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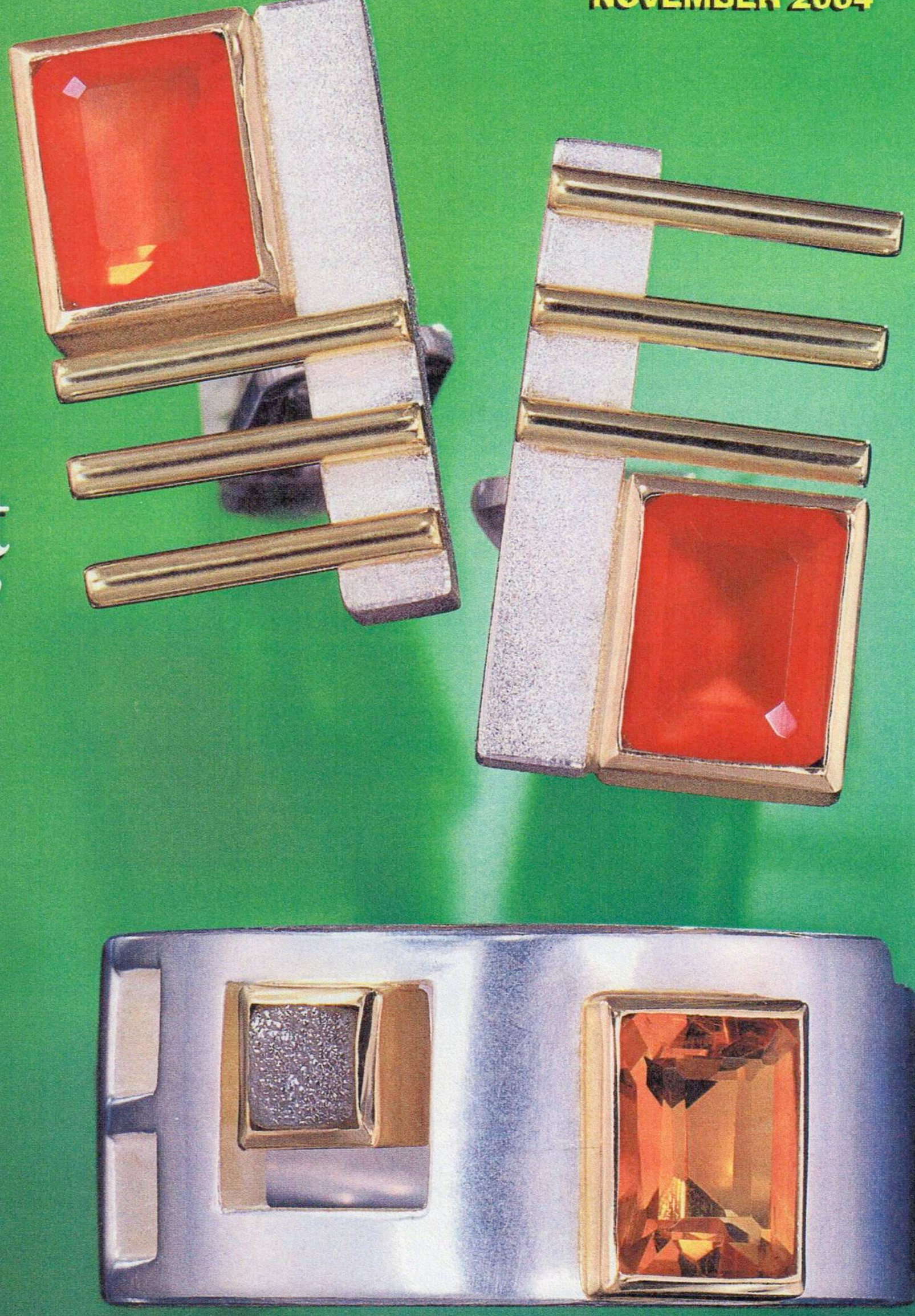

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Wake Up to the NEW MEN'S MARKET!

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DEPARTMENTS

ADVERTISING

IN DECEMBER

We'll take a look at how modern jewelry artists use wire, and show you a wire design you can make yourself. We'll also look ahead to the winter shows in Tucson, Quartzsite, and Laughlin, and weigh your options when insuring your studio business.

About Our Cover . . .

Jewelry by Janis Kerman: cuff links of sterling silver, 18K gold, and carnelian, and a ring of sterling silver, 18K gold, citrine, and industrial diamonds. Photo © Lee-Carraher.

