

# JEWELRY MAKING GEMS

JANUARY 1983  
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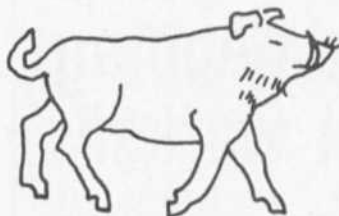
AND MINERALS

恭賀新禧



OUR COVER...

# THE YEAR OF THE BOAR



1995  
1983  
1971  
1959  
1947  
1935  
1923  
1911

"Gung Hay Fat Choy" — Happiness and Prosperity for the New Year! By Asian astrological reckoning, the Year of the Boar will commence at midnight on February 12, ending the reign of the dog. 1983 will be Chinese lunar calendar year 4681. Conceived more than 3000 years ago, the Oriental zodiac consists of "twelve terrestrial branches," represented by twelve animals denoting years, not months as in ours. The zodiac in our system marks the twelve places at which the sun and the moon come into conjunction, whereas the Chinese divide the celestial sphere into 28 constellations according to the "Cycle of Sixty." In 1983, the Boar (Chu or Shih) will be in the 60th year (Kuei Hai) in the cycle; its corresponding element this

By Faith E. Riesen  
San Francisco Gem and Mineral Society

Cover Photo  
By Tom Colman

year is Water (Shui). We note that for each time in a twelve-year period that the Boar symbol is preeminent, a different element, one out of five, is in ascendancy (Wood, Fire, Earth, Metal and Water). Therefore, the identical combination occurs only once in every sixty years!

Persons born under a particular sign are believed to possess the characteristics identified with those of the particular symbol. It is common for a Chinese, when giving his age, to state the animal pertaining to the year of his birth. An affectionate name for the pig

is "long-nosed general." The wild boar is a symbol of the wealth of the forests. "People born in the Year of the Boar have great inner strength. They are kind, affectionate, honest and gallant people who never retreat from the goals they have set for themselves. They have short tempers, yet hate to quarrel. They are shy, rarely seeking help from others. They have a deep desire for knowledge and are generally well-informed. Rabbit and Sheep people can tame the Boar, while Snake people may involve problems." (From a pamphlet compiled by Karin Dore.)

"The first explicit mention of the practice of denoting years by the names of animals ... is found in the history of the T'ang dynasty, where it is recorded that an envoy from the nation of the Kirghis? spoke of events occurring in the year of the hare, or of the horse. It was probably not until the era of Mongol ascendancy in China that the usage became popular; but, according to Chao I - A.D. 1727 - traces of a knowledge of this method of computation may be detected in literature at different intervals as far back as the period of the Han dynasty, or second century A.D...the system was (probably) introduced at that time by the Tartar immigration." (Reference: *Outlines of Chinese Symbolism and Art Motives*, P. 412, Third Revised Edition, Dover Publications, 1976, NYC.)

