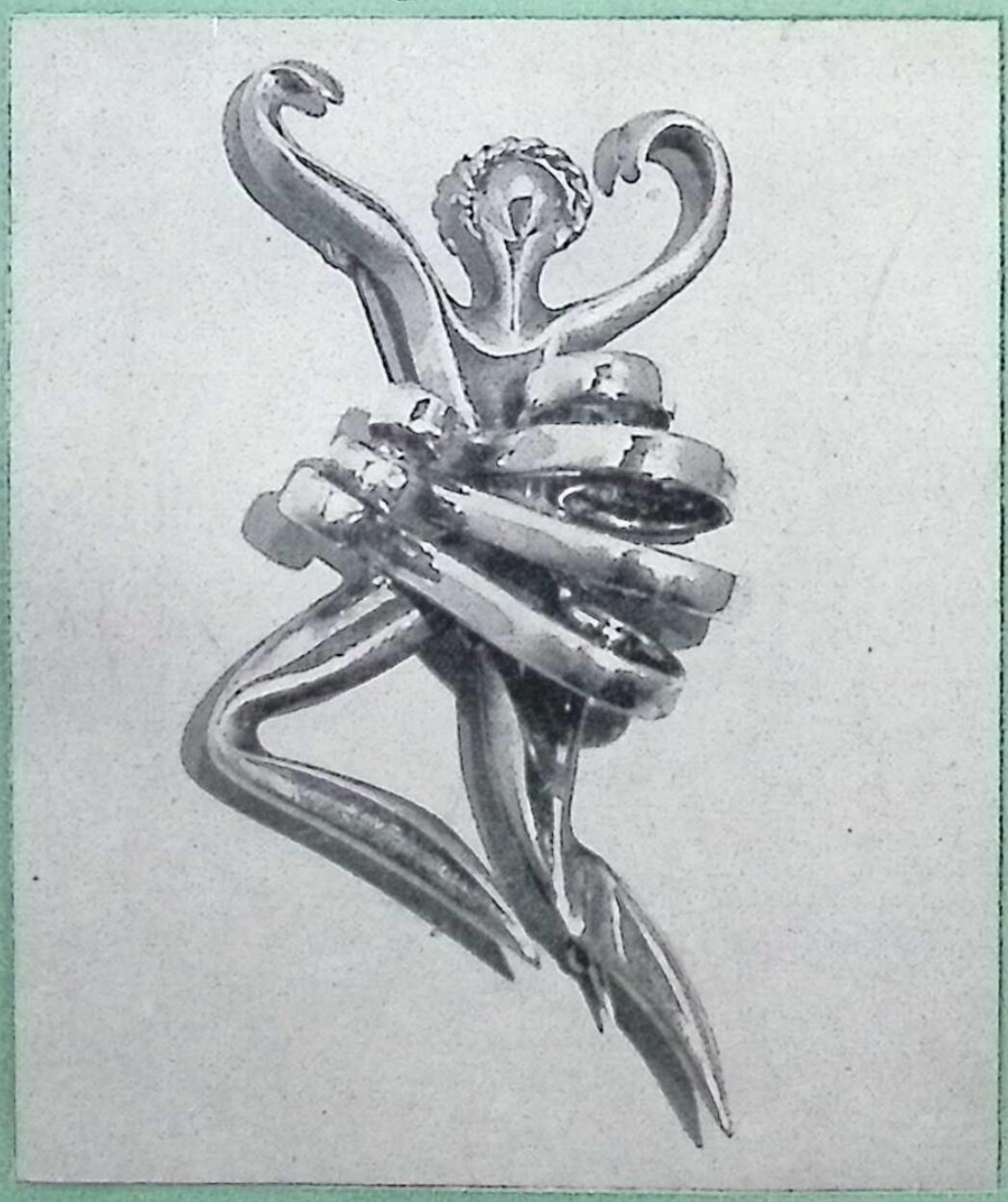
Tom T. Morgan
4306 North 26th Street
Tacoma 7, Washington

APRIL, 1951

The Lapidary Journal

SPECIAL
VACATION
NUMBER



BALLERINA
Pin in sterling silver by
WILLY PETERSEN-FAGERSTAM

A National Magazine for

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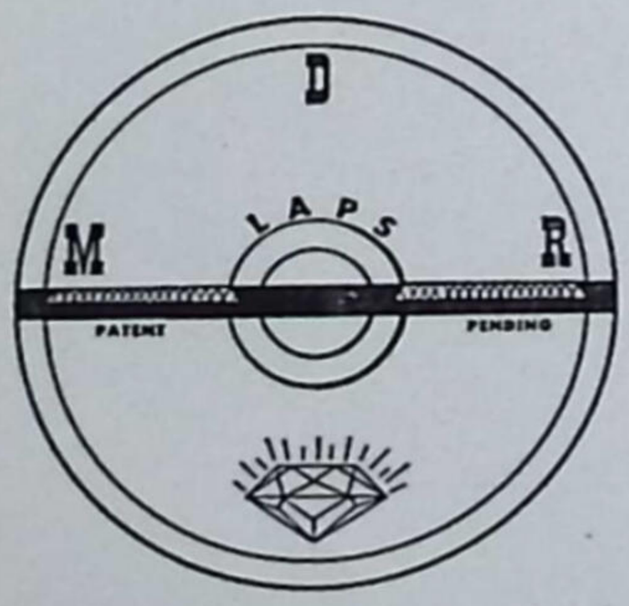
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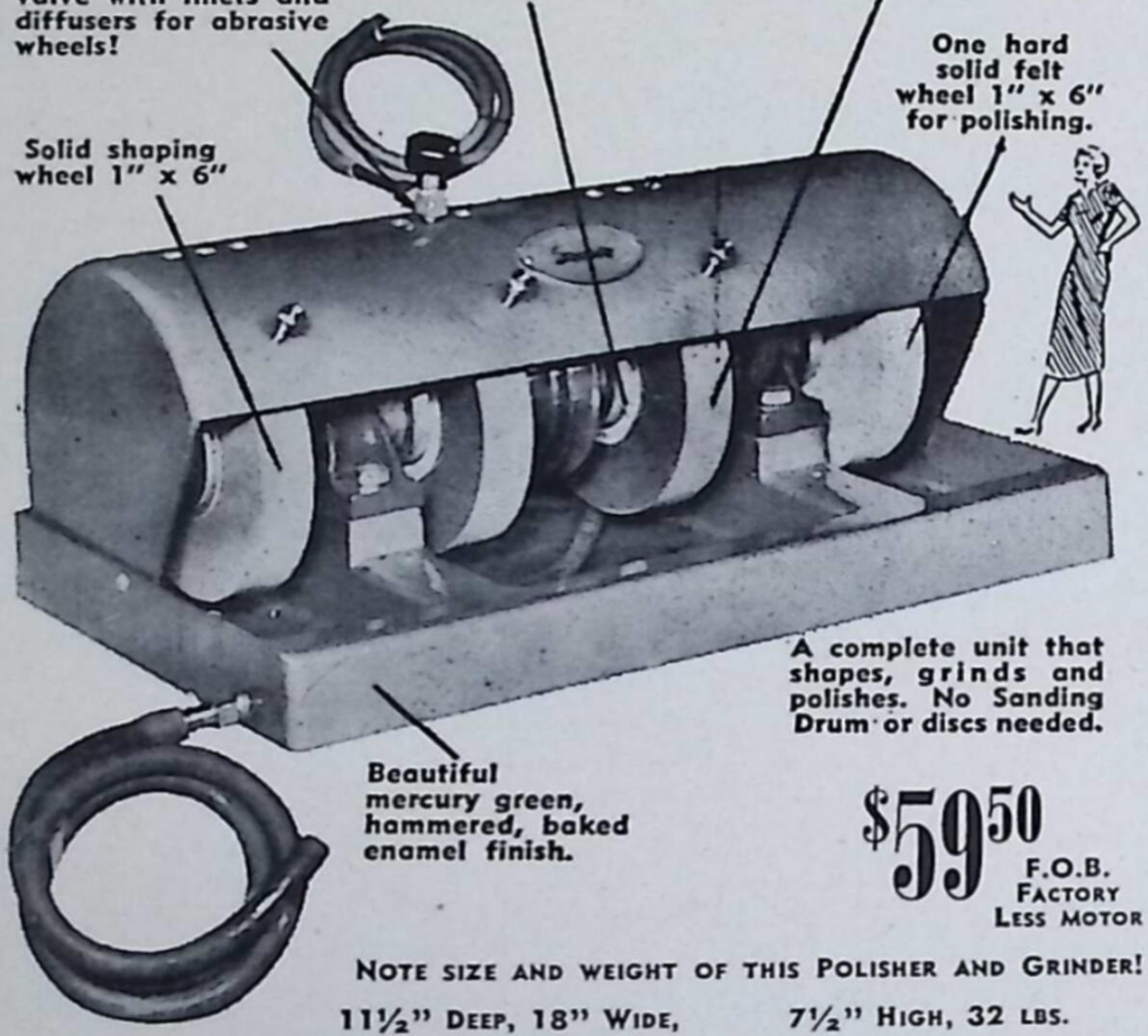
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for
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AND JEWELRY CRAFTSMAN

TWENTY-THIRD ISSUE

PUBLISHED BI-MONTHLY ON THE FIRST OF FEB.-APR.-JUNE-AUG.-OCT.-DEC.

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◆ Unakite--Where to Get It and How to Cut It

By DR. WALDO H. JONES
Myrtle Beach, South Carolina

During my many years of active mineral collecting and mining I was put on the trail of the granite mineral *unakite*. Some may take exception to my calling it a granite mineral but granite is classified as a hard stone composed essentially of quartz, feldspar and other minerals in greater or lesser amounts. Unakite is an Indian name and the first fine occurrence noted was in Unaka National Forest in North Carolina. I have traced the occurrence in the igneous rocks of the Blue Ridge mountains of Virginia, North Carolina and northern South Carolina but I have reason to think that it is also present as far as the South Georgia end of the mountains.

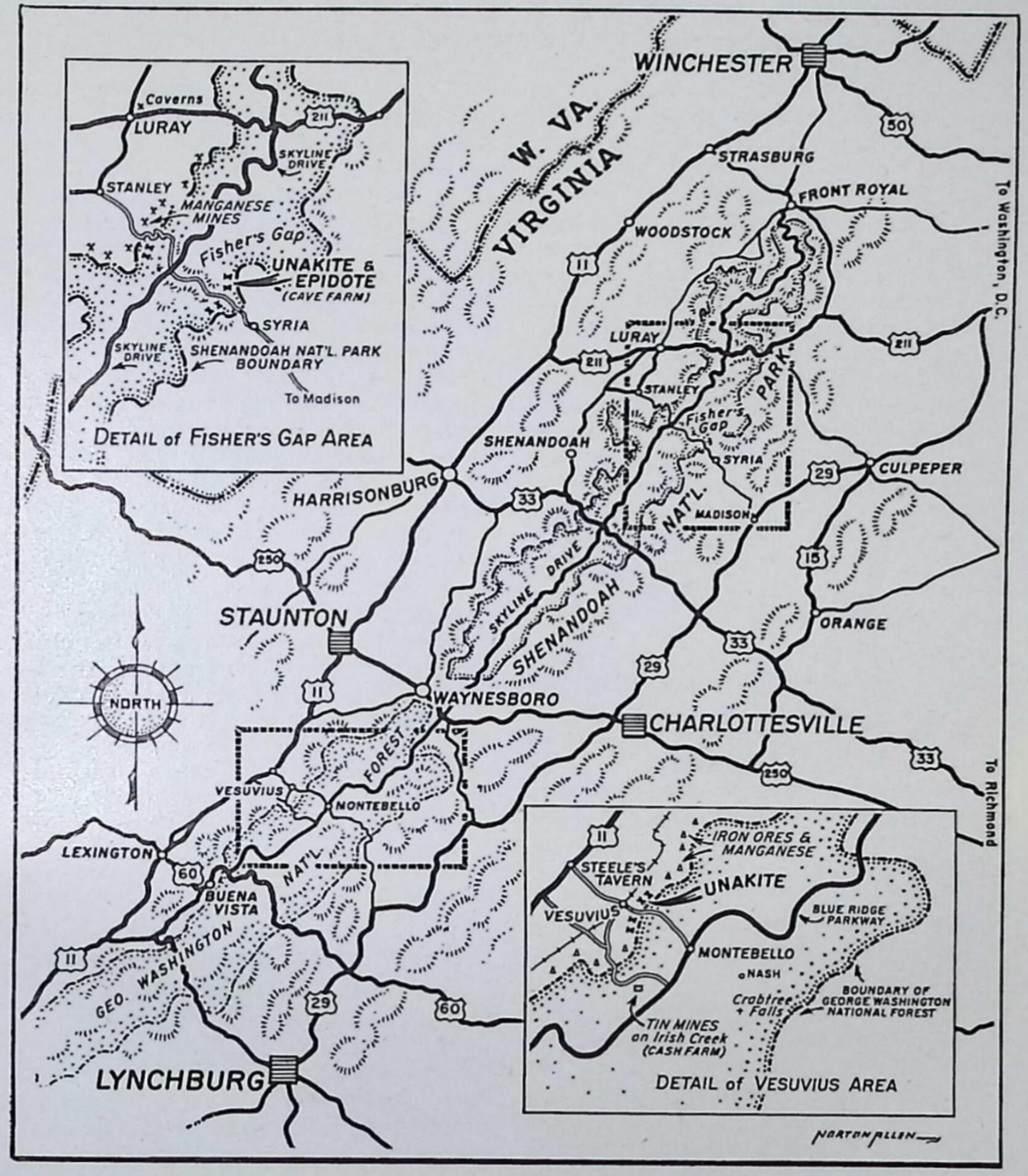
This stone presents some of the greatest variations in color, texture and general composition. The minerals present are crystals and phenocrysts of feldspar with quartz which may be whitish, gray or bluish in color and cementing the best of it is beautiful emerald green epidote. The gem cuts well if you observe care. I have found it best to saw out the material as for agate or jasper except that the stone needs to be more carefully handled so that no faults are left in the finished slabs. Keep the rock cool for feldspars flake if over heated. They are usually highly laminar crystals. Flatten the back as for any other cabochon and grind on the No. 220 wheel with plenty of water. Then wet-sand right down to the polishing stage.

In the Blue Ridge deposits we often find epidote predominating and small amounts of feldspar. The deposits at Fisher's Gap are composed largely of deep hematine-red colored spar with pea-green to emerald-green epidote and some quartz but the minerals are essentially very small crystals. However far south of there the feldspar is beautiful light red and the epidote is still emerald-green. The material in the southernmost deposit is nicer.

Probably the most accurate description of the occurrence of unakite as to geographical location is found in the booklet *Commercial Granites and Other Crystalline Rocks of Virginia* (Virginia Geological Survey free bulletin). It says: "UNAKITE—Bodies of unakite in veinlike form are common along the western border of the granodiorite area at Fisher's gap in the Shenandoah National Park: East of Vesuvius (a station on the Norfolk and Western Railroad valley branch) and east of Wilkie and about two miles west of Montebello. Unakite is a replacement of granodiorite. It forms dyke-like masses and veins of various sizes from ellipsoidal lenses and bodies to great masses."

From detailed examination of the deposits the writer and Earl V. Shannon of the National Museum at Washington (author of *Minerals of Idaho*) determined that the unakite, far from being irregular, was very definitely stratified throughout the mountains in almost flat beds but pitching toward the east as are all the other rocks of the area. On the east side, at Fisher's Gap, there used to be a family named Cave. Typical mountaineers, they treated us with great courtesy and friendship on our many visits to the Gap. They mounted a guard on our car to prevent moonshiners from wrecking it by thinking we were "revenoors." Those long legged wahoos walked stubby legged Earl Shannon and myself into the ground. The occurrences, allowing for the overthrust of the Blue Ridges toward the Shenandoah Valley, are at the same level on both sides—2500 feet.

This whole locale is very highly metamorphosed and below the Fisher's Gap unakite lies the great Dark Hollow copper mine. Good wire copper specimens were present but little else except the great arched tunnel into the hillside. A slope in the tunnel floor was not to be by-passed so we couldn't get far into



MAP OF THE AREA MENTIONED IN THIS ACCOUNT

the tunnel. From the size of the dump it did not appear that more than 500 feet of horizontal digging had been done exclusive of the slope.

The Montebello-Vesuvius area deposit is located handily on a country road and the best rock lies just below the line of the Blue Ridge National Park areas so that you can pick up what you wish without trouble. This rock, like all gemmy materials, must be carefully selected both in the field and as the lapidary cuts the slabs. In the old days we used a mud saw and carborundum but a modern diamond saw eats the rock.

The feldspars in the Montebello-Vesuvius area are very interesting and the unakite comes in many varieties so that a collector can select what he wants. If you like epidote select that; if you like more red spar select that; and if you like pepper and salt rock select that. It's all along the roadside for a mile or more. Right below is Vesuvius Station on the Norfolk and Western

Railroad (valley branch). Nearby is the site where the work was done by Cyrus McCormick on his mechanical reaper and binder when he was a young and unknown farm boy. Above and below the road, to the north and south, lie the great contact deposits of iron ores which were mined for so many years. In fact the metal for the reaper came from this same mountain.

Slightly to the south, in an old cut-over forest, lies Irish Creek where we found many tin minerals and some poor quality tourmaline and amethyst. These stones were all twisted and they cut poorly and had bad color distribution but they are there. The feldspars of the cassiterite tin desposits showed bluish chatoyance at certain positions and were accompanied by many different but not too interesting pegmatite minerals. A large mill was built on Irish Creek to refine the tin. The dominant family around the tin veins is named Cash and they are very mineral minded and obliging. They took us over the operation.

In considering a trip into the area be sure to go in warm weather for the mountains are pretty rugged in the winter. Altitudes are among the highest in the east but lowboys to westerners. Hawksbill Peak, near Fisher's Gap, is about 4700 feet. The gap itself is about 3000 feet. It is in the Blue Ridge Parkway and Forest and is well tended by rangers. and has good sites for camps. The Parkway roads are fine. Some of the others are "rugged," to put it mildly. Anyone planning a trip into the area is welcome to write the author and I shall be happy to give detailed instructions I have available. Since several of us did the basic work on the area before the advent of the Blue Ridge Park we had it tough at times.

Gems cut from the granitoid rocks are often very unusual and very beautiful. Recently I picked up twenty-five pounds of crushed ballast rock from the Seaboard Airline Railroad near my home and I found it to be a variety of the unakite described but without the green epidote. The reddish to lively colored spars and the quartz are quite pleasing. Great deposits of these rocks are near all parts of the igneous mountain provinces and they should receive greater attention from the mineralogists and lapidaries. They are good stones for beginners to cut for they work smoothly.

Just south of Vesuvius, Va., a red microcline granite outcrops in the core of an anticline on Big Mary's Creek in Rockbridge County, 2.7 miles south of Vesuvius Station. This is very beautiful if selected carefully. The entire area is very highly mineralized and a collector could spend several days collecting and get many varieties of minerals if he worked at it. There are several types of gem minerals. For example there are several good amethyst areas just south of the Montebello area. Of course you can't just walk there and grab up a car full and get going although Dr. Shannon and I got plenty of them years ago in a few minutes' collecting during a sleet storm.

Here too we find the world's greatest commercial supply of rutile. It occurs as one of several ingredients of the country rock at Roseland, Va., in the mine of the American Rutile Company. The Vice President in charge of the operation is an old time miner (Mr. Morley) and he has always been more than cooperative when we visited him. His brother is the archaeologist (Sylvanus Morley, Ph.D.) who did the excavations at Chichen-Itza, Yucatan, Mexico. He found many wonderful gem artifacts but that is another story.

Gem minerals are where you find them my friends and what makes the gem is the character of the work done on the rock and the quality of the rock itself. For example, none can deny that obsidian is a common rock in many places but when it is properly worked it is very pleasing to the eye. So it is with unakite and its cousins. Select the rocks carefully and cut them carefully and you will have a fine and comparatively rarely seen gemstone. The author has had gem ash trays cut from unakite at Idar-Oberstein, Germany and has made gear shift balls for automobiles, marbles and various other things including two fine necklaces which we were unable to keep as they were snapped up by one of New York's prominent jewelers. A *rare* mineral? No! An *unusual* mineral? Yes! That's unakite.

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◆ The Route of The Rock Hound

By S. N. GREEN, Gem Village, Bayfield, Colorado

If you live in the East and stop in at your auto association office for advice as to the best way to Los Angeles, the chances are that the clerk will start to trace on the map U. S. Route 66. Good old "66," the Main Street of America and just as commonplace as the main street of any small town.

But the rockhound has at least a spark of pioneering in his blood. He likes fresh trails and, if he has only two weeks to unwind 5,000 miles of concrete, he still wishes a lot of time for real prospecting. But this is not found on old well-traveled roads.

Why not give thought this year to the *Navaho Trail* or U. S. Route 160? Your clerk will look blank when you state it starts at La Junta and terminates at Cameron. "Is that in Mexico?" he asks with up-lifted eyebrow. No, it's in the good old U.S.A. so plan to travel this season via the *Route of the Rock Hound!*

You take the standard routes through Chicago, St. Louis or Kansas City, then on to Wichita, Dodge City, Garden City and over the state line of Colorado. The first large town on the Navaho Trail is La Junta. Now do a bit of roughing by taking the gravel road straight west to Walsenburg. This is the first non-hard-surfaced link of the trail. But if you are a fair weather driver, go up to Pueblo and then backtrack to Walsenburg.

At Walsenburg you start the real climb of the Rockies, up over La Veta Pass. Your blood begins to boil, as well as your radiator. You ask, "When do we prospect?" Just look over the fresh road cuts of the Pass and you may find some splendid dendritic stone. This beautiful specimen material is well worth lugging all the way back home.

At Alamosa, you can take a short detour to the *Great Sand Dunes National Monument*. At Monte Vista you are at the center of the famed San Luis Valley with its great artesian wells irrigating thousands of acres of the big red potato. So you begin to climb again, this time over Wolf Creek Pass. This Pass is now fully paved and open the year around. New grading has doubtless uncovered another supply of the fine agates of this region. If you fail to pick up agates along the road, stop at the Forest Service picnic grounds at the west side of the Pass and prospect upstream. You will surely find good material.

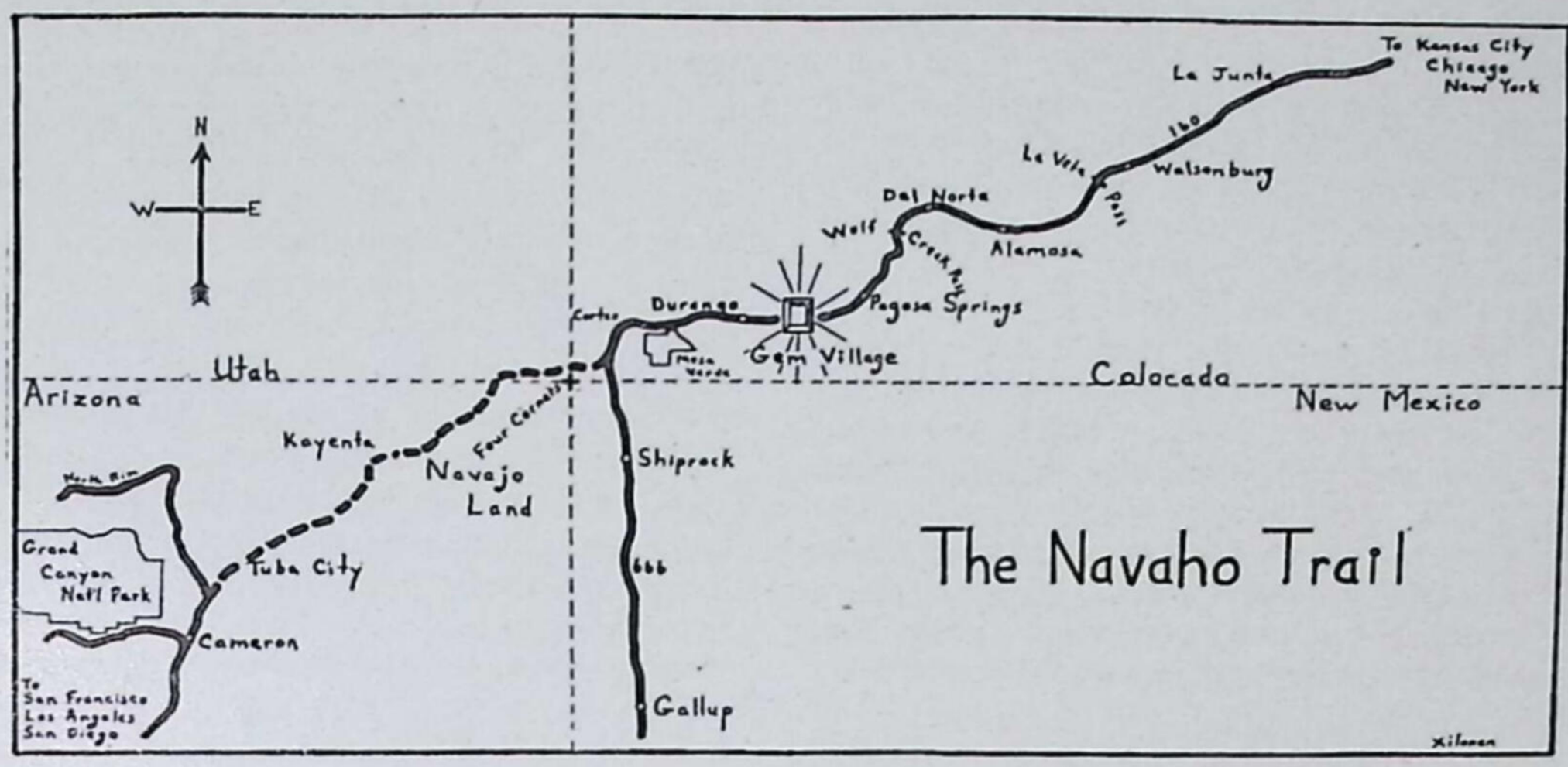
Leaving the Pass you enter the famous San Juan Basin. The first town is Pagosa Springs. Take time out to view one of the largest mineral springs of the world. Now on to Chimney Rock, worth an hours' climb on foot to the fire control station for a fine view and Indian ruins.

Another fifty miles, and two miles west of Bayfield and you are at GEM VILLAGE, The Rock Hound Capital of America. Here is a colony of hobbyists, the only one of its kind and worth at least a day's stop. So register at the brand new tourist court and settle down for a real rock fest.

The motel and cafe is operated by Ross and Ethel Glenn, recently of Bellflower, California. The Glen's are looking for a name for their establishment, so why not drop them a line suggesting just what a rockhound would like? Although still under construction the Glenns will make your stay a pleasant one, for not only are they avid rockhounds, but Mrs. Glenn is a college trained home economist which will assure you cuisine and service long to be remembered.

Refreshed and brushed up, you step across the road to *Shipley's Mineral House*. Here Mr. and Mrs. Shipley have assembled items of interest to every one. All sorts of jewelry, specimens and the finest collection of gem buttons in America. And Mrs. Shipley's collection of native Indian relics is exceptional.