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STEP by STEP

JEWELRY, BEAD, & GEM PROJECTS

from beginner ●○○○○ to advanced ●●●●●

What do those dots mean? See skill level key online at www.lapidaryjournal.com/stepbystep/levels.cfm.

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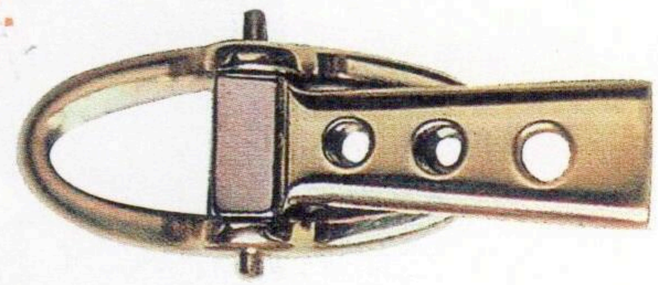
Cufflink Spring System

Fabricating the delicate cufflink movement.

BY CHRISTOPH KRÄHENMANN



Skill level

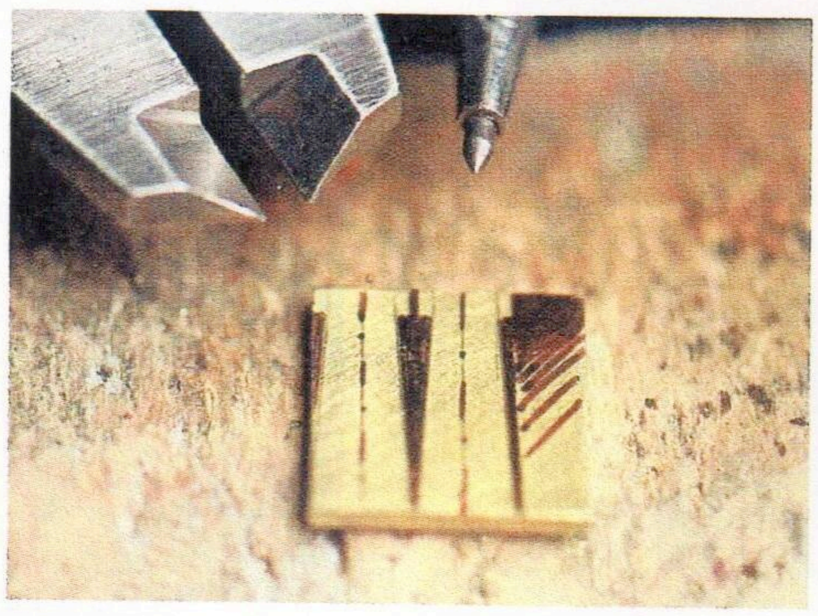
All photos courtesy of the author.

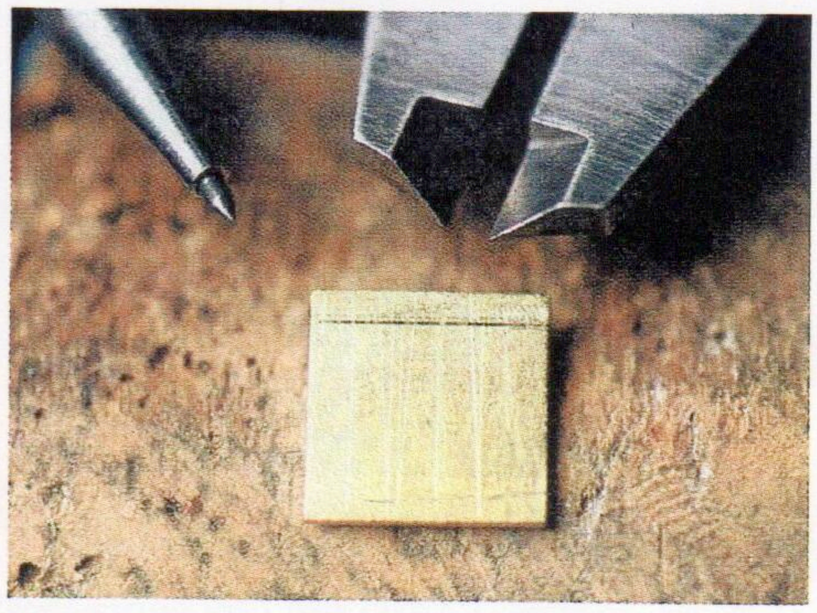
What you need

- Two 18KYG sheets 10mm x 14.5mm x 1.5mm thick
- 18KWG sheet 10mm x 6.7mm wide x 0.5mm thick
- Two 18KYG strips 4.5mm x 37mm x 1.1 mm thick
- 18KYG .975mm round wire (18 gauge, stretched about 10%)
- 18KWG 20mm sheet rolled down to .5mm from 1mm thickness
- Scribe
- Torch
- Solder
- Square needle file
- Rotary tool
- Drill bits: 0.8mm 1mm, 1.5mm, 1.7mm, 1.9mm
- Jeweler's saw
- File

