

SILVER DEPOSIT AND OVERLAY DECORATION

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by Debi Raitz

If you remember nothing else of this, you will once and for all, learn the difference between silver deposit and silver overlay. It's not really our fault that the two are so easily confused because originally, manufacturers around the turn of the 20th century used the terms "overlay" and "deposit" interchangeably, so everyone thought they were same thing. However, purists will argue that, because there are subtle differences in the manufacturing processes and the fact that overlay is usually always thick whereas deposit is usually always thin, that a specific differentiation should be made. (Personally, I say if you cannot feel the ridge of the silver, then it's deposit. If it has a definite thickness you can feel, then it's overlay - laying over the glass. Remember that and you should have no trouble.)

The origins of silver overlay lie in the 19th century, but it is still a mystery as to who was the first person to think of using electrolysis to coat glass with silver. There were several patents for using electroplating techniques on glass registered from the 1870's onwards. These included Frederick Shirley USA (1879), Erard and Round for Stevens & Williams Ltd. UK (1889) and John Sharling in the USA (1893). But it seems that the electroplating-on-glass process was known beforehand by these people. They were simply patenting ways of using it.

Most of the techniques of depositing the silver involve painting the design onto the glass with flux containing silver mixed with turpentine, firing this design in a kiln, cooling and cleaning the glass and then immersing it in a solution of silver through which a tiny electric current was passed. An alternative method involved coating the whole surface with silver, painting the design onto the silver with a "resist" and then dissolving away the unwanted parts of the silver. The silver was then built up on the area where the design had been painted. Silver overlay glass has a design in silver "electroplated" onto the glass using one of several electrolytic techniques.

Now before getting into the process itself, let's talk about the silver companies most notable for this work. And maybe a bit of an explanation as to why some of the silver patterns may be exactly the same or only differ slightly between different brands of glassware like Heisey and Fostoria. This is because most glassmakers did not have their own silver department. They sent their glassware to outside silver companies for decoration. Fostoria was an exception. Fostoria did some of their own, and also did a limited amount of silver work for other glass makers in their shop. But Fostoria also had silver work done by outside silver-smiths as well. Although a few of the silver companies survive to this day, many fell by the wayside during the Great Depression or shortly thereafter.

ALVIN CORPORATION MARKS



These are the marks of the Alvin Corporation, owned by the Gorham Mfg. Co. since 1928. The first and second marks are the oldest of the three marks. The company earlier went by the name Alvin Manufacturing Company and were manufacturers of sterling silver flatware, hollowware and toilet ware. The bottom mark was found on a flatware pattern patented in 1932.

July 28, 1897. THE JEWELERS' CIRCULAR. 5

NOTICE.

We hereby notify the trade that we are the exclusive owners of Letters Patent No. 472,230, dated April 5, 1892, and of all rights thereunder, for producing "silver deposit goods" having a bright interior surface.

We are now prosecuting a suit for an injunction and damages in the United States Circuit Court for the District of New Jersey, for infringement of said patent, and warn all persons against handling the spurious articles, as it is our intention to fully protect our rights and those of our customers.

Respectfully,
THE ALVIN MFG. CO.



**WE make a full line of
Flasks, with and without
Cups, in Silver Deposit.
Also a large assortment of
Atomizers, Colognes and De-
canters.**

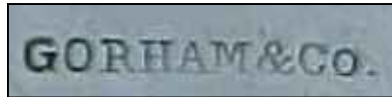
The Alvin Mfg. Co.,
54 Maiden Lane, New York.

Price \$5.00 according to The Jeweler's Circular Key.
Cut August 1897.

From *The Jewelers' Circular* dated July 23, 1897.

Notice that what clearly looks like overlay is called "Silver Deposit."

GORHAM MARKS



The first mark, with the lion facing left, was used by the **Gorham Manufacturing Co.** of Providence, RI from 1848 to 1865. Most items from this period are also generally marked "COIN". This mark was found on an open salt with three figural ram's heads. The second mark (name) is another early mark seen only on coin silver. The third and fourth marks are sterling marks with the lion facing right and the fifth mark is a more modern mark also on items of sterling. The last mark with anchor is one of their marks for silver plate. Today, Gorham is a wholly owned subsidiary of Lenox, Inc.

LA PIERRE MARKS



The **La Pierre Manufacturing Company** was founded by Frank H. La Pierre in 1885 in New York City at 18 East 14th Street. In 1893, the company was relocated to Newark, NJ and then incorporated in 1895. They were primarily manufacturers of sterling dresser sets, hollowware and novelties. The company was purchased by the International Silver Co. in 1929 and moved to Wallingford, Connecticut.

The **Rockwell Silver Company** of Meriden, CT was organized in 1905 and merged with Silver City Glass Co. in 1978. No marks were found although much silver overlay decorated glassware is attributed to them.

The **International Silver Company** was formed by several smaller companies joining together as one company in 1898. It is said that some companies bought by International continued using their own marks so dating something in this manner might not work out correctly. The following companies are now part of the International Silver Company: Rogers & Bro, Rogers Brothers (1847), Holmes & Edwards, Meriden Britannia Co., Meriden Silver Plate Company, Simpson, Hall & Miller, Watrous Mfg. Co., La Pierre Mfg. Co. and over 20 more. The International Silver Company is today owned by the Syratech Corporation of Massachusetts.

