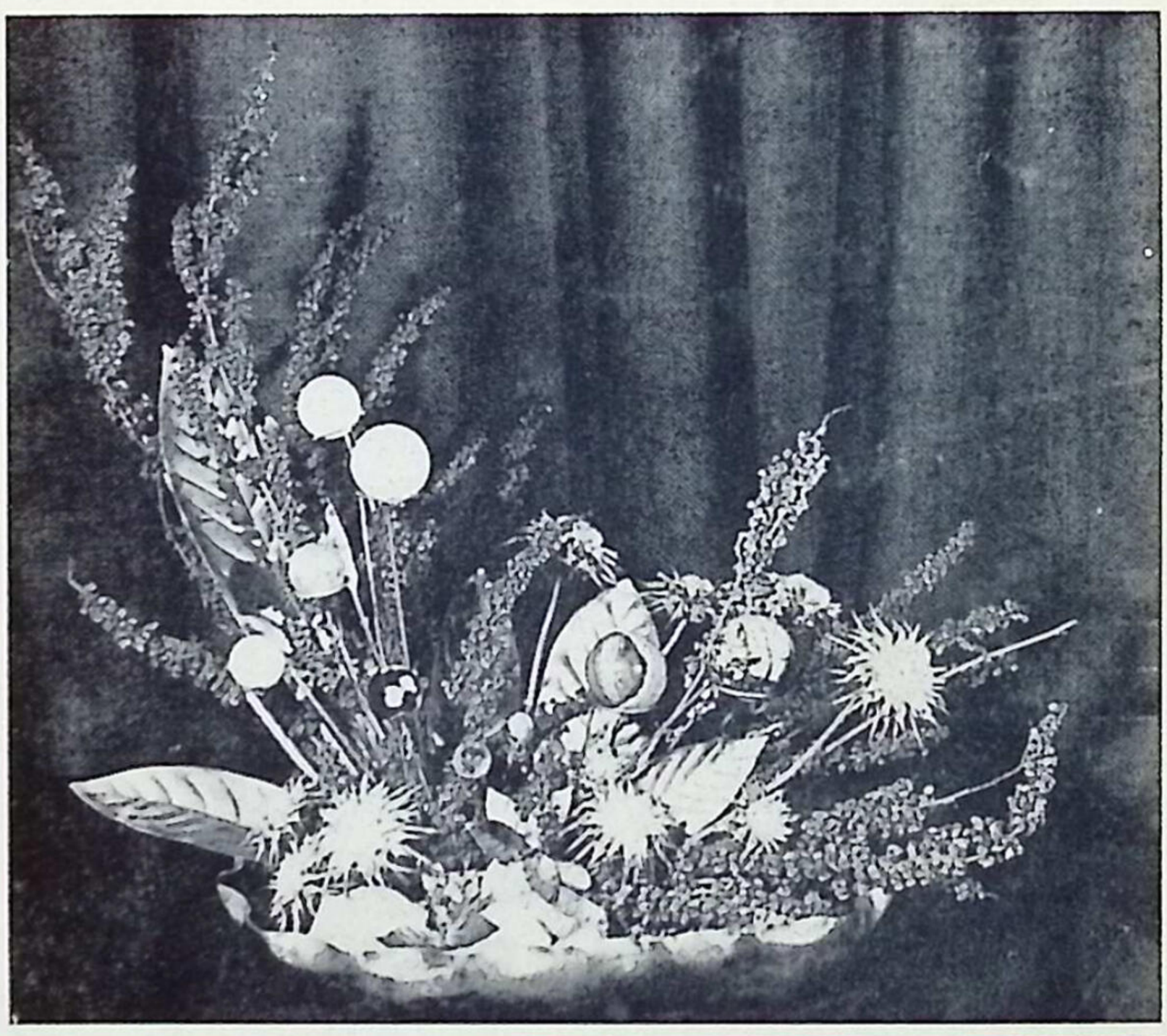
OCTOBER, 1953

The Lapidary Journal



AUTUMN

Hand hammered copper bowl and leaves, with dried grass and gem spheres in a flower arrangement.

By MISS DAGMER LINNET

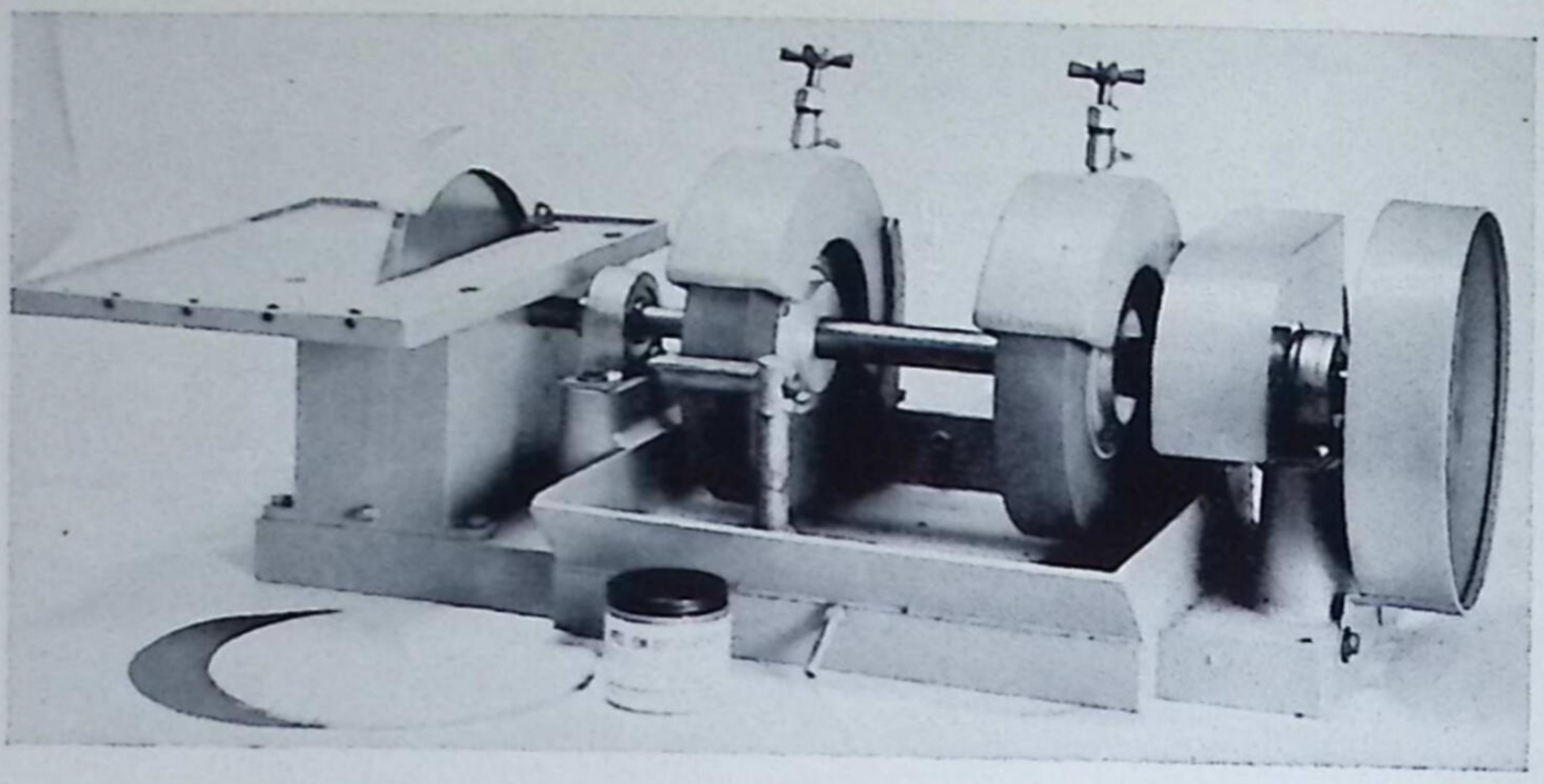
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AN INTERNATIONAL HOBBY MAGAZINE for GEM CUTTERS, GEM COLLECTORS AND JEWELRY CRAFTSMEN

THIRTY-EIGHTH ISSUE

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Our stage of civilization is not going to depend upon what we do when we work so much as what we do in our time off. The moral and spiritual forces of our country do not lose ground in the hours we are busy at our jobs. Their battle time is the time of leisure. —Herbert Hoover

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Where the summer spends the winter

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◆ Gems in the Bible

By RUDOLPH FAHL
1804 North Tejon, Colorado Springs, Colorado

The love and reverence for precious stones dates back to earliest civilization. Reference to jewels and minerals can be traced in petroglyphics even of prehistoric man. Superstition concerning certain gems dates far back into the remote past, long before the Christian era. There were "lucky" stones and "unlucky" stones from the time of earliest man.

Many a deep thinking mineralogist wonders if precious and semi-precious stones were not a part of the glory of a perfect creation—admired by Angelic Beings long before man was created and sin known to our planet? Perhaps, he meditates, a geode or a gem pocket filled with several kinds of dazzling crystals is actually the work of Angels directly from the hand of God? Could twinkling gem-like stars be the windows of heaven through which Angels speak? The presence of crystals, which is the revelation of the highest development in the mineral kingdom, is comparable to the flowers and seeds of the vegetable and fruit kingdoms. Crystals, then, are the flowers and seeds belonging to the most exalted sphere of the mineral kingdom!

GEMS IN THE DIVINE PLAN

However that may be, a careful analysis of the Scriptures reveals that gems, birthstones and minerals must have had an important place in the Divine Plan. Why else should they be referred to in the Bible so many times? Amazing as it may seem, gems and minerals are mentioned, under 124 different Hebrew and Greek words, 1704 times. Without a shadow of doubt, a subject so often repeated and occupying such a place in Divine Revelation must play a very important part in the plan of God. They are held in great reverence because of their radiant beauty, elegance, awe-inspiring attraction and emblematic significance.

GENESIS

Beginning with the second chapter of Genesis, the story of minerals and gems starts with the eleventh and twelfth verses: "The name of the first (tributary of the river out of Eden) is Pison: that is it which compasseth the whole land of Havilah, where there is gold; and the gold of that land is good: there is bdellium and the onyx stone." It is most significant that gold should be selected as a symbol of Deity and silver as a symbol of Redemption. In the Bible gold is mentioned 409 times and silver 313 times! Bdellium is probably amber, rock crystal or opal. The predominant color of amber is golden yellow and it is one of the oldest gem materials. The delicate colors of the precious and black opal connote clairvoyance. No other gem possesses such chatoyant beauty and fine shades of delicate and fiery colors. The idea of it being "unlucky" is unfounded in the Bible.

EXODUS

In the 28th chapter of Exodus the inspired plans for the building of the tabernacle are given. In the commandment for the garments of the Great High Priest, God decreed in the ninth to the twelfth verses, "And thou shalt take two onyx stones, and grave on them the names of the children of Israel: Six of their names on one stone, and the other six names of the rest on the other stone, according to their birth. With the work of an engraver in stone, like the engravings of a signet, shalt thou engrave the two stones with the names of the children of Israel: thou shalt make them to be set in ouches of gold. And thou shalt put the two stones upon the shoulders of the ephod for stones of memorial unto the children of Israel: and Aaron shall bear their names before the Lord upon his two shoulders for a memorial."

The description of the marvelous breastplate continues in part through the 30th verse: "And thou shalt make the breastplate of judgment with cunning work; after the work of the ephod . . .; of gold, and of purple, and of fine twined linen . . . Foursquare it shall be being doubled; a span shall be the length thereof, and a span . . . the

breadth thereof. And thou shalt set in it the settings of stones . . . the first row shall be a sardius, a topaz, and a carbuncle; And the second row shall be an emerald, a sapphire, and a diamond. And the third row a ligure, an agate, and an amethyst. And the fourth row a beryl, and an onyx, and a jasper: they shall be set in gold in their inclosings.

"And the stones shall be with the names of the children of Israel, twelve according to their names, (Reuben, Simeon, Levi, Judah, Issachar, Zebulon, Benjamin, Dan, Naphtali, Jad, Ashar and Joseph) like the engravings of a signet: every one with his name shall they be according to the twelve tribes. And thou shalt make upon the breastplate chains at the ends of the wreathen work of pure gold. And thou shalt put the two wreathen chains of gold in the two rings which are on the ends of the breastplate . . . And they shall bind the breast plate by the rings thereof unto the rings of the ephod with a lace of blue . . . And Aaron shall bear the judgment of the children of Israel upon his heart before the Lord continually."

The outstanding fact about the intricate construction of the breastplate is that the individual gems chosen by God to represent the individual tribes, carried within them the very vibrations of the nature of the tribes represented. By this mysterious means God constantly revealed His Will and sat in judgment upon the question of His people. It is evident that the God given preview of Redemption is in the heart of gemstones. A carbuncle had reference to any gem of brilliant fire and deep red color, such as a garnet, ruby, or sapphire, cut into a cabochon — rounded without facets.

The importance of gems in the Divine Plan is more clearly revealed after the creation of man. God, through Christ Jesus, would provide a way of Salvation and restore the communion that sin had broken. God did this by anticipating Calvary in the Levitical Priesthood and Sacrifices. In this ancient God-given ritual there were four important divisions—The Priesthood, The Tabernacle, The Sacrifices, and the Feasts.

EZEKIEL

Ezekiel in his first chapter speaks of amber, brass, beryl, crystal and sapphire. The glory of the domination of Satan, the Prince of Tyrus, before his fall is described in Ezekiel 28:13-14, "Thou hast been in Eden the Garden of God; every precious stone was thy covering, the sardius, topaz, and the diamond, the beryl, the onyx, and the jasper, the sapphire, the emerald, and the carbuncle, and gold: the workmanship of thy tabrets and of thy pipes was prepared in thee in the day that thou wast created. Thou art the anointed cherub that covereth; and I have set thee so: thou wast upon the holy mountain of God; thou hast walked up and down in the midst of the stones of fire." Is it possible that this refers to fluorescent stones or brilliant fire-like gems?

DANIEL'S PROPHECY

To Daniel the nature, the unfolding and consummation of world domination, was revealed in an image made up of different minerals — the head of fine gold, breast and arms of silver, belly and thighs of brass, legs of iron, and feet part iron and clay. Daniel's prophecy is a wonderful interpretation of King Nebuchadnezzar's forgotten dream and should be understood in these trying times of planned confusion. An understanding of the stone that smote the image and became a great mountain is apparent in the interpretation of the dream according to Chapter 2:37-45. "Thou, O king, art a king of kings: for the God of heaven hath given thee a kingdom, power, and strength, and glory. And wheresoever the children of men dwell, the beasts of the field and the fowls of the heaven hath he given into thine hand, and hath made thee ruler over them all. Thou art this head of gold.

"And after thee shall arise another kingdom inferior to thee, and another third kingdom of brass, which shall bear rule over all the earth. And the fourth kingdom shall be strong as iron: forasmuch as iron breaketh in pieces and subdueth all things: and as iron that breaketh all these, shall it break in pieces and bruise. And whereas thou sawest the feet and toes, part of potter's clay, and part of iron, the kingdom shall be divided: but there shall be in it of the strength of the iron, forasmuch as thou sawest the iron mixed with miry clay. And as the toes of the feet were part of iron, and part of clay, so the

kingdom shall be partly strong, and partly broken . . .

"And in the days of these kings shall the God of heaven set up a kingdom, which shall never be destroyed: . . . Forasmuch as thou sawest that the stone was cut out of the mountain without hands, and that it brake in pieces the iron, the brass, the clay, the silver, and the gold; the great God hath made known to the king what shall come to pass hereafter: and the dream is certain, and the interpretation thereof sure."

GOLD THE FIRST GIFT

When Christ was born, the first gift from one of the Wise Men of the East was gold. For over 20 years the Son of God doubtless wrought in gems and jewelry with divine skill. In that day the village carpenter was a craftsman in the art of silversmithing and gemology. Out of this experience He could speak of the "Pearl of Great Price" and out of His knowledge declare, "The stone which the builders rejected, the same has become the head of the corner."

REVELATION

In Revelation 4:2-3 we read, "And immediately I was in the spirit: and behold, a throne was set in Heaven, and One sat on the throne. And He that sat was to look upon like a jasper and a sardine stone: and there was a rainbow round about the throne, in sight like unto an emerald." According to legend the Holy Grail was carved out of an emerald crystal—standing for piety, chastity and integrity. How fitting that the emerald should have been chosen for this sacred chalice!

GEMS OF THE HOLY CITY

The 21st Chapter of Revelation gives a glorious description of The Holy City with the foundations of the wall garnished with many precious stones, twelve gates of pearl and the streets of pure gold. When God revealed to us that its incomparable beauty was commensurate with its amazing magnitude He caused to be written Revelation 21: 18-21, "And the building of the wall of it was of jasper: and the city was pure gold, like unto clear glass.

And the foundations of the wall of the city were garnished with all manner of precious stones. The first foundation was jasper: the second, sapphire; the third, a chalcedony; the fourth, an emerald; the fifth, sardonyx; the sixth, sardius; the seventh, chrysolite; the eighth, beryl; the ninth, a topaz; the tenth, a chrysoprasus; the eleventh, a jacinth; the twelfth, an amethyst. And the twelve gates were twelve pearls; every several gate was of one pearl; and the street of the city was pure gold, as it were transparent glass." The climax of the spiritual importance of gems is reached in this inspired picture to show the perfection of Deity!

The following imaginative interpretation to the various colors of the gems of The Holy City is apropos. At the base is the crimson jasper, typical of the suffering and death of the Savior. Above this is laid the sapphire, like a blue flame of truth. In the pure white chalcedony is reflected the purity of the Christ life. The eternal green of the emerald suggests the rainbow of hope and promise. The sardonyx reflects many colors and virtues. The deep red sardius is symbolical of mental anguish and is shadowed by the silent suffering of the chrysolite. This is overlaid by the beautiful blue beryl, whose light mingles with the blazing topaz in telling the story of joy and peace inherent in the Lord. The chrysoprase and the jacinth blend with an assurance that the purple and violet of royalty is crowned with the spirituality of the amethyst. The inviting gates of pearl, like celestial dew, are always open to the righteous that follow God's golden precepts. Gold is like condensed sunshine and silver streams of moonlight.

The book of The Revelation is a secret ritual of the Priestly Order and cannot be interpreted literally. Perhaps it should be interpreted in a psychic manner according to the spiritual understanding of the reader. Only initiates would know the significance of the gems and colors that ornament the foundations and walls of The Holy City. Often symbols and even superstitions lead us to the Truth. Faith is positive and enriches life.

SYMBOLISM IN GEMS

The sapphire is mentioned twelve times—more often than any other gem in the Bible! Is it just a coincidence that this gem of Truth has this supremacy? The sardonyx was the victory stone of the ancient Romans—rendering the wearer happy, fearless, and victorious in battle.

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The gladiators of Rome before going into a contest, wore a sardonyx either in the form of an amulet or a ring. In a footrace the runners would fasten this cabochon on their sandal. Pillars in the arena were decorated with the sardonyx so that the contestants might have a last look at it to give them hope, courage and endurance. The amethyst is considered a highly spiritual stone and is worn in the bishop's ring. It is often consigned as a charm against intoxication.

Turquoise was well known to the ancients and got its name by being transported through Turkey. The best quality is found near Nishapore, Iran. The Tibetans to this day esteem turquoise as do the natives of the Alps.

The American Indian worshipped the Great Spirit through the cerulean turquoise. The sacred character with which it was invested is evidenced by the wealth of this gem found in their graves. In 1899 the archeologist, George H. Pepper, found in one grave 9,000 beads and pendants on a single skeleton — passports to a happy hunting ground. Prized for its talismanic virtues, no medicine man would be without it. Its mission is to protect from falls from high places, especially on horseback. It is also the prosperity stone—cannoting the green of the earth and the blue of the sky. Green signifies growth and life, and blue happiness. The same meaning applies almost universally to every gem.

Throughout nature the primary symbol is the circle. The eye is the first circle, and this figure is repeated without end. There is no end in nature for every end is a beginning. The cipher is the emblem of the world and infinity. The intriguing sphere is well known to the lapidary and collector as the symbol of eternity. One look into a clear quartz sphere will result in reflections and a better understanding of symbolism in gems.

BEAUTY EXEMPLIFIED

On our planet gold is opaque. In Revelation it is described as if it were "transparent" glass. Until a translucent tin crystal was found, we could not stretch our imagination to believe it was possible, yet from southern Nigeria such a crystal has been faceted into a brilliant cut gem. This 37 carat cassiterite rarity and unique museum piece is flawless like all the gems in the description in Revelation. It is like a bloom from heaven—a magnificent pale rose transparency. Isn't it possible that other gems and minerals "from out of this world" are yet to be found?

In a display of the gems of The Holy City we see an array of beautiful colors. From the primary colors of the rainbow —red, orange, yellow, blue, violet and indigo—it has been estimated that there are over two billion shades of color in nature! In the foundation of the wall jasper may be yellow, green or other colors. Jade could be substituted. The brilliant transparent blue sapphire or a lapis lazuli could be shown. Chalcedony is a waxy agate that is a translucent crypto-crystalline variety of quartz. The milky variety would suffice. The emerald is always a rich and vivid shade of green that sparkles with life. It is one of the most valued gems and belongs to the beryllium family. Sardonyx is a variety of onyx consisting of alternate layers of light colored chalcedony and reddish carnelian.

Sardius is the same as sard—being a brownish red agate variety of carnelian blood-red transparency. The chrysolite is an olive green transparent magnesium iron silicate. Another name for chrysolite is peridot. Beryl may be a vitreous green, light blue, aquamarine, yellow or white. Turquoise or banded malachite could replace it. Topaz comes in different colors but a light honey or darker yellow blends well with the others. A mottled green or yellow serpentine could fill the requirement. Chrysoprase is an apple green variety of chalcedony. Jacinth is another name for zircon and is found in varying shades of color. A light pink fits into the color scheme admirably. Zircons in beautiful blues are commonly seen in gem and mineral stores. Amber may be shown. Amethysts are purple or violet.

A lustrous blue-gray mother-of-pearl or cultured dew drops glisten in harmony. Gold in the form of a button, nugget, wire, or a gold bearing specimen completes a replica of the gems of The Holy City that attracts intense interest and attention. If there is room in the frame a silver specimen and opal may be added and labeled. If earthly gems are beautiful, the heavenly must be much more infinitely exquisite!

BRILLIANT COLOR

That's what you will find in the new **Field Guide of Rocks and Minerals** by Dr. Frederick Pough, formerly with the American Museum of Natural History and certainly an expert in this field. The new book contains 234 photographs of which 72 are in full **natural color.** This is not a textbook but rather an excellent field guide to identification of the stones and minerals that you may find. Whether you cut and polish stones or collect minerals this book will be a valuable and interesting addition to your library as it is easily the most important contribution to our hobby in many years. Advance orders taken now for delivery after publication on October 20. Price $3.75 postpaid plus 3% sales tax on California purchases.

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A hobby is a joyful thing that fills one with elation. A constructive avocation of collecting gems, crystals, minerals or agates may serve as a spiritual tonic. A. P. Pohndorf, Jr., of Denver, Colorado, has said, "Mineral and gem collecting is the best of all hobbies—zestful, healthful, instructive and entertaining. Is your present hobby all this? If not you are missing a lot of the joy of living. The answer is to start a mineral collection at once."

In gems we find a balanced artistic expression that reaches not only the eyes, but stirs the deeper inexplicable emotions, the minds, hearts and spirit of those who love beauty. In "As You Like It" Shakespeare pays a tribute to nature, thus: "And this our life, from public haunt, finds tongues in trees, books in the running brooks, sermons in stones and good in everything." Robert Browning says, "God is seen in the star, in the stone, in the flesh, in the soul and the clod." George Eliot in her "Spanish Gypsy" remarks, "These gems have life in them: their colors speak, say what words fail of."

VIBRATIONS OF GEMS

Helen Keller expressed her feeling about the spiritual gem in a letter to Mrs. A. N. Pohndorf in these words: "Since the delightful few moments I spent with you in Denver, my time has been taken up by journeyings in behalf of the blind and letters that never end. But this exquisite May day shall not pass without my telling you how wonderful your gift is in the morning light that pours through the livingroom window. As I touch the amethyst in the rough with a glowing memory of your kindness, Miss Thomson says its soft, prismatic sparkle seems like a bit of Rocky Mountain haze under which it rested before it was quarried out of the darkness. To some it may appear crude, incongruous, but to me it is simple, primal in its beauty, eloquent with the greatness of sincerity. Wrought by the unfathomable alchemy of the earth, it is a witness to the Truth that only if we preserve our lives substantial, elemental, suffused with soul-radiance, can we be heirs of God's Kingdom and peers of the universe.

Again thanking you for a treasure which vibrates with music from Nature's heart to my own, I am, with Miss Thomson's kindest greetings,"

Cordially yours,
(Signed) Helen Keller

May 16, 1941
Arcan Ridge, Westport, Conn.

In hieroglyphics, the Holy Scriptures, and inspired writings of philosophers and others, the same thought of love and reverence for precious stones is expressed repeatedly. Just as there are gems in words and phrases of the Bible, there are also gems that can be seen, understood and appreciated. If words are symbols of human thought and experience, then minerals, birthstones and gems vibrate spiritual characteristics. The poet touches the soul of the Bible student and the hobbyist when he writes about Divine

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◆ More Experiences with Tumbling

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3461 Second Ave., Sacramento, California
Member of *Sacramento Mineral Society*
and HARRY L. ZOLLARS
810 E. Rio Grande St., El Paso, Texas
Member of *El Paso Mineral and Gem Society*

Among several interesting reports of experiments with tumbling we present the following two informative accounts which our readers should find useful. Mr. MacClanahan, a manufacturer of lapidary equipment (MacClanahan and Sons QUAD line), offers the first good information we have seen about what happens to the stones when they get in the tumbler. His definition of tumbling as a "mechanical landslide" is the aptest description of the process we have observed. Mr. Zollar's account of his experiences was presented in "The Voice," the bulletin of the El Paso Mineral and Gem Society, of which he is the Editor.

Mr. MacClanahan's Account

The grinding and polishing action that takes place in a tumbler barrel is produced by the sliding action of the stones against each other. As the barrel turns, the load of stones is inclined to a point where the upper portion of the load starts to slide down the steep incline, to be covered by the following masses of sliding stones. These are then carried to the top of the incline by the rotating barrel, to take their turn again in this mechanical landslide.

In order to obtain the fastest and best results from this sliding action, several factors should be considered.

While the round barrel will give the greater diameter for length of slide, wall slip, (the sliding of the entire mass against the side of the barrel) will materially reduce its efficiency. The hexagonal shaped barrel, with a slightly shorter slide length, will raise the load to the greatest height with a minimum of wall slip and at proper speed will add impetus to the slide. Some barrels have been coated on the inside to prevent wall slip. When this coating is effective in producing the desired result it also has the tendency to carry many of the stones past the point of slide and drop them on the load causing injury to thin delicate pieces or edges they may strike.

The volume of load in relation to the size of the barrel is a determining factor in the time necessary to complete a tumbling operation. Assuming that in proper operation about one-fifth of the load should be in sliding motion at all times, the entire load should not exceed two-fifths of the entire volume of the barrel. Loads that are less than maximum in volume will have shorter slide length and will increase the time necessary to complete the operation.

The speed at which the barrel turns is important. The shape and size of the barrel as well as its load will determine at what speed it will give best results. A fairly accurate method of determining at what speed your tumbler is most efficient is to listen to the "swish" of the sliding stones. Increase the speed until the "click" of dropping stones can be heard. Then decrease the speed until the stones can no longer be heard to drop.

The grinding action of the stones against each other is hastened by the addition of abrasive grain and best results are obtained by at least two separate grinding operations before polishing. In the first, or coarse grinding operation, silicon carbide grit of 40 to 100 mesh size may be used. It is well to add a small portion of 220 grit to this charge in order to get cutting action in the small holes and crevices of the stones. The second grinding operation may be carried on with 320 to 400 grit after the stones and barrel have been thoroughly cleaned. This operation must remove all previous scratches.

Another factor in producing the desired finish over the entire surface of the stones is the importance of the carrying agent which acts as a filler and carries

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the grits and polishing material to the hollow areas of the stones which normally would receive no grinding action. Many materials such as sawdust, shot, ground cork, rubber and leather have been used with varying results. All of these will work to some extent but the objection to most of these materials has been that they either require an abnormally long operational time or they break down and form excessive sludge which will prevent the stones from acquiring a good polish.

Under the best conditions the polishing operation of the tumbler requires as much or more time than both of the grinding operations. While it is quite obvious that abrasive grains must be used in order to smooth the stones, little has been said about the polishing process. The builder or purchaser of a tumbler has been led to believe that it is entirely optional which polishing agent may be used or how. The frictional pressures produced in tumbling are very much less than the lightest touch that could be used in polishing a stone against a buff. It is evident that polishing agents requiring heavy pressures or thick mixtures would be of little value. They would greatly lengthen the time required to obtain a polish or be incapable of producing a polish at all. For example — levigated alumina by itself has not proven at all satisfactory. The use of tin, cerium and chrome oxides, or their mixtures, are much better but the results are not all that could be wished for unless the polishing operation is carried on for an extremely long time. Linde "A" powder when properly used, with just the proper amount to remain in suspension, does very well when combined with a carrying agent that is not too easily broken down. The carrying agent has proven to be of prime importance. The ideal substance should resist abrasion without causing abrasion itself. It should be able to attract and hold the polishing material and be small enough in size to reach into all the small depressions of the stones being polished.

A few other facts relative to tumbling are offered as follows:

The inclusion of small fragments of stones when larger pieces are being ground or polished will help speed the process. Large stones will not work well unless this is done.

Do not put in hunks and expect to get graceful pendants or drops out of your tumbler; break the material down to the shapes desired.

Do not expect large unsightly areas of matrix to disappear in the tumbler, remove them first.

Be sure that the stones are absolutely clean and free of all grit before going to the polishing operation — and that goes for the barrel as well.

Use enough water in the grinding mass to cause the load to move to a flat horizontal position after the barrel has been turned slightly. Make the polish mass a trifle wetter.

Complete each operation thoroughly before going to the next.

Expect two grinding operations to take not less than 50 hours—and generally more. This is also the very least amount of time in which you may expect to produce a polish under the very best of conditions.

A third grinding operation, using 600 silicon carbide grit, will reduce the time necessary for polishing.

If other than coarse grit charges are to be reclaimed to be used again in the tumbler, be sure that the container in which the stones are washed is clean or free from coarser grits. A strainer made from 3/16″ hardware mesh tacked to 4″ board sides and made to fit over a small tub will simplify the cleaning operation.

After the stones have been roughly washed let the charge which has gone through the strainer settle before racking off the water and using the charge over again.

Hardwood sawdust with a small amount of clay flower makes an effective carrying agent but should not be used a second time on account of sludging.

Mr. Zollar's Account

With the craze for tumbling rocks to produce baroque gems growing every day and more and more rockhounds planning to construct or purchase tumbling machines the writer believes that a record of experiences encountered in this process might be interesting to those who are considering doing some of this new processing. These experiences are in no wise intended to be directions for producing certain shaped stones having a high polish and fit for gems and are not to be considered as such.

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KUNZITE—lavender, approximately 1¾ carats, brilliant cut. $5.00 each.

INDIAN CATSEYE QUARTZ—natural, untreated, unbleached, 3 for $1.00, 3 for $2.00, 2 for $2.50 (according to size) 1/3 to 1 carat each.

DEMANTOID FACETED GARNET—¼ to 1/3 carat. $5.00 and $7.00 each respectively. Rough crystals $2.50 and $3.75 each; suitable to cut ⅛ to ¼ carat size stones.

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a rockhound of El Paso with no Club affiliations, a tumbling machine was constructed, the design of the barrel following one found to be efficient in other polishing and supplied by Mr. Yates. This barrel is of welded construction, of heavy sheet steel, almost 3/16″ thick, having an irregular hexagonal shape, with two long sides and four short ones. The long diameter is 21″, the shorter 16″ with a width inside of 7″. The cover, made on one long dimension, is gasketed with rubber and held in place with 20 quarter inch bolts and thumb screws, allowing the interior to be easily dumped and cleaned. A motor with a built-in speed reduction gear is belted with a V belt and pulleys so as to revolve this drum at a speed of 20-22 r.p.m. A ¾″ shaft, welded to each side, rides in self-aligning bearings and carries the large 16″ V pulley.