This project will illustrate the steps for making the back side of a cufflink. The working parts of a cufflink can seem complicated and daunting. Granted, it's easier to just buy the part and attach it to your design. But I encourage you to create your own system. It shows your pieces are truly special from front to back. You can make a mold of your systems and cast them over and over again. The round holes and proportions I have used to illustrate this technique is just one of many system designs I have developed. The most important thing to remember is that spring has to be made from a springy sheet of 18KWG.

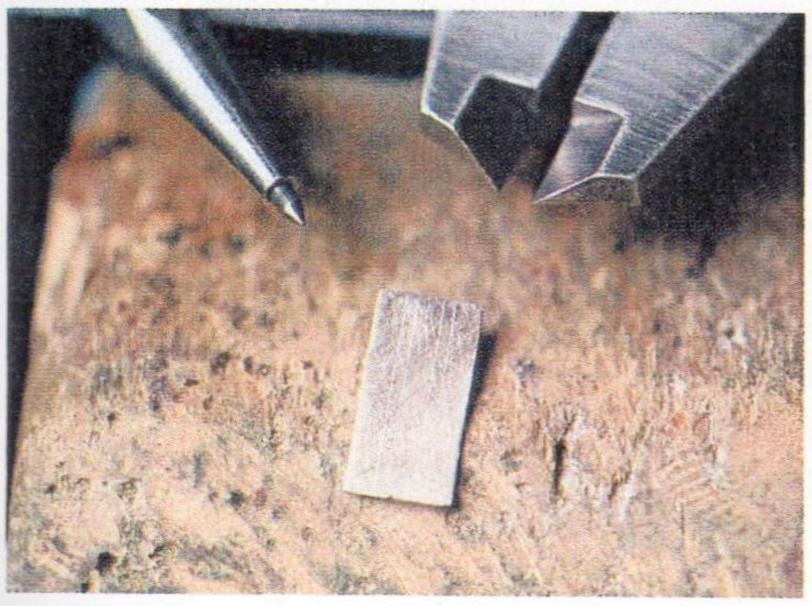
1 On one of the 18KYG 10mm x 14.5mm sheets scribe a line parallel to the 10mm side, 1.5mm from the edge. Then scribe marks at 0.75mm, 2.75mm (which will be the center of one stem), 4.75mm, 5.5mm,



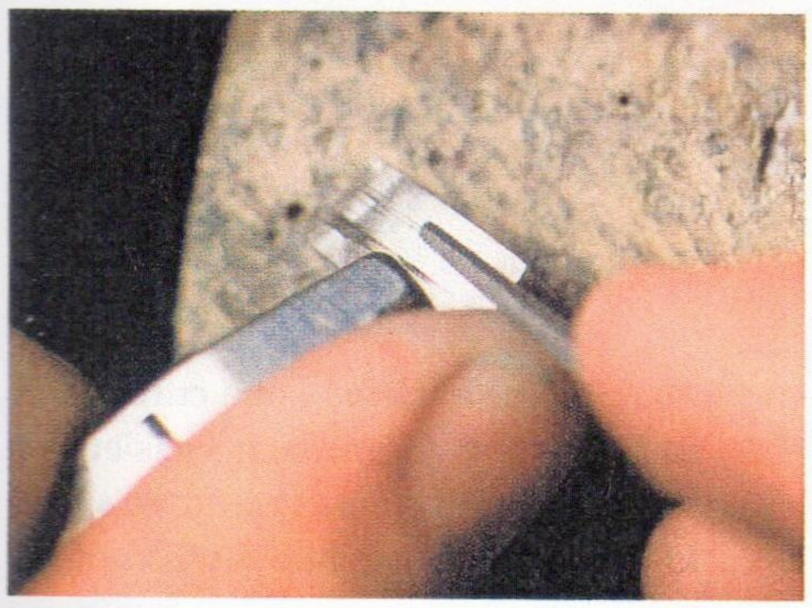


6mm, 6.75mm, 8.75mm (the center of the other stem), 10.75mm and 11.5mm. On the other 10mm side, scribe marks at 2.75mm, 5.5mm, 8.25mm, and 11mm. Connect the marks with your scribe or a marker so you have marked out two stems, vaguely dress-shaped, as shown here.