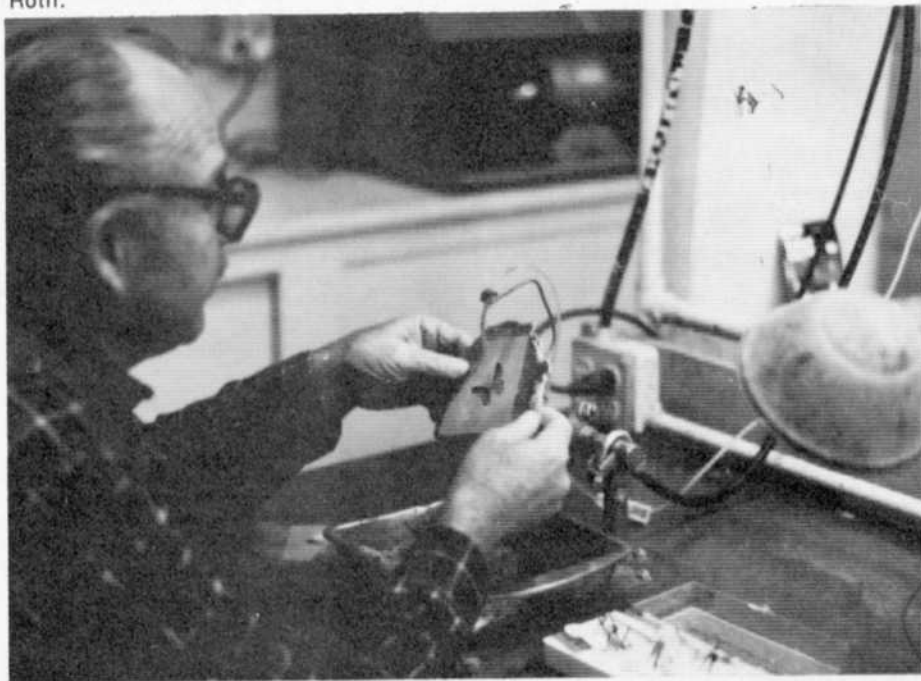
According to tradition, before the stroke of the New Year, the house must be thoroughly cleaned, and those who follow still the old customs, will place brown sugar on the lips of the Kitchen God, who, in turn, is known to report to the Heavenly Emperor at midnight. Likewise, all debts owing in the Old Year must be paid. The men plan to have their hair trimmed before the New Year arrives; if done afterwards, their luck would be all cut away! The Chinese celebrate by setting off firecrackers to ward off evil spirits. Children greet their elders with wishes for "health, wealth and happiness," and the youngsters are presented with bright red packets of money. Red is the important color—all shades, from pomegranate to oranges. Hanging scrolls are placed on doorways. Flowers are everywhere in quantity—chrysanthemums, camellias, plum blossoms, and peonies.

Members of the Intarsia Class of the

# 恭賀新禧

"Gung Hay Fat Choy" — translation, "Happiness and Prosperity for the New Year." This greeting was done by Mr. Sik King Wang, an 80-year old Chinese scholar who is noted for his outstanding calligraphy. He was educated at the Pui Ying Middle School, Canton City, China, and is the former principal of the Chung Wah Chinese School in San Francisco. To this day Mr. Wang remains very active in the Chinese Community Church.

Gus Ehtee, a member of the San Francisco Gem and Mineral Society, uses the special intarsia tool (see diagram) to cut a butterfly design into a slab of stone. Photo by Franz Roth.



San Francisco Gem and Mineral Society have completed their 1982 project as plaques of the Oriental Zodiac. The cover shows a composite of the twelve intarsias which are:

The Tiger — by Gus Pegoraro. Tiger-eye, basalt, dumortierite, thulite and marble

The Ram — by Franz Roth. Rhyolite, petrified wood, verde antique, jade and idocrase

The Rat — by Al Mutrux. Magnesite, jasper and opalite

The Hare — by Mary Baxter. Onyx, basalt and jasper

The Boar — by Gus Ehtee. Petrified wood, magnesite, rhyolite and basanite (*With regret we announce that Gus passed away Thanksgiving*)

The Monkey — by Tom Colman. Jasper, basalt, petrified wood, verde antique, lizard stone, thulite and magnesite

The Rooster — by Alice Roth. Jasper, tri-color marble, blue tigereye and basalt

The Serpent — by Tom Colman. Oolite, petrified palm, rhodonite, magnesite and verde antique with dendrites

The Ox — by Phil Mutrux. Meta-siltstone, jasper and magnesite

The Dog — by Mildred Ehtee. Onyx, basalt and jasper

The Horse — by Amy Spencer. Jade and magnesite

The Dragon — by Al Mutrux. Chrysocolla, malachite, marble, rhodonite, magnesite and sodalite

How does one go about making intarsias like those pictured on the cover? First of all, let's consider:

