



# THE ART OF STAMPING

Matthieu Cheminée



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## Preface

This book is not an historical study or a technical paper on metallurgy. Instead, it is a door into the stamping world. It is about stamps, stamping, stampmaking and some of the people who make a living from this remarkable art form.

The first piece of jewelry I ever made was a stamped cuff bracelet. I was 18 years old, visiting Taos, New Mexico, when a friend showed me how to scribe lines and strike a stamp. I stamped a bracelet using her stamps, and though I didn't know it at the time, I was hooked.

A year later I moved to Taos and immediately fell in love with Native American art. The colors, the patterns — I was amazed with the intricacy and beauty of the stone inlay and the gorgeous stamp work. At that time I didn't know anything about jewelry, let alone jewelrymaking. I took to stamping right away. At first I didn't know how to solder so I would buy sheet metal, cut it into strips, the stamp the strips and form them into cuffs. I gave them a patina and polished them with steel wool. The process was simple but it was enough for me and I was able to sell the bracelets I made.

I allowed my curiosity to lead me, and throughout my life I have been fortunate to meet jewelers around the world who have generously shared techniques with me. This book would not have been possible without them, and that is why these masters, my teachers and friends, are included in this book and in my first book, *Legacy: Jewelry Techniques of West Africa*. It is an honor for me to share their stories and their wisdom. Nothing comes from nowhere: This book is also a tribute to those who have done so much, and who continue to contribute to this craft. This is why it is important to me that as you learn about stamping, you also learn about these artists.

In some sense, this book retraces my life as a jeweler. From New Mexico, I moved to Mali in West Africa where I worked with jewelers for several years. I felt a kinship between the jewelers I knew in New Mexico and the Touareg jewelers of West Africa. The jewelry they make is different, but their connections to their cultural history and their passion for their work is similar. I remain connected to these two worlds, and to what they offer.

— Matthieu Cheminée



## Introduction

Stamping is a technique that offers a great deal of freedom. It can be done anywhere and tools can be made as needed. A plain sheet of silver can be transformed into a beautiful ornament with just a hammer, a steel block and a handful of simple tools.

To find the origins of stamping we must reach back three million years to the Paleolithic Age when tools made of stone were used to make impressions. As increasingly harder materials were discovered, stamps were made of bronze and eventually steel, which is what we use today. Virtually every culture uses stamps to print textiles, to

decorate leather, to print images and text onto paper and to embellish metal.

The concept is so simple it can be explained to a child in a few sentences. Carve a shape into a hard substance, then press that object into a softer material. The shape of the hard object will leave an imprint in the softer material. That's it.

Stamping is used almost everywhere, on every continent. It was common in Europe and in the United States as a way to shape and texture objects. In the 1800s, the Industrial Revolution harnessed water and steam power and created manufactories that



*An African jeweler sits outside his shop to work. One of the pleasures of stamping is its simplicity.*

employed millions of people who made flatware, jewelry, machine parts, buttons, beads and much more, all growing out of the concepts used in stamping. Industrial stamping dies are used today to press out car bodies, jet engine parts and thousands of objects we use every day. The high-tech tooling and the materials used to make these pieces are far removed from the hand stamping that is the focus of this book.

While stamping is done by artisanal metalsmiths all around the world, a careful reader will see that much of the work shown here comes from the American Southwest, much of it made by Native Americans, particularly by people of the Navajo Nation. When traveling in New Mexico and Arizona, it feels like you are in the world capital of stamping. Every gallery, jewelry shop and pawn shop



*Private collection,  
Louise Pasaka.*

has hundreds of stamped pieces on display, representing many different styles of stamping. If you visit a museum in the region, such as the Wheelwright Museum of the American Indian in Santa Fe, you can see gorgeous pieces that trace the history of silversmithing in the Southwest. You will notice immediately that almost every piece bears the mark of stamps. This is not a book on the Southwest or Navajo stamp

work but it is impossible to ignore the fact that stamping is part of the culture there like nowhere else in the world.

