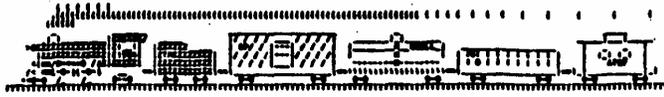




# The OPAL EXPRESS

Published monthly by the  
American Opal Society...



Vol. 22 No. 11  
November 1990

FROM THE PREZ!

Gone Huntin', see everybody at the show.

Dick Koch

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### *Happy Thanksgiving*

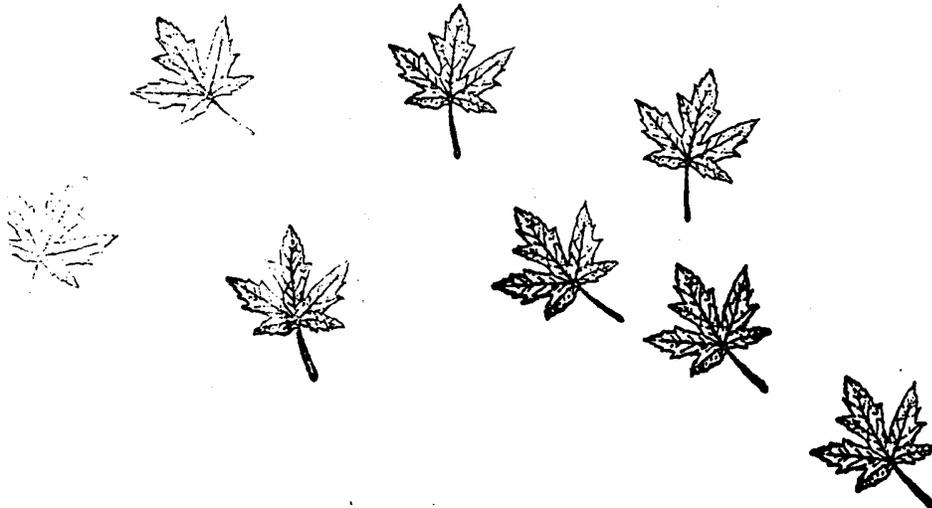
*At this happy Thanksgiving season,  
It is a pleasure to pause and express our  
Sincerest appreciation for the wonderful gift  
Of your friendship and goodwill.*

*We wish you a warm and happy Thanksgiving.  
May you and those you love always  
enjoy things in life.*

*Very sincerely,*

*The American Opal Society, Inc.*

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***That Fickle Dame Opal***

Due to the very nature of the occurrence of the color in cheaper grades of opal, it does not lend itself very well to the cutting of cabochons which show much display of color or flash. Generally speaking, the color or fire as it is sometimes called, occurs as thin seams as described in Figure No.1 • As we have tried to point out in Figure No.2 that it is difficult to obtain a good, strongly colored cabochon when the color seam runs through that part of the stone that does not show itself to the eye. Remember that any gemstone that you cut must show its beauty to the eye of men. The fact that you have a fine play of color inside of the opal may by a consolation to you but it will never please a beautiful woman nor will it elicit a second glance from someone who loves and appreciates opal.

If you happen to have a good stock of fine opal with a good play of color throughout all of the pieces in your stock, you will not be interested in this article. You are a lucky person. Opal in its better grades is expensive and is becoming more so as time goes by. This article is directed to those who have bought cheaper grades of opal and have been frustrated by attempts to overcome its apparent fickleness. We would advise, always that the novice buy his opal from a reputable dealer until he becomes proficient enough to evaluate opal. No known method has been developed to duplicate nature's manufacturer of this beautiful material. This fact and the depletion of known sources is going to make future prices of opal go higher. Therefore, we amateur lapidaries must bear down on new ways of utilizing the cheaper opal and working harder to use all of its hidden beauty. We would suggest to any person who is interested in opal that they read Mr. Frank Leechman's book entitled "The Opal Book". This book is available to you through the Lapidary Journal's book department. Mr. Leechman treats the subject of opal very thoroughly and the reading of this book will educate you in opal lore and its occurrences \ throughout the world. He also treats the subject of opal lapidary work to some extent. We will try to expand on this subject to some extent in light of better methods available at this time and in this country.