There were probably other silver companies that decorated glass but it's hard to find information unless you specifically know the company name, or research glass companies individually to see who might have done this work for them.

SILVER OVERLAY GLASS

Silver has been used to decorate bronze, copper, and earthenware for ages. Silver on glass, however, started to come into its own a little over a century ago. In 1889 Oscar Pierre Erard of Birmingham, England, developed an effective method of electroplating silver on glass and porcelain. Although beautiful on the outside, it shared an important shortcoming with its predecessors. The reverse side of the silver design, the side next to the glass would tarnish and turn dark. In clear plates, bowls, dishes and glasses this unsightly result was hardly conducive to a hearty appetite. In 1893, an American from New Jersey by the name of John H. Scharling patented a method no less simple or beautiful than Erard's creation, but with a distinct advantage. The reverse side of the design was snow white and it stayed that way indefinitely. Like Erard's method, Sharling's designs utilized electroplating. He shared his new process with all, both domestic and European. By 1895, the Czechs, Italians, French, English and Austrians were producing exciting glassware with sterling deposit and overlay. Not to be outdone, US makers began producing copiously. From 1895 to the late 1920s, this elegant and exciting manifestation of the glassmaker and silver-smith's art garnered its own avid following, just short of becoming a decorative rage.

Silver overlay and silver deposit were regarded as an exquisite, special gift or accent for that certain table or shelf. A few nice pieces of overlay were as evident in the genteel home as a piano in those days of refined, yet simple pleasures. The Great Depression caused many of the glass companies to either go out of business or resort to specializing in cheaper, more affordable

glassware. The era of expensive sterling silver applied to glass was all but over and not many pieces can be found that were manufactured after the mid-1930s. All overlay glasses have a design in silver 'electroplated' into the glass using electrolytic technique. The techniques of depositing the silver involve painting the design onto the glass with flux containing silver mixed with turpentine, firing this design in a kiln, cooling and cleaning the glass and then immersing it in a solution of silver through which a tiny electric current was passed. The silver was then built up on the area where the design had been painted. An alternative method involved coating the whole surface with silver, painting the design onto the silver with a 'resist' and then dissolving away the unwanted parts of the silver.

THE PROCESS IN DETAIL

From the "Henley's Twentieth Century Formulas Recipes Processes" encyclopedia, by Norman W. Henley and others:

The term silver deposit designates a coating of silver which is deposited upon glass, porcelain, china, or other substances. This deposit may be made to take the form of any desired design, and to the observer it has the appearance (in the case of glass) of having been melted on.

Practically all of the plated articles are made by painting the design upon the glass or other surface by means of a mixture of powdered silver, a flux and a liquid to make the mixture in the form of a paint so that it may be readily spread over the surface. This design is then fired in a muffle until the flux melts and causes the silver to become firmly attached to the glass. A thin silver deposit is thus produced, which is a conductor of electricity, and upon which any thickness of silver deposit may be produced by electroplating in the usual cyanide silver-plating bath.

To be successful in securing a lasting deposit a suitable flux must be used! This flux must melt at a lower temperature than the glass upon which it is put, in order to prevent the softening of the articles by the necessary heat and the accompanying distortion. Second, a suitable muffle must be had for firing the glass articles upon which the design has been painted. Not only must a muffle be used in which the heat can be absolutely controlled, but one which allows the slow cooling of the articles. If this is not done they are apt to crack while cooling.

The manufacture of the flux is the most critical part of the silver deposit process. Without a good flux the operation will not be a success. This flux is frequently called an enamel or frit. After a series of experiments it was found that the most suitable flux is a borate of lead. This is easily prepared, fuses before the glass softens, and adheres tenaciously to the glass surface.

To make it, proceed as follows: Dissolve 1/4 pound of acetate of lead (sugar of lead) in 1 quart of water and heat to boiling. Dissolve 1/4 pound of borax in 1 quart of hot water and add to the sugar of lead solution. Borate of lead follows as a white precipitate. This is filtered out and washed until free from impurities. It is then dried.

The precipitated borate of lead is then melted in a porcelain or clay crucible. When in the melted condition it should be poured into a basin of cold water. This serves to granulate and render it easily pulverized. After it has been poured into water it is removed and dried. Before using in the paint it is necessary that this fused borate of lead be ground in a mortar as fine as possible. Unless this is done the deposit will not be smooth.

The silver to be used should be finely powdered silver, which can be purchased in the same manner as bronze powders. The mixture used for painting the design upon the glass is composed of 2 parts of the powdered silver, and 1 part of the fused borate of lead. Place the parts in a mortar and add just enough oil of lavender to make the mass of a paint-like consistency. The whole is then ground with the pestle until it is as fine as possible. The amount of oil of lavender which is used must not be too great, as it will then be found that a thick layer cannot be obtained upon the glass.

