history (described in pamphlet from 1st church) and age of this weathervane, it appears to be in good structural condition.

Treatment Recommendations

We understand that there is some internal debate on whether the cockerel should be re-set back above the church. There are likely many factors which go into this decision which extend outside of our field of expertise. The recommendations below can be used as a baseline approach to restore the weathervane back to its intended condition. This work could be conducted if the weathervane is going to be re-set atop the church or if it is to be displayed in a controlled setting.

- Removal all surface coating (white primer and gold leaf)
- Inspect surface; repair damage to seams and other areas where water could infiltrate the interior of the object. The repairs should be done using a reversible adhesive/fill material which has similar thermal expansion properties to the weathervane.
- The surface should be cleaned of corrosion products mechanically using hands pads, picks and scalpels (under magnification) as needed. This is to ensure a good bond between the copper and the ground (base-layer)
- The surface should be gilt; a ground layer (such as an oil-based burnish sealer) should be applied to the surface. Once cured, 2 layers of 23.5k gold leaf should be set using an acrylic size (adhesive).



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There is no guarantee for how long the leaf will remain stable on the surface if re-set back on the church steeple. Gold leaf is still used in many outdoor applications and has proved to be a durable surface protection for hundreds (if not thousands) of years. The weathervane should be inspected for surface damage on a regular basis (every year or so) using a drone or with binoculars from the ground. It would be prudent to plan to remove the weathervane for treatment every 15-20 years moving forward.

Documentation

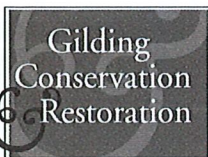
A written report and photographic report detailing the treatments will be provided to the owner upon completion of the project.

The conservators of Daedalus, Inc. are pledged to perform all work in accordance with the Code of Ethics and Standards of Practice of The American Institute for Conservation of Artistic and Historic Works

████████████████████

████████████████████

Josh Craine/ 01.23.2024



April 12, 2024

First Church in Cambridge, Congregational, UCC
11 Garden Street
Cambridge, MA 02138

First Church Cockerel, by Shem Drowne, 1721

BACKGROUND:

I had the opportunity to view the First Church Cockerel on January 9, 2024 when it was in storage at the Fortress, in Boston. Howard Neuman, a conservator with a background in metals was also at the viewing and we were able to have a general discussion of the condition of the weathercock. No testing was done at this viewing. I later talked to Steve Quinn, the last person to gild the cockerel in 1998 and was also able to review a report on his process for gilding. Having the information on the materials and process last used was helpful in understanding the current condition of the cockerel.

This report is based on my background as a gilding conservator with 35 years of experience, including the treatment of the 1771, weathercock by Thomas Drowne, owned by the Peabody Essex Museum and another bird, the Eagle and Shield, which hangs in the Old Senate Chambers of the United States Senate.

DESCRIPTION:

Materials of Construction: Copper, soldered joints, not seen but most likely, lead for ballast
Finish Materials: Paint, gold leaf
Outside Dimensions: 5' 5" x 5' 4"

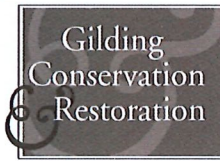
CURRENT CONDITION:

- Structure: The cockerel, legendarily made of 2 copper kettles, is all in one piece but bears signs of it's 304 years of service. The methods of construction can be seen including the patches and dents accumulated over time.
- There are visible rivets securing a band across the tail for stability and patches on the body, head and neck where repairs have been made.
 - There appears to be a crack in the metal between the upper and lower tail feathers on the more worn side.
 - There is a slight bend across the top comb, perhaps a remnant from when the bird went flying off a steeple in a gale in 1869.
 - The upright post is damaged with the metal frayed at the bottom on the side with better gilding.
- Surface: The surface is irregular with undefined corrosion, paint losses, lifting paint and worn gilding.
- The gilding on one side of the cockerel is considerably more worn than the other. The worn side has more than 50% gilding loss with added bird droppings scattered on the tail. On the side in better condition, 50% or more of the gilding remains. Exterior gilding in general has a life span of 20 to 30 years.
 - There are losses in the white paint priming layer and areas where the paint is lifting. The losses seem to be occurring mostly where the metal below is corroding. Much of the corrosion, but not all, appears to be in areas that have been soldered and a reaction with lead may be involved.

TREATMENT OPTIONS:

The course of treatment of the cockerel would be different for indoor display or if put out in the elements again. I would advise that any future treatment of the cockerel be done in consultation with a conservator with experience in metals as corrosion was a factor in the failure of the base paint layer.

- Outdoor:
- Determine the cause of the metal fraying on the post and correct the mechanics.
 - Repair the post.
 - Examine the surface and structure thoroughly for any other potential weaknesses including the crack between the upper and lower tail feathers on the worn side. Treat any conditions found.
 - Test and determine the causes of corrosion. Treat the corrosion and take measures to prevent it happening in the future.
 - Clean the surface down to the base metal
 - Prepare the metal with currently approved methods and prime with an appropriate paint layer.
 - Apply oil size and gild the surface with 23.5k or higher gold leaf of double weight for exterior applications.



