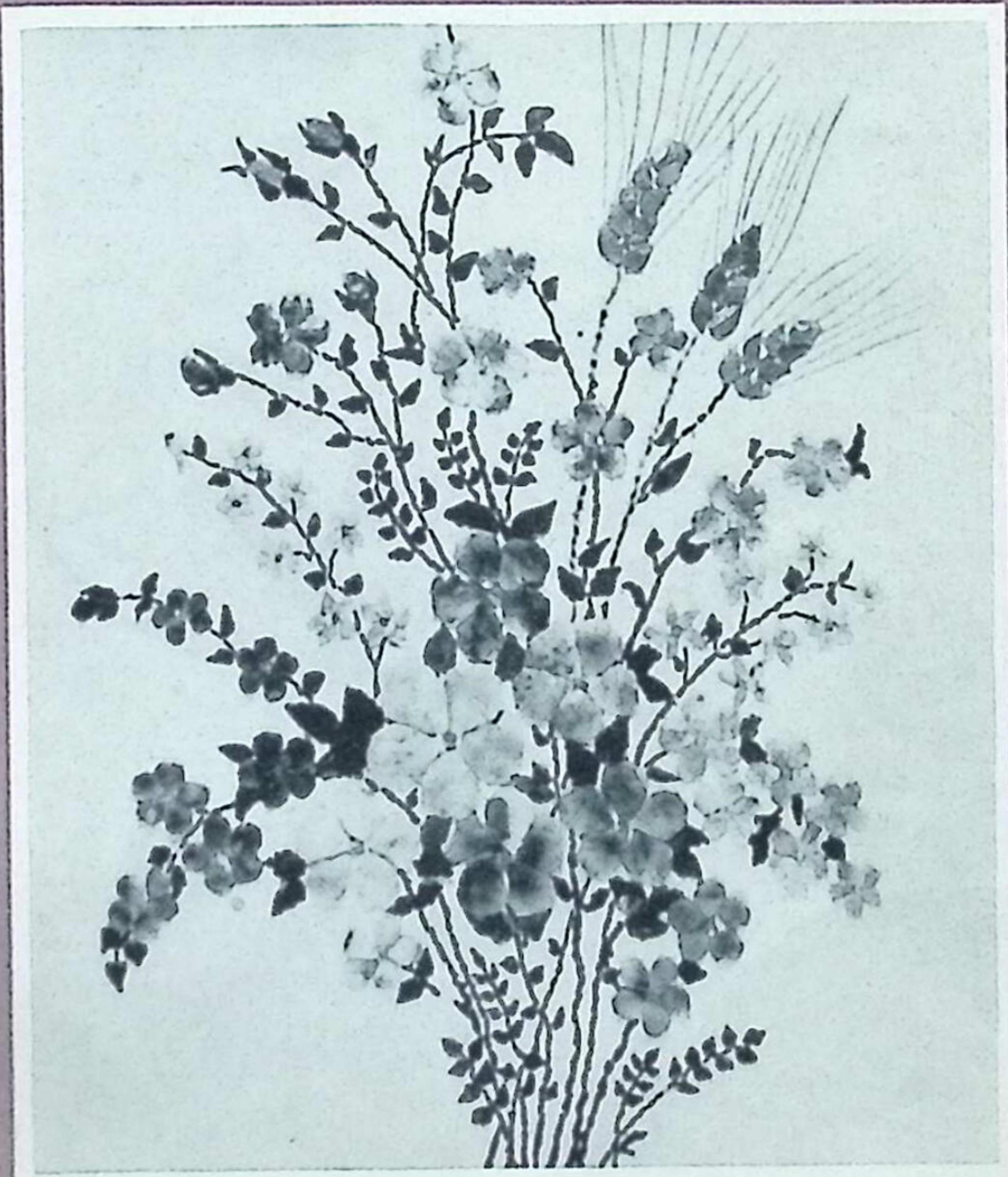


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AUGUST, 1951

The Lapidary Journal



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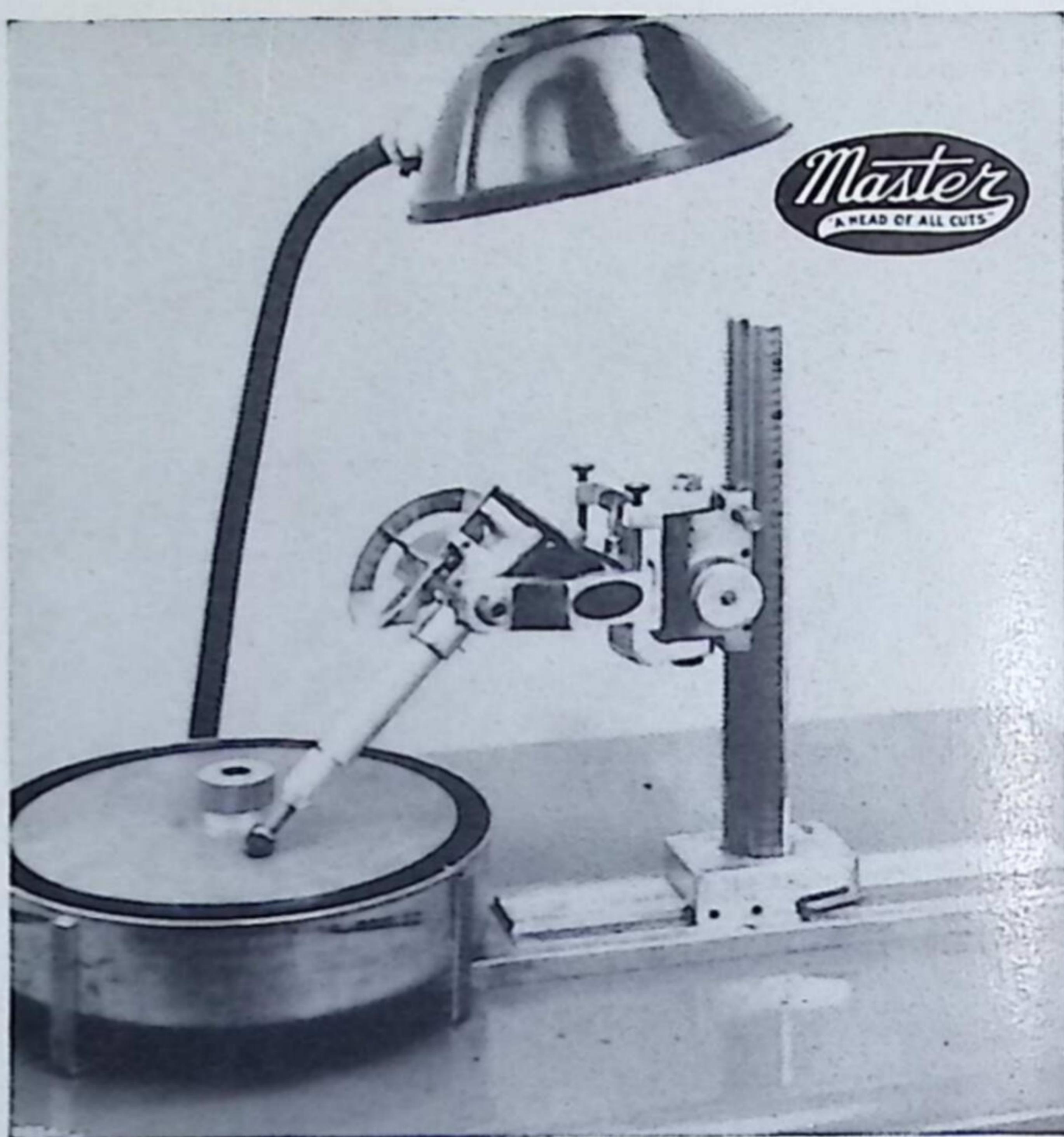
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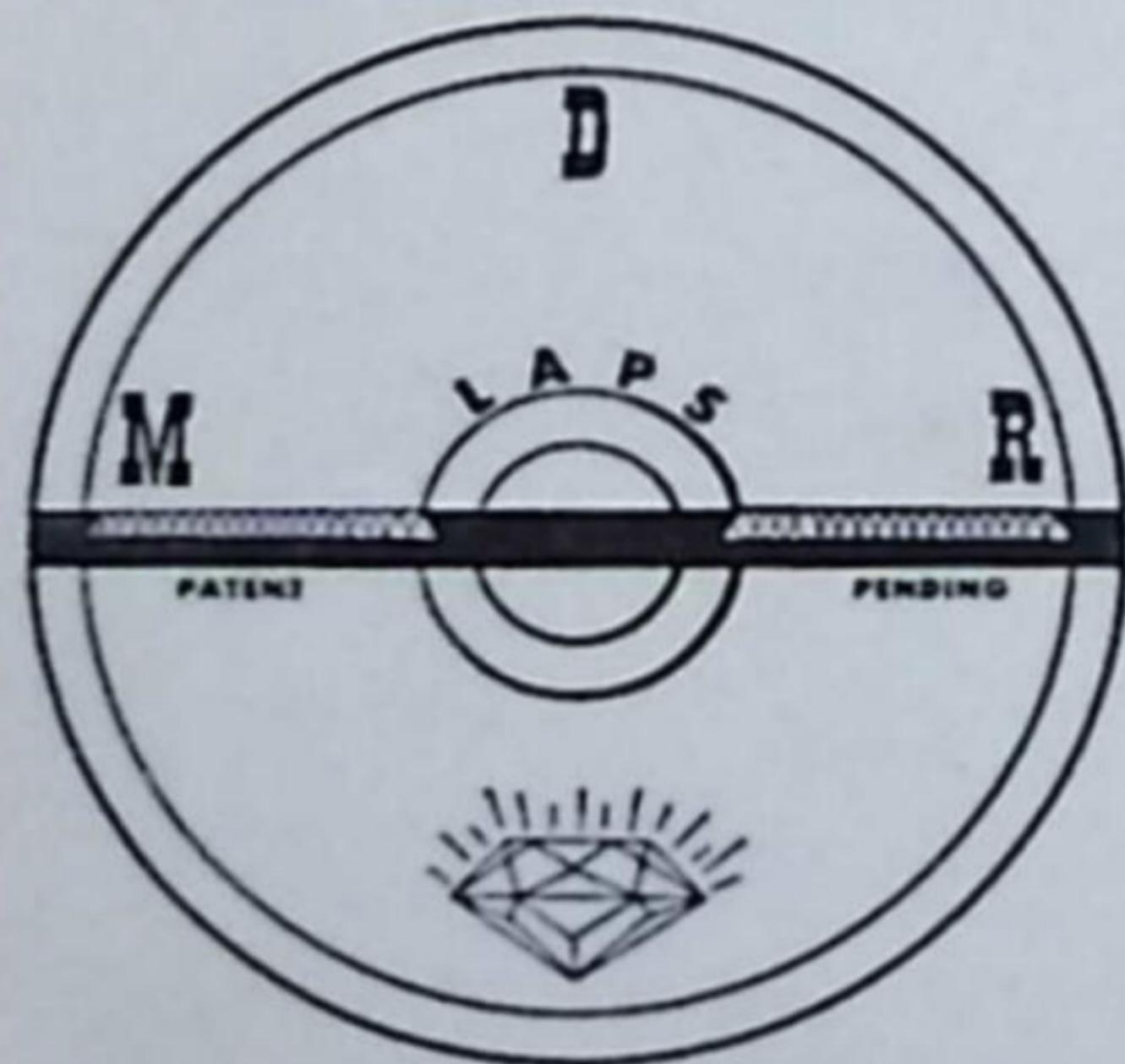
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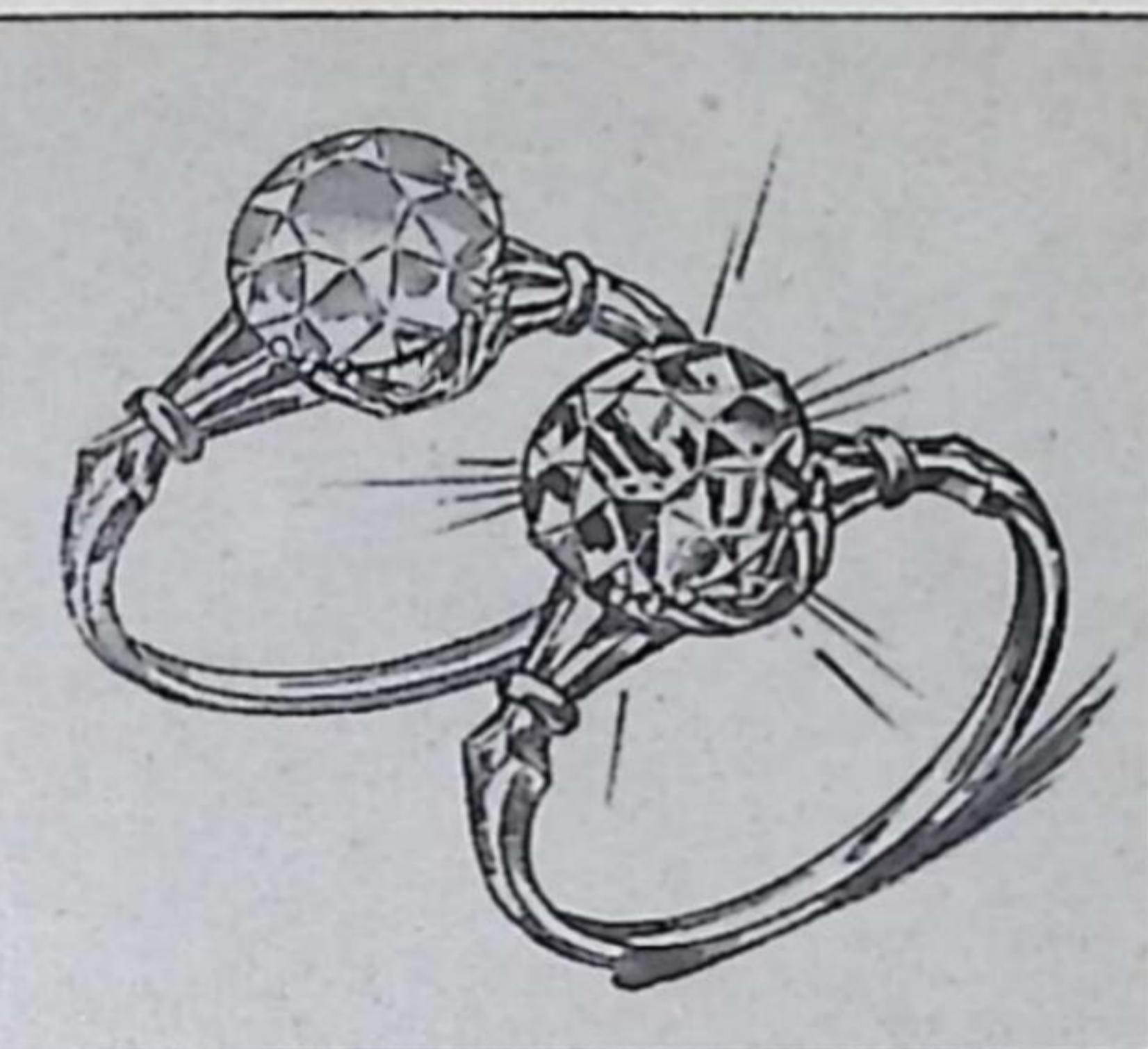
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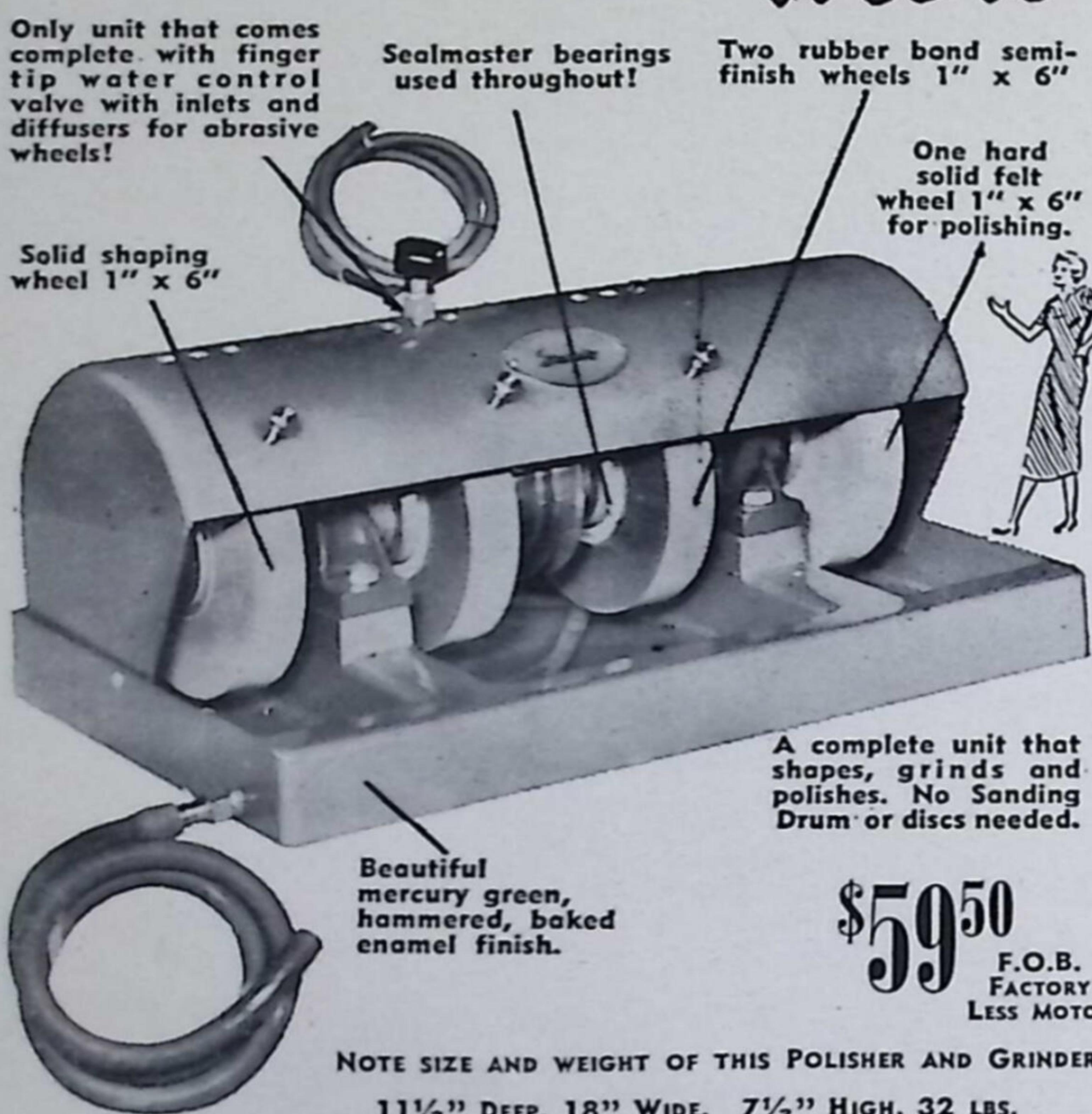
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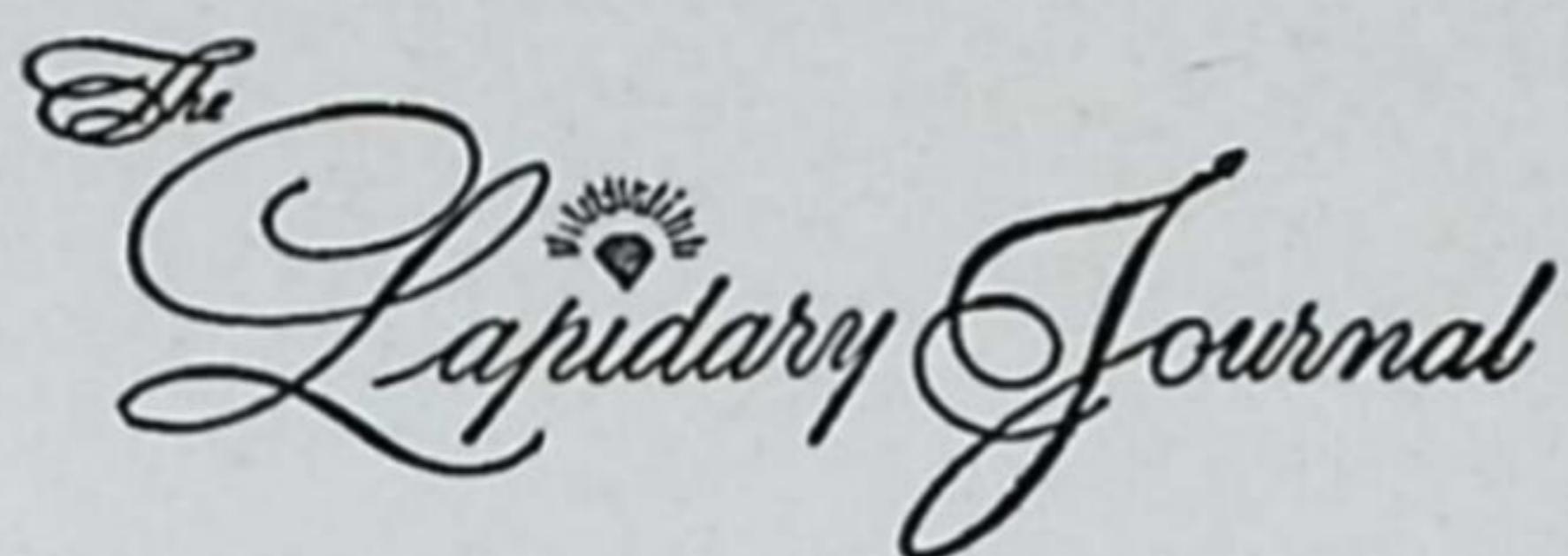
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TWENTY-FIFTH ISSUE