The methods and recommended procedures that follow are not exclusively ours and have been known to lapidaries for many years. It has only been in recent years, though, since epoxy cement was introduced to the lapidary trade, that we could absolutely depend on the uniting of various gem materials together. The methods described here are hard work and require that you be willing to learn to generate flat surfaces. Further that you be willing to dop and redop your stones to obtain the required shape and symmetry. But in view of the ultimate results, you will be glad that you undertook this project in its various phases.

We have shown in Figure No.3 the idea of obtaining a cabochon from opal rough and utilizing the color seam as the crown of the stone. We will call this a modified lentil cut cabochon, lacking any other name for it. We must saw or grind down to the color seam, and after determining that we do have a color seam that does have a strong play of color, we scribe the outlining of our future gemstone on its relatively flat surface. If you have never cut a doublet cabochon, this will be your first. Cut off the excess material with your saw outside of the scribe marks. Work your stone down on your 320 grit wheel exactly to the scribe mark and be sure that your stone will slip into the template past the color seam. This done, let's work the shape of the crown into a low dome bit being sure that we tie the crown into the bottom of the fire seam. Sand and polish this surface. Work the bottom of the cabochon in the same manner, being sure not to overcut. This procedure will cause you to have to dop your gemstone twice to obtain the desired results. The shape of this gemstone will limit its use to jewelry that is designed for its use. This stone is not a doublet. We will talk about doublets next and we think you will quickly see the difference.

In making a doublet, it is apparent that we are going to unite two different types of materials together to get a better and stronger gemstone. Let us say now, that we should never consider making any kind of a gemstone to deceive anyone. The purpose should be to enhance the beauty of the final product and to give it greater strength.

Back some years ago we were faced with the problem of cutting thin seams out of opal rough. We happened to be in Gem Village, Colorado on a vacation trip, while there we

THAT FICKLE DAME OPAL (continued)

had a talk with Mr. Rhode, who was the innovator of the P.D.Q. gem drill. He had just added a saw attachment to this versatile little tool. When I told him of my problem he said, "By George, Mac, I think I have just the thing to solve that problem of yours."

With this, he and I visited his work shop, where he showed me his neat little saw. We sawed out several seams and it worked fine. Of course, we bought one before we left and have cut many seams of opal with it since. This saw has a stable, fine bronze blade that is water cooled. This saw is ideal for the problems that follow. The blade is so fine that it is possible to saw out closely layered seams and get separation without loss of valuable opal.

The problem, that we have mentioned above, now faces you. That is the separation of the opal seams from the rough and valueless opal stock. It is apparent from an examination of figures No. 4,5,6,7, and 8 that we must cut or grind these seams out of the rough so that we may use them in our doublets and triplets. A faceting saw or the P.D.Q. saw or its equivalent is the ideal way, in our opinion, to do this separation work. Now don't quit reading here. We say that this is the best way not the only way. If the rough you have in your stock has only one seam, you may grind out the desirable seam with a grinding operation, or you may use a thicker-bladed rock saw. We don't advise this if your opal rough has several seams and we think the reason is quickly apparent. Figure No.6 will give some idea of what we will try to accomplish with our sawing operation. If you saw your seam cut, as advised, we would further advise that you leave just a little of the colorless opal on the seam. This material will give you some chance to generate a flat surface before cutting into the gem grade opal. Let us say now that you have cut several seams out of rough stock. Let's let these aside, for the time being and consider some lapidary procedures that haven't been considered up to this point.