Advice as to the technique required to produce baroque gems as published in the various rockhound publications was very indefinite and different. The advice of local friends and interested parties was the same. One said that for every pound of rocks there should be the same amount of 80-grit carborundum or other abrasive. Another said that the barrel should be completely filled with water after a charge of rocks and abrasive. So it was decided to try techniques dictated by many years' experience with machinery but no tumbling. Forty pounds of agate, jasper and jasp-agate, assorted, some from the carnelian deposits at Engle, N. M., small but brilliant; some agate from Springerville, Ariz., hard and with deep marks made by crystals in the pockets in which they were formed, about two to three inches in size with heavy coating or patina and the remainder of Big Bend nodules about two inches in diameter, also with a heavy patina, were placed in the drum with 15 pounds of No. 80 grit carborundum and the mass just covered with water to which a little soda was added. This charge about filled the drum half-way. The primary idea was to remove the patina from the larger stones so the designs could be seen for proper sawing and to reduce the red agates to sizes suitable for baroques.

This charge was tumbled for forty hours with no inspection and upon dumping it into a large pan, straining off the water and abrasive and weigh-

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ing the agates it was found that they had lost seven pounds from the grinding action. The carborundum grains had been greatly reduced in size and sharpness and they were thoroughly mixed with a gooey mass of the pulverized silica from the rocks. Many of the smallest carnelians had been ground down to sizes too small to use but a great majority were well on their way to become beautiful baroque gems. The larger stones, when washed in several waters, showed the interior designs quite well and perfectly good enough to permit sawing without waste of time and sawing equipment. These will be sorted, cast in molding plaster and sawed into slabs, five or six at a cut.

Then the drum was again charged with 35 pounds of the carnelian which was not sufficiently ground down for the second stage with finer grit and the irregular Big Bend pieces that appeared to have been flaked off by Indians in the production of artifacts. Upon advice of those who had been tumbling rocks here who stated that before polishing, or even the second stage when 220 or 400 grit should be used, the pits made by the primary tumbling had to be removed. The old used abrasive was used, mixed with a bucketful of silica sand secured at one of the big sand pits here, screened through a regular window screen, and water was again added to cover the charge. This was again tumbled for forty continuous hours and again examined. The grinding was not so severe and the stones all showed a remarkable freedom from the pits seen before. It might be mentioned here that small fragments of slabs of assorted material which had been placed with the other rocks, began to show up as potential fine baroque gems. It is believed that the design of drum or barrel used in these experiments is ideal for the flat shapes. When this latest charge had been dumped and cleaned, the smaller stones which showed sufficient grinding, were selected and stored for future processing. As this machine is to be used by the owners equal lengths of time, it was decided by the writer to get as many stones through the first processing as possible before letting the other partner take the tumbler, and to profit by his experience in the final smoothing and polishing. Therefore another charge of ten pounds of small, irregular slabs and



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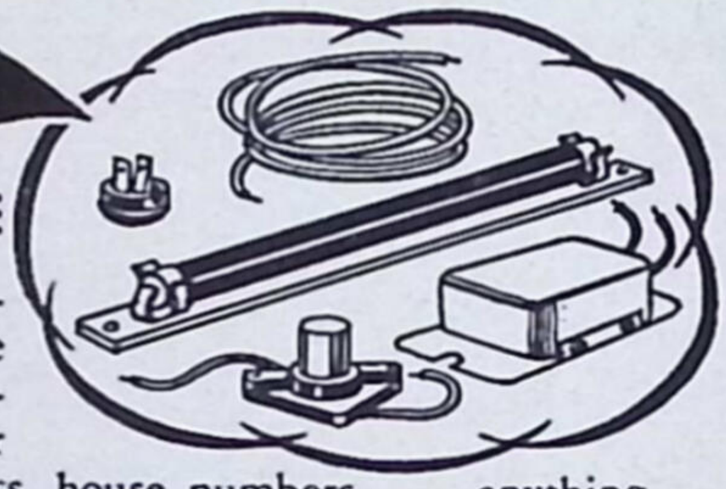
the rocks which had not been ground enough, with ten pounds of grit, was placed in the machine and tumbled for another forty hours, with inspections about every ten hours and the addition of ten more pounds of grit. At this writing the last charge has done very well, with turquoise nodules ground down to nothing, some softer stones reduced greatly, and quite a stock of baroques ready for the final two stages.

From these first hours and days of tumbling the writer is convinced that the processing of rocks by tumbling is not for the ordinary rockhound hobbyist. The expense is going to be far greater than anyone imagines or figures. One man in El Paso has already spent over $150.00 in processing amethyst and other fine stones and is not yet satisfied with a single batch of baroques. In the above experiment ten dollars worth of grit has already been used, many kilowatts of "juice" have been used, besides the time spent in cleaning, selecting and examining the rocks. More of these experiences will be told later.

(Editor's note: From conversations we had with several rockhounds at the summer shows it appears that the chief expense and the chief error in the amateurs' baroque grinding efforts is that too much grit is being used. *Don't grind grit with grit!*)

◆ ◆ ◆

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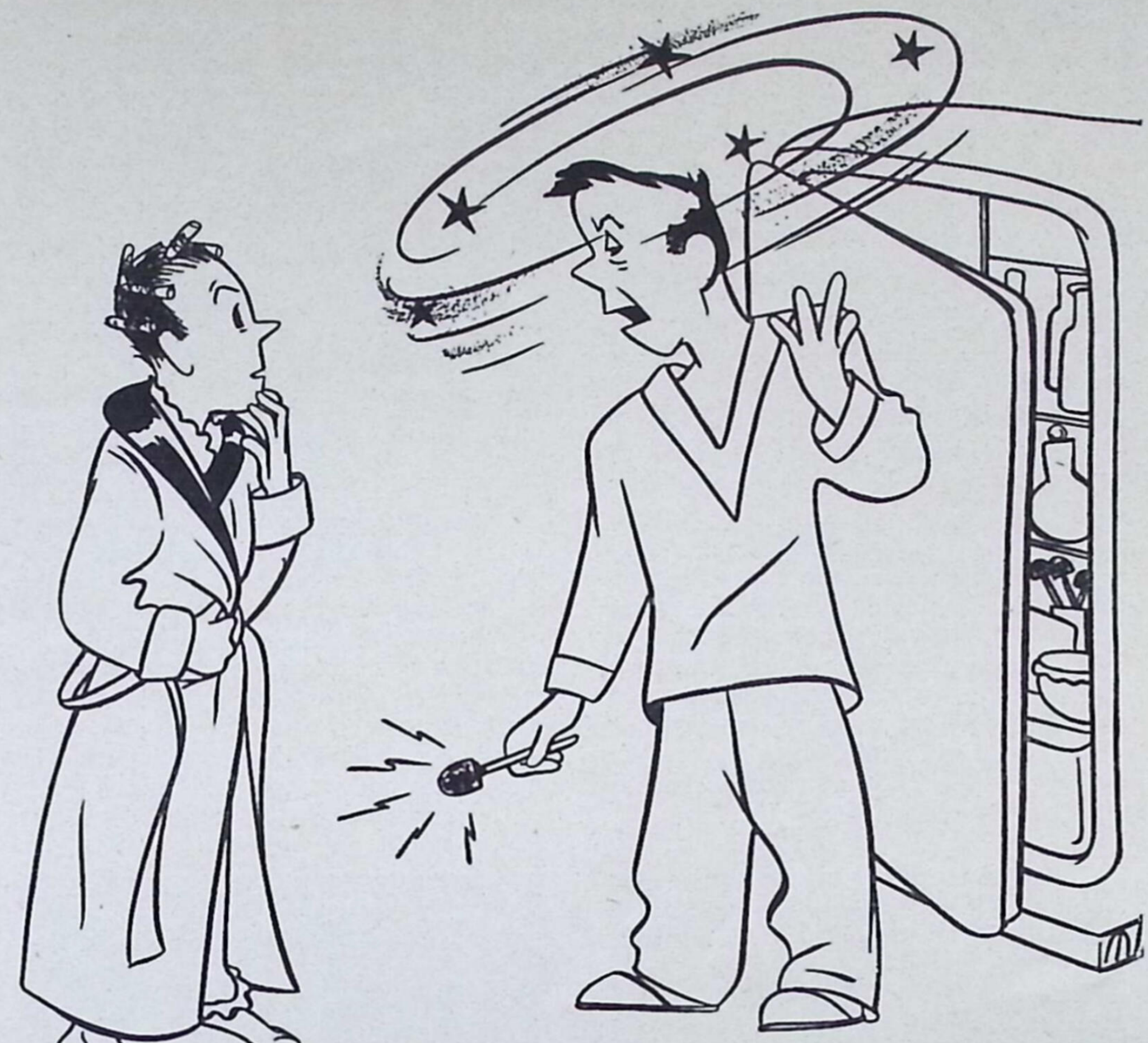
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You may wish to get back copies of the *LAPIDARY JOURNAL*. The very first issue is still available at 50c a copy. Nothing else is available in Volume One but issues No. 2 and 4 at $1.00 each. All issues in Volumes Two, Three, Four, Five and Six are available at 50c each except the Gold Issue (June '49), August and October '49, April '50, Feb. and April '51, Feb. and April '52, which are now $1.00 each.

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By MILLIE

"Agate my eye! I thought I had a chicken leg."

(Ed. Note: Long ago the "Journal" suggested that very delicate cabochons and slabs could be taken from dops without heating them, by soaking them in a bowl of ice cubes or by leaving them in the ice box or the deep freeze over night.)



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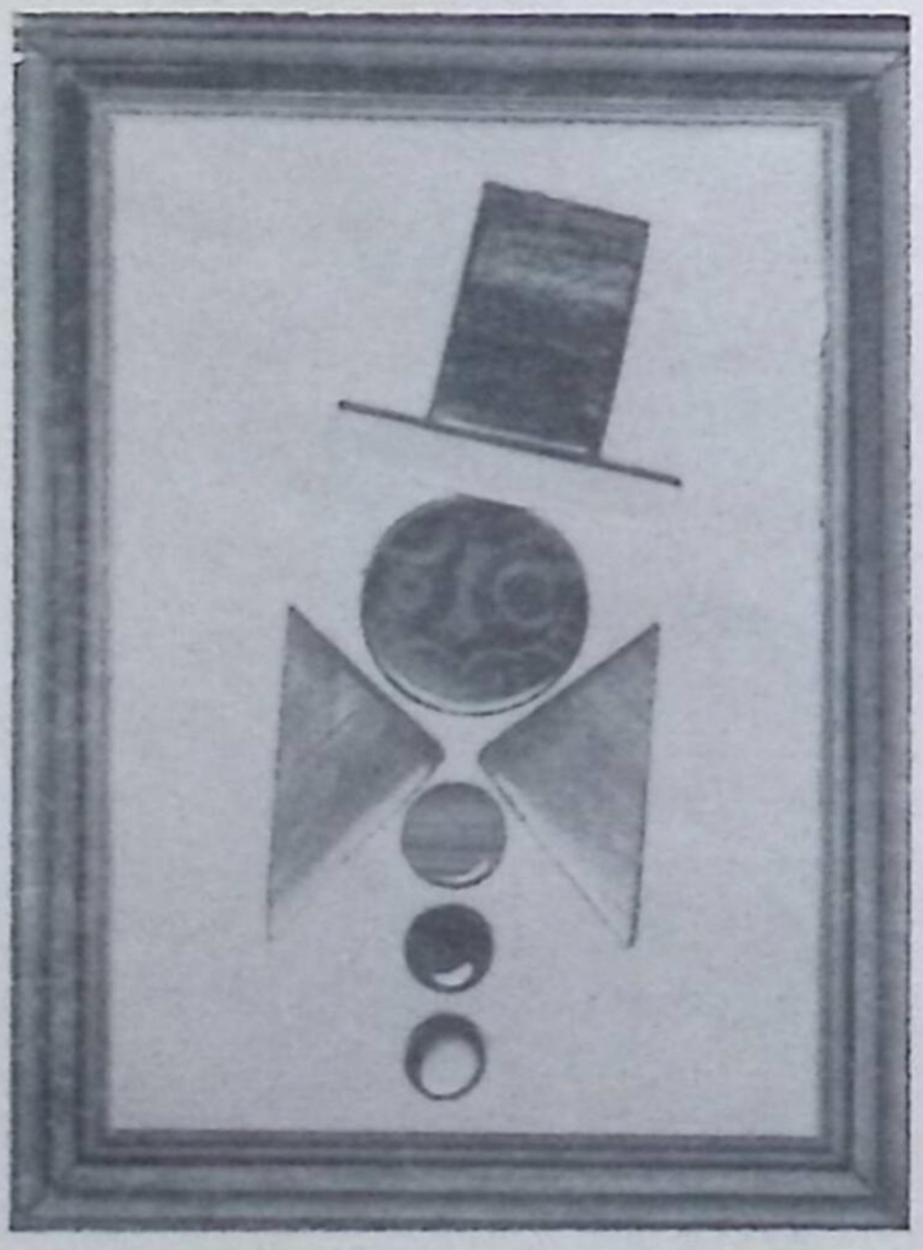
◆ More Gem Caricatures

In the October 1952 issue of the *Lapidary Journal* we ran an article on gem caricatures and introduced it as a new lapidary art form. To encourage our readers to attempt this medium in gemstones we offered $50 in cash prizes for portraits to be submitted for exhibition at the Mid-Winter Desert Rockhounds Fair held at Indio, Calif., in March of this year. It was to be a "no contest" if less than eight entries were made. We promised to publish pictures of the winning entries in last June's *Journal*. Only two persons, of many who promised, actually sent along entries so that the contest was cancelled.

In the original article we presented the unique work of G. A. Armstrong of Sanger, Calif. In this issue we present a later example of his work in which he deftly makes a caricature from a very few stones.

But the one person who really clamped on to the idea we were trying to put over was Mrs. Clara J. Bennett of Corvallis, Oregon, who had the gem butterflies on our June, 1952, cover. The rest of the illustrations on the following pages are all of her splendid and highly imaginative work. We exhibited Mrs. Bennett's work at the Mid-Winter Desert Rockhounds Fair where it created immediate favorable attention and we have seen several attempts at the caricatures since that time but none approaches Mrs. Bennett's work in such a high originality.

Mrs. Bennett had all of these portraits, and more, on exhibition at the Portland show in September but we had to leave Portland before we knew if she had received a prize for her work. Unfortunately too, Mrs. Bennett was unable to be present at the show because she was facing serious surgery and as we go to press we regret that we have no late information to offer. We feel sure however that this important con-



"Little Mister Big" by G. A. Armstrong. The materials used in Mr. Armstrong's caricature are: Top of hat is silver sheen obsidian. Hat brim is alabaster. Head is orbicular jasper. Collar pieces are tigereye. The three dots are malachite.



"The Rock Licker"—In this clever portrait (which Mrs. Bennett has also done as an obsidian silhouette) the head and arm are made of onyx, the blouse of palm wood and the hair of obsidian. Mrs. Bennett failed to advise of what material she made the long pink tongue.

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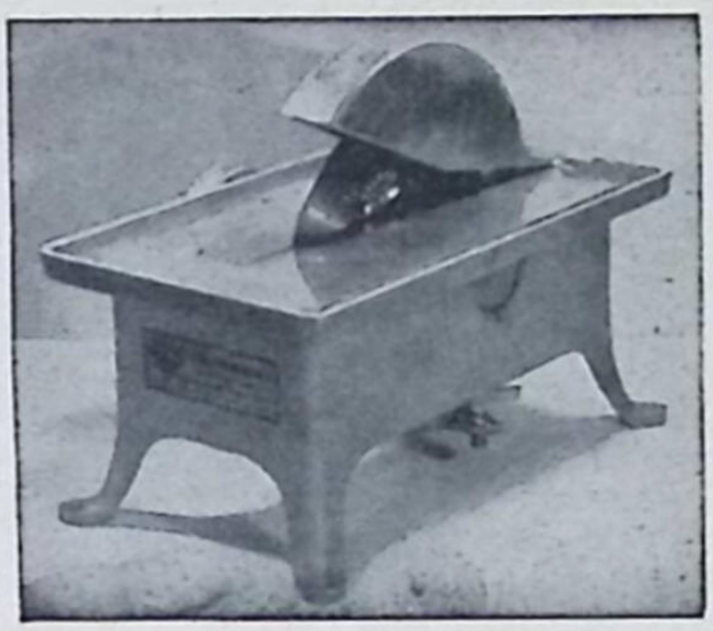
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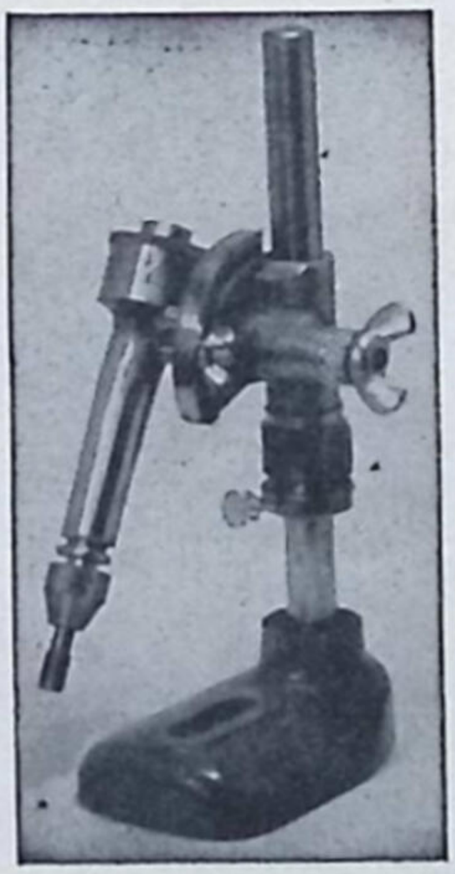
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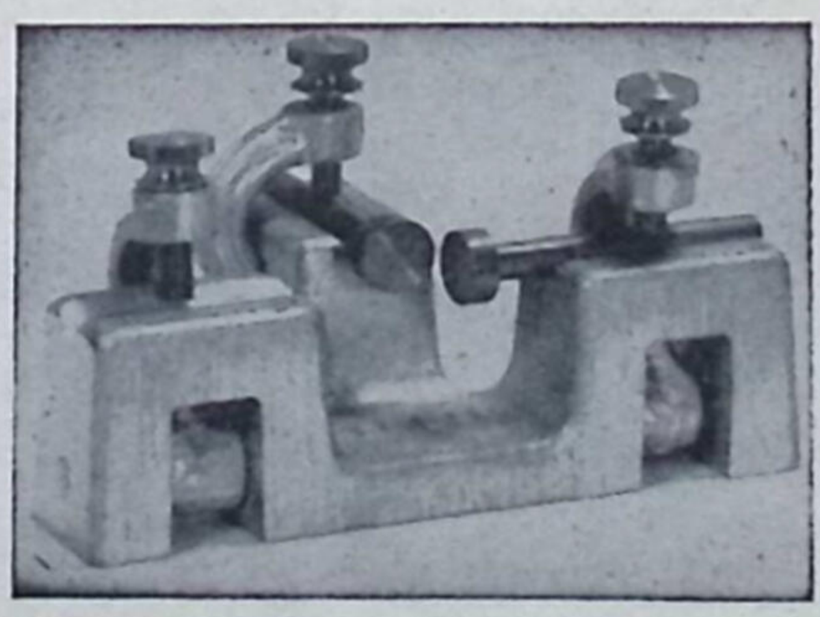


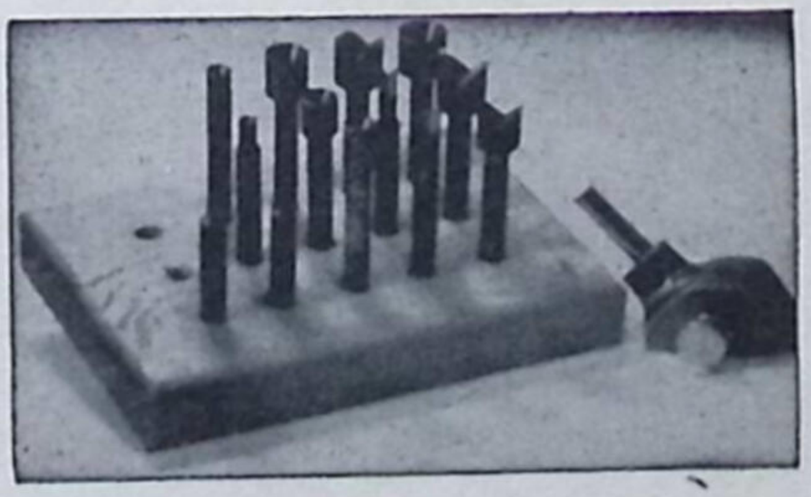
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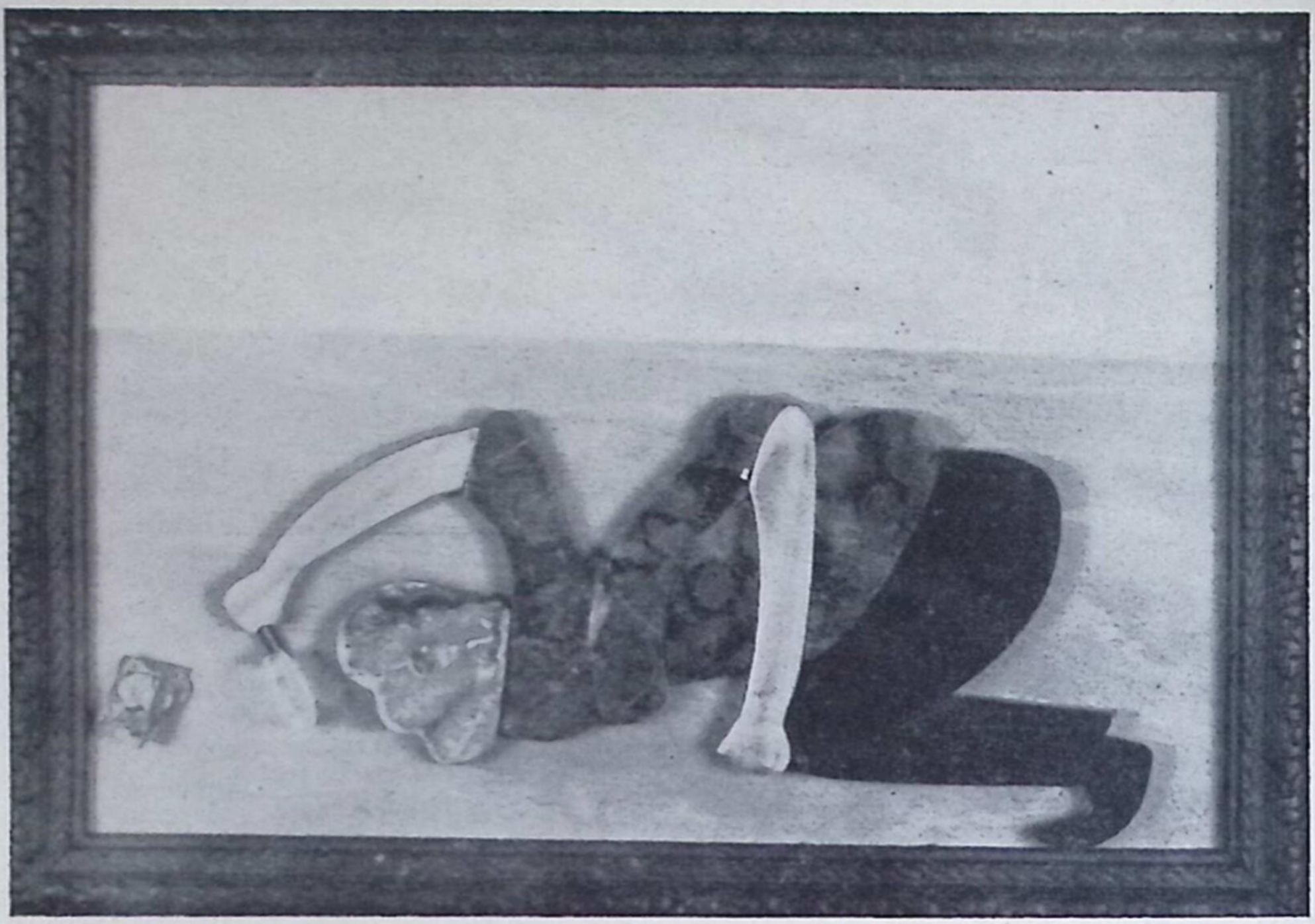


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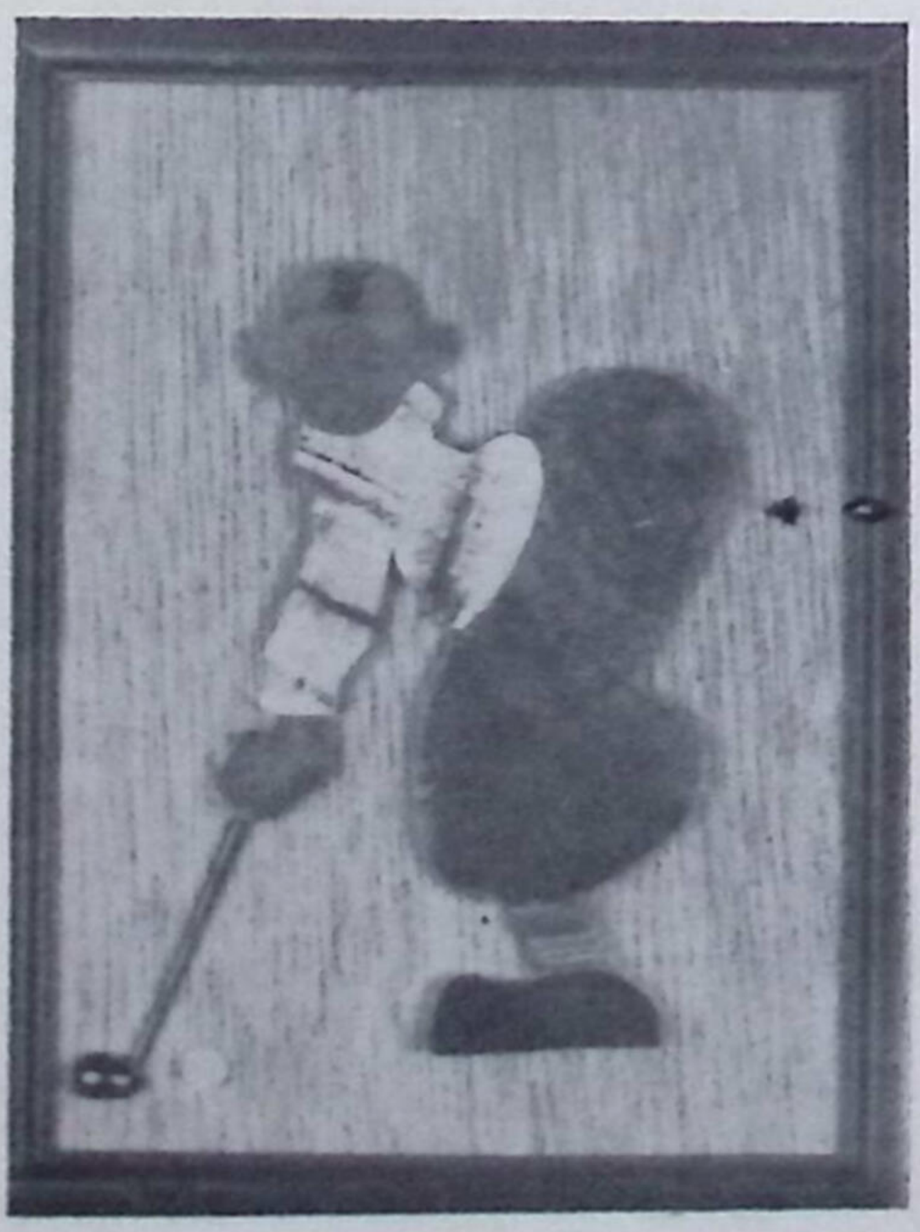
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"The Rockhound"—In this unique caricature Mrs. Bennett used a piece of genuine wood for the face. It is so realistic that it could probably never be duplicated. The spy glass is a crystal of calcite and she does not remember the name of the material used in the arms. The shirt is a clever use of orbicular jasper; the pants of another jasper and the shoe is obsidian. It takes Mrs. Bennett about fifteen hours to do one of these caricatures.

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tribution to the lapidary art must have been recognized in some way.

All of Mrs. Bennett's work is for sale and interested readers should address her at 445 N. 13th St., Corvallis, Ore. We would be happy to see photos of any similar work by our readers.

←

"Fore!" This portrait appeared to be the favorite when we exhibited the pictures. The head is made of a piece of orbicular jasper in which the hair-do is just exactly right and the eyes are very realistic. Mrs. Bennett must have done a lot of searching indeed to get just the right piece. The sweater is made of onyx and the clever pants of moss agate. The sock is a Lake Superior agate and the shoe is obsidian. The golf ball is a real tiny crystal ball.

(*Pictures continued on page* 308)

it's Round Up Time at Allens!



