

THE MIDWEST FACETER



VOLUME 4, NO. 5
JULY, 1983

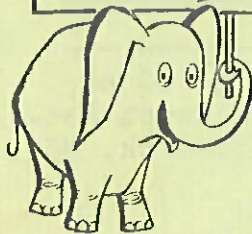
AN EDUCATIONAL PUBLICATION OF THE MIDWEST FACETERS GUILD

THE MIDWEST FACETER
122 LOIS LANE
MT. CLEMENS, MI. 48043

NON-PROFIT ORG.
U.S. POSTAGE
PAID
TOLEDO, OHIO
PERMIT No. 800

Mildred Vosburg
3040 Avalon Street
Pontiac, MI. 48057

DON'T FORGET!



MEETINGS
SEPT. 3rd - BIRCH RUN, MI.
OCT. 29th - ANNUAL MEETING
12 MT. CLEMENS

THE MIDWEST FACETER

Volume 4, No. 5

An Educational Publication of the Midwest Faceters Guild

OFFICERS

Harold E. Rice, President
Lawrence Murray, Vice Pres.
Joan Connor, Secretary
Tom Gibbs, Treasurer
(313 282 3745)

COMMITTEE CHAIRPERSONS

Education - Dorothy Loyd
Membership - Art Kalinski
Historian - Vivian Randall

BOARD MEMBERS

Bernard Bush
Joan Connor
Tom Gibbs
Dorothy Loyd
Ernie Michaud
Dave Miller
Lawrence Murray
Ed Myers
Harold E. Rice

EDITOR - Helen Murray, 1104 Greenwood Ave., Toledo, Ohio
43605. (419 693 5161)

Permission to copy, excerpt or reproduce material from this newsletter is freely given. Please credit the author and source. If convenient send a copy to our editor.

Attention Guild Members !

Art Kalinski, your membership chairman, keeps the mailing list up to date. Use the form below if your name and address contain errors or if you are renewing your membership. New members may also use the form to join.

TEAR OFF

TEAR OFF

TEAR OFF

FACETERS GUILD APPLICATION FORM

NAME _____ COMPLETE ADDRESS _____

TELEPHONE _____

The fiscal year is Jan. 1st through Dec. 31st. Dues are \$5.00 per year or portion of a year. Make checks payable to: The Midwest Faceters Guild and send to Art Kalinski, 3357 Doremus, Hamtramack, MI. 48212.

EDUCATIONAL MEETING
MIDWEST FACETERS GUILD
SATURDAY, SEPT. 3, 1983
BIRCH RUN, MI.



LOCATION

THE HOME OF KATHLEEN & ED MYERS
11630 S. GERA RD.
BIRCH RUN, MI.
(517) 624 9178

Through the courtesy of Kathleen and Ed we will be treated to a day of fun and goodwill PLUS our official meeting and workshop program. This is how it will work:

10:00 A.M. Board will meet.
Committee meetings at the discretion of chairman

11:30
to
1:00

Break for Lunch

Table service, beverage, light refreshments available. There will be a grill set up in the yard. You may bring your own meat and a dish to pass for either the lunch at noon or the big group dinner at the close of our meeting. Or, if desired, you can bring something for both.

1:00 P.M.
to
2:30 P.M.

OFFICIAL MEETING

2:30 P.M.
to
4:00 P.M.