*Required Materials*

Various slabs of gem cut approximately 1/8" thick

Plain white paper

Pencil carbon paper

White (or light color) contact paper

Clear contact paper

Piece of glass of appropriate size

Hard pencil or ballpoint pen

Scissors or stencil knife

Slate

Epoxy

Devcon II

220 grit

400 grit

600 grit

Polishing compound

Detergent

*Tools*

Trim saw

220 grit grinding wheel setup

Flat lap

Polishing lap

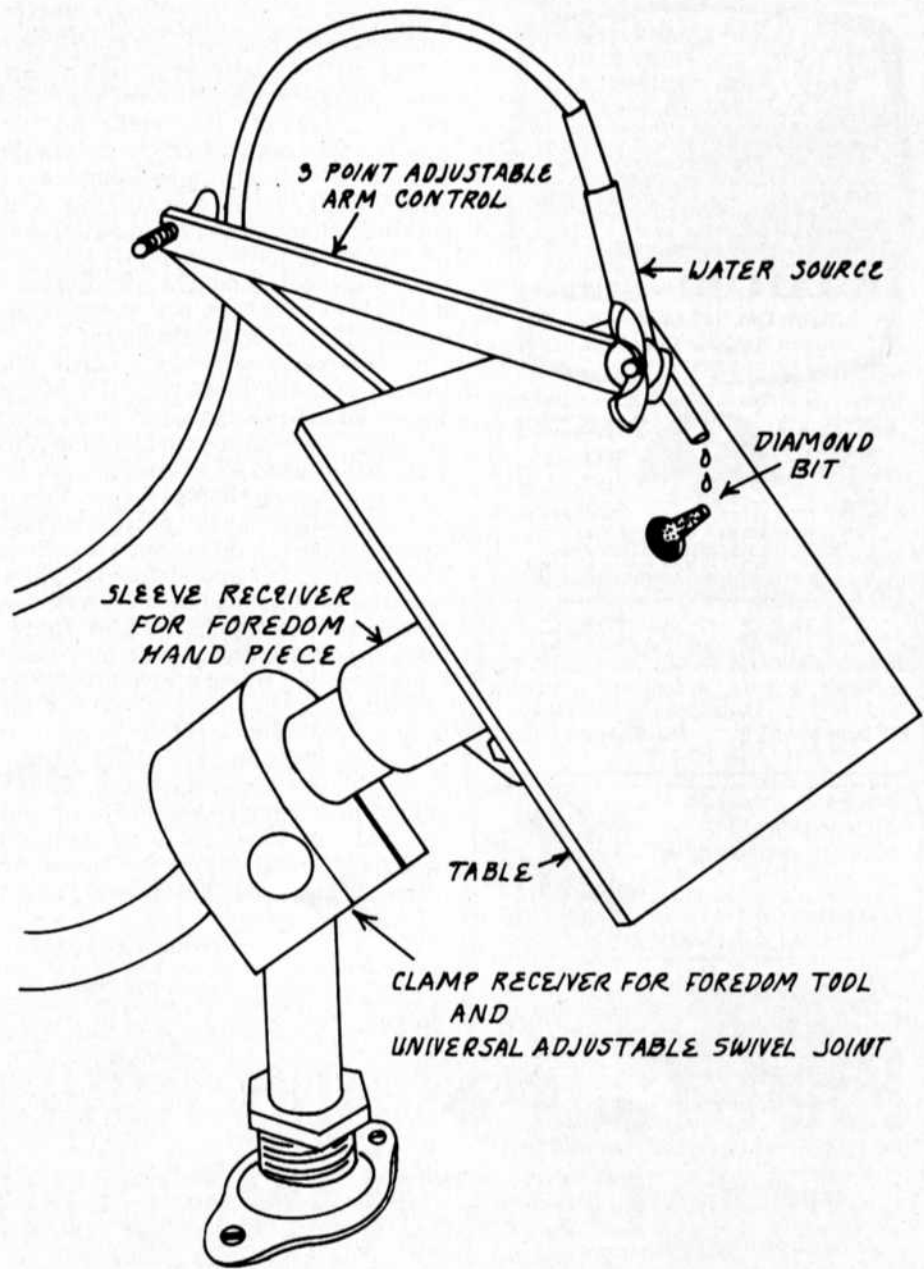
Diamond file

Diamond carving tools of different shapes

Foredom flexible shaft tool

*Intarsia Construction*

1. *The Design* — Make a full size line drawing of the subject chosen,



The special device which holds a Foredom flexible shaft handpiece for cutting design areas into gemstone slabs. Diagram by Alice Mutrux.

keeping in mind the materials available and line and color composition. completely circumscribe each area by a line showing *only* the perimeter of each one. Technically this design is called the "cartoon". For your first effort it is well to use a simple one of few pieces. It is more rewarding to draw your own design; however, if you absolutely cannot draw, ideas may be found in papers, art magazines, children's coloring books, and in advertisements.