Next door to the Shipley's is the summer home of Wilfred Eyles, home of the *Streamliner* Diamond Saws. A



MAP OF THE FOUR CORNERS REGION

bit further down the road is the log cabin of Jim Wiley, late of Cahone, with the cream of the cream of the carnotites. Still further along is the new home of Mr. and Mrs. Robert H. George who came from Illinois by the way of Ouray, Colorado, and you should see the specimens he brings down from the Silverton mining district.

Now back-track and make a call at the *Colorado Gem Company,* then up Morse Avenue, passing the summer home of Glenn and Catherine Fahrion of Miami, Florida, who have silversmithing for a hobby. Then stop at the summer home of Mr. and Mrs. Poese of Cleveland, Ohio. Mr. Poese is the author of *Gem Stone Lore* and other books, an instructor in crafts in the Cleveland Schools, with rare skill in stones and silver. Now on to Fred Knowlton's who has a wonderful private collection of minerals and welcomes traders.

Back to the main stem again and a visit to the *Gem Exchange*. Here you will find in operation one of the largest mail order rock businesses of America. The owner and his daughters always have time for customers and visitors. See all the latest books and magazines. Watch the binding of the *Lapidary Journal* and take back with you some of the rare cutting material which is gathered here from all parts of the world.

Across the street is the *Treasure House* of Frank Morse, the founder of the Village. The 1950 census official count is 54, so in less than ten years, Mr. Morse has watched the growth of the Village from an alfalfa field to a real town. And the prospects for the next ten years are rosy.

Yes, here is a complete community of hobbyists. Plenty of land for farm and garden, lots of irrigation water, electricity and telephone. A carpenter, electrician and other trades are represented. If the Village was cut off from the world it would survive. Crisp clean mountain air, four real seasons for variety, better than 300 days of sunshine a year. What a splendid place for a home in these troubled times?

Gem Village is in the heart of the great San Juan Basin, the head waters of the Colorado. All the streams and lakes are stocked with rainbow trout—deer, elk, bear and turkey roam its hills. This brings sportsmen in season from every State in the Union. Oil, gas, uranium, and other metals attract ever increasing numbers to the region. Its natural riches have hardly been touched.

Yes, the Village stop was great, so much so you find yourself behind in schedule and you must hasten on. A short detour and you can see the Aztec Ruins National Monument. Then to colorful Durango, with a stop at the Chamber of Commerce, if you wish to arrange a day's trip up to Silverton on the only remaining narrow gauge railroad in the U. S.

Now on to Cortez and its endless pinto bean fields. If you are so inclined, short detours take you to a group of four ancient ruins, including the Yucca

House and Hovenweep National Monuments.

To Shiprock and a parting of the ways. In a few years the Trail will be paved across the vast Navaho Country to the west. But now the Trail is only for the most experienced traveler, with extra tires, water, gas and food. The unmarked road, the flash floods, make it very dangerous for the average motorist, so take the long stretch down to Gallup and then over the familiar "66" to your destination which should include the *Grand Canyon National Park*.

However, note that the northern Navaho Reservation is virgin collecting territory. Here will be found plenty of agatized wood, dinosaur bone, gem garnet and peridot. Look for garnets and peridots on the tops of any ant hills you see. Soon you can do sixty past the "Four Corners," Monument Valley, the Rainbow Bridge, the Indian towns of Kayenta and Tonalea and on to Cameron where you have a choice of the northern or southern rim of the Grand Canyon. The Navaho Trail is just as desirable on a trip to the East, so study your map and see if you cannot include it on your summer's itinerary. It's worth while, rockhound!

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Order of Cutting—Crown

GIRDLE — Can be cut first or last using index 7-9-39-41-55-57-87-89 at 90°.

GRIND 1st—Four facets at 42° indexing 8-40-56-88.

GRIND 2nd—Two facets at 35° indexing 96-48.

GRIND 3rd—Two facets at 20° indexing 24-72.

GRIND 4th—Four facets at 27° indexing 5-43-53-91.

GRIND 5th—Four facets at 22° indexing 12-36-60-84.

GRIND 6th—Four facets at 47° indexing 9-39-57-87.

GRIND 7th—Four facets at 46° indexing 7-41-55-89.

Polishing Order

See polishing order on left, using same angles and index as was used in cutting.

Order of Cutting—Pavilion

GRIND 1st—Two facets at 43° indexing 96-48.

GRIND 2nd—Two facets at 31° indexing 24-72.

GRIND 3rd—Four facets at 43° indexing 8-40-56-88.

GRIND 4th—Four facets at 47° indexing 7-41-55-89.

GRIND 5th—Four facets at 51° indexing 9-39-57-87.

Polishing Order

See polishing order on left, using same angles and index as was used in cutting. Polish with cerium oxide on a lucite lap. (for quartz)

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Garnet	6c	35.00
Green Sapphire	5c	35.00
Golden Sapphire	5c	35.00
Kunzite	5c	30.00
Paparadscha	5c	30.00
Rose Sapphire	4c	20.00
Light Ruby	4c	20.00
Dark Ruby	4c	20.00
Topaz Sapphire	6c	45.00
White Sapphire	4c	20.00

SPINEL (hardness 8)

Aquamarine (light)	5c	25.00
Aquamarine (dark)	5c	25.00
Blue Spinel	5c	25.00
Blue Zircon	5c	25.00
Green Spinel (Erinite)	5c	25.00
Green Zircon	5c	25.00
Peridot	5c	25.00
Tourmaline (green)	5c	25.00
White Spinel	5c	25.00

RUTILE (hardness 7) clear color

1 boule—**60c** per carat, half boule—**75c** per carat, smaller pieces **90c** per carat.

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◆ The Fairburn Agate Beds

and

The Black Hills and Bad Lands of South Dakota

By JACK ZASADIL

Hermosa, South Dakota

Not until after the turn of the twentieth century was there very much known of the Black Hills and Bad Lands. This was Indian country and the caravans moving westward always by-passed the Black Hills and Bad Lands because the red men resented the invasion of these prized possessions.

In the heart of the vast expanse of the Northern Plains, where for generations the trails in the buffalo grass marked only the passing of the moccasined Sioux, the trailing *travois,* and of migrating buffalo, the granite spires of the Paha Sapa form majestic silhouettes against the azure blue of the Dakota sky. For generations this mighty domain, bounded on the east by the Big Muddy River and on the west by the snow-capped summits of the Rockies, was the home and hunting ground of the nomadic tribes which constituted the great Sioux Nation, and the Paha Sapa, as the Black Hills were known in the language of the Lakatos. This mountain land of enchanting beauty, a mountain land of pristine coolness, was a land revered and honored. For in the higher reaches dwelt the Great Spirit, the red man's God, whose protecting mantle rests upon the tepees of the prairie tribes. Thus the snows of many winters had come and gone in the land of the short grass.

1874—There was something prophetic, something foreboding, in the very silence of the lonely prairie. Early summer, and long lines of pale face warriors, the Seventh U. S. Cavalry, commanded by General George A. Custer, moved slowly in from the northeast, into Paha Sapa. The days of Sioux domination in the Black Hills were numbered.

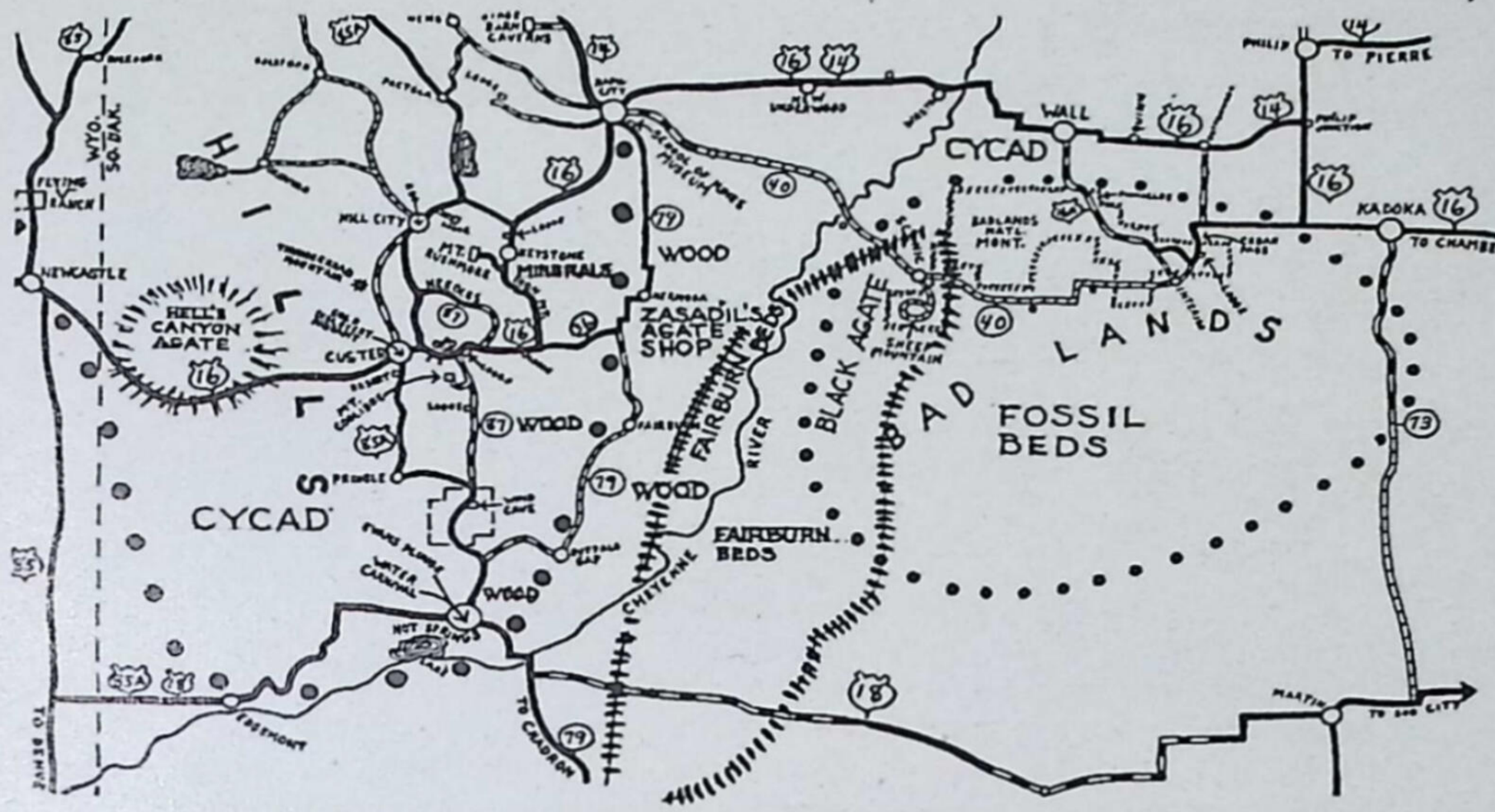
It was during that summer of 1874 that the auriferous streams of the pine-clad Hills gave up their secret—GOLD. Gold was in the crystal waters. The spell of magic was carried on the wings of the wind. The treaty of 1868 creating the Sioux domain was forgotten.

By the year of 1876 the rolling tepees of the pale face were entering the Black Hills in ever increasing numbers. The canyon walls echoed the crescendo of human activities. The gold pan of the placer miner yielded more and more of the precious metal.

But the gold pan of the miner not only yielded gold but signs of tin, iron, beryl, garnets, tourmaline, petrified wood and agates. It is only natural for the prospector to pick up these foreign particles and have them identified. So it was that a prospector, always seeking, had wandered down French Creek and found the Fairburn Agate beds.

The Fairburn agate is a beautiful fortification agate in bright colors. The natives call them "ribbon agates" and they are sought by all collectors, bringing a fancy price for fine specimens. They are scattered over an area about twenty miles wide and a hundred miles long. The most noted and hunted area is about fifteen miles east of the town of Fairburn, which gives its name to this agate.

I have found them from Scenic, to the northeast of Hermosa, to Orella, Neb., just across the South Dakota line, I have heard of them being found as far south as Gordon, Neb., and from my place at Hermosa eastward to Cooney Table, thirty miles away. Some very nice agates came from there. In these beds you will also find jaspers,



MAP OF THE BADLANDS REGION (Courtesy Independent Bindery, Rapid City, S. D.)

chalcedony and around Scenic are some beautiful black agates with milk-white centers and petrified sponges that make interesting cabs.

The Hells Canyon agate is, I believe, even more colorful than the Fairburn agate and they are much larger, some weighing as much as fifty pounds. The agates are covered with a limestone shell and they take the shape of a geode or nodule.

I have recently cut one of these in two and it was hollow, with the walls inside completely covered with amethyst crystals. These are not too common. I found one about twenty years ago that was illustrated in several mineral write-ups by Mrs. Samuel Scott, to whom I had given this fine specimen. The Scotts are the owners of the Scott Rose Quartz mine at Custer, South Dakota and they also have a fine rock shop there. This mine has been in production for almost seventy years.



FAIRBURN AGATES POLISHED ON ONE SIDE
This is the best treatment, as the full fortification scene is preserved



CABOCHONS OF FAIRBURN AGATE

Petrified wood is found in large logs and very generally near the top. One can find wood almost continuously around the Black Hills and where it is scarce there are generally enough fragments weathered out to gather all you want.

Scattered throughout this area are gastrolithic shaped stones. It has been suggested that they may be stomach stones such as certain animals are known to carry. They are highly polished by nature and are not hard to find because of this.

Cycads have been found at several places in the Lacota, particularly near Minnekata and near Black Hawk. Some fine specimens have been found northwest of Hermosa and on the northern slopes of Bear Lodge mountains, across the line in Wyoming. The cycads are highly silicified and several hundred specimens were collected by Professor Marsh of Yale University. Their careful study by Ward and others, especially by Dr. George R. Wieland has made the Black Hills one of the classic cycad localities of the world.

This by no means completes the list as there are hundreds of possibilities for the Rock Hound in our vicinity. At Keystone, a mining town of world wide renown, are three of the largest pegmatite dikes in the country. The largest beryl crystal and the largest spodumene logs have been found there. The Etta mine, which was originally a tin prospect, is the largest producer of lithium minerals in the country and has classifield over one hundred distinct minerals. In these pegmatite dikes, beryl, tourmaline, smoky quartz, rose quartz, garnets

FACET CUT GEMS

Quantity Available	Gem	Cut	Color	Approximate Size (mm.)	Approximate Weight (Cts.)	Price Per Carat* or Per Stone§
1	Amethyst	oval	deep purple	18x15	14.50	*$ 2.00
1	Amethyst	oval	deep purple	21x16	24.50	* 3.00
1	Amethyst	oval	deep purple	19x15	17.75	* 2.50
1	Amethyst	long hexagon	deep purple	20x18	17.25	* 5.00
2	Amethyst	hexacut, star	deep purple	12	7	* 5.00
1	Amethyst	cushion antique	deep purple	18x14	13.50	* 2.50
1	Amethyst	heart	deep purple	15x15	10.80	* 4.00
1	Amethyst	oval	very deep purple	20x16	23.55	* 4.00
1	Aquamarine	emerald cut	deep blue green	16x14	18.75	* 12.50
2	Aquamarine	emerald cut	deep blue green	11x9	4.50	* 12.50
1	Aquamarine	emerald cut	light blue green	17x13	13.17	* 6.00
1	Aquamarine	emerald cut	light blue green	13x11	8.10	* 6.00
1	Aquamarine	emerald cut	light blue green	13x10	7.85	* 6.00
2	Beryl	brilliant	colorless	11		§ 12.00
5	Beryl	brilliant	colorless	10		§ 10.00
1	Beryl	brilliant	colorless	7		§ 7.00
4	Citrine	oval	golden	12x10		§ 5.00
1	Citrine	oval	golden	11x9		§ 4.00
1	Citrine	oval	golden	10x8		§ 4.00
1	Citrine	emerald	golden	11x9		§ 4.00
2	Citrine	emerald	golden	12x10		§ 5.00
1	Citrine	hexa-star	golden	12	7	§ 10.00
1	Citrine	emerald	golden, deep	41x32	230	§ 230.00
7	Morganite	brilliant	light pink	10 to 11	3.30	§ 10.00
1	Morganite	cushion antique	light pink	16x12	14.90	* 2.00
1	Morganite	cushion antique	light pink	17x12	15.50	* 2.00
1	Morganite	brilliant	light pink	10	3.45	* 3.00
8	Topaz	emerald	golden, deep	8x6	1.75	* 7.70
4	Topaz	emerald	golden, deep	9x7	2.15	* 7.70
1	Topaz	emerald	golden, deep	11x8	5.05	* 10.00
1	Topaz	emerald	golden, deep	7x5	1	* 7.70
1	Topaz	emerald	golden, deep	10x8	4.20	* 10.00
1	Topaz	emerald	golden, deep	6x6	1.10	* 10.00
4	Topaz	brilliant	golden, deep	4½		§ 5.00
1	Topaz	emerald	smoky	25x18	42	* 2.50
1	Tourmaline	emerald	blue	12x9	5.65	* 10.00
1	Tourmaline	oval	champagne	14x12	8.85	* 10.00
2	Tourmaline	emerald	light green	9x6½	2.15	* 5.00
1	Tourmaline	emerald	light green	15x12	11.90	* 5.50
2	Tourmaline	emerald	light green	10x8	2.80	* 5.50
1	Tourmaline	emerald	yellow green	12x14	13.60	* 15.00
2	Tourmaline	emerald	yellow green	9x8	3.05	* 15.00
12	Tourmaline	emerald	dark green	12x8	2.85	§ 5.00
4	Tourmaline	emerald	dark green	9x6	2	§ 4.00
2	Tourmaline	emerald	dark green	9x7	2.55	§ 5.00
1	Tourmaline	oval	light green	9½x6	1.35	§ 10.00
1	Tourmaline	brilliant	deep pink	7	1.25	§ 7.00
2	Tourmaline	brilliant	rubellite (imp.)	7	1.10	§ 9.00
2	Tourmaline	oval	black	15x12		§ 6.00
2	Tourmaline	oval	black	10x8		§ 5.00

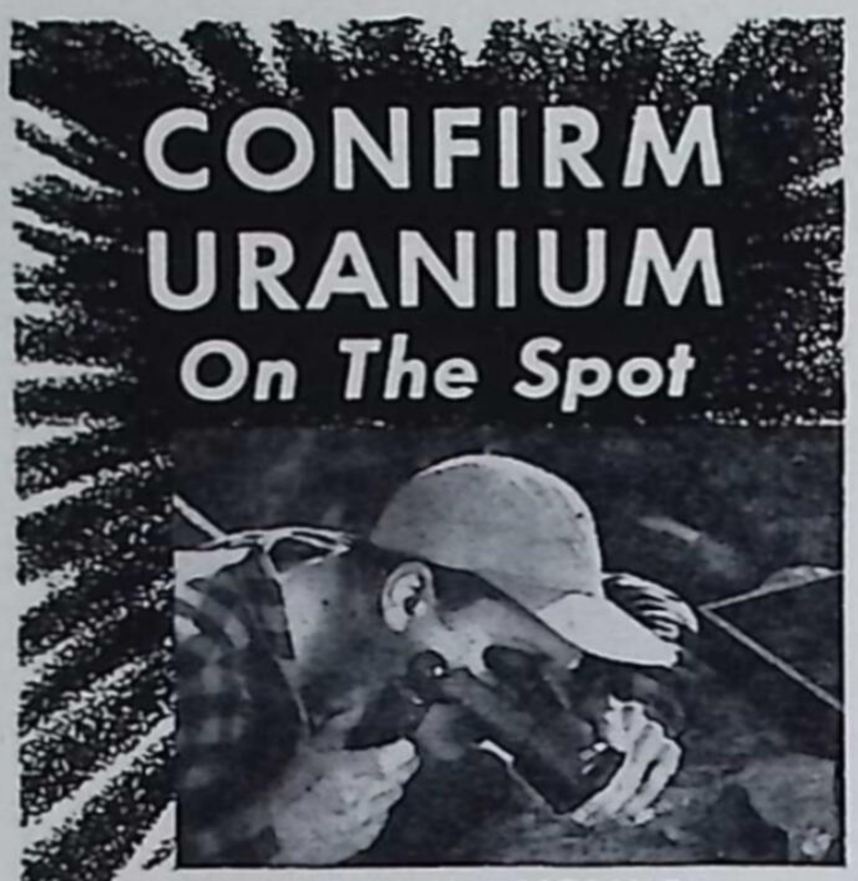
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and many more specimens are quite well represented.

In conclusion I shall mention a few of the attractions the rockhound can visit to break the monotony of tramping the hills in search of rocks. Some of these places are a MUST when in the Hills and are not off the rockhound's path.

Mount Rushmore, the largest lapidary accomplishment in the country, carved into the side of the mountain near Keystone, will always be a treasured sight to anyone who sees it. The four faces of our presidents Washington, Jefferson, "Teddy" Roosevelt and Lincoln would be representative of a man 465 feet tall. Sculptured by the late Gutzum Borglum, and completed to its present state by his son, Lincoln Borglum, my friend and neighbor in Hermosa. It is classed as one of the wonders of the world.

The South Dakota State School of Mines Museum at Rapid City is also a MUST for the Rockhound. It displays some of the finest rocks, minerals, gems and fossils of our country and credit is due James Bump the curator for some of the agate pictures in this article.

If you rockhounds want a trip that you can always remember come and see me and I will do my best to make your visit in the Black Hills, one you will never forget.

You'll find me at "Whittling" Jack Zasadil's Agate Shop in Hermosa, S. D.

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ROCKHOUNDS OF AMERICA

BOX 323 **FALL RIVER MILLS, CALIFORNIA**

◆ A California Shark Tooth Location

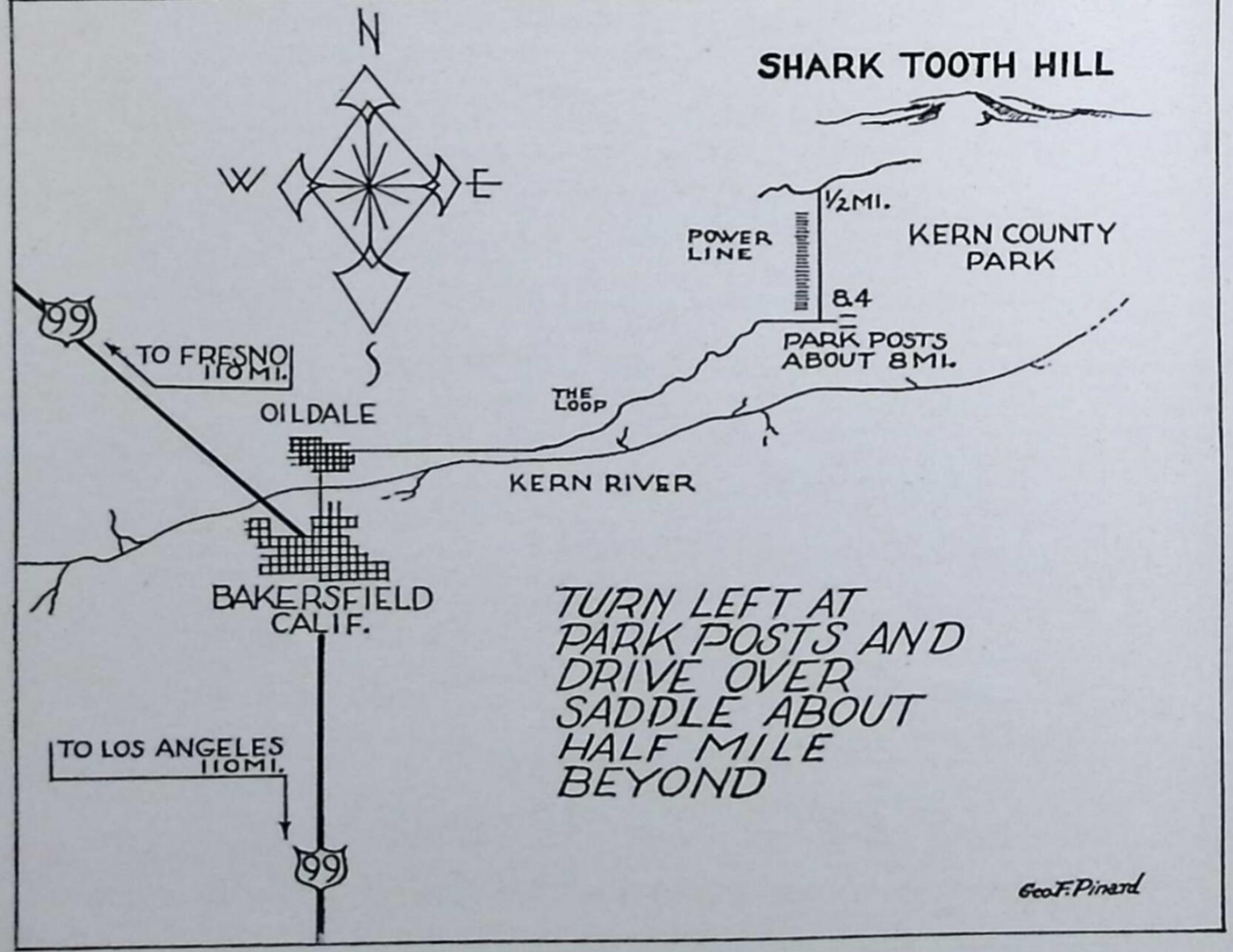
By LESTER L. COWAN
467 Shatto Place, Los Angeles 5, California
Member *San Fernando Valley Mineral and Gem Society*

Back in pre-Cambrian time, about 400 million years ago, the vicinity of Sharktooth Hill, in Kern County, Calif. near Bakersfield, presented quite a different appearance from the present. Instead of hills and mountains this territory was part of a vast seaway extending from the Gulf of California through California, Arizona, Utah, Wyoming and northeast through Canada.

A finger of this seaway extended across California and the western part of Nevada. This portion was known as part of the Sonoran Seaway. The part adjoining it extending northeast through Canada, was known as the Ontarian Seaway. There were none of the high mountains that exist today.

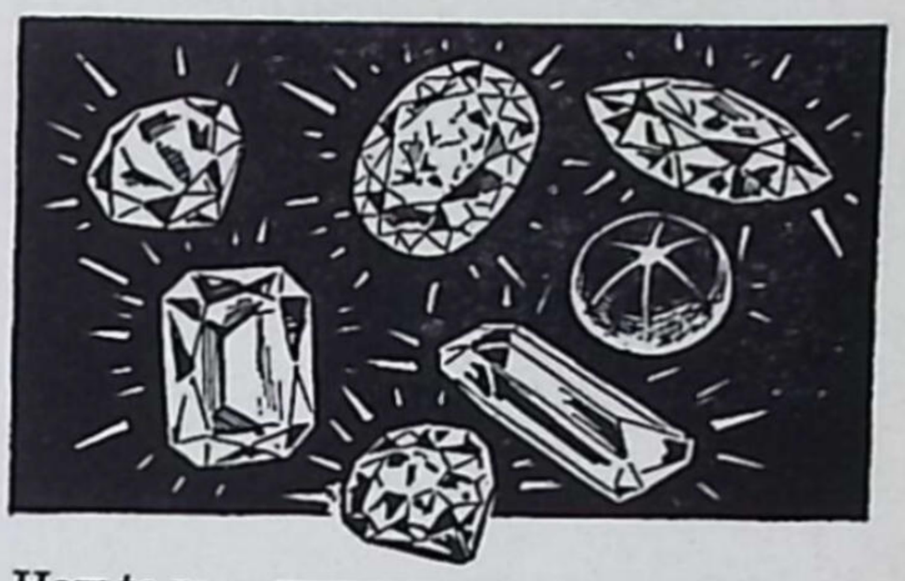
Just how long these conditions remained is a question, but eventually changes began to take place. Hills and mountains were raised and this seaway was cut off and became land-locked, trapping the living inhabitants. As the land continued to be pushed up the body of water became more limited and finally ceased to exist. The large numbers of bones and teeth that have been taken out and still remain are additional evidence that Sharktooth Hill and vicinity were a vast pool of water at one time. Bones of dolphins, porpoises, seals, sperm whales and cows are found in the lower deposit.