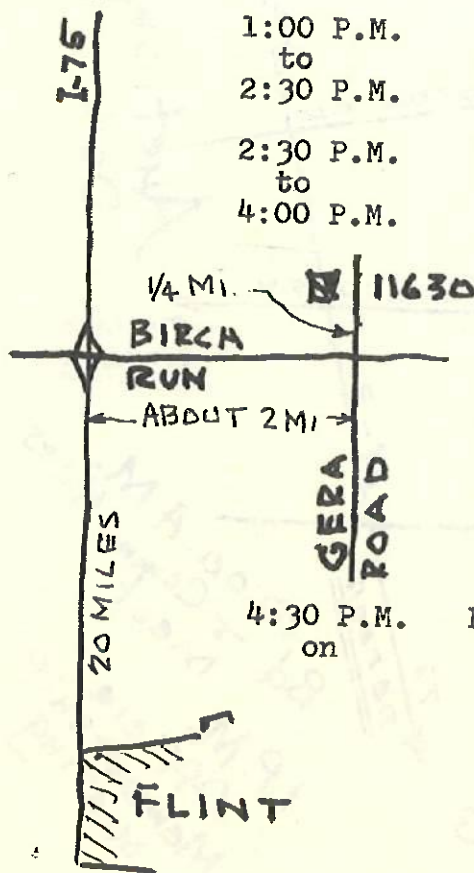
EDUCATIONAL PROGRAM

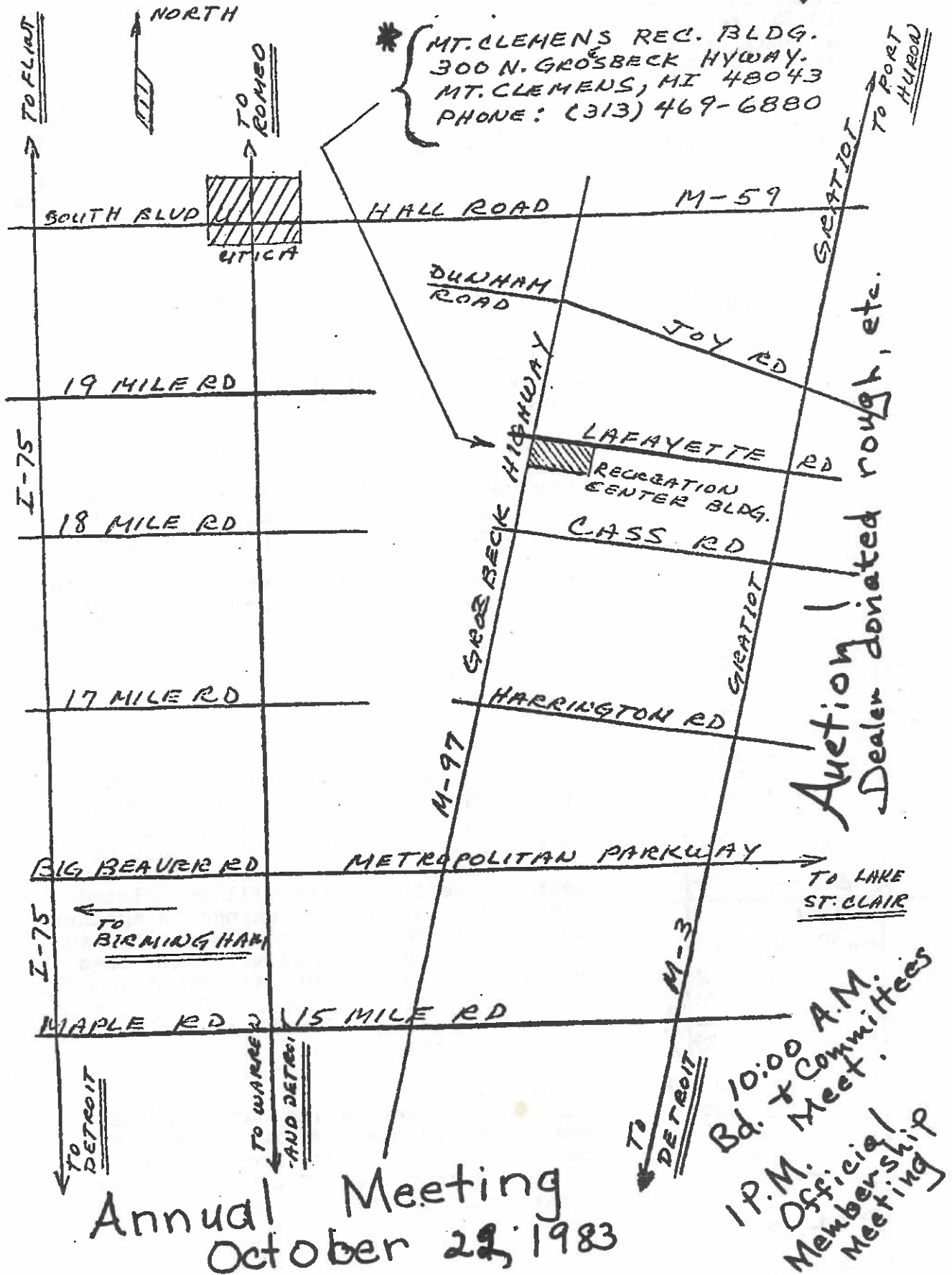
Workshop program will involve the discussion of four topics. As we come in we will be divided, by number, into 4 groups. Each group will have a discussion leader and select a reporter. Fifteen to twenty minutes will be allotted each group before they change to another leader and another topic. In the course of the program everyone will have been in four groups and entered into discussion on four topics. This is a talking and a sharing time for all members. Bring in your techniques and your problems.

4:30 P.M.
on

FELLOWSHIP TIME

The grill is set. Bring out your meat and a dish to pass. Table service and beverage is furnished. Some chairs will be needed so bring, if convenient. Arrange to car pool. But come !





Faceters Fair - Gem & Jewelry Show
Lucas County Recreation Center
Maumee, Ohio

May 14-15, 1983

Financial Report

INCOME

12 Retail Dealers @ \$250.00, reduced to \$245.00 as we paid the Sales Tax license of \$5.00 each. (\$125.00, our error, not collected yet)	2815.00
7 Demonstration Dealers @ \$100.00 each, only 3 reduced by Sales Tax License of \$5.00 each.	685.00
Raffle	1410.00
Door Sales & Advanced Tickets	1567.25
Security Deposit Return	200.00
Magazine Sales	117.96
Pin Sales	58.00
Printing Design Profit	2.80
Newspaper Refund - ad did not appear	39.00
Newspaper refund - ad did not appear	38.60
<u>Total Income</u>	<u>6933.61</u>

Expenditures

Building rental (Non-profit rate) Rec. Hall I and Luke's Barn Fri., Sat., Sun. for Hall; Sat., Sun. for Luke's Barn	1210.00
Security Deposit	200.00
Insurance	114.00
Trophies	148.46
Ribbons	218.68
Judges (10)	500.00
Lunches for Judges & Red Cross Personnel	65.00
Special Award	37.50
Printing	1172.02
4,000 Advance, 5,000 Raffle tkts., all letters, rule books, 10,000 Diamond Flyers, 6,000 final flyers, 400 posters, Music Sheets, Guild Wallet cards, Name labels, 1,000 Membership forms to accompany all letter communication.	
Postage	227.85
All large mailings done on non-profit permit of 5.2¢ for up to 3½oz. weight. 1,386 letters sent by permit. Individual and smaller than 200 mailings went at regular rate of 20¢ for 1st oz. 17¢ for the second oz., etc.	
Publicity	388.49
Paid coupon advertisement in 17 area wide newspapers, the Blade and on Cable TV for 1 wk.	

Miscellaneous		979.76
Portatoilets (2)	120.00	
Drapery partition	146.00	
Table coverings	182.00	
Permament sign	36.00	
Truck rental	116.02	
Hospitality	54.09	
Case rental (5)	25.00	
Glass repair	11.89	
Amigo rental (4)	100.00	
Projector rental	17.50	
Birthstone picture sets		
(2) and Slide Program	56.00	
Bank Deposit	10.00	
2 rolls tkts.	10.00	
Blue Prints	3.54	
Tape, Masking	4.00	
Music, Sing Along	9.17	
Mis. Supplies	63.55	
Elec. Bulbs, locks, ex-		
tension cords, lumber,		
Bulletin Board		
Taxi fare from Airport	15.00	
Show Security		1044.00
<u>Total Show Expenditures</u>		<u>\$ 6305.74</u>

Summary

Total Income	\$6933.61	
Total Expenditures	<u>6305.74</u>	
Present profit balance on Show	\$ 627.87	
Outstanding credit (to date)	<u>175.00</u>	
Final balance on Show should be		<u>\$ 802.87</u>

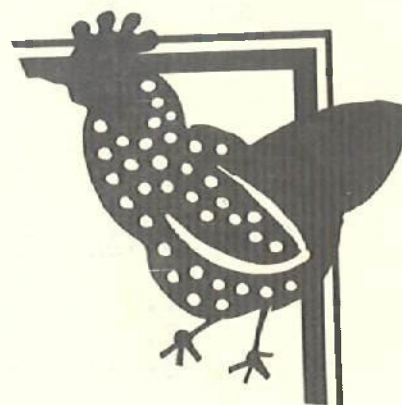
Comments

We now have very excellent and extensive electrical equipment for display tables, dealer and special booths due to the courtesy of our members. In addition, we have a large supply of fire retardant table covering, tape, and other miscellaneous materials.