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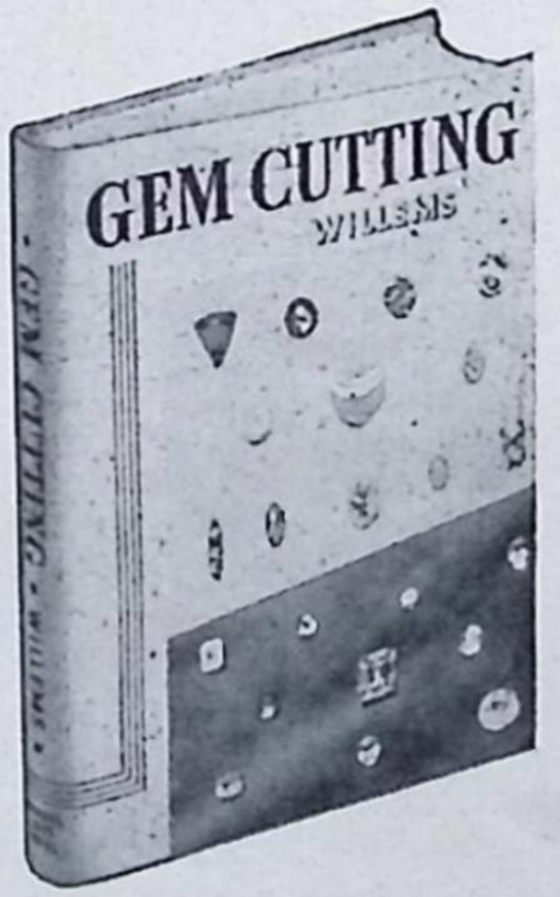
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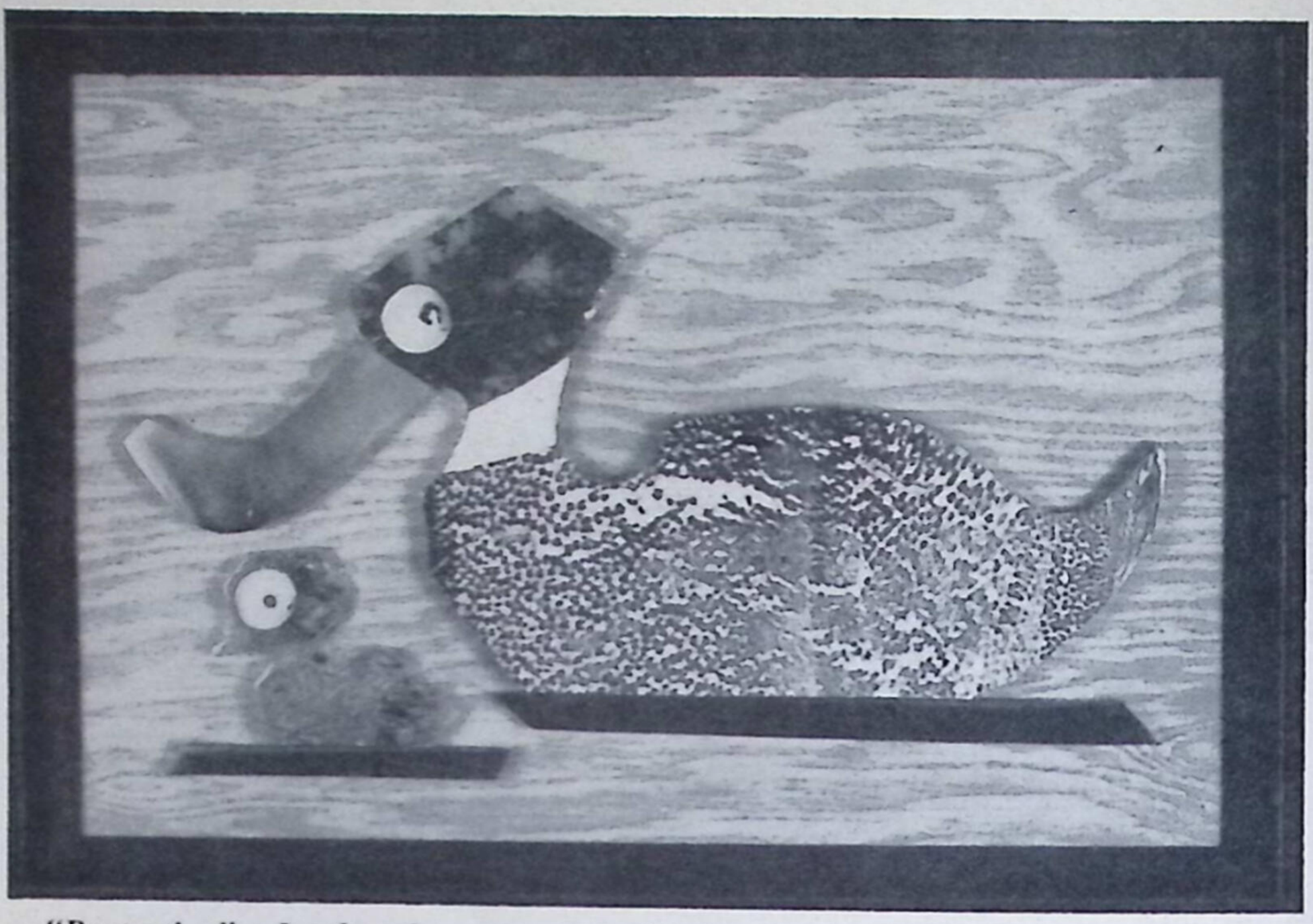
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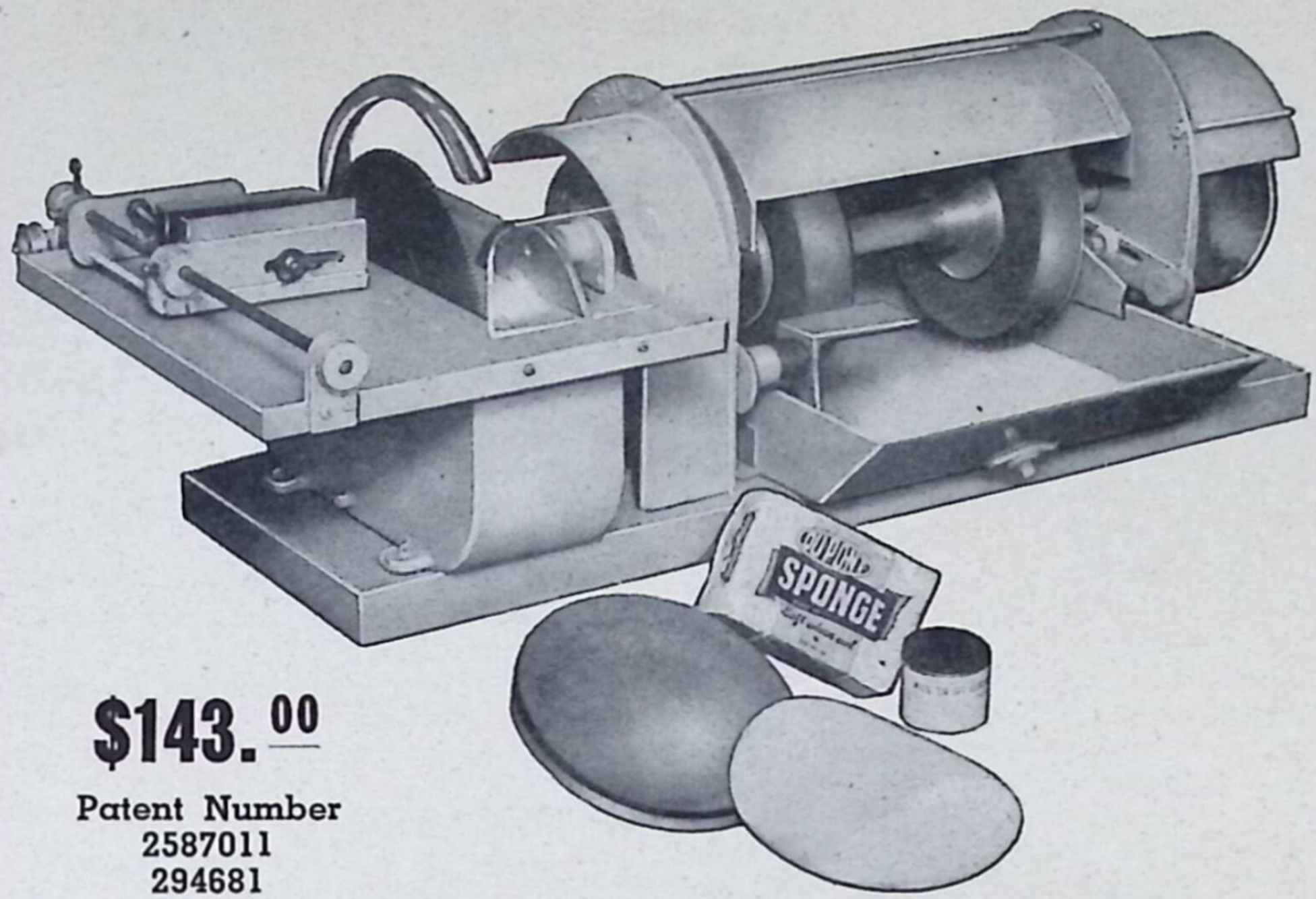
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"Protection"—In the above portrait the big duck's bill is made of Montana agate, the head is moss agate, the neck is petrified wood and the body petrified palm. Eyes on both ducks are moss agates. Little duck is sagenite agate; shadows are obsidian.



"Adoration"—In the above caricature the tree is of green petrified wood (?); the nest is a sagenite agate (it looks exactly like a nest); little birds are of obsidian; parent bird is azurite with wing and tail made of obsidian.



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If you miss this it's too bad! 50 carats of 5 carat average $4.00. I am really giving this away. You will buy 2 or 3 lots I am sure, after you see it.

If someone wants to get some fine small rough, act fast. I have about 5,000 carats; one lot 5 carat average; sell whole lot $200.00. A steal. In fact I'll make it 6,000 carats and throw in some large ones.

But get in on this new lot early.

Our cutters on easy mount agates etc. advise us that blue and white, green and white agate will be in Oct. 15. Also by then we will have rhodonite, tigereye, jade, sardonyx, jasper, bloodstone etc.; all in easy to mount style. Standard sizes 10x12, 12x14, 20c each. 100 lots 12x16, 13x18, 25c each. 100 lots. These are really moving good so if you are making jewelry for tourist trade or coming Christmas trade get some of these stones. Mountings—men's and ladies'—to fit these stones. Order them by the dozen. Make yourself some money. By December 1 will be getting 1,500 per month of these stones.

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SUMMER IS OVER SO LET'S GET DOWN TO CUTTING

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Dark lavender, in. 8.00
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Light blue jadeite, in. 5.00
Lavender and green and blue slices about 5 or 6 square in. 35.00

These are collectors' items

Many others. We have had three shipments this year from Burma. We do not cut these into 1 inch pieces. We cut these for best color and pattern. Pieces will be from 1" to 4 or 5". Send for approval selection of pieces. Do not hesitate in getting yours. Never before have colors like these been offered. It is tough getting colored jadeite like this out of Burma.

Dyed agate—green & white; blue & white; red & white; black & white, in. ..... $ .50
Carnelian (Brazil) banded, in. ..... .50
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Here is a dandy black tree and bush dendritic on white. This is really a buy we picked up for you cutters. Should be $1.00 or $1.50 per inch and you will agree it is worth more. Going at, in. ..... .50

Slabs only in this as it is all fine material. 2" to 10" slices.

Green malachite and blue chrysocolla in agate; lovely pattern, in. $1.00
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Jet black agate, 4 in. $1.00

We are looking for large users of this type of agate. Inquire for prices.

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Nevada wonderstone, 3 in. 1.00
Sunstone (Denmark), in. 1.00
Smoky quartz, in. ..... .50
Pink quartz, 3 in. 1.00
Rutile quartz, in. 1.00
Tigereye; golden, 4 in. 1.00
Tigereye; blue, cherry, in. ..... .50
Tigereye; green, in ..... .60
Combination blue and gold, in. ..... .50

LABRADORITE. We just cut up 50 lbs. in fine slices for your selection. Send for fine selection, per in. ..... $ .50 and .75

Turquoise; lovely blue, oz. ..... $1.00 and 2.00

Some of the finest you ever saw at $4.00 per ounce. Send for a selection. Pieces run from $1.25 to $3.00 each. Finest.

NOTHING LIKE THIS BEFORE

Shattuckite; as nice as Persian lapis; fine blue, in. $1.00
Rhodonite; pink and black, in. ..... .35
Thulite; pink and green, in. ..... .35
Bloodstone (India) choice, in. ..... .60
American jet, 3 in. 1.00
Amber by request; pieces vary in size from ..... $1.25 to 3.00
Coral (Mediterranean) ..... $ .50 to 3.00

Now on all above materials we have stock of rough available in all except Burma jadeite. We have some jadeite in the rough for sale. Send for prices on rough materials and our price list.

• FACETING •

Preforms are available in the following synthetics. These are all cut from selected material.

	10x12	12x14	12x16
Spinel	$1.40	$1.70	$2.05
Sapphire	$2.00	$2.50	$2.95

Also preforms in genuine tourmaline and blue topaz, 50 cents per carat.

Preforms in amethyst and citrine, 20c per ct.

Synthetic rough spinel and ruby ..... $ .03 carat
Sapphire ..... .04 carat
Titania ..... .75 carat
Genuine rough smoky quartz ..... .03 carat
Citrine ..... .05 carat
Precious white topaz ..... .05 carat
Precious golden topaz ..... .75 carat
Amethyst (light) ..... .05 carat
Amethyst (medium) ..... .08 carat
Amethyst (dark) ..... .20 carat
Madagascar kunzite ..... .70 carat
Morion smoky quartz ..... .05 carat
Garnet (American) ..... .05 carat
Peridot ..... .15 carat
Tourmaline (blue) ..... .35 carat
Tourmaline (green) ..... .35 carat
Sapphire (white) ..... .15 carat
Sapphire (violet) ..... .50 carat
Sapphire (blue) ..... .25 carat
Sapphire (golden) ..... .50 carat
Emerald (Russian Ural) ..... $1.50 to 3.00 carat

Also other types faceting material. Write for your needs.

Also preforms in all types of cutting materials as in price list above.

We have all kinds of cut stones; faceted, cabochon and baroque.

Have about 1,000 or more fine stones now in stock to be sold out at real savings to you in lots of 50 or more; some at 5c, 10c, 15c, 20c. If you make jewelry you will be missing a real buy. Get your 100 now.

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◆ Personal Facets

By LELANDE QUICK,

We have just returned from the Northwest Convention held at Portland, Ore., and from incomplete reports it appears that the Oregon show drew the largest attendance of any of the "big three" we attended during the summer. Paid attendance is reported to have exceeded 4000 on the first of the three days while the most reliable figures we have on the other two shows indicates the round figures of 8600 paid attendance at San Diego and 8100 at Long Beach.

To report what we saw at these shows would take more than a whole issue of the *Journal.* All three shows were absolutely wonderful and probably the best managed and best arranged shows that have ever been held. It is remarkable that small groups like our mineral and gem clubs can develop in their ranks men of such high promotional ability. The *San Diego Mineral and Gem Society,* having had long experience with shows, put on the American and California Federation show without outside help but the Long Beach and Portland conventions were handled by the *American Gem and Mineral Suppliers Ass'n* working with local committees. We have nothing but praise to offer for all three shows and we believe it will be a long time before three shows within a space of about seven weeks can be any better or draw any larger attendance than a combined 25 to 30 thousand.

* * *

In a 4200 mile automobile trip through our great Northwest country we saw a great deal indeed; many of the dealers who have long advertised with us; many of the collecting spots on which we have published information. Having traveled to every corner of America during the past year—from Portland, Maine, to Portland, Ore., and from Atlanta, Ga., to San Diego, Calif.—talking about the great hobby of gem cutting, we have had the opportunity of doing a lot of thinking. A lot of thoughts go through one's mind as the eyes stare at the road ahead through 15,000 miles of travel.

Some of these thoughts are comforting and some are disturbing. On our Northwest trip we were particularly disturbed by something that has nothing to do with gem cutting but it does have a lot to do with the traveling rockhound and all of our citizens who may visit their great National Parks. We have yet to talk to anyone who has stopped at any of the so-called "hotels" in the Parks who had a kind word to say about them. "Accommodations" is hardly the right word for them. Our own experience was bad. We were shown to our reservation in one Park hotel. At $11.50 a night we were offered beds that were old in 1910 and the room contained but one 25 watt light bulb stuck in a ceiling socket without even a fixture. When we complained about such accommodations and asked if there was nothing better we were told that better accommodations could be had for $12.50 but since we had paid a deposit of only $12.00 the room would not be shown to us until we had put up another 50 cents. The words "hotel clerk" and "haughty" have long been synonymous but in some of the Park hotels they carry the similarity too far. We accepted the "better" accommodations, stayed in them one night and got out fast. The combination of the altitude and the treatment was bad for our blood pressure. In our opinion a slum clearance treatment in some of our cities could be abandoned for a time in favor of some modern accommodations in our Park that would conform to the automobile age. Upon returning home we find that friends have written about this situation to our Secretary of the Interior and if any reader has had similar experiences this summer we hope you will write too.

But if that experience had not made us mad enough then our feeling isn't helped by the information in the papers since our return that the U. S. has spent $17 billion (think of it—17 *billion!*) for lavish and luxurious housing projects in Bonn, Germany. A residence for the High Commissioner cost $240,000 and the

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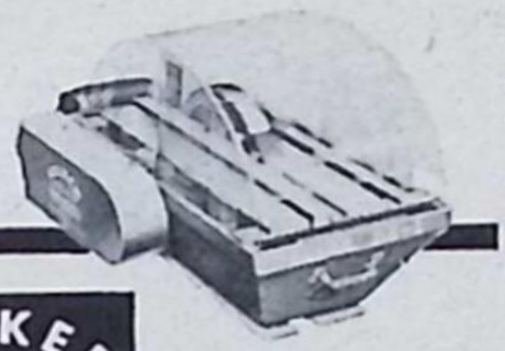
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Felker DI-MET UNILAP—A universal lapidary machine designed for multiple operations: *grinding, sanding, polishing and lapping!* Spindle operates in either vertical or horizontal position for maximum convenience and efficiency. Accessories quickly interchangeable.

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Other machines available—Write for circulars on all Di-Met equipment!

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Torrance, California

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Amethyst
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Azurite
Apatite
Amazonite, sodalite
Agate, carnelian & banded
Aquamarine
Beryls—blue
Bloodstone
Blue topaz
Burnite
Citrine
Chrysoberyl—
....Crystal specimens
Diamond powder
Druses
Dumortierite
Emeralds
Garnets
Green fluorite
Genuine ivory from Africa
Hematite
King helmet shells
Kunzite
Lapis lazuli
Labradorite
Moss agate
Morganite
Malachite
Onyx
Obsidian
Opals, fire
Peridot
Pyrites—specimens
Precious golden topaz
Quartz crystal
Rose quartz
Rubellite
Ribbonstone agate
Rhodonite
Sapphire
Spinel & corundum synthetics
Sunstone
Smoky quartz
Spodumene
Topaz
Turquoise
Tigereye in blue, cherry and honey colors
Tourmalines—all colors
White Topaz

- Selected Mineral Specimens
- Also finest selection of baroques, tumbled stones—drilled—for many uses
- All minerals are selected abroad by our own officers and agents
- Free price list on request—Correspondence invited
- Our 80 years business experience is your guarantee for complete satisfaction
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◆ Personal Facets

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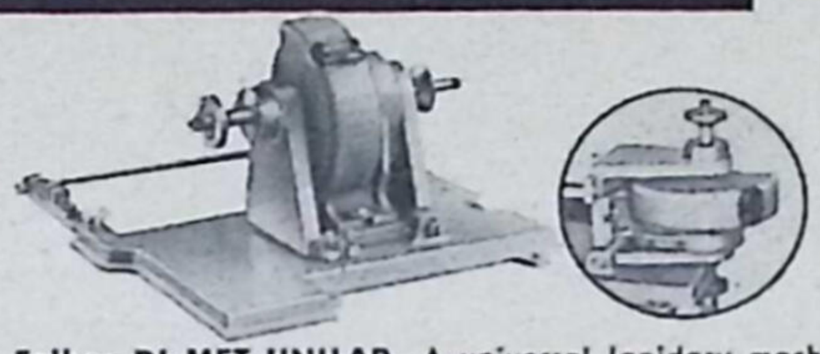
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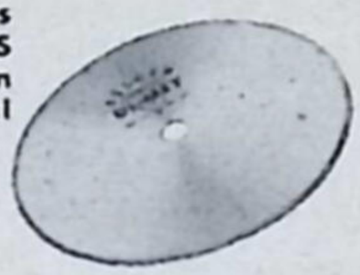


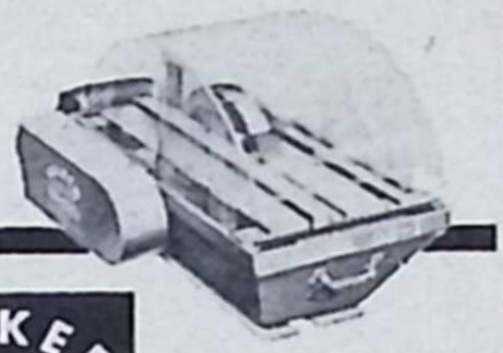
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Beryls—blue
Bloodstone
Blue topaz
Burnite
Citrine
Chrysoberyl—
....Crystal specimens
Diamond powder
Druses
Dumortierite
Emeralds
Garnets
Green fluorite
Genuine ivory from Africa
Hematite
King helmet shells
Kunzite
Lapis lazuli
Labradorite
Moss agate
Morganite
Malachite
Onyx
Obsidian
Opals, fire
Peridot
Pyrites—specimens
Precious golden topaz
Quartz crystal
Rose quartz
Rubellite
Ribbonstone agate
Rhodonite
Sapphire
Spinel & corundum synthetics
Sunstone
Smoky quartz
Spodumene
Topaz
Turquoise
Tigereye in blue, cherry and honey colors
Tourmalines—all colors
White Topaz

- Selected Mineral Specimens
- Also finest selection of baroques, tumbled stones—drilled—for many uses
- All minerals are selected abroad by our own officers and agents
- Free price list on request—Correspondence invited
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four bedroom apartments were provided with two flower boxes, a wall clock, a meat hammer, two ham slicers and a dozen glasses each in which to serve water, beer, champagne, cocktails, liqueurs, white wine, red wine and sweet wine. That's 96 glasses. In our "accommodations" we had one dusty glass for everything. These German quarters were built at a cost of $26,000 a unit it is reported.

* * *

Other thoughts while traveling: the green street lights of Seattle . . . the marvellous view of Seattle from the Meany Hotel . . . the charm of Spokane and the charm of the view from the Desert Panorama Hotel . . . the fine farm buildings in Montana and the poor ones in Utah . . . the fine jade collection in the beautiful Seattle Art Museum . . . the clam chowder at Ivar's in Seattle . . . the plush of Las Vegas with the finest restaurants in America . . . Old Faithful geyser is like a lot of people; a lot of steam but not so hot . . . very little in Yellowstone in the way of scenery that we do not have within a hundred miles of our office . . . our San Jacinto peak is just as grand as the Grand Tetons and our mud pots smell just as bad . . . thousands of tons of fruit at every roadside but almost none in restaurants . . . the charm of a city is in its development of hills and water . . . motels offer the best accommodations in smaller communities but hotels are best in larger cities . . . the new museum in the Ginkgo Petrified Forest is really fine . . . few towns are distinguishable from one another . . . less inclination to gouge the tourist in the Northwest than in the Northeast . . . decline of Burma Shave signs . . . have used it for 25 years but never met another man who used it . . . the number of dead porcupines on the highways . . . the wildflowers in Utah, like Spring in August . . . a run down church building is a poor advertisement for any town . . . no war hysteria except in coastal cities . . . the charm of Jackson, Wyo. . . . great peach country in Utah but the peaches we ate there were marked from Fresno, Calif. . . . no nice jade offered at any shop we visited in Wyoming . . . beautiful Coeur d'Alene, Idaho . . . rundown southeast Idaho . . . Paris, Idaho is the most misnamed town in America . . . in 4200 miles of recent travel we never saw one horse and wagon . . . when in doubt in any restaurant just order ham and eggs; the worst cook in the world usually turns out a good job on that item—and it's a good diet . . . they have yet to discover the thin hot cake in the North . . . never see a chewing gum billboard ad anymore and beer ads are too plentiful . . . the constant bombardment of music with every bite you eat . . . only 58 shopping days until Christmas after you read this.

We deeply regret that through an oversight we failed to order a cut made, before going on our vacation, for a diagram to accompany our usual M.D.R. faceting instructions. There was not enough time after our return to get the needed cut so that we are not running the usual gem cut in this issue. The series will be resumed in the next issue.—*Lapidary Journal*

EXCHANGE---

Good Agate, rough or slabs, Opals and Antique Jewelry to exchange for good postage stamps, U.S. or Foreign. Accumulation of stamps or old letters wanted. Tell me what you have or send on approval with your cash valuation. DR. RALPH E. MUELLER, 1000 E. Camelback Rd., Phoenix, Arizona.

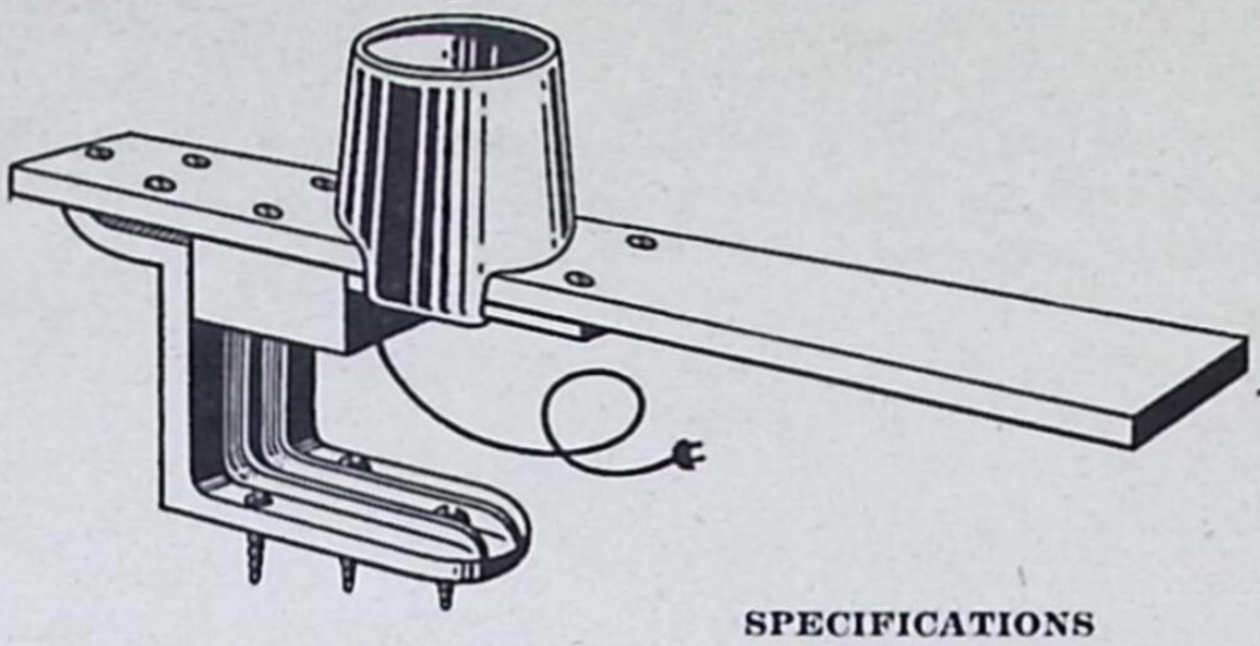


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Overheated stones
Clogged gas burners
Ruined wax
Wax dripping

This new unit will make dopping a pleasure.

SPECIFICATIONS

Dimensions. Width 3½". Height 7¾". Length 17½".
Standard. Heavy cast aluminum, ribbed for strength.
Hot plate. ¼". Aluminum sheet, 3x17½".
Wax cup. Cast aluminum, holds half pound wax. Slides along hot plate. Locks with thumb screw.
Heater element. "Acrowatt," nichrome, mica insulated, in pressed steel sheath. Rated 220 W. 115 V., continuous duty.
Thermostat. "American," positive action, rated 1200 W. 220 V. oversize for long life. Adjustable from 100 to 450 degrees F.
Cord and plug. Heavy duty heater type, with unbreakable plug.
Mounting. To your bench top, with three screws or bolts.
This is a ruggedly built unit, designed to last for years.
Shipped assembled, ready to use. One pound of Princeton Dopping Wax with each unit. Shipping weight 8 pounds.

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AMETHYST — (From Brazil)

Dark brilliant violet color. Suitable for cabochons and cabinet specimens. Makes very attractive dark purple stones. Good quality material from half inch pieces and larger $1.00 per ounce. A fine polish can be obtained when cerium oxide is used with a felt lap.

TOURMALINE: (Brazil.) The rich vibrant green that only tourmaline possesses. For cutting brilliant faceted gems; flawless, of fine color. In crystals from ½ to 5 grams $1.75 per gram. A fine polish can be obtained by using Linde "A" ruby powder on a tin lap.

CHRYSOCOLLA: (U.S.A.) Fine blue color, excellent "A" quality material. Very solid, makes beautiful cabochons and pendant pieces. Some material a mixture of malachite and electric-blue chrysocolla and some solid electric-blue material. All material 100% gem quality. This material has a hardness of 6½ to 7 and will polish well with cerium oxide on a felt lap. In slabs from 2 to 4 square inches—$1.50 a square inch.

LABRADORITE: (Labrador.) An opaque feldspar, the colors of which are grayish-black except when properly cut to display labradorescence which consists of very brilliant blues and, less frequently, greens, yellows, reds, oranges and bronzes resembling butterfly wings or peacock tail feathers with iridescent spots. This material has a hardness of 6 and will take a fine polish with chromium oxide on a felt lap. Every piece guaranteed to have labradorescence if properly oriented—$4.75 a pound.

GOLDEN-YELLOW CITRINE: (Brazil.) Rare Rio Grande material in large pieces for cabochons. The beautiful golden-yellow color resembles almost perfectly precious golden topaz. $1.25 per ounce. Excellent polish with cerium oxide on a felt lap.

OPAL: (Australia.) Good to fine milky-white opal in large pieces with plenty of red, green, blue and gold fire. Pieces range in size from a few grams to several ounces. Guaranteed solid material. This is undoubtedly the most beautiful of gem stones; showing flashes of mixed colors against a white background. This variety makes a fine diamond look like a drab pebble in comparison. From $10.00 to $50.00 per ounce. Will take a fine polish with cerium oxide on a felt lap.

FELKER DI-MET CUT-OFF BLADES: 6" .032 $7.80, 8" .040 $11.40, 10" .040 $14.80.

THE NEW KIMBERLEY DIAMOND CUT-OFF BLADE

The entire rim of this blade is a mixture of diamond powder fused into one solid rim. When tested in industrial uses this blade outlasted 4 of the normal notched-rim blades. For a fast cutting, long life blade try a Di-Met Kimberley. 6" by .030 $15.00, 8" by .055 $21.00.

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Mobile Earrings

By WILLY PETERSEN-FAGERSTAM

Here are some designs for the new faddish mobile or moving earrings. This is a jewelcraft type that should stimulate the imagination and creative ability of many jewelcrafters. All earrings should be made of very light materials.

In Figure 1 make number 1 (the curls) from 20 gauge sterling silver wire and numbers 2 and 3 from 26 gauge fine silver with a backing of 26 gauge sterling silver. A small jump ring may be made from 24 gauge sterling silver wire. After soldering the parts together the gem pendants shown in number 5 can be made of small slivers of Montana agate or small baroque stones.

In Figure 2 make number 1 from half a silver ball, or a bezel can be made for a small stone. Numbers 2 and 3 are made of 20 gauge sterling silver wire made very straight by fastening one end of the wire in a vise and then gently stretching the wire with a large pair of pliers. Number 4 is made of 26 gauge sterling silver plate. When these plates are highly polished or gold plated they make a beautiful contrast to the rest of the piece. Jumprings (number 5) are soldered to each end of the wires in number 3 but kept open as indicated in 3-A.

In Figure 3 the triangles (number 1) are made of 20 gauge sterling silver; one piece being larger than the other. Number 2 is made of 18 gauge sterling silver wire.

The earrings in Figures 1 and 2 must be made in both right and left earrings.

Books On Jewelry Making

JEWELRY, GEM CUTTING AND METALCRAFT *by William T. Baxter*—$4.50 (New Edition)

A modern craft book that has run through several editions. Complete information for the beginner and advanced craftsman on jewelry making, metal working and gem cutting. 278 pages with 170 illustrations.

JEWELRY MAKING *by Murray Bovin*—$2.50

Has 190 illustrations covering 150 projects for making by schools, tradesmen and craftsmen. This is the only jewelry book that does not assume that the reader has some prior knowledge. Describes and illustrates all tools and covers casting and gem setting. If you have no other jewelry book this should be the first one you buy for it ably covers all fundamental procedures.

HAND MADE JEWELRY *by Louis Weiner*—$3.25

The outstanding feature of this book is the thoroughness with which it covers the field of hand-made jewelry. It is a complete source book, fully illustrated, of all the basic facts necessary to know in order to make a wide variety of ornamental and professionally-finished pieces of jewelry by hand. Careful and thorough instructions guide the amateur craftsman from the beginning of any number of projects, through the intricate processes of using the jeweler's saw, transferring designs on metal, soldering, pickling and annealing.

Complete directions are given for stone setting and for making a variety of silver wire chain bracelets, pins and necklaces. Full information on etching and enameling is also included.

JEWELERS' WORKSHOP PRACTICES *by L. L. Linick*—$6.00

Those who are jewelers or who are planning to become jewelers will find a wealth of information in this 516 page book. Contents includes sections on: kinks and tricks of the trade, oddities, elementary metals, alloys, electroplating, metallizing, shop practice and tools, lacquers, plastics, enamels, polishing and buffing, burnishing, buying old metals, refining, melting and casting, gems and minerals, proprietary formulas and technical tables.

CABOCHON JEWELRY MAKING *by Arthur and Lucille Sanger*—$3.50

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Fig 1.