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Number Three

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♦ *Emeralds of Chivor*

By MALCOLM LENTZ

334 W. Almeria Road, Phoenix, Arizona

A romantic tale containing essential facts of the fabulous emerald mine in Colombia. As told by one who has been there recently.

I was ushered into a heavily guarded room by a *sub-gerente* of Bogota's *Banco de La Republica*. He spoke in Spanish to a girl. Without replying, she turned and, flanked by a uniformed policeman, walked into an open vault. In a few moments she returned with a sealed box and handed our host the key.

His eyes blazed and his hands shook visibly as he turned the key and lifted the lid to release to our view a dazzling display of green fire. Here were some of the finest emerald crystals ever to come from Colombian mines. There were emeralds still in their matrix, just as they were taken from the earth—large hexagonal crystals, some the size of an egg. One rough stone, which the *sub-gerente* reluctantly permitted me to hold, weighed 1780 carats. Holding that one crystal I considered reward enough for all the hours I had spent studying precious stones. I was grateful to a tough taskmaster, Dr. Robert E. Soloth, who had introduced me to all gems but who had been especially careful that I learn well the emerald, the favorite gem of his tutor, the late Dr. George Frederick Kunz. Even the *sub-gerente*, who had seen these stones many times, was speechless in the spell cast by the contents of the box. I could now understand why, throughout history, the emerald has been the Queen of Gems, the most cherished possession of so many of history's famous men and women.

Emerald was the gem that, nearly 3000 years ago, was enriching the dynasties of the Egyptian Pharaohs. This was the gem that, a few decades before Christ, Cleopatra's mines were pouring forth for the most famous queen in history. It was a mysteriously inscribed emerald tablet, runs the legend, that gave Alexander the Great, King of Macedon, the power to con-

quer the entire world. It was Alexander's emerald that is said to have later become the Imperial Seal of Augustus Caesar. And what was the gift that Napoleon took to his beloved Josephine after his victorious Italian campaign? An emerald, of course.

Yet it was not in the Old World but in Colombia that the finest emeralds had rested; emeralds which made the celebrated gems from Egypt seem pale and lifeless by comparison. It was one of these that Sir Francis Drake chose to take back to the good Queen Elizabeth. It was . . . My thoughts were now interrupted by the *sub-gerente's* voice, "A fine emerald is many times more valuable than a diamond. Cut emeralds have sold in the New York market for as much as \$5,000.00 per carat."

Once before I had heard the emerald called the most portable form of wealth. It was only natural, I reflected, that as hiding places for such a handiwork, Dame Nature chose Colombia, one of the most rugged portions of the earth's surface. She hid the emeralds of Muzo and Cosquez in the fevery, snake-infested jungle-hell of the Carare Valley, and over them as guards she placed the fierce Muzo Indians. The emeralds of Chivor (pronounced she-vore) she entrusted to the Chibchas, high up in the Andes, near the continental divide and far from the paths which civilization would take. She provided this region with abundant rainfall, so that a dense forest covering would cloak the evidence of her treasures. In my room at the Pension Camacho after the visit to the *banco*, I read in a travel book, "The emerald mines of Chivor lie some eighty miles from Bogota, but they are more romantic to think about, than practical to visit." That challenge settled it. With the emeralds of the *banco* still blazing in my memory, I knew I had to visit Chivor.

The words of the travel book came back to me as I camped a few nights later on the raging Rio Bata, where the next day I would take mules to Chivor. Behind me were many hours of travel in a bouncing jeep. And behind me was the string of tiny villages where blood was being shed in a wave of political violence then sweeping Colombia. Current politics seemed very remote that night. The chants of the sun-worshipping Chibcha Indians who once lived here, the heavy march of Conquistadors searching for emeralds —these seemed real. I accepted the hospitality of a farmer for dinner. We ate on a ramshackle front porch which hung out almost to the edge of the river. Below us a bamboo water-trough brought water by gravity from a stream across the river. Giant vines hung from the trees before us. When a black cat and a mongrel dog were not begging our scraps, two parrots would strut across the table and grab for the morsels, swearing at us in Spanish.

Night came quickly as we ate. When the sun goes down behind the Andean peaks, it is as if a light were switched out in the valley below. We sat on the porch for a long while, smoking and chatting and enjoying the play of the fireflies. The farmer graciously offered a bed of straw on the dirt floor of his living room, but this I declined in favor of my bedroll on my jeep-truck floor.

I was up the next morning long before the sun had risen above the Andean peaks which were all about me. A cup of thick black coffee and a shower under an icy waterfall took the last weariness from my body. I shared a breakfast of potato soup and coffee with Indian mule drivers. By six I had donned the heavy Colombian chaps and we were on our way across the swinging footbridge that spanned the Rio Bata.

Luis, a mine foreman, rode ahead and the pack mules, laden with supplies for the mine, brought up the rear. The Indian mule drivers, one a boy about 14, walked tirelessly beside the pack animals. From the Rio Bata, our trail rose sharply, alternating between dank thickets and sunny hills of grass. In the grasslands were the typical Indian farms with their inevitable patches of corn. From each thatched hut smoke curled lazily in the chill mountain air. Nowhere in South America had I been

so aware of the vastness of the Andes. Towering mountains were on all sides. Below was a thin silver ribbon which was the Bata, plunging down its rocky gorge to the sea.

We climbed for two hours to reach the summit of one mountain. Then it was down again, to the bottom of the valley of the Rucio River, then a fiendish climb to yet another summit. Parts of the trail were so steep that the puffing mules had to be beaten unmercifully to keep them moving up the trail. On the down slopes, the animals were constantly sliding and falling. Most of the trail was rocky and, where there were no rocks, there was mud . . . mud into which the mules would sink to their knees and laboriously extricate one foot at a time. "The emerald mines of Chivor," the book had said, "are more romantic to think about than practical to visit."

I remarked at how effortlessly the Indians climbed in this rarified atmosphere, leaping like cats from foothold to foothold. I was told that some of them made the trip to the mine in two hours on foot. It took our mules five and a half hours. Before the road was built to the Bata, these Boyaca Indians carried messages between the mine and Chocanta, 60 miles away. They made the trip in one day, crossing two 15,000 foot mountain passes on the way.

Our last lap was through dense forest. The Indian boys had run ahead to tell the camp we were on our way so that we had no sooner arrived than lunch was announced. This welcome meal was the starchy but substantial kind with which I was already familiar—potato soup, potatoes, yucca, fried bananas and bread.



View of the terraced mines.

We spent the afternoon climbing from emerald bank to emerald bank, the narrow terraces around the mountain where the ground has been searched for the green stones, and crawling through the low untimbered tunnels. No machinery is used at Chivor. It is difficult to imagine how any could be carried in. Both open pit mining and tunneling operations are used. Emerald veins vary from a few inches to several feet in width. They generally run heavily to iron oxides and pyrites, with very interesting quartz crystals occurring in areas favorable to emerald formation.

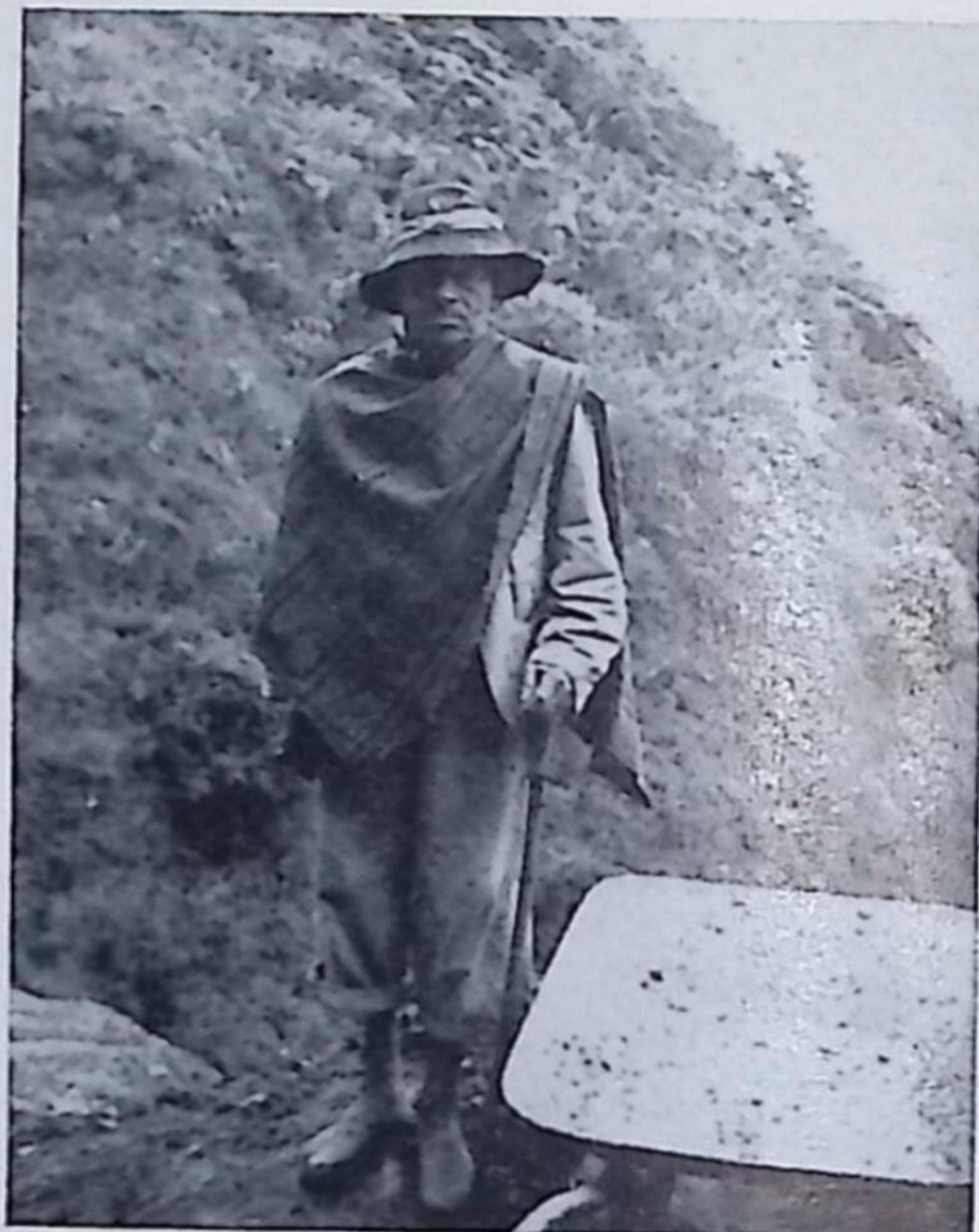
As the emerald pockets are approached there are showings of *moralla*, an uncatalyzed form of green beryl. When the hexagonal emerald crystals themselves are finally encountered in a vein, they more often than not are too pale or too badly shattered to cut any gems of quality. Fine clear crystals are rare, as in any gem material, but particularly emerald-green beryl. That is why the ancient saying has carried forward "as rare as a flawless emerald." Often emerald crystals are completely encrusted with iron oxide which must be scraped before any green color is visible.

As the Indians and the Spaniards before them, the present operators of Chivor must bring water for mining operations sixteen miles by means of a wooden aqueduct. The water is allowed to fill large earth tanks, then released to let the force of the water wash away waste material. Though more than a hundred Indians work the mine, months sometimes go by without a single emerald of commercial grade being uncovered. It was easy to see how the other mines at Muzo and Cosquez, which were operated by the Colombian government, had lost money and been forced to close. Fortunately for the American owners of Chivor, an Indian laborer can be had for less than fifty cents a day.

We met one Indian, Vicente, now a respectable laborer, who was once the leader of a gang which took its share of stones by banditry. Another, Paiza, had worked as a *contratista* or contractor. He hired his own laborers to work the veins allotted to him and was granted a share of whatever he found. It was his good fortune to make the largest strike of recent years. Now a wealthy man, he

continues to dress in rags and live simply, the only way he knows.

Not so fortunate was Tio Justo. Years ago he uncovered a 765 carat stone of good quality. The engineer in charge was working on percentage and promptly retired, but Tio Justo, I was told, received only his regular wages for that day's strike. The aging Indian still burrows for emeralds in the tunnels of Chivor.



Tio Justo, who found a 765 carat emerald.

Around the dinner table that night, we gathered with the hospitable manager and his staff. There were three Germans. One spoke a little English, one spoke none at all, and the English vocabulary of the third was limited to profanity, the use of which he confined to irrelevant but colorful tirades against Adolph Hitler. Then there were three Colombians, none of whom spoke English. The Spanish which I spoke was only fair and I had no knowledge of German.