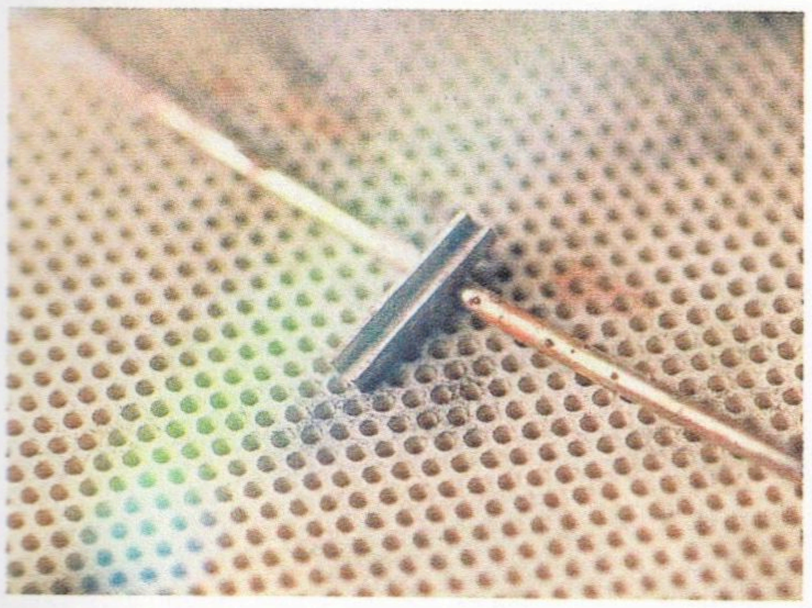
2 Take the 0.5mm thick 18KWG sheet 10mm x 6.7mm wide. Mark guide lines to create two channels, leaving a 1.5mm wide center section.



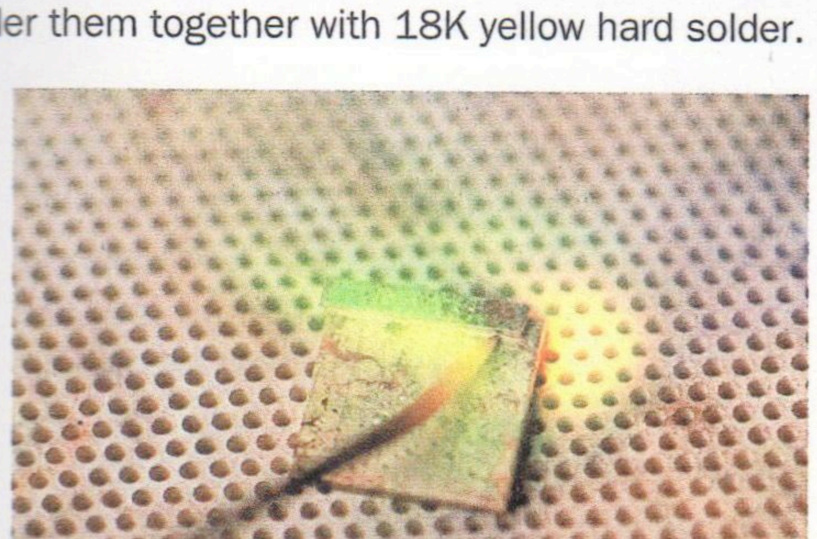
3 Slightly bend the sheet to make it easier to file the grooves with a square needle file. Bend the sheet back to flat and fold up the two sides.