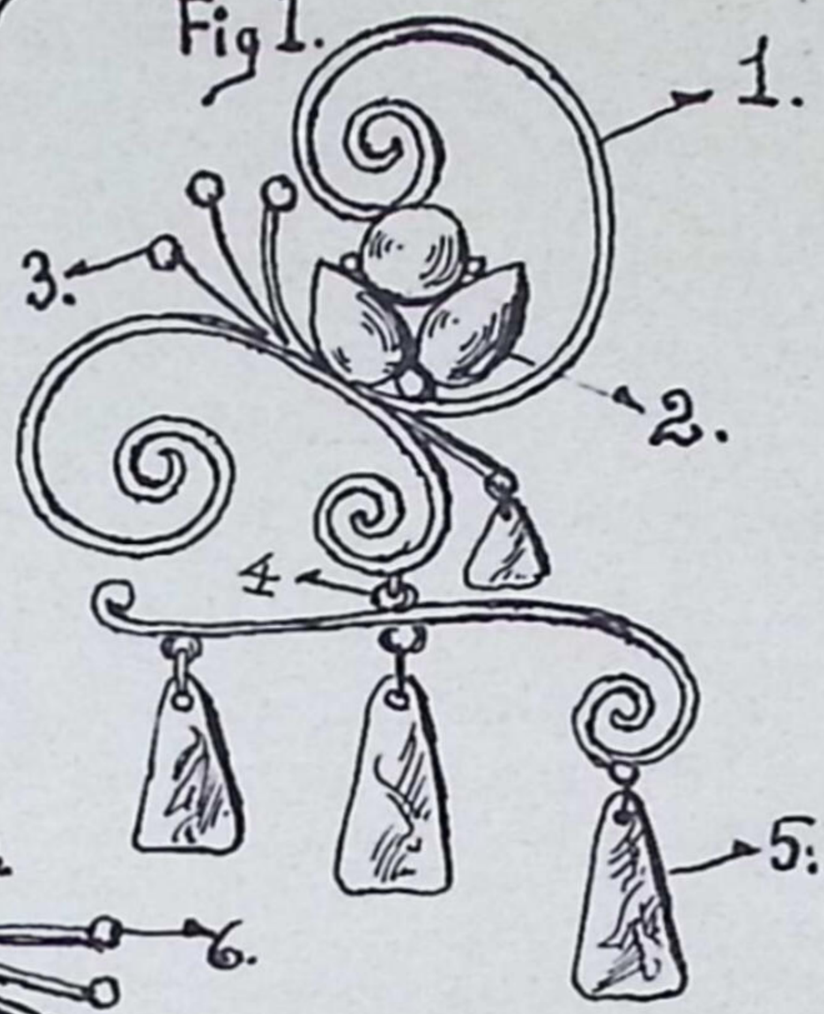


Fig 4

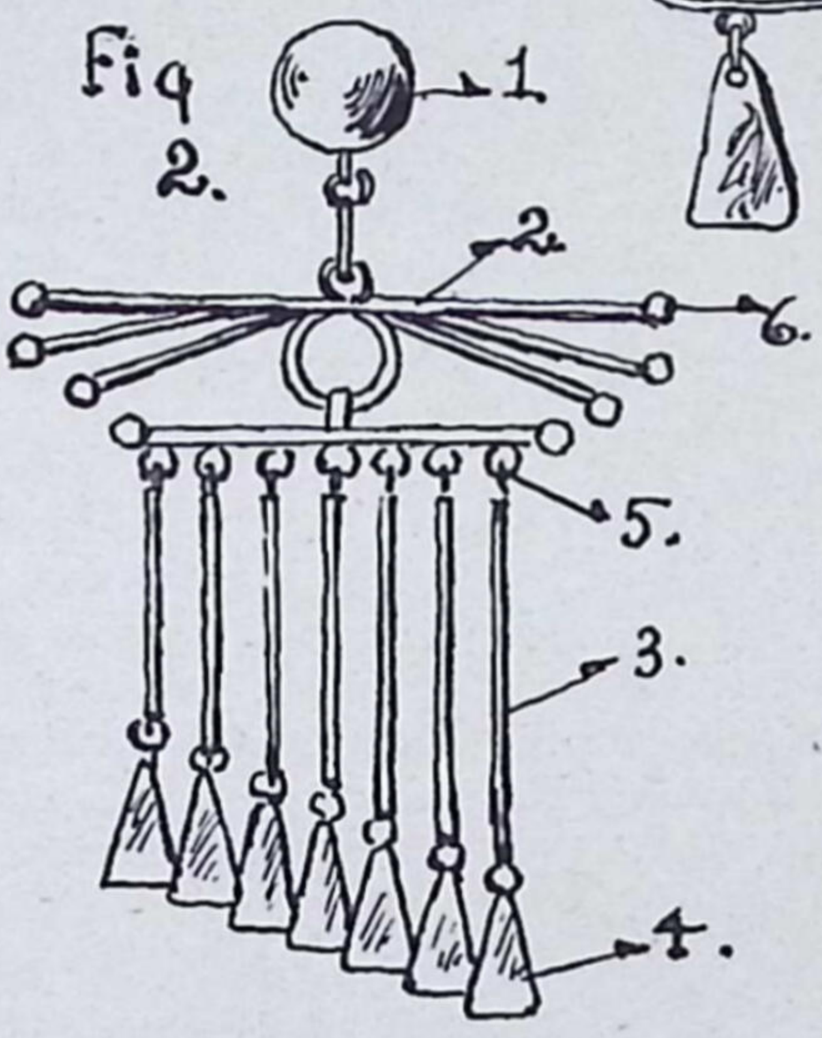


Fig 3.

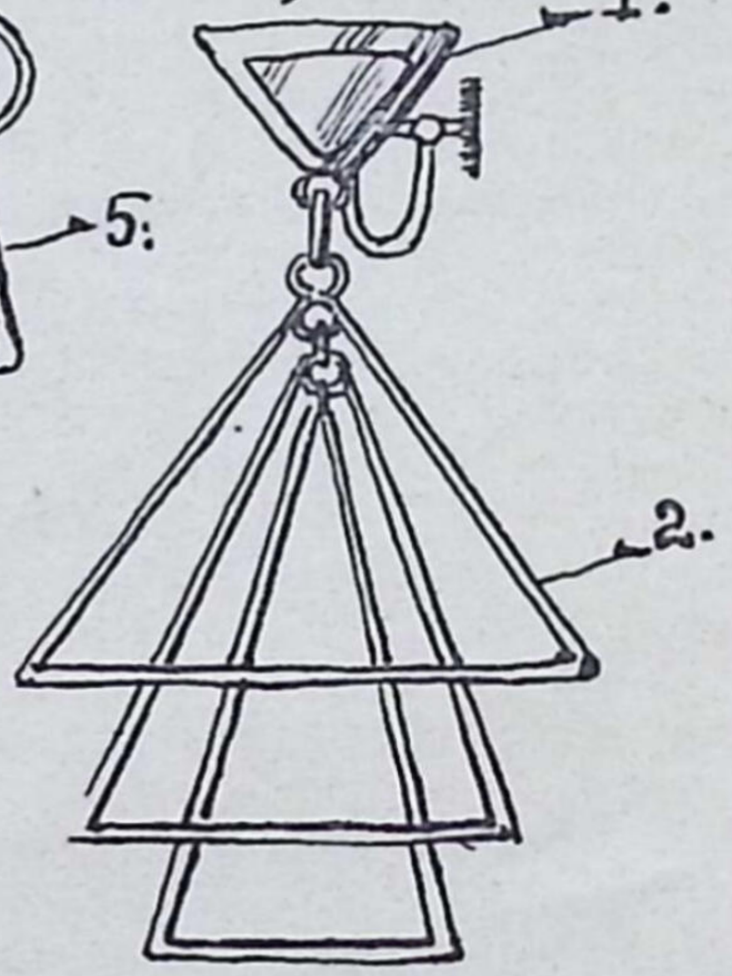


Fig 2. A.

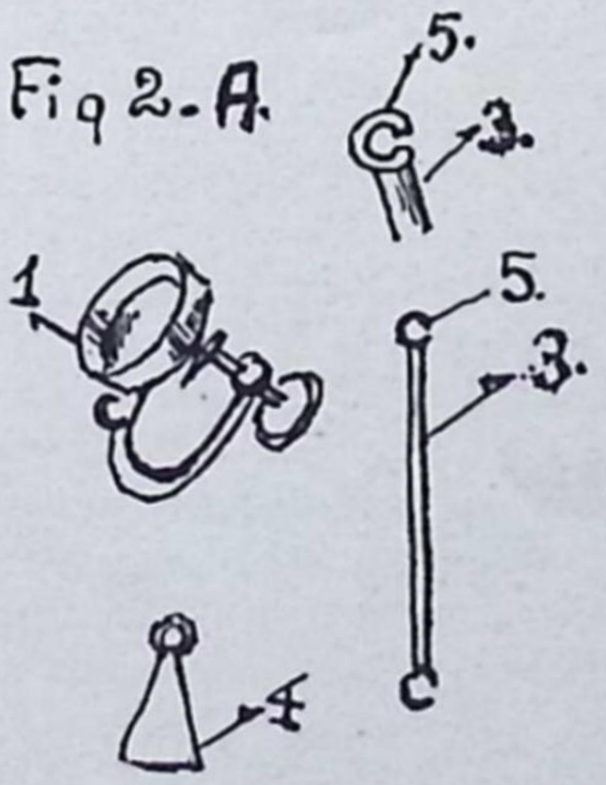


Fig 1. A.

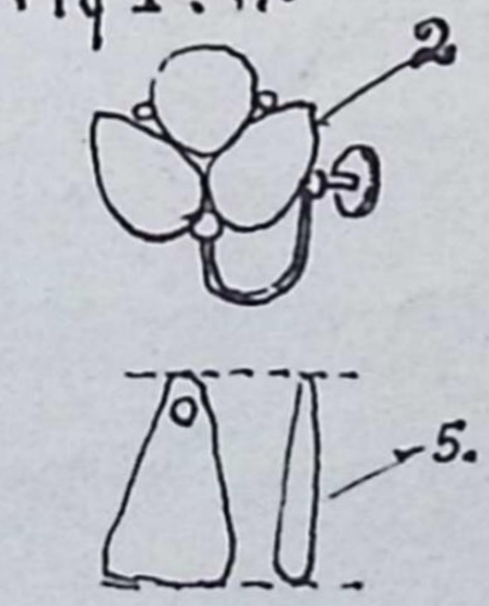
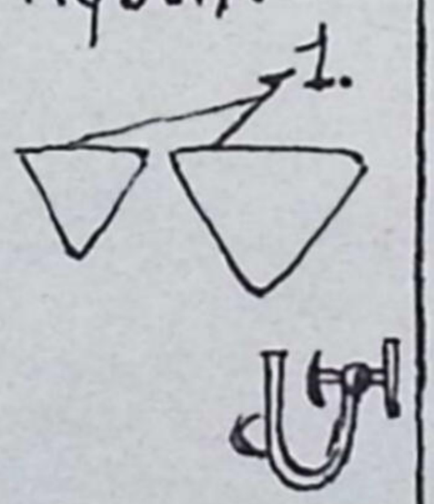


Fig 3. A.



WPF. Aug. 20. 53.

◆ Slate Carving In The Queen Charlotte Islands

By JAMES MUNRO, Ranger
Queen Charlotte City, B.C., Canada

Upon mentioning the fact that the Haida Indians of the Queen Charlotte Islands carve totem poles and other artifacts from slate (argellite) and that I might be induced to scribble what little I know of this art for the information of *Lapidary Journal* readers, I was much surprised to be taken up on my offer by the editor who informed me that my lack of experience in the journalistic field need not be a drawback to turning out an article suitable for public consumption. His advice to me was to write the article—"just as you would tell it to me if I were sitting on a stump." Little does he realize that this would merely serve to complicate matters since the stumps on the Charlottes run anywhere up to 20 feet in height and, were I to tell this story in such a location, I'm afraid that we would lack the strength for talking after clambering to such a height.

But on to such knowledge as I have of the slate carving. The logical thing to give first is the past history. I know little of this except that a certain amount of slate carving was done before the white men came to these islands in 1784. As to the extent of the carving in those early days, I can give little information but I believe primitive implements might have been worked from this medium.

As the number of white settlers on the islands increased and the number of tourists grew, it was only natural that the sale of argellite totem poles would become a minor "industry." Again, I cannot speak definitely, but I doubt that these totem poles originally were carved for trade or sale but probably this developed from demand created by the first tourists. In addition to the carving of poles, the Haida carvers also turn out such modern "artifacts" as ash trays and bookends of slate. Both the latter are of Haida design.

Each totem pole tells a story. The different figures on the pole represent some phase of the clan history, represented by the pole itself. I fear that the poles purchased today are not primarily carved to tell a story so much as they are carved to bring in the dollars. You can ask the carver the story of the particular pole you purchase and he will regale you at great length with a tale, including such characters as the killer whale, the raven, eagle etc. Whether the tale is applicable to the pole is doubtful. The tale usually serves as an additional selling point for the pole and our Haida friends are good enough business men to realize that a few words brings a higher price for their wares. No doubt it is possible to procure a pole that is carved in such a way that it does tell a definite tale but, unless you have studied totems or have lived on the islands for some time and have picked up a little knowledge of the poles, you'll never be certain whether you are getting the "straight goods" or not.

The only source of argellite in British Columbia from which the poles are carved is found on Graham Island. This island is one of the larger islands that comprise the Queen Charlotte Islands and lies approximately 90 miles west of Prince Rupert and 96 miles south of Ketchikan, Alaska. The Canadian Department of Indian Affairs has a mineral claim on this source of slate which precludes access to this material by white men. Only members of the Skidegate band of the Haida Indians are permitted to obtain the argellite. I have been informed that it is a punishable offence to ship it off the islands in the rough state.

The claim lies about seven miles by water and one and a half miles by land from Queen Charlotte City. Because of the rough topography, the one and a half miles more closely approximates three miles when one considers the climbing and detouring required when traveling from the mouth of Slatechuck Creek to the claim itself.

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I was fortunate in being able to accompany Edmund Calder, of the Skidegate band of the Haidas, on a trip to the claim and I found for myself just what a task it was to obtain the slate. We left Queen Charlotte City at 5:00 a.m. and arrived at the mouth of Slatechuck Creek at 7:00 a.m., traveling by boat. Since Mr. Calder had not made any trips into the slate claim since 1943 we experienced some difficulty in finding the area and did not reach our goal until 12:30. There had been a fairly good trail following the Slatechuck Creek in earlier days but subsequent logging operations and lack of maintenance work on the trail had caused it to deteriorate into a series of game trails that, more often than not, led one well away from the creek and into the adjacent mountains.

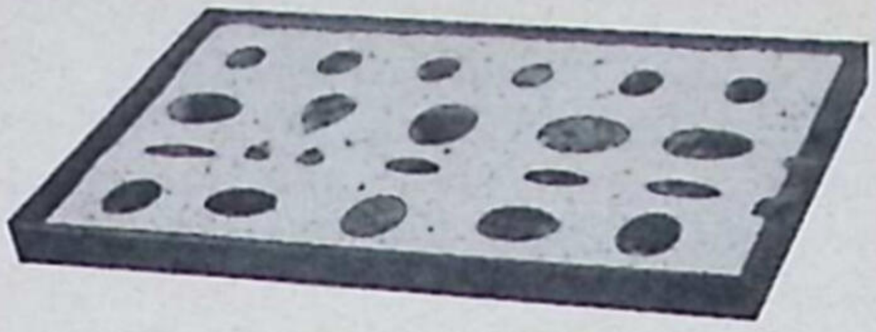
One is slightly disappointed with the appearance of the "quarry," expecting to find a fairly deep hole in the ground. Actually it appeared to me to look more like a rock slide. The workings are on a steep side-hill of clay and the area below is littered with odd chunks of slate that were of inferior quality and left behind from earlier trips.

To obtain the slate he required, Mr. Calder merely scraped away the clay for a depth of approximately 9 inches and exposed a slab of material about 3 feet square and 8 inches thick. He then took an old cross-cut saw and divided this slab into three pieces, each weighing in the neighborhood of 70 lbs.

He loaded each of us (the third member of the party being Mr. L. C. Hooper, United Church Missionary at Skidegate) with a slab and we started the trip back to the boat at 2:30 p.m. All I can say regarding the return trip is that I'd never willingly attempt a hike like that with such a load. In addition to the 70-odd pounds of slate I had about 20 pounds of my own belongings on the pack board. Fortunately the trip back was mostly down hill and I think I fell rather than walked the whole way. Upon reaching the boat at 7:00 p.m. I dropped the pack board and contents on the beach and I can only say that my feelings on that trip were similar to those of the fellow who used to hit himself on the head with a hammer—it felt so nice when he stopped! It certainly felt good to get rid of that pack.

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When the slate is brought home the carver buries it in his back yard, for prolonged exposure to air causes it to become hard and difficult to carve. As he requires it, he digs up his slab and saws off the amount he needs for that particular carving.

The majority of the tools are made by altering and sharpening old files but Mr. Calder uses a set of wood carving tools for his work. There appears to be some mistaken idea that this carving is done under water. This is not true. The carving might be reburied should the carver be delayed a couple of weeks in finishing his work but normally the slate may be kept exposed to air for a week or so before it hardens sufficiently to prohibit easy carving. When the carving is completed it is given a couple of coats of shoe polish and a good buffing. This gives the completed object a jet-black color, the natural color of the argellite being a slatey gray and not too striking. The polish helps to cover minor scratches that might otherwise mar the over-all appearance of the work.

The carvers of the Masset band o the Queen Charlotte Island Haida sometimes inset pieces of abalone shell for the eyes of animals carved on the pole. Sometimes they use a type of soapstone from which to carve an eagle's head. The eagle head is glued to the pole and the white provides a striking contrast to the black of the pole.

As to the number of carvers there has been misinformation spread to the effect that there is only one remaining. There are actually five or six who are carving at present while there may be that many more who are quite capable of turning out good work if they were interested. The carving that is done, aside from that of Mr. Moody of Skidegate and Captain Brown at Masset, is only done in spare time and mostly during the winter when the logging camps have closed down and the fishing season has ended.

Prices of the totem poles, if anyone is interested, is $3.50 per inch for poles up to 7½ inches in height and $5.00 per inch for poles 8 inches and over.

It is now time I got down off my stump, put some ointment on numerous mosquito bites, and let some one else hold forth in this issue.

◆ How to Make Gold Gem Mounts

By DR. L. R. FRITZ
528 S. 7th St., West Bend, Wisconsin

My first synthetic gem was a 14x12 mm. octagon emerald cut ruby. I had never worn a ring but the idea came to me of getting this ruby and making myself a ring. Being a dentist I was familiar with soldering and casting of gold. It was a relatively simple matter to form a bezel seat and incorporate it into a wax model of a simple ring design. My first casting was short of gold but the second attempt was successful and I had my ring weighing slightly over one-half ounce.

I got so much enjoyment from the beauty of this ruby that I decided to get other synthetic gems. Tie pins appealed to me although they were out of style. I finally had 12 pins of different colors, 10 mm. rounds, 10x8 mm. octagon and cushion.

The first mounts I made with wax wire—forming the frame and prongs on the back of the gem and then casting a duplicate in gold. This was a difficult and time consuming process. Then I used gold wire for prongs, heating them and fusing one end into the wax frame. This was better; but repairing a wax frame always made a lump that required extra work to trim down in the gold. Next I used gold wire for the frame and brazed the prongs to it. This made a nice neat looking mount. By using care in the amount of solder used for the joints, and avoiding a surplus, the finishing was mostly a matter of polishing with rubber wheels. A description of the bent-brazed-wire-mount process follows.

The gem is a 12x10 mm. octagon to be gold mounted for a pendant. The outside dimensions of the frame are to be 11x9 mm.—one millimeter less than the gem. The frame is made of 14K. 20 gauge round gold wire. The wire comes in foot lengths. Grasp the wire near one end so the thumb nail is at the measured distance of 7.5 mm. from the end of the wire. Maintain this position while you grasp the wire with flat nosed pliers firmly at the edge of the thumb nail; then make a right angle bend. This forms the first end of the frame. Measure along the wire from inside the angle of the first bend to the thumb nail, a distance of 9.5 mm. and make a right angle bend in the same plane as the first bend. This forms one side of the frame. Measure again 7.5 mm. from inside the last angle to the thumb nail and make a bend forming the other end and last side of the frame. Square up the angles and cut the wire near where it passes the first end. File the end of the wire to square it and align the frame. Apply a pinhead amount of wet Handy flux to this corner joint and a little crescent of 14K solder. The wet flux holds the solder in place. Hold the frame with the soldering tweezers in a flame until the solder fuses. The small amount of solder precludes a lumpy surplus which would need to be dressed away. If you make a mistake with any bend correct it immediately. Anneal the bad bend and straighten it with flat smooth nosed pliers, anneal and re-bend. Inside measurements seem most convenient. They are 1.5 mm. less than the outside measurements.

For the prongs use 21 gauge 14K round gold wire. File the end of the wire to square it. Measure 3 mm. from the thumb nail to the wire end and cut. File the end of the wire square again. Measure and cut and file until you have five prongs (one extra). Each prong has a square end and a wedge shaped end. With the pointed tweezers pick up a prong by the square end and insert the wedge end of the prong into the joint of the slightly opened flat nosed pliers. Hold the prong with the tweezers and squeeze the flat nosed pliers shut to

flatten the prong. This will lengthen and broaden two-thirds or three-fourths of the prong. Process all the prongs in this manner.

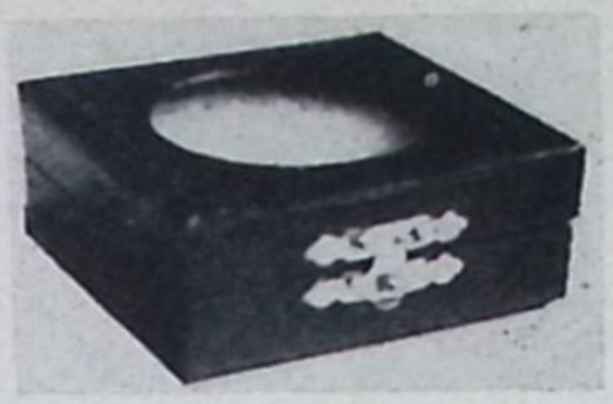
For the attaching ring coil some 22 gauge 14K round gold wire on a 16 gauge piece of wire or on a brad. Each turn makes a ring. Cut off a turn and true it. Bring the ends together and flatten a little place at the joint with a file to make a large contact with the frame. Soldering the ring before attaching the frame is unnecessary.

Fit the frame on the back of the gem to see where the prongs will contact the corners of the frame. With two strokes of the file flatten the spots where the prongs will contact the frame corners. Remove the gem from the frame.

Prepare to assemble the mount by making a clamp for holding the frame to the gem while attaching prongs and ring. A wooden clothes-pin (pincher type) is good for this purpose. One of the beaks is narrowed down to a width of 6 mm. and the gemstone, with the frame in place on back of the gem, is placed face down in the groove, transversely across the narrow beak. Close the clamp and mark the narrow beak where the corners of the frame come and cut notches there if necessary to make room for placement of the prongs. On the wide beak of the clamp, deepen the center of the notch so that the culet of the gem has room and the edges of this notch will engage the sides of the frame when the clamp is closed.

With the frame free from the gem use a small wax spatula. One may be made from a flattened shingle nail. Apply to each corner of the back side of the frame a small amount of hard sticky wax called Parr's Flux. This is procurable from dental supply firms. On the outside corners, where the frame was filed, apply a thicker coat of the sticky wax. Give bulk to this wax so it will hold the prongs. Keep the wax away from the inside of the frame to prevent raising the frame from the gem. In the center of one end of the frame place a little wart of wax for attaching the ring.

Assemble by placing the waxed up frame on the back of the gem with the gem face down transversely on the narrow beak of the clamp. Close the clamp and align the frame with the edges of the gem. Hold the clamp in a posi-



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tion to facilitate the placing of prongs. With the delicate slim pointed tweezers pick up a prong by the flat end. Pass it through a flame and touch it to the waxed corner of the frame. Hold it for an instant and then quickly let loose. It should be fused into the hard wax and remain in that position. Manual dexterity and skill now comes into play. The tweezers must be slim and delicate so as not to hold the heat too long. A fumble in placing the prong may get wax on the tweezer points and they would have to be cleaned for a second trial. A fumble in letting go of the prong may loosen it. You may need to pool the wax on the frame again with a hot spatula and try placing the prong again. You may even get two prongs placed and in placing the next two you will knock the first ones loose. Practice will develop skill.

Get the ring in place on the frame. I like to work over a white paper napkin on my bench top for if I drop a prong it is easy to see it. When you open the clamp the gem and the waxed mount should drop on the napkin, which will cushion the fall and prevent fracture of a waxed joint. Careful prodding with two pin points will usually separate them if the frame sticks to the gem.

Another delicate operation is investing the waxed mount for soldering. Mix about a thimble of investment (1 part of plaster of Paris to 2 parts of powdered asbestos). Place this on a piece of tin and spread it out ⅛" thick and place the waxed mount into it with the prongs down. Tease the investment close to each prong. Place a little mound of investment next to the ring and tease it over the outer half of the ring. Place a little mound at the middle of each long side and tease it over the frame. The mounds so placed are to hold the ring and frame in position after the wax melts. Set aside until the investment sets hard.

Hold the invested mount over a flame for a few seconds to melt the Parr's flux wax and partially dry the investment. 14K gold wire solder (gauge 28) is used. Wind a spiral of wire on a piece of 16 gauge wire or on a brad. Cut off little crescents 2 mm. long. With a tiny pin spatula, made from a brass pin and a match, place a pinhead size bit of Handy flux on one of the joints and while it is still wet

press a little crescent of solder into it. The wet flux holds the bit of solder in place. Proceed likewise with the other four joints. Heat with a brush flame to dry the work and fuse the flux. Apply a smaller flame to each joint and fuse the solder. Our minimum quantity of solder will leave no lumpy surplus to grind or file. The investment will soften in water. Pickle the mount to clean it and fit it on the gem. Trim the prongs for length and bevel the ends. Polish everything with rubber polishing wheels and finally fit the mount to the gem and bend the prongs in place.

Place the prongs in the center of each side on cushion stones. Use this mount also on ovals, rounds and marquise stones. This is a nearly invisible pendant mounting for a neck chain, chatellaine or pin. Let the gem speak for itself. The lily needs no gilding. Your collection of synthetic gems is thus made useful for wear as pendants with chain or pin. Locket loops make all interchangeable so that you can pick the appropriate color of gem for a complementary color accent to your costume.

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Mr. and Mrs. Joseph R. Mathieu of 1729 S. Acacia Avenue, Rialto, Calif., are pictured above with their marvelous collection of spheres. This photo was made at the Mid-Winter Desert Rockhounds Fair held at Indio, Calif., last March. Since that time the Mathieus have taken their exhibit to all of the big Federation meets in the West and to the big Lapidary Association show in Long Beach in August. The stand revolves and is well lighted and the exhibit created wide interest where ever it was shown. Mr. Mathieu cut all of the spheres on the Mathieu Sphere Machine which he manufactures.

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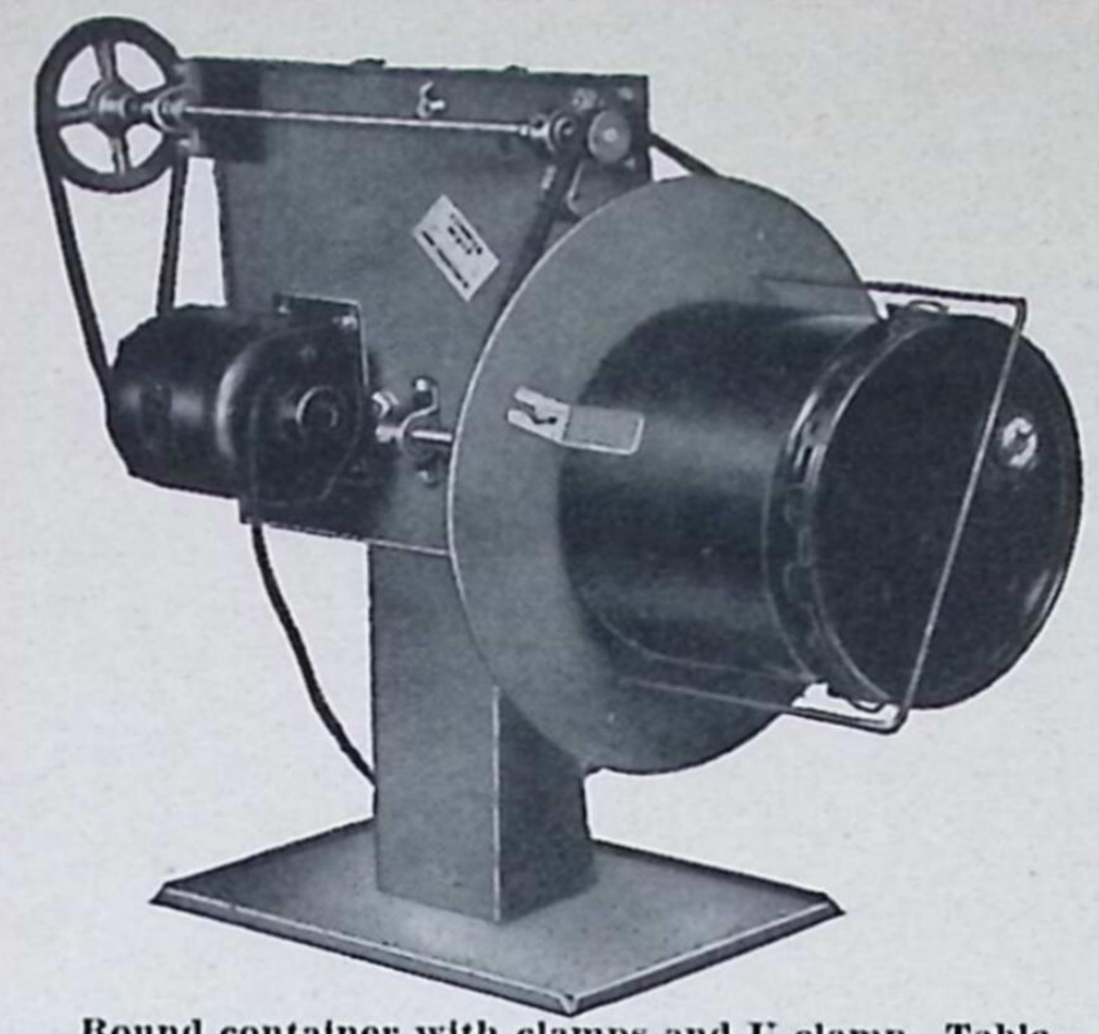
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◆ My Greatest Gem Hunt — The First

By ED. A. BORDEN
207 Eleventh St., San Francisco 3, California

If you, as a rockhound, have advanced to the proficiency of expert wet sander, or sphere grinder; or if you are one of those old timers who can identify almost any old rock, you will have to go back in your memory to some of your own early experiences to get into the mood of anticipation I was in when I started climbing up what I call "Opal Gulch" in California.

If you are a crystallographer or jeweler, you may not be able to get down to the humble but glowing attitude of my beginnings as a rockhound, without even the aid of a rock pick to tackle nature's vastness. Or maybe you can—which will enable you to understand most of your customers better.

At any rate, here is how the bug bit me, with the attendant tribulations usual to such bites:

I loved the high desert country because it had a sort of mystery which I could not quite analyze. I fled to it from sea-level San Francisco as often as I could spare the time. Wandering around the Calico Mountains I stopped one hot summer morning when I saw a little knot of men idling at the base of a crumbled clay cliff. Spying a bright shiny something sticking out of the clay I asked a man in dungarees what it was. "Borax crystal." Imagine that cleaning powder forming up in crystals like that! I'm just trying to show how dumb a little business man can become by grinding away at his shop too long.

I wised up quickly however. Poking around the Yermo district I began to speculate on what else might be in this tumbled mass of chemicals which is the Mojave Desert and its surrounding hills. Stopping at Randsburg for lunch I saw another gleaming something sticking out of a hunk of basalt on the back bar. Wow! It was a fiery little opal—and the man even let me handle it.

Craftily I began asking questions, not showing undue interest. He gave me close directions while I absent-mindedly finished my lunch. He was not a rockhound but he knew the location.

"Go east from Mojave until you hit the seismotite sign and then turn into the hills. This will lead you into Last Chance Canyon, but don't go on up to the petrified forest, or the gal up there will take a shot at you. She thinks she owns it. Keep to the left until the road ends at the mouth of a small canyon. Just climb up this, a half mile or so, and you will find the spot where this came from."

I put up at Mojave that night, marveling at what a dope the restaurant man was to disclose a valuable location like this before he had made himself wealthy from it.