The total thickness of the sediment is about 200 feet. The strata dips to



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(as Wm. P. Jones of West Va. did)

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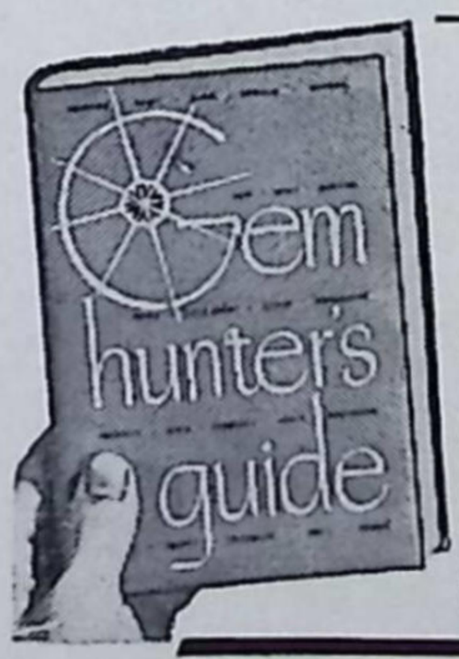
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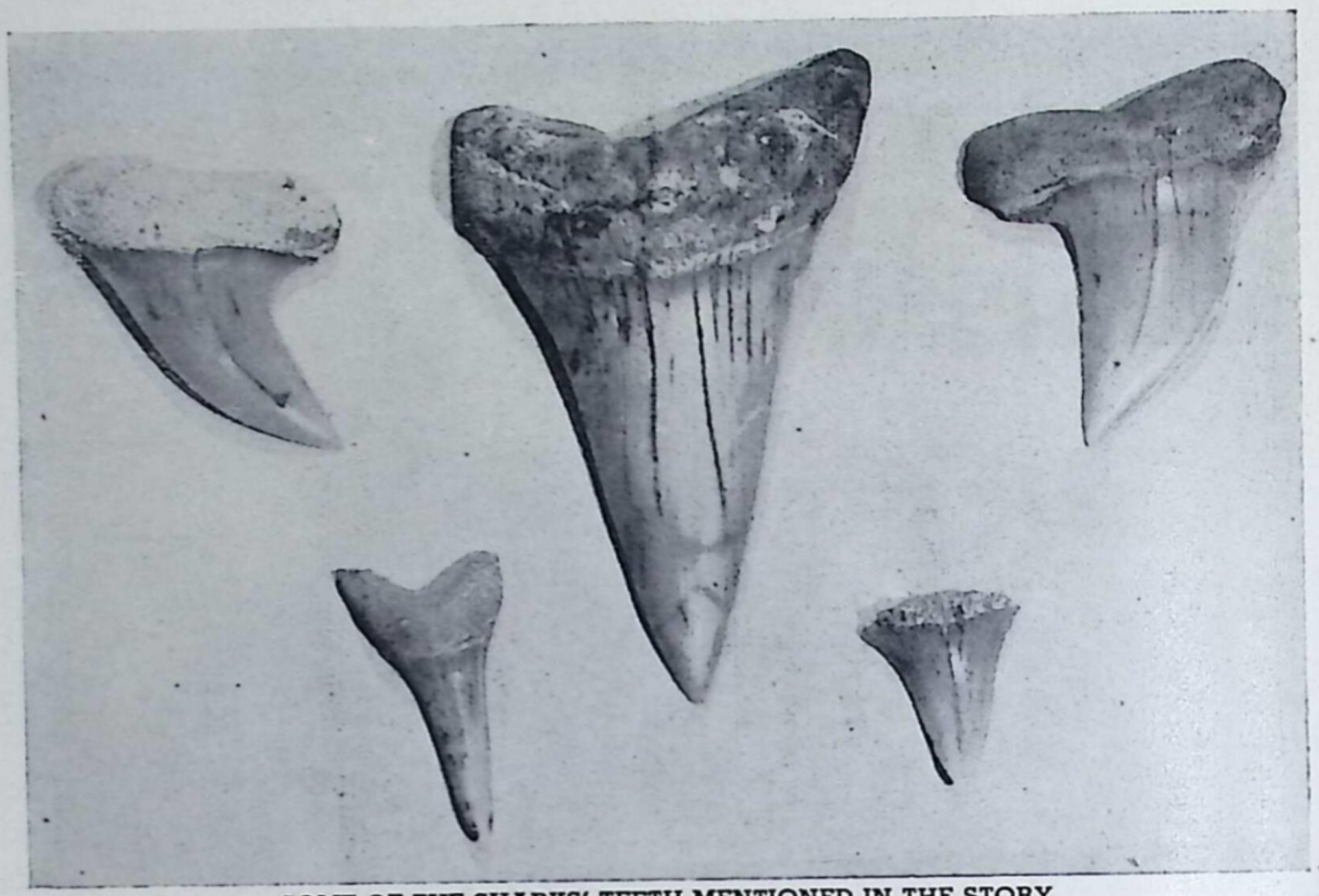
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SOME OF THE SHARKS' TEETH MENTIONED IN THE STORY
Illustration slightly larger than actual teeth

the southwest, the low angle maximum being about six degrees. The contact is not well exposed. The upper layer of the temblor outcrops as a consolidated sandstone containing fossil molusca. This outcrop is within 50 feet of the top of the hill, between the shell layer and the fossil bone zone. There are 35 feet of consolidated sand and shale. The bone-bearing layer is about 4 or 5 feet thick. Most of the teeth are found near the bottom. A sandy matrix is often attached to the base of the teeth. The writer found a tooth that measured 2¼" long by 1⅜" at the widest part. (See illustration) There are many types. Some are long and needle-like, some are curved, some have a saw-edge and others are less than ⅛". When exposed to the weather and dug from place they are perfect specimens and have a polished appearance. Those found down the hillside often show weather cracks. I talked to a man who had collected from this field for 30 years and had assembled a complete set as they had originally been in the shark.

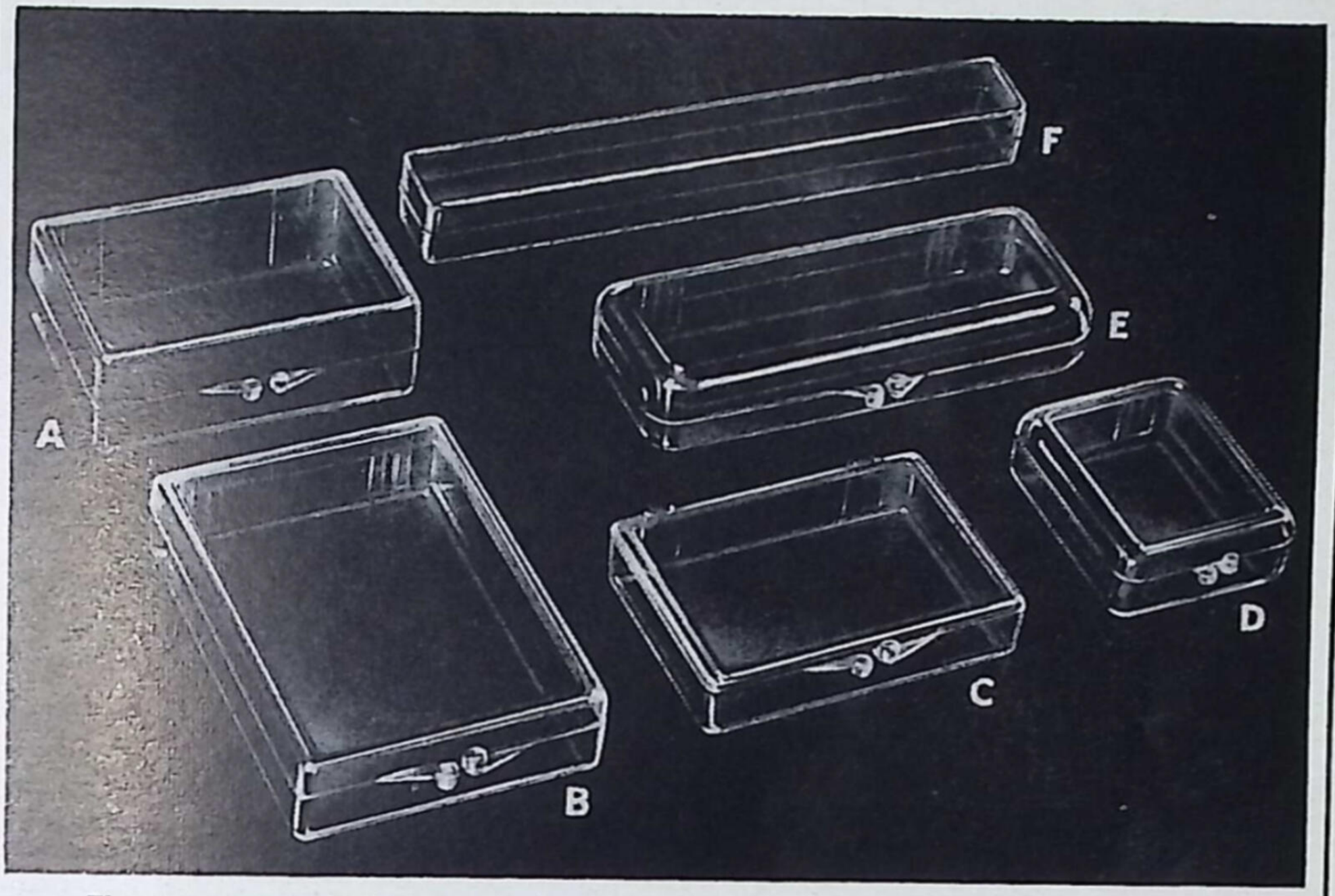
As collecting equipment one should have a shovel and a short pick. Also have a ¼" mesh screen. Do not fail to take the screen, otherwise you will miss three-quarters of the teeth, especially the smaller ones. Take water and food for the stay. The parking space is rather limited as there is very little level ground.

To reach Sharktooth Hill from Los Angeles take Route 99 to Bakersfield. (See map) From the other side of Bakersfield bear north through Oildale and at the far end make a right-hand turn on what is called the loop. It is a hard surface road and at about ten miles you will see high posts marking the entrance to the park. Turn off at the power line to the left and climb over two small hills or approximately a half mile through a saddle where you can look down on the diggings. The far end of the diggings, just before you go around the hill, is the best location. Any member of the *Kern County Mineral Society* will be glad to give you any additional information required.

This location is fine for the fossil collector and the details are presented here in the interest of the mid-westerners who may wish to hunt for something besides gems and minerals when they come to California. A sugar bag full of these teeth will sure make fine swapping material as you travel and for the friends back home.

A word of caution is offered—the area abounds in scorpions so be careful as you sift the sand through your hands for you may get "bitten" by one of the teeth.

TRANSPARENT PLASTIC BOXES



The transparent plastic boxes in the above illustration are only a few of the types and sizes available. The boxes are constructed of rigid polystyrene, and all those illustrated, with the exception of series F, have hinged covers, a positive latch, and slightly raised edges to prevent scratching or abrading the surfaces. All boxes of the F series have telescope covers.

The boxes may be used for display of cut and polished stones, jewelry, small rock specimens, cataloging collections, or keeping some fragile specimen dust free and safe from rough handling. Fishermen use them to carry their flies and hooks while upon the stream and to safely store such items when not in use. Hobbyists find them convenient for storing all those small parts so easily lost or misplaced, and as containers for various hand tools. Many dealers use them as an aid in displaying and selling collections, jewelry, or individual stones.

In some series there are several boxes; the illustrated box of that series is designated by an asterisk in front of the box number. In the F series the last dimension represents the height of the box.

Series	Number	Size	Each	Series	Number	Size	Each
A	*750	2 x2⅞ x1	$ .25	F	1	15/16x15/16x ¾	.06
B	850	2⅝x3⅝ x ½	.25		2	15/16x1⅞ x ¾	.09
	*895	2⅝x3⅝ x ¾	.30		3	1⅞x1⅞ x ¾	.12
	908	2⅝x3⅝ x1	.35		4	2¾x3⅜ x1-7/16	.25
C	*700	2 x2⅞ x ½	.20		*6	⅞x6⅛ x ¾	.20
D	250	1⅝x2⅛ x ½	.125		7	¾x2½ x ¾	.12
	*369	1⅝x2⅛ x ¾	.15		9	2½x2½ x1	.20
	684	1⅝x2⅛ x1	.175		33	1½x3⅞ x1	.25
E	*150	1⅝x4½ x ⅞	.30		34	1⅞x4⅞ x1	.35
					54	6¼x8¼ x ¾	1.25

Box No. 54 has a raised bead ⅛" wide in a half inch from edge on both cover and bottom

Hinged Cover Utility Boxes

No.	Size	Compartments	Each	No.	Size	Compartments	Each
100	2¾x4⅝x1	4	$ .45	203		1	.60
102		1	.45	204		12	.60
103		6	.45				
104		8	.45	300	4¼x8¼x1¼	6	.80
201	3½x7 x1⅛	7 { 3 center, 2 each end	.60	301		18	.80
202		7 { 1 large, 6 small	.60	302		12	.80
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Keweenaw Agate

By the late
HENRY L. LUOMA
of Ahmeek, Michigan

Agates are a form of quartz. Layer upon layer, sometimes wide, sometimes so thin that 20,000 layers have been counted in a piece 1 inch thick, have builded one upon another to form agates as we know them.

At one time—estimated at 125 million years ago by scientists who have studied local geology—a volcano erupted in the vicinity of what is now Minneapolis. Lava flows from this eruption are responsible for all of Isle Royale and much of what is now known as the Keweenaw Peninsula in Michigan.

As the hot lava cooled, bubbles and seams formed. Percolating mineral waters rich in silica penetrated through the porous stone, found these openings, and left some of the silica behind as thin layers. In time the silica hardened into a very thin hard coating lining the walls of these bubbles and cracks.

More mineral water came in depositing more silica and new layers. When ever the waters also contained iron in solution a *red* band was formed. When the seepage waters were free of metal content a water-clear or sometimes a milky-white band resulted. Copper causes green banding (as does nickel) and so on. The degree of metal in each deposit of solution determined the shade of any color, it is believed. In some instances the presence of two metals in solution in one visit of the percolating underground waters resulted in colors not usually listed as primary. Practically any color of the rainbow and many intermediate shades can be found in Keweenaw agates from Michigan.

The rarest colors in Keweenaw agates, and literally worth any sum a customer will pay are, in order of rarity: Rich *purple* banding with thinner *milk-white, cream,* or *water-clear* contrasting bands, Not more than two or three are reported being found each season. All so far reported have been found on the Seven Mile Point beach. *Black* with contrasting *milk-white* or *water-clear* bands so far reported only from Black Creek beach where the mouth of the stream empties into Lake Superior. There is no connection between the name of the creek and the color of the gem—*Deep rose pink* contrasted with *milk-white* or *water-clear* bands (this type is known as sardonyx); found on all agate beaches from Tamarack Waterworks to Manitou Point but very rare in the best colors. Values same as with purple and black agate above.

There are literally countless other color combinations, patterns, and types of Keweenaw agates. They are much more abundant, relatively, than the rarities listed above and therefore quite reasonable in price, although many are as attractive, and some more so, than the more exotic stones. Thus one can select for beauty instead of price the agates he wants cut and polished for jewelry or display.

It will be seen that an agate nodule builds up from the outside in. Proof that some agates are still growing is in the hollow centered gems occasionally found. Action of the lake or some other force of nature interrupted the growth of these by breaking up the matrix or mother rock, after which weathering, water, and glacier action combined to wear away the matrix and expose the much harder agate nodule.

The percolating waters, having deposited the silica, had to find a way out again. Agate tubes formed to permit egress and ingress as the gem slowly grew. A new layer of agate lined the tube with each succeeding infiltration of water, until by the time the agate was completely filled the tube also was closed.

Cut in cross-section these tubes of concentric rings form one type of the much sought after and highly prized "eyes" found in Eye Agate. Some agates have many tubes and therefore many eyes. Another mistakenly called eye agate results when the complete nodule is sawed through its exact center and the concentric bands are found to be perfectly round, as in an agate which

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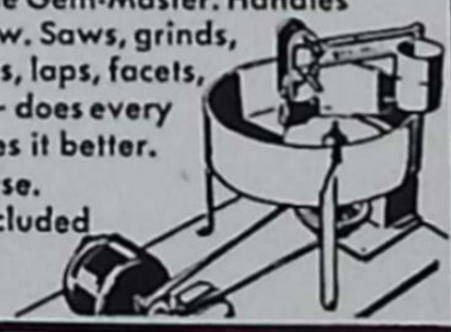
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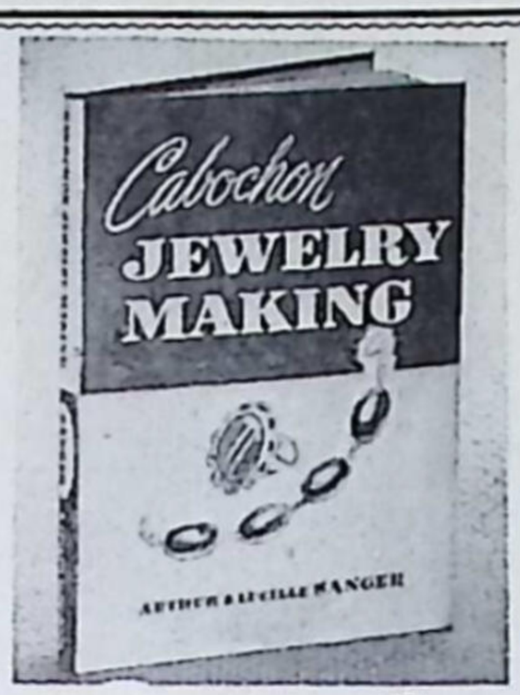
was formed inside a perfectly spherical lava bubble.

There is only one true eye agate, however, local names of which are "bull's-eye" agate and "fish-eye" agate. Showing an iris and pupil, this eye is usually found on or just beneath the outer surface of the agate proper. An eye agate nodule may have one eye or many. These have been formed by sweat globules of silica gel clinging to the inner surface of the cavity in which the agate proper was growing. True eyes are always hemispherical in shape with the flat side out. There is no mistaking them when found; the iris and pupil are so amazingly lifelike. Good eye agates—that is, stones having the eye so placed that it can be centered in grinding for a jewelry setting—are extremely rare. Beautiful specimen eye agates are a little more easily found.

Agates absolutely water-clear are frequently found, and to the unaided eye or under the average magnifying glass no bands are visible. A microscope of high power, however, will usually reveal the banding. Translucent tan to yellow gem agates with no contrasting banding, (sard) will be found to be similar. So with the brown to rare wine-red Keweenaw carnelian which is also highly translucent and often appears to be unbanded. These three types above are found on all agate beaches from Tamarack Waterworks on up to the tip of the Keweenaw Peninsula at Manitou Point. They are also found "in place" and may be mined out of the many rock ledges crossing the gravel road which runs from Bumbletown Till (at Allouez) to the lakeshore, and from rock ledges beginning at Esrey Park on Agate Harbor which run inland away from the lake for several miles through the woods.

Other types of agates are found "in place" both here as well as one mile due inland from Seven Mile Point and in the ledge on the north side of Schlatter's Lake. Sizes run from that of a small pea up to rare ones twelve inches in diameter. Agates dug from ledges of course are complete nodules, unless a portion of one has been broken away by a previous prospector. This same holds true for agates washed up on Agate Harbor beaches.

Elsewhere Keweenaw agates are predominantly small portions of larger complete nodules broken up by thousands and millions of years of punishment from the elements. This is proved by the fact that, while smoothly round or oval because of water or glacial action when found, these agates show only a partial pattern. Sometimes the center is missing, either wholly or in part. Often such an agate has parallel bands instead of concentric bands, showing the bands are but a tiny part of the complete rings of some larger



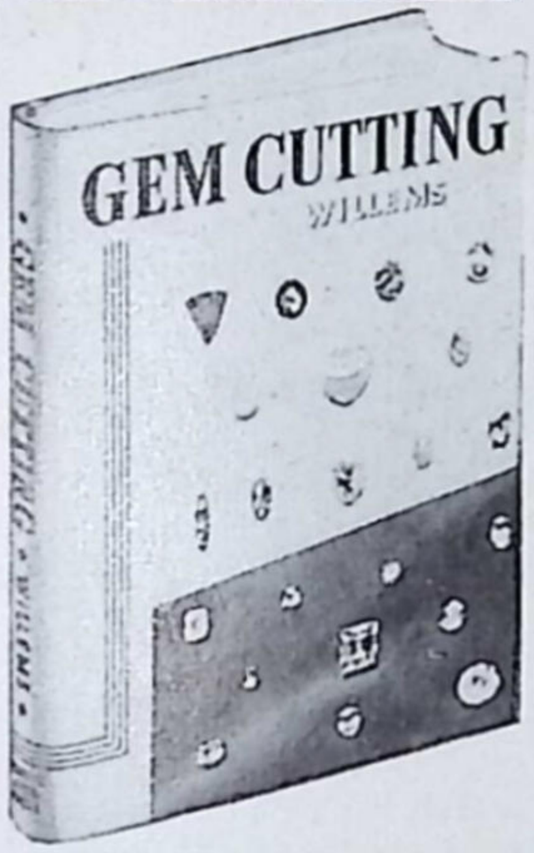


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agate. Such agates are often found several miles inland in gravel pits or turned up by a farmer's plow. Sometimes they are found in the gravel beds of brooks and streams.

In picking agates on the beaches a rainy day is best for anyone not used to the sport. A wet agate is much more easily recognized than one that is dry. If you would rather do your picking in better weather, pick along the narrow strip of beach kept wet by the waves. If possible plan your day so you can cover a long stretch of beach, starting before noon and picking with the sun at your back. Turn around before 2 P.M. and you will again have the sun at your back on your return. This is true of

are usually highest upon the beach from the water, and also farthest back *in* the water from the shoreline.

It is wise to cover the beach at a moderate rate. One may walk fast over sandy stretches or those having very small gravel. Slow down when you reach a shingle or large pebbles. When you find an agate stop awhile and dig down to the sand all around the area, carefully sifting the gravel for pay dirt. "Where there's smoke there's fire."

An ideal beach to cover in the above manner, with the sun at one's back both going and returning, starts at Seven Mile Point. Pick to the mouth of Gratiot River—or better yet, one mile beyond to the mouth of Black Creek—lunching



ALONG BEAUTIFUL LAKE SUPERIOR . . .

Keweenaw beaches. Never pick into the sun if you can avoid it. Many good agates are missed in this way. A tin can or other dipper can be fastened to a pole to help you reach agates seen in deep water. Many pickers in addition use hip boots or waders.

Wave action tends to grade beach gravels all of a size. Therefore in small beach gravel you must expect to find small agates. Anything over three-quarter to one inch gravel (if on an agate beach) is worth picking over carefully as agates this size, when not seriously cracked or flawed, can be cut into ideal jewelry stones. The very largest gravels

at the turning point before following the same stretch of beach back to your starting point. No matter how well you think you have covered the beach on the way down, you will find as many agates on the way back. The round trip involves twelve miles of walking. One need not, of course, go all the way.

Do not expect to find as many agates as a local picker. A good local picker can follow behind a stranger to our beaches for three or four hours and gather several pounds on a seemingly barren beach. This is because our beach gravels are in colors that tend to blend with those of the agates and to camou-

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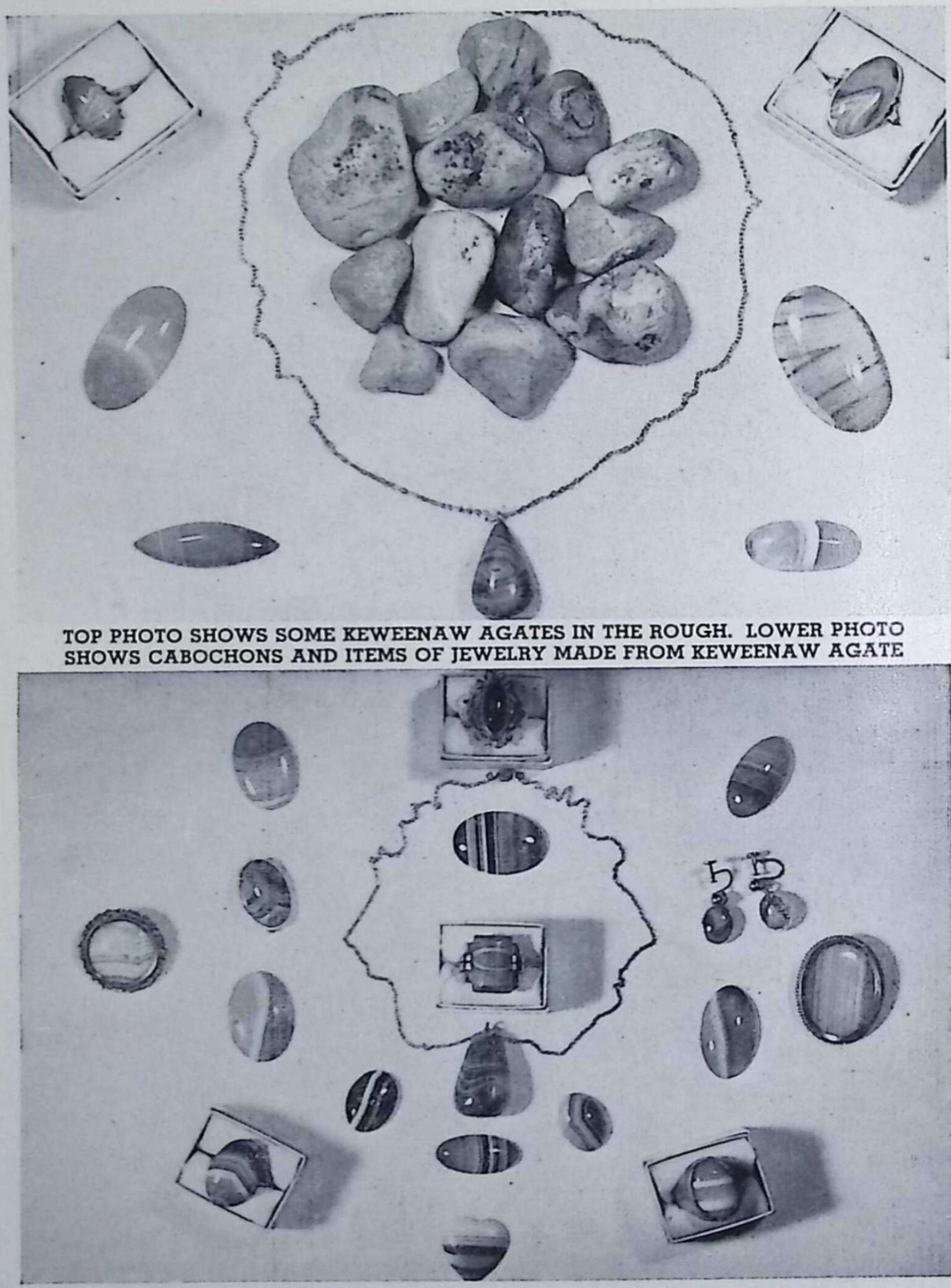
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TOP PHOTO SHOWS SOME KEWEENAW AGATES IN THE ROUGH. LOWER PHOTO SHOWS CABOCHONS AND ITEMS OF JEWELRY MADE FROM KEWEENAW AGATE

flage them, and a stranger is handicapped until he can accustom his eyes to slight nuances of color and shadings. This explains too the reason for keeping the sun at one's back.