- Indoor: Determine the goal of treatment, including the final look desired. This could be anywhere, from leaving it "as is" to a full regilding.
- Stabilize any structural issues and address how the cockerel will be mounted.
 - Stabilize the surface or remove current coating layers.
 - Test and determine the causes of corrosion. Treat the corrosion and take measures to prevent it from happening in the future.
 - Clean, prepare surface and gild if desired and as desired. Materials used would not have to withstand the elements of an outdoor environment but should follow conservation standards. This includes using stable but reversible materials and documenting the process including before, during and after photographs.

EXAMPLE OF A TREATMENT FOR INDOOR DISPLAY:

Case Study: Weathercock by Thomas Drowne, 1771, Peabody Essex Museum.
Treatment was undertaken by Harvard Art, LLC in 2003

Condition: The structure of that weathervane was sound with minor surface imperfections. On one side, the gilding was in good condition with two different campaigns of yellow paint below the gold leaf. The other side was very worn, showed some of the copper surface and repairs to a wing. There was old under paint and only traces of gilding remained

Goal: Prepare the weathercock for display inside the museum. Gild the side of the rooster, which only has traces of gilding to match the other side in good condition.

- Treatment:
- Made sure all was stable with the structure and surface.
 - Cleaned the surface and made small repairs
 - Tested the surface for material compatibility and reversibility.
 - Applied a barrier coat of a conservation approved thermoplastic resin on the worn side.
 - Created a reversible custom make paint using yellow pigment as a base for the new gilding.
 - Gilded the surface using 23.75 karat gold leaf and traditional oil size.
 - After it was cured, toned the newly gilt surface to match the other side.

Note:

Given the historical significance of this cockerel it would be entirely appropriate to retire it's use as an active weather vane. If brought inside, it could be appreciated as the piece of this country's cultural heritage that it is, it's construction and patches pondered and integrity preserved. There is precedence for this action with many other weathervanes having been brought under protection. With today's technology, a replica can be make that will represent the original and herald in many dawns to come.

Respectfully,
Susan B. Jackson

A handwritten signature in black ink, appearing to read "Susan B. Jackson", written in a cursive style.

Condition photos of the First Church in Cambridge, Congregational, UCC, Shem Drowne, Cockerel, 1721 are on the following pages.

*First two photos were taken when Cockerel was taken down from atop the church.
The balance of the photos were taken when viewed at the Fortress on January, 9, 2024*

First Church Cockerel, by Shem Drowne, 1721

Good Side:



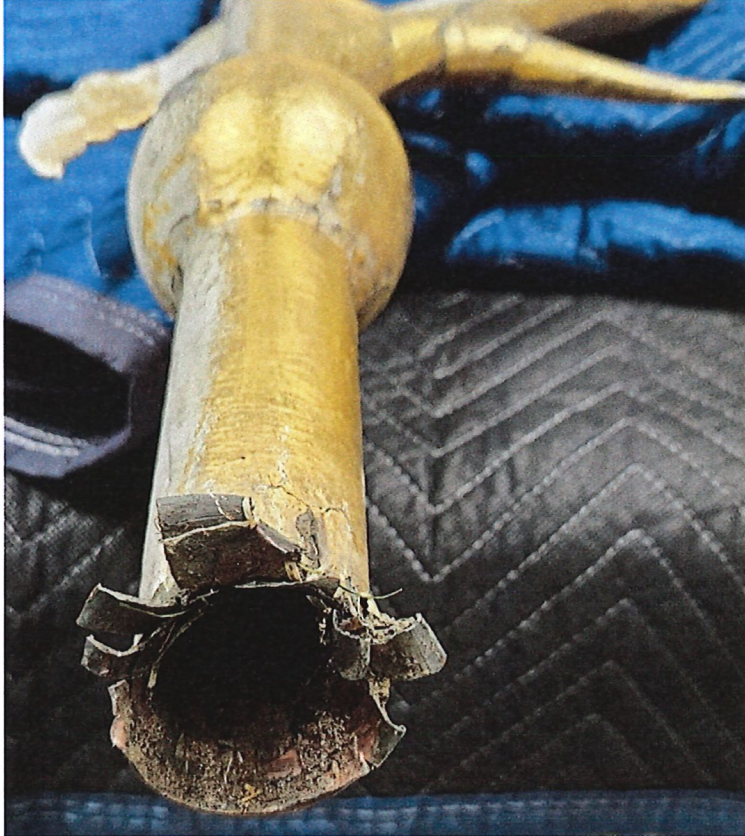
Harvard Art

Gilding
Conservation
& Restoration

Worn Side:



Structural Damage: *Frayed Post on side with better gilding*



Crack between upper and lower feathers, worn side.



Surface patches and irregularities:



Paint losses and corrosion:



Detail above the eye:



More paint losses, lifting paint and corrosion:



Tail details both sides:



