



SAVING YOUR Treasures

A Website about what you can do to protect and preserve the things of importance in your life



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CARING FOR SILVER OBJECTS

In the course of caring for silver objects on display in the Museum, Historic House, or in the home, it sometimes becomes necessary to do more than simply provide preventive care measures. Objects that have been damaged, mishandled, or have become tarnished often do not accurately reflect the appearance originally intended by the artist or silversmith. Procedures discussed in this handout are for decorative silver objects only. They are not appropriate for ethnographic or archeological materials.

While the procedures listed below are sometimes necessary, they should be carried out carefully. Permanent damage could result from their misapplication. Consult a conservator in order to assess all the issues relating to the care of the specific object in question.

Examine the Object:

The structural integrity of your artifact is of paramount importance due to the amount of handling required by these procedures. Examine the structure carefully, looking for cracks, weak areas, old repairs, and loose or missing parts. Once you have thoroughly examined the structural condition, consider the surface of the object.

When examining the surface of a silver object, it is important to determine if there is an original surface coating. In some cases, this is simple. Other coatings, however, may not be so easily seen. An important type of decorative and protective surface often applied to silver alloy objects is patina. A patina is a thin chemically induced layer of relatively stable corrosion on the surface of an object. While patinas can form naturally over time, silversmiths commonly create them as a part of the finishing process. Patina on silver creates a lively surface by increasing the visual contrast associated with engraving and repoussé work, and is typically gray or black in color. Patina is usually found tenaciously bound in depressions and should be avoided if polishing is determined to be necessary.

Another type of coating sometimes found on silver is a gold layer over part of the object. This coating is variously called parcel gilt, vermeil, or gold wash. This type of surface is extremely thin and very easily damaged or lost. Aggressive cleaning and polishing techniques can cause it to be lost entirely.

If the artifact is determined to be structurally sound, it has no evidence of original surface coatings, and has only minor superficial soil and/or tarnish, proceed with caution. Materials and techniques used should be extremely gentle to avoid causing unnecessary deterioration. Avoid the use of commercial polishes, as many contain corrosive chemicals such as ammonia or harsh abrasives that can permanently damage delicate surfaces.

The materials and techniques listed below have been tested by conservators and found to be safe and effective when used in a careful and sensitive manner.

Preparation:

Provide a clean, well-ventilated work area for the cleaning process, including a padded work surface, adequate light, and sufficient ventilation to remove fumes. Place a clean piece of cotton flannel, soft muslin, or other soft cotton on the table as a work surface. Wear a clean cotton smock or apron to protect your clothing. Wear clean disposable nitrile or latex gloves to protect both your hands and your artifact. To the extent possible, disassemble the artifact. Take digital images and notes to be certain that parts can be reassembled correctly. Use thin films of clear polyethylene to mask out any nonmetallic elements, such as wooden or ivory handles, to protect them during cleaning.

Materials to Have on Hand:

- Clean cotton padding placed over a stable work surface
- Cotton swabs or pads, as needed
- Gloves: latex or nitrile,
- Mineral spirits
- Precipitated calcium carbonate
- Mild detergent solution composed of a few drops of clear dishwashing liquid in distilled water
- Soft clean natural bristle brushes, such as haké, watch, or paint brushes
- Apron or smock to protect clothing
- Clear microcrystalline paste wax, such as Renaissance® wax, or a clear hard paste wax available in hardware stores such as Butcher's® wax or Behlens® paste wax.
- Clean natural bristle stippling or stencil brushes, or shoe buffing brushes, for waxing and buffing

Cleaning Procedures:

Remove any loose dirt or dust by dusting lightly with a soft brush. Haké watercolor brushes are good choices for dusting because they are made entirely of wood or bamboo. If a soft artist's brush is used, cover the metal ferrule with tape to avoid scratching the object. Do not use dusting cloths as they will not reach into small crevices, and can scratch objects if trapped grit is rubbed over surfaces. Stiffer brushes may be needed on badly corroded items. Be very careful not to scratch the surface of your object.