Local agate pickers have learned to recognize gem agates although the rough outer covering is still present and no color or banding is visible. If you suspect you have found an agate like that *do not crack it open* to see what is within. Hammering causes serious cracks which if the stone is an agate, will ruin it for gem cutting purposes. Save it to show to some gem cutter. If it should be a valuable agate and you want it cut for a ring, brooch, pendant, or the like perhaps you can find a jeweler who will do the work for you. If you cannot, bring or mail your gem to the *Keweenaw Agate Shop* at Ahmeek, Mich., and they will be glad to accommodate you.

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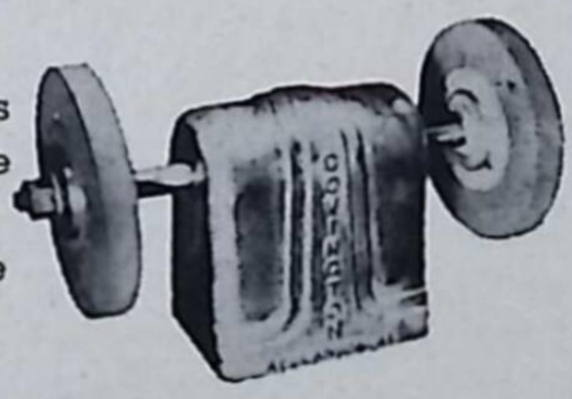


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◆ Vacation Rockhounding in Minnesota

By WM. BINGHAM and HAZEN T. PERRY
2100 Arcade St., Saint Paul, Minnesota and 2501 Girard Ave., So., Minneapolis, Minnesota
Members *Minnesota Mineral Club*

While Minnesota may not have the abundance or varied assortment of gem minerals to be found in some of the other states, it does have some which are very beautiful and also distinctive to the state. For those who are interested in geology, there are exposures of some of the most ancient rocks known (in the Canadian Shield area in northeast Minnesota) as well as abundant evidence of the latest geological age—the glacial periods. This article will attempt to describe these minerals, where and how they are found and suggest the best lapidary treatment to bring out their true beauty.

At no place in Minnesota will you find mineral specimens or cutting material that can be picked up by the hundreds of pounds in an afternoon. But you can get some wonderful materials if you are willing to work for them. No detailed directions are given for reaching specific localities but they can be obtained from any member of the *Minnesota Mineral Club*. It is best not to try to get directions from the local people, as very few are interested in rock and few know anything about the rocks in their own backyard.

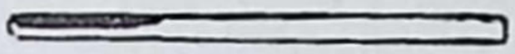
Eastern-central and northeastern Minnesota and northwestern Wisconsin are famous for Lake Superior *type* agates. (See Vanasse's book *Lake Superior Agate* for descriptions.) They are found in gravel pits, road cuts, stream beds, lake shores and occasionally in open fields all through the area. Since they were brought down from their source in northeast Minnesota and Canada by the Patrician glacier they are usually associated with the terminal and recessional moraines of this glacier. They are found as waterworn and glaciated pebbles and range from single cabochon size up to 3 or 4 pounds each. Anything over 2 pounds, is considered unusual. Mr. Adolph Heumann of Minneapolis has one weighing over 14 pounds! Associated with the agates are jaspers and iron formation pebbles as well as some infrequent pebbles of sedimentary quartz formations that are unnamed at present but they can be cut and polished. Agates can be seen in the basalt flows at Gooseberry Falls State Park along the lake shore and on top of Raspberry Mountain near Grand Marais, Minnesota. (A glaciated knob that is about 500 or 600 feet above Lake Superior.) These agates range in color from clear grays through yellows, reds, and browns and in fortification, sagenite, moss, water level (onyx), tube, eye, cellular and cloud types. Some have quartz crystal centers and a few are filled with amethyst.

The Thomsonite locality is reached by driving northeast on U. S. Highway No. 61 from Duluth, Minnesota, along the famous Lake Superior North Shore Drive. This is a fine black-top road extending some 240 miles along the shore to the Canadian border and beyond through Port Arthur, Canada. This area is truly one of the greatest scenic and wilderness areas in the country where virgin timber and waterfalls abound. About 180 separate lava flows have been charted between Duluth and Grand Portage, a distance of 140 miles. Thomsonites are found in these basaltic lava flows as amygdaloid fillings for a distance of about 40 miles between the towns of Little Marais and Grand Marais. The gem variety with red or green eyes on a white or pink background together with Lintonite (a massive green form of Thomsonite) are found in a small area of about a square mile in extent at a point along highway 61, about 5 miles southwest of Grand Marais. The roadway at this point has been blasted from the basalt flows and an examination of the rocks on the uphill side will reveal Thomsonites and

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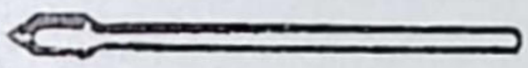
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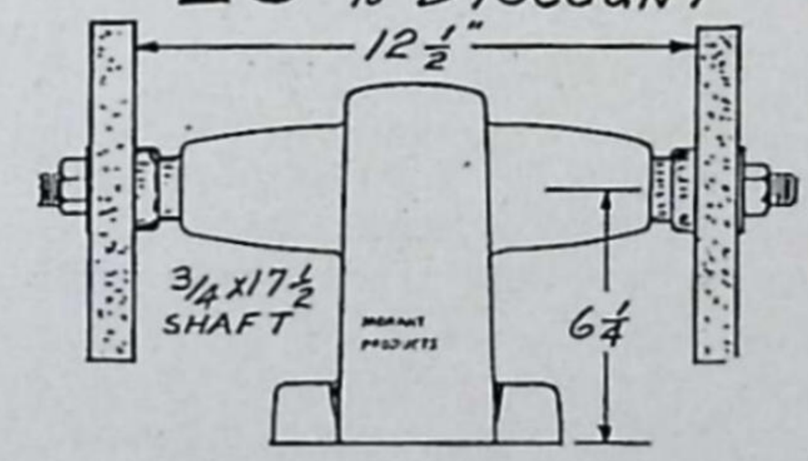
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Lintonites. Many years ago the easiest and best collecting was on the lake shore, where the waves had washed the Thomsonites from the basalt and deposited them in rock pockets and small beaches in the form of water-worn pebbles. Most of this material has long since been picked up and only a very few can now be found here after a storm. Many fine Thomsonites can be seen embedded in the shore rocks but the cottagers naturally resent collectors breaking and prying up rocks on their property. They are also very difficult to remove without fracturing. Approximately three-fourths of the Thomsonite bearing area shore property is still vacant. The best collecting now is along the uphill side of the highway where the basalt was exposed in making the road. A good hammer and a cold chisel, plenty of elbow grease and lots of patience are required to obtain good specimens for, due to their fibrous structure, they fracture easily. Some people have tried blasting but it shatters the Thomsonites and makes them worthless for cutting. In size, Thomsonites range from about an inch long down to ⅛ inch in diameter. Anything over 1½ inches is very rare. Thomsonite has a hardness of 5, a specific gravity of 2.4 and is a hydrated sodium, calcium and aluminum silicate. The best lapidary treatment is to grind to shape on a No. 100 or No. 120 grit wheel which is kept *very true*. A bumpy wheel will break them faster than you can put them to the wheel. Smooth on No. 320 or No. 400 and finish on No. 600 grit silicon carbide cloth and polish with tin or cerium oxide on a leather or felt buff. It is best not to attempt to saw Thomsonite as it will probably break. Since the patterns and colors are on or near the outside of the amygdules, do not attempt to grind off very much from the outside or the pattern will be destroyed.

Also along the North Shore are found several other zeolites such as mesolite, heulandite and stilbite, as well as prehnite, fluorite and calcite. Hovlandite, the new rock introduced last June at the Milwaukee convention and show, is found near the town of Hovland, Minnesota—20 miles northeast of Grand Marais. It is a beautiful mottled green and takes a good polish. Farther northeast, near Port Arthur, Canada, there is still amethyst to be found in the

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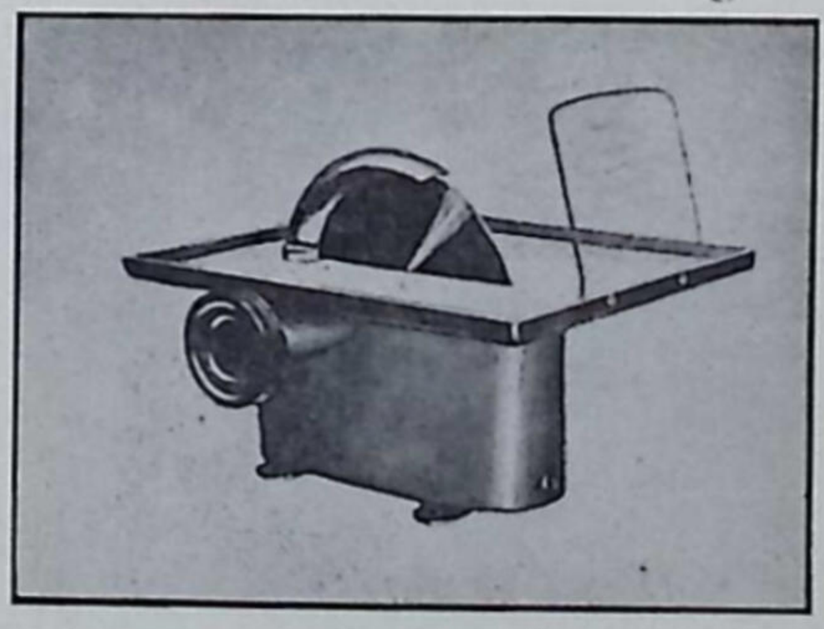
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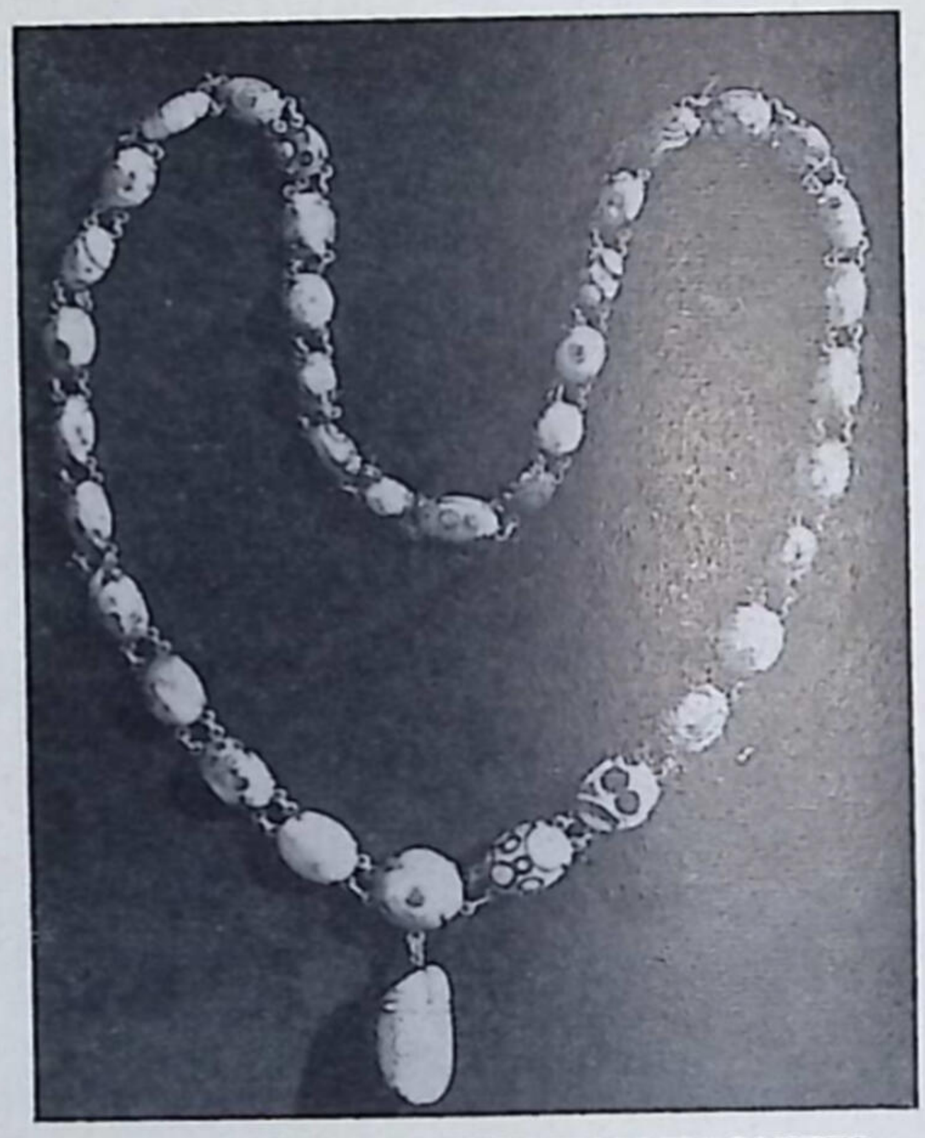
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JAMES J. KEHOE

BIG FORK MONTANA

famed Thunder Bay region. It now requires diligent search however to obtain gem quality specimens.

Chlorastrolites or Isle Royale Greenstones (a greenish fibrous mineral with a chatoyant, turtle-back pattern) could formerly be collected on Isle Royale, about 20 miles off shore from Grand Portage, Minn. This is the only known locality for this gem. Collecting there is now forbidden as it is a National Park.



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The five iron bearing areas in Minnesota will provide numerous types of iron minerals, iron bearing jaspers, together with some locally associated titanium and manganese minerals. Staurolites and garnets can be found near Blanchard Dam on the Mississippi River near Royalton, Minn.

In the glacial gravels of the western and southern parts of Minnesota can be found a little petrified wood, Montana type agate, and chert pebbles, some of which are quite pretty when polished. Some of the petrified wood shows an orange red fluorescence.

Catlinite (Pipestone) can be found near Pipestone, Minn., and Rice Lake, Wis. Fossil leaves and partly petrified wood can be found near Springfield, Minn. Clay and sandstone concretions can be found in several localities, occurring in many fantastic shapes.

All the above listed localities are on paved highways or close thereto. Tour-

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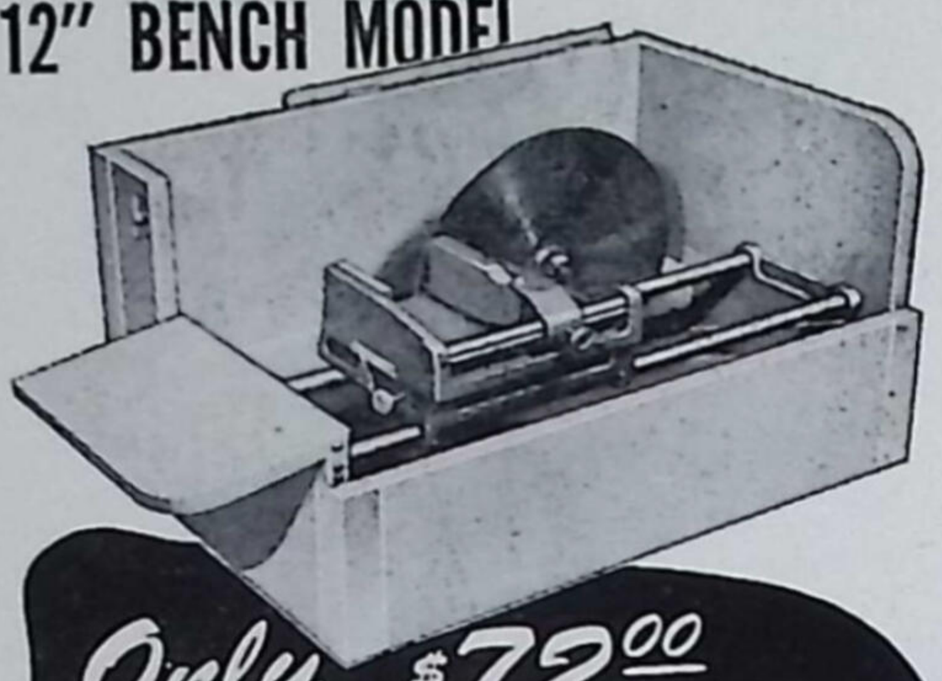
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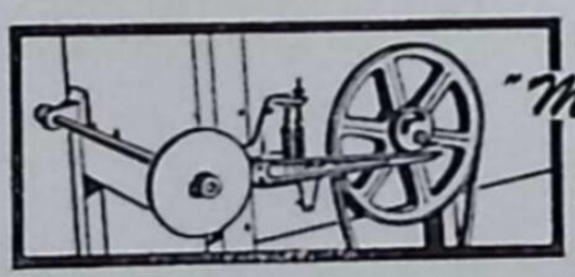
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◆ Agate Areas in Oregon

By MELVIN L. KATHAN
11 S. E. 78th Avenue, Portland 16, Oregon
President—*Oregon Agate and Mineral Society*

The eleven western states of the United States comprise an area unsurpassed in abundance of agate material available to the collector. Oregon has large quantities of quality gem material. Only the surface has been scratched. Vast areas, particularly in the southeast section of the state, remain little explored and prospected. Many of the earlier discoveries are now posted and may be worked only by special permission and arrangement with the property owner. There are still rich deposits throughout Oregon undiscovered and unclaimed.

Following is a general description of some of the principal localities of agate materials known to be found in Oregon.

Nehalem River — Forty-one miles from Portland off Sunset Highway 47, about 5.2 miles northeast toward Vernonia the collector can find good quality carnelian and other types of agate, even plume. Search the Nehalem River gravels and tributaries between Clear Creek and Vernonia. About 5 miles southwest of Vernonia are found mineral and crystal specimens in a gravel pit. Another mile down stream are quantities of concretions containing excellent marine fossils, on the Rainmaster place.

Oregon Beaches—Agate particles to some extent are found up and down the entire Oregon Coast. The most productive area seems to be centered 8 to 12 miles south of Yachats, Oregon. Search the gravel beaches, the banks of the beach, and the gravels of streams running into the Pacific Ocean. The mouths of the small creeks and the creek beds themselves are good places to explore. It is a good idea to wear rubber boots and plenty of warm clothing at the beach. The stormier it is the better the the picking.

Big Creek has quantities of moss agate, some coral, wood, and a good deal of excellent sagenite. China Creek has the same materials with the addition of a good grade of bloodstone. The bloodstone seems to be most plentiful about 1½ miles upstream. Other creeks that supply good hunting in this area are Cummings, Squaw, and Twelve-mile Creeks. Best time to hunt is at low tide, especially after violent storms have removed much of the beach sand.

Sweet Home—A few miles south and west of Sweet Home in the vicinity of Holley (highway 228) are to be found petrified and agatized wood, many complete sections of trees and even standing stumps. Ames Creek is especially productive of good material. In this area will be found a good deal of banded agate, crystal lined geodes and, occasionally, excellent pieces of sagenite. Search the stream beds, particularly Ames Creek and the Calapooya River gravels, also the plowed fields.

Just west and a little north of this area on highway 99-W much material, including some carnelian and sagenite, is found in the gravel bars of the Willamette River about 8 miles south of Corvallis. The best time to visit this area is in early summer when the water level is low.

Southern Oregon—There are several good localities north of Medford near Eagle Point. Fine mosses and black dendritic sprays in clear and milky agate are found in and around Antelope Creek and the entire desert area around and near Camp White. There are several active collectors living in and near Eagle Point and many in Medford and nearby Ashland.

Copco—Just north of the California-Oregon line is an agate location called "agate flats." Here are found quantities of dendrites and sprays in clear and milky agate of very good quality. Pieces are small but some show unusual markings. Just near and beneath the high power line will be found literally acres of agates so thick you must actually walk on the agate. Every piece is not desirable but now and then prize specimens are found, especially beneath the loose surface. To reach this locality, go up the Klamath River road from Hornbrook, California, about 12 miles.

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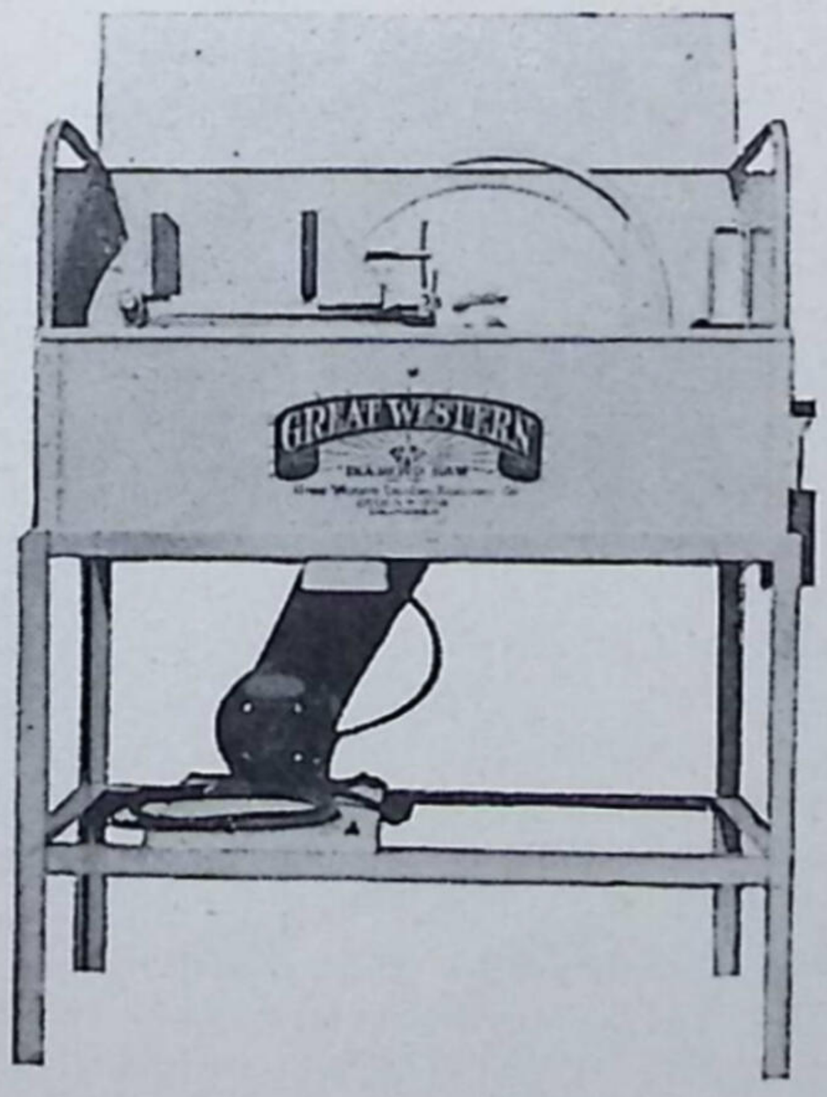
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Greensprings Mountain — On the Ashland to Klamath Falls Highway (66) just 9 miles up-grade from the junction at the foot of the mountain will be found nodules of good quality in a basalt highway cut on the left. The agate nodules are in place in the large basalt seam and have to be picked out. When this cut was made tons of loosened rocks and agates were probably dumped over the bank.

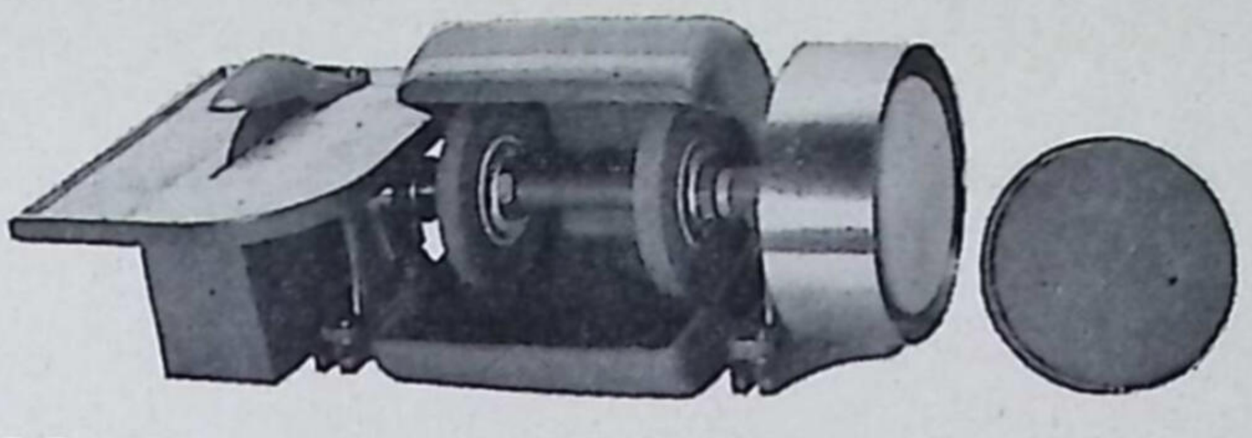
On the summit of Greensprings Mountain a variety of good agate material may be gathered along Jenny Creek near Pinehurst not far from the paved highway.

Central Oregon—Within a radius of 50 miles of Prineville is one of the richest agate bearing regions of the world. From this comparatively small area comes plume, iris, moss, wood, obsidian and limb casts unsurpassed anywhere.

Priday Ranch—17 miles north and east of Madras near mile post 79 on the Dalles-California Highway (97) is the famous Priday Ranch. Here are found large quantities of agate nodules including thunder eggs. Many of the thunder eggs are filled with beautiful blue and red agate, sometimes containing excellent bands, moss, scenes, and plume or flower agate.

This locality is now closed to the public but material is for sale at the ranch house on the highway (between mile posts 77 and 78). The property has changed hands several times in recent years and is again for sale. It may again be opened to the collector this summer. The agate beds are up the hill road toward Ashwood about 8 miles from the main highway just south of mile post 79. The whole country south and east of this ranch has excellent prospects for the collector. There are some government lands open. Most of the ranches are posted.