Next morning I bravely ignored the soberly-staring truck drivers as I passed the seismotite equipment yard, splashing up the creek bed, and a few minutes later blithely bounced down and up the car-wrecking wash as I veered left some more. It must be the "allure of the beyond" that gets the cars over these spots.

Arriving at the mouth of Opal Gulch, I found a lady and her mother who, it turned out, were just sight seeing in the great rugged West. Sighting up the gulch it looked lonely and sort of far away from nowhere as the jogging gulleys obscured the view. And then the old cunning came to my aid. Adventure and risk demand sharing. I remarked that rumor had it that there were opals up the canyon and the young lady's eyes lit up with interest. It resulted in mother staying in their car while daughter went with me to see what the rumor was worth. I felt better. A companion would keep the vultures from beating the the rescuers to the body.

Just a few such fire opals as I had seen surely would be worth plenty. As a boy I had seen relatives proudly show each other their opal rings with stones

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only half the size and half the fire of the Randsburg jewel. To share the booty and be a guide to a novice excited my nobler sentiments.

Anyone going up opal gulch now will find that the two dry waterfalls have pretty solid, though haphazard, boulders piled high enough at the base to let one reach the top ledge. But when I was assisting the lady up the ten or twelve feet, after bellying over the projecting overhang, boulders big enough to break a leg teetered precariously enough to make one gasp — had he enough breath left to gasp with. After the hard climb isn't it something to come to the level-off, where you can walk with ease and a modicum of dignity? I tried to hide quivering muscles and a slight stagger, and of course we sat down to let the lady rest a while.

As we sat, we could look up the rising draw to where a streak of green (nice *rich* green) rose up to the right. The boulders around us were specked with what must be opal; white and pink and interesting looking. Maybe if one ground down into them they would produce that priceless fire. Somehow even I knew that rocks had to be ground to bring out their beauty as well as to shape them.

I started filling my right-hand sweater pocket with the white jewels, reserving the left sweater and pants pockets for other probable finds. The nice lady listened to my sage observations about opals and possibly other jewels to be discovered in such a chemical hodge-podge as this obviously was. She picked up her share with enthusiasm equaling my own.

Now just imagine—when we got up close to the green copper flow we could see lots of little hard lumps cropping out of the finer green dirt. Well, anyone who had studied the nebular hypothesis and primary geology, like I had in school, would know that each one of these, or anyway most of them, would have opal inside, and probably that is where the fiery green came from. No time to worry about picking up a few duds. Plenty of time to consult experts about values when I got home. Of course I would sort them first. If these turned out pretty well I could hire someone to manage the business and take even more time in the Mojave.

Success upon success! When we came to a little pock-marked cliff of rock-hard mud it was crowded with nice round white opal which we proceeded to pick out with the lady's nail file and my boy scout knife. And, food for the soul, we unearthed a lopsided crystal of regular shape that was harder than the borax crystal of yesterday. I still like to find a nice calcite crystal. We also found some curious speckled stones that looked interesting and we wrapped them in our handkerchiefs because they surely were something special. The two ring sets I made out of these Tehachapi pebbles now excite interest with their mixed opal and matrix.

I'm old enough to not have too high expectations but wandering around Opal Gulch that morning, discovering rocks and formations that would interest the best of rockhounds, gave a freedom to fancy that never could be equaled in a theatre or on a playing field. My instincts were not too far off at that. When I was up there the last time the place had been thoroughly dug by determined rockhounds and the face of one small cliff was bared to show a four-foot seam of the most colorful (red, pink, orange and brown) and hardest jasp-agate that I have ever seen.

The half-guilty satisfaction of easily picking up substantial wealth cannot be described. Thrill is perhaps the best word for it. My blood flowed freer and faster, and I could see the wonder in the eyes of city friends as they looked over my hoard of shining jewels. The pride of accomplishment and doing something off the beaten daily path of routine was mine that morning.

There was then the problem of getting back down to the cars, over the two dry waterfalls, without losing any of the valuable and hard-earned gems. With jewels oozing from every pocket, and an armload in my felt hat, we started. Thirsty and sunburned, we found that going up was nothing to getting back down. It was really something being loaded to the hilt and having that helpless feeling of dangling from the overhanging edge of the dry waterfall, groping with my feet for the stepping stones five feet below the crest. Now, when I see a movie of a mountain climber coming down I stay tense until he makes it. My companion was

(*Concluded on page* 334)

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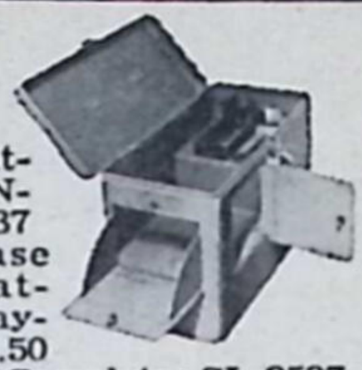
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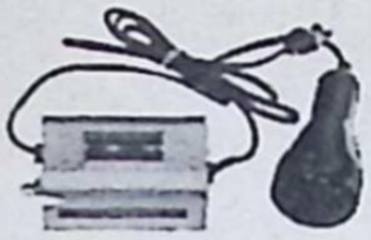
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(*Continued from page* 331)

a good sport and kept quite steady while I talked her down to a safe landing, guiding her feet to the stone pyramid, steadying the wobbly stones as she eased herself down.

The lady thanked me for a pleasant morning's experience and continued with her sightseeing. Whether she went up to the petrified forest to be shot at I do not know, but I went back to the motor court at Mojave and flopped on the bed after consuming gobs of water and lemon juice.

Neither do I know whether the lady became a rockhound but, believe it or not, I have a cherished milky-fire opal about as big as a pea and fairly well polished. I got it from the first six, ground on my little one-pot six inch machine. Five trips back to the gulch, as well as paying the daily fee to roam the basalt opal fields up on top, have not produced as much rock and thrill as the first trip. Not one loose-lying opal showed up, nor could I ever extract one gleaming beauty from the basalt in one piece. One has to keep trying.

Today the prize milky opal is mounted on an agate pedestal and some day I am going to dig out the mason jar from among the heaps of rocks and sagging shelves in the basement and do a real job of exploratory grinding on the white opal. The green lumps were just crumbly green mud all the way through as you have already guessed. Well, you can't win on everything you pick up, or why would you keep on going?

Have you a good used 18-inch saw that you want to sell "real reasonable"? I want to graduate to bookends. Some of those boulders downstairs ought to be mighty pretty inside.

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Thoughts of an Opal Buyer

By WILFRED C. EYLES
Yermo, California

Mr. Eyles returned in May from a long trip to Australia and the Lightning Ridge opal fields. We have run an account of his interesting journey under the title "We Hear From Wilfred Eyles" on Pages 483 and 173 of the February and June 1953 issues respectively. We ran a third installment on Page 226 of the August 1953 issue under the title "A Trip to the Australian Opal Fields." In this fourth, and last, installment Mr. Eyles offers good advice and information about Australian opals and sapphires for the amateur lapidary and collector.

I was "down under" in Australia six months and there was hardly a day that I was not engaged in either observing jewelry stores or associating with some one in the opal business in one way or another. I have always been intrigued by jewelry stores and visited them in London, New York and Chicago and other fine stores such as Shreve's in San Francisco and Birk's in Vancouver, Canada. I can therefore say that Sydney, Australia has jewelry stores the equal of any in the world. In these fine stores, and I'll mention Angus and Coates, Stewart Dawson & Sons, Proud's and Percy Marks, I did not observe one single synthetic stone of any kind. Everything—diamonds, rubies, sapphires etc. were all genuine; in fact synthetics were not in evidence anywhere. Semi-precious stones also were few. Such names as "Spanish topaz," citrine "simulated diamonds" and such terms are unknown.

One experience I encountered I believe was interesting. I had the occasion one afternoon to accompany my friend J. Edward Warwick, an advertiser in this *Journal*, and a very fine and efficient cutter, on one of his trips down town to observe his selling to the trade. A young sales girl was behind the counter of a store and she said "is that one of those titania rings you are wearing?" We both spoke affirmatively and then she said "I can tell one across the street," and she probably could. The remarkable thing about this is that titania is not in evidence anywhere in Australia and is practically unknown. My friend Warwick took me everywhere and he was very well acquainted in the trade. By the "trade" I mean the commercial jewelry business. There seems to be among many amateurs and hobbyists little or no distinction between the "trade" and the hobby business. There is a distinct difference between the trade and the hobbyist and collectors, and there must always be a vast gap between the two.

Many ask "where is the black opal? Opal full of fire?" etc. Some writers, as well as advertisers, have stressed a shortage. This is not true; no more so than a shortage of diamonds. The fact remains that opals of this type can never be had by the average amateur. I had the occasion to see thousands of black opals in the stores I have mentioned and none sold for less than $100 and up to $2000 each and worth it. This is far out of the reach of the average hobbyist. The hobbyist and amateur will always have to be content with opal selling from $20.00 to $50.00 per ounce. In this regard I also note a great many amateurs, when purchasing Australian sapphires, stress that they wish stones to "cut four or five carats and they must be fine blue color." Such stones, and I observed thousands of them and Warwick cuts his share, bring as much as $100 a carat and up right in Sydney. So the amateur will always have to be content with the bi-colors and culled material.

Any person who imagines he is going to buy an ounce of sapphire, which sells from $15.00 to $25.00 an ounce, and find any sleepers or cripples in his package, is dreaming. Sapphires are mined extensively at Anakie in the State of Queensland. They are rather plentiful but they go to all parts of the world. Many go to the Orient, where they are passed off as being from Ceylon and Burma. They come in every shade from light blue to very dark blue. Some stores display them in all shades and price them accordingly.

No Issue of the Journal Is Ever Old

Our gem cutting articles published in past issues are as new and fresh today as when they were printed IF—you are new to the hobby or if the information is new to you. Here is a list of some available back issues and the title of a leading article in each. Please order by number at 50c per issue or 5 for $2.00. This offer is limited to available issues or in any event until December 1, 1953.

Number

1—April '47 —How to Cut Cameos and Intaglios
5—April '48 —Simple Jewelry Mountings for Small Slabs
6—June '48 —Fine Carving with Nails
7—Aug. '48 —Home Made Faceting Laps
8—Oct. '48 —How to Cut Kunzite (3 methods)
9—Dec. '48 —How to Cut Tigereye
10—Feb. '49 —Composition for Better Cabochons
11—April '49 —How to Cut Titania
15—Dec. '49 —Complete Birthstone Issue (Special Issue)
16—Feb. '50 —How Old Gold Is Refined
18—June '50 —What Is a Good Polish?
19—Aug. '50 —Animal Carving in Silver
20—Oct. '50 —Adventures in Sawing
21—Dec. '50 —Gem Stone Engraving
24—June '51 —Jewelry Casting From Leaves & Flowers
25—Aug. '51 —Wet Sanding for Two Bucks
26—Oct. '51 —Iris Agate and Its Treatment
27—Dec. '51 —How to Make Jade & Agate Rings
28—Feb. '52 —How to Cut Abalone Shell
30—June '52 —How to Color Agate
31—Aug. '52 —Dry Drum Sanding and Methods of Dopping
32—Oct. '52 —Bid Scratches Goodbye
33—Dec. '52 —How to Cut Jet
34—Feb. '53 —How to Tumble Gems
36—June '53 —How to Polish Burnite and More About Tumbling

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JIM JENNE'

Both opal and sapphires are expertly graded and nothing as big as a match head, if its of fine color, gets away. Probably no one ever buying opal has realized that every piece has been tested for its quality. All opal from the South Australian fields is mostly seam or vein opal; veins from an eighth of an inch up to an inch and a half. Matrix appears on both sides of it. If one will observe a piece of this opal he will find it has been snipped. Probably the whole part of one matrix side has been snipped off. Every single piece will show somewhere where it has been snipped. When the miner gets any opal out it is taken to an appraiser, or valuator, on the field. He works for 10% of the value. Each and every piece, large or small, is therefore snipped and graded for its value.

At the Lightning Ridge field I have pointed out in previous articles that this opal is not in veins but in small nobbies, or what we term nodules in America. These are taken to a chap in Lightning Ridge, where every piece, large or small, is faced. That is to say, a face is ground on a wheel to expose its color and its value. It is the same with sapphires; no sleepers or cripples get into a certain priced package. Opals, like sapphires, in Australia are never cut to mm. sizes. The stone is cut as to what its shape will produce with no waste. It's up to the jeweler to fit the gem in a mounting. In buying opal one is not allowed to pick and choose. A certain amount is in the miner's bag, say ten ounces, and it's priced at so much and you take it or leave it. And if you do pass it up it's soon sold to someone else.

Most amateurs and hobbyists dislike doublets but at least 75% of all set stones sold in the commercial trade are doublets. Many are made from the very thin seam material, which usually is very choice, and in Australia the cutter sells them by the carat. We would also like to point out that considerable misunderstanding and confusion exists in regard to black opals. One thing to remember is that everything coming from the Lightning Ridge opal field is all called "black opal" and this is regardless of color. Very few opals could be called black and none is white but all in dark colors. Black, as we understand it, does not exist.

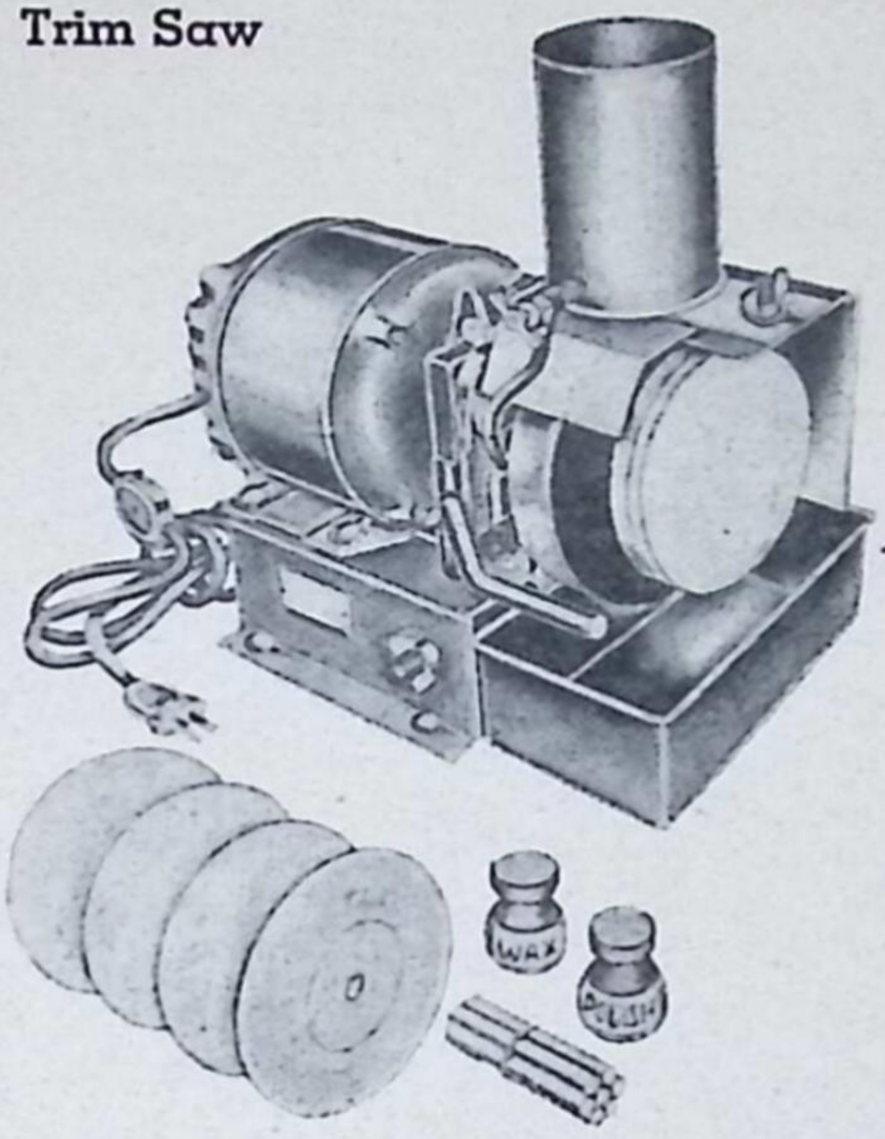
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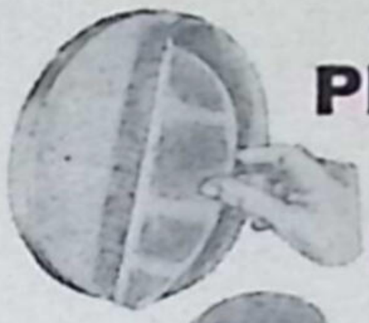
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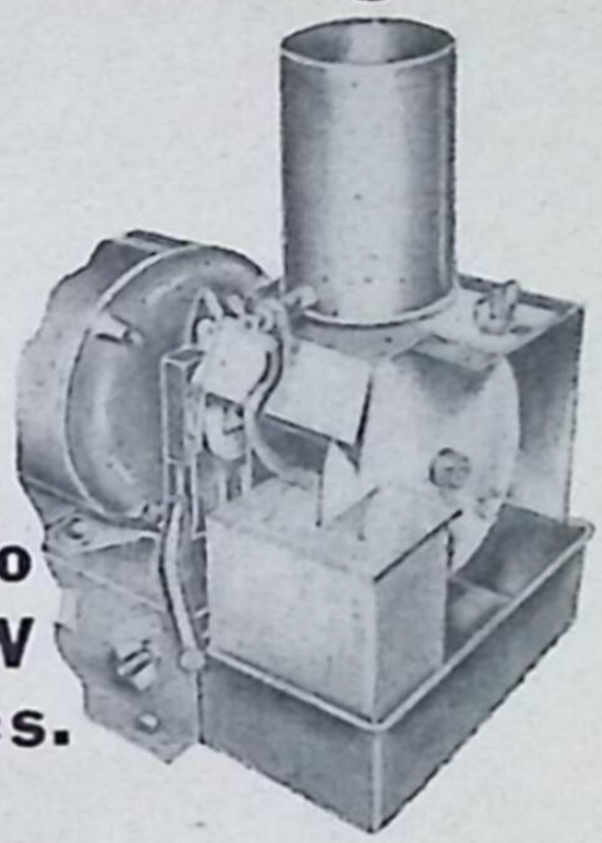


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some years back. I was at that time cutting some very nice Arizona picture wood and was very particular to produce a picture or scene in each stone. In a large establishment in Flagstaff, where I had gone to sell, I looked over their case but I did not see any pictures. I remarked that I did not observe that they had any picture wood but I was told they had it. When shown it I asked where the pictures were. I was then told that they didn't have any pictures but it was "picture wood."

A great many I have spoken to since my return to the States remark how they used to obtain opal in former years very much cheaper. That is true but, as here, there is the very same identical inflationary condition in Australia; extremely high taxes and high wages and full employment. Many of these well meaning folks forget that in those days we paid ten cents a pound for hamburger. Its a different story today. And the same thing applies over in Australia as to opal and everything else.

* * *

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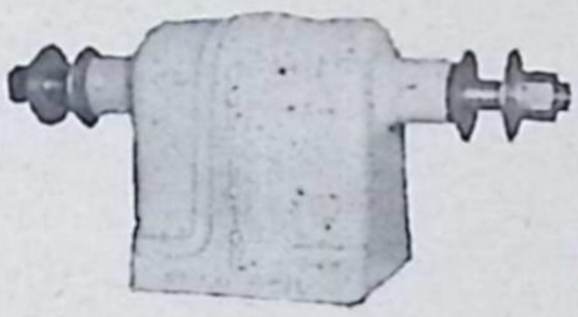


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◆ Gems From The Mail Bag

My two years in the army are just about all over and I am looking forward to getting back to the gem world. Thanks to the *Journal* I will not be returning to get a fresh start. The articles and ads have been of tremendous interest to me and have kept me well posted on new items and prices. James W. Coote, Gemologist, Baltimore, Md.

* * *

If every $2.00 I spent would bring me as much knowledge and joy as does the cost of the *Lapidary Journal* then I would be content to spend my days on this sphere. Peter Schere, Cincinnati, Ohio.

* * *

Believe it or not I am quitting two other magazines and renewing the *Journal*. I enjoy lapidary articles, stories of new ways in jewelry and gem hunting stories. Your *Journal* is put up in a very neat package. Carroll Kuhfus, Ellsworth, Iowa.

* * *

I like your *Lapidary Journal* very much and I look forward to getting each number but I do think some of the articles could be expressed in fewer words and simpler language for the benefit of amateurs like myself; boiled down so that we might understand them a little better. But I am indeed grateful for the splendid job you are doing. J. P. Erwin, Lewisburg, W. Va.

* * *

Being among the rankest of rank amateurs at this fascinating hobby I had thought that the *Journal* would be far beyond me but, thanks to your excellent arrangement of articles, I often find much that is not only interesting but also useful to me. Here in the Queen Charlotte Islands we are rather cut off and I must rely upon you for my education. James F. Munro, Ranger, Queen Charlotte City, British Columbia.

* * *

I look forward to every issue of your magazine as I think it is outstanding both in its field and in comparison to other types of magazines because of its literary style, composition and wealth of information. K. R. Murray, Regina, Canada.

As a neophyte in the lapidary hobby I have gained a lot from your fine magazine in the past year. After getting my outfit from Eldon Soper in January plus silver and silver smithing equipment from R&B Art-Craft Co. and Grieger's I have been able to turn out some very creditable pieces of my own design. The variety and colors of jasper found around here are practically unlimited. Robert A. Wolcott, North Platte, Neb.

* * *

I have liked every bit of every one from start to finish and I am keeping them all in binders. You are doing a very fine job indeed. I liked the article about the Rock Pox card and the ensuing excitement for it was about us. John H. Smith, South Pasadena, Calif.

* * *

I wouldn't want to miss a single issue of your valuable magazine. I have every issue and have them filed away in my book case. I cut and polish agates, jaspers etc. and I find your magazine the best of its kind for any money. Keep up your swell work in this field. John Handegard, Tacoma, Wash.

* * *

Enclosed is check for renewal to the finest magazine in its field—and we mean that. It is our favorite in the lapidary field as the *Mineralogist* is in the mineral field. Have added an extra dollar for a "bargain bundle" of back issues. We find it nice to give away one of these now and then to someone who shows a budding interest. If your magazine doesn't spark them into action they aren't worth working with. Jeanne Torgeson Schoff, The Stones Throw Rock Shop, Walworth, Wis.

* * *

I have been a subscriber to the *Lapidary Journal* for only two months but read and re-read your articles with much interest. In a place like Ethiopia one would hardly expect to find rockhounds but so far I've encountered six in Addis Ababa alone. Who knows how many there might be lurking in the field—growing beards and wearing the seats out of their trousers. Miss Marie L. Dykmans, American Embassy, Addis Ababa, Ethiopia.

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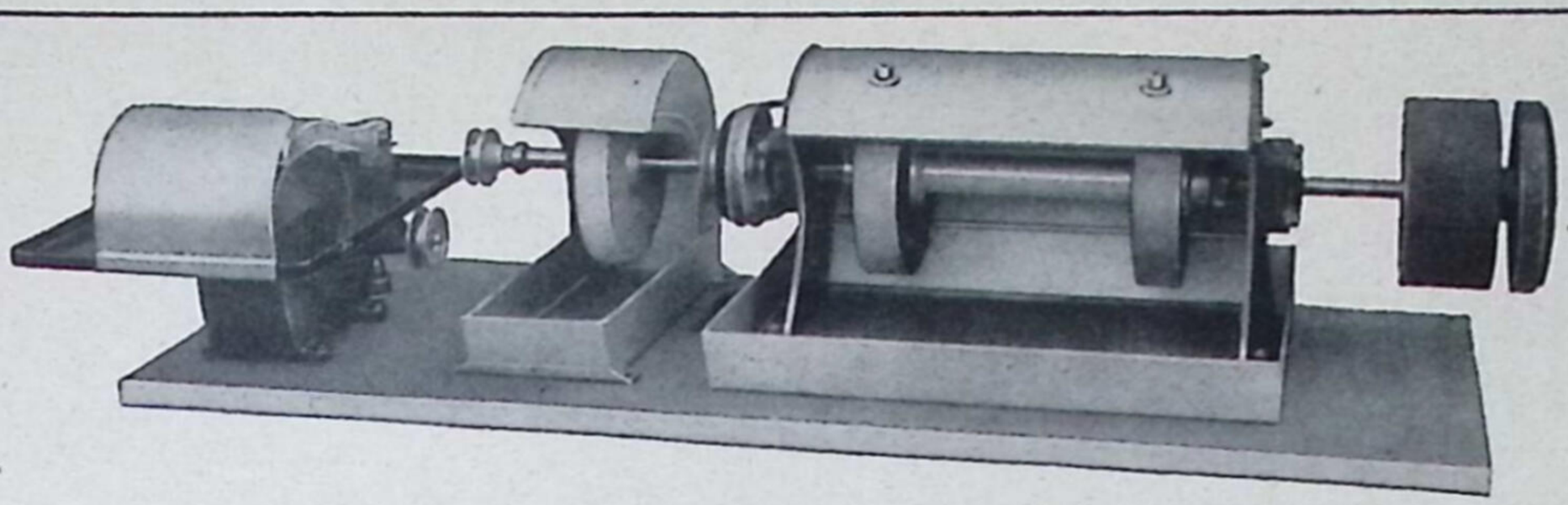
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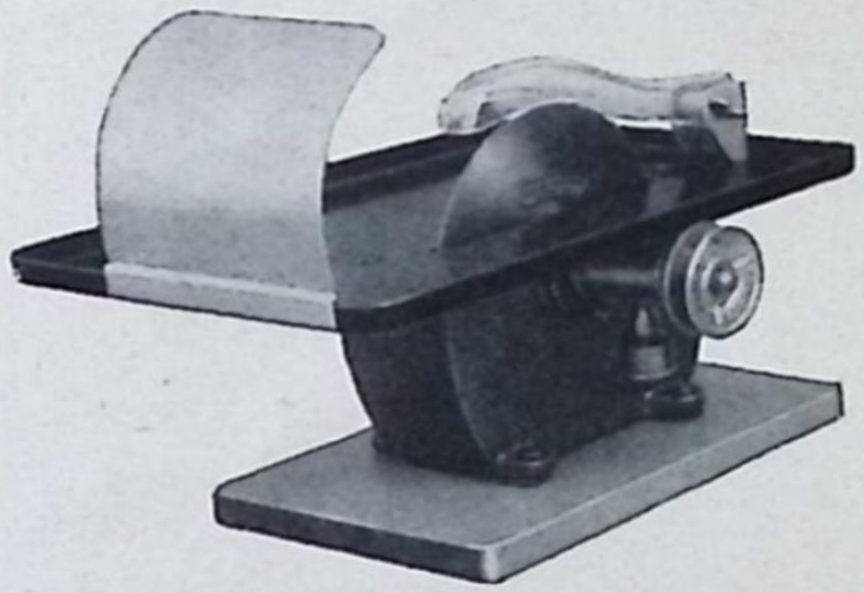


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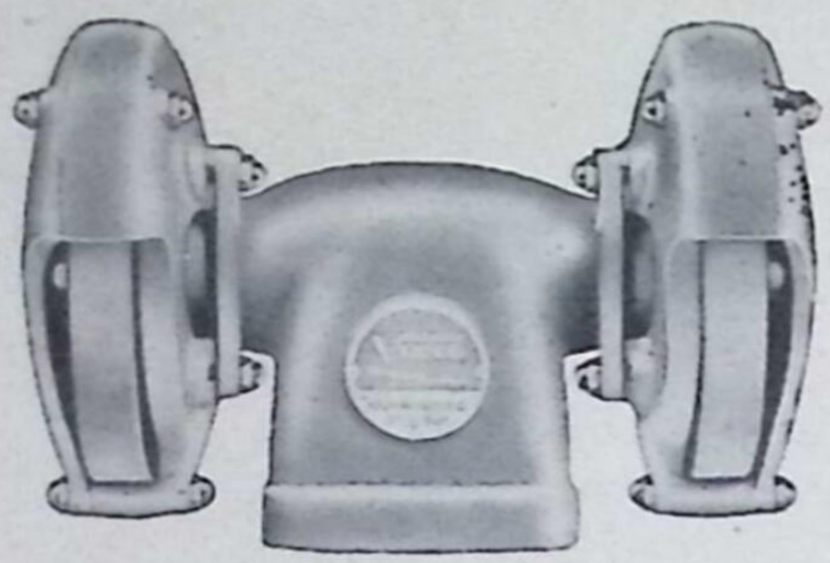
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A Discussion of Jade Terms

By SIR CHARLES HARDINGE,

I bought my first piece of jade in 1918 to celebrate the end of the war and was not long in finding out that few people knew much about it and that not many of these knew very much. The first person I got to know who was of any real help in acquiring knowledge was that very delightful man, the late Mr. Stephen Winkworth, who very kindly lent me his copy of "Jade," by Dr. B. Laufer, published about 6 years before. When I came to p. 22, and read foot-note 2, I found something I could not follow, I mentioned it to Mr. Winkworth: after some consideration he agreed with me. Other things and the fact that I did not then know any one else whose opinion was worth much, left the matter pigeon-holed until in April, 1950, Mr. S. H. Hansford very kindly presented me with a copy of his book, "Chinese Jade Carving." When I read the paragraph which begins at the bottom of page 1, I saw Mr. Hansford took the same view that I had 30 years earlier. I have often intended mentioning the subject to him but somehow it has always escaped me when I saw him. Quite recently I have been trying to get out a list of all authentic localities in which both varieties of jade have been found, crude and unworked (not necessarily "in situ"), and this has brought back to me very insistently that I should like to clear up the suspicion I have had for so long, one way or the other.

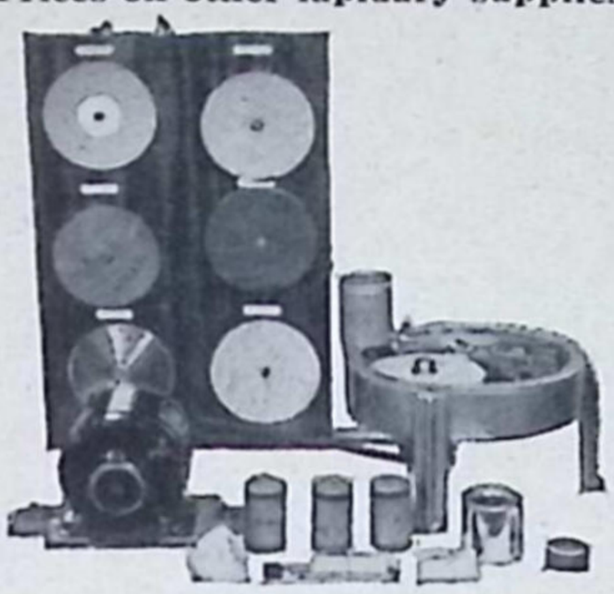
About the middle of the sixteenth century the first jade to be brought to Europe in any quantity arrived from the Spanish possessions in America, Raleigh is said to have acquired some from the Spaniards and to have been the first to bring it to England. It came as worked objects. The natives of the countries these objects came from called the mineral they were made of *Chalchihuitl* (*a*). We called it Jade and Nephrite.