Very fine auction material was given to Alex Marshall by our dealers for a Club Auction. This sale will add to our show profit. The auction will be held at the annual meeting in October. We also have a lovely ring given to us by the Fowlers. It will be used as a raffle prize.

All of us worked hard, contributed extensively of our time and consequently our club had another outstanding show. Our thanks to one and all. Helen Murray, Show Chairman

Plenty to Crow About



SHOW INFORMATION BY KATHLEEN MYERS

Total case entry was 102. The breakdown follows:

Non-Competitive - 56

Birthstones 12
Dealers 3
Specials 14
Faceting
Societies 4
Individuals 23

Club Alley

6 entries, 10 cases
Mt. Clemens, Toledo,
Livingston

Competitive

95 total entries
33 case entries
62 individual entries

12 were mail in entries

Stones To Be Examined

89 singles
60 from cases
149 total stones

JUDGES

Kent Cales	-	Ohio
Arthur Grant		N.Y.
Sean Sweeney		MD.
Thomas Ricks		N.C.
Edward Myers		MI.
Peter Riva		MI.
Alex Marshall		MI.
Ted Engel		Canada
Gary Kocher		OH.
Betty Crawford		OH.

CLERKS & HELPERS

Geraldine Reed
Doris Shannon
Angie Springer
Shirley Horton
Irene Schleich
Betty Mack
Cliff Rosencrantz

CALLIGRAPHY

Russell S. Colley
Gary Kocher

AWARDS

Class I (24 entries, judges, Ed Myers & Gary Kocher)

1. Cleon Kortge	99.75
2. William McVety	99.05
3. H.S. Fangrath	99.00 (Australia)

Class 2. (14 entries, 3 stone unit, Judges, Arthur Grant & Peter Riva)

1. Cleon Kortge 99.9
2. William McVety 98.5
3. Michael Saclier 96.3 (Australia)

Class 3 (Natural - 5 entries, Judges, Ted Engel & Ed Myers)

1. Cleon Kortge 98.4
2. Larry Murray 93.5
3. William Bowles 92.1

Class 3. (Synthetic - 10 entries, Judges, Ed Myers & Ted Engel)

1. Dick Fairless 99.75
2. William Horton 99.65
3. Cleon Kortge 98.1

Class 4. (Original Design, Dave Miller Award, Judges, Kent Cales & Ed Myers)

1. William J. Horton 99.8
2. H.S. Fangrath 97.65 (Australia)
3. Russell Colley 96.525

Class 5. Judges: Kent Cales, Ed Myers

1. Dick Fairless

Class 6 Judges: Sean Sweeney, Thomas Ricks

1. Dick Fairless

Class 7. Judges: Sean Sweeney, Thomas Ricks

1. William Bowles

Class 8. Judges: Thomas Ricks, Sean Sweeney

1. Elery Holt

Class 9. Judges: Thomas Ricks, Sean Sweeney

1. Leonard Domorsky

Class 10. Judges: Thomas Ricks, Sean Sweeney

1. Dr. James Thompson

Class 11. Judges: Thomas Ricks, Sean Sweeney

1. David B. Miller

Class 12

Judges: Thomas Ricks, Sean Sweeney

1. Larry Murray

Class 13

Judges: were Betty Crawford and Alex
Marshall for Classes 13,14,15,16,17,
and 18th.

1. Ernest Cornish

Class 14.

1. Lillian Lundin

Class 15

1. Ike Niles

Class 17

1. Ike Niles

Class 16

1. Bruce Lundin

Class 18

1. Toledo Faceteers



The David B. Miller Award

This award is established in honor of David Miller of Flint, Mi. Dave has been a faceting teacher for many years and has always willingly shared his skills and knowledge with others. He has been instrumental in the founding of the Midwest Faceters Guild and serves on their Board of Directors. Dave specializes in designing his own cuts so this award will be given each year to the winner of the "Original Design" class.

The first recipient is William J. Horton.



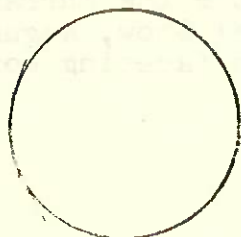
IN THE WINGS

THOUGHTS FROM KATHLEEN MYERS

Classes 1, 3, and 5, prescribed cuts, could be judged before the show opening date. Mailed in to us, re-mailed to judges.

Have a standard container to make both judging, identification and displaying easier and more attractive. I am searching for a container. This size plastic box is the best I've seen so far.

It really needs to be deeper but would be adequate in most cases.



Looking for helpers to revise rules and thinking up new classes, if needed.

I need two designs for the prescribed cut classes. I have in mind a CZ and maybe tourmaline or peridot.

The only idea I have for a new class might be a Faceting Society Award. Members, what do you think? Or maybe, Gemstone Photography? or Best Written Article in Faceting (so many words or pages, sort of restrictions, could be informational or instructional) could become classes.

Just thoughts !



BEAUTIFUL GREEN VESTS AVAILABLE !

Many of us wore them proudly at the MWF Show in Kalamazoo.

Cost: Vests	\$13.52
Embroidery	6.03
Total	\$ 19.55

Sizes: X-small (30-32)
Small (34-36)
Medium (38-40)
Large (42-44)
X Large (46-48)

Cost: Quilt Jackets

Jacket	\$27.56
Embroidery	6.03
Front Name & Tax	
Total	\$36.00

Sizes: Small (34-36)
Medium (38-40)
Large (42-44)
X-Lg. (46-48)

If members wish to sew their own vests they can be embroidered for \$6.03. Or a patch of the same emblem is \$6.03. Orders will be taken care of by Kathleen Myers, 11630 S. Gera Rd. , Birch Run, Mi. 48415. (517) 624 9178)



OFF TO SPOKANE, WASHINGTON

Dave Miller, Kathleen & Ed Myers, Harold Rice and the the Murrays are attending the Combined NFMS & AFMS Gem & Mineral Show, August 4,5,6,7, 1983. Dave and Larry are entering cases in faceting competition.