Antelope—Antelope is 15 miles north



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and east of Willowdale. Turn right across the creek (about 2 miles north of the Priday Ranch house) to reach Antelope. This locality is one of the first and best areas for agate collecting. Many of the ranches are now posted but some can be explored by special permission. Good material is found right in Antelope Creek at the east edge of town and on ranches just out of town—east, south, and west. Excellent wood is scattered at, and east of, the summit near the road leading from Antelope to Clarno. Large log and stump sections have been removed from this area (about 6 miles east of Antelope) from the hillside on the right, just past the top of the hill.

Eagle Rock—About 14 miles south and east of Prineville toward Post is the famous Eagle Rock plume locality which is still open to the collector. Eagle Rock is a large upright mass of rock protruding from the canyon floor and is plainly seen near the road. The rim rock above and north of Eagle Rock carries red plume and angel-wing in seams for a distance of about 4 miles to the west. The western end of this outcropping (fault edge) is where the famous Bear Creek plume came from.

South and up the Crooked River are many areas of good agate hunting; especially in the vicinity of Post, Paulina, and Hampton Butte. Here are found superb limb casts—complete large and small sections. Many have been found on the slopes of Hampton Butte. These wood casts are agate replacements. Some show iris and delicate patterns of light green moss.

Glass Buttes — South of Hampton Butte, east of Bend, Oregon, on the Ontario-Bend Highway (20) are the famous Glass Buttes where excellent quality obsidian is found in large quantities. Park off the highway just east of mile post 79 and walk south up the draw. The farther you go the better and more plentiful is the material. There will be found right on the surface tons of obsidian in colors of silver, gold, jet black, red, mottled, rainbow, and some double-flow. This material is suitable for spheres, bookends, pen bases, paper weights and cabochons.

Buchanan Ranch—A few miles east of Burns on highway 20 is a small community called Buchanan. Inquire at the service station and go south about

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Riverside Reservoir — Farther east, on the main highway (20), turn right just past mile post 171 and go south about 17 miles on a good dirt road (keep left) to the reservoir. Along the water's edge, on the west side of the reservoir, will be found black moss and dendritic agate (similar to the famous Yellowstone River agate material in Montana) scattered over acres of loose soil and gravel. Very good white plume in clear agate is found here also, especially across on the east side of the reservoir.

South and east of this locality are miles and miles of agate country. Future explorations will no doubt reveal many very good localities in this portion of the state.

Nigger Rock—South of Vale, Oregon about 9 miles to the north and west of Owyhee Dam is the Nigger Rock deposit of highly agatized wood. Whole trees are found buried beneath about 5 feet of top soil and conglomerate. It is hard digging. Superb sections of limbs, trunks, and stumps of excellent quality are found intact in colors of light blue, yellow, and brown.

Morrison Ranch—A vast but rough area just east of the Morrison Ranch at the southern end of the Owyhee Reservoir is the source of the beautiful "Morrisonite." This material is jasper of bright pastel colors in varied, folded patterns. It takes a very high polish. Large chunks have to be dug from a type of sandstone in the steep canyon walls.

Sucker Creek — South and west of Homedale, Idaho (below Adrian, Oregon) is a vast, good area to hunt agate materials. Here will be found plumes, jaspers, woods, sagenites and banded agates of unusual quality.

There is good hunting along and just south of the big irrigation ditch near the Idaho-Oregon line (on the Oregon side). A few commercial cutters in Idaho have staked out mining claims, but large areas are open to the collector. Going south from Adrian toward Rockville a short distance after the ditch is crossed is a fairly large hill to the left of the road. This is called "Million Dollar" hill. It is the largest hill between

Sucker Creek and the road. Many tons of good agate material have been collected on this hill. There is still good hunting there. Due west about 6 miles is Alkali Springs where excellent red wood is found. Go past the water trough, up the draw to the left, and over the hill for about 2 miles (keep left) to the end of a rather rough road. Good cutting material is found near the southern top slope and on down the large draw toward Million Dollar Hill for about 3 miles. There are other areas in this territory such as "Buck Gulch" (about 9 miles to the south) which contain excellent wood and other materials.

Greenhorn — To reach Greenhorn, turn right from John Day Highway (28) a mile or two west of Unity (south of Baker). Follow the road to Whitney, on to Tipton, across Howard Flats, and on to Greenhorn. Many gold dredge mining dumps will be noted near Whitney. These gravels are well worth searching, especially after a light rain. A wide variety of good material lies on and in these dredge tailings.

After the road leaves Tipton, and as you enter Howard Flats, look the gravels over near the small wooden bridge. Good, dark carnelian is found there. Greenhorn is about 6 miles farther. In the old mining dumps are found agate materials, including Tempskya (fern), a rare material found only in limited areas of the world. The best picking seems to be on the old abandoned X-L mine dumps near the vacated C.C.C. Camp.

This entire mountainous region is ideal for summer vacation trips and for hunting agate materials. The middle fork of the John Day River near Susanville is another good area for agate collecting.

It takes time, money, and effort to find and dig good agate material. Most of the surface material in known localities has long since been removed. Do not expect to get unlimited quantities of agate with little or no effort.

Always get permission to explore or work areas on private property. If property is posted do not trespass. Talk it over with the proprietor or owner. If permission is granted, avoid doing damage. Treat the rancher as you would like to be treated.

Sometimes it is difficult to find small localities. Strike up acquaintances. Ask

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questions. Help will often come from most unexpected sources. Look up known rockhounds living nearby. Some of them are outstanding "characters" and are well worth knowing, whether they help you find agate or not. Remember, native inhabitants in out-of-the-way places are often friendly and anxious to meet and help outsiders, if you approach them properly. They know their little world much better than you ever will. Seek their counsel and friendship. And remember—the roadside dealer has better stuff than you will probably find. Visit and patronize his shop as you pass. Obtain and make full use of road maps furnished free by the major oil companies. The one published by the Associated Oil Co. is particularly good.

The purpose of this treatise has been to help rockhounds everywhere who plan making vacation trips in Oregon. Anyone who has never visited this land of sea, mountain, and desert has a rare treat in store. Welcome to Oregon! Many happy hours and days of profitable agate hunting await you.

(Oregon localities are also described in *A Woman Rockhound in Central Oregon* in the first issue of the *Journal*, still available for 50c.)

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About a year ago we saw the idea for the Ballerina illustrated on our cover, in a German magazine now defunct. Submitting the idea to Willy Petersen-Fagerstam he duplicated it faithfully for Aletah in sterling silver. Every time she wears the pin it causes wide comment and many have expressed a desire to reproduce it. The flowing lines are so beautiful that it makes a striking costume piece. It is especially effective worn high (near the shoulder) on coat suits. It is also very smart as an ornament on plain black hats.

While it has such a professional look it is not a difficult project for the amateur. It is a fine task for the silversmith who is a good filer. Start with a piece of silver plate gauge 10, 3½ x 2". Mark the outline on the plate with a scriber and saw out. Use a 6" half round and a 6" round needle file. A 4" half round is handy in some places. Use emery cloth to remove file marks and polish the work with tripoli. The dress is made of a piece of silver wire, gauge 10, rolled out to No. 4 on the spring gauge. Cut 3 pieces 2¾" long, making a scroll of each piece. Solder the scrolls across the figure to make the dress. Ballerina's hair is a piece of wire rolled to No. 4 on the spring gauge and twisted. Solder a joint and catch to the back and polish the finished piece to a high shine.

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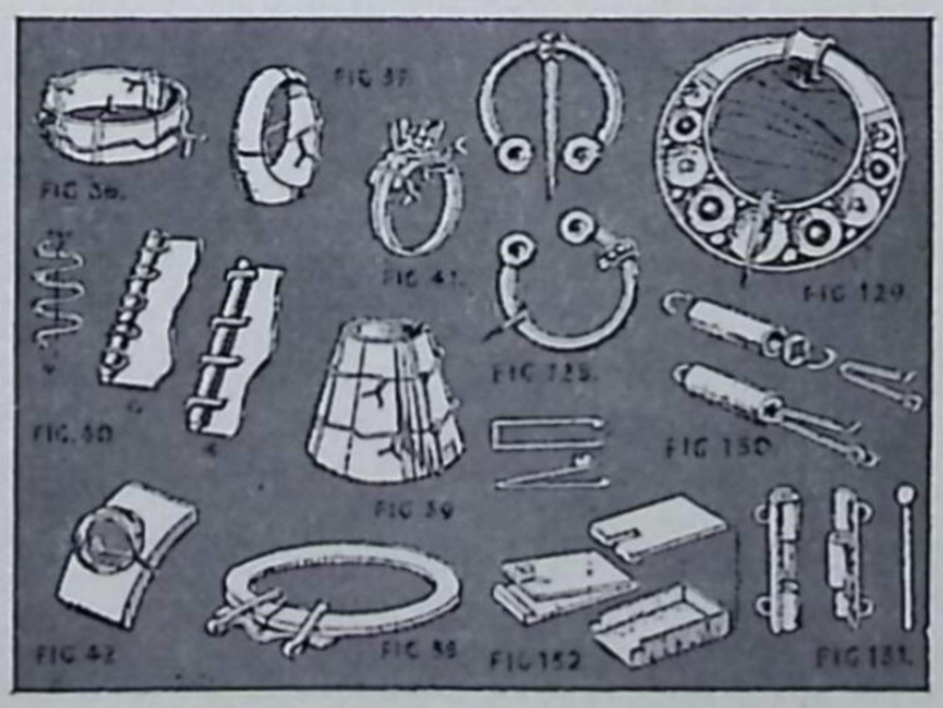
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My attention was first drawn to this prolific source of material when examining a load of pebbles dumped in my yard for mixing into concrete. This pile contained a remarkable variety of stones —brilliant red, yellow, black, brown and white. Subsequent visits to most of the gravel pits in this area disclosed that they all had about the same varieties of stones so any one should be almost as good a place as any other for hunting gem material.

Armed with a wet sponge, bag and hammer many samples were taken from each locality. These were subsequently sawed or polished to bring out their color and markings. Many thousands of stones were examined and several hundred cabochons were shaped and polished. These polished stones were then sorted and classified according to color and texture as follows:

1. Blacks. Many samples polished to a perfect jet black. Some were dotted, streaked, or clouded with white, brown, yellow, or red.

2. Red. The reds varied from dark mahogany red through all shades to the faintest pink. They showed varying degrees of transparency from almost complete transparency to opaque. The reds were combined with quartz which also varied from a water-white to a porcelain-white. None of the samples were banded like agate but the colors were clouded or diffused into each other. Many of the reds were combined with black, gray and yellow; all these colors appearing in some samples. Some of the reds were mottled with other shades with very pleasing results.

3. Yellow. These varied from a pale lemon yellow to a yellow brown. Here again there were many combinations with quartz with different degrees of opacity. Some of the yellows were streaked or clouded with dark brown and occasionally with red.

4. Blues. Blue was very rare but there was one type of stone that contains a translucent blue about the color of blue smoke from a camp fire. This color does not come alone but is always associated with a white opaque matrix. I have polished a few very beautiful cabs from this stone and the matrix blending is quite effective.

5. Green. They are not too abundant. They may be classed as dark green and light green. The dark green was nearly black and was seldom found without mottling of gray, black, or white. The light green or apple green was quite attractive but was nearly always mottled. Some very pretty stones were obtained which were a combination of peach blossom pink with very light apple green. The light green also occurs blended with brown, gray, or white.

6. Colorless. This includes the many combinations of quartz extending from the water-white clear crystals through all stages of cloudiness to a porcelain opaque white. A few of these could be made into attractive cabochons, but in general their lack of coloring makes them less attractive as a class. The water white stones are similar to those found at Cape May and called "Cape May Diamonds." The action of the waves and sand has cut them to almost perfect cabochons.

7. In addition to the above classes are the very many conglomerates. These vary tremendously and involve all the

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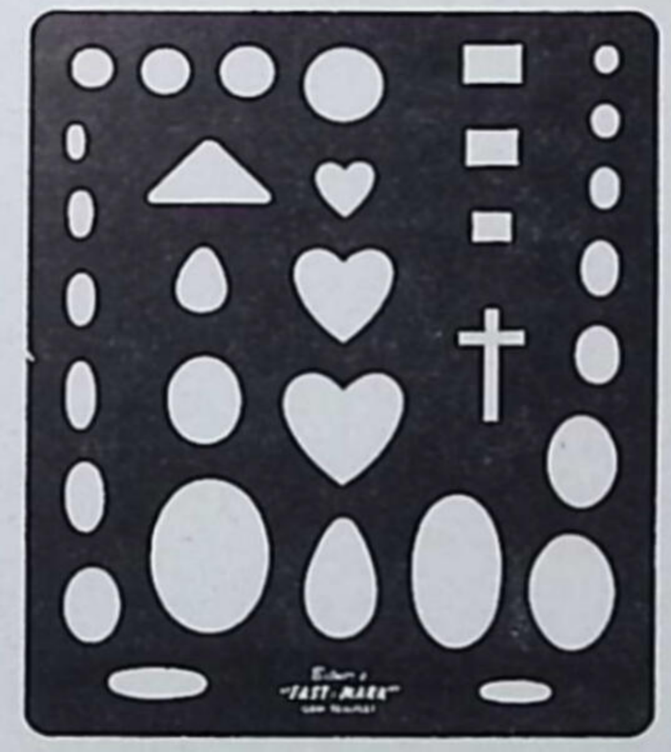
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colors of the other rocks. Sometimes they are well cemented together with quartz but more often their bonding material is too weak and cabs cannot be cut from them. However, occasionally some very pretty stones can be cut and given a high polish. Some very nice ones showing pink, black, and white mottling were obtained. Many cut sections look pretty much like salami or head-cheese.

There is definitely a lack of the colors found in the West, such as malachite-green, turquoise-blue, jade-green, or amethyst. However, for a beginner in the Philadelphia area to practice on there are plenty of pretty stones in his own backyard.

(Editor's Note: This is the area where we picked our first rocks. Back about 1910 we used to sit all day in the summer examining the rocks in the Delaware River in back of the State House at Trenton, N. J. During a dry summer the river would be so shallow above the rapids at the head of tide-water that venturesome boys would wade across it. Large projecting rocks and boulders would create pools that were filled with pebbles. Many a vacation day was spent with other boys examining thousands of these pebbles in a hunt for a certain favored color. We had no idea they could be polished into gems and we have no idea today what the materials were. But they had to be hard and no doubt they all belonged to the quartz family. We lived near a quarry on the Pennsylvania side from which was dug most of the granite used in the construction of the State Capitol built on the opposite shore within sight of the quarry. Many of these quarries existed in those days and they were always fascinating collecting places for our group of boys although we never thought of them as mineral localities. We feel sure that a rockhound with knowledge could uncover many interesting stones today at almost any spot along the Delaware River.)

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By LELANDE QUICK

As the first issue in Volume Five we offer a special *Vacation Number*. It will appear as the sap runs up the trees in the northern states and the wearied robins perch in the bare bushes to sing the first brave songs that will warm the hearts of those who have endured one of the most rigorous winters in history. It will come to hand as the bright pages of the seed catalogs stir the imaginations of the vast horde eager to get their hands in the earth and exchange the shovel at the furnace for the spade and rake.

And it will appear just as everybody in America has about reached the conclusion that if they don't take a trip this summer they'll never take a trip again. For the state of the public mind, as this is written in February, is such that the people of this nation not only believe we are in a World war but that we are already living under defeat. With 78% of the world's productive capacity, and the greatest bull dog tenacity of purpose of any nation, we are *never* going to live in defeat at any time. Contrary to opinion we do not believe there will ever be gas rationing. But whether things are brighter or gloomier when this appears we believe the whole nation will be better if everyone in it makes some plan for a change of scene this summer. The people interested in rocks will naturally go to areas where they can hunt for some and see them in the nude. To that end we have gathered together fine articles describing gem bearing areas all over the land, for gems are everywhere and not confined to the Mojave desert and Eastern Oregon.

Read over the articles in this issue and start dreaming. And if you eventually go on one of the trips and get anything, don't forget to write to the author of the article who directed your footsteps and thank him by sending a piece of the best stuff you find. Some of the authors may get in the dog house with their friends at home. The Oregon reader sure likes to read about a Texas locality but he sometimes gets hopping mad at the fellow who tells the Texas rockhound about the Oregon localities and vice versa. Take the *Journal* with you and visit with the dealers along the way. They always have far better material than you are likely to find.

We again offer the advice we printed here just a year ago. You may be in the hobby for fun—*but the dealer isn't*. He's making a career of the rock business. He goes after the rock; often discovers the location himself. He toils hard and sweats plenty; spends time and money to get the rock for you. Most of the time it will save you a lot of money if you buy five pounds of rock from him at his price than if you spend days looking for his location and attempt to haul home 500 pounds to Ideal City so that you can become a dealer in a small way yourself.

Whatever you do don't drive up to the dealer's shop and ask him to help you fix a flat, use all his facilities, load up with water, "borrow" some cartons and newspapers to pack your rocks in and then look over his rocks and say "nice stuff you have here; just how do we get to the location?" It would be much better if you said "here's a nice piece of *rockhoundus bone* from my state for your collection and I wish you'd pick out about five pounds of your fine plume after I leave and send it on home to me as my car is crowded. Here's an extra half dollar for postage." That man will send you the best he has and probably better material than you'll pick yourself.

We have left out all the cutting articles this time except for a little silvercraft idea on the cover and the usual faceting diagram. We have plenty of good cutting articles coming up in the remaining five issues of Volume Five and we won't publish any more travel articles for a while. If this idea appeals to you we shall make a vacation issue out of every April number. Use it as a guide in your rockhound traveling and *drive carefully*.

• • •

GREAT OAKS FROM LITTLE ACORNS GROW. It was in the August, 1942, issue of *Desert Magazine* that we first began writing for the amateur gem cutter. Our column has appeared in that magazine every month without interrup-

tion since. Nine years ago there was little information available to the gem cutting hobbyist about his interest. If one had clipped all the gem cutting information from all the books in the largest library at that time the collected data would not have filled a large cigar box. Today the books on the subject would fill a generous shelf in any library. A file of the articles about the hobby taken from the nation's leading magazines would make at least a thousand page scrap book. Almost no magazine of consequence covering a broad field has neglected the hobby, for its importance as a national trend of the pastime of the people has been recognized all over the land. Both *National Geographic* and *Nature Magazine* have had splendid articles recently and *National Geographic* will run a rockhounding article in the Fall, we hear. *Collier's,* the *Post* and many others have run articles during the past year. About the only important magazine that has failed to "discover" the subject is the one magazine that is supposed to mirror the life of the people—*Life*. On several occasions that publication has approached us and secured story material, taken pictures, etc. Each time we became stirred and enthused at the prospect of a magazine with nearly six million circulation devoting space to our hobby. But each time the project was shelved in favor of a fox kill, a square dance, a barbecue or something believed of greater interest. Almost every Sunday newspaper with a magazine supplement has featured some local rockhound's work or a show of a local group.

As the *Desert Magazine* articles continued our correspondence became more and more burdensome as our readers kept asking for information that had been published. Here and there among the letters people were saying "can't we have more of the same? The present column isn't enough." After some serious thought over many months we came to the conclusion that it was time indeed for the lapidaries of America to have their very own magazine but it was decided to continue our page in *Desert Magazine*. We then addressed a circular to the readers who had written us through the years and we were not too surprised when we had more than a thousand subscriptions to the projected *Lapidary Journal* before copy was in the printer's hands for the first issue. After that issue appeared the response was rapid and thousands of letters arrived saying in effect "just what we have been waiting for." People in the lapidary equipment and supply business and people selling gemstones were quick to see the possibilities of the new medium created just for them. The *Lapidary Journal* grew and grew and today, as we prepare the first issue in Volume Five, we have close to 25,000 readers.

Thousands of our readers will never cut a gem in their lives but they like to read about them. Ten years ago there was nothing the American public spent more for and knew less about than gems. Today it is not unusual at all for a customer in a jewelry store to know more about the merchandise he is buying than the proprietor of the store himself.

It became apparent at the end of Volume One that we would have to quit our executive position, with one of America's largest pharmaceutical manufacturing concerns, at a great sacrifice and conduct the *Journal* at a great loss in income —to do the thing we *wanted to do* rather than the thing we *had to do*. The move was made and the *Journal* was promoted from our kitchen table at home to offices in Hollywood; increased from a quarterly to a bi-monthly. Now we have grown to the point during the last year where we need much more help and much more room and the burden of the *Journal* has become great. Consequently we have moved to Palm Desert, California to the offices of *Desert Magazine*. It has grown phenomenally too in these years and now occupies a magnificent modern building built in Pueblo style (the only native American architecture) that was opened two years ago. It has plenty of room and as modern a printing plant as exists anywhere. And so this issue rolls off the presses of *Desert Magazine* and for the first time everything will be done under one roof and under an arrangement we hope will be a long and happy one. It also relieves us of a load; the niggling dread that a siege of illness or death itself might kill off the *Journal*. Capable hands can now keep our beloved property going until other arrangements are made in the event of a contingency. Statistics show that of all magazines started in America less than 2% survive five years. We're beginning our fifth year now and it looks from here as if we will make the grade.

We look forward to peace and cleanliness again. When we came to Los Angeles it had a million inhabitants and it was the most charming city in America. Today, with two million people, it has become a Pittsburgh with palms and has lost much of its charm because of a hurly-burly atmosphere brought in by the Chamber of Commerce, another million hustling Americans and smelly autos. In the desert we hope to achieve a peace long missed and devote the rest of our life to continuing a magazine devoted to America's fastest growing hobby. If you have never seen a copy of *Desert Magazine* why not send us a quarter (or stamps) for a sample and spend a fascinating evening discovering the interesting reading it contains.

In brief conclusion we pay tribute to the vision of Editor Randall Henderson of *Desert*. For after all it was his idea that his readers might be interested in a column about gem cutting nine long years ago. It was our great luck that he asked us to write it. His encouragement through the years and his broad vision and tolerance made the *Journal* possible and his present cooperation insures its continuance. Yes—GREAT OAKS FROM LITTLE ACORNS GROW.

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Lapidary Journal

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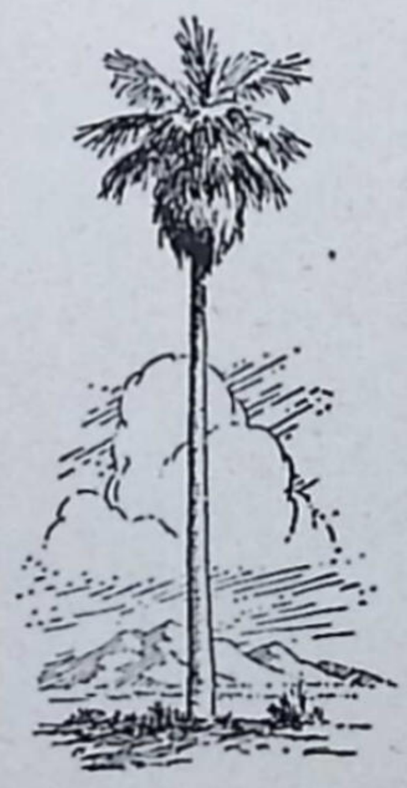
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The Gem Minerals of the State of Washington

By CHARLES O. FERNQUIST

W. 333½ Riverside Avenue, Spokane 8, Washington

The State of Washington is located as the most northwestern of the U. S. The boundaries are; Pacific Ocean and Puget Sound on the west; on the north British Columbia, Canada; east is Idaho and south is Oregon, of which the Columbia river forms the boundary for a distance of 300 miles.

The area of the state is 68,191 square miles, ranking 19th in size, and 30th in population. The State is easily reached by good highways. From the south take U. S. Highways 95, 97, 99 and 101. From the east take U. S. Highways 2 and 10 (also U. S. 30 within a few miles south of the State in Oregon).

Next to California, Washington ranks second in the number of earth science clubs. It has 22, each having a membership of from 20 to over 100 and a total membership of about 1400. Many of these are interested in lapidary work and have their basement shops. Their time and places of meeting appear on Page 406 of the December, 1950 issue of the *Lapidary Journal*.

The *Northwest Federation of Mineralogical Societies* (the second Federation) was organized in 1938. It includes clubs in Oregon, Washington, Idaho and Montana. There are about 43 clubs in this federation and in number of clubs and membership it ranks second. This year the joint convention of the *American Federation of Mineralogical Societies* and the *Northwest Federation of Mineralogical Societies* will be held in Tacoma, Wash., during the Labor Day week-end.

There are good beaches on the Pacific Ocean and Puget Sound. There is scenic beauty in the Olympic Mountains (a National Park), the Cascade Mountains, Mount Rainier National Park and second highest mountain in the U. S. (altitude 14,408 ft.). This is an extinct volcanic cone, snow covered the entire year. Other extinct volcanic cones are Mt. St. Helens, Mt. Adams, Glacier Peak and Mt. Baker. There are at least a dozen peaks covered with snow the entire year. The northern row of counties is mountainous, with considerable mining activity.

The southeast section covers about a third of the area of the state; from the eastern boundary to the Cascade Mountains and from the southern boundary to the northern row of counties. Almost this entire area is covered by part of the Columbia River basalt flows; one of the greatest in the entire world, covering an area of over 200,000 square miles. These basic lavas poured over the surface from fissures in the earth during the time of the upheaval of the Cascade Mountains.

The southeast section covers a large area and the gem minerals cover a large variety. By counties (for the easiest means of finding them on a trip) we will start out from Spokane.

Spokane County—

In this county, as far as is known by the writer, there is nothing in the way of agate or related material. The gem material found in this area comes from the older granitic formations.

Wild Rose Prairie—

A few miles north of the city there is a large deposit of massive quartz. This is white, transluscent and the same appearance as rose quartz. A few pale pink specimens have been found at this locality.

Mica Peak—

A few miles northeast of Spokane clear quartz and smoky quartz crystals have been found by several collectors.

About 12 miles southwest of Spokane there is an exposure of a green colored stone. It has the appearance of jade and takes a good polish. Samples were sent to the U. S. National Mu-

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seum. By study it was found to be a mixture of diopside, hedenbergite and andisine.

On a short-cut road to Cheney there is a railway cut in which a few blue beryl crystals have been found in albite.

In Spokane, and nearly all of the counties in this vast area, common opal is very plentiful. None of this is fit for lapidary work. Some milky opal has also been found in and near Spokane.

Whitman County—

Going south from Spokane, on U. S. 195, we come to Whitman County. About 2 miles south of Rosalia turn east on State Road 3, to about 6 miles south of Palouse. Here between Fallon, Wash. and Viola, Idaho, opal was found in the vesicular basalt when digging a well in 1890. This opal was of good quality. Kunz reported it was equal to the Hungarian and Australian opal. He mentions the size as from the size of a half pea to the size of an egg. During the years 1891-1892 an opal mining boom started and several pits were dug. The production, according to old reports, was $6000 mined and sold. At present there is hardly anything to be seen. This locality is on a wheat farm where collecting is forbidden. A collector once put in a hard blast and since then no collecting is allowed.