Mineral (*a*) is *Chalchihuitl, Jade, Nephrite, Fei-ts'ui, Jadeite.* Mineral (*b*), referred to later, is *Yu*, and what the Maoris call *Pounamu.* There is no convenient or kennel name for it for Europeans and English-speaking peoples; it is described as either (1) Felted or interlocked fibrous Actinolite, if it con-

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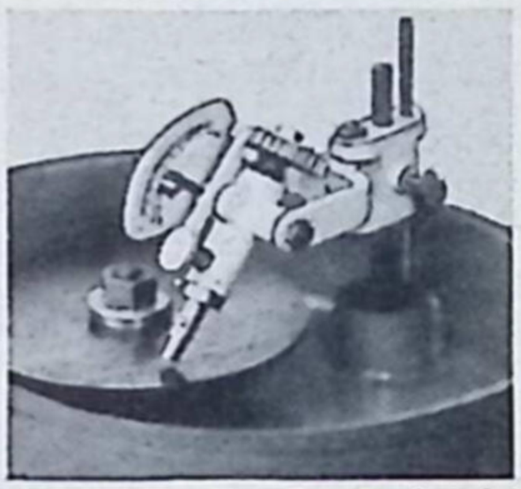




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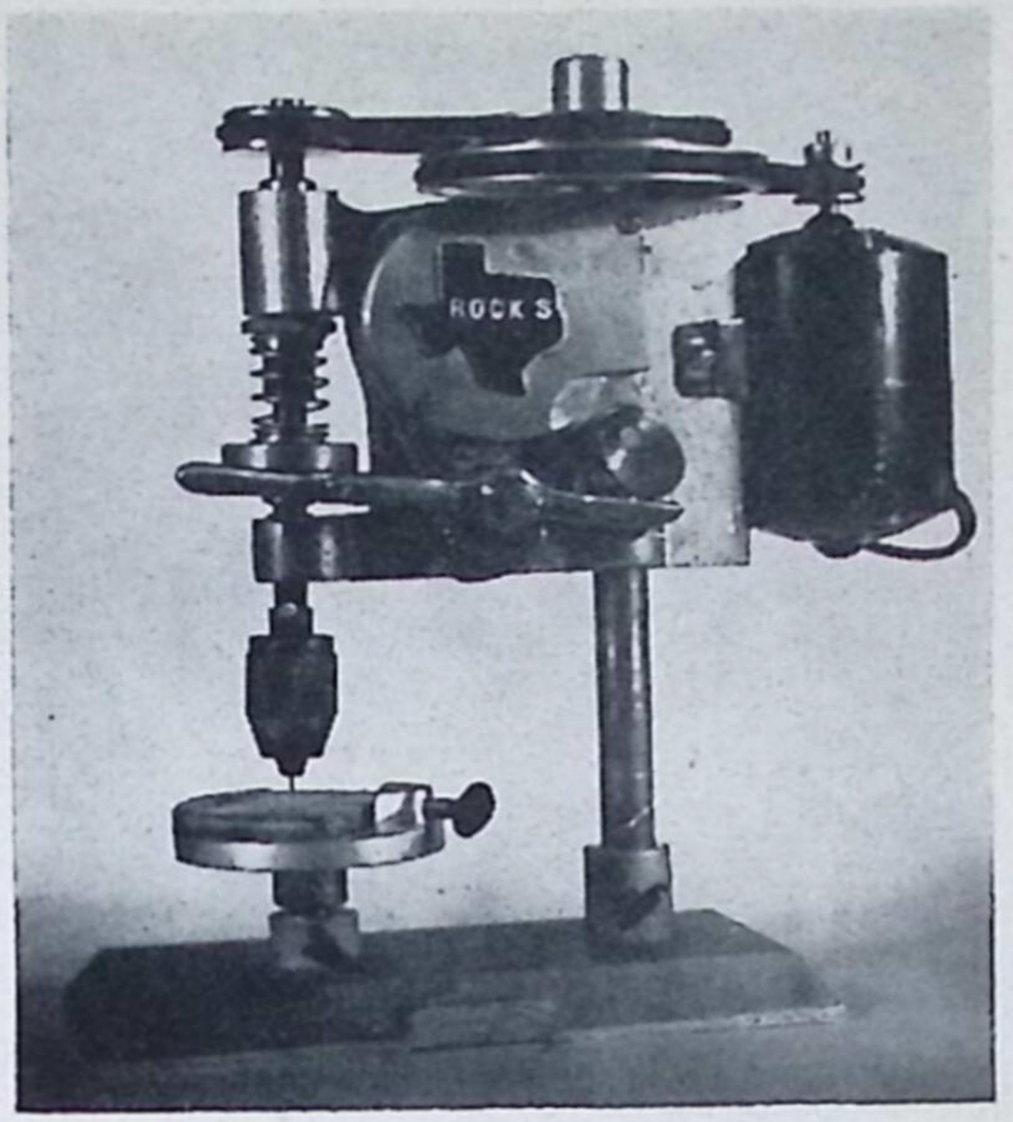
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tains iron, or (2) Felted or interlocked fibrous Tremolite if it contains no iron.

Dr. Laufer thinks *Jade* (*a*) was so called because the Spaniards called it *"Hijada,"* and that it was also called *Nephrite* (*a*) because the natives of the countries the objects came from thought it possessed amuletic properties against diseases of the kidneys, both quite satisfying reasons. He discards a suggestion that *Jade* was derived from a Turkish word. Mr. Hansford spells the Spanish word *"Ijada,"* and adds an alternative *"Rinones."* Miss Elsie Ruff in her book "Jade of the Maori" on p. 17 mentions *"Hijada," "Ijada,"* and adds *"Yjada,"* and *"Ijar."* She also makes another suggestion, that *Jade* is derived from the Latin word *"Ilia"* which means the flank, the fleshy or muscular part of the side of an animal between the ribs and the hip. *"Ilium"* is the upper part of the hip-bone—the flank-bone. Miss Ruff also says the Romans and the Spaniards both thought it had curative powers for colic. A medical friend of mine tells me you can only have colic in the kidneys if there is a stone in them and he thinks a derivation for the word *Nephrite* (*a*) from either *"Ilia"* or *"Ilium"* would be very far fetched, and nothing like as appropriate as the derivation which satisfies both Dr. Laufer and Mr. Hansford, and also I expect Miss Ruff. He agreed with me when I suggested that if Colic was responsible for naming the mineral that some such name as *"Abdomenite"* would be much more satisfying. For approximately 200 years, all, or practically all, the objects made from this mineral which came to Europe, came from the Spanish possessions in America.

About the middle of the 18th century, 200 years after the first importations from America to Europe, objects began to come from China which *were thought* to be made of the same mineral. The Chinese called it *"Yu"* (*b*). The Chinese had obtained probably all their Yu from the K'un-lun Mountains in Chinese Turkestan, about 1,800 miles in a straight line from Pekin, a very difficult and arduous journey. About the middle of the 19th century they also got some Yu from Siberia. They have been working this mineral for approximately 2,000 years. Naturally as it *was thought* to be the same mineral, these

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objects imported from China were also called both *Jade* (*a*) and *Nephrite* (*a*).

At about the same time, the middle of the 18th century, the Chinese obtained a mineral from Burma, which they at first *thought* to be Yu, but from practical experience in working it they very soon found it was not real *Yu* (*b*) and they called it *Fei-ts'ui* (*a*). We are told at first they did not much care for it, but that it soon became more costly than *Yu* (*b*). It is from *Fei-ts'ui* that so many of the wonderful 18th century and later Chinese works of art are made. After the sacking of the Emperor of China's palace, some of these beautiful objects came to Europe and a French scientist, Damour, in 1863 found that many of these objects were not made from the same mineral as the Chinese had used for all their earlier objects *Yu* (which the Chinese had found out about 100 years earlier from practical experience) but that they were made from the same mineral (*a*) as the objects which had come from the Spanish possessions in America 300 years earlier (*a*) and which we had for 300 years called *Jade* (*a*) and *Nephrite* (*a*), he called it *Jadeite,* so it now had three names for European and English-speaking peoples.

It seems to me that as there are so many Jadeologists today that any fact connected with either mineral would be of some interest to quite a number of people even if their primary interest was not perhaps mineralogical. I am not concerned in the very least about any confusion that may arise if my submission is correct, a fact is a fact, and if I am correct any confusion there may be started 90 years ago owing to a slip-up on the part of a mineralogist. Surely there is no reason for any mineralogist today to blush for a slip-up on the part of a professional ancestor three or four generations ago, it provides yet another example of the wonderful foresight of the Author of the ten commandments when he laid down—"and visit the sins of the fathers upon the children unto the third and fourth generation." That any confusion will be caused is extremely unlikely I should imagine. I have only raised the matter in the hope of getting a definite decision one way or the other.

(Reprinted from *The Journal of Gemmology*, London)

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The following useful shop helps were taken from "The Lapidary Corner" by Ray Lulling, a regular department of *The Rock Rustlers News*, bulletin of the Minnesota Mineral Club.

Did you ever try polishing stone with flexible wheels? I do. I call it "contour polishing," and it works good for polishing specimens of Thomsonite, messolite, lintonite, or any of the zeolites that have a conchoidal or irregular surface. It is very difficult, and sometimes impossible, to polish down into the smaller crevices and indentations of some surfaces with a drum or disk, but it is easy to do this job with flexible wheels. I have been using this method of polishing for some time and find it quite satisfactory for material softer than quartz, and where you don't have to have a perfectly flat surface on the finished stone.

For the grinding or sanding wheels, use ordinary muslin or cloth buffing wheels (almost any size from a six inch diameter down to a half inch, depending on the size of indentation you want to polish down in to). Apply a coating of furniture glue (the kind that has to be heated for use) to the face of the wheel with a brush. Now pour some carborundum grains on the table top and while the glue on wheel is still wet, roll the wheel (glue side down) in the carborundum grains until you have the entire grinding surface of the wheel completely covered.

Let the wheels set over night in a warm place to dry. When they are dry, the grinding surface will be hard. Pound the carborundum surface with a hammer until it is well crackled and you now have a soft grinding wheel.

Set up several of these wheels in each size grit as these wheels do not hold the grit as long as sanding cloth or paper.

This same method can be applied to all of the grit sizes, but when you are using the finer grits (like 400 or 600) you will have to dilute the glue and use it thinner than with the coarser grits.

Grinding or sanding with these wheels will have to be done dry as any water on the wheels will soften the glue.

After all the sanding is done a final polish can be had by using a plain muslin buffing wheel with red or green buffing rouge, obtainable at any jewelry supply house.

The grinding wheels should be run at 6000 to 8000 surface feet per minute.

The buffing wheels should be run at 8000 to 10,000 surface feet per minute.

* * *

When cutting tigereye or similar materials that have to be cut on a slant or bevel, it is almost impossible to grab certain shaped pieces in the saw vise, so that you can saw on a slant. To overcome this in most cases try using two pieces of wood in the vise with a wood block at one side of the bottom of the piece of tigereye and another at the top of the other side. This will form an X so that a slice can be made at an angle.

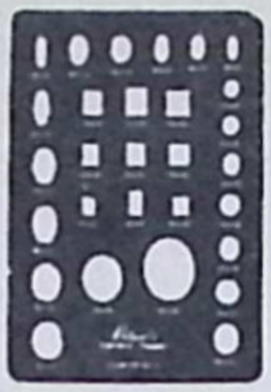
* * *

The green residue left on agate after polishing with chrome oxide can be removed easily if you soak the agate in muriatic acid for a short time. Because muriatic acid will attack chromium readily, it also attacks chrome oxide and breaks it down so that it can be easily brushed off. Muriatic acid will not harm the agate.

* * *

If you have thin slices for transparencies and they break, you can mend them by cementing them together with Duco cement and spraying the whole thing with clear lacquer. The mend will not show when projected.

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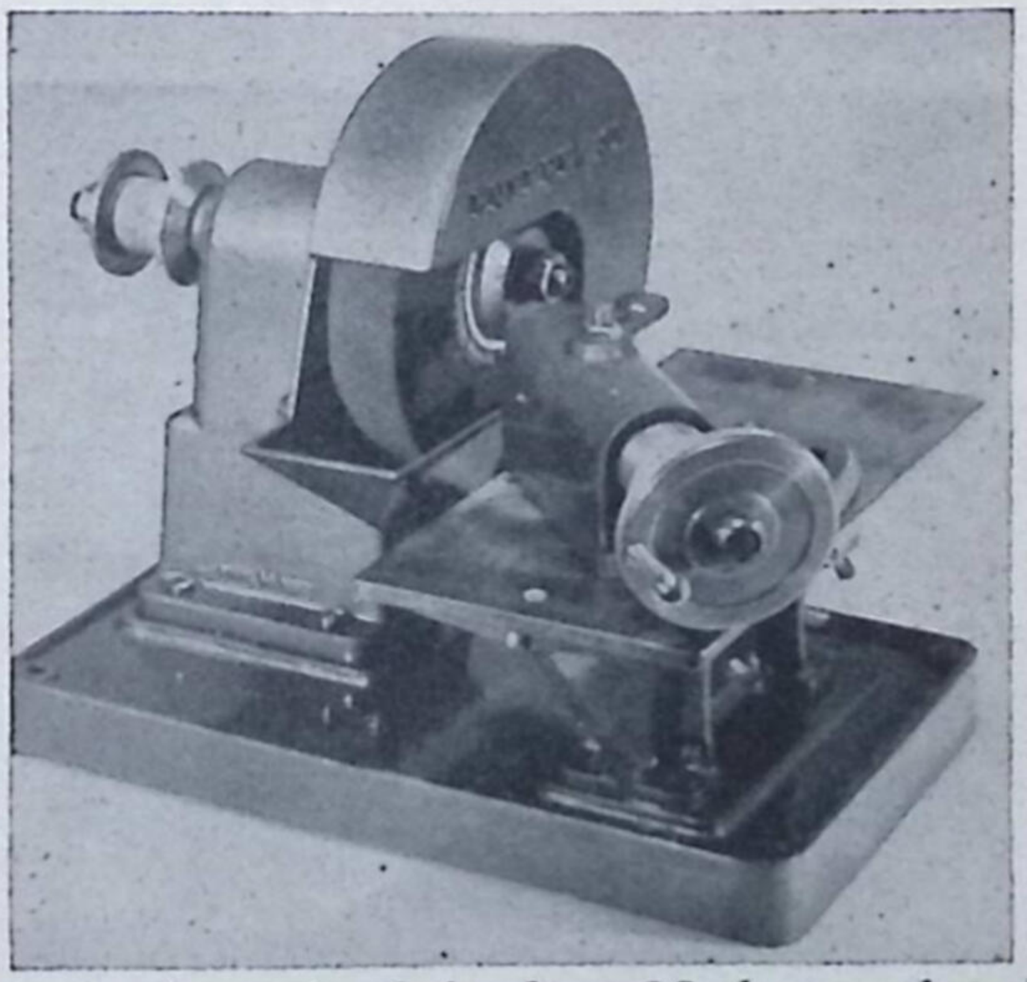
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MINERAL HOBBYIST MAGAZINE QUITS

We wanted to write something nice about the passing of a worthy competitor in the publishing field—the excellent but short lived *Mineral Hobbyist* magazine. However Domer Howard, whose fine articles have appeared in the *Journal* from time to time, has such fine editorial comments in his bulletin for the *Oklahoma Mineral and Gem Society* and they agreed so thoroughly with what we had in mind that we pass along his thoughts to you.

"An enterprising and somewhat spectacular undertaking has come to an end! With the June, 1953, issue the *Mineral Hobbyist* has suspended publication! Since July, 1952, this has been the official voice of the Rocky Mountain Federation of Mineral Societies and the discontinuance of the magazine is an immeasurable loss to every member of every society in the Federation. This action was dictated by one of the simplest and most unflattering reasons — lack of support by the members of the Federation. Too few members, outside the Texas Federation, supported the magazine with their subscriptions. Subscriptions are the life blood of any magazine. The advertisers may carry the financial load, but for only so long as they can see good distribution for their ads as measured by the statement of circulation of the magazine.

"*The Mineral Hobbyist* was slanted toward the specific area embraced by the Rocky Mountain Federation. It provided articles about specific locations in the area and news of the various member societies. In this respect, it provided a service not afforded by any of the other rockhound publications. The magazine was attractively printed, the format was good and the Editor, Mr. Hugh Leiper, did a workman-like job of editing it. Then why the apathy and indifference on the part of the members?

"Perhaps it is ineffectual and idle now to speculate on the reasons behind this lack of cooperation. It is unthinkable that any member would feel that there is not a need for such a publication or that it served no practical or notable purpose. It is easy to say that personal lassitude—the tendency to put things off until tomorrow—robbed the circulation list of many potential subscribers. But there is something else here—some factor of crowd psychology —that could point to the ultimate dissolution of the Rocky Mountain Federation as a conference. We question whether there is a general falling off of interest within the Federation—a growing tendency to 'let George do it'. Too frequently the individual member feels that what he or she does is of small consequence. Inexperience, timidity and lack of self confidence are more often the motives behind lack of cooperation than are laziness or indifference. Yet, if such members would stop to think, they would realize that at least 90% of the world's problems are met and solved by people who did not quite feel up to doing the task!

"The time devoted by Hugh Leiper to serving as Editor, Business, Advertising and Circulation Manager of the *Mineral Hobbyist* not only ran into several hundred hours of hard work but the sacrifice of about $4,000 in personal income.

"*The Mineral Hobbyist is gone*—but its memory will survive as a memorial to Hugh Leiper, who met his responsibilities head-on and gave everything he had to the effort of carrying his part of the load. Who among us, contemplating this devotion to the rockhound cause, can avoid feeling a small sense of shame at his own lesser efforts?"

• • •

HUGE GEM FAKE UNCOVERED

Counterfeit jewels, meticulously perfected after the famed Szirak Treasure of fourth century European origin, were displayed for newsmen on September 15 on the desk of Col. Carl F. White, collector for the U.S. Customs Service at Los Angeles.

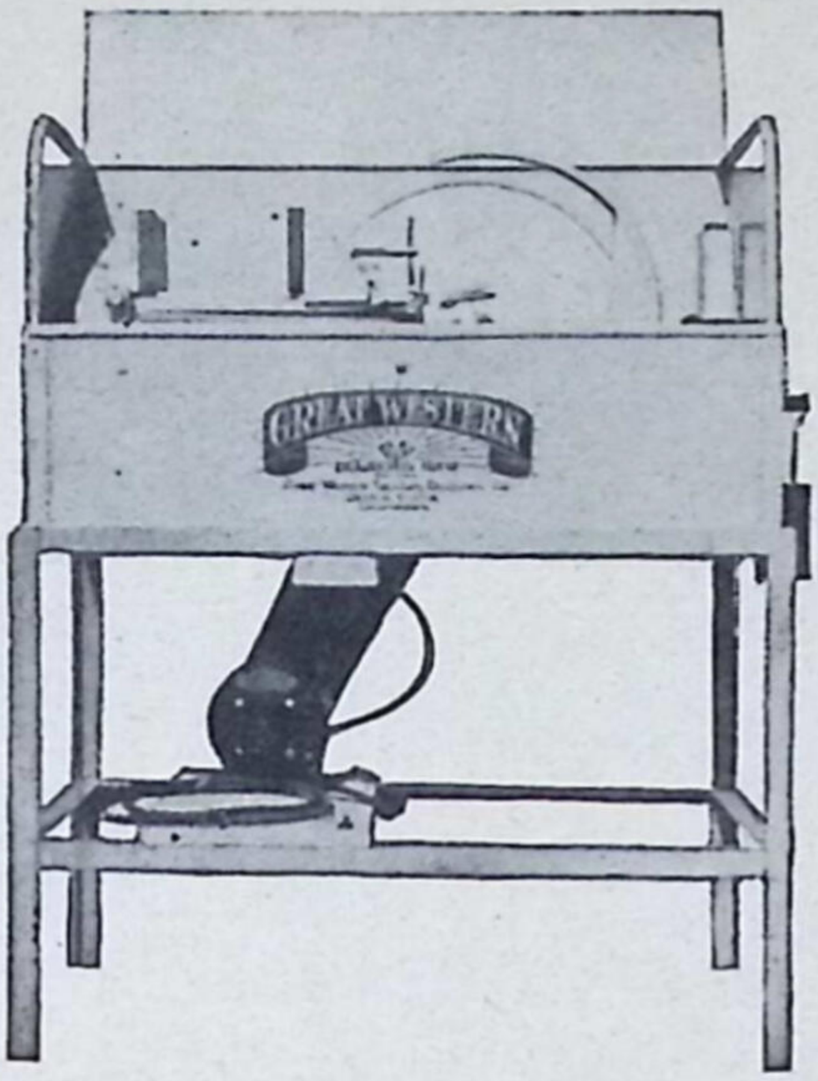
Col. White and Customs Agent Charles E. Williams told the story of intrigue surrounding the fake jewels and their eventual arrival in Los Angeles.

The original Szirak Treasure, valued at $5,000,000, has disappeared. But in 1937 Graf Herbert von der Marwitz, a Munich art dealer, bargained with a German goldsmith to make replicas of the valuable treasure, which he later attempted to pawn to the public as the originals.

But in the late 1940s Marwitz was arrested, tried and convicted by a German court for the forgeries. After serv-

(*Continued on page* 354)

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Calendar of Events

• • •

October 3-4—Fourth annual gem and jewelry show of the COMPTON GEM & MINERAL CLUB to be held at the Armory in Compton, Calif.

October 8-9—Annual Convention and Show of the EASTERN FEDERATION OF MINERALOGICAL & LAPIDARY SOCIETIES at the Alexander Hamilton Hotel in Paterson, N. J. See details on Page 258.

October 10-11—Sixth annual gem and jewelry show of the HOLLYWOOD LAPIDARY SOCIETY to be held at Plummer Park, 7377 Santa Monica Blvd., Hollywood, Calif.

October 10-11—Gem and Mineral Show of the EUGENE MINERAL CLUB at the Osburn Hotel, Eugene, Oregon.

October 17-18—Annual gem and mineral show of the WHITTIER GEM & MINERAL SOCIETY to be held in Smith Memorial Hall, College and Pickering Avenues, Whittier, Calif.

October 18 and for one week thereafter—Special showing in the Witte Museum, San Antonio, Texas of the work of the SAN ANTONIO ROCK & LAPIDARY SOCIETY. The museum will remain open in the evenings for the duration of the exhibit.

October 17-18—San Francisco Gem and Mineral Fair sponsored by NORTHERN CALIFORNIA MINERAL SOCIETY at Scottish Rite Hall, Van Ness & Sutter Streets, San Francisco, Calif.

October 24-25—Annual gem and mineral show of the ORANGE BELT MINERALOGICAL SOC. to be held at the Fair Grounds in San Bernardino, Calif.

October 24-25—Third Annual Gem & Mineral Show of SANTA CRUZ MINERAL & GEM SOCIETY will be held in the Mission Hill Junior High School Auditorium at Santa Cruz, Calif. Admission free.

November 6-7—17th Annual Competitive Gem and Mineral Show of the SACRAMENTO MINERAL SOCIETY will be held in Turn Verein Hall, 3349 J St., Sacramento, Calif. Hours on the 6th will be 9 a.m. to 10 p.m. and on the 7th from 10 a.m. to 9 p.m. Admission free.

• • •

(*Continued from page* 352)

ing his sentence Marwitz once again gained possession of the fake jewels and conjured a successful plan for their entry into the United States.

According to Col. White, it was Marwitz's plan to have the jewels sold here and the money sent to him in Europe.

Marwitz pretended to make a gift of the jewels to a Santa Barbara woman whom he met in Europe. The innocent recipient brought the jewels to the United States, where she tried to sell them, Col. White said. In New York she sold four pieces for $900 and returned to California.

However, during her New York sojourn she had taken the jewels to the curator at the Metropolitan Museum of Art, who became suspicious and notified authorities who, in turn gained the assistance of U.S. Customs officials.

Williams, working out of the Los Angeles Customs office, was assigned to the case. By this time, however, the woman had disappeared and, as Col. White puts it, Williams began his tedious investigation on a cold trail.

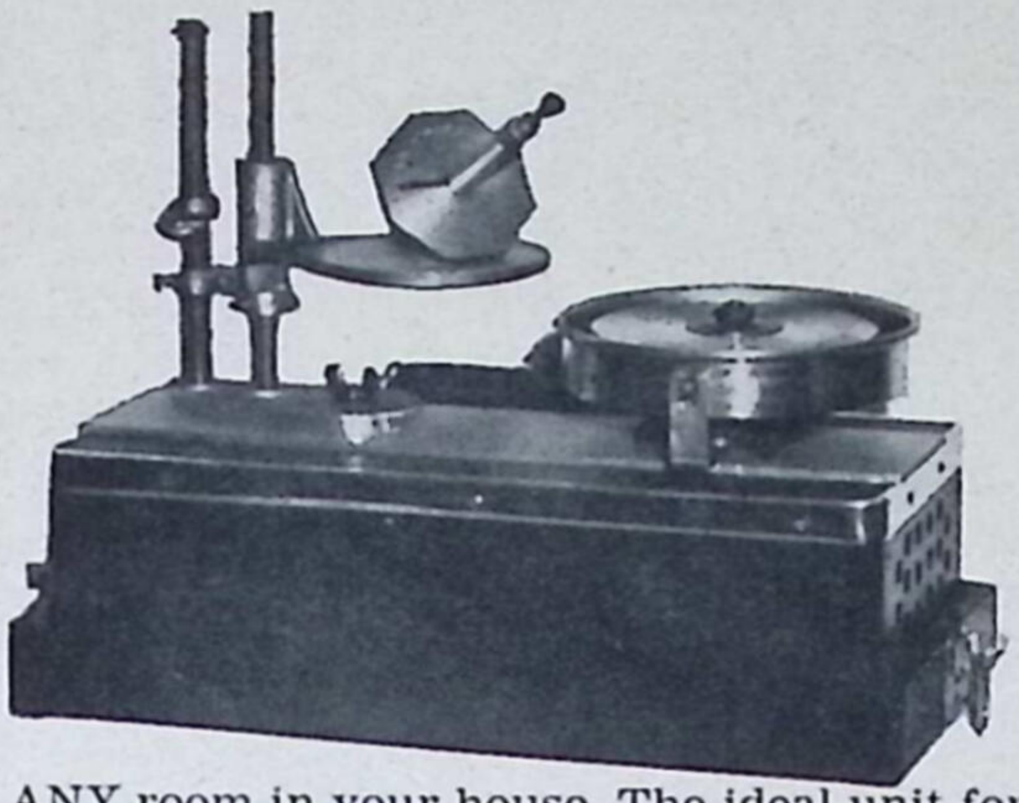
The woman who brought the fake jewels into the United States pleaded innocent when informed the jewels were fake and turned them over to Williams. She was absolved of criminal intent. The case of the counterfeit Szirak Treasure ended on the desk of Col. White in Los Angeles Customs offices.

Marwitz, he declared, committed suicide in Germany after learning he wouldn't receive payment for the sale of the jewels in America.

"We're going to auction off this fake stuff. We'll be lucky if it bring $500," Col. White said.

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◆ How to Make Heat-Resistant Dops

By CHARLES C. PARSONS
4930 Glacier Dr., Los Angeles 41, California
Member of *Los Angeles Lapidary Society*

One of the most difficult things for the lapidary novice to master is the art of dopping.

Like most beginners, I was introduced to the procedure by way of an assortment of dowel sticks and a couple pounds of dopping wax. The stones which I hoped to dop were placed in an old pie tin which rested on an asbestos pad over a low flame of a gas plate. In all the years since I dopped my first stone, I have found no way to improve on this method of heating stones for dopping. We were told to melt a gob of wax on the end of a dowel; the larger the stone, the larger the gob of wax. When this was accomplished, a stone was affixed to the waxy end of the stick to the accompaniment of singed fingers and short tempers. The sticks with their stones were then put aside to cool. When the stones had cooled sufficiently we went to the grinder to carry on with the shaping operation.

Now, due to an infinite amount of grinding and no noticeable dressing of the grinding wheels, my stick and stones parted company almost at once. This adds up to much fine dopping experience but rather sad lapidary accomplishment. I am convinced that the only good thing about the old method was the heating of the stones.

After a few weeks of this, I began to discuss (and cuss) this dopping business with everyone who would listen to me until folks started to avoid me; all to no avail. What if a few stones did get knocked off? This was the way it had always been done and what was the matter with it anyhow? Re-dopping kept one in good practice. I accepted this line of reasoning until I progressed to the sanders, then I really had trouble! A very little sanding produced so much heat that the wax melted and off came the stone. "Slow down!" I was cautioned. Being the hurrying type I don't like to slow down. That was when I began to do a little thinking.

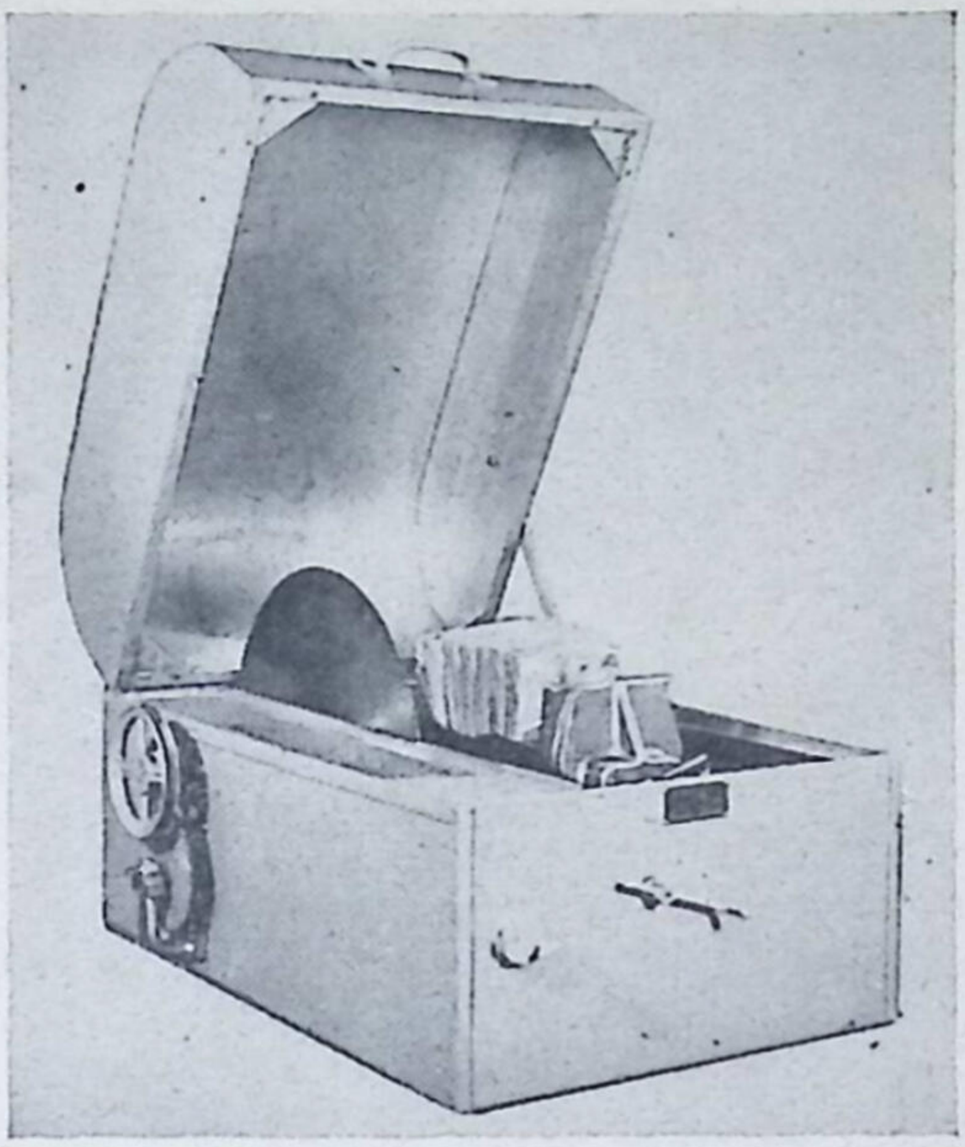
In the early days of the automobile many of the engines were air cooled. The cooling was accomplished by means of fins cut into the cylinder walls. With this in mind, I took a bar of 5/8" aluminum (because of its heat dissipating ability) and cut a mushroom-like flange at the top end on which to cement a stone. A half inch lower I cut a series of thin fins followed by a two inch long stem. This stem was fitted into the end of a dowel—and my first heat-resistant dop stick was born. It has been more than five years since I made this dop and to date I have not lost a stone from it. While this dop was highly successful in performance, its cost in time and material was too great for it to have any commercial possibilities. I continued to look around until one day, while browsing around in a war surplus store, I found an assortment of large area washers. Some had a 3/16" hole and others a 1/4" hole. I happened to have an eight penny nail in my pocket. The nail head was just a little larger than the hole in the larger washers. Then and there the idea came to me for the making of the nail and washer dop stick.

I have made several hundred of these dop sticks and have given many sets of them to friends. Every report coming to me of their use is good and I am passing the idea along for what it is worth.