2. *The Tracing* — You need two copies of the cartoon, one direct and one in reverse. To make these copies, first place a piece of plain contact paper (a light color not found in stones) face up on a hard surface such as glass. Place two sheets of pencil carbon paper back to back on the

contact paper. Next, place a plain sheet of paper on the carbon papers, and on top of that place your cartoon face up. Clip the assembly together to prevent any slipping. With a hard pencil or ballpoint pen, transfer all lines of the design, including the border, onto the other two sheets using a firm pressure to ensure that all lines are transferred. Number each area of the drawing. Before taking the papers apart, double check that all lines have been transferred and that each area has been numbered. Separate the sheets and mark the copy above the carbon papers as "Reverse Copy". Put the original design and the reverse copy aside for future use.

3. *The Templates* — Carefully cut

continued on page 48

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**Boar...**  
continued from page 47

the contact paper pattern into the various segments that make up the design. Scissors will do for a simple design. If the design is complex, a stencil knife will do a better job. Cut carefully along all the lines but *do not trim*. Any contact paper lost in trimming will create a hole in your finished intarsia. These contact paper segments will be called "templates"

4. *Templates on Slabs* — Affix the templates to the face of the thin stone slabs you have selected for your intarsia. Take into consideration the tools to be used. For instance, make allowance for width of saw cuts. When selecting slabs, avoid pitted or fractured material. It takes much less time and effort to cut and shape 1/8" thick material; also, your finished work will be thinner and lighter weight. Therefore, if you are doing your own slabbing, saw thin slabs; a very few of the dealers have thin slabs if you ask for them. Your work will be easier to complete if slabs are nearly of the same thickness and hardness. Colors should be harmonious but of sufficient contrast to show in your finished intarsia. Natural patterns of the stone often enhance your design and should

continued on page 75

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be considered when placing your templates.

**5. Edge Grinding** — Use the trim saw to remove much of the exposed stone material up to the edges of the templates. To make it easier to fit the pieces and to help later when you epoxy your intarsia, slope or bevel the edges inward toward the back of each segment. Cut up to the template but not into the template itself. Trim saws, grinders, diamond files, and router bits with Dremel or Foredom handheld tools may be used to accomplish this step.

**6. Assembly** — When all pieces have been trimmed exactly to the templates, assemble them face down on a piece of glass with the reverse copy of the design taped under the glass. If it is difficult to fit the pieces together, it indicates that some pieces may not be completely trimmed. When all the pieces finally fit properly, remove the templates, clean and dry pieces and assemble, face down, on the adhesive side of clear contact paper on a sheet of glass. The use of the clear contact paper helps to eliminate float later. *All pieces must fit flat.* Since the finished intarsia is to be one single surface, any piece that does not fit flat *must* be altered to do so at this time. Your intarsia is now ready to "cast" or epoxy. Epoxy does not stick to wax paper so spread a sheet under your picture on top of the glass and you will not have to spend time scraping glue off the glass after it hardens. Epoxy 330 sets quickly but not too fast; it is strong and colorless. However, it should be mixed in small amounts so that it will be thin enough to soak up to the surface of your intarsia with no air bubbles. Proceed to fill in all spaces between the various pieces of your picture. Before the epoxy hardens, tap firmly down on the pieces to be sure none of the smaller ones are floating. It is difficult to finish your work to a smooth flat surface if one or two pieces have dried into a little depression. Let the work harden thoroughly before proceeding to the next step. (It is often convenient to use a "light box" when doing fine fitting of the intarsia pieces.)

**7. Backing** — To give strength to your finished work, a piece of thin slate, or other thin flat slab, should be cut to the exact size of the finished picture. When your intarsia is completely dry, smooth (level) the back surface with liquid steel, Devcon, or other non-shrink material so that the slate slab will set flat. Using epoxy, attach the slate to the back of the intarsia and allow to dry thoroughly.