We continue south on State Road 3. At Colton going south or from Lewiston, Idaho going west. These come together at a bend of the Snake river, across from Silcot, Wash. This locality is also in Whitman County. Here we have another precious opal locality. The opal occurs as amygdules at this locality also. This opal has good fire in different colors. The opal diggings are high on a hill. Considerable collecting is done by Lewiston, Idaho collectors at this locality.

At a sand pit in Colton smoky quartz crystals have been found. At Ringo Station, about 6 miles south of Palouse, some amethyst occurs in quartz veins.

Asotin County—

The writer has seen some fine petrified wood from this locality.

Now back of Spokane we go west on U. S. 2 to Lincoln County. Between Reardon and Davenport, a road goes north to Mondovi. Grain elevators of this town are seen from the highway. Continue north on this road to about

a mile north of the town of Mondovi. Here, on a wheat farm, there is an outcrop of vesicular basalt. Fillings in the vesicules are small precious opals; but they are not very plentiful, most of them being altered to hydrophane. Also, about a mile from this locality, the writer found large slabs dragged out from the wheat field. Some fairly good opal was found in some of these.

Going still farther north on the county road from Mondovi we come near Capps Talc mine. This is near the lower Spokane River. The road does not go down to the old workings at the mine. The old road is in a wheat field and a person has to walk about two miles to get near the river. About two miles below the talc mine there are cliffs of andesite. In this there are veins and vug fillings of agate. This agate is in light pastel shades of green and pink. We know of no way of getting close to this locality with a car. This locality has not been mentioned in any article before.

Continue west on U. S. 2. At Wilbur a road branches off to the north. If one has the time it is worth taking this to the first turn west. This goes to Grand Coulee Dam; the largest structure ever built by man. Here tremendous electric power is generated and transported to all sections of the state. This power will also pump water up into the Grand Coulee, where dams will form a reservoir. This water will irrigate about 1,200,000 acres of land.

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Grant County—

There is considerable work being done on the different canals and other projects of the Columbia Basin irrigation projects. During these excavations petrified wood and agate is found from time to time.

Following the bottom of Grand Coulee we come to Coulee City, where we arrive at U. S. 2. We stop at Dry Falls to see the wonders of this ancient water fall. Then crossing Columbia River we go west on U. S. 2 to Wenatchee and on about 19 miles, then south on U. S. 97 across Blewett Pass.

Kittitas County

At Medicine Springs we stop to make a trip to Red Top Mountain, to collect agate nodules and quartz geodes. At Medicine Springs we turn to the right (west) and drive the car up a hilly road about 2 miles. It is not possible to drive on so we park. Then we start on foot climbing a steep zigzag foot trail for a distance of 5 miles. We now come to the top and see a forest ranger lookout station on a high knoll. To the east of the lookout station, considerable digging and collecting has been done. The agate is banded and mostly of a bluish-gray color. It occurs in a loose red soil, from a few inches to 4 feet in depth at an altitude of a mile. This rhyolite area can be traced for a distance of over 20 miles, with a width of 1 to 4 miles; so there is a possibility of finding more of these good areas. From the agate collecting area there is a very fine view of Mount Rainier on a clear day and of other high mountain peaks. Other agate collecting areas of Kittitas County are Crystal Mountain, near Rye Patch, on same Teanaway ridge as Red Top.

Table Mountain, north and a little east of Liberty, is another good collecting area for the same variety of agate as at Red Top. At Virden, about 3 miles southwest of Liberty, blue agates of good color have been found in the sage brush country.

We continue southwest on U. S. 97 to Tenaway Junction. Here we reach U. S. 10, going across the Cascade Mountains and east to Ellensburg. Take the Ellensburg road for 20 miles to the well known Ellensburg blue agate location. The local collectors are very cautious about telling where they get them so the writer offers no directions. Continuing east on U. S. 10 we come to

the *Ginkgo Petrified Forest*. Here there is an abundance of petrified logs. No collecting is allowed here. Continuing east on U. S. 10 we cross the Columbia River again, into Grant County. Just after crossing the bridge we turn south on a county road, along the east side of the river, a distance of 9 miles and come to Beverly where the Columbia River cuts through the Saddle Mountains. We turn left (east) and follow along the north side of Saddle Mountain. Crab Creek and the Milwaukee Railway also takes this course. The altitude of Crab Creek is 500 ft., the top of Saddle Mountain 2000 to 2400 ft. and the north side is nearly vertical. In all draws down the slopes petrified wood is very plentiful and enough can be collected to make up for the restrictions at the State Park. About 9 miles east from Beverly is the best place to collect. There is a good parking area and a draw leading nearly to the top. Here very much collecting has been done but the locality is not exhausted.

Back on U. S. 10 we have a choice of going east or west. Going east there is some petrified wood, just east along the old road grade leading up hill. This grade is not used now so do not attempt to drive up it. Going west to Ellensburg, and then south on U. S. 97 you come to Yakima County and City. Here along the Yakima river and various east-west running ridges (Yakima Ridge, Rattlesnake Hills, Ahtanum Ridge, Horse Heaven Hills and others in this area) petrified wood and agate can be collected.

We have missed a few sections east of the Cascades. In Douglas County, at the mouth of Moses Coulee, high up on the cliffs, are large sections of petrified wood. Going north on U. S. 97 we come to Chelan. This is the shortest river in the state (4 miles) at the lower end of which is a power plant. Above it is Lake Chelan, reaching far up into the Cascade Mountains at an altitude of about 1100 ft. with peaks on each side, from 7000 to over 8000 ft. The depth of the lake is 1400 ft. in places. Going up the lake on the west side we come to the little landing town of Lucerne. Proceeding up Railroad Creek we pass the Holden Copper mine of the Howe Sound Mining Co. Farther on is the Crown Point Molybdenum mine, west of Lyman Lake. Below the

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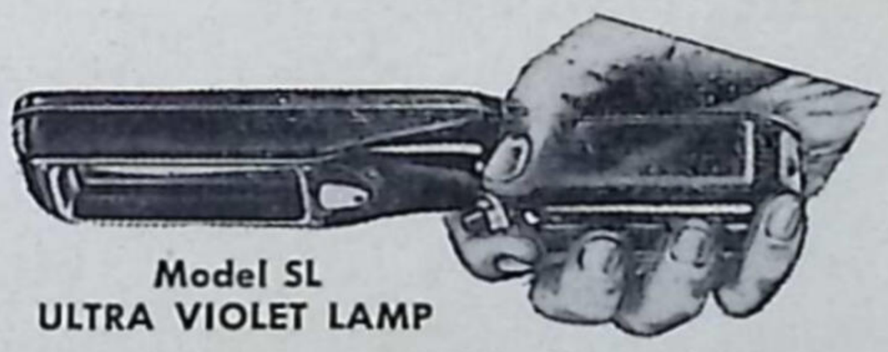
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molybdenum mine there is an adit, vugs of which contain quartz crystals up to 2 inches.

North of Lake Chelan we come to Okanogan County. Near Riverside at Tunk Creek, pink thulite occurs in a hornblende-schist. This thulite has been mined and used for lapidary work.

A single specimen of turquoise was found at Prospect, near Nespelem. At Early Winters Creek, smoky quartz has been found and large quartz crystals at Toroda Creek.

Finishing the northern row of counties is Stevens County. Going north on U. S. 395 to Springdale we turn west on a county road, crossing the Huckleberry Mountains and turn south at State Road 22. When we come to the old abandoned highway we take it south where there is a ridge of andesite on the east side of the road and considerable chalcedony float. In the andesite there are vugs filled with chalcedony and light colored agate, also veins from ¼ inch to 12 inches in width. There is one such vein from 8 to 12 inches in width of a brown and white mottled agate that takes a good polish. There is some dark brown to black material also. The writer has found several pieces of plasma but has not yet been able to find the source of this.

After collecting here one may take a short road west to State Road 22 again and then south to Davenport where U. S. 2 can be taken either east to Spokane or west to the Coast.

We left our trip at Yakima, to pick up part of these northern counties; so we will return to Yakima to continue south on 97 to Buena where we turn off to Toppenish and over the Satus Pass to Goldendale and Maryhill. Now we are at the north side of the Columbia River; in Klickitat County, and U. S. 830. At Roosevelt good colored opalized wood has been collected from draws down the steep basalt slopes. Continuing west to Stevenson, about 4 miles northwest, gray chalcedony is found as fillings in basalt. About 2½ miles northeast of Washougal, some amethyst has been found in the dump of a prospect shaft.

About 5 miles west of Stevenson we pass the large Bonneville Dam, built across the Columbia River. Skamania County is where the Columbia River cuts through the Cascade Mountains. Now we come to Cowlitz County. We

are now west of the Cascade Mountains. At Kalama is a noted locality for water filled enhydros in chalcedony. Nearly all the area east of the Cowlitz river (15 to 20 miles across the Lewis River from the north line of the County) is favorable for finding agate.

At Kelso we come to U. S. 99, going north to Lewis County. Along the Newaukum River and its tributaries is a good locality to collect agates of good size and color. The localities are very easy to explore because the roads follow the rivers. Along the Chehalis River agate has been collected along the road cuts and ditches near Adna, as well as along the river.

We now go by State Road 12 from Chehalis to South Bend and Raymond on Willapa Harbor. There is some agate along the ocean beach to the south but at Lebam, on the Willapa River, there are some interesting Chalcedony casts of clam shells.

We now go north on U. S. 101 to Aberdeen on Grays Harbor. From here we go west on a road leading to the Pacific Coast Beaches; Copalis; Pacific Beach, Molips and Taholah. At these beaches Chalcedony, agate, jasper and clear quartz crystal pebbles were found by the writer.

Going back to U. S. 101 for a trip around Olympic Peninsula we leave Grays Harbor County and arrive in Jefferson County. Here the road comes to the ocean at Queets, Kalaloch and Ruby Beach where spherulitic and ordinary jasper pebbles and boulders are occasionally found. We now continue north at the first road leading west. We arrive at the ocean at Lapush. This is a favorite locality to collect spherulitic jasper, plain jasper and chalcedonic jasper.

Highway 101 now turns east to Lake Crescent. Near here large boulders of spherulitic jasper have been found. Continuing east we arrive in Port Angeles, on the Strait of Juan de Fuca. We have now come 168 miles from Aberdeen. Along the strait the collection of agates and jasper used to be good but due to much collecting it is not so good now. Going east we soon come to the west side of Puget Sound, continuing south until we go around the south end of Puget Sount at Olympia, 121 miles from Port Angeles. After leaving Aberdeen we have travelled 289 miles around the Olympic Peninsula and Olympic

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National Park and we return to U. S. 99.

In Thurston County, collecting is about the same as the counties to the south. At Tono, agates are found by digging through the shallow overburden to bed rock. Going north we enter Pierce County and the City of Tacoma, the next "convention city." About a mile east of Clay City some amethyst was found while driving a tunnel in prospecting for gold.

We continue north to King County and Seattle. Here we can go east on U. S. 10. At several localities to the east, in the Cascade Mountains, quartz crystals have been found at numerous prospects. Some agate may be found along the Sound. We now arrive in Snohomish County and the city of Everett. Conditions are the same as in King and Pierce Counties. Going East on U. S. 2 brown translucent grossularite garnets are found near Sultan at 5500 ft. altitude.

From Everett, U. S. 2 may be taken east over Stevens Pass and we have now taken a trip covering nearly all of the State of Washington. Most of the material for this article comes from personal travels. I hope the Washington gem tourists will visit my shop in Spokane and see my extensive personal collection and stock.

Bibliography: *The Mineralogist, Northwest Gem Trails, Origin and Occurrences of Gem Stones of Washington, Report of Investigation No. 16.* by Sheldon L. Glover, Dept., of Conservation and Development, Olympia, Washington.

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Many are planning to try out the new Pan-American paved highway which bisects Mexico from Juarez on the North through Mexico City to points South. Being rich in gem stones and minerals this country bekons to all Rockhounds, especially those of our Southwestern states who are familiar with the Mexican people and their language. We cannot hope to cover the field of so great and varied a country but rather to touch lightly on spots which we think will interest the average person and to pass on a few tips which we believe will prove helpful.

Road maps, as well as information pertaining to the regulations applicable to tourists into Mexico, may be obtained from your nearest consulate. You may take care of that in El Paso and Juarez but you will better be able to plan your trip if you obtain them in advance by writing to The American Chamber of Commerce, Room 101, San Juan de Letran 24, Mexico City, D. F. Be sure to ask about regulations concerning the *rocks* which you may want to bring *out* of Mexico.

My experience has been that where any sizeable amount of rough stones is brought across, the rate is 5 per cent of the cost. They usually do not bother with small amounts. Of course you are only a hobbyist and have no intention of commercializing them. Cut stones take a high percentage.

The first rule to keep in mind when in Mexico is to give her citizens the same consideration we give our own. Recently I talked with a Mexican who had guided an American citizen on a rock hunting expedition into the interior. He was so furious as to be almost unintelligible, "If he didn't like Mexico," my friend sputtered, "why did he come?" It seems that the American in his arrogance talked too much and too critically. He poked fun at the Indians. My friend does business with the Indians and did not want to antagonize them. Consequently there was a parting of the ways. I don't know how the American came out with the Indians all on his own, but he certainly wasn't guided back.

The Mexicans are a proud but courteous people. "My house is your house" is a common salutation. But they expect courtesy in return. There is more class distinction in Mexico than there is in the States and the well bred families are apt to place the rude tourist in the lower classes. Keep your thoughts to yourself, show no surprise and make no comments. You will get along better. Second rule: Mind your manners.

There's no use trying to make the Mexicans think you are smarter than they are. If you are, they will know it. If you are not, they'll likely show you. But don't believe everything you are told. There will be many who will try to sell you fake material. Be prepared to rely on your own judgment. Don't start an argument about it—just leave it alone and they will respect your intelligence. Third rule: Mind your own business.

The next tip is for women only. In Mexico ladies dress like ladies so leave those shorts and slacks north of the border. Why invite mistaken ideas which may lead to trouble?

Take spare tires, they may cost you more there should you need them. If you stick to the main highways and cities you will not have much to worry about but should you plan any side trips (and that's where the rocks usually are) take along plenty of medicines, drinking water and food as well as supplies for the car. The drinking water available may be contaminated. Caution: If you plan side trips take a party. A group of people together means safety, you can take care of each other.

Always ask permission before you pick up rocks. When you get it, reciprocate with candy, cigarettes, etc. Of course you should not harm any property nor abuse any courtesy extended you.

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Due to problems of supply we have decided it is best to discontinue operations because of governmental restrictions on use of certain metals in jewelry manufacture. However, we wish to contact volume buyers of certain findings, etc., which we wish to clear out. Many items still in stock. After April 1st only inquiries will be accepted. **Do not send orders.** Replies sent as soon as possible.

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Check the small hills, canyons, arroyos and foothills as you go south for agate. Superlative iris, moss and fortification may be found in the foothills near Gallegos between Juarez and Chihuahua City. Iris and black plume may be found at Delicias, in the near-by hills. This little city is in Chihuahua.

For apatite crystals and specimens go to the city of Durango. Ask for permission at the office of the Cerro del Mercado to enter the mine as a visitor. Then see Señor Joaquin Mares who has a supply of them at reasonable prices. Don't buy by *weight* but by the *lot* or *bunch*. The mining company is not interested in this kind of mineral. However, before reaching Durango, you will pass the little village of Rodeo where there is good quality white optical calcite —slightly blue. Nearby you will cross the river Nazas, where there is plume and black agate. Four kilometers to the east there is a copper mine where good specimens of chrysocolla may be had free.

There are many opal mines in Mexico but we will note only the principal ones in Queretaro. About 60 kilometers south of Queretaro, on the Pan American highway, is the city of San Juan del Rio. Turn there and follow the traffic signs leading to the little village of Tequisquiapan which is 20 kilometers from San Juan del Rio. There the Indians come to sell their opals from the Carbonnera mine which is located in the Key Mountain, which has no passable road. This is a small mountain of dull, grayish volcanic rock. All opals, as a rule, are found in this common trachyte.

Tequisquiapan is a village which has natural hot spring waters and good hotels at reasonable prices. You should arrive there on Sunday when the Indians come down to the Plaza to sell the opals to the gem buyers and jewelers. The best purchases are made around seven o'clock in the morning when they first arrive. See either Señor Eugenio Ontiveros or Señor Xavier Ontiveros from No. 47 15th of May Avenue, Queretaro. If you do not buy from the Indians you

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may get opals from these parties or they may help you in buying. Be careful to buy clear stones and shun the milky-white opal resembling the Australian variety. The latter are of inferior quality and will crack easily. The local people call them "bones." The Indians do not sell by weight but they have a certain price. Bargain with them until a mutual price is agreed upon.

Las Azules mine on the Rancho de la Zorra has good quality opals. From Queretaro take the Pan-American highway until you reach the Hacienda del Lobo. There is a quick silver mine there where good cabochon quality cinnabar may be had free. However, always reciprocate with some favor when you are given specimens at these places. From there go on to El Rancho de la Zorra where you may buy opals straight from the Indians.

Over this same Pan-American highway travel 40 kilometers and then turn off, following the traffic signs leading to the Hacienda de Esperanza. Ask for Señor Aniceto Velasquez. Only on Sundays do the Indians come down to sell their opals and attend Mass at this ranch.

You may take the Laredo highway from Mexico City to the village of Teotihuacan where the Indians work and polish golden obsidian and sell it at very good prices. There is amethyst at many places. Among the most important are the following two. Go to Taxco —a picturesque village on the Acapulco Highway, State of Guerrero. Leaving this town toward the Chitinga highway you will arrive at the Parajes Ranch. From there to the mine is half an hour's ride on horseback. The mine is located in the Barranca de los Ocotes. When there call on José Salinas. These are massive crystals of no termination but very good violet color for cabochons. If you do not care to go to the mine you may buy these stones from Luis Flores who lives near the only water fountain in Taxco.

Still further on the Acapulco Highway is Iguala where a train may be taken for Balzas, Guerrero where there are no good hotels. There you may buy good facet quality amethyst from any number of people or you may go on into the Sierra Madre where the crystals are found in an alluvial formation. To do this ask at Balzas for Señor Guzman Vargas, who speaks no English. He will

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take you to Amatillan which is a small village in the Sierra Madre about eight hours by horse back from Balzas. The Sierra Madre has a wonderful climate, is high and beautiful. But remember—you will be leaving civilization far behind. You may buy these amethyst stones already faceted from Señor Alfonso Ontiveros, Tacuba 37, Despacho 422, Mexico City, D. F., or from Señora Margarita O. Viuda de Lara at No. 47 15th of May Avenue, Queretaro, Qro.

Golden labradorite of a good clear quality for faceting is found on and in the prehistoric mounds which abound in Mexico. The Indians usually pick it up and have it for sale at various places. It does not come in vein form.

One of the loveliest stones to be found in Mexico is the rose garnet. Two hundred kilometers from Mexico City on the Oaxaco highway is the small village of Xalostoc and the pink or rose garnet mine is two kilometers from there. This mine is not being worked but you may take very good specimen rock without cost. The mine may be reached by automobile but the last two kilometers are unpaved. Or you may buy a tourist map of the State of Zacatecas and go to the town of Nievas, Zacatecas. Look up the school teacher there, Señor Viedma Ovalle, who has some specimens. There is no actual vein of garnet in this area but they are found scattered on the surface in the nearby mountains.

There is an Indian who lives in the Sierra Madre, Guerrero State, who carves the most life-like masks of iridescent obsidian I have ever seen. He is a real artist. These "faces" are so different from the average there is no comparison. He claims he can take two photographs of a person, side view and full face and produce a mask which will be a true life-like representation of that person. His prices are naturally higher —around $70.00 U. S. money gets the job done in jasper, jade or golden iridescent obsidian. I prefer the latter by far. In the land of *mañana* the Indian lapidary has no worries about polishing methods relative to getting a shine on opal without cracking this fragile stone. He merely finds a gourd, cuts a hole in each opposite side, fills it about half full of wet sand and places the opal in the sand. He then pushes a stick through these holes and suspends the gourd securely in a little waterfall or riffle of a mountain stream. Every few months

he goes by to see if the opal is sufficiently polished. You would be surprised at the finished product!

My pet necklace is a fiery opal nugget of natural, irregular shape, about 1 x 1¼" polished by this method. It was also neatly drilled and was worn on a string by these Indians before I got it. We hung it on a silver chain by a little silver gadget my husband put together and now everyone wants my necklace—unh-unh, not for sale. Go find yourself an Indian!

One last word about "Indians" in Mexico. There are many stories, but it seems to boil down to this: They are usually good, honest people if you leave them alone. But don't start anything, for they place little value on human life. They will not bother a group of people but it is quite risky for one or two people to venture off the beaten path. They are uncultured and may have diseases which are communicable. In short, they are still primitive and should be regarded as such and they are *everywhere* in Mexico.

● ● ●

It's the little things that bother
And keep us on the rack;
We can sit upon a mountain,
But not upon a tack.

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◆ My Trip to Idar - Oberstein

By W. G. LUNDSTRUM
41 Muhlebachstrasse
Zurich 8, Switzerland

I was especially glad when I picked up the October, 1950 issue of the *Lapidary Journal* to note that it carried an article about Idar-Oberstein. I was pleased because the article told me how to find the place for it is indeed better known outside Germany than inside.

Having been a geologist and mining engineer for the past fifteen years I have had considerable interest in rocks and have done some collecting. Along this line I had heard of Idar-Oberstein, mainly in connection with agate. When I located this summer in Zurich I thought that now the time had come to look into the matter. So I casually asked a friend, born and raised here "where is Idar?" To be brief he had never heard of the place and it's less than two hundred miles from here. So I asked others and got the same answer. A little later I was in Dusseldorf and asked there and got the same answer. It's a hundred and sixty miles from Dusseldorf! I was about to give up and assume it must be in the Russian Zone when I received Max Hahn's *Journal* article which told me where to look. Less than a week later I was in Dusseldorf again and found myself with a couple of days to spare and I made the most of my opportunity. I can tell you this—if ever you have the opportunity *don't* miss a chance to visit Idar-Oberstein. You will see things that will make your eyes stick out so far they can be knocked off with a ruler. You will see beauty such as you have never dreamed—and you will get some ideas about equipment and skills that will make some of you feel a little bit on the small side when you consider what they do with a minimum compared to that fancy new faceting head you just gave up eighty-seven fifty for.

If you are going to Idar and happen to be driving, go by way of Luxembourg. It's a short two hour drive from that town and the roads are good. Make your hotel reservation in Luxembourg ahead, especially in the summer. It's a good idea to make a reservation in Idar also as hotels are few. I can recommend the Schwan Hotel.

Idar-Oberstein, as the name indicates, is really two towns. However they grade one into the other so it's actually a town with two names. It is located in a narrow deep valley and in the winter time the weather is apt to be wet and foggy. There is no distinction between the two places as far as gem cutting is concerned. There are a large number of jewelry shops displaying the products of the factories but the real place to see things is in the factories themselves. As might be expected in a town with practically no other industry about every other place is a gem working shop. They run all the way from a one-man show to large commercial establishments with perhaps twenty-five or more cutters.

I was fortunate in arriving at the tail end of a 250th anniversary celebration when most of the shops had their best out for display. I started out with the museum. By the time I got through with that I thought I had seen everything. These people are working with every gem known including the synthetics. I saw big gems and small gems, exquisite cameos and some work in agate that I never expect to see duplicated anywhere. There is case after case of topaz, emerald, tourmaline, aquamarine, lapis, jade, agate and anything else you can name. To a more or less outsider to the gem industry such as I it was amazing. I knew that tourmalines are cut for gems but I never visioned anything like these in all colors. They have topaz that ranges all the way from the palest yellow to the deep red brown madeiras. They usually do not distinguish between citrine and true topaz and the same goes for smoky quartz and smoky topaz, so if you are buying, *beware*. Again, while the stones are probably a good deal cheaper than in the States, don't expect to get one for a song. I had made up my mind I wanted one of those beautiful deep green tourmalines for a ring-set but when I asked the price I thought we were talking about emeralds! It *was*

pretty and after I talk to myself a bit I think I may go back and get it.

There are so many things of beauty in the museum that anyone would be pleased but probably what will take your eye most is some of the things they have done with agate. I saw agate dishes there that were perhaps 12 or 14" in diameter and about 4" deep. The shells I would guess at about 1.5 to 2.0 mm. thick. Aside from the sheer beauty of the thing the mechanical problems of turning out a piece like this looked a little tough to me. Understand, I am not a cutter myself, although I hope to be some day, so perhaps some of these things that look tough to me will be run-of-the-mill to you. There are dishes of all sizes and shapes and many other items made for church use, some for beauty (or what they call *technical* stones), the familiar mortar and pestle for leather and wood working and dental uses. There is no end to the list. Some of these items can be purchased but I would advise you to have a firm hold on something when you ask the price. Of course many of the items are museum pieces and above price. They told me that one of the men who did some of the most beautiful work was lost in the late war. His work was distinctive and will never be duplicated.

One particularly interesting thing I saw and heard about was that this gem cutting center is also a coinage center. A bit different than we usually think of coinage but money nevertheless. They make strings of beads for export to Africa and the Sudan. Beads are cylindrical black agate with a stripe of white around them and the strings are about twelve inches long, doubled. They are used for money in the Sudan and I understand that for three strings of beads you can buy a prime cow. Personally, I think if I had to cut and polish and drill three strings of beads like those I'd get at least a cow apiece for the beads alone—not in strings either, one cow one bead!

The people are friendly and do not mind showing you the workshops and explaining the work. Due to the fact that so many of them have traveled about the world in search of gems you can usually find someone who speaks English. Some shops specialize in synthetics, some in tourmaline, topaz and

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aquamarine. Actually any of them can handle any type of stone with the possible exception of diamond. The cutters grow up in the business and seem to have an instinct or "feel" for a stone that is uncanny. I visited two shops, Gebrüder Bank and Gebrüder Leyser, and found the equipment much the same in both shops. They use a diamond saw and saw offhand. They rough on large, rather slow carborundum wheels, also offhand and undopped. Stones are then dopped and rough faceted on flat laps with (probably) emery; I didn't ask. Polishing is done on flat diamond laps. The faceting and polishing was something to see. I suppose all of you know what this system is called but I don't have a name for it. On the left side of the lap is a board about four inches square and it has a large number of holes in it; looks like someone started to make a cribbage board and started day-dreaming. The dop sticks are all the same length and they stick one end of the dop into a hole and bear down. The guide boards are not too firmly fastened and about every so often the operator reaches over and bumps it a little this way or that way. Not by a gauge mark—just bumps it until it "feels" right. And in the meantime he didn't appear to be paying much attention to what he was doing! What got me was the simplicity of the whole set up. I can't conceive anything more simple than that equipment but they are turning out stones that I am certain cannot be surpassed on any equipment in the world.

Amazing as the museum is, to those of you who like stones in the rough, and particularly crystals, the cutters' shops are the place to see these. Gebrüder Leyser have a boxful of crystals, collected over years of culling stone lots, that I would trade my right eye for. Little things like an aquamarine crystal, perfect in shape and of the best gem quality, about four inches long and perhaps an inch and a half in diameter. The largest kunzite crystal known, tourmalines like you've never seen. There's no end to wondering.