We must at this time generate flat surfaces on both sides of all the seams that we have cut. If you are thinking of doing this with a horizontal running grind stone, forget it. You will soon see why this dame Opal is so fickle. You will wind up with more opal fragments that Carter's got liver pills. A faceting lap is o.k. and so is the slow running cast iron lap with plenty of water and fine grit. We like to generate our flat surfaces with plate glass grit and water. Doing this by hand insures less breakage and less loss of valuable opal seam material.

We use a large, thick (1/2" if possible) piece of plate glass about 12" x 12", well supported to prevent flexure while grinding. Usually 320 abrasive grit is about right to start the grinding of the opal seam. Use a pinch of grit and a small amount of water and start rubbing your opal seam, flat side down, all over the face of the plate glass. Do not use too much pressure at first for you still may break the seam. As the seam begins to come around to flatness, you may use increased pressure but be sure that it is applied to all parts of the seam. Sweep the opal seam over the entire surface of the plate glass, as we will want this glass surface to serve us in the future as a flat. We recommend that you follow this procedure with all of your seams and you will always have a fairly flat surface to work with. We will want to flatten both sides of the seam, as we will finally select the most attractive side for the top of our doublet or the cap side of the triplet. After having ground the surfaces down to color and to apparent flatness, let's take a soft lead pencil and mark a cross completely across each flat side of the opal seams. Now, by grinding a short time, check and see if the black mark of the lead is gone from the flat side being checked. Now we must progress to finer stages of grit to remove the abrasive marks of the 320 grit. Clean up with soapy water, washing the plate glass, opal seams and your hands before going to a finer stage of grit. We have always followed our 320 grit with 600 size grit, using the same procedure as before. After a thorough working over the seams with 600 grit, no polishing is found to be necessary with either the doublet or the triplet intended seam surfaces.

Here we must decide which course we will take in using our opal seams. This is not as hard to do as it seems at first. Let us give you some of the procedures that we use and we think that you will find the job not only easy but very interesting, too.

We use black glass or tile in the testing of our seams. This black glass or tile is sold by tiling contractors, and is very economical if purchased in broken pieces, which will do very nicely in our test work. It generally has one highly polished side and this is the side we will use in our test work. We wet the black glass and also the newly

THAT FICKLE DAME OPAL (continued)

flattened seams of gem grade opal with water and pressing the seams down firmly on the polished face of the black glass, we take our temporary sandwich to a source of incandescent light or sunlight. We must never test with fluorescent light, as it is very nearly monochromatic and will not give us a fair means of judging our opal. With several seams pressed down on wet, black glass, we will probably find at least one that stands out over the rest, the color being greatly enhanced by the temporary marriage to the black glass. Usually this type opal is semi-translucent and after a number of these tests, you will be able to judge the potentially usable opal for doublets and triplets by just looking at it in the rough. This test, of course, is what we must lean on to base our final judgment as to whether we will use the sewn for doublet, triplet or not at all. Opaque opal seams are o.k. for doublets. Some opaque opal is very beautiful but black backing does not enhance its beauty at all. Therefore the backing does nothing but strengthen it. If the opal color is given brighter, stronger color by the backing, then this is what we are seeking. A hard and fast rule is this - if the seam is thick, use it for doublets. If it is thin, use it for triplets. There will be exceptions to this rule but as you become more adept at the test, you will be able to recognize them. Many of the seams that you cut out will not be usable at all. Isn't this the way it is with all rockhounding? Every stone we pick up is not a gemstone but we keep on looking just the same until we find a really outstanding one and they don't come along too often.

In making a doublet we do not ordinarily recommend that you cut the type of cabochon described in Figure No.5 unless it is to be mounted in the type of mount where the bezel will cover the thin black border that will show around the stone. An examination of Figure No.5 will indicate what we mean by this statement. Also those types of doublets described in Figures 6 and 7 have to be confined to the types of mounts that they will fit into. The modified lentil cut doublet is a good type of cut for cabinet exhibited stones, as the opal crown is always in full view and the bottom, being polished, may be turned over and examined. Also the type jewelry mounts that a lentil cut stone fits into will ordinarily be open at the bottom and this polished base makes the gemstone somewhat more attractive.