Despite the language difficulties the night was a memorable one, for it was then that we heard the history of Chivor. Before the coming of the Conquistadors, Chibcha Indians mined emeralds from Chivor to trade for gold with tribes across the Magdalena River. The Chivor area was known to the Indians as Somondoco, a word which means "God of the Green Stones."

Shortly after the conquest, a Spaniard was riding in the Somondoco region when his horse pawed from the earth a piece of *moralla*, the uncrystallized form of emerald which indicates that the real thing is near. As a Spanish historian related, "the Indians were then reluctantly persuaded to disclose the location of the mine." It doesn't take much imagination to picture the fiendish tortures implied in the words "reluctantly persuaded."

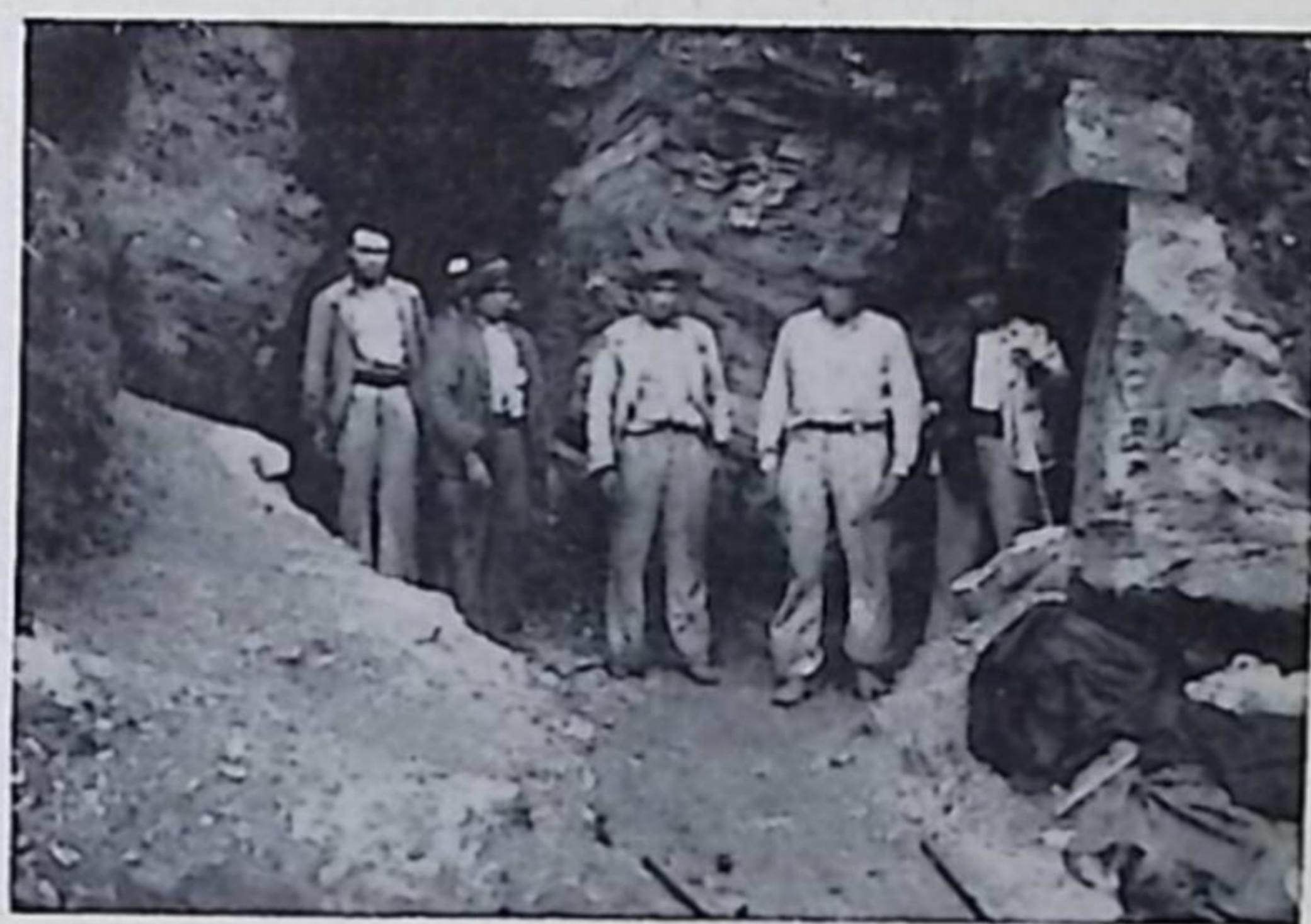
From the early 16th until the middle of the 17th century, the Spaniards worked Chivor, bringing water sixteen miles by wooden aqueduct for mining operations. Then the mine was abandoned and forgotten, for the conquest of the Muzo Indians to the west had opened up what seemed at the time to be an even better source of the green stones.

Toward the end of the 19th century, the English adventurer, Christopher Dixon, made a fabulous strike at Muzo and emeralds began to lure prospectors who might otherwise have searched for legendary cities of gold. Interest in the old Spanish workings at Chivor re-awakened.

The general location of Chivor was known, but in the 250 years since its abandonment the forest had taken over. And the Andes are vast. Thousands of men might have searched for decades without stumbling upon the workings except for one clue in which a Colombian named Pacho Restrepo had faith. A friar had written in a chronicle of the Spanish conquest, "The mines of Chivor are situated on the point of a ridge from which the llanos of the Orinoco can be seen."

With nothing more to work on, Restrepo and his men climbed peak after peak to scan the horizon through the occasional breaks in the clouds which are perpetually boiling out of the river valleys below. The heartbreaking years devoted to the search must have seemed well spent for the elation of that day when Restrepo stood at the crest of a ridge and watched the clouds momentarily part to reveal a glimpse of the llanos—prairie lands in the distance. Finally, in 1905, an old Spanish tunnel was discovered. But Restrepo did not reap the rewards of his search. He was unable to produce any quantity of stones and eventually his heirs disposed of the mine to an American company.

As more years of profitless operation passed, people came to doubt that Chivor would ever again produce first class emeralds. Hope revived when Tio Justo found his 765 carat stone. Then there were more years of profitless operation. In 1928, Peter Rainier, whose exploits have filled many books, took over the management of the mine. Few books of adventure have ever been written that exceed in interest his "Green Fire"—the story of his Chivor experiences, and now out of print. Despite a period of promising operation, he could not persuade the owners to keep the mine open. So it has always been with the history of Chivor—alternating hope and disillusionment.



An emerald mining crew.

During the periods when the mine was closed, bandits took over, stealing what they could from the richest pockets. At the time of my visit a bandit gang was roaming the Chivor region, well armed with stolen guns and their wicked nine-inch knives. When a strike has just been made, these renegades fortify themselves with the strong native drink *guarapo* and cause the heavily out-numbered staff sleepless nights.

Finally the bandits came to work at the mine; some as contractors and some as laborers. Of course a certain number of stones find their way into the pockets of the Indian laborers and through devious channels eventually turn up in the market as fine cut stones. But all gem mining was ever thus. Sometimes there is gunplay. Be sure to look next time you see a Colombian emerald on the hand of a beautiful woman, to see if it bears the stains of human blood.

Emerald is the bright full-green variety of green beryl. Mineralogically it

is a beryllium aluminum silicate with a refractive index of 1.57 to 1.59; a hardness of 7½ to 8 and a specific gravity of 2.67 to 2.77. The emeralds from Chivor have a bluish-green cast. The stones from the Muzo mine tend more to grass-green in color.

The reader must not assume that all green beryl is emerald. There is a rather distinct line of demarcation between greenish beryl (aquamarine) and that which can be called emerald, because the coloring element in emerald is

chrome oxide. It is the same coloring ingredient found in the beautiful emerald green jadeite, classified by gemologists as Imperial Jade, while the coloring element in ordinary greenish beryl is thought to be iron in the ferrous state.

Emeralds are the ultimate goal of all gem collectors. In all probability they will always be the most sought after of the gemstones . . . as long as God makes lovely ladies who crave to be adorned with green stones—and men who wish to satisfy their every desire.

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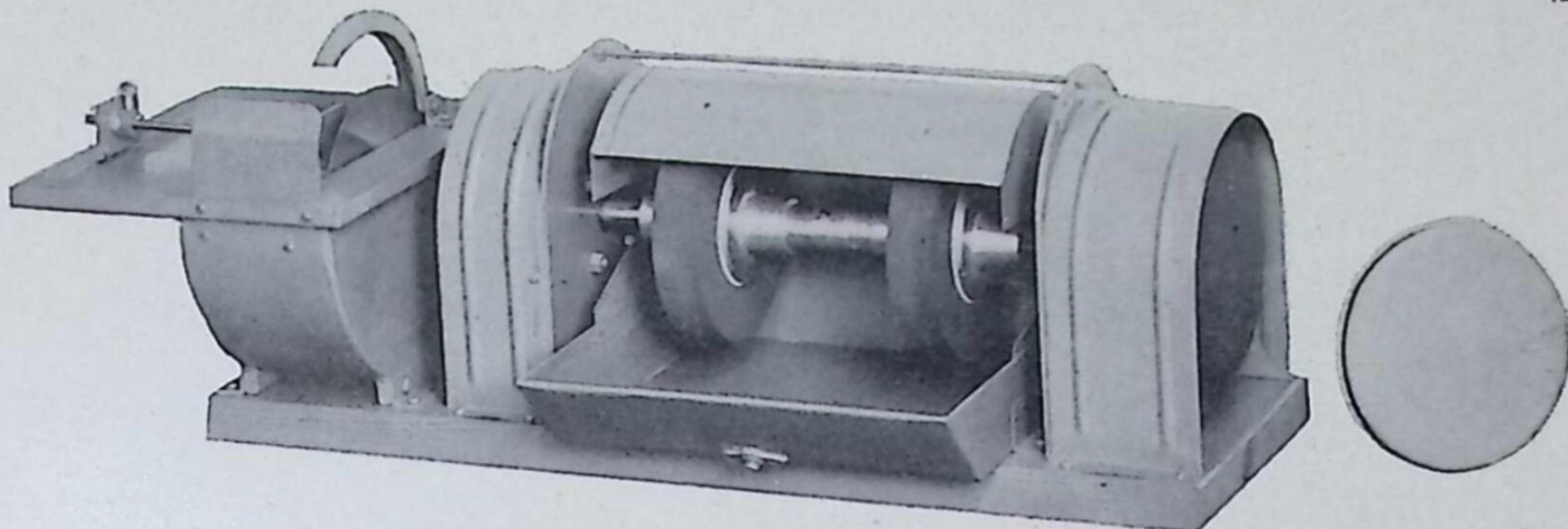
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◆ *The Chicago Lapidary Exhibit*

As reported by
J. LESTER CUNNINGHAM
228 N. La Salle St., Chicago 1, Ill.
President of *Chicago Lapidary Club*

Here are some pictures and descriptive material about the First Annual Amateur Handcrafted Gem and Jewelry Competitive Exhibition conducted by the *Chicago Lapidary Club*, May 19 and 20, 1951. Since you evidenced the greatest interest in our show we decided to give the *Journal* extra consideration in sending data about the show.

We sincerely hoped it would create a lot of interest among lapidary and jewelry craftsmen throughout Chicago and create an annual event that would bring all of them together to show their work under real competitive conditions. We hoped it would more or less unify Chicago rockhounds and give them something definite to work towards each year. Almost everybody in all of the park classes, (6 of them) together with dozens of others in the three other clubs here in Chicago, are talking about what they are going to enter next year. Many of them are already busy cutting and polishing potential prize winners. It is indeed very gratifying to note the interest and enthusiasm that the show produced.

I am sure that if we had had several more months time to publicize the first show it would have been even more successful. We would have had many more entries from many more craftsmen and each exhibitor would have had more time to prepare. We did not get started until January. By the time we had the regulations and various other forms completed it was mid-March. Thus we missed publicity in the various magazines and there was not too much time for the other clubs to discuss it. The same is true of the various park classes. But it went over with a bang, despite the time handicap.

There were 165 entries. These came from exhibitors from all over Chicago and suburbs, representing practically every one of the six park classes and all of the clubs. Entries were about equally divided between the three craft classifica-

tions—Novice, Intermediate, Advanced. And entries were received for all nine craft divisions. Some exhibitors entered only one exhibit, others several, and so on up to twenty-three for one exhibitor. Exhibits ran all the way from a single stone or piece of jewelry to collections containing 280 stones and 18 pieces of jewelry in one collection. The exhibits represented practically every type of lapidary work and just about everything conceivable in jewelry. Believe me, Lelande, it was a beautiful sight to see all that fine stuff lined up in cases all around the four walls of the gym in the Grand Crossing Park Fieldhouse.

One factor which contributed to the success of the show was the prize ribbons and trophies. After the regulations had been issued we were offered still another trophy, making six in all. This one was the Robert A. Dalzell Memorial Award, in memory of Bob Dalzell, one of the founders of the *Chicago Lapidary Club*. We decided to make this a best "Best of Show" award—to go to the best "Best of Show" winner. The selection was made by the judges.

Actually our show (while advertised as being held May 19 and 20) runs until July 21st. The May 19 and 20 dates covered the judging and display of all the entries. Then all prize winners went on display at the Chicago Natural History Museum for the whole month of June—at their request. I originally hoped to line them up for two weeks but they were so interested that when they asked for a month's showing they did not have to twist my arm to get me to agree. I merely nodded affirmatively. I couldn't say "Yes" because I was breathless with surprise. Peacock's are just as interested. In fact, it was a bit embarrassing when both Peacock's and Marshall Field's wanted to follow the museum, with neither wanting to play second fiddle to the other. So we compromised and this year Peacock follows the museum and next year Marshall Field. They will alternate every year.



The Grand Sweepstakes winning display of Goff and Helen Cooke.

Can you understand how amazed I was when I met with such encouragement from such outstanding outfits? Our club is less than three years of age and was virtually unknown . . . and here these outfits with world wide reputations were *eagerly* seeking our permission to display our prize winners *before the show had even taken place!*

In a communication received June 19 from John R. Millar, Deputy Director of the Museum, he stated, "The special exhibition at this Museum of the prize-winning entries in the First Annual Amateur Handcrafted Gem and Jewelry Competitive Exhibition sponsored by the *Chicago Lapidary Club* has been most successful, from our point of view. There is hardly a moment when visitors are in the Museum, that someone is not intently looking at the exhibit. We have not detailed anyone actually to count the number of people who have seen or will see the collection, but it is estimated to be a high percentage of the more than 100,000 persons who will have visited the Museum during the period of the exhibition. On the basis of general interest aroused, the show is probably one of the best special

exhibitions we have ever had."

As far as attendance goes, I'll have to talk in round numbers. More than twelve hundred people crowded into the field house on Saturday and Sunday, May 19 and 20. And that is really something because the show got little publicity beforehand. I think the notices you had in the *Journal* and *Desert Magazine* pulled in a lot of them, at least the out-of-towners, of whom there were a surprising number. They came from all over the country—California, Montana, Oregon, Arizona, Michigan, Minnesota, and half a dozen other far-away places. A number of them mentioned your notices.

How many people will crowd into Peacock's during the two weeks they have the exhibit is impossible to predict. But they told me last week that already a good many people have come in and telephoned relative to the exhibit. They are going to publicize the exhibit at their store and they are going to display it on the first floor. Probably a thousand or more people will see the exhibit each of the days so I would say that possibly 12,000 or more people will see the prize winners at Peacock's. This is just

a guess but it coincides with their previous exhibit experience.

So, all in all, our little club has put on a show that will, before the last day of the Peacock exhibit, attract more than 100,000 people to view the prize winners. Everyone anticipates two to three times as many visitors to our next showing.



Gloria Johnston, Patricia Stevens model, with a display of the author's agate work.

All prize winners were from Chicago, of course. Where no prize was awarded it does not necessarily mean that no entry was submitted, although there were some open spots. Instead, it indicated that the entries submitted simply did not merit an award. This eliminated giving a blue ribbon to some exhibit, which merited no prize at all, simply because it was the lone exhibit in a classification. This has been a great fault with all previous shows.

Helen and Goff Cooke won top honors—a blue ribbon in Advanced, Jewelry Collections; Best of Show and a beautiful cup; and also best, Best of Show—the Robert A. Dalzell Memorial Award, also a gorgeous cup. Their display and trophies are pictured on the previous page. This will give *Journal* readers an indication of how our Exhibition has registered with folks here in Chicago. We of *Chicago Lapidary Club* are highly gratified that the first competitive amateur gem and jewelry show

ever to be held in Chicago proved to be such an outstanding success . . . and . . . we're already busy making plans to make next year's show bigger and better in every way. Dates for next year's show are: Competitive judging — May 17 and 18; Chicago Natural History Museum — June 2 through June 29; Marshall Field & Co., July 7 through July 19. Exhibition regulations and entry blanks will be available February 1. Entries will close April 30. Like this year's show, the Second Annual Amateur Handcrafted Gem and Jewelry Competitive Exhibition will be open *only* to qualified amateur lapidary and jewelry craftsmen who reside in Chicago and suburbs. However, it is planned to eventually make the exhibition an all mid-western affair.