If you like opals drop in and see Franz Caesar. He has some prewar Lightning Ridge and White Cliffs stuff that will make you drool. I drooled to the extent of several hundred marks worth!

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That's not all I can tell you about Idar-Oberstein but it seems enough for a start. I intend to go back and see some more when I have another couple of days. I am living in Zurich and constantly traveling over all of western Europe, Africa and the Middle East and I expect to see many rocks but I don't expect ever to see anything that exceeds Idar-Oberstein.

News Briefs

We greatly regret an error in the advertisement that appeared in the last issue of *Technicraft Lapidaries Corp.* on Page 443 in which tigereye from Africa was offered in 50 pound case lots for $6.00 a case. This advertiser has offered this material several times at $60.00 a case and that is the price that appeared in his original copy. Of course no one could import gem material from Africa and offer it at that price but our advertiser was roundly abused, despite his explanation, when they would not fill orders at $6.00 a case. Long one of our most dependable advertisers we hope our error will not militate against them. The incident proved one thing—our readers sure can smell out a bargain for the advertiser was swamped with orders.

* * *

Business is GOOD. Business is so good that advertisers are complaining. They complain that the readers are impatient in having their orders filled. It should be remembered that in addition to a buying rush, for many items not presently needed, that our advertisers are on the spot to get merchandise in these times. Slowness in filling some orders is inevitable. Many items are in short supply. Diamond bort prices go up every week. Some equipment manufacturers have suspended operations and taken on defense contracts. Many diamond saw manufacturers have quit. Tin oxide will soon be on the priority list no doubt. Even if we were not in hot water nationally business would be good because of the immense growth of the gem cutting and silvercraft hobbies during the last year. The best thing to do is not to buy anything you do not need and to be a little patient with your sup-

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plier who may be having headaches of his own.

* * *

Seldom has an idea caught on as fast as the Rockhounds pin offered by Mr. Walker on page 19. The largest unorganized fraternity in the world does need an identifying emblem when they go rockhounding. We would like to see the idea carried out so that a rockhound could be not only immediately identified but one could tell from which state he came.

The Arizona rockhound could have a chrysocolla cabochon in his pin, the New Mexico rockhound could have turquoise, etc., etc.

* * *

J. B. Nichols of Sacramento, Calif., passed away on March 6th. Nichols was the author of several books and numerous magazine articles on mineralogy. He was a charter member of the *Sacramento Mineral Society*, a member of the *Microscopic Society* in San Francisco and the *East Bay Mineral Society* in Oakland.

He traveled throughout the world and conducted many mineralogical surveys for the United States Government. His mineral collection was considered one of the outstanding in the country.

Nichols, a native of New Jersey, was a Sacramento resident since 1919. He was a graduate of the University of Wisconsin. He was a bachelor and left no kin.

* * *

Through the cooperation of *Ultra Violet Products, Inc.*, many of the dealers in the west have been encouraged to establish fine fluorescent displays in their shops. Some of these displays rival anything in the eastern museums and eastern travelers are urged to seek them out on their western travels this summer. The company makes the *Mineralight*.

* * *

Colorado Gem Trails ($2.50) a new book by Prof. Richard M. Pearl will be off the press about May 15th. Unlike the several other "trail" books this one will be cloth bound. It may be ordered now from the *Lapidary Journal* office.

Mr. Pearl is a former president of the *American Federation of Mineralogical Societies* and will be remembered as the author of *Popular Gemology* and *Mineral Collectors Handbook*.

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BIG GEM SHOW AT GLENDALE, CALIF.

The *Glendale Lapidary and Gem Society* will present its fourth annual gem and jewelry show at the Glendale Civic Auditorium, 1401 Verdugo Rd., Glendale, Calif., on Saturday and Sunday, May 12th and 13th. Admission is free with plenty of free parking and the show will be open on the first day from 9 until 9 and from 9 until 7 on Sunday.

The Society has always had displays of outstanding interest for the layman, as well as the amateur and professional cutters, and this year they have a marvelous attraction. The private gem collection of William E. Phillips, proprietor of Los Angeles' largest jewelry store, will be on display. It was about a year ago that we first saw Mr. Phillips' great collection in the company of Martin Ehrmann, co-author of *The Story of Jade,* and Frederick H. Pough, Curator of the Morgan collection at the *American Museum of Natural History* in New York. At that time Dr. Pough pronounced the collection one of America's outstanding assortments of gems. Since then Mr. Phillips has flown around the world, gathering new additions for his collection in Siam, India, Ceylon and Europe. Among many items of special interest in the Phillips collection is a 149 carat white topaz in a square cushion antique cut of more than 200 facets. In Ceylon Mr. Phillips acquired a brilliant *brown* peridot weighing 158.55 carats. This was sold to him as a brown tourmaline and later identified as genuine olivine (peridot). Among other interesting items are a deep purple amethyst (101 carats), a peridot from the Red Sea that is 45.40 carats and reputed to be the largest and finest green peridot outside of the British Museum. The largest stone in the collection is a citrine weighing 944 carats. A delicate blue-green beryl weighing 84.80 carats will make the collector drool.

In addition to Mr. Phillips great collection the Editor will exhibit for the first time what is believed to be the largest opal in private hands—eight full ounces of fire loveliness. This opal was 11½ ounces when we acquired it several months ago from Mr. Seward. At that time he advised us that it was one of the largest opals ever found in Australia. We removed the matrix and most of the potch and polished the opal as a specimen piece. Despite several fancy offers for it we have preferred to keep it as a specimen because it is so lovely and just to prove that all amateurs do not cut every magnificent specimen into cabochons.

The society will have 40 cases of members' work this year. These are the famous "Glendale" cases; the best lighted cases for the purpose that have yet been devised. They were built by the members from plans drawn by Dan White. The mineral side of the hobby will not be neglected and there will be special fluorescent and strategic mineral displays. Willy Petersen-Fagerstam will again have a case of his lovely jewelry creations. See his latest idea on the cover of this issue.

WORLD'S BIGGEST GEM AND MINERAL SHOW IN JUNE

The Gem and Mineral Show scheduled for June 22, 23, 24, 1951, at the Oakland Exposition Building in Oakland, California, promises to be the largest show of its kind ever held. There will be a greater number of interesting exhibits than in any previous Gem and Mineral Show.

Advanced plans for this big Rock Show and Convention include the display of some world famous minerals and gems. It is believed that the Hope Diamond with all its world famed romance and mystery will be shown and in addition to this there will be a Million Dollar Collection of sparkling beautiful diamonds. Several private collectors with specimens of national reputation will bring their beautiful minerals and crystals to be displayed at this Convention. There will also be the California Gold Collection which is the largest collection of gold specimens in the country.

The size of the Oakland Exposition Building is 150 feet wide by 450 feet in length and it will be jammed with commercial and non-commercial collections of the finest gems and minerals from all of the Western and Rocky Mountain States.

The Show is primarily displays from all the amateur societies and clubs of California and these exhibits will be more than worth the trip to Oakland. It is these private collections plus the

(Continued on page 82)

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◆ News of the Societies

LOS ANGELES LAPIDARY SOCIETY heard Dr. Owen B. Dwight, a Hollywood dentist at the Feb. meeting give a lecture on what he termed the "lost leaf" method of casting leaves in copper, gold and silver. The lecture was accompanied by colored slides and a display of his handiwork which was remarkable. Dr. Dwight takes a geranium leaf and casts it perfectly in gold so that every little cilia is presented. Set with a pearl, where the stem joins the leaf, a most striking jewelry piece is achieved. This unique method will be presented in a paper being prepared by Dr. Dwight for *Journal* readers in an early issue. At the March meeting Kenneth F. MacKenzie, C. G., gave a lecture on pearls. The society will display a number of cases of their latest work at the California Hobby Show in the Shrine Auditorium from March 30th through April 8th.

* * *

THE LAPIDARY CLUB (Washington, D. C.) recently heard an illustrated lecture by Harry Woodruff of the *Washington School of Gemology* on the growing of quartz crystals.

* * *

NAPA VALLEY ROCK & GEM CLUB (Napa, Calif.) will hold its first exhibition on March 31st and April 1st in the Women's Club House at Elm and Franklin streets. Groups from Santa Rosa and Benicia will also participate.

* * *

PARADISE GEM & MINERAL CLUB (Paradise, Calif.) celebrated its first anniversary in Feb. in the knowledge that they probably have accomplished more in their first year than any other club in history. With 66 members they held a show, had a revolving gem display in local store windows all year and they own their own complete lapidary shop! Palms to them!

* * *

ORANGE BELT MINERALOGICAL SOC. (San Bernardino, Calif.) recently heard Mrs. Rhea Dana Schlag of the Art Department of the University of Redlands in a talk on "The Ceramist Looks at Minerals," an excellent account of which appeared in their fine bulletin *The Staurolite*. The Society's permanent address is now Box 173. They report a "boner" in the recent *National Geographic Magazine's* gem article — a quartz crystal being labelled tourmaline on Page 780. In Washington they say it isn't true. John Vondey, local jeweler and Certified Gemologist, recently gave a lecture on diamonds in which he is reported to have said that while diamond is but one point higher than sapphire on Mohs scale it is believed to be about 90 times as hard. Ruth Simpson delivered a lecture at the March meeting on prehistoric rockhounds.

NEWARK LAPIDARY SOC. (N. J.) has had some interesting programs this year. For the last three months the programs have been—"The Art of Cutting and Polishing Gems and Ornamental Objects" was discussed at length by Mr. C. Verberg in March—"Gem Materials Frequently Employed in Cabochon Cutting" was presented by Prof. Ralph Holmes of Columbia University in Feb. and R. G. Crowningshield gave a lecture in Jan. on inclusions in gems.

* * *

MICHIGAN LAPIDARY SOC. (Detroit) heard a repeat performance of John Thornton's illustrated lecture on gem materials at their Jan. meeting and Henry P. Zuidema spoke at the Feb. meeting on the subject "Diamonds in Your Own Backyard." Dr. Graham Sellers is the new President and Dr. E. D. Conner is Vice President.

* * *

PASADENA LAPIDARY SOC. (Calif.) heard Chang Wen Ti's lecture on jade at their Feb. meeting and went on a two day field trip to a new geode location in the Ludlow area the last week end in Feb. as guests of the *Los Angeles Lapidary Soc.*

* * *

SAN JOSE LAPIDARY SOC. (Calif.) will present its sixth annual free gem show on Sat. and Sun., April 21-22 in the auditorium of the San Jose Women's Club, 75 S. 11th St. Emphasis on lapidary education will be a feature of this always fine show.

* * *

MINNESOTA MINERAL CLUB (Minneapolis) held a special jade night in Feb. at which members were asked to bring and display their jade pieces. Kenneth Johnson delivered the evening's lecture on jade.

* * *

SAN DIEGO MINERAL & GEM SOC. (Calif.) had a splendid drawing of Donal Hord's *Lady Yang* on the cover of a recent bulletin. She was pictured on our cover for June, 1950. At the society's general meeting in February member Norman Dawson talked about his trip to the Four Peaks amethyst location in Arizona.

* * *

NEW JERSEY GEM & MINERAL SOC. (Passaic) recently elected Howard J. Hewitt as President. At the April meeting there will be a demonstration of diamond cutting from the rough to the finished product. This will be followed by a film on diamonds.

* * *

HOLLYWOOD LAPIDARY SOC. (Calif.) says in their *Sphere* that according to Talmudic legend the only light in Noah's Ark was supplied by an enormous red garnet. Must have been a neon sign for no gem emits light of itself—merely reflected light.

SACRAMENTO MINERAL SOC. (Calif.) recently heard Arthur Benny on the subject "Mounting Cut Stones and Making Jewelry."

* * *

COMPTON GEM & MINERAL CLUB (Calif.) were recently guests of the *Long Beach Mineral & Gem Soc.* when they heard Dr. Richard A. Swift's popular lecture on primitive lapidary work as indicated in archeological studies.

* * *

SAN FERNANDO VALLEY MINERAL & GEM SOC. (Calif.) recently heard Eldon Soper in a talk on polishing flats. "There's really nothing to it" said this accomplished lapidary, "you just use brawn instead of brains."

* * *

MARCUS WHITMAN GEM & MINERAL SOC. (Walla Walla, Wash.) held a special Valentine meeting at which agate hearts were exchanged.

* * *

EL PASO MINERAL & GEM SOC. (Texas) recently heard Gladys Babson Hannaford in a new lecture—"Diamonds from the Ground Up." Their Editor gave this Editor a sound drubbing in his last issue of *The Voice* because of our discouragement with some of the club bulletins that cross our desk. But he does it SO nice.

* * *

SAN DIEGO LAPIDARY SOC. presented the *San Diego Museum of Natural History* with pieces from the jade blocks from which Donal Hord carved THUNDER and LADY YANG, the two largest jade carvings in the world. These were shown on our covers for January, 1948, and June, 1950, respectively. The presentation also included photos of the work in progress.

* * *

ROGUE GEM & GEMOLOGY CLUB (Grants Pass, Ore.) held its first public gem display at its March meeting. A feature was a brick from the Great Wall of China. The club expects to have a two day exhibit this Fall.

* * *

GEM & MINERAL SOC. OF SAN MATEO COUNTY (Burlingame, Calif.) heard a talk on jewelry casting given by Hal Lovell in March.

* * *

CONTRA COSTA MINERAL & GEM SOC. (Calif.) held a field trip to Big Sur on Feb. 24-25 to gather California jade. One of the members became tangled with a bob cat on the way up the cliff and saved himself by cracking the cat with the lump of jade he was carrying. That's learning about hardness the hard way.

* * *

DONA ANA COUNTY ROCKHOUND CLUB (Las Cruces, N. M.) believes in ceremony in installation of officers—unfortunately too often conducted with too little seriousness. In a dark room the new President was inducted at which time he lighted a candle in front of him. Then followed the induction of the Vice President, etc., etc., down to the third assistant rock licker. By the time everyone was inducted the room was fairly well lighted and the darkness encouraged some cracker jack acceptance speeches.

* * *

SAN GABRIEL VALLEY LAPIDARY SOC. (Calif.) recently heard Dr. Richard Jahn of *California Institute of Technology* in an illustrated lecture on the gem minerals of California. Ray Johnson is the new President.

* * *

TACOMA AGATE CLUB (Wash.) reports that member Roy Allen picked up 75 pounds of good Montana agate a few miles west of Glendive within 300 feet of the highway. (In the snow?)

* * *

COLORADO MINERAL SOC. (Denver) recently witnessed a showing by Prof. Richard Pearl of colored slides of the minerals and gems in the Museum at Harvard University. Mr. Pearl is soon publishing a book entitled "Colorado Gem Trails."

* * *

WASATCH GEM SOC. (Salt Lake City, Utah) recently heard Dr. M. D. Armstrong in a lecture on "Beauties of the Mineral World." Ken Stewart is the new President. He is proprietor of *Ken Stewart's Gem Shop*.

* * *

HUMBOLDT GEM & MINERAL SOC. (Eureka, Calif.) held its first anniversary on Jan. 26th and it has a membership of 101.

* * *

AUSTIN GEM & MINERAL SOC. (Texas) recently elected Emil H. Spillman as President. Dr. R. T. Havens gave a talk on Central Texas gem locations at the Feb. meeting.

* * *

SAN GORGONIO MINERAL & GEM SOC. (Banning, Calif.) made a presentation recently to retiring President Paul Walker. Erna Clark, accompanied by a large delegation from her society (the *Orange Belt Mineralogical Soc.*), gave a talk on her rock hunting tour of Europe last summer.

* * *

MARQUETTE GEOLOGISTS ASS'N (Chicago) recently heard Prof. Frank L. Fleener in a lecture on the importance of turquoise in the conquest of western America and a full discussion on turquoise itself.

* * *

CHICAGO ROCKS & MINERALS SOC. recently witnessed a showing of minerals made of macaroni, wire, cellophane and eggshell geodes lined with real crystals. To relieve this James Davis also showed a 500 carat brilliant cut Brazilian topaz.

* * *

WISCONSIN GEOLOGICAL SOC. (Milwaukee) recently printed an excellent account of the Andamooka opal fields of Australia by Donald Clark.

* * *

MINNESOTA MINERAL CLUB (Minneapolis) has sent the Editor a beautiful calendar. Each month is highlighted by a composite painting of a flower, a butterfly type and a gem. Thank you friends.

(Continued from Page 78)

world famed special exhibits that will give the Gem and Mineral Show in Oakland a truly superior atmosphere.

Dealers from every section of the United States will be on hand with minerals and materials. They will have with them many hard to get items and it will be a real buyers' opportunity to see and select specimens and materials which they read about but seldom have the opportunity to examine at first hand.

All in all, the show promises to be a real treat for all who can spend a few days to go to Oakland to enjoy it.

* * *

ORCHID STAR QUARTZ

(As reported by R. F. HENLEY)

High in the Sierras of California (at about 6000 feet) there is a ledge of what has been generally called star rose quartz although I hear that the geologists call it amethyst. I think it should be termed "orchid star quartz" as that better describes its color. While I have been near the ledge, or vein, I have never been to it and probably never will go. It is claimed by two different men, Mr. G. and Mr. C. and I am told that Mr. C. says if he ever catches Mr. G. at the claim he will shoot him and I guess he means it. To reach the ledge one leaves the highway at about 5000 feet and travels on a dirt road for about ten miles, some of it very steep and rough and rocky. Then climb for nearly a mile through trees and brush and around fallen logs—no trail, no landmarks, no nothing—to the top of the ridge and over the crest a short distance down the other side. The last time Mr. G. went there he had not been there for five years and it took him five hours to find it as it is well hidden among the trees and not in open country. A pit has been scooped out about fifteen feet across and about five feet deep. The overburden must be removed and later the pit refilled. It is then covered with trash and pine needles to conceal it. This means several days' work. The quartz is laminated like shale and badly fractured with the fragments as sharp as broken glass and requires extreme care to avoid bloody fingers, of which I have had several. I have fragments from the overburden but have never had any from the main vein. So far as I know only one block of really solid material has been taken out and from it several fine spheres have been made. Mrs. G. showed me one about 1½ inches in diameter which has sixteen six-point stars. Most of them are of the phantom type but one is right on the surface as bold as if drawn with crayon. It is priceless. I am told she has refused $400.00 for it. Perhaps some day some one will bring out enough to satisfy the longings of the gem cutters.

★ VARIETY ★

APATITE, Facet Quality: Small to Medium Facet Cut Stones may be cut from this lovely Gem Material. 1 Carat for 5c—OR—1 Gram for 20c.

GARNETS (Africa, Arizona, Etc.) Facet Quality: Pyrope Garnets in various Shades of Red including Bright Wine Red. Sizes vary from Approx. 5 mm. to Approx. 8 mm. 3 Grams $3.82.

GOLDEN FELDSPAR, Facet Quality: Beautiful Light Golden Feldspar for Small to Medium size Facet Cut Stones. Size of Pieces vary from Approx. 4/5 Gram to Approx. 4½ Grams each. 1 Gram for 50c.

PERIDOTS, (Variety of Olivine) Facet Quality: Rough Peridots of Good Green Color to Facet Cut Stones of various Small Sizes. 3 Grams for $1.50.

ZIRCONS, Facet Quality: Zircons to Facet Cut Stones of various small sizes and Colors. 3 Grams Mixed for $1.00.

SAPPHIRES, Facet Quality: Colors range from Clear, Light-Yellow to Green-Blue. 1 Gram (3 Sapphires) of Mixed Sizes & Colors for $1.00; 3 Grams (7 Sapphires) of Mixed Sizes & Colors for $2.85.

No. 12. OPAL, Australia; Gem Quality: 1 oz. (Approx. 14 Pieces) of Mixed Sizes for $2.80.

No. 10. OPAL, Australia; Fair Quality: ½ oz. of Mixed Sizes for $2.75; 1 oz. of Mixed Sizes for $5.25.

PACIFIC "CAT'S EYES" from Pacific Islands: These Polished Shells from the Islands with their Green Orb-like Markings make Lovely Rings, Earrings, etc., when mounted. Large Size for $1.00 Each; Small Size for 80c Each.

STAR SAPPHIRES, Ceylon; Good Quality: Lovely Star Sapphires with Good Stars and almost Crystal Clear to Smoky-White in Color. 1 Carat for $6.65.

Nonneman's

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Calendar of Events

March 30 through April 8—Third Annual California Hobby Show. At Shrine Convention Hall, Los Angeles. All hobbies featured in 56,000 square feet of hobby exhibits on two floors. Display of more than 1000 pieces of lapidary and jewelry work by members of the *Los Angeles Lapidary Society, Inc.*

March 30-31 and April 1—Third Annual Mineral and Gem Show of the *Coachella Valley Mineral Society*. At the Riverside County Fair Grounds at Indio, Calif. Commercial exhibits also.

March 31 and April 1—Gem and Mineral Show. Jointly sponsored by *Imperial Valley Gem & Mineral Society and Imperial Lapidary Guild*. At Junior College Auditorium, El Centro, California.

April 1—Dedication of the Trail Shrine at the *Desert Magazine* Pueblo at Palm Desert, California. *All rockhounds welcome.* 11 A.M. Bring a rock to deposit at the Shrine—and say "hello" to the *Journal* if you come.

April 7—Annual Mineral Sale of the *Wisconsin Geological Association* at Jacobus Park Pavilion, Milwaukee, Wis.

April 7-8—Third Annual Mineral and Gem Show of the *Mineral and Gem Society of Castro Valley*. At the Library of the Union High School, Hayward, Calif.

April 7-8-9—Long Beach Hobby Show in the Long Beach Municipal Auditorium (Calif.). The *Long Beach Mineral and Gem Society* will have a large exhibit of minerals and gems. Admission free.

April 13-14—Mineral and Gem Show of the *Colorado Springs Mineralogical Society*. In the lounge of the City Auditorium, Colorado Springs, Colo. 7:30 P.M. to 10 P.M. on the 13th and 9 until 9 on the 14th.

April 21-22—Sixth Annual Gem and Jewelry Show of the *San Jose Lapidary Society*. In the auditorium of the San Jose Women's Club, 75 S. 11th St., San Jose, Calif. 10 A.M. to 9 P.M. both days. Admission free.

April 21-22—Fourteenth Annual Mineral and Gem Show of the *Southwest Mineralogists* (Los Angeles). At Palestine Masonic Temple, 41st Place and Figueroa Street, Los Angeles.

April 28-29—Annual Display and Auction of the *Calaveras Gem & Mineral Society*. At the Society's clubhouse near Highway 49, between Angels Camp and San Andreas, Calif.

April 28-29—Second Annual Mineral and Gem Show sponsored by the Yermo (Calif.) Chamber of Commerce. At American Legion Hall, Yermo, Calif. Cash prizes of $20.00 each for the best lapidary and best mineral display. *Anyone may enter.* For application write Kenneth Jackson, Box 6013, Yermo before April 23rd.

May 4-5-6—Annual Meeting and Show of the *State Mineral Society of Texas*. At Woodlawn Gymnasium, 1103 W. Cincinnati Ave., San Antonio, Texas. Free admission and parking.

May 12-13—Fourth Annual Gem Exhibition of the *Glendale Lapidary and Gem Society*. See their advertisement on Page 61 and a full account of special features in news item on Page 78 of this issue.

May 19-20—First Annual Gem and Jewelry Show of the *Chicago Lapidary Club*. At Grand Crossing Park Fieldhouse, 76th St. & S. Ingleside Ave., 2 P.M. to 10 P.M. each day. Admission free. Anyone can enter for 93 prize awards including the *Science and Mechanics Magazine* GOLD TROPHY award for best in show. Entry blanks from John Stefans, above address.

May 19-20—First Mineral and Gem Show of the *Delvers Rock and Mineral Society* of Downey, Calif. At the Women's Club House, Downey.

June 8-9-10—Annual convention and show of the *Rocky Mountain Federation of Mineralogical Societies* at Phoenix College in Phoenix, Arizona. Commercial dealer space through Peggy Kelley, Route 5, Box 554, Phoenix.

June 22-23-24—Largest mineral and gem show ever held anywhere. Annual convention and show of the *California Federation of Mineralogical Societies*. Under the sponsorship of *East Bay Mineral Soc., Inc.* of Oakland, Calif., the big show will be held in the Municipal Auditorium at Oakland with 30,000 feet of exhibit space available. See news item on Page 78 of this issue.

American Federation of Mineralogical Societies will meet in conjunction with the *Northwest Federation of Mineralogical Societies* at Tacoma, Wash., probably the Labor Day weekend. Details in next issue.

Midwest Federation of Mineralogical Societies will meet at Houghton, Mich. Date not set.

The Lapidary Journal Classified Ads

RATE — 6c PER WORD PER INSERTION. MINIMUM SPACE $3.00. ADS UNDER THIS CLASSIFICATION ARE PAYABLE IN ADVANCE. CLOSING DATE AT PALM DESERT, CALIFORNIA, 8TH OF JAN.—MARCH—MAY—JULY—SEPT.—NOV. FOR FOLLOWING ISSUE. NO CHECKING COPIES OR PROOFS FURNISHED CLASSIFIED ADVERTISERS.

CUTTING MATERIALS

RHODONITE — Beautiful new lot of gem quality pink and black-pink predominating —$1.00 a pound. Our 25c a pound mine-run still available and good value. Add postage on all rough material. Money back, satisfaction guaranteed. VIRGINIA A. UR, Box 183, Shell Beach, Calif.

10,000 POUNDS nephrite jade — $5,000. 2,500 polished rare woods and casts — $5.000. 288 top, polished, extra large cabs of plume, scenic and dendrite—$5,000. Enough polished transparencies mounted between glass to cover a complete wall of an average room—$5,000. Many others. JOHN R. PITTS, R. I., Riverton, Wyo.

EXTRA SPECIAL—Uncle Sam has beckoned. Closing out surplus agates, woods, etc. See last issue of *Journal* classified ad. Also conglomerate jade, mottled green $1.00 per pound in 5 pound lots. Correspondence invited. Will consider trade. R. K. BARNES, Box 2501, Denver 1, Colo.

YELLOWSTONE VALLEY Montana agate slabs of red, brown, black bands, spots, etc., in clear agate. Also ring and brooch preforms. PAUL FRY, 1119 Ulman St., Miles City, Mont.

AGATES—Plume types from famous Central Oregon vein. Slabs; rough. Vug and vein moss agate in reds, canary and green shades. OBSIDIAN — LIMITLESS VARIETY. Nothing more beautiful for gems, spheres, masks, etc. HAMPTON WOOD in greens, reds. Becoming scarce. Sole possessor of other fine agate types. Write for price list. C. G. SPRINGER, 862 Roosevelt Ave., Bend, Ore.

AUSTRALIAN OPALS. Fine Cabinet Specimens, or Cutting Opal. Good trial assortment, $15.00. LISTS FREE. Correspondence Invited. NORMAN L. SEWARD "HIGHLANDS," 2 Studley Ave., KEW, Melbourne, Australia.

AUSTRALIAN OPALS—Sawed boulder opal slabs. 1000 pieces direct from Australia. 1" to 3" sizes, assorted, very attractive colors—.50c to $10.00 each. Good trial lot of 20 colorful pieces for $15.00 by postal money order. N. L. SEWARD, 2 Studley Ave., Kew E-4, Melbourne, Australia.