From your lumber yard or hardware dealer get some 3/8" maple dowels. These come in three foot lengths. A half pound of eight penny nails will make all the dops you can use. It is a good idea to check on the shank size of the nails for a diameter of 1/8"; then a number 30 drill will make the correct size hole in the end of a dowel in which to insert the pointed end of a nail. Cut

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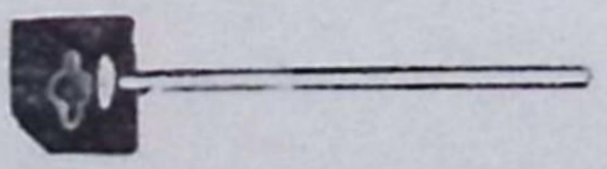
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the dowels into 2½" lengths; round both ends and drill a No. 30 hole in one end to a depth of 1¼". Get a number of large area washers but see that the hole is no larger than ¼". They should be from a size smaller than a dime to some as large as a quarter. Fit a nail head into the hole of each washer and silver solder it. Dress the top side with a file so that the stone will have a flat surface for adherence. When finished, push the pointed end into a dowel handle and you have the finished product. If you cut several washers you will have dops which will give better support to large ovals. The head of a finishing nail will do for very small stones.

In order to obtain the best results from these dop sticks the following procedure should be followed. Heat the stones in the usual manner, getting them just hot enough that they may be taken in the bare hands. Heat the head of a dop over an alcohol lamp. When the head is hot, apply a small amount of wax to the top; just enough to cover it. Then press on a stone and hold it in place until the wax sets. Place the dop with its stone in a board with drilled holes or a coffee can filled with sand or old coffee grounds. You will be very much surprised to find how little wax is required to do the job. Remember that the less wax applied to the stone, the less you will have to remove when the grinding and polishing has been completed. To remove the stone when it is completed, apply heat to the under side of the dop and off comes the stone. There will be a thin coat of wax on the stone, most of which can be removed with a knife. Drop the stone into a jar of alcohol or acetone and the rest of the wax will dissolve quickly.

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By ERNLE BRADFORD

In the chapters dealing with the historical background and growth of the craft in Europe, as well as those which concern themselves with specialized aspects of the subject the aim has been not so much to catalogue the outstanding examples of jewelry still in existence, but to indicate the course and changes of fashion—to chart, as it were, the main-stream of European jewelry since the sixteenth century.

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5"	.024	7.50	
6"	.030	7.90	9.50
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12"	.030		19.85
12"	.037	16.40	
14"	.037	20.40	
14"	.050	25.20	
16"	.050	28.70	

State arbor hole size

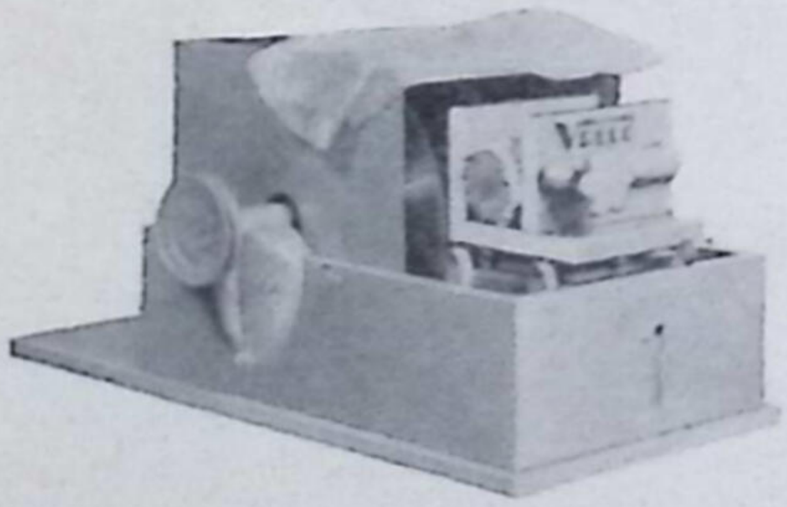
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NEWS OF THE DEALERS

Ray C. Mitchell of GUILD (Franklin Park, Ill.) is the fellow who really gave the ball a push on the tumbling idea in the *Jour*nal. See "How to Tumble Gems" in the Dec. '52 issue. We have had something about tumbling in every issue since then. Ray had a fine article in the July issue of *Popular Mechanics* entitled "From Rocks to Gems" and an article on how to build lapidary equipment was scheduled for the August issue of that magazine. Ray offers a new electric dopper in this issue on Page 315 . . . MacClanahan and Son have brought out a new tumbling machine and added it to their fine QUAD line. Write them for information. See their ad in this issue. . . . Membership in the *American Gem and Mineral Suppliers Ass'n* had increased to 81 members on July 1, 1953. 22 new members joined during the last year and 6 memberships were terminated for various reasons. . . . At the annual meeting held in Long Beach on August 16, Ed Foerster of J. J. JEWELCRAFT was elected President for the next year. . . . ALASKA HANDCRAFTERS expected a new shipment of jade in from the Kobuk region in Alaska about August 10. It will be sold to dealers. See ad in this issue for address. . . . FELKER MFG. CO., manufacturers of the famous RIM-LOCK and DI-MET saw blades, are actively engaged in going after the rockhound business again. See advertisement in this issue. The demand for their blades was so great in industry that they had little surplus for the gem cutters but they are now able to supply blades in any quantity. They are again offering the DH saw. The DH saw operates like a circular saw and was originally designed by De Witte Hagar, second President of the *Los Angeles Lapidary Society*. . . . LEE DEWING has moved to 1923 Empire Ave., Burbank, Calif. !See ad in this issue. Lee sells new and used lapidary equipment. . . . CHUCK JORDAN, one of the old timers in the business is setting up a new shop near Alta Vista, Kansas—Route 2, Box 50. Chuck was located in Los Angeles for years after he bought out Rocky Moore's old place and then he moved out to the Town and Country Market. Chuck just wants to do expert cutting and polishing now for those who have prize material they have no way of cutting themselves.



RECOMMENDED MINERALIGHT
Model SL2537
SHORT-WAVE ULTRA-VIOLET LAMP
Has Power—Spread—Brilliancy
Ideal for Fluorescent Minerals
Price $39.50, Plus 50c Postage
With Carrying Case 404 and two batteries for prospecting. Price, complete, $63.50, plus 75c postage. Other models $12.50 and up.

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Has flasher, ear phones, intensity meter. Price, complete $98.50, plus 75c postage.

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SPECIAL THIS MONTH

From Africa: Genuine emerald crystal specimens. Not cutting quality material but nice specimens.

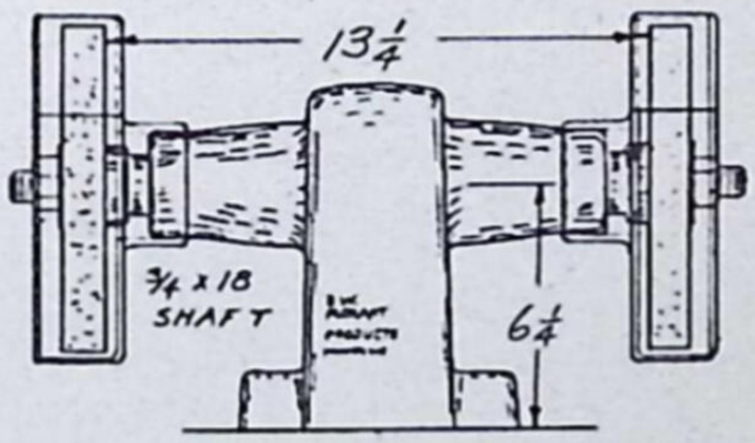
Weighing approximately 5 carats and up. Price at $1.00 per carat as long as they last.

Now at last we can supply other rough gem material"

For the past few months we have been working on a price list! We are happy to say this list is now ready and will be sent to anyone requesting it.

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D12A Grinder only	**$16.95 P.P.**
Splash Shield for D12A Grinder	6.50 P.P.
Extra Wide Shield for Drum	9.00 P.P.

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8x1 x100, $5.15 p.p.—	8x1 x220, $ 5.95 p.p.
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10x1 x100, $7.35 p.p.—	10x1 x220, $8.20 p.p.
10x1½x100, $9.90 p.p.—	10x1½x220, $11.20 p.p.
8" Sanding Disks Waterproof 5 for $1.00 p.p.	
3"x15' Sanding Cloth Waterproof	$1.95 p.p.
3"x150' W/P roll (save $4.00)	$14.50 p.p.
8"x3" Drum $7.75 p.p. — 8" Disk $6.75 p.p.	
Slabbing Trim Saw, (10" blade, extra) $45 p.p. (will slab 3" diameter rock)	
Trim Saw, 8 or 10" less blade	$33.95 p.p.
Trim Saw, 6, or 5" blade included	$28.95 p.p.
16" Cast Iron Lap Kit and Plans	$35.50 p.p.

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FOR CABOCHONS

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Cordierite (dichroite, iolite, Ceylon Water-Sapphire), 7½ moh, blue one direction, colorless others; completely grayish-blue in reflected light. Most dichroic of all gemstones. Spiderweb structure, finely granular. Scarce, probably out of Russia. Limited domestic stock at 3 grams for $3, 24 grams $12.

Opal, other stones as advertised August. Lists available.

Terms: Mail only. Add 20% to above for FET. All shipments from this location returnable in 10 days for full refund.

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Gem Materials

IDAHO STAR GARNETS

Rough crystal material

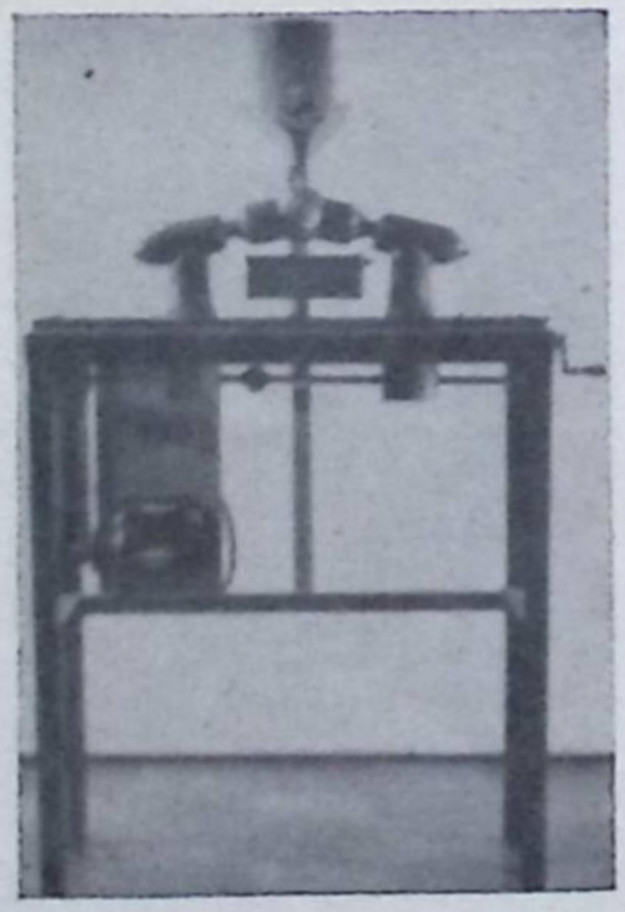
$3.00 per ounce—best quality $5.00 per ounce. Stones from 1 ounce to 5 ounces each (average 2 ounces). Instructions for cutting included with purchase. Tested stones 25c a gram. Cut stones $2.00 a carat. Please add 20% Federal Tax.

BUY THE BEST!

Send only $1.00 for an approval selection of gem slabs. Return the unwanted material with remittance for slabs kept, less your deposit. You risk nothing but you will enjoy selecting materials at your leisure from the large assortment we will send. 90% of the material will be from local sources. Be a satisfied customer!

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THE NEW VICTOR SPHERE MACHINE

RUGGED — SIMPLE
QUIET — SAFE

Write for particulars

VICTOR VALLEY GEM SHOP

BOX 158
PHELAN, CALIF.

We recommend him to our midwest subscribers particularly. Many a western rockhound was taught by Chuck; including yed. . . . Bill Odom of ODOM'S of Austin, Texas, has been busy building a large addition to his establishment. We hope to run a picture of it soon. . . . DETROIT LAPIDARY SUPPLY is the name of a new lapidary supply store being opened on the first of October at 10077 Gratiot Street, Detroit 13, Mich., by C. A. Temple. Dealers with items to wholesale are invited to apprise Mr. Temple of their wares. . . . Called on the Millers at the YELLOWSTONE AGATE SHOP in Livingston, Mont., recently and found one of the nicest agate shops we have ever visited; and with fine friendly proprietors too. . . . Called on the LAPIDARY EQUIPMENT COMPANY in Seattle and had a nice visit with Mr. Bradley, now the principal owner of the business. They have always been loyal and consistent advertisers with us, running at times as many as six different ads. Their plant is well equipped and they report record breaking business. . . . Had two long visits with Dr. Henry Dake in Seattle. Dake is editor and publisher of the *Mineralogist*, now 20 years old. Was happy to have him introduce us as the speaker at the Portland show because many people think we should behave like two strange bulldogs since we both publish rockhound magazines. Dr. Dake has been our valued friend for many years and our files are bursting with at least a hundred pages of information he has supplied us containing much very good advice indeed. . . . we saw many rock shops along the highways recently that we never heard of and we wonder why they are in hiding.

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- Rings
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PALM DESERT, CALIFORNIA

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Highland Park 8" combination units with 9" saw and slabbing device. A well designed complete lapidary machine. Ideal for use where space is limited.

Poly Arbors with all accessories for lapidary work make highly efficient gem cutting units for grinding, sanding and polishing. I use these myself for commercial production. Call for demonstration if possible or will send price list and fill your mail orders promptly.

Felker Di-Met Diamond Saw Blades

6" x .032 thick	$ 7.85
8" x .032 thick	10.40
8" x .040 thick	11.40
10" x .040 thick	14.80
12" x .040 thick	18.25
14" x .050 thick	25.20
16" x .064 thick	32.10

Please add postage and sales tax where applicable. These saws are in stock for immediate delivery.

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Call for demonstration, or will promptly fill your mail orders and send information on these by mail.

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"Peanut" Pitchstone (Almasite)
Opalized Obsidian

WAY DOWN IN OLD MEXICO, the land of romance and undiscovered precious and semi-precious stones. I have found something entirely new and fascinating. Basically, it is opalized obsidian (pitchstone) but embedded in it are beautiful round, bright red inclusions, like rounded peanuts or jumping beans. It makes beautiful cabochons and outstanding cabinet specimens in the rough.

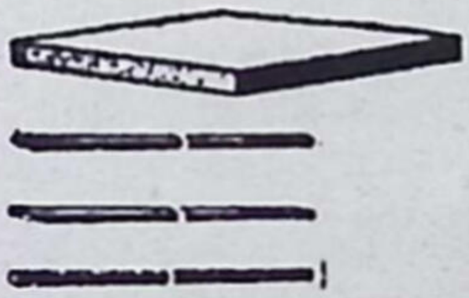
FLOR DE AMAPA, a pink epidote with radiating crystals resembling flowers. Looks like a mosaic when polished.

MASSIVE GARNET—Yellow & green mottled. SEND ME $5.00 for about 3 lbs. of any of the above or a mixture and get the thrill of your rockhound experience. Rockhound special of one pound of fragments for one dollar postpaid. All will contain the red "peanuts" in pitchstone matrix.

Highly fluorescent scheelite (tungsten) specimens. Cobalt ore specimens, No. 1 strategic material. Also mottled green-golden garnet, partly crystallized. Any of foregoing $1.00 pound postpaid.

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Guests received

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JEWELRY AUCTION BRINGS HIGH PRICES

Parke-Bernet Galleries, Inc., New York City, prominent art and book auction firm, recently announced a gross total of $4,118,667 for ninety-six sales held in the 1952-53 season, together with a review of its activities for the current season. The highest totals for single sales were $163,937, for the private collection of French furniture, paintings, drawing and objects of art of the late Felix Wildenstein; $157,595 for fifteen lots of precious-stone jewelry belonging to the estate of the late Mrs. Henry Ford; $150,310 for a collection of modern paintings, drawings and prints from a French private collector and other owners; $137,295 for precious-stone jewelry and fine furs from the Fisher estate and other private owners, $112,090 for French furniture, paintings and other art property belonging to Comte Charles de Rohan-Chabot; and $99,105 for a collection of English furniture, silver and other objects of art belonging to Mrs. Joseph E. Davis and other owners. There was a decline in the number of important collections to come on the market during the season but the demand for objects of the finest quality in all categories, if anything, increased. Price levels, on the whole, remained the same as during last season, and no significant shift in collecting preferences was noted.

Interest throughout the United States was aroused by the dispersal of a small but extremely valuable collection of precious-stone jewelry belonging to the estate of the late Mrs. Henry Ford. The total obtained for the fifteen catalog lots comprising the sale was $157,595. A diamond and emerald necklace, which was divisible into a brooch, a pair of earrings and three bracelets, was offered as a totality and then as five individual catalog lots. Sold as separate lots, the total price for the five component parts was $98,500. In the same sale, a ruby and diamond necklace brought $45,000, and an Oriental pearl necklace $4,000. Notable prices were also obtained in the sale of jewelry from the estate of the late Mrs. Fred J. Fisher and other owners, viz: an emerald-cut diamond ring of about 9.20 carats, $18,000; a brooch set with a marquise diamond weighing about 6.60 carats and eighty-

nine old mine diamonds, $13,250; a ring set with an octagon emerald (about 18.25 carats), twelve small round and eight baguette diamonds, $12,750; and a ring set with a marquise diamond (about 6.60 carats) and sixty-two small round diamonds, $12,250.

Objets de vertu were included in a number of sales and the sale of property belonging to Baron Basile de Lemmerman was devoted entirely to such valuable small objects featuring an extensive group of the work of Carl Faberge—jewels and icons. A four-inch high lapis lazuli figure of a dancing bear with rose diamond eyes by Faberge brought $1,600; a gold and enamel presentation snuff box with enamel miniatures, lavishly set with diamonds, $1,500; a tiny gold-mounted purpurine charka (cup), set with rubies and emeralds, a presentation gift from Czar Alexander III, brought $1,450; and an Imperial gold- and enamel-mounted rose aventurine heart-shaped dish, set with rose diamonds and pearls, $1,300. In the Homer H. Harris and other owners sale of furniture and art objects, a Louis XV finely chased gold snuff box (ca. 1750) brought $1,050; and in other sales in which bibelots were prominently featured, a pair of Viennese enamel and wrought silver vases set with garnets, en suite with a table clock, sold for $2,275; and the historical "Hundred Days" chased gold snuff box of Napoleon I, with a portrait miniature of the Emperor (about 1805), for $1,500.

Five sales of Chinese and other Oriental art were held during the season and three of them netted totals from $5,000 to more than $10,000 above the appraisal values, reflecting the closing of China to the export trade. Among the high prices procured for this type of art objects were:

An Imperial carved spinach jade table screen, with a poem of Ch'ien Lung, in a teakwood and ivory stand; and a similar screen in a matching stand, $2,200.

A carved rose quartz figural vase with cover, mounted as a lamp, $1,600.

A bronze tripod caulron of the Shang era, $1,500.

A pair of carved moss-jade bronze-form vases with covers, $1,250.

A carved emerald green and mauve jade tripod koro with cover, $1,200.

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6 mm. Round	$ .20
7 mm. Round	.22
8 mm. Round	.24
9 mm. Round	.26
10 mm. Round	.28
11 mm. Round	.30
12 mm. Round	.35
20 mm. Round	1.00
26 mm. Round	2.00
36 mm. Round	3.50
50 mm. Round	6.50
8x10 Emerald Cut	.40
10x12 Emerald Cut	.44
10x14 Emerald Cut	.46
12x14 Emerald Cut	.50
16x22 Emerald Cut	1.00
20x26 Octagon Cut	2.00
15 mm. Round Fancy Cut top	.50
38 mm. Round Fancy Cut top	4.00

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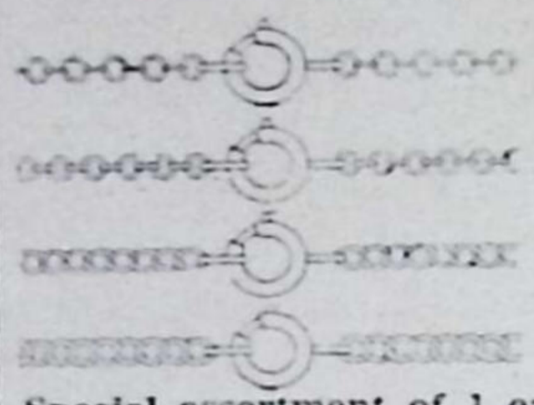
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SEATTLE 44, WASHINGTON

SPECIAL THIS MONTH
18" NECK CHAINS



No. 34M—Sterling 55c each. 10 for $4.40. Cable links.
No. 35M—Sterling 74c each. 10 for $5.90. Cable links.
No. 11M—Sterling 67c each. 10 for $5.30. Curb links.
No. 36M—Sterling 99c each. 10 for $7.90. Curb links.
Special assortment of 1 each chain (4 chains) sterling $2.10. Regular $2.95
Special assortment of 10 each chain (40 chains) sterling $17.65. Regular $23.50. Tax paid all.
Catalog findings and mountings for asking.
DOCKSTADER'S—Box 26, La Crescenta, Cal.

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Faceting Units
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HOWARD . . . PRICE $3.00
The most complete treatise ever written on the subject of the theory and practice of gem cutting.
Step by step instructions—simple—clear—concise, easily understood by the beginner.
New techniques — new tools — new helps, helpful for every advanced student.
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TOUGH LUCK

(As recently reported in TIME)

Lean, stubborn Charles A. (for Austin) Steen was so full of troubles that it was only natural to think of him as Bad-Luck Charlie. A onetime oil geologist for Socony-Vacuum, he spent two years in the South American jungle where no white men had ever been before, then went to work for a Texas oil company. When he was fired for telling off his boss, he found that no other oil company would have him. He scraped along in the contracting business for a while, but never forgot a romantic dream of his days at the Texas College of Mines: prospecting and finding a million dollars. In the Atomic Age, he decided, his best chance was uranium.

With $1,000 borrowed from his mother in 1948, Steen packed his wife and three children off to southeastern Utah, where there are uranium mines. He "sniffed around" without the help of a Geiger counter, finally staked out claims on a high sandstone ridge in the Big Indian district near Cisco — land which AEC had officially declared "barren of possibilities." Time after time Charlie got promises of money to help develop his property, but when people took a closer look, they always backed out. The Steens lived on oatmeal and beans; the only meat they had was venison which Charlie bagged on hunting expeditions. In 1950, his savings gone, Steen moved to Tucson, went to work as a carpenter to get a grubstake. After a year, the Steens sold their trailer for $375, climbed into the family jeep and headed back across the desert for Cisco, where they rented a shack with no plumbing or electricity for $15 a month.

Charlie's wife came down with pneumonia. For a while the Steens owed $300 in grocery bills, had no money to buy milk for their ten-week-old baby; they fed him weakly sugared tea instead. Winter evenings, Steen foraged for coal at a nearby railroad. Then, when things looked blackest, Bad Luck Charlie's luck began to turn.

He got $1,000 from one old friend, borrowed $100 from another and bought a secondhand drilling rig. On his first try, at a depth of 73 feet, the rig broke down. Steen, who had no money to buy a Geiger counter borrowed one from a friend to test a sample of the grayish black rock brought up by

the drill. The needle nearly jumped from the dial of the instrument. "We've found it!" cried Charlie. "We've found a million dollars!"

Nobody believed him. For months AEC did not report back on his ore samples; neighbors gossiped that Charlie had salted "Steen's Folly" with pitchblende to raise money from the gullible. But Steen soon proved them wrong. He got $15,000 from Texas Construction Man Dan O'Laurie, incorporated as Utex Exploration Co., and started selling his ore to refiners at $50 and up a ton. AEC finally classified "Steen's Folly" as probably "one of the major uranium strikes" in the U.S.—an estimated 1,350,000 tons of uraninite ore reserves with a value of more than $60 million. Most uranium miners can stay in business if their ore shows a uranium content of .20%; Charlie's lowest grade ore assays at .49% uranium.

As the first checks rolled in, Steen bought himself a flaming red Lincoln and sports jacket to match, now tours his mining properties with a Dalmatian sitting beside him in the car. Occasionally, he flies his private plane up to Salt Lake City for rumba lessons.

This month a syndicate headed by a Texas oilman offered Steen $5,000,000 for his property; last week he turned it down, is angling for a deal for $10 million with another group. Says Charlie Steen: "I don't want to build a financial empire, or become any kind of big entrepreneur—I'm not cut out for it. I'm just a geologist and prospector, and that's what I want to be—although now I can do my prospecting in a limousine."

* * *

The Federal Trade Commission recently specified that any illustration enlarging the size of jewelry for sale must clearly and conspicuously state how much it has been enlarged over actual size or that it is enlarged to show detail. Use of the word "stone" or "gem" as descriptive of synthetic stones must disclose clearly that they are not natural stones or gems. Firms have been advised to discontinue the practice in some quarters of representing in their advertising that synthetic stones are exact duplicates of natural stones, that they are the product of atomic research or that they have been acclaimed by experts or magazines.

SPECIAL This Month
No. 20 Pendant



$1 each without stone. Regular $2.25. Sterling silver anti-tarnish for 30/40 mm. stone.
Add 20% tax
Heavy 18" neck chains (sterling) 86c each.
$6.60 for 10. Add 20% tax.
Free — 8½x11" illustrated catalog of other findings and mountings for asking.

DOCKSTADER'S BOX 26
La Crescenta, Calif.

Christmas Special

100 inches of sound colorful Arizona agate for $10.00 postpaid. Or 50 inches for $5.00. Check or money order with letter. Money back if not pleased. If so desired will Christmas wrap with your card or name and mail direct to friends or relatives 25c extra.

A nice piece of cutting chrysocola in each pack.

Get order in Early and avoid last minute rush.

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100 page pamphlet with 21 pictures
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ROTH TRIM SAW
80 of them in use the first year of manufacture
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ROUGH

DARK BLUE AUSTRALIAN SAPPHIRE rich color for faceting and cabochon cutting, weighing 3 to 10 carats each, 6 carats $5.00, 15 carats $10.00, 30 carats $17.00.

OPALS

BLACK OPALS average pieces 3 to 4 carats, 3 pieces for $2.00, 7 pieces for $4.00. Average pieces 5 to 6 carats, $2.50 each, 3 for $6.00.

WHITE OPAL lively commercial quality to cut sizes 10x8 to 14x12, 15 carats $5.00, 40 carats $10.00. Large pieces commercial quality $17.50 and $25.00 per ounce. Only limited supply on hand.

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INCLUSIONS AS A MEANS OF GEMSTONE IDENTIFICATION

By Edward J. Gubelin, G.G., F.G.A., Ph.D. of Lucerne, Switzerland. First Edition, 1953. Published by Gemological Institute of America, Los Angeles. 232 pages. 258 illustrations. Complete bibliography. $6.75 postpaid from *Lapidary Journal*.

Culminating years of research, this latest contribution to gemological science introduces a comprehensive compilation of what has been learned in the past—plus the recorded results of the author's intensive study—of the most modern method for the identification of gemstones.

For more than a century the consistent and peculiar arrangement of internal structures within each species of gem mineral has been an intriguing subject among mineralogists. Information, although somewhat limited in scope, has been published as long ago as the early part of the 19th century. This book, however, represents the first complete compilation in text form of all available information on the subject for the use of jewelers, gemological students and advanced lapidaries.

The author is, undoubtedly, the best qualified of any living gemologist to prepare a book of this kind. For more than a decade Dr. Gubelin has been photographing the interior of gemstones under magnification in support of his belief that typical inclusions are found in each species and, moreover, that their source of origin can also be established, in many cases, through the recognition of inclusions typical of a locality. The book is liberally illustrated with photomicrographs in support of his findings —256 of which are shown in black and white, and two in natural color.

The importance of this contribution

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to the jewelry industry can be comprehended only when one realizes that today the jeweler is confronted with an increasing problem in gem identification, resulting from new or improved methods of gemstone synthesis and treatment. One of the easiest, and in some cases the only, method of detecting a synthetic stone is by analyzing the inclusions within the stone—since there is a distinct relationship between the type of inclusions and the method by which the stone is formed.

The book contains twenty-three chapters describing inclusions typical to sixteen of the more commonly encountered species. In addition, comprehensive descriptions are given of inclusions found within synthetics, reconstructed rubies, glass and assembled stones. All of these are excellently illustrated by photomicrographs of characteristic inclusions carefully selected from Dr. Gubelin's extensive file of inclusion slides produced during the many years he has spent in research on the subject.

No attempt has been made to include all of the inclusions and patterns of arrangement that are to be found in all gems, since no two gems are exactly alike in this respect. Instead, Dr. Gubelin has devoted several chapters of the book to the basic types of inclusions that result from the different methods of formation. These cover such topics as solid inclusions, liquid inclusions, gaseous inclusions, cracks and fissures as inclusions, as well as inclusions resulting from growth phenomena. Coupling this information with the types of deposits in which the different gem species are found, enables one to better evaluate the numerous inclusions that may be encountered but which are not specifically illustrated in the book.

This book will be of great assistance to the many gemological students who have requested information concerning sources of photographs of gemstones, and procedures for photomicrography of inclusions. Unfortunately, some of the problems encountered in microscopy such as required depth of focus, working distances and illumination necessary to photograph inclusions, are not only quite different from that required for photographing thin sections, but every stone—depending upon the degree of transparency, size, style of cut, and polish — requires a slightly different

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technique. Even when these problems are overcome, the task of acquiring a suitable cross-section of the type of inclusions to be expected is, in itself, a tremendous task. By overcoming these obstacles during his many years of experimentation, Dr. Gueblin has made available one of the most valuable text books to date in the ever-expanding science of gemstones.

The book has an overall size of six by nine inches, is attractively bound in navy waterproof fabric with gilt stamping, and includes six pages of bibliography listing all known sources of information previously published on this fascinating subject.

* * *

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Reviews of Some of the New Fall Books

A HISTORY OF JEWELLERY by Joan Evans — $17.50. Published in England by Pitman Publishing Corp., 2 W. 45th St., New York 36, N. Y. For sale by *Lapidary Journal* at $17.50 postpaid, plus sales tax on California purchases

This is the highest priced book we have ever offered and it is obviously only a book for the collector or the serious student of jewelry. However it is one of the finest books on jewelry we have ever examined for it contains 426 pages, 9¾x6¼". Included in the book are 10 plates in full gorgeous color, 48 line drawings in the text and 176 full pages of monochrome half-tone illustrations of jewelry pieces made by the world's leading jewelry craftsmen between the year 1100 and 1870 A.D.

Dr. Joan Evans has studied the history of secular jewelry for many years and in this fine book she employs her unique knowledge to provide a documented history of the subject in Western Europe, in Mediaeval, Renaissance and later times up to the year 1870.

The copious illustrations draw upon royal and private collections and the museums of Europe and America. They include reproductions of many engraved designs for jewels. The book should prove valuable to the collector and amateur and should have unusual interest for the social historian.

If you belong to a jewelry class and you become puzzled about what to give your instructor for a Christmas present —this is it. Take up a collection and present him (or her) with this beautiful volume as a testimonial of your high regard.

* * *

FOUR CENTURIES OF EUROPEAN JEWELLERY by Ernle Bradford— $12.00. Published in England for the Philosophical Library, 15 E. 40th St., New York 16, N. Y. For sale by *Lapidary Journal* at $12.00 postpaid, plus sales tax on California purchases.

This is another fine volume for all connoisseurs of jewelry, particularly for those who are beginning to build their own collections. It is also designed to meet the special needs of art students and the younger jewelcrafter.

While the subject matter is about the same as the foregoing book it confines itself in this case to European jewelry only and from the period from the Renaissance to the present. The book begins with a survey of the jewelry of the ancient world and a chapter on the brilliant craftsmen of the Italian Renaissance. The author discusses the fashions and products affecting the use of jewelry and brings his historical survey right down to the use of the newer metals and the production of costume jewelry in the twentieth century.