Carolyn McNerney, Patricia Stevens Model, showing the Cooke's malachite and silver set.

Visitors, almost to a man; the judges; museum officials; and all the rest have been most complimentary. The public and the press have like-wise been high in their praise for the show, the way it was conducted, the decisions of the judges, and the prize winning exhibits. That about decides the real merit of the show.

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♦ Wet Sanding for Two Bucks!

By HUGH LEIPER

1700 Rabb Road, Austin, Texas
Chairman of *Faceter's Corner*, of the
Austin Gem and Mineral Society

The merits of wet-sanding have been discussed at length and in detail in the *Lapidary Journal*. Those who have tried it are certain that they will never go back to dry sanding. The results are too good. The freedom from heating; from those ugly white spots that show up on delicate material in a bat of the eye; the superior polish attainable—all have sold wet sanding to those who have used it.

But how to get equipped for it, *at least at the start*, while you are waiting for that lucky day when you can buy outright a new factory-made belt sander ready equipped to handle the job—that is the question in the minds of hundreds who *already have* dry-sanding drums, hollow-heads, etc. The bug-a-boo of spray and what to do with it deters many.

Forget your troubles, if you have an ordinary 3 inch wide aluminum drum sander or two, and several hollow heads that can be screwed on the end of the same shaft on which you mount the drum sanders. Remember, if you have both right and left drums, you need right and left hand hollow-heads as well.

First, see that you have an adequate safety spray shield over the drum sander. Second, place under the sander a box 2 inches deep by about 7 inches wide by approximately 16 inches long. The ones I have are of cast aluminum, with lugs on the sides by which they can be screwed down to the table. The side of this box is placed so that the hollow-head sander can be run off the end of the spindle for changing.

Next, go to any automotive supply house or your lapidary supply dealer and procure a number of sheets of wet-sanding *paper*, in grits 280, 400 and 600, or coarser if your needs call for it. Also at the same place, get a quart can of *gray trim cement*, the kind with which rubber gasket is applied in auto body work. Drop by a dry-goods store and buy a couple of yards of unbleached domestic, fairly light weight, and pick

up a box of tacks at the dime-store. Take these home, and procure a piece of plywood about 15 inches by 48 inches in size.

Then tack a 14 inch wide strip of the domestic (torn *lengthwise* from the piece you bought) to the board. Tack it first across the short end, then the opposite end—but do not *stretch* the material—if you do, your sanding belts will shrink and wrinkle later. Then tack the sides without stretching.

Apply the viscous rubber cement to the cloth first with a small paint brush. Cover an area the size of one sheet (9 x 12") of the paper at a time. Then paint the back of the paper *thinly* with the cement. Allow both to dry almost tacky (a matter of a minute or two) as the cement has a benzine solvent. Apply this sheet, being sure the cement extends entirely to the edges. Press down or roll out with a small soft roller. Now apply the cement to the next 12 inches of the cloth, and to the second sheet of paper, but also *on top* of one quarter inch of the first sheet. After allowing to grow tacky, press this strip down, overlapping the first. Proceed with the third sheet in like manner.

As soon as you are through with the first strip, take the tacks out, and hang it to dry on a line with spring clothes pins. Proceed to make other strips of various grits in like manner.

When all are dry, take a steel straight-edge and a sharp knife, rule off strips 3 inches wide (or the width of your drum sander) and cut. These pieces are ideal in length for the average drum sander, allowing about three inches of surplus.

Similarly, make other pieces of one sheet of paper, backed by a slightly larger piece of cloth. These are for your hollow head, and should be made in all the same grits as the belts for the drum.

Allow all your strips to dry thoroughly hanging in the air. If cut and rolled too soon, the back is tacky and will stick to the surface of the next strip.

Cut circles out of the rectangular sheets you have made, as large as the sheet and backing will allow, and apply to your hollow-heads in the usual manner.

In applying the strips to your drum sander, be sure that the over-lap runs *with* you and not against the work. Then fill the tray with about half an inch of water, being sure it does not touch the under side of the drum. Screw the hollow-head in place on the end of the same shaft. Procure a small 1-inch paint brush and use this to apply water to the drum or hollow-head. It will surprise you that there is so little water thrown, yet the sander remains moist for some time—and that is all you want. Evaporation of the water film keeps the surface cool even under pressure-sanding.

As you sand, a tell-tale streak of gray warns you to shift to another area of the belt, or swipe again with the water brush. This necessity for intermittent re-wetting tends to prevent over-ambitious pressure and consequent generation of heat which spoils so many fine cabs.

At the same time, when it is desirable to generate heat, as in the final sanding of jade, the paper run dry, takes on a splendid glaze and gives a very fine surface, ready for final polishing. This wet-sanding method works very well on stones that are inclined to under-cut, or which are fibrous. Rhodonite, unakite, amazon stone, tiger-eye, jade, and of course, the softer types of gem stones that are to be cabochon cut all lend themselves to wet sanding. On agate it has no peer. I have not found that it takes a great deal more time to properly wet-sand a piece than with former dry sanding.

A word of caution on the paper-cloth sheets for the hollow-head. Be certain that they are completely dry before applying, or apply and let dry thoroughly on the head. Then do not use too much pressure for then the paper will break away from its cloth back. It can not stretch like the cloth.

The total cost of all the materials runs about two dollars, and since this method adapts wet-sanding to *equipment you already have*, with material available wherever there is an automobile supply dealer or body shop, it may be just what you have been waiting for.

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♦ The Covelo Jade Discovery

By JIM RITCH

1200 Ward St., Martinez, California

The interest of lapidaries and rock-hounds in jade, stimulated in recent years by discoveries in Wyoming, Monterey County, California and Honshu, Japan, was given its biggest jolt this year by the startling find of a jadeite-nephrite deposit near Covelo, California. The Covelo deposit was the objective of an intensive search by hundreds of amateur lapidaries and two well organized expeditions after jade float was discovered two years ago in the Eel River and Williams Creek, in north-eastern Mendocino County, California. The float was found by George Weise and Charles Stockton, long time rock-hounds. It is potentially the largest and most fabulous of the handful of known jade deposits, and the only one thus far uncovered in which *jadeite and nephrite occur in conjunction* in the same green-hued veins.

How it came about is of interest to mineralogists the world over. In the summer of 1949 Stockton, who operates the Rock Inn Motel at Covelo, found a green mottled white boulder in Williams Creek. It was promptly classified by the California Division of Mines as jadeite. Other pebbles found in the creek near its confluence with the Eel River were subsequently identified as jadeite and nephrite.

Stockton and another rockhound, George Weise of Martinez, began picking through the stream bed for other specimens of the tough jewel rock. Then they started searching afoot for the source of the material on weekends.

As the word got around in mineralogy circles, the small Mendocino County town, located in the Round Valley Indian Reservation, became a mecca for several thousand rockhounds. Some contented themselves with the pickings in the creek. Others, including two well equipped pack train parties, set out over the rugged terrain in quest of the deposit. One party was from the Smithsonian Institution.

Weise and Stockton soon discovered, like others, that the jade float petered

out in the stream bed a few miles north of Covelo. And they, like others, abandoned the stream at this point to explore the overhanging hills.

Covelo lies at an elevation of 756 feet. The country to the north is extremely rugged, dominated by Leach Lake Mountain, the 6500 foot crest of which is 15 miles from the nearest dirt road.

Weise, who has been working in jade for the past five years and has either visited or obtained samples from all of the known sources, had learned that the metamorphic rock is a fusion of asbestos and soapstone, together with calcium, magnesium, aluminum, silica, chrome and sodium, the difference between nephrite and jadeite being only the difference between magnesium and aluminum.

Stockton knew that within a three mile radius high on the mountain there were small deposits of asbestos and soapstone. Weise had another theory. He believed that the petering out of float in the creek was due to an unusually wet, followed by an unusually dry cycle centuries ago. He believed that if they climbed higher along the creek they would again find jade pebbles.

Throughout last winter the two men laid plans for a pack-in trip. Early in May, Weise and his wife Gladys took an early vacation. Weise is business manager of the A.F.L. Carpenters Union in Contra Costa County. He and Stockton were determined to spend two weeks on the mountainside with a pack train of seven horses and mules, and they stocked for fourteen days. Traversing rattlesnake country, they followed the creek up the canyons of the 6,500-foot mountain.

On May 13, the fourth day of their quest, after a heavy rain and snowstorm on a 5400-foot shoulder of the mountain, Weise and Stockton came to a clearing where the pine and fir abruptly opened on a wide amphitheatre.

"All of a sudden, the sun broke

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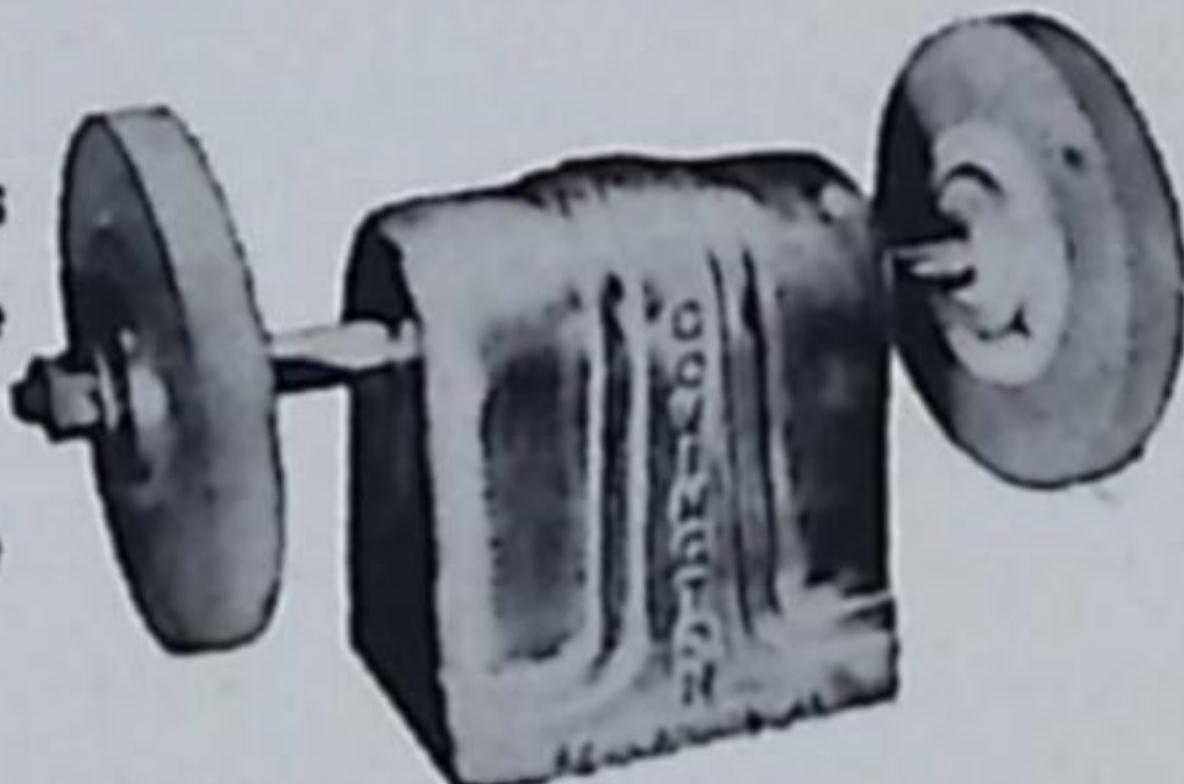


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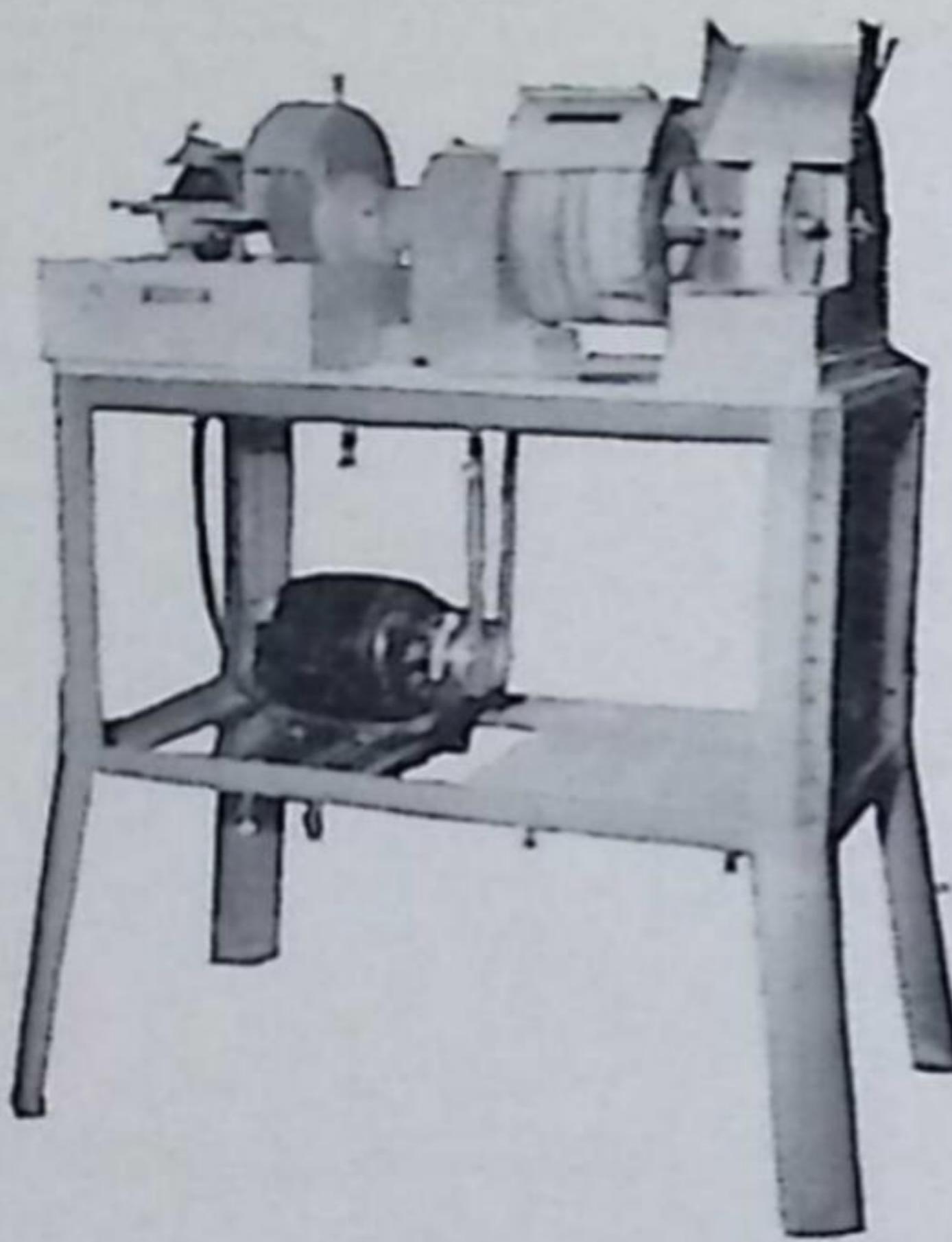
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through the clouds and shone on what looked like acres of scattered green rock," said Weise. "It looked like someone had put a flashlight on an object and said: 'here's what you're looking for.'"

Clearly exposed on the upthrust were nine veins of white and green rock stringing through the serpentine. They ranged in width from a couple of inches to three feet.

Strangely enough, Weise and Stockton found the ashes of hunters' campfires near a huge boulder that unmistakably appeared, with its wet sides, to be jade. The area is a favorite camping spot for deer hunters.

"Hundreds of sportsmen have probably camped in that hollow without knowing what they were sitting on," said Stockton.

The party cached their food supplies after exploring a three mile square area of the mountain, set up monuments to mark the extent of the deposit, loaded the animals with several hundred pounds of loose outcrop and returned to Covelo. Weise and Stockton sped to Ukiah, the county seat, to file eight claims to 160 acres. Three of the claims were placer covering the downside of the mountain shoulder. The claims lie between 5,400 and 6,300 feet, and are a few hundred feet below Leach Lake, from which the mountain gets its name. The territory is in the Mendocino National Forest.

The two men sat on the story of their fabulous discovery for several days and then released it when Weise returned to his Martinez office. It was avidly picked up by the metropolitan newspapers and the wire services. The effects were strictly according to pattern.

First, they started a rush into the remote mountain area. Second, they launched a controversy among the experts. The rush included a few high graders, a couple of parties of newspapermen and several geologists. Additional claims were staked out by others to the precipitous mountainside beyond the limits of the Stockton-Weise claims.

First reports of the value of the find were conflicting, but the Division of Mines, in subsequent reports, classified samples as jadeite and nephrite. None of the samples came from the veins because neither Stockton nor Weise had taken along equipment that would chip

it out. Weise tried and failed with a drill.