The most common approach to hand stamping is to strike a steel tool with a recognizable shape into sheet metal. Strike the letter “R” and you get the letter R. Strike a flower punch and you get an imprinted image of a flower. Obviously these images and letters can be assembled to



make words and patterns. While this is a good place to start, jewelers who know how to make their own unique stamps are able to create original designs. That is why I've dedicated a large portion of this book to the techniques used to make stamps.

In the examples on the pages that follow, you will see innovative approaches to stamping that go beyond the “flower and letter” approach. Many of these stamps shown here are

several generations old—they have stories to tell.

Metaphorically and literally, master jewelers from around the world generously reach out to share their stamps, their designs and the techniques they have invented or inherited from those who came before. We are all in their debt, and bear an obligation to pass what we learn along to others.



PART ONE

## Tools and Materials



*Clendon Pete's stamping station.*

## Basic Tools

One of the things I love about stamping is that beautiful and intricate objects can be created with nothing more than a hammer, a piece of steel and a couple files. It is a technique that offers freedom. Stamping can be done wherever you are, and if tools are not at hand, you can find what you need for very little money at a local hardware store or flea market.

So, don't be overwhelmed with the list of tools below. The goal here is to be thorough, and while some tools make a process a little easier, they are not a necessity to make stamps or to stamp. You will see the use of various tools throughout this book and then be able to judge for yourself what you need.



*Caliper, ruler, compass, square, dividers, permanent markers and scriber.*



*An angle gauge like this is useful to determine precise angles, for instance on the end of the tool. This photo shows that the slope on the tool is at 12° from the vertical axis, shown at the arrow.*



For stamping I use ball peen hammers. My favorite hammers weigh 16 and 20 ounces (450 and 560 grams).



The handles on most commercial hammers are too long for the close work of stamping. Make some experimental impressions while holding the handle at various distances from the hammerhead. When you have found what works for you, cut the handle and use a file or rasp to round the end. Throughout this book you will see photos of artists in their workshops. Many of the photos include a peek at their hammers; note how short the handles are.



When making stamps, the pliers I use most frequently are those with parallel jaws and vise-grips, which I have in several sizes.



You will need a selection of half-round and flat files. When making stamps I use new files that can shape the steel quickly and create a crisp clean surface. I usually use #0 and #2 Swiss-cut files.

Triangular, square or round hand files are also useful when creating stamps. And as a bonus, they can be turned into great stamps when they wear out.





Coarseness in Swiss-cut files is identified by number: the higher the number, the finer the cut. From left to right here we see 4, 2 and 0. I use these files to shape stamps and to create textures on them.



I personally use the same files for silver and steel but I clean them before switching between metals. To clean, scrape with a piece of brass sheet. This quickly conforms to the spaces between the teeth of a file and pushes stubborn pieces out.

Many round files are tapered, and while this is sometimes useful, I often prefer non-tapered round files called *parallel files* to make stamp patterns. Small parallel files can be purchased through jewelry supply companies. Larger cylindrical files are made for sharpening chainsaws and can be bought at hardware stores. I like to start with a coarse file because it removes steel fast.



You'll want a set of good quality needle files. It is nice to have a full set of #0 and #2 cuts, but if buying separately I recommend the square, round, half-round, barrette and triangle.



Escapement files are among my favorite tools for making stamps because they make it possible to refine important details. In these smaller files, I again mostly use square, round, half-round, barrette and triangle.



Checkering files were invented to create a grid pattern on the wooden handles of guns, but it turns out they also make delicate parallel grooves that are useful when making stamps.

Checkering files use the same numbering system; the higher the number, the finer the cut.





Jewelers sawframes are described and sold by the depth, or distance from the back of the sawframe to the blade. Jewelers typically use 3" or 4" frames. Invest in a quality sawframe because it will prove a worthy investment over years of use.



It is helpful to have a sturdy vise mounted in a solid workbench. Hacksaws can be purchased at any hardware store and are used to cut annealed tool stock.



Safety protection against heat includes gloves and a leather apron. To protect against flying pieces of metal, every worker should have transparent protective glasses with wrap-around shields on the sides. To protect eyes from the red glow of heated steel, wear glasses with tinted lenses. The degree of tint needed depends on the kind of torch and exposure.