The second part of the book is for the gem collector and of interest to the gem cutter for it deals with precious stones and the techniques used in preparing and mounting them. There are chapters on diamonds, rings, enamels, cameos, paste and marcasite, the precious metals, pearls, amber, jet and coral, on birthstones and the art of gem cutting. Stress is laid throughout the whole book on how jewelry is made, for without this knowledge no student or serious collector can either enjoy to the full the artifice that creates a piece or correctly judge its worth. In 226 pages (9¾x 7¼") there are 48 pages of fine illustrations chosen to represent the finest examples of European craftsmen over the past four centuries. This is another fine thought for Christmas giving.

* * *

THE STORY OF WATCHES by T. P. Camerer Cuss—$7.50. Published in England for the Philosophical Library, 15 E. 40th St., New York 16, N. Y. For sale by the *Lapidary Journal* at $7.50 postpaid, plus sales tax on California purchases.

Here is a volume for those of our readers who may be interested in watches and the history of watches; jewelers etc. The book tells the story of the watch from its origin in the portable clocks of the fifteenth century down to the factory made watches of today.

It is a convenient reference book for horologists but interested laymen will find clear descriptions of the most complicated mechanical operations. This appears to be the only book presently available on watches. 176 pages (8½x 5½″) with many illustrations.

* * *

ROCKHOUNDS IN THE MAKING by Marguerite Beymer—$2.50. Published by the author at 527 E. 8th St., The Dalles, Oregon. For sale by the *Lapidary Journal* at $2.50 postpaid, plus sales tax on California purchases.

Here is a "true confession" type of book for the rockhound who is interested in how his fellow rockhounds "got that way"—and who isn't? The book recounts, in a highly readable fashion, the story of how 68 nationally known rockhounds became interested in rocks and what the hobby has meant to them. In 112 pages (9x6″), with a frontispiece in color of a magnificent plume agate, one will find much of interest about the personal lives of many persons mentioned in these pages and advertisements from time to time. A good book to have in the club library for inspirational reading by new members.

* * *

HOW TO CUT GEMS by Dan O'Brien —$1.00. Published by the author at 1116 N. Wilcox Ave., Hollywood 38, Calif. For sale by the *Lapidary Journal* at $1.00 postpaid, plus sales tax on California purchases.

This new "how to do it" book gives easy to follow, step by step instruction, to make your cutting easier, faster and a real pleasure. Both cabochon and facet cutting are described. Plenty of tips to help the beginner over the rough spots. The book also gives many useful tips on how to make equipment last and how to save money on purchasing supplies. While it is a book for the beginner the old timers will love it. 50 pages (9¼x6⅛″) and well illustrated. Paper cover. Not a big book but certainly a very BIG book for only a dollar.

A FIELD GUIDE TO ROCKS AND MINERALS by Dr. Frederick H. Pough—$3.75. Published by Houghton Mifflin Co., 2 Park St., Boston 7, Mass. Publication date is October 20, 1953. For sale by the *Lapidary Journal* at $3.75 postpaid, plus sales tax on California purchases. Available from most dealers. See ads in this issue.

This is a book that reportedly can be used anywhere in the world although we have not examined it as this is written. It is supposed to be a book that can be used anywhere and it is claimed to be complete enough to satisfy the demands of both the amateur and the professional. A generous use of 234 photographs, 72 in full color, and the simplified field guide approach to identification have made it possible to compress an enormous body of information into the Guide. For the serious rockhound not trained in mineralogy this book should open a whole new fascinating area for observation and study. While chemical and other testing procedures are discussed the author places emphasis on the immediate identification in the field. Every mineral which the non-specialist is likely to encounter is described in detail.

Dr. Pough was, until about a year ago, the Curator of Minerals and Physical Geology at the American Museum of Natural History in New York and is one of the most qualified men in America to write such a book. A long time personal friend we feel so confident that the book is the answer to a long felt want that we do not hesitate to recommend it before we read it personally. Through the years hundreds of persons have come to our booth at shows and said "do you have a book that will show me just how to recognize a rock when I am out on a trip." The truthful answer was "no." Now we believe that A FIELD GUIDE TO ROCKS AND MINERALS will enable us to say "yes." A fine item for the Christmas stocking of the rockhound member of the family.

* * *

THE ROCKHOUND
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GUIDE
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AND HOW
See details on page 335

◆ News of the Societies

Many of the clubs did not hold meetings during the summer and many of those who did confined their meetings to picnic suppers and entertainment programs rather than any serious educational program. The following items have been culled from bulletins received during the vacationing period.

SAN FERNANDO VALLEY MINERAL & GEM SOC. (North Hollywood, Calif.) heard Howard A. Boblet of the R&B Art-Craft Co. offer a lecture on jewelry making at their August meeting.

* * *

SANTA FE GEM & MINERAL CLUB (N. M.) has adopted the name of *The Stone Age* for their informative club bulletin.

* * *

AUSTIN GEM & MINERAL SOC. (Texas) recently had 62 members and 14 guests at a summer meeting held in Bandit Cavern at which time the history of the cavern was outlined by the owner, Dr. A. A. Amend.

* * *

LAPIDARY & GEM SOC. OF NEW YORK has moved to newer and larger quarters at the Hotel Paris (dining room annex) at 97th street and West End Avenue. This is the third move since the society was organized by the Editor in 1949. The Society has abandoned use of the club's own workshop because most of the members now have their own machinery.

* * *

HOLLYWOOD LAPIDARY SOC. (Calif.) recently heard Dr. Boutross in a lecture on pearls, following which he dramatically held aloft an oyster just flown in from Japan and preserved in formaldehyde. He then performed an operation on the shriveled oyster and produced a fine 6½ mm. pearl to the wonderment of his audience. Following the meeting the society's bulletin, the *Sphere*, was devoted to a special pearl issue.

* * *

COLORADO MINERAL SOC. (Denver) announces that Denver University will offer a special course during the Fall Quarter on "Precious Stones in Colorado."

* * *

COMPTON GEM & MINERAL CLUB (Compton, Calif.) will be holding their usual big annual show about the time you receive this (October 3 and 4) in the California National Guard Armory at Alameda and Elm St. Past President Arnold will conduct a daily barbecue at the event.

* * *

RIO GRANDE ROCK CLUB (Monte Vista, Colo.) has a new bulletin called *The Thunderegg*. The August program featured "Stories in Stones" by the Wilbur family.

* * *

DELVERS GEM & MINERAL SOC. (Downey, Calif.) heard Walter Pilkington speak on the nodules from the Priday and Kennedy ranches in Oregon. The talk was accompanied by colored slides.

OKLAHOMA MINERAL & GEM SOC. (Oklahoma City) held a field trip on August 1 and 2 to the famous lead mines at Picher, Oklahoma. Sweaters in August were standard field trip wear because of the cold mines.

* * *

THE SAN FRANCISCO GEM & MINERAL SOCIETY, INC. (Northern California Mineral Society) is the new and complete name of the former Northern California Mineral Society.

* * *

THE LAPIDARY CLUB OF WASHINGTON, D. C., recently welcomed their President, Colonel John Livingston, home from Korea.

* * *

FORT RANDALL GEMITES (Pickstown, S. D.) recently heard member Earl Cover in a talk on the teachniques used to lay out gemstones in a manner to obtain the best pattern and quality.

* * *

LOS ANGELES LAPIDARY SOC. has solved the problem of a clean assembly room after the smoking is over. Members were asked to bring the lids from their old coffee cans and now these are handed out at the door to smokers and the butts are collected after the meeting.

* * *

ILLINOIS VALLEY MINERAL HOBBIES CLUB is the name of a new club recently formed in Southern Oregon. It will meet at Cave Junction.

* * *

UKIAH STONE AND GEM CLUB (Cal.) has purchased new lapidary equipment for the use of members who have none.

* * *

SALEM GEOLOGICAL SOC. (Salem, Ore.) reports in their bulletin, *The Geode*, that the society recently contributed $100 to nearby Willamette University toward a fund raising drive for needed expansion. (Applause. Ed.)

* * *

GLENDALE LAPIDARY & GEM SOC. (Calif.) witnessed color slides of mining opal in the Virgin Valley of Nevada at their August meeting.

* * *

WASATCH GEM SOC. (Salt Lake City, Utah) heard Leo B. Feddigan in a talk on abrasives at an open air meeting at the home of a member in July. Prior to the meeting a field trip was held through a neighboring brick yard to see how bricks were made and following the lecture the hosts gave a watermelon party.

* * *

SAN ANTONIO ROCK & LAPIDARY SOC. (Texas) has secured permission of the Witte Museum to hold a show of their work for the week beginning October 18. The museum will remain open in the evening during that week so that the working public can see the lapidary and mineral displays.

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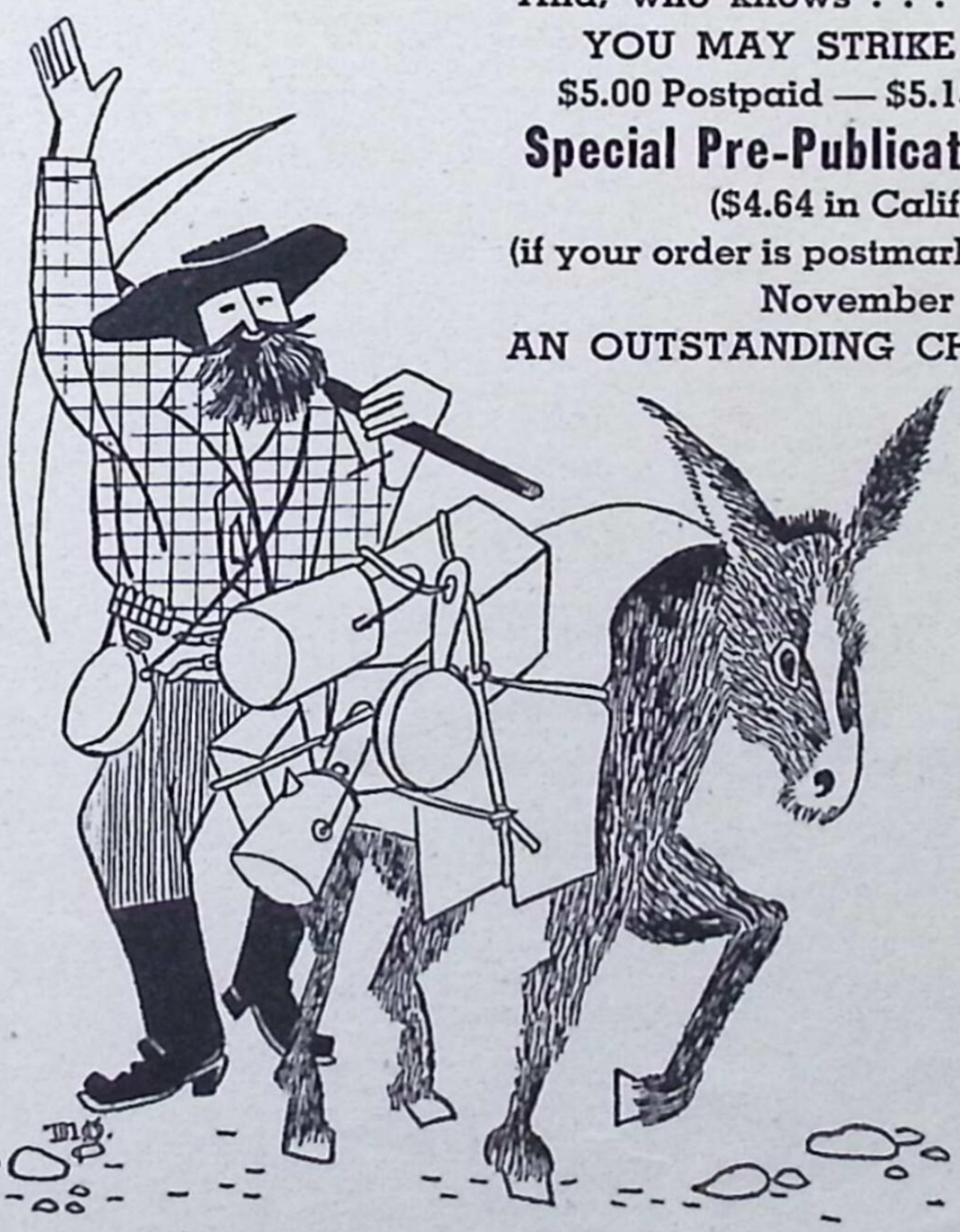
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FIRE AGATE—$1 per piece. These are cabinet specimens and contain the ferric colors. Fire agate desert roses $1.50 each. Crystallized desert roses $1 each. All items postpaid. ARLENE DIMICK, Box 1795, Clifton, Ariz.

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FINE AGATES—Golden moss, banded and some with carnelian from N.M.—$1.00 lb. Escadillo agate, colorful Arizona wood, Baker Ranch eggs, specimen chrysocolla, beautiful red jasper—all at 75c lb. 5 lb. selection—$3.75. 10 lbs.—$7.00. Please include postage. SEQUOIA ROCK SHOP, 414 W. Race St., Visalia, Calif.

AGATES IN THE ROUGH—Wood replacements—75c lb. Mosses, red, green, pink—75c lb. Burns nodules; scenic—75 lb. Nodules; Friday, Ochoco, Pony Butte—50c lb. Plus postage. We have slices and specimen pieces. WISHING WELL AGATE SHOP, Depoe Bay, Ore.

FOR SALE—Wyoming "moonstones;" clear, no matrix. Many can be mounted in natural state; also perfect for cutting, polishing or tumbling. Price: fifty cents each, postpaid. FEESE & FEESE, 314 S. Wilson, Casper, Wyo.

AGATIZED CORAL — Slabbed and rough cuts from a good selection of Tampa Bay geode's. Write for prices. MAC'S ROCK PILE, 533 S. Osprey Ave., Sarasota, Fla.

DINOSAUR BONE — Gem quality for beautiful cabs, spheres, etc. Colorful agatized, jasperized and opalized bone—50c lb. Also have unique red lace agate for your choice displays—$1 lb. All orders postage extra. E. K. STEPHEN, Route 2, Grand Junction, Colo.

SELECT QUALITY Assorted Moss Agate, including red and green. 10 to 15 unpolished cab size slabs, 25 square inches or more in all (no heels)—$5 postpaid. Red and black plume 50c square inch and up according to quality and design. Also small amount of beautiful pom-pom in unpolished cab size slabs only. Ring set sizes $1 and up. Brooch sizes higher. State your wants and price range. Each piece priced separately. Pay for what you keep and return remainder by insured parcel post. Satisfaction guaranteed. E. W. IMMEL, Rt. 11 Box 419, San Antonio, Texas.

FLORIDA BOUND?—Agatized coral our specialty. Rough or polished. Geodes and gemstones. Slab materials. Silver findings. Authorized dealer for Frantom units, Poly arbors, Stonemaster units, Great Western saws, Alta products. Ultra-Violet Mineralights. ROCK & SHELL SHOP, 2033 Red Rd., Coral Gables, Fla. Geo. and Mildred Williamson.

MEXICAN AGATE AND FIRE OPAL—Four agate slabs $1, opal in matrix, mine run, ¼ lb. $1. Small fiery pieces free of matrix $1. Also Australian white and Andamooka $1 up per piece. J. W. McMANUS, BOX 1185, Port Arthur, Texas.

FLORIDA agatized coral in beautiful colors and assorted sizes. Bargain assortment; 2 lbs. for $2.50 postpaid. Satisfaction guaranteed. WILLIAM KILPATRICK, 1760 19th St. South, St. Petersburg, Fla.

CAMPOPHYLLUM CORAL SLABS, tan with lighter crystal coral. Will take a fine polish, 25 square inches for $1.00; slabs for desk sets and bookends priced on request. Other fossil slabs available. Pink and white celestite, 25c to $2.00 a specimen; limonite crystals, pseudo after pyrite, 3 groups for 25c; fossils from the cretaceous and Pennsylvain of Texas. Add postage. Wanted—Echinoids (fossil sea urchins) from other localities. Will buy or exchange fossils from Texas. THE RENFRO'S, 2901 Bomar Ave., Fort Worth 3, Texas.

BEAUTIFUL OHIO FLINT—Very colorful, takes excellent polish. 2 lbs. for $1.00. Postage extra. R. J. BURDICK, Box 251, Marion, Ohio.

SLAB SPECIAL: 15 square inches, not trims, Oregon agate, wood, etc. $3, double amount $5. Tempskya our specialty, 50c sq. in., minimum order $1, also masses and buds. Price list available on other material. ART'S AGATE SHOP, 2820 "D" St., Baker, Ore.

PLUME AGATE—White, pale pink and yellow, a new find in Central Oregon. Caps, slabs or rough at reasonable prices. By mail or on approval or see at LARRY'S LAPIDARY LAIR, 590 N. Fairview, Prineville, Ore.

DENDRITIC OPAL (Kansas), good polishing stone, only $1.25 a pound. HASTINGS TYPEWRITER CO., Hastings, Nebr.

FOR SALE—New Mexico's finest red calcite; fluoresces strawberry red under short wave lamp. Rattlesnake calcite; fluoresces pink; phosphoresces blue under short wave lamp, $1.20 per lb., postpaid or $75.00 per hundred freight paid. Satisfaction guaranteed or money refunded. TOM ELLIS, Rt. 2 Box 492, Waco, Texas.

PONY BUTTE THUNDEREGGS from the original Priday Ranch in Central Oregon. $1.25 per pound and 5 pounds for $5.00. HASTINGS TYPEWRITER CO., Hastings, Nebr.

AUSTRALIAN CUTTING FIRE OPAL—We stock this opal in all grades. Low grade for student cutters, $1, $2, $4, $6, per ounce. Better grade $10 to $20 per ounce. Gem grade $25 and up per ounce. We also have fine cutting and faceting material and a large stock of outstanding specimens. H. A. IVERS, 1400 Hacienda Blvd. (Highway 39), La Habra, Calif.

ILLINOIS—The largest stock of cutting, polishing and specimen material—12 tons of it. Anything for the discriminating rockhound and collector. Also lapidary supplies and equipment, bezels and mounts. We also show finished specimen which will give you an idea what you can make. No list. Come early, stay late. R. HEIKE, Wenona, Ill.

MOJAVE DESERT GEMSTONE—Beautiful moss, plume, rainbow, Horse Canyon, banded and other gemstones from many parts of the country. Send for our DeLuxe selection of 25 square inches, or an 8 lb. mixture of high grade gemstone for $5.00, shipped prepaid and insured with our money back guarantee. Write for our gemstone price list. We sell Highland Park lapidary equipment, Congo reversible saw blades. Write for literature. SAN FERNANDO VALLEY ROCK SHOP, 6329 Lindley Ave., Reseda, Calif.

OKLAHOMA BARITE ROSE ROCKS—New find, sharp petals, not weathered. You will be pleased with $1.00 specimens or several small ones for $1.00. Money back guarantee. Include 25c postage. Super specimens and clusters priced on request. HACK'S ROSE ROCKS, 2917 W. Park, Oklahoma City, Okla.

MONTANA AGATE — selected stones of gem quality. Assorted color and moss spots—three pounds $3.95 or six pounds $7.85, postpaid. Ring preforms, 16x12, $3.60 per doz., genuine Swiss needle files, one dozen assorted, $5.00. BRUCE M. WARD, 702 Woodbury St., Miles City, Mont.

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TUMBLED GEMSTONES — Retail or wholesale. Findings and chains for earrings, bracelets and necklaces. Sterling silver or gold filled. Polished spheres. Rough cutting material for beginners—$1. Labeled specimens for $5 plus postage. H. & C. GREEN, 4128 W. 159th St., Lawndale, Calif.

FOR SALE — Genuine imported Ceylon gems, star sapphires, tourmalines, opals, garnets, moonstones, catseyes and other semi-precious stones. Prices and quality optional. Can offer quantities of above stones (low grade) at low prices for gem and lapidary school practice. C. C. BENNETT, Export-Import, Marlboro Rd. 1, Alliance, Ohio.

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10 GENUINE POLISHED Ringsize Gemstones—All different; onyx, carnelian, amethyst etc. All ten for $4.95. PITTSBURGH GEM CO., 417 Clark Bldg., Pittsburgh, Pa.

BOOKS

FOR SALE or swap: Gem and mineral library. Will trade for small car, diamond, lot or $250 cash. Many out of print items on gems. Fine collection for mineral society library. G. J. CUMMINGS, 851 Trestle Glen Rd., Oakland 10, Calif., Twin Oaks 3-3103.

GET YOUR COPY of "A Mineral Collector's Guide to Wonderful Wyoming. 25c. GRITZNER'S, Mesa 8, Ariz.

"GRITZNER'S GEODE"—The friendly little mineral publication is only $1.00 a year. GRITZNER'S, Mesa 8, Ariz.

WORKING WITH AGATE — Enlarged edition. Tells and shows you how. Practical information, collecting, sawing, grinding, sanding, polishing, coloring, drilling, tumbling, displaying. Surprise gift with each copy ordered. Both for only $1.00 postpad. MELVIN L. KATHAN, 316 N.E. 44th Ave., Portland 15, Ore.

BOOK—"Rockhounds in the Making"—Offers you pleasant reading and perhaps even the knowledge of a rock or rock location not previously known. It makes a most acceptable gift for friends within or without the rock fraternity. For a copy, $2.50 postpaid, write the author at 527 E. 8th St., The Dalles, Ore. Also available from "Mineralogist Magazine, "Lapidary Journal" and supply houses.

BOOKS ON GEMS—If you are looking for the hard-to-get books, send for my current Book List. It contains numerous titles of extra copies of many of the finest and rarest volumes. Build up your library, one by one. Book List free. J. DANIEL WILLEMS, Lock Box 1515, Chicago 90, Ill.

MORE GEMOLOGY? — Subscribe to "The Gemmologist" (London). Interesting advertising, monthly, $1.75 a year. "Gems and Gemology" (U.S.A.) no advertising, quarterly, $3.50 a year. Published by Gemological Institute. Both authoritative. Agent: GEO. H. MARCHER, 568 Gower St., Los Angeles 4, Calif.

EQUIPMENT

FOR SALE—I am disposing of several dozen surplus diamond saw blades I purchased in 1946. I have only one size, 10" with 1" center hole, that can be bushed to any size. They are $2 and $3 each. Minimum order three plus postage. Also Lake Superior agates, good quality, $1 lb., choice $1.50 lb., plus postage. VERNON DICKINSON, Rt. 6, Brainerd, Minn. (Formerly Waterloo, Iowa.)

FOR SALE—MDR Master Faceter. Has cut only 23 gems. Complete with 64 gear, 80 gear, girdle former, lucite, tin, diamond 400/800 and 1200/3200 copper laps. Cost about $300. Sell for $200 plus express. ALAN CALHOUN, Box 1713, Spartanburg, S. C.

FOR SALE—Covington 16" slab saw with mechanical feed and one slightly used 14" diamond blade. Also Covington 16" lap complete with 16" cast iron lap, 12" grooved cast iron cab lap, 12" tapered silicon carbide wheel, 12" polishing plate etc. Both these units used less than 5 hours each. $125.00 each or both for $225.00. F.O.B. Baltimore, Md. Write GREGORY ZATKOVICH, Jr., 1513 Northbourne Rd., Baltimore 12, Md.

FOR SALE—One 16" lap with motor, $50; one H.P. stand with 2 grinders and motor $60; one micromatic saw rig with motor $65; one 6" trim saw with motor $25. Will sell singly or as lot. B. V. RILEY, 5567 E. Seaside Walk, Long Beach, Calif. Phone 8-8022.

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HARD FELT POLISHING WHEELS 5¾x½"—$1.50, medium hard 10x2"—$7.95, F.O.B. Detroit. YALE ADLER 15702 Lawton Ave., Detroit 38, Mich.

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CLASSIFIED ADS

(*Continued from page 377*)

MISCELLANEOUS

ILLINOIS ROCKHOUNDS are on the increase. You will be happy to call on me with your problems. I want to let you Illinois folks know that I am stocking equipment for stone cutting and polishing. I teach you how to use it and what it will do. I show you my own equipment. Make your own jewelry. We have a fine lay out of rings, pendants, bracelets, brooches, earwires, fountain pen sets, neck tie clasps; a good assortment for you and the lady. Come and see my vast display; none better. Come early, stay late; or come late, stay early. I have some 12 tons of material for you to select from. Come and see me. See for yourself. No finer cabinet specimens anywhere. R. HEIKE, Wenona, Ill.

FOR SALE—Lapidary supply business. Good buy. Wholesale and retail. Good catalog business. Well stocked. Full price only $18,000.00. If interested write S. J. MARKLEY, 1151 E. 65th St., Inglewood, Calif.

FOR SALE—One of the best and most interesting mineral businesses in the U.S. Will stand complete investigation. Books open for inspection. Business established over many years of effort and experience. Other interests engage our time. Owner will coach buyer, which needs little or no experience to assume. $3500 cash. Stock inventory will cover price. Appointment by letter only. If you do not have price do not waste our time. GEO. B. COUCH, Box 471, Buena Park, Calif.

YOUR DESIGNS, photos, drawings photographically copied and enlarged or reduced to your specifications. Any size up to 8" x 10" $1.25. VALLEY STUDIOS, Rt. 3 Box 543, Hemet, Calif.

WILL TRADE—Custom built 30-06 rifle in on saw. FRANK HARRISON, 255 6th Ave. North, Twin Falls, Idaho.

REQUEST OUR LATEST LIST of irresistible quality minerals, books, magazines, Mineralights, geiger counters, rockhound specials and lapidary equipment. Five cents, please. GRITZNER'S, Mesa 8, Ariz.

OCKHOUNDS' PARADISE — Minerals, cutting material, slabs, cabochons and sterling silver jewelry. Fluorescent calcite and willemite. All priced reasonable. Very large collection of Indian relics for sale intact. Stop and see our display or write for prices. P. G. NICHOLS, Prop., Sun Valley Trailer Park, 3922 N. Oracle Rd., Tucson, Ariz.

EDIBLE DESERT GEMS—Dates grown in deep virgin soil of an ancient sea bed. Perfect for supplying quick energy to rockhounds on field trips. Rich in many vital protective minerals and vitamins. 2 lbs. Desert Nuggets—$1.00; 5 lbs. family special—$2.50; 5 lbs. choicer dates —$3.25; 10 lbs. semi-dry—$4.50; 15 lbs. chewy natural $6.75. Delivered cheapest way. LEE ANDERSON'S COVALDA DATE CO., (Grower, Packer, Shipper), Hiway 99 at Coachella, Calif., P.O. Box 208J.

FOR THE VACATION EXPERIENCE of a lifetime, it's a "Desert Adventure." Write for further information and schedule. GRITZNER'S, Mesa 8, Ariz.

WILL SWAP — Fine Colorado petrified and agatized wood for lapidary equipment and supplies; assorted colors; sizes from ¼ lb. to one ton. Nodules of iron and manganese; collector's item; 3 assorted sizes for $1.00, plus postage. JAMES SCHERMERHORN, Castle Rock, Colo.

SEMI-PRECIOUS STONE engraving, encrusting, and drilling lodge emblems, ranch brands, monograms, initials, military insignias, college emblems, Greek letters, family crests—all inlaid on your stone in 24 karat gold. BRAUNFELD & MEHLMAN, Encrusters, Lapidaries, Drillers—108 Fulton St., New York 38, N. Y.

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LAPIDARY HINTS—Grind or sand a small spot on the top of your rough gem, baroque cab, nugget, or rough crystal. Sand a plastic or metal button back to a small size and press it to the flat spot, applying a drop of our cement. After drying over night the button back can't be pulled off with pliers. Try it. Our cement has terrific holding power. It won't dry out in the bottle even after one year. One bottle will cement 10,000 button backs. Leave a flat spot on the top of faceted pendants. A tiny button back cemented here will save you the headache of drilling. Sticks to polished or rough surfaces. Curve a button back and shape to the bezel edge of a large cab. Cement here and you have a pendant. No drilling. Cement is quick and clean. Use for doublets. Dries colorless. This is not model airplane, household, or rubber cement. Our big two ounce bottle, 1¼" x 3", full, mailed postpaid for $1.00. Keep a bottle handy. GARDEN STATE MINERALS, 332 Columbia Blvd., Wood Ridge, N.J. Phone Geneva 8-6611.

KODACHROME COLOR SLIDES—2 x 2 of Oregon and Western agates, sagenite, plume, clarno fossil nuts, etc. Expert photography. Sell or rent for club programs. Agate, thundereggs, wood, limbs, slabs, fossil nuts, to sell. THOMAS J. BONES, 2713 Rossiter Lane, Vancouver, Wash.

TONOPAH, NEVADA is where C. C. Boak lives, with his outstanding, scientific, world-wide collection of Mineral, Gem and Semi-Gemstone species—fluorescents, fluorescent rock pictures, etc. Visitors welcome. C. C. BOAK, 511 Ellist St., Tonopah, Nev.

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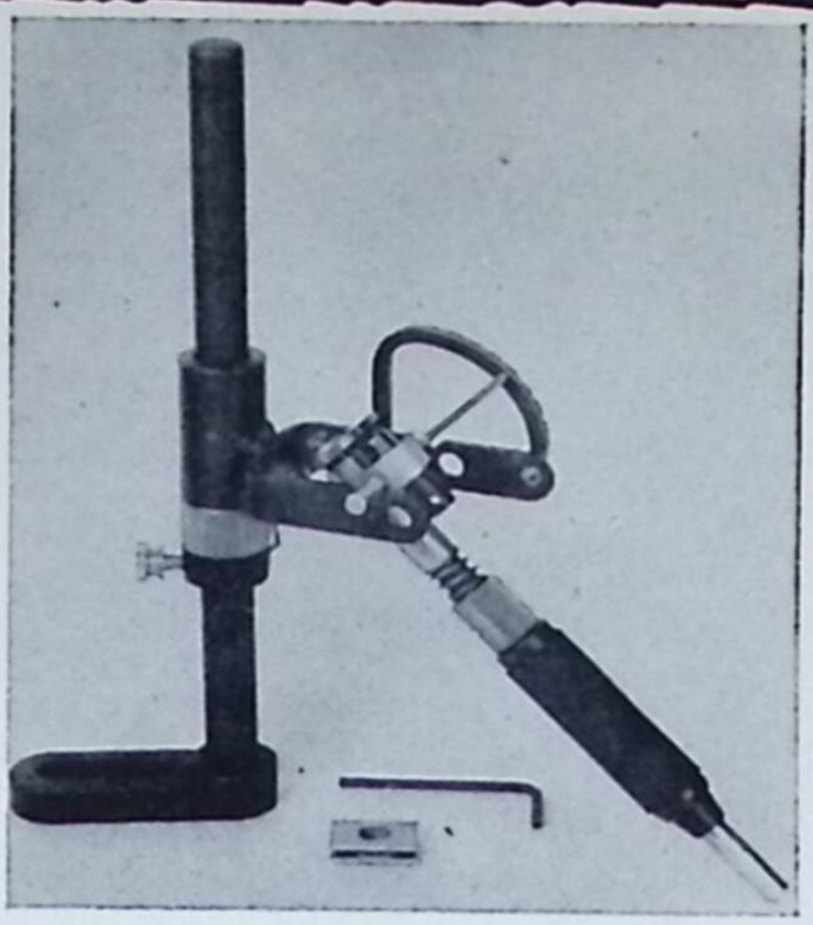
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Original models used for over five years intensive commercial cutting . . . **and still good.** We now use the new improved model with still greater ease and speed. The illustrated model uses the loose handpiece principle; very compact but sturdy; has vertical and radial verniers and other valuable features. Very simple to use and fine for beginners.

Our design permits very fast work and practically any style of cut from simple to very fine or complex types. Hds new type powerful grip collet chuck.

A simple feature allows dops to be removed and replaced during cutting in exactly the same position, allowing several persons to use the same head at intervals, or for quantity or commercial cutting. Any number of stones may be cut or partially cut before changing to another angle or to the polishing wheel. Another simple feature allows round stones to be ground perfectly concentric on the dop, and girdles lapped and polished if desired. Neoprene rubber handgrip; indexing done by slight backward thrust on handpiece while turning to next position, all in one motion and without removing head from bracket. Our design, proven by years of actual performance, permits higher quality and faster work than any other head we have seen.

FACET HEAD COMPLETE with 32 hole index plate, 1 brass dop, girdling stop, Allen wrench, illustrated instructions. Was $44.50.....NOW $36.50
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