The glass to be treated must be cleaned by scouring with wet pumice stone and washing soda. The glass should be rinsed and dried. The design is then painted on the glass with a brush, painting as thick as possible and yet leaving a smooth, even surface. The glass should be allowed to dry for 24 hours, when it is ready for firing.

When placed in the gas muffle, the glass should be subjected to a temperature of a very low red heat. The borate of lead will melt at this temperature, and after holding this heat a short time to enable the borate of lead to melt and attach itself, the muffle is allowed to cool.

After cooling, the articles are removed and scratch brushed and placed in a silver bath for an electro deposit of silver of a thickness desired.

Before the plating the glass article is dipped into a cyanide dip, or, if found necessary, scoured lightly with pumice stone and cyanide, and then given a dip in the customary blue dip or mercury solution, so as to quickly cover all parts of the surface. It next passes to the regular cyanide silver solution, and is 'allowed to remain until the desired deposit is obtained.

A little potassium cyanide and some mono-basic potassium citrate in powder form is added from time to time to the bath generally used, which is prepared by dissolving freshly precipitated silver cyanide in a potassium cyanide solution. After this the glass is rinsed and dried, and may be finished by buffing.

The process of putting the silver on the glass was sometimes done by the glassworks in special decorating sections, but more often it was done by silversmiths on glass supplied by the glassworks. This is why pieces by Steuben, by Heisey, by Cambridge, and others who had no silver-plating facilities of their own, can sometimes be found with silver decoration added.

As you can imagine, it is a very expensive process. Ellen Teller in her very useful article in *Glass Collectors' Digest* (Nov. 1989) records that a decanter made in 1893 and had more than \$4 worth of silver put onto a 90 cent glass blank, with nearly \$5 added for labor costs.

There are three different "generations" of silver decoration on glass. It is mentioned in detail above but in summary there was first the original process which left the tarnished and blackened silver visible on the inside and it was unsightly on clear glass. Then in 1893 John H. Scharling patented a method where the reverse side of the design was snow white and it stayed that way. Later, around 1925 to 1935, domestically made silver overlay pieces had a rhodium treatment at the factory and need no polishing whatsoever. And now with our modern anti-tarnish silver creams, an initial cleaning is all that's required with a minor touch up once a year or so.

Here's a few other odds and ends and items of interest relating to silver deposit/overlay.

Feel free to use your silver overlay pieces for special occasions, but follow a few simple rules:

1. Never cut anything on the plate. Pre-slice meats or breads beforehand.
2. Never serve eggs or egg products. The high sulfur content wreaks havoc.
3. Never, never use the dishwasher! Wash and rinse by hand in warm water and mild detergent.
4. Always rinse off silver polish. Digestion is not aided by ingesting silver polish.

On a "Virtual Attic" website page, a William P. Walker article that first appeared in the April/May 1998 issue of *Glass Collector's Digest* points out the differences between several woodland scenes of silver on glass. These patterns are: Call of the Wild, Sylvania, Black Forest, Elk Forest, Deerwood (aka Birch Tree), and Woodland. The website address as it is listed shows examples of the various patterns. http://www.virtualattic.com/those_confusing_woodland_scenes.htm

From the "Henley's Twentieth Century Formulas Recipes Processes" encyclopedia, by Norman W. Henley and others:

Replating with Battery

It is well known to electro-metallurgists that metals deposited by electricity do not adhere so firmly to their kind as to other metals. Thus gold will adhere more tenaciously to silver, copper, or brass, than it will to gold or to a gilt surface, and silver will attach itself more closely to copper or brass than to a silver-plated surface. Consequently, it is the practice to remove, by stripping or polishing the silver from old plated articles before electroplating them. If this were not done, the deposited coating would in all probability "strip," as it is termed, when the burnisher is applied to it -- that is, the newly deposited metal would peel off the underlying silver. It must be understood that these remarks apply to cases in which a good, heavy deposit of silver is required, for, of course, the mere film would not present any remarkable peculiarity.

All information was obtained online through various searches. I'm sure there's more information in books on the individual silver or glass companies.

Now let's look at open salts we find with this special decoration. Examples are pictured in *The Open Salt Compendium* in plates 332, 333, 731, 732 and 733. The 3rd National Open Salt Convention salt pictured in plate 923 also has a considerable amount of silver overlay.

Pictured in plate 361 is an entirely different type of silver over glass salt. It's really glass blown into a strong silver frame so that it protrudes through the openings in the silver. It is not a removable liner but it is also not silver applied to glass. These were made by Whiting. Also seen in H & J at numbers 295, 2034, and 2035. A similar one by Gorham is number 4642.

In *5000 Open Salts* (H & J) examples can be seen at numbers 271, 373, 631, 632, 784, 1701, 1702, 1815, 2121, 4696, 4707, and many examples on clear glass on pages 195 and 196. I'm sure I missed a few.

Lastly, a truly unique one made with molten silver is found in the Smith Book #8 on plate 308. It is a section of antler horn with silver top and bottom with the silver flowing along the side, connecting the top and bottom in three places.

Bibliography: www.SilverCollecting.com www.silvercollection.it www.glassencyclopedia.com www.myantiquemall.com www.virtualattic.com