Old polish residues trapped in recessed areas are a common problem found when cleaning silver. Many commercial polishes contain waxy components that cause the abrasives to stick to the surface. These can usually be removed by applying a few drops of dilute detergent solution (a few drops of clear, unscented dishwashing liquid in distilled water) with a soft brush or cotton swabs. A small amount of waiting time may help facilitate removal. Gently agitate with a soft sable paintbrush to help loosen embedded material, and then rinse thoroughly with clean cotton swabs dampened in distilled water. Be very careful when doing this to avoid scratching the surface with old polish and accumulated grime. Change swabs often to reduce risk and use a rolling rather than rubbing motion.

Do not allow liquids to penetrate hollow handles or other hollow parts that are difficult to rinse or dry. Do not immerse the object in a bath of water.

In some cases, light tarnish can be removed from silver artifacts by simply wiping the surface with cotton moistened with dilute detergent solution, and then rinsing with clean, distilled water. In order to determine if your silver needs polishing, test-clean a small area with detergent solution and examine the results to see if this is necessary. If polishing is not needed, wipe the object gently with pieces of clean flannel or loose cotton dampened with detergent solution, changing them frequently to prevent surface abrasion. Rinse the surface by wiping it with clean cotton dampened with distilled water, and allow the object to dry completely in a warm, dust free environment.

Polishing Procedures:

If polishing is necessary, mix a small amount of precipitated calcium carbonate (**do not** substitute ground chalk or whiting as it will scratch) and detergent solution together in a shallow dish. The mixture should be approximately the consistency of cream. Apply a small amount of polish to the object with a small piece of clean cotton flannel or a wad of loose cotton, rubbing gently in a circular motion. Replace the cotton or flannel often as you work so that you are not merely grinding the removed tarnish and used calcium carbonate back into the surface. A cotton swab may be lightly used to remove excessive tarnish in recesses, although complete removal of tarnish is undesirable. It takes very little calcium carbonate to polish an object--a common mistake is to use too much. It is important to keep in mind that even the finest polish is an abrasive that works by removing a microscopic layer of silver from the surface of your object. The more often you polish, the faster you will remove surface detail and crispness of design. Many silver objects in museums have holes caused by years of repeated polishing!

Once polishing has been completed, remove residues by rinsing the surface with cotton dipped in clean distilled water. It is important at this point to change the pads on the table and to change your gloves so that you are working on a clean surface. As before, do not allow liquids to enter hollow handles or other places that are difficult to clear or to dry. Dry the object thoroughly by wiping with a clean, dry, piece of flannel. To remove any remaining traces of polish material, buff the surface with a clean piece of cotton velveteen or cotton Selvyt® cloth. The velveteen surface will trap stray polish residues. If the artifact is to go into storage, wrap it in acid free tissue and place it in a clean polyethylene or Pacific Silvercloth® bag. If your silver is decorative and you want to display it, you are now ready to apply a protective coating to keep it from tarnishing too quickly.

Apply a Protective Coating:

Silver alloys can be protected from water and air borne pollutants with a coat of paste wax. Apply a small amount of microcrystalline paste wax, such as Renaissance Wax® or Butcher's® White Diamond clear paste wax, to a soft clean dry cloth or very soft brush and rub it over the entire surface of the artifact, being careful to get complete coverage. Do not apply too much wax; only a small amount is needed. Wait a moment and buff the wax with clean pieces of old silk, nylon stockings, or soft natural bristle brushes. These materials will not leave lint trapped in the wax. Wax has a flat plate-like structure and buffing helps align and compress the plates for a more complete and protective coating. If you accidentally leave unbuffed wax on the surface too long, apply a small amount of fresh wax to soften the dried wax and buff immediately.

To maintain the wax coating, periodically dust the artifact with a soft natural bristle brush and check for evidence of tarnishing. The wax should provide good protection for approximately one year, depending on the environmental conditions and the amount of handling the object receives. When tarnish is noted, remove the old wax by wiping the surface with cotton pads wetted with mineral spirits. Clean the object and reapply the wax as described above. For objects on permanent display, consider having a conservator professionally clean the artifact and apply a stable organic resin coating. This durable and protective coating can provide up to twenty years of protection and minimizes the repeated wear and tear associated with periodic polishing.

WARNING: When working with solvents, be sure to follow all recommended safety precautions noted on the containers. Mineral spirits are flammable solvents and their fumes are harmful to your health when they are not used as instructed. **Always work in a well-ventilated space and be aware of the location of the nearest fire extinguisher when working with flammable solvents and waxes.**

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