Yes, I plan to keep everyone busily involved. So, please, just decide now that you are one of those working members above ! You will be expected to contribute. Our club members are so knowledgeable and talented. "Sharing With Others" should be our goal. Our former editors, Joe Zukowski and "Gib" Hocking, did such a fantastic job in starting our publication. It gained recognition instantly. We shall always be grateful to them.

With humility but with confidence that club members will help, your editor will accept the goal to produce an outstanding educational newsletter worthy of the respect of all faceters. Please note education is stressed. This was our former editors' goal. Let us continue to make it ours.

May I share with you these ideas. Won't you please add your suggestions? ADVISE ME ! (Items are not listed in order of importance or priority.)



1. Send copies to Guilds known to us. Encourage exchange of newsletters.
2. Get Dave Miller to do a regular column. (He has promised)
3. Encourage members who can't attend our educational workshops to participate in various ways. (Details, later)

4. Have code on address label if dues need to be paid.
5. Perhaps a column on Memorials, Weddings, Illness, etc.
6. Include a good book review occasionally.
7. Secure Facet Designs by leading cutters in the U.S. Try to cover all areas of skill, beginner to expert.
8. Include a Speciality Subject each month.
9. Inaugurate a "Tips" column. (Bill Horton will start this.)
10. From time to time include biographical sketches of members.
11. Encourage letter writing or tape talk among members, local and distant.
12. Run an "Exhibiting Tips" column.
13. Include case designs and building plans for them.
14. Run guest articles on judging, methods of judging, etc.
15. Include notes on satellite group meetings of our members. Help coordinate their formation.
16. Provide material and ideas for satellite groups.
17. Establish a group of regular contributors. (Writing field)
18. Ask Rules Committee to run frequent articles pertaining to competition, judging and explanation of rules.
19. List other faceting shows or gem and mineral shows. Encourage exhibiting or mail-in entries where possible.
20. Initiate a "I'd Like To See Us Do" column for members.
21. Design a new cover

THIS IS JUST A BEGINNING !

GIVE ME YOUR SUGGESTIONS !

THEY ARE WANTED !

WE SALUTE OUR GREAT GEM CUTTERS

AND

THANK THEM FOR THEIR HELP AT

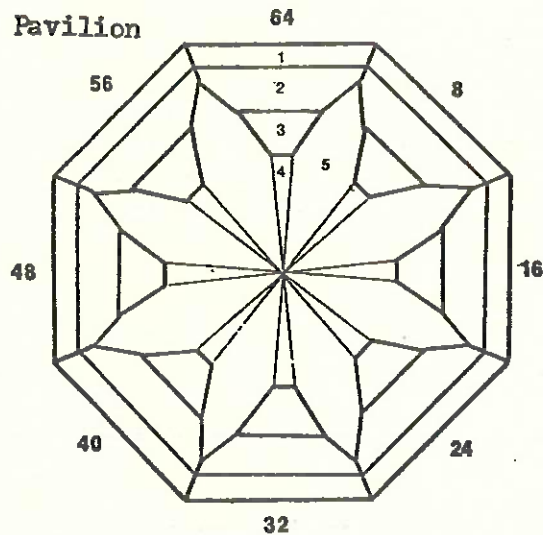
OUR SHOW

DON OLSEN, member of COLUMBIA-WILLAMETTE FACETERS' GUILD, sent us autographed original design cuts. They arrived a day after our show. So we are taking the liberty of printing them here. He was so willing to share with other faceters. We do thank him for his kindness.

Don Olsen

The Agnes Octagon by Don Olsen

Pavilion



Cutting Directions

Angles given are for materials having a refractive index no higher than 1.41° . The prototype was a 6mm aquamarine.

Using a 64 index, preform at 90° , indexing 64-8-16-24-32-40-48-56.

Numbers outside the diagram are index settings. Numbers inside the diagram are suggested cutting order.

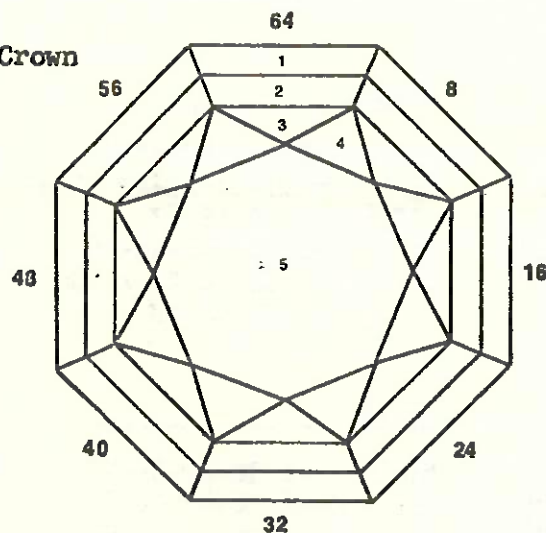
PAVILION

Step	Angle	Index
1	69°	64-8-16-24-32-40-48-56
2	61°	64-8-16-24-32-40-48-56
3	54°	64-8-16-24-32-40-48-56
4	42°	64-8-16-24-32-40-48-56
5	43°	4-12-20-28-36-44-52-60

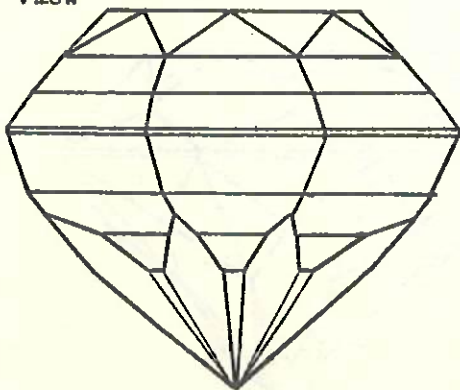
CROWN

Step	Angle	Index
1	53°	64-8-16-24-32-40-48-56
2	43°	64-8-16-24-32-40-48-56
3	33°	64-8-16-24-32-40-48-56
4	22°	4-12-20-28-36-44-52-60
5	0°	Table, any setting