A portable grinder with a metal cutting blade can be used to cut old tools even without annealing them. When using a portable grinder it is very important to follow all the necessary safety precautions:

- *Always wear protective glasses.*
- *Wear an apron to protect yourself from sparks. These are tiny pieces of flying hot steel.*
- *Clamp work firmly in a vise to cut or grind it.*
- *Use both hands to hold the grinder.*
- *Make sure all guards are in place.*
- *Be sure that the floor is clean and dry.*
- *Check to be certain there is no flammable material close by that might be ignited by sparks.*





A well-mounted bench grinder is useful to do the initial rough shaping on tool blanks. It is also needed for the spark test, described later, that helps determine the makeup of a steel sample.

**Safety!** A grinder is a dangerous tool and it is important to follow the safety measures:

- *Wear eye, ear and face protection.*
- *Fasten the grinder to a solid surface.*
- *Be sure that all guards are in place.*
- *Adjust the tool rest to within 3 mm (1/8") of the wheels.*
- *Inspect the wheels for cracks and discard if compromised.*
- *Dress the wheels regularly.*

This picture shows how to dress a bench grinder's wheel with a diamond dresser. This will remove the grooves and ensure a flat wheel.



Lapidary tools can be used in toolmaking, but they are not my first choice. A diamond wheel (which is always used with water) can be used with steel but the abrasive will clog and won't last long. Some lapidary setups have an expanding rubber drum with sandpaper and that works well. Belt sanders and band sanders are also very useful, and again,



safety measures must be taken. These tools are often found in woodshops, and if you using one there, it is important that you clean out all sawdust before grinding steel. Sparks can ignite sawdust deep in the machine, creating a fire that might not be discovered for hours.



A drill press is handy. The versatile tool shown here converts a flexible shaft into a small-scale drill press.



A flex shaft uses different burs, drills, mandrels and shanks with separating discs or snap on sandpaper. Safety! Always tie long hair back and wear eye protection and a mask when using a rotating tool.



It is important that the face of a stamp (the part that makes the impression) is flat and perpendicular to the axis of the tool. A small square like the one shown here is an important tool.



Plasticine is an oil-based clay that is kept close at hand to test and inspect stamps as they are being created. This is one of the simplest and most useful tools when making stamps.



A piece of leather can also be used to test stamps during the process of shaping them. Set the leather on an anvil or other steel surface and strike the stamp gently. A well annealed piece of thick copper sheet can also be used to test a stamp without damaging it.





## Round Stamp with Ten Segments

For this stamp I am using the tip of a round wood rasp. The tip is already perfectly shaped for a stamp.

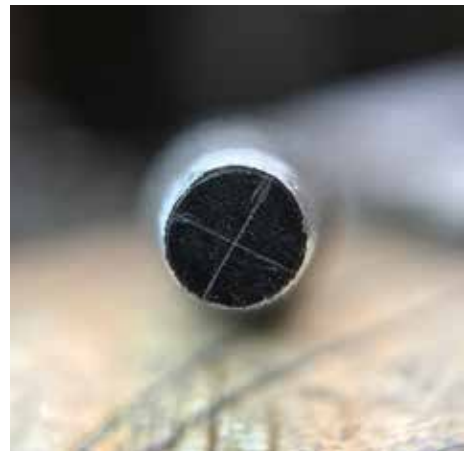
1. Break the file into pieces and anneal them. File the tip to make a right angle to the long axis.
2. Grind or file the top to make it flat and perpendicular to the axis.



3. With a file or grinder, remove the file grooves around the tip, respecting the angle.



4. Cover the face with black permanent marker. With a divider, find the center of the face. Open the compass to approximately half the diameter of the face. Make marks at the four cardinal points, and connect them with lines to indicate the center.



5. Set the blank in a bench vise with the tip facing up. The other end of the tool must be supported on the throat of the vise or a piece of steel inserted there as needed. Punch the center point with a scribe. Using round burs, create a concave shape in the center.