One geologist of the Division of Mines analyzed ten samples of boulders and classified several as nephrite. He found that two other specimens had the components of jadeite but shied from pronouncing its definitely as jadeite although his chemical analysis showed calcium, aluminum, silica, chrome and sodium. The samples, his report said, appeared to be "a pyroxene approaching the composition of jadeite." Another state mineralogist, who packed in to the site with a party including Stockton late in June, is subjecting samples to tests.

Weise has taken out samples in which the fibres of asbestos, a basic of both nephrite and jadeite, are visible to the eye. Bureau of Mines reports gave the nephrite specimens a hardness of 6.5 and specific gravity running from 3.09 to 3.21 and the jadeite a hardness of seven and specific gravity ranging from 3.24 to 3.54.

While they have not explored their find to any great extent, both Stockton and Weise, in segmenting the boulders found at the deposit, have cut into lenses of translucent white and green material. One piece of rock, predominantly white, has streaks of a pinkish hue and several show striations of mutton fat white up to a quarter of an inch running entirely through the rock. If this kind of gem material is found in any quantity, the two partners may well have one of the most startling and fabulous geologic discoveries of the century.

Mrs. Weise picked up one specimen which W. R. Layne of Orinda, a jade specialist, pronounced as equal to the best known Burmese imperial jade.

Weise and Stockton have sent specimens of their material to the best known authorities and are awaiting supplemental opinions. The California Division of Mines has sent samples to the U. S. Geophysical Laboratories in Washington.

Until they receive these reports, the partners are sitting tight. Scores of lapidaries and dealers have written them for samples, sight unseen, after reading the newspaper accounts of their discovery. Some of these first newspaper stories, incidentally, deprecated the value of the material, just as later accounts

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played it up as jade of unusually high potential value. Of one thing Weise and Stockton are sure. They have the only deposit in which jadeite and nephrite are in conjunction in the same vein. They are also being told by gem polishers familiar with Burmese jade that they find little difference between Covelo and Burmese jadeite.

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That there will be other discoveries in California they take to be a foregone conclusion. For California has more rockhounds on the prowl than any other area in the world—and now, most of them know what they are looking for.

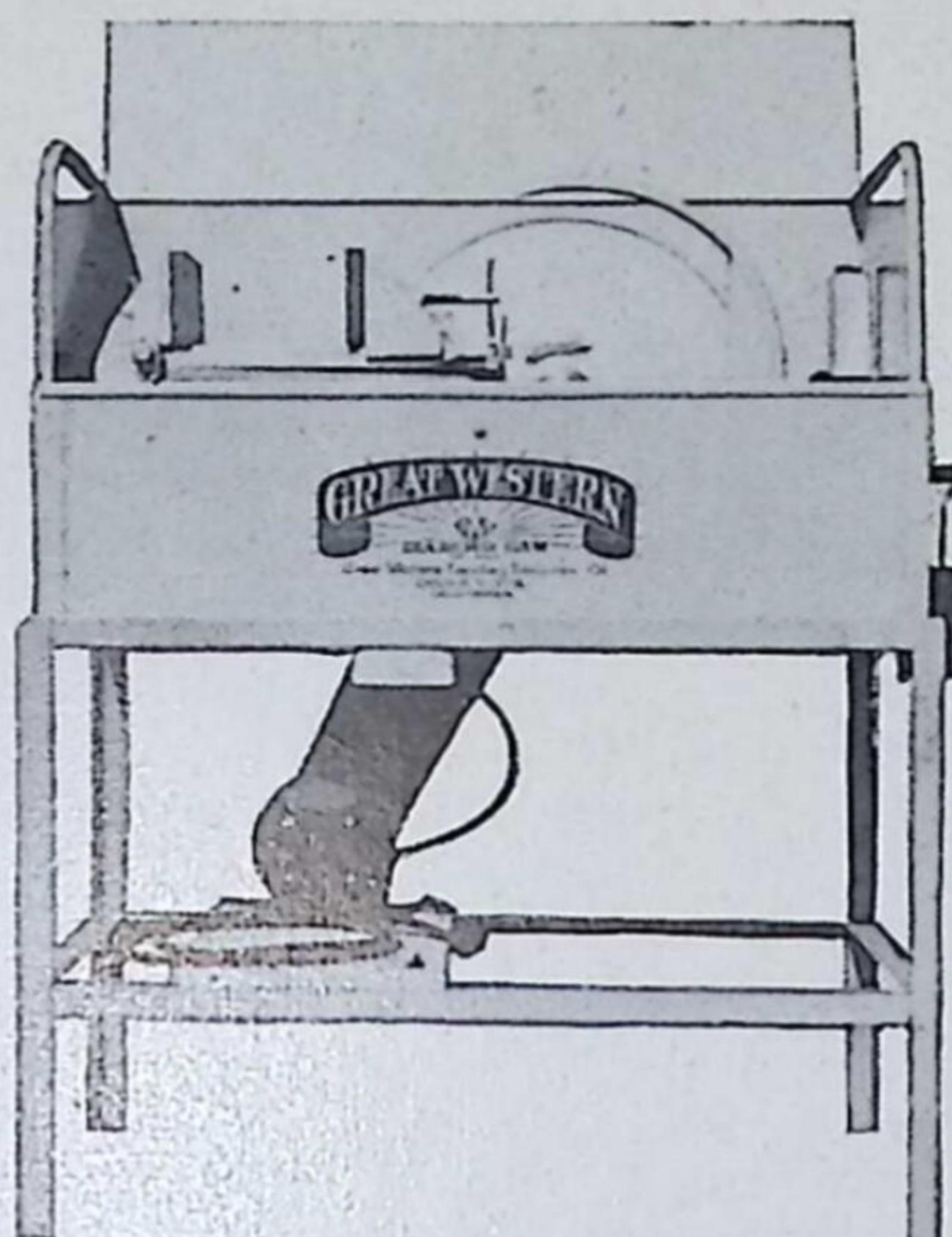
(Editor's Note: We are indebted to R. F. Henley of San Francisco who was kind enough to give us a fine slab of jade of about twenty square inches taken from a boulder found in the creek. This slab is bisected by a line. According to Henley the material is nephrite on one side of the line and jadeite on the other. This is based on information he received from the California Division of Mines. On the day we left the Oakland convention an expedition of the California Division of Mines, under the supervision of Mr. Chesterman, was due to arrive home in San Francisco with samples from the Weise claim. We shall report more on this highly interesting matter later. Mr. Weise showed us a few pieces of very fine color as did the author. However, we understand that nothing has yet been uncovered that would produce a really fine imperial green cabochon as large as a dime. It must be remembered that even in Burma it is not unusual to break up a boulder weighing several tons in order to get a hunk of fine color weighing less than an ounce. "Where there's smoke there's fire" and where jade exists by the tens of thousands of tons there must be "the gem" . . . we hope.)

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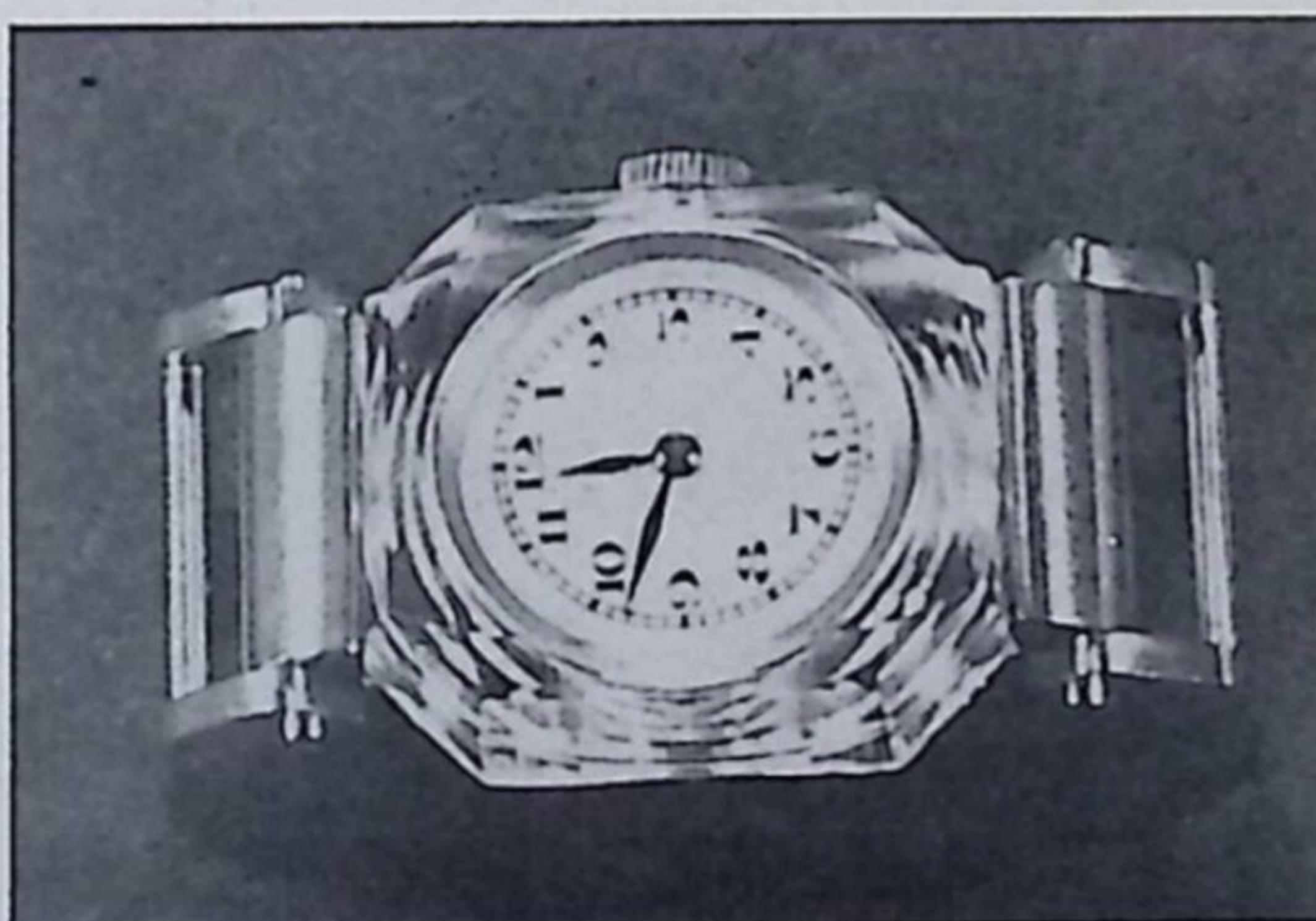
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◆ Design Your Own Jewelry

By MARGARET SCHOONOVER

2017 N.W. 22nd St., Oklahoma City 6, Oklahoma

Member of *Oklahoma Mineral and Gem Society*

In stores one often sees beautiful inlay pins, designed by Indians, of dancing figures and butterflies and the like. These pins have always caught my eye as they are really a work of art. The silver work is top and each stone has been cut to fit its own special place in the design. One day while looking at some of these I was struck with an idea —why not design and make some of my own?

Many forms of nature can be used as a basic form. I decided upon butterflies, moths and flowers as my favorite subjects. The first step is to decide upon an outline form. A very simple design is derived from the form of a moth, as in Figure 1. This takes very little alteration in the natural shape of the moth. Only five stones must be cut for this pin and anyone who has equipment to cut cabs can cut his stones in these shapes as no special equipment is needed.

The silver work also is not out of the ordinary. First a base is roughed out of sheet silver as in Figure 2. Then five bezels are made from bezel wire in the ordinary oval. Except each is shaped for its special position. The body is an ordinary oval. The other four bezels vary little from the conventional tear drop shape. The bezels are then soldered to the base in their respective positions. Place solder at inner base of each bezel and not between them. Next make the antennae, or feelers, of silver wire. Solder in place, using a bead of silver for ends of antennae, and also for the eyes. Finish the base by truing the edges with a file, after which you solder on the pin and catch; then clean and polish. Now you are ready to mount your stones.

Figures 3 and 4 are other designs similar to the moth but are a little more complicated. The outline is made of a bezel mounted on a base as before. The center separators are straight sheet silver. The stones are mounted by means of a jeweler's cement or by leaving small

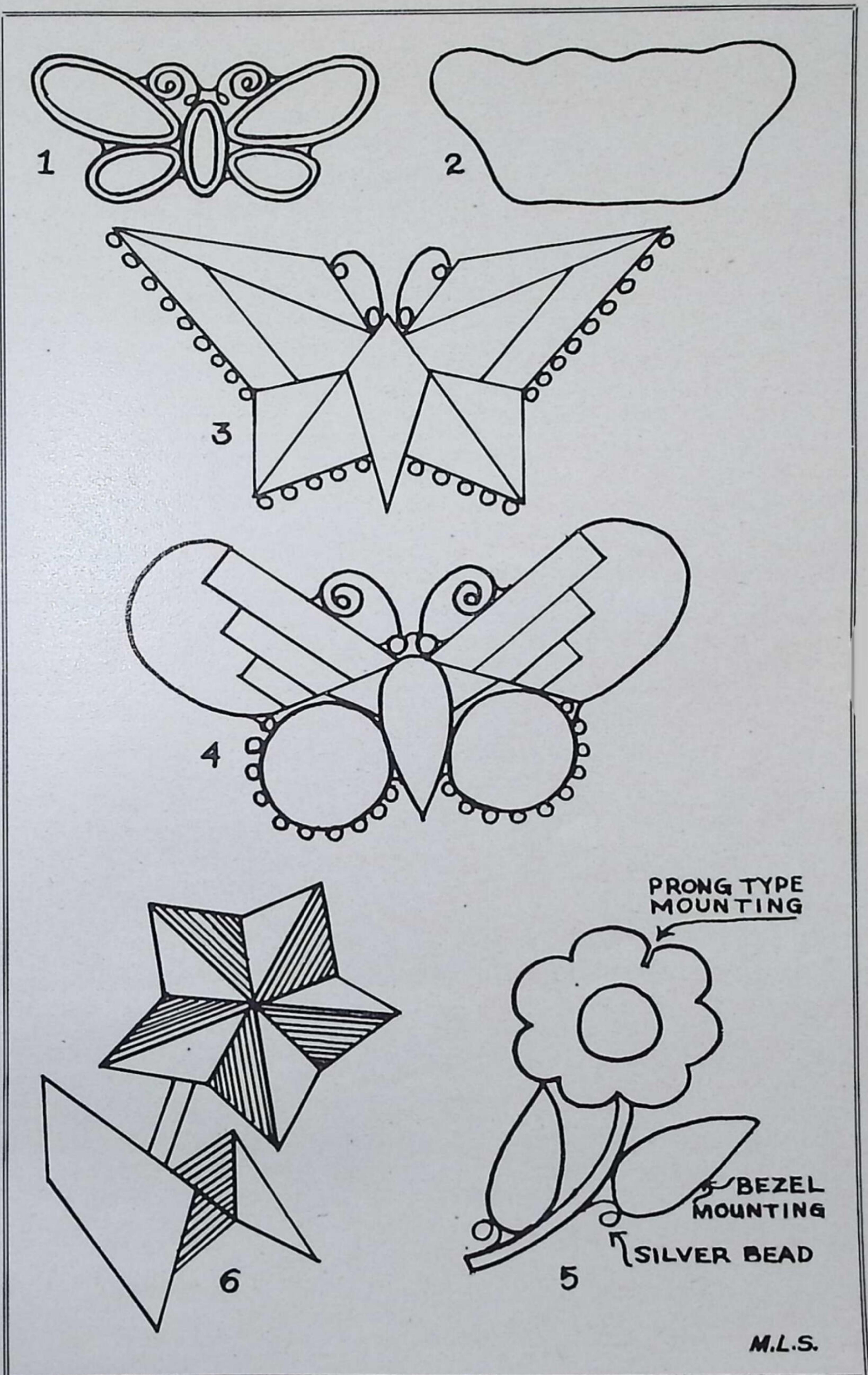
oval or triangular tabs on top of the separators to bend over and hold the stones. Any number of combinations and designs can be derived from nature in this way.

Flowers also make wonderful subjects as in figures 5 and 6. They are made in the same manner as the moth. The petals in figure 5 are made in one piece with the center hole cut with a "hole saw" or button cutter attached to a gem drill press. The center stone may be cut in the same way. These petals can be mounted with a prong type mount between the petals rather than a bezel.

Jewelry, such as these pieces, should be made as light in weight as possible as it is usually heavy. All silver used should be as light in weight as practical and all stones used should be cut thin to eliminate unnecessary weight. The pins and catches used on the back should be heavy enough to be practical.

Another problem one should take into consideration is the type or kind of stone to use. Colors and textures, etc., mean much in their selection. Stones of like textures should be used in conjunction with each other. It would not look right to use opaque stones such as turquoise or labradorite in conjunction with transparent stones such as the synthetic spinels, etc. Select the colors of your stones carefully, using good taste in your selections. Labradorite properly cut, would be a good selection for use in butterfly wings as the colorful display of labradorescence closely resembles the beautiful blue of tropical butterfly wings. The body of the butterfly could well be made of black obsidian or dark blue tigereye, cut with the stripes running across from wing to wing rather than lengthwise. The agates of various colors offer great selection.

The Indians have already proven the versatility of turquoise in this type of jewelry but by careful planning one can work out original combinations of stones which will be just as effective.