Crown



Side View

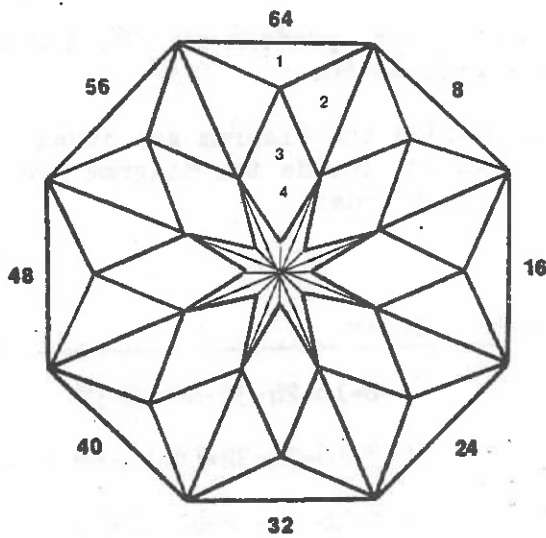


Stars-In-My-Crown Cut by Don Olsen

This new design is one which exhibits a unique effect not evident in the accompanying diagrams---the full reflection of the pavilion culet facets in each of the crown mains. Thus, the illusion given is that of a circle, or halo, of stars in the crown.

The prototype was done in colorless cubic zirconia. The high refractive index of CZ may be responsible for this optical effect; it would be of interest to know whether or not it can be achieved in materials with medium-range refractive indices.

Pavilion



Cutting Directions

Angles given are for cubic zirconia, using a 64 index gear.

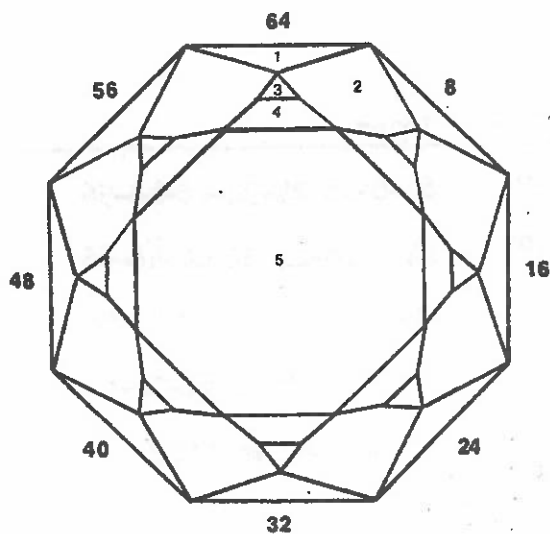
Numbers outside the diagram are index references. Numbers inside the diagram are preferred cutting order.

At 90°, preform girdle diameter at index settings 64-8-16-24-32-40-48-56.

PAVILION

Step	Angle	Index
1	53°	64-8-16-24-32-40-48-56
2	47°	63-1 7-9 15-17 23-25 31-33 39-41 47-49 55-57
3	45°	64-8-16-24-32-40-48-56
4	42°	62-2 6-10 14-18 22-26 30-34 38-42 46-50 54-58

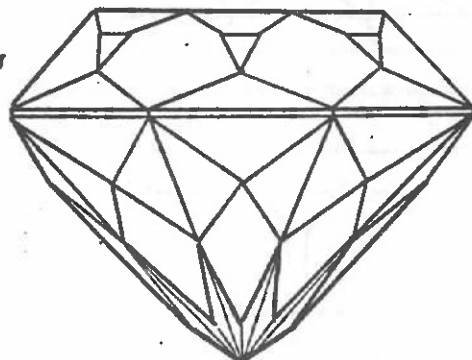
Crown



CROWN

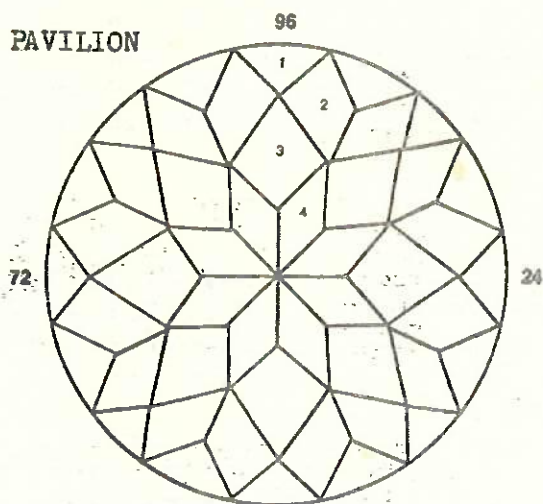
Step	Angle	Index
1	75°	64-8-16-24-32-40-48-56
2	42°	4-12-20-28-36-44-52-60
3	37°	64-8-16-24-32-40-48-56
4	30°	64-8-16-24-32-40-48-56
5	0°	Table, any setting

Side View

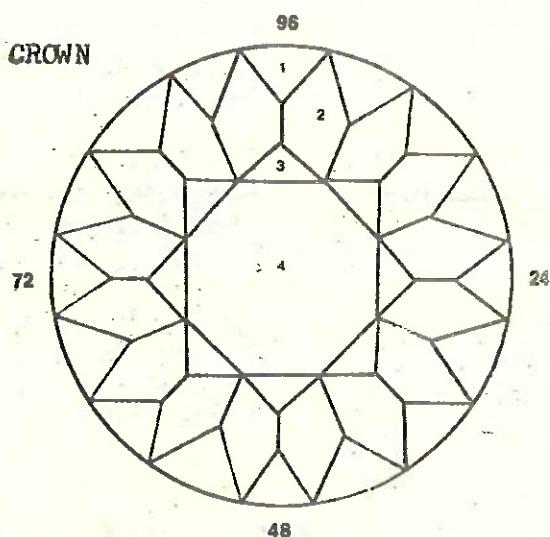


A Mirage Modification by Don Olsen

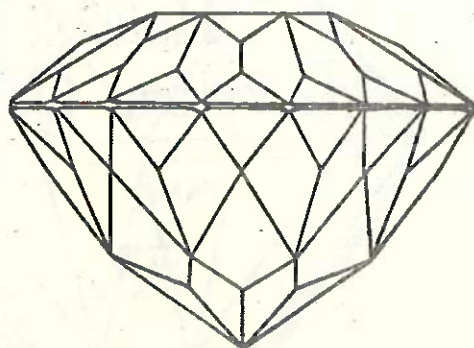
PAVILION



CROWN



SIDE VIEW



This modification of Rimmer's Mirage Cut (FACETS, May 1977) consists primarily in the adaptation of the crown "theme" to the pavilion. In this modification, additionally, a 96-tooth index gear is used rather than the 64-tooth gear.