6. I like to start with a small diameter bur increasing slowly in size. This allows me to make sure it is always centered.



7. With a divider, mark the perimeter of the face in 10 equal sections.



8. With a 3/0 sawblade, make cuts on the face from one mark to its opposite one. With a thicker sawblade, go back on each cut. I go back again on each cut one more time with a triangular escapement file to open them a little.



9. You can leave it as is or go back in the center with a bigger round bur to obtain a thinner edge. Again it is good to soften the edge around the face.



10. Harden and temper.



## Eight-Pointed Star

1. Anneal and cut to size. Depending on the diameter you are looking for, leave the punch a little longer or shorter. Square off the tip.



2. Divide the circular face into eight equal parts. This can actually be done by eye with the saw when you are looking straight down at the face.



3. Cut lines across the center to divide the circle in 8 equal parts. It is always easier to start with a small saw blade and then go back with a thicker one later.



4. With a round needle file, make a notch on the edge, at the end of each cut. The file will be held at that familiar 15° angle.



5. Keep filing until the curves meet one another creating a point in between each one. Check your pattern in a soft material like plasticine or leather.



6. I go back on each cut with a triangular needle file to open them a little.



7. Harden and temper.





## Lyle Secatero

*Gallup, New Mexico*



Lyle is at least a fourth-generation jeweler from his father's side. His maternal grandfather was a silversmith as well. Lyle has memories of walking into his grandfather's hogan, his workshop, when he was a kid, and felt like he was stepping into a time machine. His grandfather was still working the old-fashioned way, using a bellows to melt and solder and working while sitting on the ground.

Lyle grew up in the Tohajiilee Indian Reservation (Navajo: *Tó Hajiilehé*) formerly known as the Cañoncito Band of Navajos, a non-contiguous section of the Navajo Nation, west of Albuquerque.

"To grow up on a reser-

vation is different. I really enjoyed it because it teaches you how rough things used to be. It makes you more appreciative of how we live now."

Lyle's paternal grandmother learned jewelrymaking from her father and specialized in Leaf Style pieces. When she received large orders for blossom necklaces, bracelets and rings from trading posts, she would ask

her son, Lyle's dad, to help. At the time, Lyle's dad was working construction, but he realized that he enjoyed making jewelry like his mother. He started by doing work that was similar to his mother's and later moved on to stamping. After a while he received permission to sell at the portal of the Palace of the Governors in Santa Fe. He would work on pieces all week, then drive to Santa Fe to sell on the weekend.

Lyle remembers, "My mom would wake us up early; we would drive to Santa Fe and spend all day under the portal



*"Seeing things made by hand really made me want to do it; it was like a calling. I always knew that I wanted to do it."*



selling to tourists. We would drive south to get to Indian Jewelry Supply Company in Albuquerque before they closed at 5:00 pm so my dad could buy more materials to work on during the week."

Lyle really started showing interest in the trade when he was about 12 years old. At first his father just let him have a Sharpie and some copper to practice tracing lines by hand. He was told that when his lines were all straight, he'd be allowed to start stamping.

At the age of 13, Lyle and his younger brother were shown the basics of stamping by their father and were allowed to practice stamping on base metal. Eventually they moved on to silver.

About that time the price of silver went up to \$35 an ounce and it became too expensive for the boys to make silver pieces. They came up with the idea of soldering a thin piece of silver onto a thick piece of copper sheet

The two brothers practiced and came up with new patterns using their father's stamps, mostly the ones that he didn't often use.

Lyle tries to connect his stamping to the Navajo culture and always includes some kind of meaning in his work. "For me, the meaning is what creates the piece. It is what makes it unique."

Some of the stamps or combinations of stamps have meanings as well. For instance, Lyle uses two stamps to create a feather that represents protection, a good blessing.

The diamond shapes he uses represent the emergence of the Navajo coming into the Fourth World and each corner represents one of the four directions we came from.

Lyle is close to his father-in-law who is also a jeweler and who taught Lyle some of the tricks of the trade. They enjoy figuring how to make certain tools together.