♦ *Inlaid Paperweights*

By JAMES WESLEY ANDERSON

3614 Ednor Road, Baltimore 18, Md.

President Emeritus of *The Gem Cutters Guild of Baltimore, Inc.*

For making inlaid paperweights you need a drill press, a few assorted home-made pipe drills and something to confine the water and grit while drilling. You also need the usual sanding and polishing equipment. As a rule five different size drills are used ranging from $2\frac{3}{4}$ to $\frac{1}{2}$ " in size. The large drill is used to cut out round pieces from a slab about $1\frac{1}{4}$ " thick. This material may be travertine, marble or onyx. The harder materials will take much more time to drill.

The drills are made from 4" lengths of light, soft steel piping about $\frac{1}{8}$ " in thickness. Cut a hardwood block 2" long and split off the corners to make it roughly round. Bore a $\frac{1}{4}$ " hole $1\frac{3}{4}$ " deep in the center of the end of this block. Into this hole twist a $\frac{3}{8}$ " square headed screw to a depth of $1\frac{1}{2}$ inches. Saw off the square head with a hack saw. Now fit this tightly into the chuck of the drill press and with a small block plane, or a wood rasp and sandpaper, trim this plug so it can be forced $1\frac{1}{2}$ inches into the pipe. A small hole may be drilled into the side of the pipe so that a screw can be used to prevent the wood from turning in the pipe. As the cutting end of the pipe wears thin, hammer it with the round end of a hammer. This will cause the drill to cut faster.

A simple method of holding water and 100 grit for drilling is made from a tin can which is one inch larger in diameter than the pipe drill. This should be fastened to the center of a strong 1" thick board 8" square or the size of the platform of your drill press. Saw a hole in the board to fit the pipe drill. Put a ring of felt or rubber between the bottom edge of the can and the board and a tack every half inch around the inside edge of the can. Cover the entire surface of the bottom of this board with felt or rubber, cutting out a circle large enough for the pipe drill. With two 6" clamps fasten this contraption above the slab to be drilled on the platform of the drill press. To prevent splitting this board fasten clamps to the ends, and

not the sides. The clamps fit under the platform of the drill press and above this board.

Now place half a cup of water in the tin can with a small amount of grit and you are ready to start. Raise the drill slightly about every two seconds so the grit can get under the drill. This should cut through an inch of onyx or marble in about ten minutes.

The hole for the inlay should be $\frac{3}{8}$ " deep and a full half inch less in diameter than that of the base. It is very important that this hole be in the exact center of the stone and pipe drills are hard to control. After many experiments the best and surest method is to slightly counter-sink this drill by hand. Cut a 2" long piece of pipe and hold this in position with a wooden disc which fits inside the pipe and to which is fastened a round handle about a foot long. Shift the short pipe to the exact center of the stone and firmly hold it there. Sprinkle a small amount of 100 grit around the pipe but only a few drops of water. With one hand hold the stock securely and with the other hand rotate a short piece of pipe back and forth. In three minutes a groove will be cut deep enough to guide your pipe drill.

For holding water and grit while drilling the top of your weight make a leather sleeve from heavy leather so it will fit snugly around the stone base. This should be three inches long. Slip the base into this and add water and grit. Press this up against the drill until you find the groove. Hold by hand until the drill has cut $\frac{1}{8}$ " deep and then lower to the platform and continue the cut until it is $\frac{3}{8}$ " deep. Change to the next smaller drill and so on to the smallest until all have cut $\frac{3}{8}$ " deep. Now put a band of iron 1" wide and $1\frac{1}{16}$ " thick around the stone. $\frac{3}{8}$ " holes should first be drilled near each end and the ends bent outward so that a $\frac{1}{4}$ " bolt may be inserted and tightened around stone. This will prevent the base from breaking while you chip out

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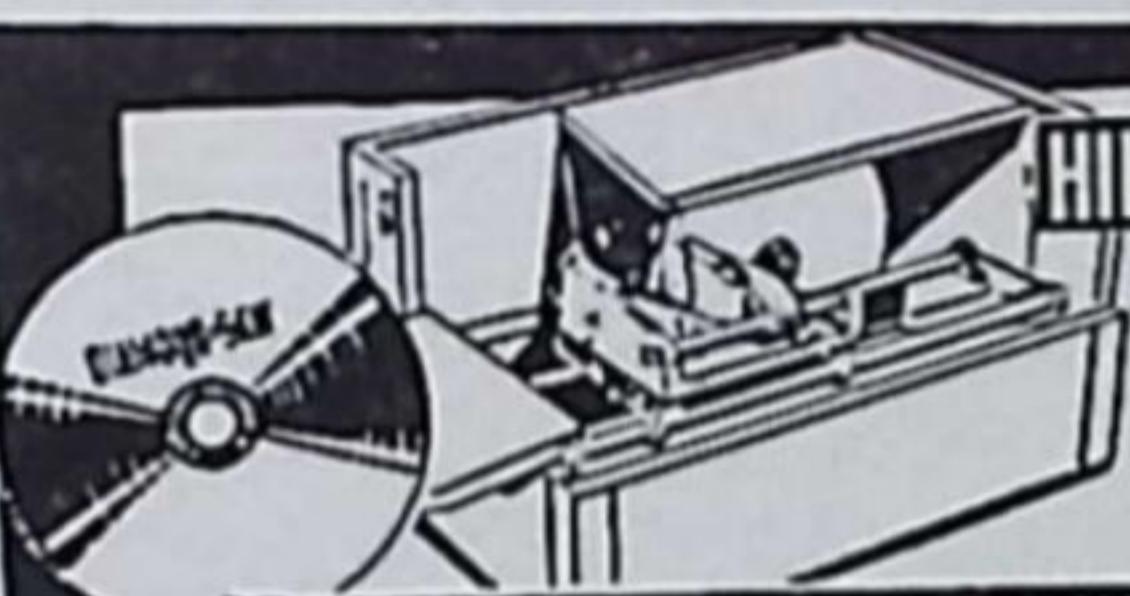
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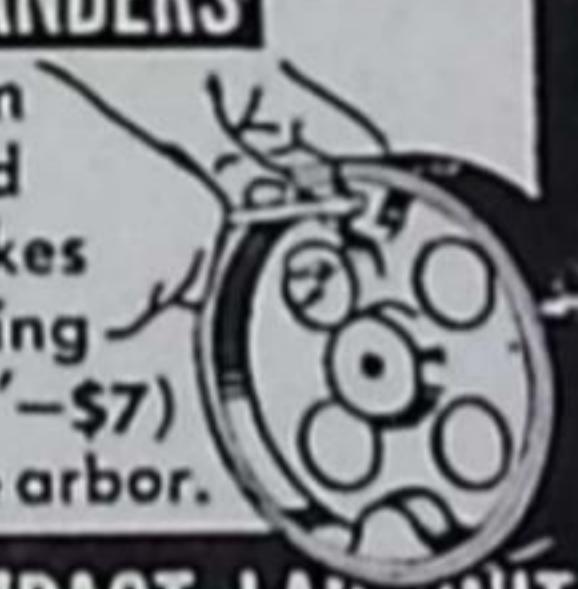


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the center for the inlay with a small cold chisel.

The inlay should be a full quarter inch thick and great care must be taken to see that it fits snugly into place. Do not assume that the hole bored for the inlay is exactly round, for a slight side pressure while drilling might change this. When the inlay fits one side of the hole, mark it and the base and then fit both to an exact position. The inlay may be slightly tapered and when it fits two-thirds of the way into the stone it is ready to cement into position. Place a sufficient amount of sealing wax in the opening and gradually heat until it melts. Heat the inlay and press into position. Always grind toward the center to prevent chipping. Sand and polish in the usual manner.

A multiple five-in-one pipe drill can be made so one operation will do all the drilling. Such a drill is not completely satisfactory as the outside, or larger drill, is called upon to cut several times as much material as the drills that cut only the top of the stone. In a short time the large drill is worn too short and the whole drill must be rebuilt. This could be overcome in part by charging the drills with diamond bort.

The reason for using a block of wood rather than cross grain is that it will turn down more evenly when the grain of the wood is lengthwise. And the reason for not first plugging the pipe with wood and then putting in the larger screw in the center, is the difficulty of getting it in the exact center of the wood. When the screw is put in the end of the block and then in the drill press, shave it to the correct size to fit the pipe, then the screw or bolt has to be in the exact center.

Where many weights are to be made it will save time and help to have five leather sleeves made so that five weights may be drilled on top before changing drills is necessary. To hold work near its proper place for drilling center circles I use a piece of strong wood 8x8". Clamp this in proper position to drill platform directly under center of the drill. The opening, or cut-out in the board, should be large enough to accommodate the paper-weight and the leather sleeve around it. Slip the paper-weight into a leather sleeve and slide it into position under the drill. With five sleeves you can drill five before chang-

ing to a smaller drill. This can be used only for the two center drills as it is not accurate enough for cutting the opening into which the actual inlay is set.

When the inlay is first set it should stand up above top of the base about an eighth inch. This helps to give a rounded effect when the top is ground. With practice new ideas will suggest themselves for no two persons do things in the same way.

(Editor's notes: Illustration of these attractive weights can be seen in the border of the picture on the left of the middle spread in this issue.

While this idea is described in the latest edition of Wm. Baxter's *Jewelry, Gem Cutting and Metalcraft* (Page 244) it is not given in as great detail. An illustration of the author's weights appears on Page 245 of that book.)

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♦ Rock Artistry Without Machinery

By JOSEPHINE ROBERTS.

Duckwater, Nevada

Some time ago the Editor was taken with a picture in stone done in chips from the Indian arrow makers' stone piles by the author of this article. It appears on the cover of this issue. The picture was a gift by Mrs. Roberts to Cyria Henderson, wife of Randall Henderson, Editor of the Desert Magazine. The idea occurred to us that here was a form of rock artistry that some of our readers might like to try. For it has all manner of possibilities and no machinery is needed for its accomplishment. It is lapidary art in its crudest form from the earliest days of the stone age. Here is Mrs. Roberts' account of her work—

Our valley is about twenty miles long and between two and one-half to three miles wide. It is supplied with water from a warm spring that has the same flow the year around.

I have been picking up the small chips used in my rock pictures ever since I was a very small girl. I remember how my mother used to scold me for ripping a hole in the two inch hem of my dress. This was torn so I could drop rocks in the hem to bring them home. Of course I had pockets in my dress but they would not hold enough. I loved the beauty of the rocks but I did not know what to do with them after I got them home but they were just pretty. When I was fourteen my mother sent me to St. Joseph's Academy at Pendleton, Oregon, where I took lessons in oil painting. My first few oil paintings were flower arrangements.

After several years of schooling I came home and in time married and raised a family of five girls and two boys. In all that time I never forgot the rocks but I didn't have much time to do anything with them.

About two years ago I started to put together a few petals in flower-like shapes. I thought of putting them down in a mosaic-like way but that seemed crude and did not bring out the beauty of the rocks in the manner I wished. The first picture I made was rather crude, with the stems wide spaced and the flowers rather large and gaudy, for I didn't quite know what I wanted to do.

After a lot of experimenting I am now making several kinds of flower arrangements and I am working on a second Japanese dwarf plum tree. The white petals for the plum tree are the hardest rocks to get together for there seems to be dozens of shades of white. Sometimes it takes me hours and even days to find just one or two petals of the right shade to complete a flower. It takes a lot of patience and time to do this form work right.

The only tool I use is a pair of carter key pliers. I like the small chips best for they do not need a great deal of work to shape them. I do not use a diagram. I just put the first flower in about the center of the paper and work from there. I am always trying new shades of paper for the background. The dwarf plum I put on a light blue background and everyone seems to like it about the best of all.

It is very difficult to arrange these rocks for they are very stiff and not at all like paints that can be blended to look right. At first I started to use Lepage's glue for fastening the chips. After it dried the flowers would drop off. Then I found a glue that the Borden company makes called Caseorez. Once the rocks are glued with it they do not drop off even if the picture is dropped.

These chips are scattered from one end of our valley to the other, although most of them are found in the sand hills around us. We have found several deposits of very beautiful jasper and opal

here, but some of the most beautiful material the Indians used we cannot find. I imagine that they traded their ammunition with other tribes. We have heard too that they used to cover their deposits of material so that no one could find them.

You asked about the Indians here. When my grandfather came to settle this valley in the 1800's the Indians were a very poor tribe. After he had been here for several years one old squaw started to talk of war to run the white people out of the valley. The old chief said "No!" He went on to say that before the white man came they were very poor and often went hungry, and if the pinyon nut crop failed they often starved to death. Then the white man came and when they got hungry all they had to do was tell him and he would give them flour and potatoes and other things to eat. They were better off than they had ever been before. Now there is a small reservation here supporting about forty families.

To make this work more interesting my husband and daughter bought a lapidary set about a year ago and now we are always learning more and more about our desert country and the beauty in the quartz minerals that we find about us.

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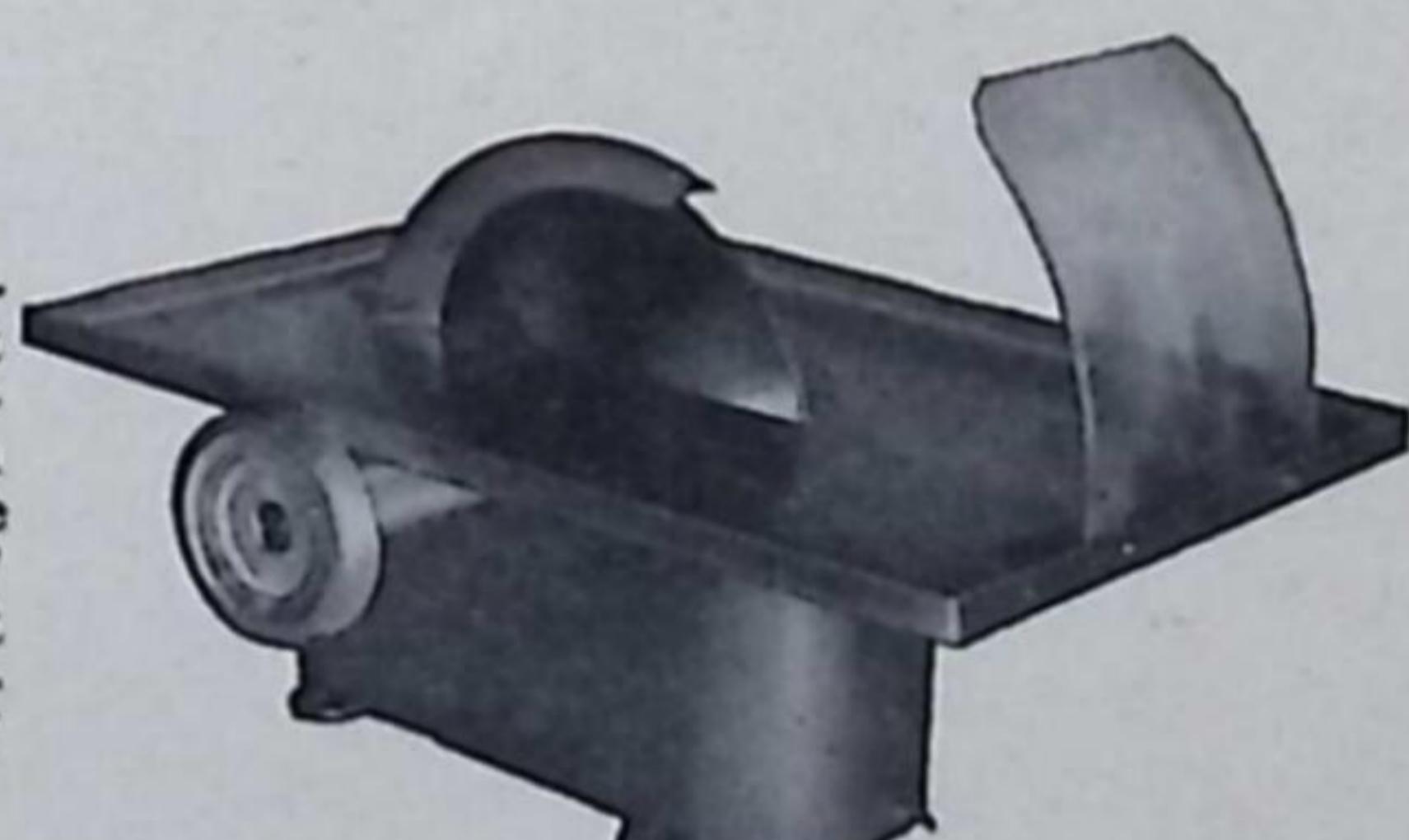
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By LELANDE QUICK

As we drove away from the Oakland convention more than 50 cars were in line for the big three-day field trip planned for the visitors. It was the wind-up of a busy time and a highly successful show. The number attending was a big disappointment and surprise, for we confidently expected that between 30 and 40 thousand people would come to see the greatest collection of gem and mineral materials ever gathered under one roof. But the last report we had was that the paid attendance had passed the eight thousand mark a few hours before closing time. This gave a profit in excess of \$1,000 and \$850 to the Federation from sale of grab bags, it is reported.