In Figure No.7 we have attempted to show the evolution of the doublet gemstone. The backing should be made into template and any material that suits your fancy may be used. We use basanite here in our work. It is cheap and takes a beautiful polish. If your opal sewn is especially thin, we recommend that you use black jade. Jade is really tough and used sparingly, it is fairly inexpensive. Jade also adds dignity to the finished gemstone, when telling someone the names of the stones making up the doublet. First select a piece of your backing material, about the right thickness and flatten one side only well enough to scribe the shape of your future gemstone. Cut down to your scribe marks and be sure not to carry any fractures inside of the scribe lines. You can be sure of no fractures by grinding close to your scribe lines with your 320 stone and using "whisper" pressure. After obtaining a nice, symmetrical template, we need to refine the flattening of the side we choose to face the opal seam. This is done in the same manner that we used on the opal seams. No polishing is necessary.

We are now ready to bond our sandwich together. Of course we intend to join the two flattened sides of the opal and the backing. You will be the judge of which side of the opal that will be the crown of the stone. Before bonding or gluing, both the opal and the backing should be very clean. Wash then with soap and water and, after drying, clean both surfaces with acetone. Acetone will remove all residues of grease. After cleaning with acetone, do not touch either surface with your fingers, as this will contaminate the surfaces again with grease. We use epoxy cement in bonding our stones together and have never had one to part on us. Mix the epoxy according to the manufacturer's instructions and apply a thin film on the surfaces to be bonded with a toothpick. Press the two stones together and slide back and forth to remove air bubbles and also insure good contact. We use heat to accelerate the setting of the cement. This heat is applied in the form of a heat lamp that is started cold and allowed to gradually become hot enough to set the cement quickly. After applying the cement as a test we put a toothpick, with a small amount of cement on it, on a piece of scrap rock, under the heat lamp too. After allowing some ten to fifteen minutes of heating time, we remove the toothpick and scrap. These should be allowed to cool sufficiently, and the bonding checked. If the two are bonded together, we can remove our sandwich from the heat and proceed with lapidary treatment without fear of parting.

THAT FICKLE DAME OPAL (continued)

As you can see, by an examination of Figures No. 6 and 7, the bond line of the opal and the backing form the girdle of the gemstone. We have already made provision for the outline of our stone, so after trimming off the excess opal with a faceting saw, we are on our own. The rest of the cutting of the stone is self explanatory, using the above mentioned figures as symmetry references. In our shop we double dop our doublet gemstones and treat the crown and the base as two different lapidary problems.

In our opinion, there are few gemstones that rival the opal triplet for beauty. In addition to its unique beauty, with the incorporation of a hard cap, a man may wear an opal in a ring. If the opal seam has outstanding beauty, the cap will, to some degree, amplify scratches and defects of workmanship. If you are a lapidary, you will immediately recognize from an examination of Figure No.8 that there is a lot of work that goes into the production of this combination gemstone. You may rest assured that it is worth it.

Everything that has been said of the doublet also applies to the triplet as far as methods of generation of flat surfaces, cleanliness and cementing are concerned. We can and should use thinner seams of opal for our triplets, as stated before. We should also try to use those seams that are more visibly affected by the black backing. Opal that is translucent and has a real good play of color will give the appearance of being black opal in the triplet combination, when it is properly backed with black backing.

A careful examination of Figure No. 3, will reveal that there are four flat surfaces that must be generated. We use the same doublets. No polishing is necessary on procedures as used before in making our doublets. No polishing is necessary on any of the surfaces but you must be sure that you have cleaned every vestige of heavier grit off of these surfaces before we cement them together.