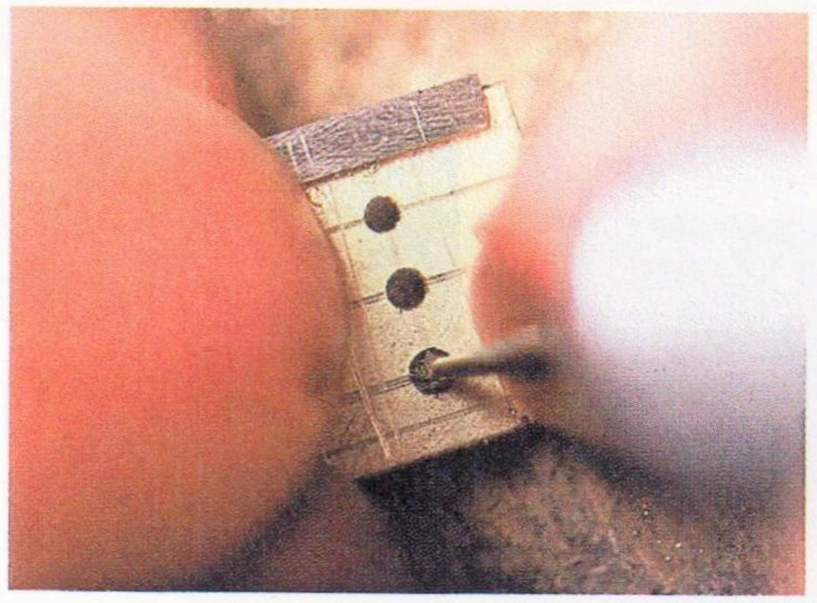


4 Solder the grooves with 18K hard solder.



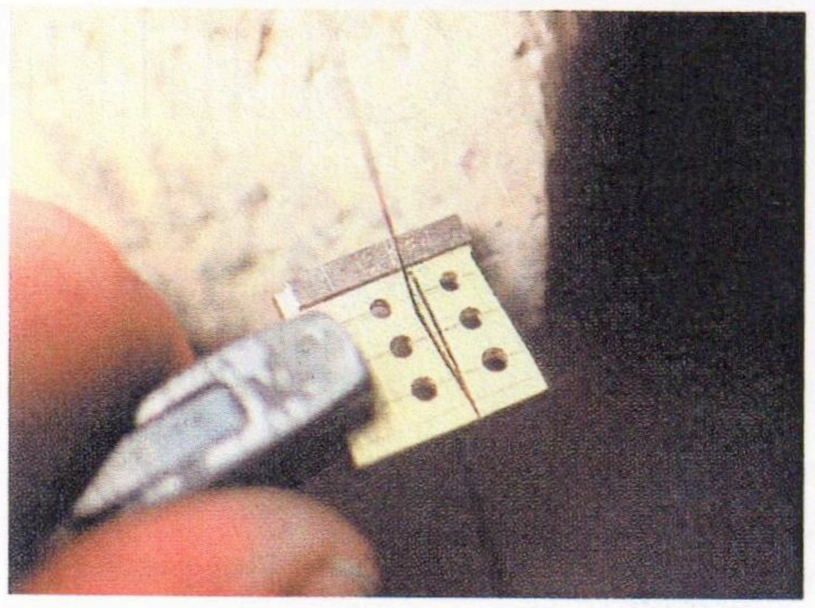
5 Slide the white gold element onto 10mm side of the yellow gold piece at the 1.5mm scribe mark and solder them together with 18K yellow hard solder.





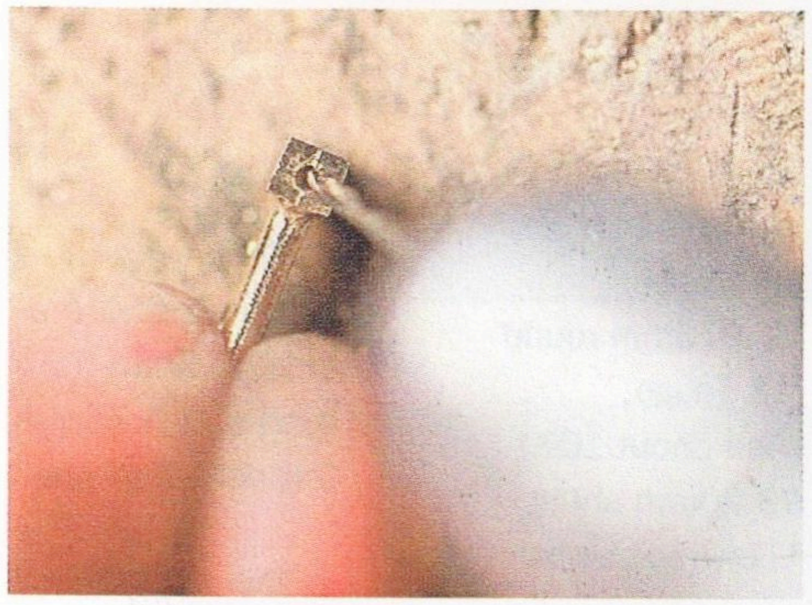
6 Drill 3 holes at regular intervals on each of the two marked stem elements. Open up the holes proportional to the tapered sections. 1.5mm diameter at top, 1.7mm at the middle and 1.9mm at the bottom. Don't make the holes too large or the structure may be weakened.