Note that we said "paid" attendance. Since admission was charged this was probably the first big convention at which anything like an accurate count was made. However, if more had come we don't know how the dealers could have taken care of the business, for the people who did come spent more money than at any other show in history and the dealers, who subsidize the shows, went home with a little money. It is doubtful if any dealer ever makes much more than bare expenses in these deals when it is considered that he has to close his shop and leave home for a week in order to attend.

Outside of the big borrowed displays of diamonds, colored stones and jade, the general run of the lapidary arts was not as fine as at some previous shows. If the splendid display of the non-member *San Jose Lapidary Society* had not been there the lack would have been more noticeable. We examined the displays for new ideas and for cover material for the *Lapidary Journal* but we found only one item that filled the bill.

However the mineral display was the finest we have ever seen, for the Northern California folks are great collectors and they have some impressive mineral collections. We augmented our own crystal collection with several fine pieces from the dealers' stocks; stocks that were the most complete we have ever examined.

Robert Roots of Denver had a case for kids that attracted our attention again and again, although at no time did we see a kid looking at it. Bob displayed many animals carved from fluorite and he had clever little stories accompanying each item. It was an outstanding display and we hope to see it offered at other shows in the future.

Harold and Nathalie Mahoney, co-chairmen of the affair, did a highly exacting task very successfully indeed—with the help of a hard working committee. And no one will ever know how much the fine work of Thomas Warren, president of the *American Gem and Mineral Suppliers Association* and *Ultra-violet Products, Inc.*, contributed to the success of the affair. The show would probably never have been held without the help of the Association. It is too bad the accumulated experience of a committee cannot be passed along but a new group takes up the task each year—a group that has to start from scratch.

It was decided to hold next year's California Federation meeting at Angels Camp, a town of 1167, in the Mother Lode country. This is a marvelous location for a trip; but no place for a big meeting. There are 57 member societies in the Federation and if each society sends but one person to the meeting there are not 57 beds for hire in the town. When the news gets back to the societies we feel sure that the grass roots of the hobby will alter this decision.

* * *

While we were away a new group was organized in our town of Palm Desert. It adopted the name of *Shadow Mountain Gem and Mineral Society*, after the name of the mountain that sits friendly at our back door. George Merrill Roy was made President and as we go to press the membership has already passed the hundred mark.

Of all the communities in America this seems to be the one spot for an experimental workshop in the lapidary arts: The population is predominantly a retired

one. The folks are along in years and they are in a financial position to get any equipment their whims dictate and they have plenty of room to play with it. They are in the heart of one of the greatest collecting areas in the world . . . and they live in the publishing center of the hobby. For the files and libraries of the *Desert Magazine* and *Lapidary Journal* are available to them and they can draw upon a wealth of experience and knowledge for their programs.

Plans are already afoot for a show next winter and this should be an interesting show indeed for at present no more than 10 percent of the members have ever cut a rock. A good show should be evidence of good teaching and accomplishment of a study program; a program in which President Roy is a great believer.

Plans call for two study groups. Beginners will be placed in a group called the Agateers. Here fundamentals will be taught and class work held in cutting cabs, flats and specimen pieces. When evidence is shown of accomplishment and knowledge the member will graduate to the Faceteer group in which faceting and jewelry making will be taught with a program of advanced study in crystallography. This method gets the horse before the cart in its proper position.

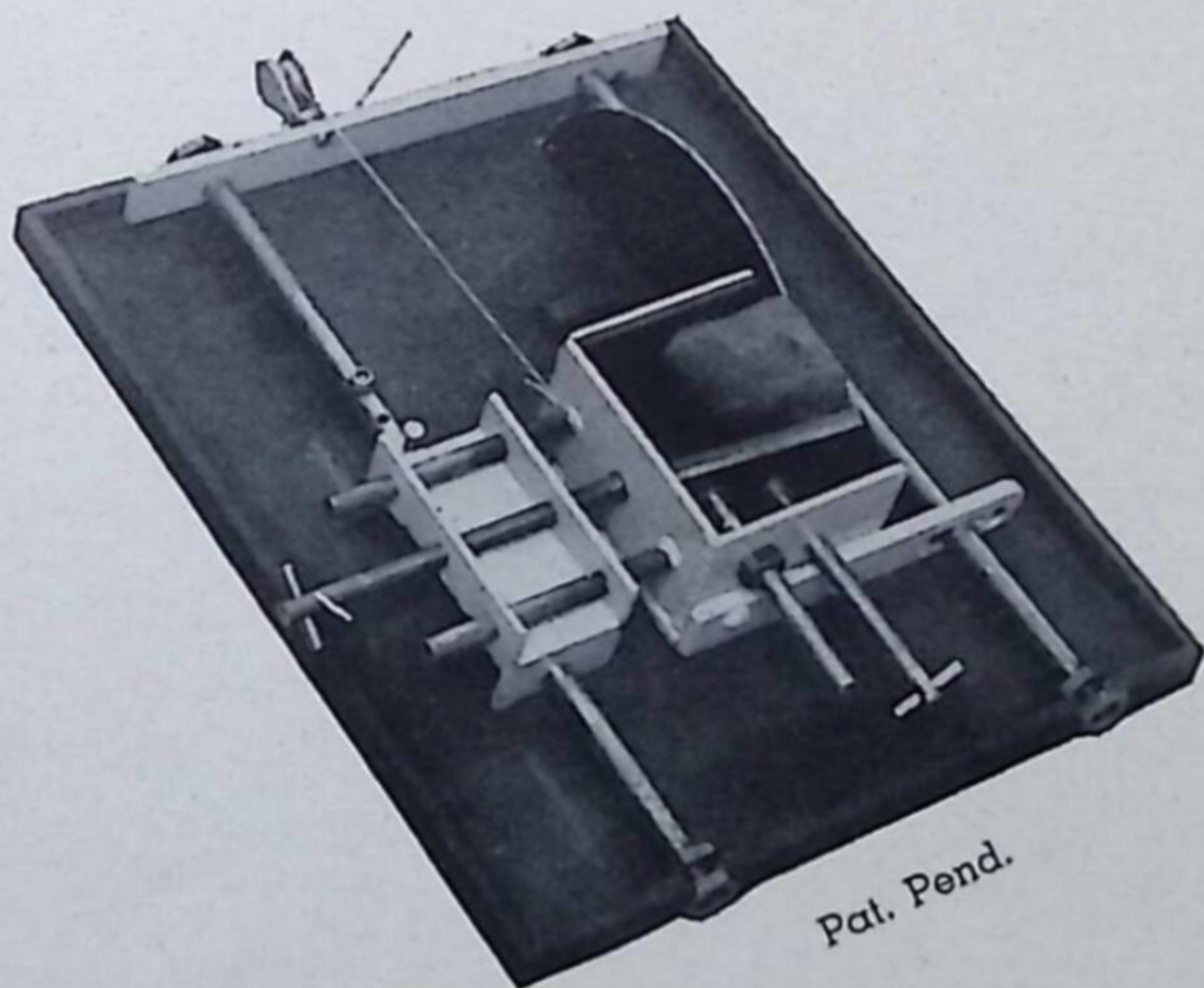
We envy these folks who have joined the new organization. Each new thing is a thrill to the novice and we wish we could recapture those thrills we first knew—although our enthusiasm has not dimmed very much. We just hope that this new enthusiasm does not become dulled too quickly by politics and vacation pictures instead of the supplying of gem, mineral and craft knowledge for which the group was founded. So many of these people have retired *from* something and now they are happy to find that they can retire *to* something. If they don't wish to call it a hobby (a word to which some people are allergic) let them call it a new *interest . . . and keep it interesting*. A grave responsibility rests upon the officers of this new organization to supply the thing for which these new people hope . . . a maintained interest in a new happiness. They have every incentive to become a leading group in the Second Stone Age—and we hope they do and we shall work with them to that end.

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By WILLY PETERSEN-FAGERSTAM



FIGURE ONE—TIE SLIDE

The bezel is made of 22 gauge fine silver. Solder to Number 2 (the back) which is made of 14 gauge sterling silver. Number 3 is sawed from 16 gauge sterling silver and filed half round as shown in the drawing on the opposite page.

FIGURE TWO—CUFF LINKS

The bezel is made of 22 gauge fine silver. Solder to a backing of 22 gauge sterling silver. The side pieces (Number 2) are sawed from 16 gauge sterling silver and filed half round. Then they are soldered to the bezel.

FIGURE THREE—TIE SLIDE

The bezel is made of 22 gauge fine silver. Number 2 is sawed from 16 gauge sterling silver. A groove is filed and carved between points A and B and this three cornered field is hammered with a small ball punch. The bezel is then soldered to Number 2 and the back is polished. Now bend Number 2 at point 3. Hammer the work until it has a spring to it to make it easier to bend.

FIGURE FOUR—TIE SLIDE (follow procedure as in Figure One)

FIGURES FIVE AND SIX—CUFF LINKS

The bezel is made of 22 gauge fine silver soldered to a back of 14 gauge sterling silver with a beveled margin.

FIGURE SEVEN—CUFF LINKS

The bezel is made of 22 gauge fine silver soldered to a square of 14 gauge sterling silver. The edges are filed and beveled. This style looks well with jade or blue sapphire.

The tie slide clips and cuff link clasps can be bought from supply firms.

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Fig. 1.

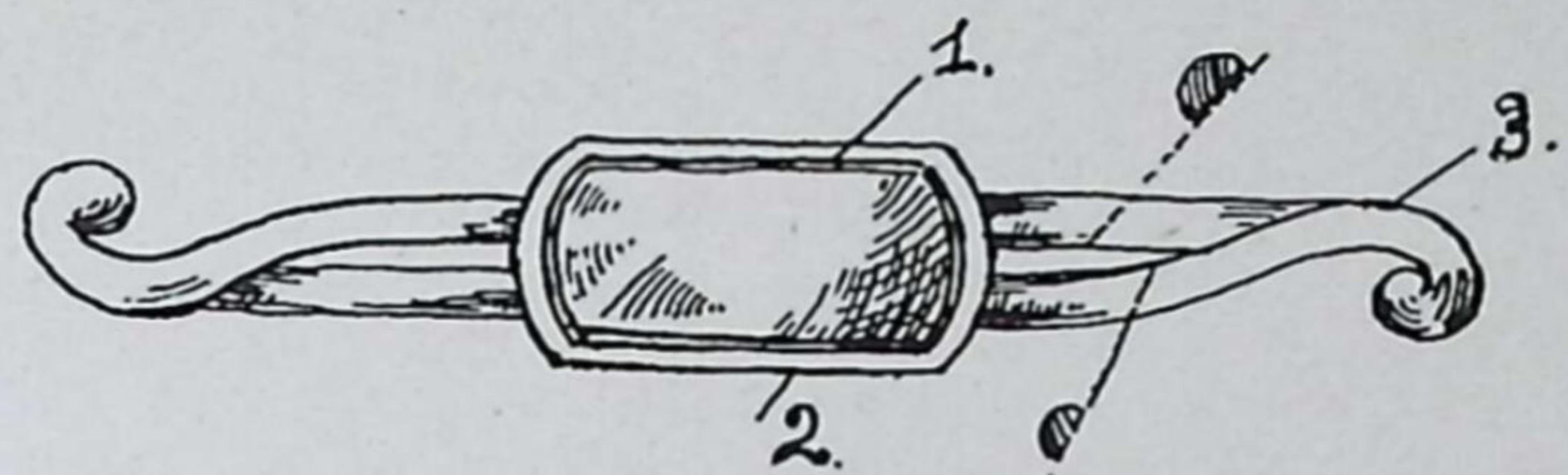


Fig. 2.

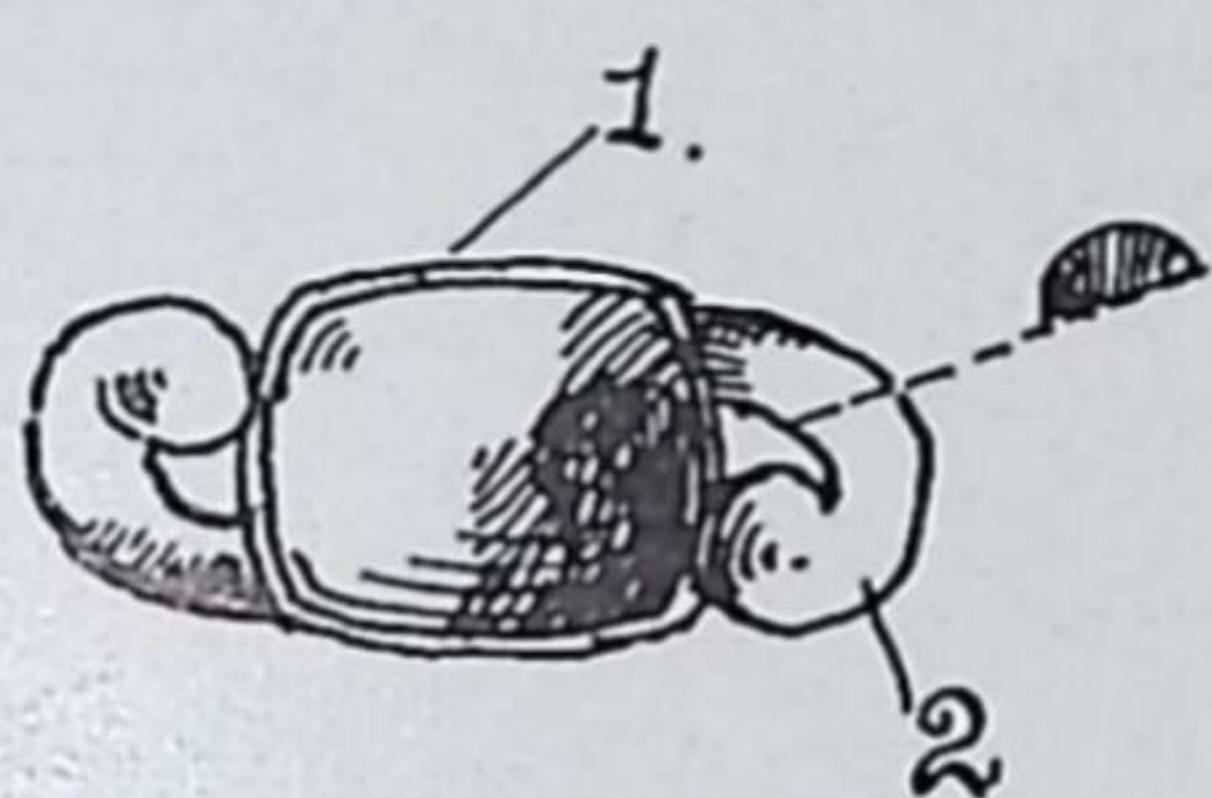


Fig. 8.