One thing that should be said in regard to capping materials - if the stone is to be used in a ring, we should use one of the harder materials for our cap. We would suggest quartz, beryl or sapphire combination.

If the gemstone is to be used in a brooch or earrings, we would advise the use of crystal quartz as the capping material • We have had excellent results using goshenite and morganite as the capping material in our shop work.

It must be said, finally, that the amateur lapidary must use hard work and all of his skills to overcome the fickleness of that "dame Opal." Most of us don't have an surplus of money to invest in expensive opal. The fact that we are interested in the art of the lapidary and have taken it as a hobby, indicates that we do have time to invest in the betterment of the art. The methods that have been outlined here will allow you to make use of the cheaper grades of opal and by utilizing patience, hard work and your time, make it into delightfully beautiful gemstones. The next time you deal with that "Fickle Dame Opal" you will be able to woo her to her full beauty and maybe get her on you lap for her serious consideration in a doublet or triplet marriage.

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Note: I realize that this is a very old article, bit feel that it could be valuable to some of our members. Thank you, Joyce.

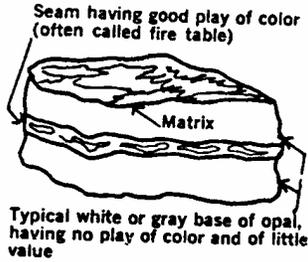


Figure No. 1—A typical piece of seamed opal in the rough.

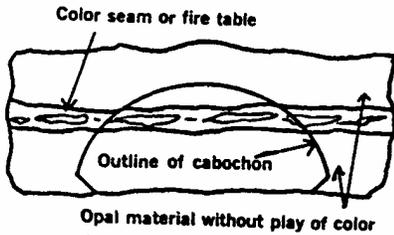


Figure No. 2—This drawing shows why many cabochons cut from opal rough do not display a play of color.

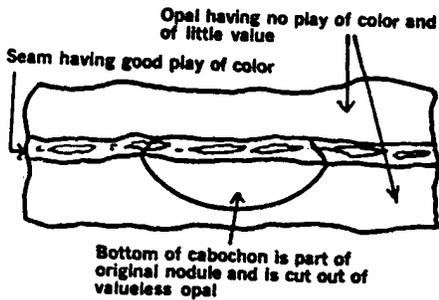


Figure No. 3—Showing modified lentic cabochon cut to fully utilize the color seam and display the hidden beauty of the opal.

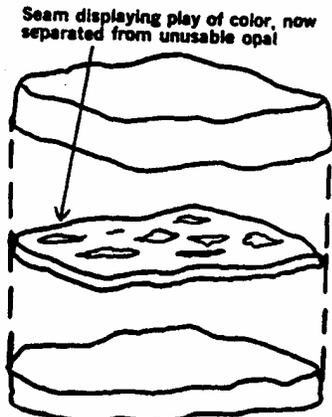


Figure No. 4—Showing how the color seam should be sawed away from unusable opal.

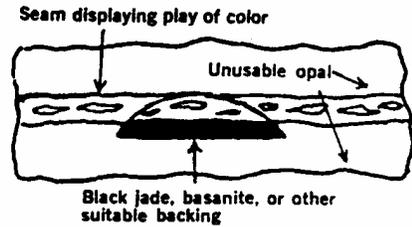


Figure No. 5—Showing low domed doublet cabochon utilizing color seam as dome and backing with hard, tough material for beauty and stability.

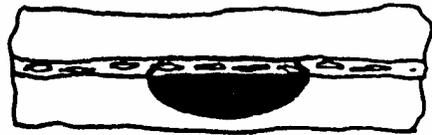


Figure No. 6—Showing modified lentic cabochon cut using tough backing material.

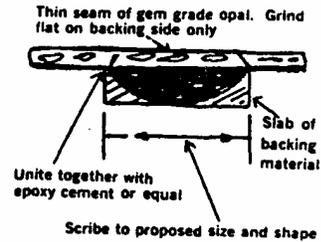


Figure No. 7—Showing evolution of a doublet.