7 Cut out the two stem pieces with a jeweler's saw.



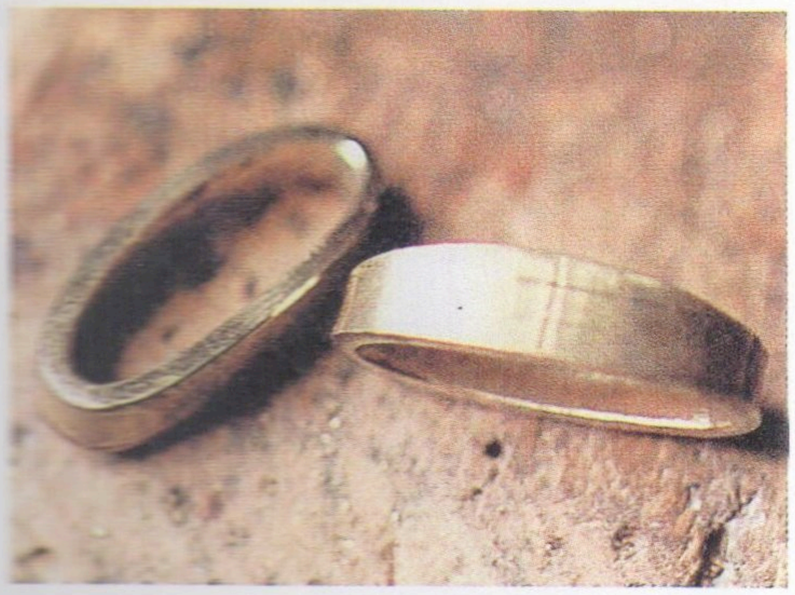
8 File the pieces into the desired shapes and round the edges on the sides.

9 Pre-drill the rivet holes in the top white gold piece with a 0.8mm drill, opening them up with a 1mm drill.



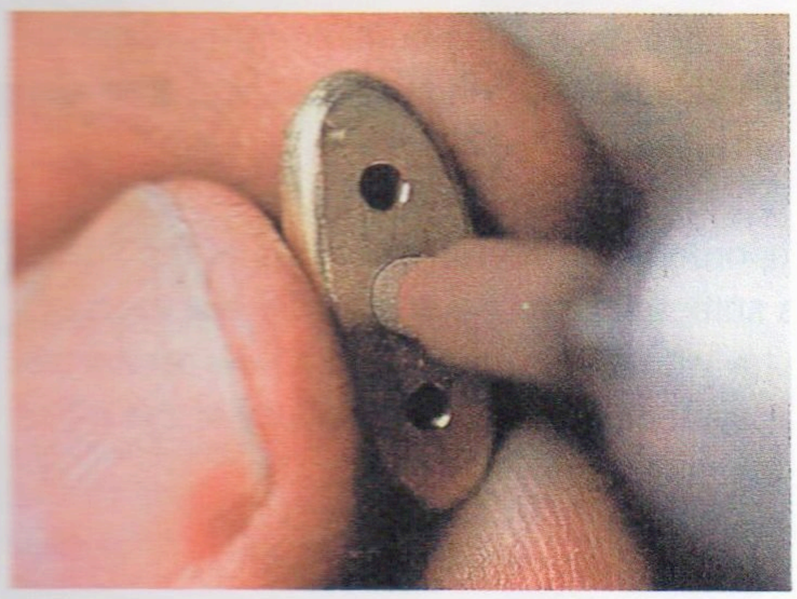
10 Bend the two 18KYG 37mm strips into two ovals 7.5mm wide x 17.5mm long.

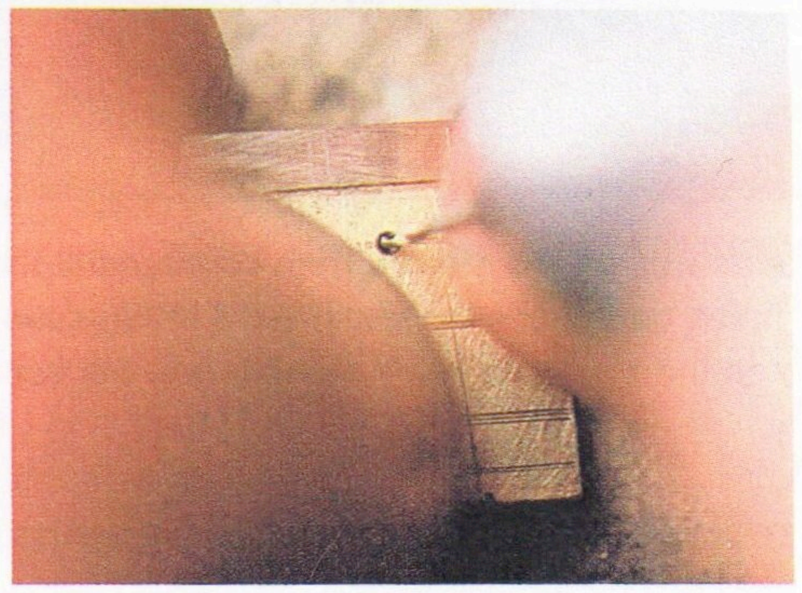
11 File the tops into curved shapes leaving 4.3mm at the top of the curve and 3mm at the ends.