Cutting Directions

Angles given are for materials in the refractive index range of quartz.

Numbers outside the diagram indicate index reference points. Numbers inside the diagram indicate cutting order.

PAVILION

Step	Angle	Index
1	62°	96-6-12-18-24-30-36-42-48-54-60-66-72-78-84-90
2	55°	3-9-15-21-27-33-39-45-51-57-63-69-75-81-87-93
3	50°	96-12-24-36-48-60-72-84
4	42°	6-18-30-42-54-66-78-90

CROWN

Step	Angle	Index
1	43°	96-6-12-18-24-30-36-42-48-54-60-66-72-78-84-90
2	38°	3-9-15-21-27-33-39-45-51-57-63-69-75-81-87-93
3	31°	96-12-24-36-48-60-72-84
4	0°	Table, any setting

Welcome

NEW MEMBERS

This list should be the new members who have joined since June, '83. A complete directory will be out early in the year.

Pat Barrett
P.O. Box 345
Wyandotte, MI. 48192

John M. Creek
4302 Hanover Dr.
Garland, TX. 75042

Sal Diliberto
P.O. Box 401
Bloomfield Hills
Michigan 48013

Gary Nisen
P.O. Box 942
Elkhart, IN. 46515

Carl T. Norgren
23967 Birch Lane
N. Olmsted, OH. 44074

E.J. Prisbe
604 S. Eastbury Ave.
Covina, CA. 91723

Stanley W. Way
4022 Costa N.E.
Grand Rapids, MI. 49505

Robert B. Thomas
4162 Bryan St.
Oceanside, CA. 92056

Robert F. Wolcott
2131 W. Dixon Lake Dr.
Gaylord, MI. 49735

Robert E. Houser
155 Parkview Drive
Wintersville, OH. 43952

Paul A. Kasarda
P.O. Box 461
DeMotte, IN. 46310

Margaret T. Kufner
1562 Eugene
Menasha, WI. 54952

Dale F. Nicholls
R.R. 3
Carlisle, IA. 50047

Robert K. Somers
51 Lake Side Dr.
Rt. 3
Wayland, MI. 49348

Robert N. Steel
1308 White Oak Dr.
South Bend, IN. 50047

* *** * * * * * * * *

Your editor checked on this. They have moved but they will honor requests. The price is now \$3.00.

Ameriplastic Printing Co.
P.O. Box 7009
Flint, MI. 48507

Street Address in Flint is
4230 Fenton Rd.
Phone (313) 767 4164

Please print nameplate as follows:
First Name

Last Name

City
State



DOPPING AND TRANSFER

By William J. Horton, Midwest Faceters Guild

In the art of faceting everyone has a common goal. That goal is to achieve, as near as possible, the perfectly cut, faceted stone. This just doesn't happen with each attempt. However, the goal is hopefully achieved after some experience. If not a perfect cut, at least a nearly perfect cut.

I would like to share a few helpful hints with you; to help achieve your goal.

In the very beginning, there are some basic rules we should apply. When you are ready to DOP your rough, you should think ahead to the transfer and the finished product. The first item of interest is the DOP itself. It would be very advantageous to keep your DOPS in pairs. By using a micrometer or caliper, measure the diameter of the DOPS. (See "d" in figure 1). If the DOPS are the same, this will reduce the "run-out" of the transfer in the transfer block. This is a minor item, but helps to achieve a good parallel "Girdle".

A second helpful hint is to use a DOP that has a "SHOULDER" from the shank of the DOP to the attaching area. This will allow the glue to have a stronger bond and help eliminate knocking the stone off the DOP. Run the glue below the shoulder as noted in figure 1 to figure 2. Take note in figure 2 that the roughing of the girdle was done at 92 degrees instead of 90 degrees. This will save you time and diamond compound when polishing the girdle, since the polish will be done at 90 degrees and only a very small area will need to be polished. (See the polished girdle in figure 3).

Now, assuming the first half of the stone is finished and you are ready to transfer, mark with a paint pencil, fingernail polish, or etc., a mark on the original DOP. (Figure 3). This is done while still in the handpiece or collet. I generally mark on index 96, 64, 72, 80; whichever index gear that I'm using. I measure the "h" (height) from the collet to the girdle line. This will allow me to return the DOP to the collet after the transfer. (See figure 3).

After the addition of the second DOP in the transfer block, I return the original DOP to the collet, as in figure 4. I use a dial indicator. If the transfer is .003" or more, I will try again. Usually, if you use the second DOP since it is a "PAIR", you will be correct. If not, rotate the transfer DOP 180 degrees and re-dop. Take note at this time to leave enough of the finished side at the girdle to allow you to see enough to align the crown to the pavilion. If you run the glue too high on the transfer, it is very difficult to assure alignment of the crown to the pavilion. If you are .003" or less, remove the assembled transfer, and install in the

collet or handpiece, as in figure 5. The new "h" (Height from collet to girdle line) should be as short as possible. This helps to reduce the run-out. If you do not have a dial indicator, a simple "guide" can be used. In some fashion, mount a pencil, or scribe, or pointed instrument rigid on your table or machine. Then with the handpiece at 90 degrees, and the point of your guide at the girdle line, rotate the handpiece and watch the run-out. Your eye is an amazing tool and can see readily a small or large "run-out". If the run-out is still in excess, loosen the collet and rotate the "MARK" 180 degrees, or 90 degrees, or 270 degrees. Each time reading the run-out. When you have achieved the minimum run-out, leave the complete transfer assembly in the collet. Using an alcohol lamp, or heat from your choice of instrument, heat the original DOP. This will soften the original glue and you can remove the original DOP, and you are ready to complete the stone. (See figure 5). If you find an excess of glue remaining, heat a knife or sharp edge and peel away the remaining glue. I usually don't worry about this as I'm going to rough the crown on a 260 Maja. This will cut away the extra glue and doesn't retain the glue in the rough lap. Take great care if you use a knife that you don't inadvertently knock the stone off the transferred DOP. Generally if you use the hot knife, as soon as you get under one edge, the rest will "POP" off.