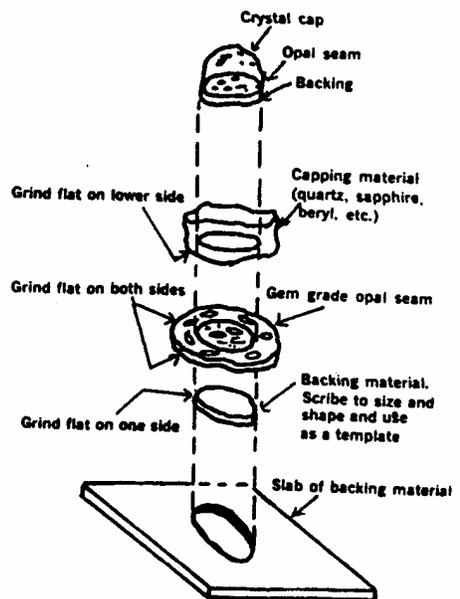


Figure No. 8—Showing evolution of opal triplet.

An elderly gentleman passed his grand-daughter's room one night and overheard her repeating the alphabet in an oddly reverent way. "What on earth are you up to?" he asked.

"I'm saying my prayers," explained the little girl. "But I can't think of exactly the right words tonight, so I'm just saying all the letters. God will put them together for ire, because he knows what I'm thinking."

AUTHOR UNKNOWN

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My grandfather once told ire that there are two kinds of people; those who do the work and those who take the credit. He told ire to try to be in the first group; there was less competition there.

INDIRA GANDHI

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FROM THE GENERAL MEETING, OCIOBER 11, 1990.

We had a "DOPPING" good time. There was a few blisters, a few blue words and a lot of opal dopped for the HANDS Ct~ booth at the show.

A special thanks to all of you who came out and helped. We wouldn't have been able to do it without you.

Due to the Show and then the Thanksgiving Holiday in November there will not be a General Meeting for November, however the December Meeting will be held on December 13, 1990, at 7:00 P.M. in the Library in Santa Fe Springs. This will be the last meeting we will be able to have here as the facility is being taken over for a Literacy Class. We have checked into other rooms in the same location, and there is none available. If you have any suggestions for the January meeting, please contact the office and we'll look into it.

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Here it is, coming up on the end of another year. It's time to start thinking about "ELECTION OF OFFICERS". And don't forget, that ever popular "DUES RENEWAL" time, a favorite of us all.

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N O T I C E

We have received notice from the Filitor, Coleen Guerrette, that she will be resigning her position following the December issue of The Opal Express, due to increasing work load she feels that she can no longer do justice to the newsletter.

Is there anyone out there who would like to take over this very prestigious position? You would have the support and gratitude of the entire membership, as well as the satisfaction of knowing you were contributing a most valuable service to YOUR OPAL SOCIETY.

For anyone interested, either contact the office (213) 869-0527, or one of the Board Members, (listed on the back of the newsletter) directly. Or you could see one of them at the show. You see, there goes the excuse of not being able to reach anyone.

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We, The American Opal Society, Inc., wish to thank everyone, and you know who you are, for their time, support and hard work, in making our show the success that it was. You all deserve a great big pat on the back.

SEE YOU ALL AGAIN NEXT YEAR ! ! !

AMERICAN OPAL SOCIETY INC.  
OFFICERS AND DIRECTORS

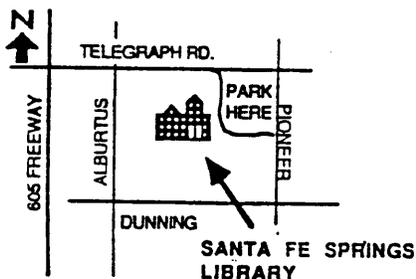
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