*Lyle in his studio.*



*A tufa mold and a cast silver bar that will become a bracelet.*

*"If I am working on a piece and it doesn't come out, that means that I am not ready for that next step, that I am getting too far ahead of myself. It is a sign: not yet! My creator allows me to do what I am doing, I am just riding the wave, it takes me where it wants me to go. It has been a great ride so far. I love doing this."*



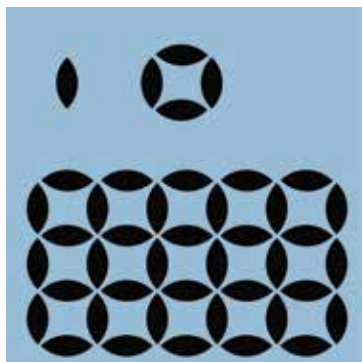
Tessellation, (also called *tiling*), refers to a recurring pattern of geometric shapes that abut or interlock. The term has special uses in 3-D design, mathematics and science, but our interest is in the hypnotic effect of complex patterns made with simple components. It comes up in this book because stamping is a natural, almost automatic device to create tessellation.

Perhaps the simplest entry point is the familiar checkerboard pattern. Imag-

## Tessellation

ine using a square stamp to make a line with impressions spaced apart at the exact width of the square. Next, repeat the process, this time staggering the line of squares by the width of one square. The resulting pattern will be a checkerboard.

It doesn't take much for the patterns to become more complex—and more visually compelling. Here is a familiar example, and one you can easily create yourself. Though the pattern is sophisticated, it uses only one stamp—a marquisse or “pointy football shape.”



When this stamp is used four times on a square, our eyes see the original marquisse, and a circle, and the four-pointed star in the center. When the pattern is repeated, the effect is heightened.

I'm not sure just when or how I got into tessellated patterns, but they are the starting point for most of the work I've been making lately. Sometimes I figure out the pattern in advance, but most of the time I start with a single stamp and grow from there.

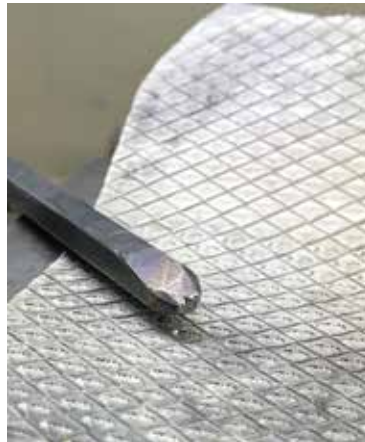
The first step is to create a straight edge on a sheet of annealed metal; this will be the constant point of reference for the sheet. I stamp a row of impressions along this line, taking care that the stamp is always resting on the line and is not accidentally tilted left or right. Sometimes the impressions might be touching, toe-to-toe, and other patterns might have a space between them. Whatever it is, this will be consistent throughout the pattern.





The next step is to scribe a line across the top of the first row. I choose not to pickle the metal after annealing, which leaves a gray scale that allows this line to show up clearly. I then stamp another line of impressions above the first. Another guideline, another row and so on, until I have covered enough of the sheet for the project I'm going to make. I often cover a pretty large sheet of silver so I have patterned pieces ready when I need them.

At this point the sheet has probably curled, so I flip it over and use a mallet to make it flat again. Some of the stampers I met do this on a piece of leather set on a steel plate. I like deep impressions so for me the next step is to anneal the sheet and re-stamp each impression.



It's possible that the pattern is complete at this point, but usually my process is to look at the open or negative spaces between the impressions and come up with a shape that will fit inside that space in an interesting way. In some patterns this might fill up the space, but that is not always the case.

I make the proposed tool and use a lump of plasticene to test the pattern. When I have the shape and size that pleases me, I harden and temper the tool and cover the sheet with the new stamp.

As these examples show, I use this patterned sheet for bracelets, rings and other pieces of jewelry.



*This large brooch uses a stylized shape of a faceted gem, making reference to the complicated history of the diamond industry in Africa.*



*Work by Matthieu Cheminée in sterling and gold with diamonds.*