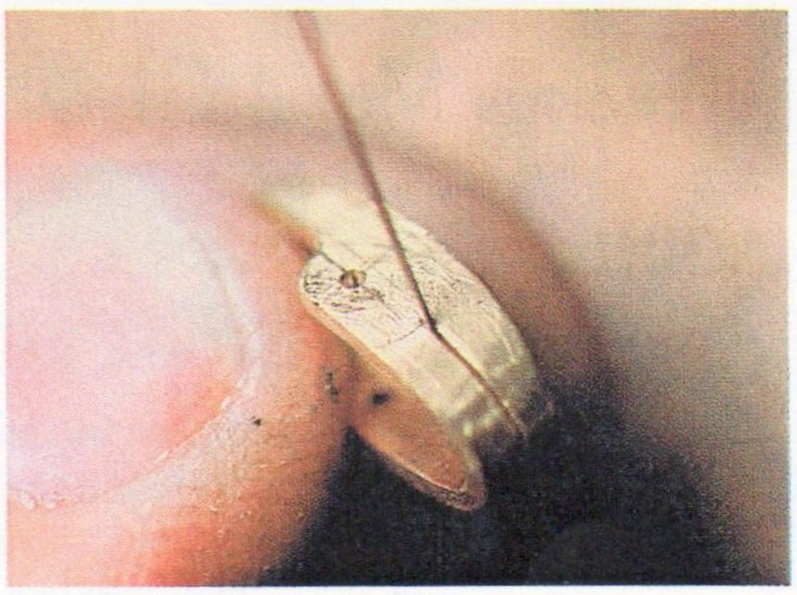
12 Cut two matching oval tops out of the remainder of the 18KYG sheet, rolled to 0.7mm thick. Bend them to fit the curved frames. Solder them together.

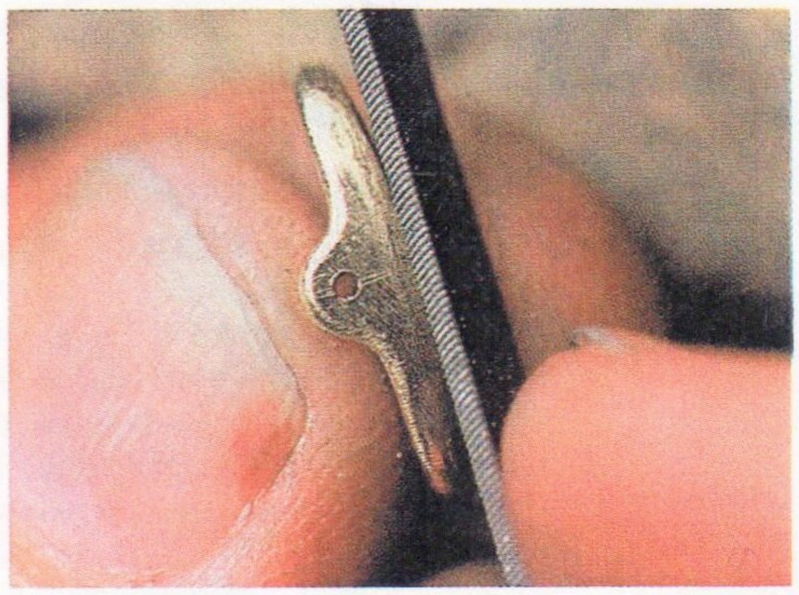
13 Drill 3 holes into each of the tops of the oval pieces, proportional to the oval shapes. Also, scribe parallel lines around the ovals 2.3mm up from the bottom, flat sides. Drill the rivet holes 1mm wide with the center at 1.6mm from the flat side up.