AGATE from pegmatite granite. Nice amethystine agate of good quality—$1.50 lb. Moss agate beautifully patterned in all the colors—$1.50 lb. Transluscent opal, yellow-green color—$1.50 lb. Large chunks available in amethystine, moss and opal. Also large chunks of opal and red moss agate in same piece—$1.50 lb. 10 lbs. good cutting and polishing material—$6.00. I pay postage on $5.00 orders. G. E. JOHNSTON, Box 53, Caliente, Nevada.

AGATIZED ROOTS, limbs and twigs in short sections and cross sawed slices from Washington state. Also specimen or cabochon slabs of Oregon, Idaho and Montana agate. All material sent on approval for small deposit. State your wants. See before you buy. THOMAS J. BONES, 2713 Rossiter Lane, Vancouver, Wash.

ALASKA JADE—14x16 mm. blank—$1.00. Four square inches—$3.00. *Twenty* square inches (at least four different Alaska jades) —$12.00. Half pound—$4.95. Mammoth ivory—$4.00 lb. Alaska gold nuggets—$1.95 & $2.95 each. Quartz xls, massive biotite, native copper nuggets, Eskimo carved ivory figurines. ALASKA HANDCRAFTERS, Box 1891, Fairbanks, Alaska.

MONTANA AGATE — Selected stones of gem quality. Assorted colored agate & moss spots. Six pounds for $7.85 postpaid. 16x12 mm. ring preforms—$3.60 per dozen postpaid—choice agate. Tie chains with agate boot pendant—$6, tax paid. Matched pairs of agate boot ear pendants—$12 tax paid. B. M. WARD, 702 Woodbury, Miles City, Mont.

TEXAS BLUE TOPAZ — Fine facet grade gem material. Blue $1.25 gram. Blue-white 50c gram. Agate (Texas); selected mixed yellow, red, green moss, plume, banded, variegated (from Zapata field)—75c lb. Postpaid on 5 lbs. or over. B & H GEM SHOP, Box 4132, Austin, Texas.

BARGAIN ASSORTMENT No. 6—1 slab Yermo palmroot for fine cabs, 1 slab Nevada moss jasper, 1 slab or chunk Eden Valley petrified wood, 1 slice Texas moss agate, 1 small fern agate nodule, 2 small faceting garnets, 2 petrified wood pieces for cabs, 1 slice Arkansas scenic agate for fine cabs or polished slabs. ALL FOR $3.15. H. A. IVERS, West Coast Mineral Co., 1400 Hacienda Blvd., La Habra Heights, La Habra, Calif.

TWELVE CABOCHON BLANKS postpaid for $2.40. Includes jade, tiger-eye, myrickite, turquoise. Pen bases drilled ready to finish — $1.50 up. Swivel base fountain pens—$1.25. Custom slabbing on 24" saw. Visit our museum on Highway 66, 10 miles south of Victorville. VICTOR VALLEY GEM SHOP, Box 158, Phelan, Calif.

FLORIDA AGATIZED CORAL—5 generous lbs. $2.50 plus postage. 1x3" selected agatized coral geodes 4 for $1.00. Also larger sizes. Rare enhydros $3.00 up. We are 500 feet south of bridge on new U. S. No. 19. W. R. OLSEN, Route 1, Box 213, New Port Richey, Fla.

TEXAS BIG BEND AGATE and jaspers. Plume types, moss, banded, etc. Selected material $1.00 lb. Field run 50c lb. Trim saw size 35c lb. or 3 lbs. $1.00. Minimum order $1.00. *Postage please.* 10 small slabs $1.00. Slabs on approval. EDITH OWENS, Box 1042, Marfa, Texas.

EQUIPMENT AND SUPPLIES

ROCK-HARD FELT POLISHING WHEELS 5x1—$1.50; 10x1¼—$5.95; 12x3—$2.00 lb. Medium Hard Wheels—6x½—$1.25; 6x¾—$1.50; 10x2—$5.95. YALE ADLER, 2205 Euclid, Detroit 6, Mich.

POLISHING SECRETS. By following our simple instructions any cutter can polish a flat specimen or cabochon of calcite easily and quickly and get a mirror polish on it. Have you ever seen Franklin, N. J. Calcite and Willemite cut and polished into cabs, flats, etc? They come out white with black, green, or brown dots and fluoresce a brilliant solid red or solid red and green under short wave *Mineralight*. The complete instructions on polishing, including long kept secrets on backings, sanding, proper polishing powders, etc., costs 50c. These same instructions will give you a mirror, scratch-free polish on malachite, onyx, petoskeys, variscite, etc. It's simple—the main secret is sanding and we'll tell you how to sand without scratching. Beautiful Franklin fluorescents for cutting — large chunks, 5 pounds for $2.50, postage extra. Polishing instructions included free with every fluorescent order. GARDEN STATE MINERALS, 1034 Bloomfield St. Hoboken, N.J.

FOR SALE—Five lapidary outfits consisting of double arbor cutting heads and individual lapping heads—$80.00 each outfit. Assorted grit grinding wheels, buffs, grinding compounds, double mud saw with 6 and 12" blades. Extremely large stock of many semi-polished and polished stones, beads, etc. Great variety of boulders and specimens priced extremely low. Jeweler's polishing bench, double spindle motor and blower in good condition. Square wire power rolling mill. Small metal bench cutter. Inquiries invited. PACIFIC JEWELERS SERVICE CO., 424 S. Broadway, Los Angeles 13, Madison 6-8784.

WANTED—Good used 16 or 18" slabbing saw. FOR SALE—One Highland Park E-3 combination unit, one year old, good condition—$75.00 F.O.B. Glendale. 5 gallon olla with copper fixtures to ¼" copper pipe—$2.00. ELDON E. SOPER, 433 S. Central Ave., Glendale 4, Calif.

FOR SALE—Professional precision built faceting machine. Never used. 2 indexing heads with plates, 32 and 49 index (facet septagon cut—"Star of Bethlehem"). Large lap wheel, diamond charged, mounted on concrete pedestal. Can be mounted on steel or wood. Less motor. Patent pending. Photo to those interested. EVA PHILLIPS, Logan, Ala.

MISCELLANEOUS

PECOS RIVER "DIAMONDS"—No collection complete without these fine small doubly-terminated opaque quartz crystals from New Mexico's fabulous "River of Sin." White to deep red; some twins, burrs and rosettes. Ten assorted crystals, plus kindred quartz lump for that cabochon that's different — $1.00. ROBERT NYMEYER, 811 Greene, Carlsbad, N. M.

BEAUTIFULLY FACETED STONES—All cuts and sizes. Amethysts 50c (light) to $2.00 (deep purple) per carat. Light Beryl 75c per carat. Imported Swiss choice synthetic Alexandrite-like corundum and the new water-white Titania. Swiss boules in ruby, sapphire, alexandrite and kunzite colors. Mexican harlequin fire opals of rare quality and a limited number of good pieces for cutting and specimens. *We have the best at lowest prices.* HY HAYDIS, 2720 Derby St., Berkeley 5, Calif. THornwall 3-7241.

OVER 50 YEARS ago the *Merryall Mine* (located 6 miles north of New Milford, Conn.) produced thousands of dollars worth of gem beryls, aquamarines, golden beryls, garnets. We are reopening the *Merryall Mine* for beryls, mica feldspar, mineral specimens. Special—autunite in mica $1.00 lb. Radioactive and fluorescent. THE OLD PROSPECTOR, Howard J. Hewitt, 142 Carroll St., Patterson, N. J.

IN THE CHICAGO AREA? Learn to make your own jewelry in gold and silver. Classes in groups of 1 to 4 from 9 until 9 Monday through Saturday. Call NELSON EWING, West Chicago 8003-r2 and arrange your instruction hours.

HERKIMER "DIAMONDS" in matrix 50c to $5.00 postpaid. State size of matrix, crystal and price class. Approvals sent. Attractive booklet *Let's Hunt for Herkimer Diamonds* tells how they are found. While they last—beautiful free "diamond" embedded in pocket in book—$1.00 postpaid. CLAUDE C. SMITH, Box 291, Geneva, N. Y.

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GEM
DRILLING
EQUIPMENT

Professional diamond drills 1/16" bonded. Shank size 3/32 . . . . . **$6.50**

Stainless steel 3/64" seamless drill tube 3 inches long—three pieces for . **1.00**

Fountain pens with funnel and swivel for desk sets, 3 (complete) for . . . **5.80**

Bead making mill — drill press drive **48.50**

Note: Bead making instructions **$1.00**

A recent ad stated we had only fair jade and that we were looking for some good stuff. We can now report that we have a little good jade; a lot of fair jade but no excellent jade. Still looking.

McGILL'S
Stevens Point, Wisconsin

DON'T TAKE ANY VACATION

To a gem bearing area without first getting and studying the "trail" book of the area you expect to visit. All books have maps and illustrations.

CALIFORNIA GEM TRAILS $1.50
GEM TRAIL JOURNAL (Calif.) . . . 2.00
NORTHWEST GEM TRAILS 2.00
COLORADO GEM TRAILS 2.50
(cloth bound—to be published about May 15)

GEM HUNTERS GUIDE 2.95
(cloth bound—covers ALL America)

Add sales tax on California purchases
All books sent postpaid

LAPIDARY JOURNAL
PALM DESERT • CALIFORNIA

Classified Advertising Continued from Page 85

PHOTOMICROGRAPHS of rare scenes, formations and intrusions in agate. 2x2 color slides—6 for $1.95; 100 for $25.00. DAVE HARRIS, 2401 Pittsburg St., El Paso, Texas.

BRIGHT COLORED Mexican miniature wool serapes for book marks. Small 8x1½"—2 for $1.00. Large 6½x3¾"—$1.00 each. Funds to aid Byerly School for underprivileged Mexican children near Navojoa, Sonora, Mexico. ALBERTO E. MAAS, Alamos, Sonora, Mexico.

RUBBER STAMPS made to order. Knob handle, cushioned and indexed. Two inches long. For marking envelopes, circulars, checks, memos, imprints, etc. Two lines $1.00. Three lines $1.20. Write for prices for other stamps. Stamp pads 45c. Date stamps 65c. LLOYD W. HARAZIM, Dept. A, 2364 N. 58th, Seattle 3, Wash.

CALCITE (Texas) that fluoresces a beautiful blue. Send $1.00 for a generous specimen postpaid. B & H GEM SHOP, Box 4132, Austin, Texas.

EXCHANGE specimens of prehnite, stilbite, heulandite, amethyst, quartz, black tourmaline, garnet and calcite for cutting and polishing materials. DR. A. J. DELARIO, 316 Broadway, Patterson, N. J.

We'll Get Any Book You Want On Gems, Minerals or Silver Craft

We have a complete book department with most currently published works on gem cutting, silversmithing, gemology and mineralogy immediately available. All books postpaid. Add sales tax in California.

NORTHWEST GEM TRAILS by Dr. Henry C. Dake—$2.00

The companion book (paper backed) to *California Gem Trails* ($1.50) which has had such wide distribution. With these two books the tourist interested in gem collecting can go to all the known gem locations of consequence in the Pacific Coast States. Plenty of maps in each book. Don't start your western trip without both of these books in the map compartment of your car. Makes swell reading for those nights in the auto courts and trailers too when the home-town papers are not around. *Special Offer*—BOTH books for $3.25.

CALIFORNIA GEM TRAILS by Darold J. Henry—$1.50

A fascinating book of all the principal California gem locations. Well illustrated with maps and photos. No rock hunter should be without this inexpensive and informative book. If you plan to visit California get this helpful guide first. (See special offer in preceding item.)

GEM CUTTING by J. Daniel Willems, M.D.—$3.95

The first book the beginner should buy. Well illustrated and easily understood. A very readable book even if you never intend to cut gems but wish to be informed. Tells how to construct equipment and organize a shop. Equally divided between all phases of cabochon cutting and faceting. Gives list of minimum requirements for a lapidary shop.

HANDBOOK FOR THE AMATEUR LAPIDARY by J. Harry Howard —$3.00

The first book on the subject and still as good as the best. Step by step instructions on all phases of gem cutting. 225 well illustrated pages. Fine cloth binding. Good index. New techniques and tools discussed.

THE ART OF GEM CUTTING by Dake and Pearl—$2.00

Contains much useful information, not contained in the previously mentioned books, taken from the author's magazine THE MINERALOGIST, which has published lapidary articles for many years. Also contains all the fundamental information needed for the beginner.

POPULAR GEMOLOGY by Richard M. Pearl—$4.00

The newest book on gemology written by the former president of the American Federation of Mineralogical Societies. Not a book about gem cutting but indispensable to the gem cutter. It "explains" gems in a readable and easily understood manner. Tells the best form in which each gem material should be cut.

THE ART OF THE LAPIDARY by Francis J. Sperisen—$6.50

The most complete book on the lapidary art that has ever been published. Written by an experienced lapidary who can cover every phase of the lapidary art, even to diamond cutting, because of a long experience in every branch of gem cutting. Chapters on sawing, specimen grinding and polishing, cabochon and facet grinding and polishing, drilling, engraving, carving, sculpturing, mosaic, inlay, parquetry, etc. If there is any book that will enlarge the horizons of the gem cutting hobby for the "cabochon artist" this is it. Full information on all gems, tools and equipment, physical characteristics and classification of gems. The COMPLETE book on the subject. OVER 400 DRAWINGS & ILLUSTRATIONS. 328 pages 9¼" by 6" —Beautiful binding.

See Ad on Jewelry Books on Page 27

AMERICAN GEM & MINERAL SUPPLIERS ASSOCIATION

The Lapidary Journal

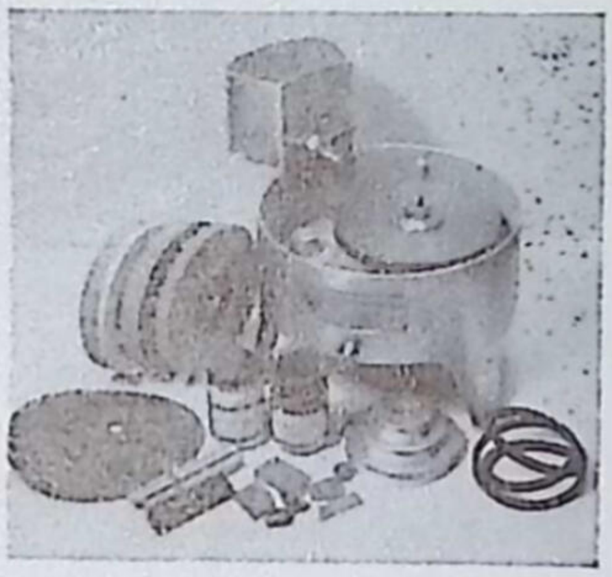
PALM DESERT, CALIFORNIA

LAPIDARY
1265 W. 76TH ST.

GEMLAP

HOBBYCRAFTS, INC.
CLEVELAND 2, OHIO

PRECISION EQUIPMENT INSURES FINE GEMS



WHY BUY LARGE BULKY EQUIPMENT?

The "Gemlap" Model 1-A Cabochon Unit offers you a small, compact Grinding, Sanding, Polishing and Lapping machine, complete with all accessories except Motor, as illustrated. **$37.50 F.O.B.**

Features such as ALUMINUM body and water dispenser, ground MONEL shaft, machined MONEL flange, OIL-LESS BRONZE bearings, BRASS nut, washer and drain cocks, insure its being entirely RUST PROOF.

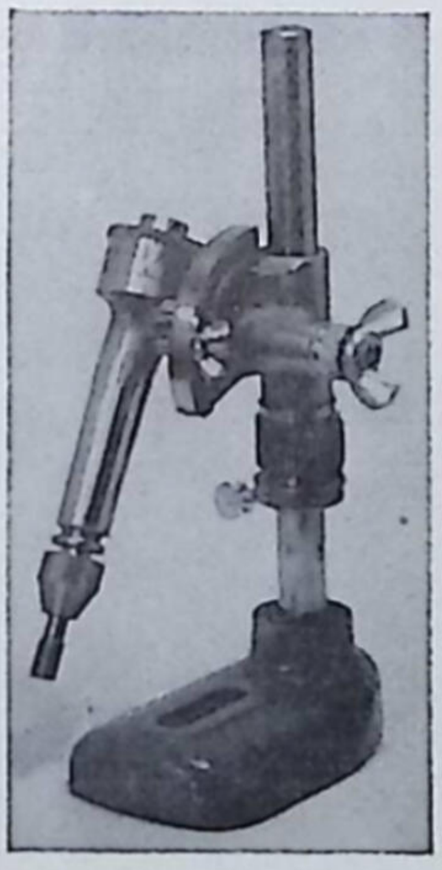
'GEMLAP' MODEL 2-A TRIM SAW

Takes 6" or 8" Blade

Built of the same high quality materials as the Model 1-A "GEMLAP" Cabochon Unit. OIL-LESS BRONZE bearings and MONEL shaft insure long life, from the silt condition incurred by the cutting of materials.

A cast trough arcund the top of the body allows coolant to return to the reservoir through apertures under raised REMOVABLE table. Size 14¼" long, 8¼" wide, 8" high. Less Blade.....**$32.50 F.O.B.**



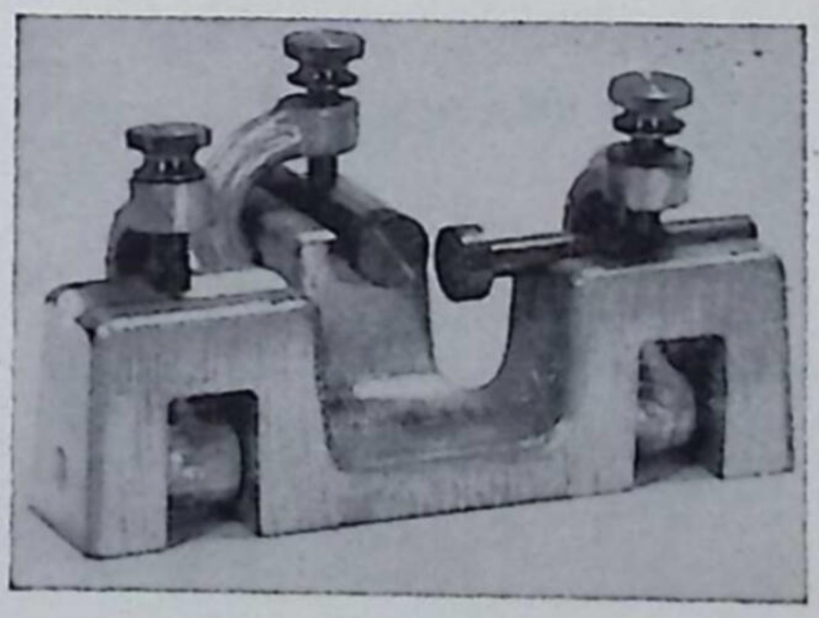


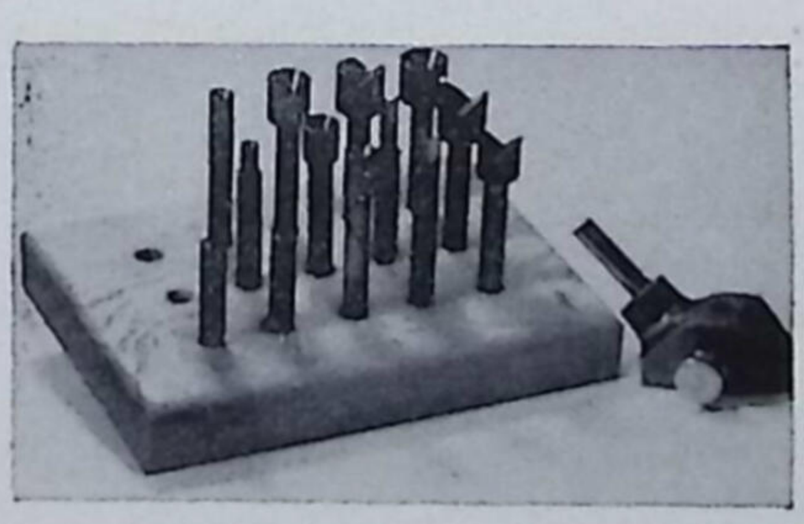
"GEMLAP" MODEL FH-3 FACET HEAD

For use on Gemlap Model 1-A or any other type horizontal machine. Constructed entirely of Bronze and Brass with exception of stand-rod, which is of MONEL, ⅜" diameter. Adjustable knurled raising and lowering micromatic adjustment. Cast iron machined base. The head has two inclosed bevel gears, which mesh together on all of the 32-calibrations, plus a calibrated vernier (cheater) for split facets and cutting odd shapes. An angle stop is provided on the refractive index quadrant, so that the head may be tilted for inspection without removal from the stand-rod. Brass dops are held by a split collet chuck. Complete, with one brass dop and wood case.....**$32.50**

"GEMLAP" MODEL SR-1 SPEED REDUCER

For use on our Model 1-A machine. Allowing necessary reduction in speeds for faceting.....**$15.50**





"GEMLAP" BRASS DOP STICKS

A complete set of 13 machined brass dops 2⅜" in length, ¼" diameter shank, head sizes from 1/16" to ½" and in a variety of shapes. Mounted on a wood base....**$7.50**
45° Facet Table Grinder.....**$3.50**

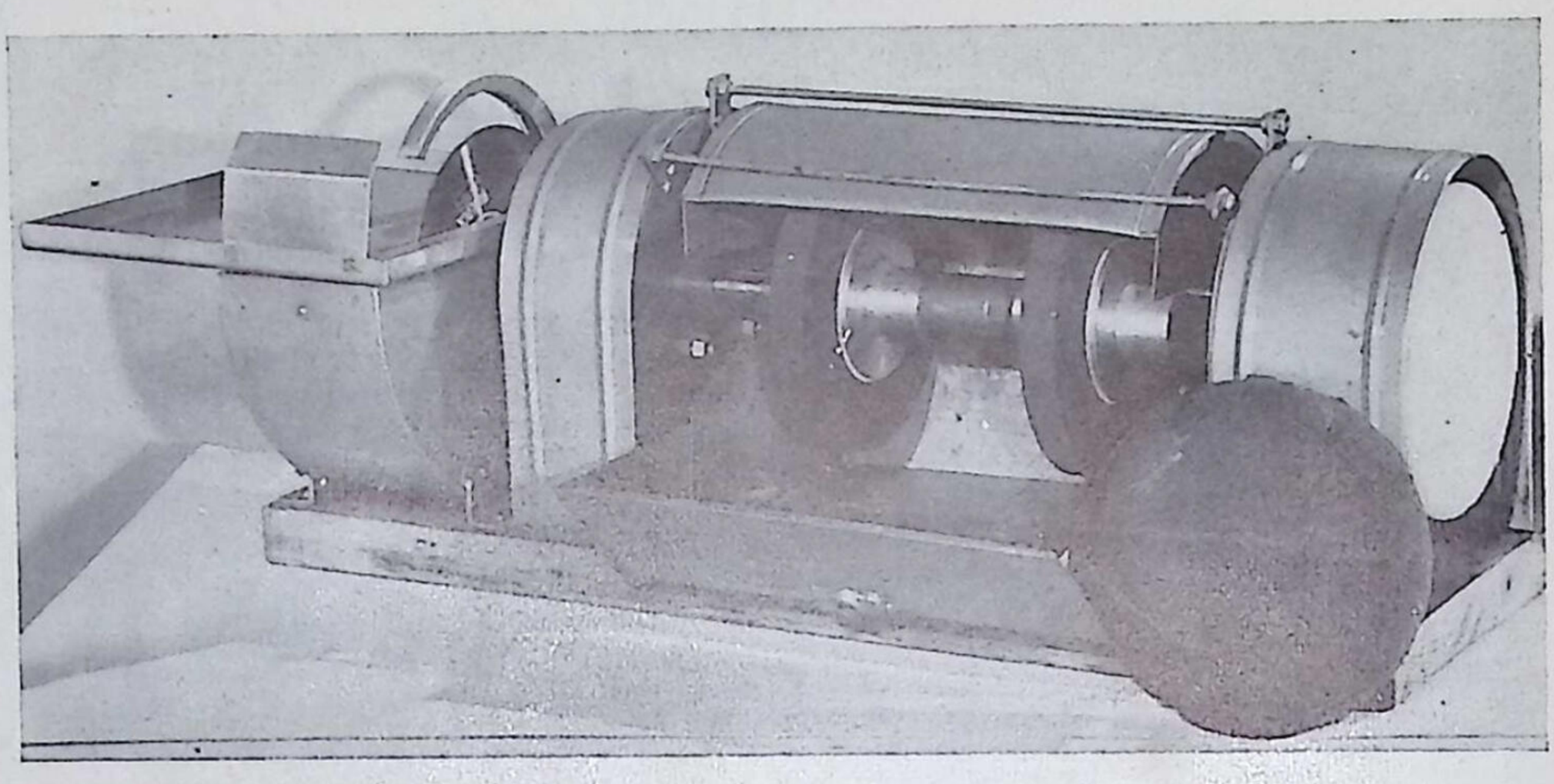
"GEMLAP" TRIPLE "V" BLOCK

Manufactured of cast aluminum with two machined brass FACE PLATES. Lines up stones three ways to assure accurate mounting of gem stones in the dop stick. Accurate milled slots. Clamps require only one-fourth turn for tightening or releasing. Clamps automatically drop out of way when loosened so dop can be removed **$3.50**

STERLING SILVER

LAPIDARY EQUIPMENT
and Supplies

JEWELERS SUPPLIES
Tools & Findings



Frantom Cabochon Unit

$99.50 F.O.B. Los Angeles (less motor)

Includes: one 8" saw blade, one grinding wheel 8x1" (100 grit), one grinding wheel 8x1" (220 grit), one 8" sanding disc and one 8" polishing disc. Full self-aligning BALL BEARINGS lubricated, sealed and *guaranteed for one year from date of purchase.* $3.00 crating charge.

Sanding Drums, Sanding Discs, Sanding Cloth, Norton Grinding Wheels, Polishing Powders, Poly Arbors.

A NEW TREND IN GEMSTONES!!!

BAROQUE CABOCHONS which preserve the natural shapes of the water worn gems and original crystals, yet are highly polished to bring forth the beauty of the stone.

IN WIDE RANGE OF SIZES AND COLOR — In AMETHYST, ROCK CRYSTAL with unusual inclusions, TOURMALINE, ROSE QUARTZ, CITRINE, AQUAMARINE, SMOKY QUARTZ and many others . . .

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May be mounted in Prongs, Bezels, or baskets for undrilled stones or may be used with chain, wire or screweyes for the drilled stones.

Size	Price per stone Baroque Cabochons	Price per stone Baroque Beads
Up to ½"	$ .90	$1.90
Up to ¾"	1.50	2.80
Up to 1¼"	2.50	3.80
Over 1¼"	Priced per stone	Beads not available larger sizes

Please add 20% Federal tax to all prices.
All stones sold on a money back guarantee. If you are not entirely satisfied return the stones within 10 days and your money will be promptly refunded.

All Prices F.O.B., Los Angeles

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