Note in figure 6, by leaving the glue away from the girdle line in transferring, you can see well enough to achieve a good alignment from pavilion to crown.

There are always pros and cons for the type of glue to use. My answer is to use what works best for you. Don't be afraid to experiment. I use Epoxy 330. It continues to work good for me. I don't keep it in excess of four to six months. Whether it loses its value or not is secondary. I just choose to replenish and not gamble. A very helpful hint on mixing glue is to use a tumbled or polished rock slab. If you use paper or cardboard or wood, some of the material from these items will contaminate the glue and it doesn't harden properly. After the glue has "set-up", use a pin to check for hardness. Don't start cutting until the glue has properly set, or the stone can move and lose alignment.

Hopefully, some of these hints will help you achieve a finely cut stone. This by no means is intended to be a gospel, but it works very well for me.

When the second half of the stone is completed, again use heat to remove the stone. Once removed, I soak the finished stone in either alcohol or vinegar. This softens the remaining glue so it can be removed with a finger nail. If you use the "hot knife" or whatever to remove glue upon completion of the stone, you stand a chance of damaging the fine mitered edges of your stone, especially softer stones. Make sure to allow the stone to cool properly before inserting it into alcohol or vinegar. If not, the quick reduction of heat will be apt to crack the stone.



FIGURE 1

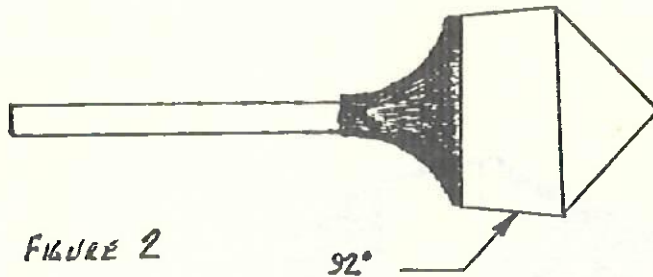


FIGURE 2

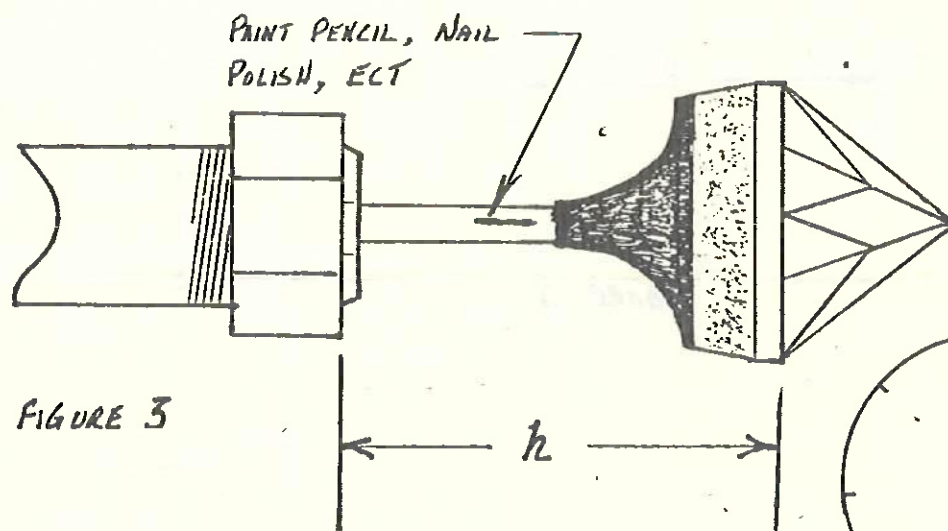


FIGURE 3

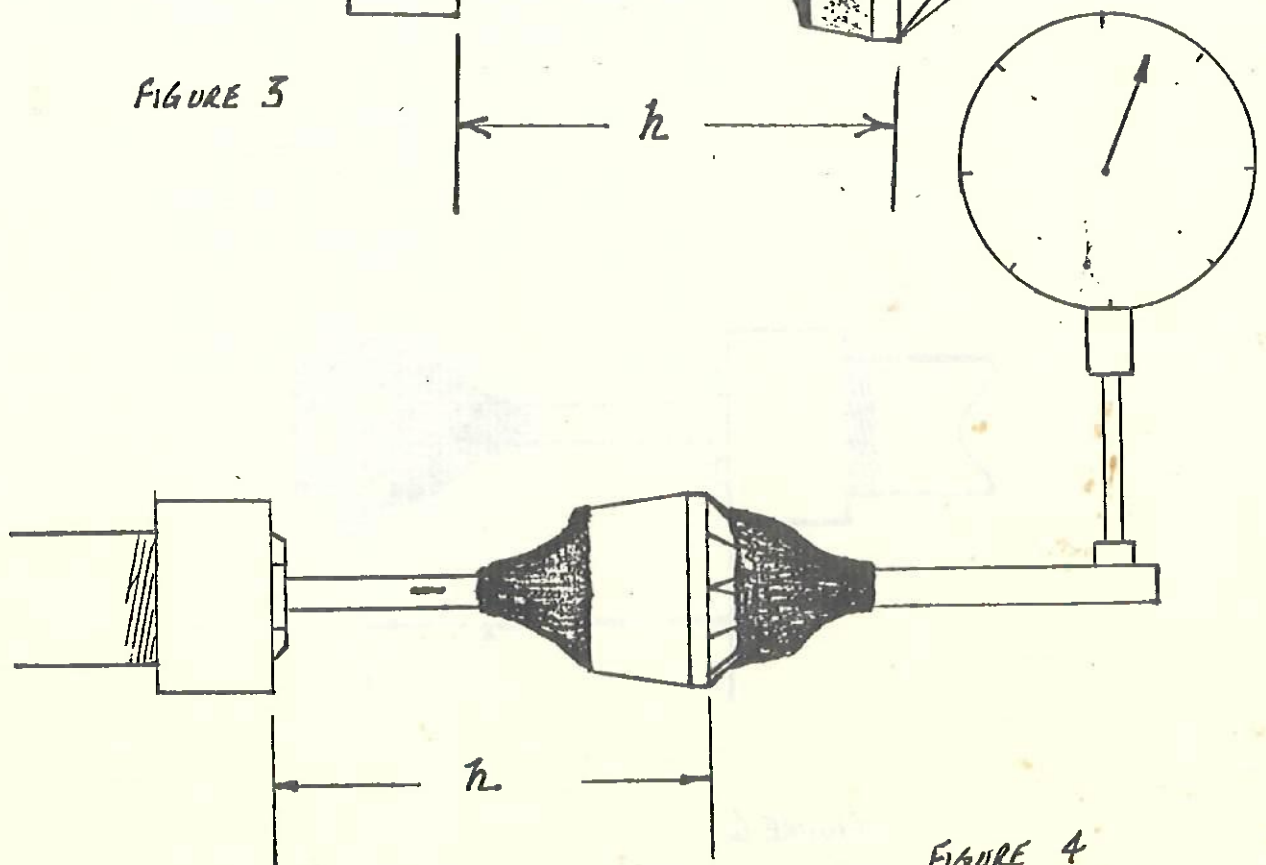


FIGURE 4

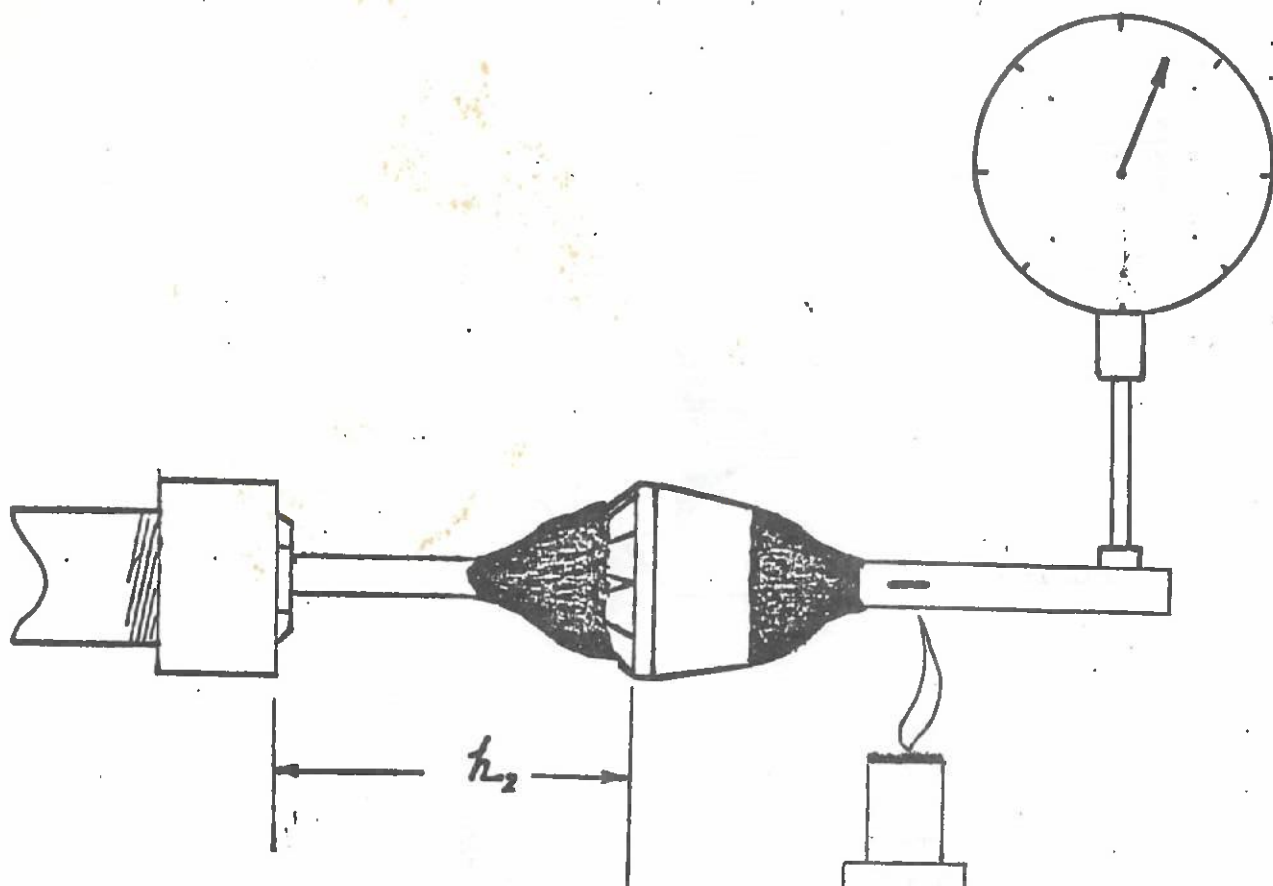


FIGURE 5

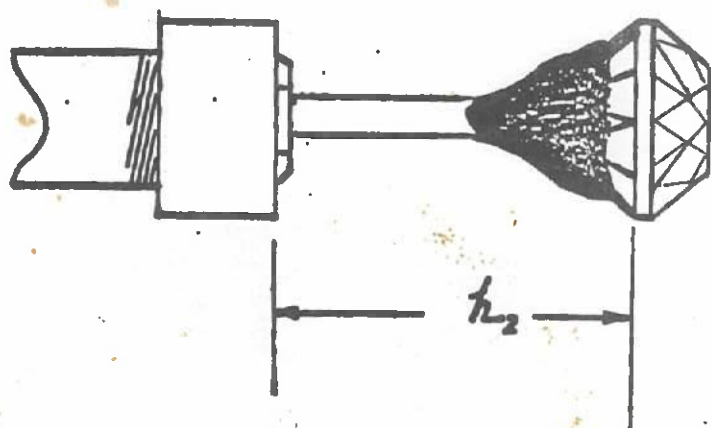


FIGURE 6