**8. Lapping** — When you are satisfied that the epoxy has set, remove the clear contact paper from the face of the intarsia. At this point the intarsia is complete and may be kept as it is. However, it is usual to proceed to a polished finish to bring out the full beauty of your stones and the design. The first step is to flat lap, using 220 grit to remove all saw marks from the face of the work. Use a machine driven lap, or do by hand on a piece of plate glass. This procedure should continue until the surface is all of the same texture. Repeat with the 400, then the 600 grit. The 600 grit should bring the surface to a good prepolysh.

**9. Polishing** — Final polishing may be accomplished on a convex polishing lap or on a piece of carpet. Polishing compound will work more efficiently if a small amount of detergent is added. Or, you can use polishing pads impregnated with diamond compound.

Tom Colman and Walter Koniuk have developed a special fixture to be used in conjunction with a Foredom flexible shaft tool, which is particularly adaptable for fine intarsia work. When working on an intarsia design that is to be cut into the center of a solid stone, place the cut-out pieces of contact paper on the main slab. First, place the slab on a sponge in a pan; then, using a diamond point (keyhole or reamer), drill a hole through the center of the slab. Next, set up the Foredom handpiece in the receiver clamp as shown in the diagram, using a universal adjustable swivel joint. After the handpiece has been placed in the stand, place a small disc of plastic, cut from any lid, over the point in order to keep the dripping water out of the handpiece itself. Then place the stainless steel receiver table, about 4" square in size, over the handpiece; this is held in place by a clamp and thumbscrew.

Continue to ream out the center of the slab, following the lines of the pattern. (Cut out the separate pieces to be fitted as far as you can on the trim saw and wheels.) The diamond points of different sizes and shapes can be changed in the Foredom tool as needed. Then it is a matter of filing and finalizing the shaping until all the pieces of the design fit perfectly.

#### SPECIAL TIPS

##### FOR

#### SUCCESSFUL INTARSIA WORK Shaping Pieces

1. Cut as close to the contact paper pattern as possible, but avoid cutting into the pattern itself.

2. Sometime later, when putting all the pieces together, it may be necessary to trim off a bit more on the edges—very slowly and carefully.

3. Use a light box, or a piece of glass held up to the light, in order to check

the fit of all the pieces of the design. A light box is of tremendous help in seeing all of the joints clearly. This is just a wooden box with a lightbulb in the bottom, topped by a sheet of frosted glass (plain glass shows too much glare).

#### Cementing Techniques

1. Use a two-part epoxy, as it dries more slowly than the single-part "super glue" adhesive. This allows for more maneuvering of the pieces in place.

2. If any gaps appear, due to an over-grinding mistake, fill in the crack with epoxy mixed with a little ground pastel chalk of an appropriate color.

#### Finishing Techniques

After the intarsia is completely dry and backed by a thin sheet of slate, flat lap using 220, 400 and 600 grit to bring the surface to a fine prepolysh. Polish on a leather or rug covered flat lap, using as a recommended agent, Brite-Rite.

All of the Oriental Zodiac intarsias shown on the cover will be on display at the "Golden Gateway to Gems," presented by the San Francisco Gem and Mineral Society on August 6 and 7, 1983. Location of this 29th annual show will be the Hall of Flowers, Golden Gate Park, 9th Avenue and Lincoln Way, San Francisco, California. Hours on Saturday will be 10 a.m. to 6 p.m. and on Sunday, 10 a.m. to 5 p.m. The Show Chairman is Anne Timmins, with Mike Schisler as Assistant Chairman. The newly elected President of the San Francisco Gem and Mineral Society is Cecilia Daniels.

In grateful acknowledgement for source materials, the author wishes to thank Tom Colman, Alice and Franz Roth, Amy Spencer, Marie and Sam Jung, Karin Dore, Theo Steinhauer, and Al and Phil Mutrux.

*Note: If you would like additional information on intarsia making, please refer to the series, The Art of Intarsia by William Grundke which appeared in the December 1981, and the January, February, March, April, May and June 1982 issues of this magazine. Intarsia Cabochons were covered in our December 1982 issue. ☆*

## New Book

*Wire Tree Sculpture* by Bobbie. This 32 page book with 60 photos gives instructions on how to make realistic looking gemstone trees. Bobbie Pearson, the author, is a professional gem tree maker and offers four new patterns in this book for \$3.95. Write to Silver and Stone, 4449 N. 51st Blvd., Milwaukee, WI 53218.