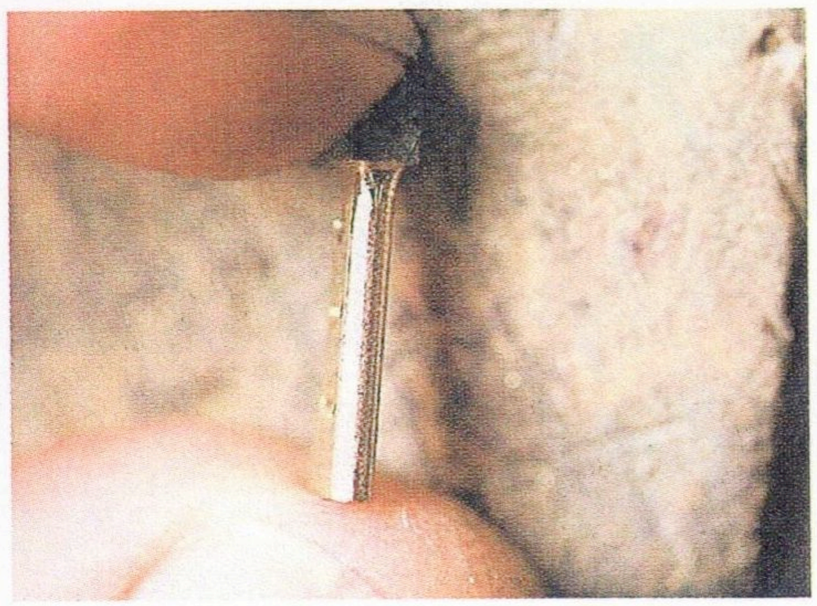
14 Using a jeweler's saw, cut the bottoms of the oval pieces, leaving the original depth under the rivet holes. File those into rounded edges.





15 For the springs, use a 0.5mm thick 18KWG sheet rolled down from 1mm and do not anneal it again.

The springs will be oval sheets cut a hair smaller than the opening of the oval backs. Cut out two. Polish them on both sides. Prepare a 1mm straight length of 18KYG round wire. Pre-polish the oval

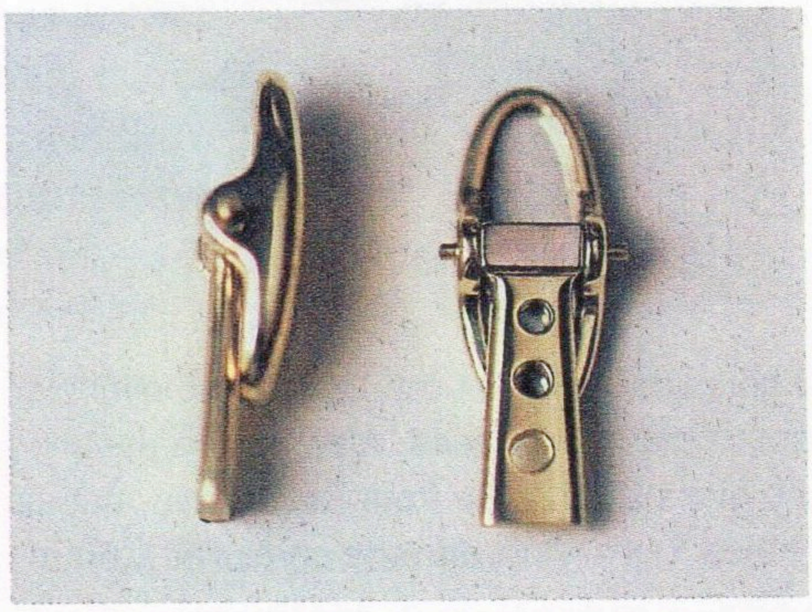


backs as well as the stems. Then countersink the rivet holes on the backs. Adjust the 18KWG covered parts on the stems to make them fit into the back easily.

16 Pre-polish the holes on the backs and stems.

17 Check the system: insert the spring into the back. Take the stem and push it slightly down into the spring to feel the spring tension.

18 Insert the round wire and snap the wire into the holes in the back piece. The corners on the tops of the stems prevent the backs from swiveling freely from side to side. The corners help the back to stay in place. You can adjust the tension by bending the spring a little. The buildup and release of the tension has to be tight but smooth. You'll figure it out!



Important: Do not solder the assembled stems with the springs and backs onto the cufflink fronts. Once everything has been soldered, set, and pre-polished, then assemble the system and rivet them.

Also, proportions between the lengths of the stems and backs is something you have to figure out yourself. You should play with a shirt and find out how comfortable and secure your system works. 1mm one way or the other can make a big difference. ◆

Born and raised in Switzerland, Christoph now makes his home in Southern California. In 1986, at the age of 26, he took first place in the American Gem Trade Association's prestigious Spectrum Awards. Since then, he has won five Spectrum Awards and an Argyle Diamonds International Design Award. He can be contacted at www.christophkrahenmann.com.