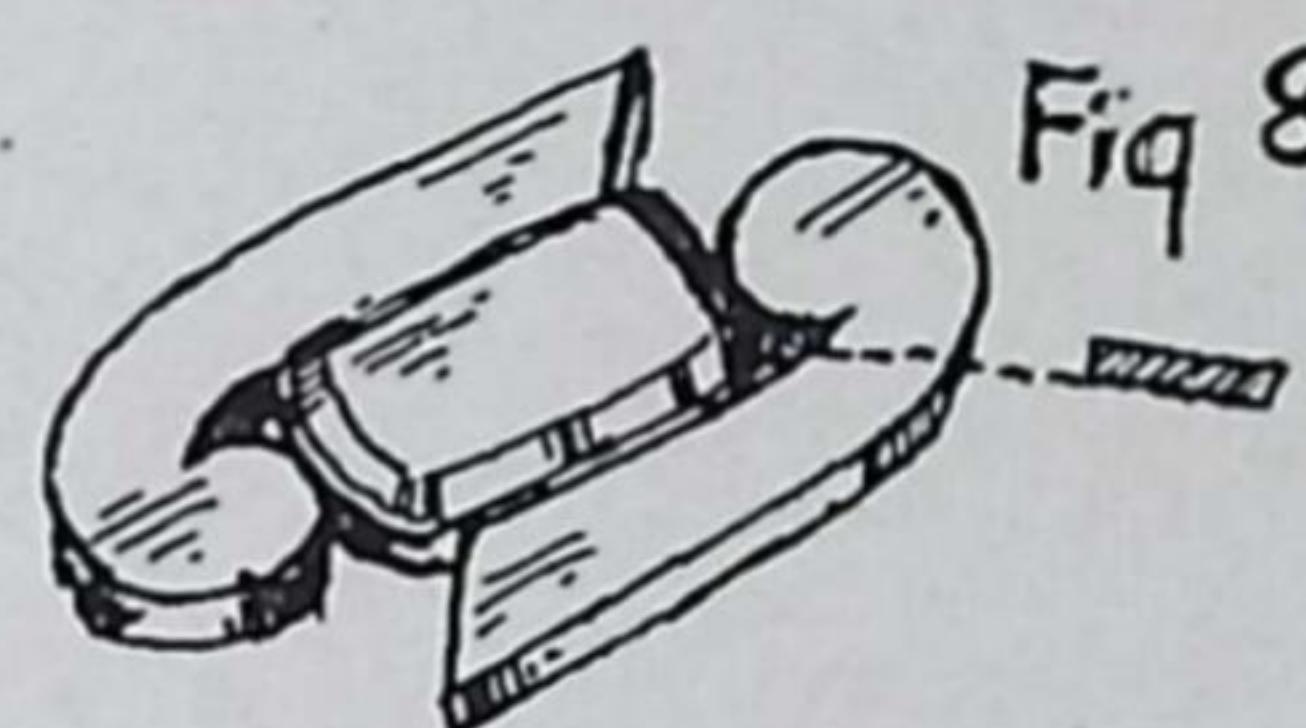


Fig. 3

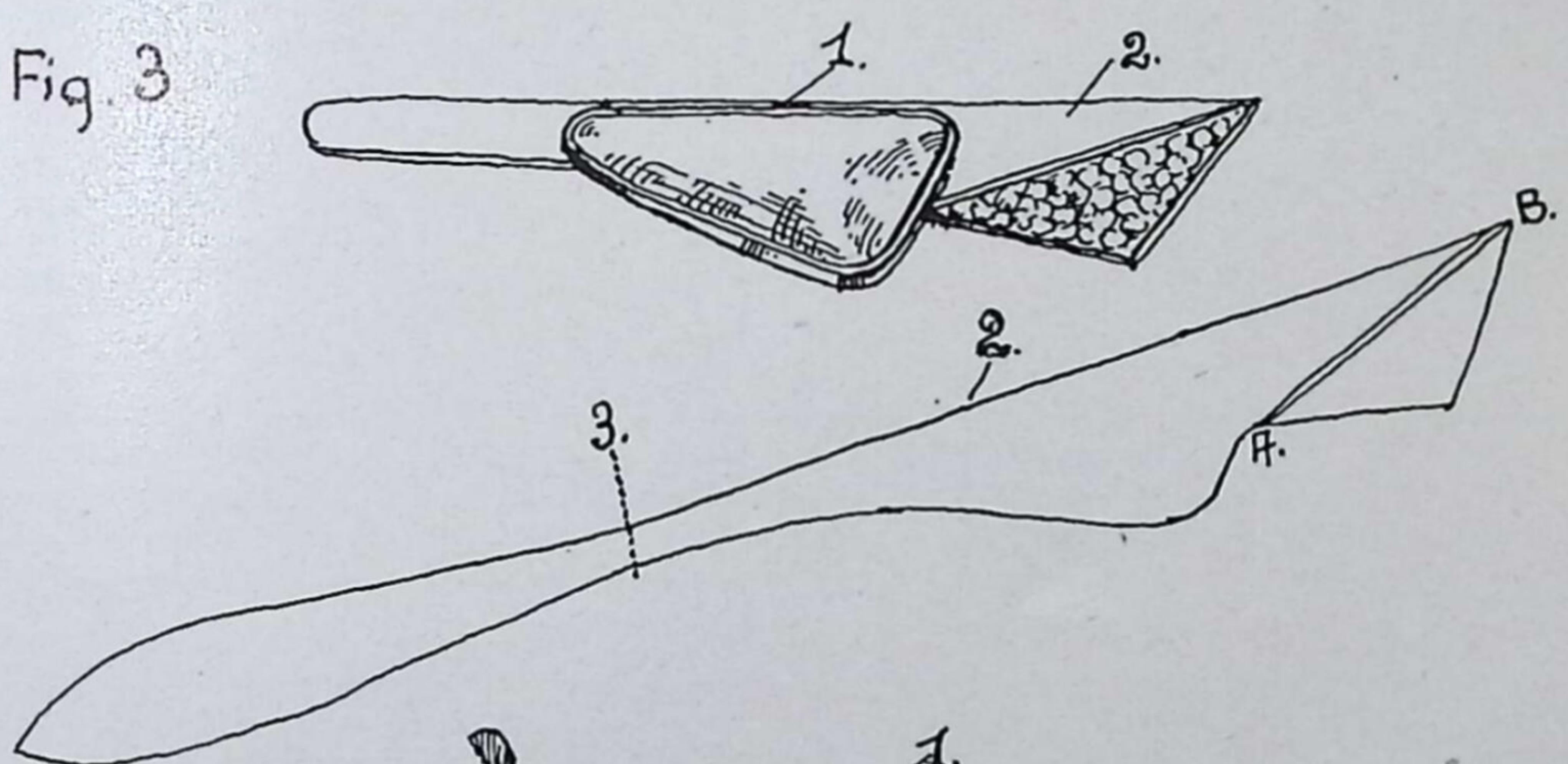


Fig. 4

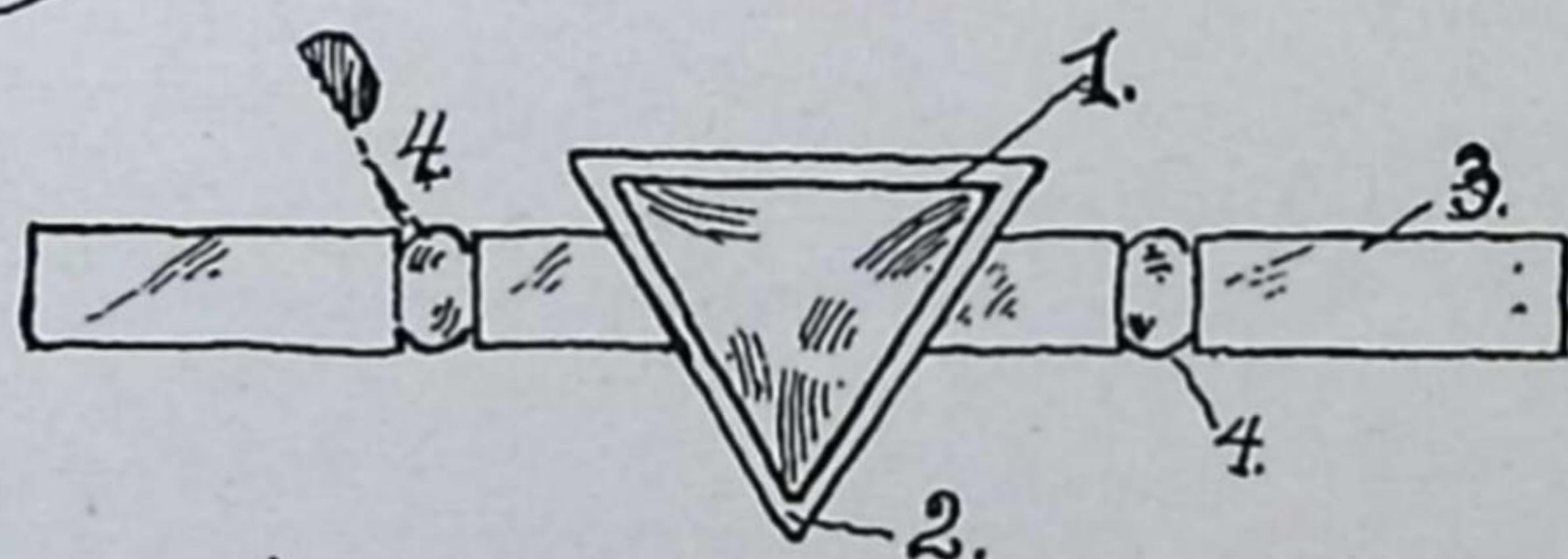


Fig. 5.

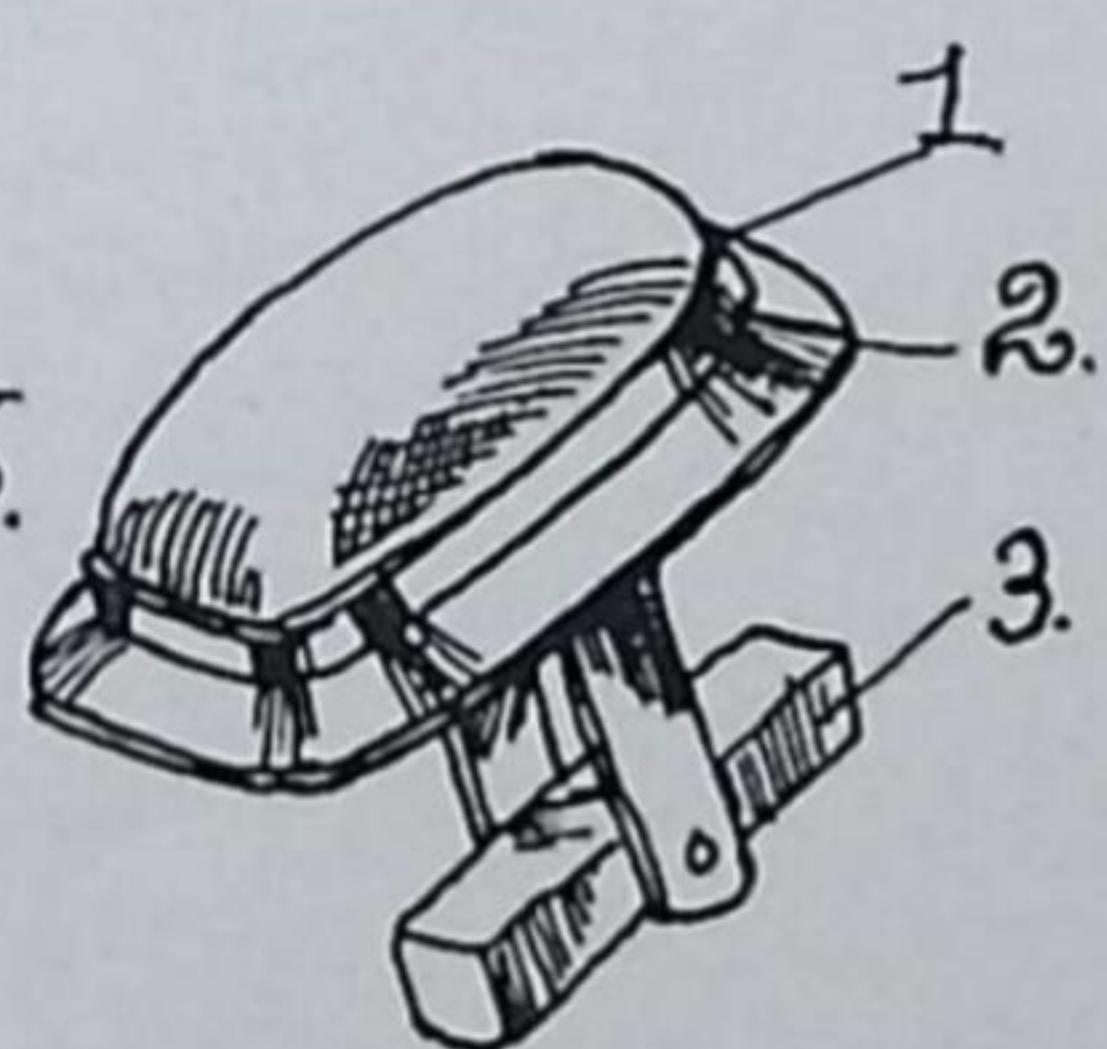
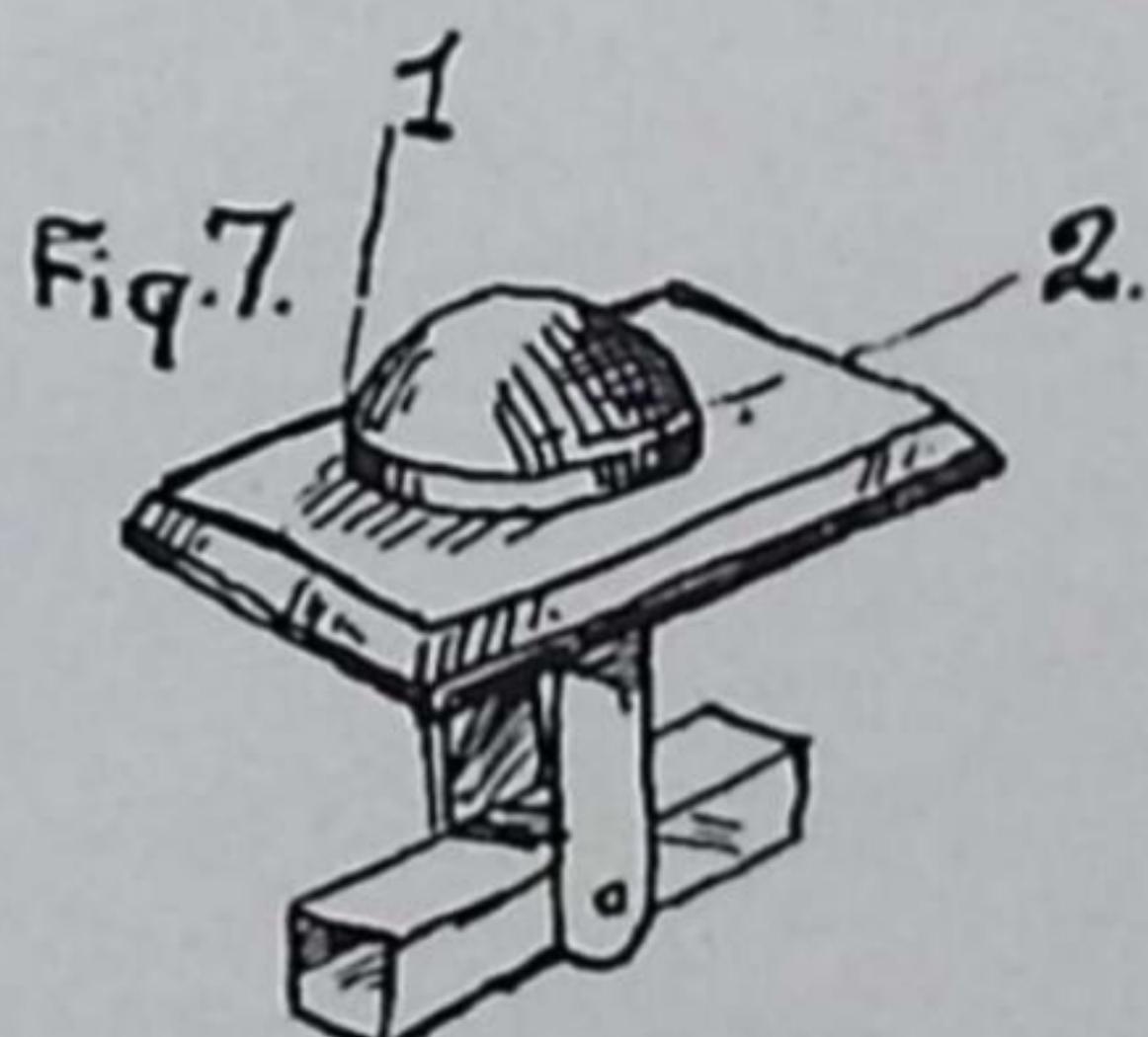
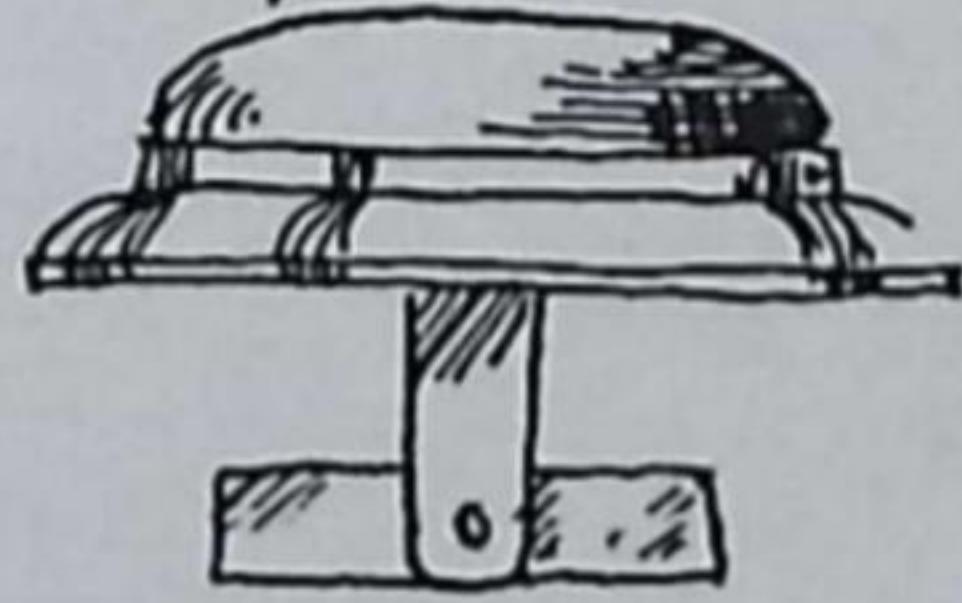


Fig. 6.



Ludwig Schuler, Dean of American Opal Cutters

By DR. VINTON A. BROWN

4418 Ambler Drive
Kensington, Maryland

This short biography of an 81 year old opal cutter contains professional opal cutting secrets and several original ideas in addition to an account of an interesting man.

The amateur lapidaries of the East are prone to envy the Westerners their unlimited opportunities to gather gem and specimen material on field trips. Nevertheless there are certain advantages for the gem lover located in the East. The three principal collections of precious stones in the United States are to be seen in museums situated east of the Mississippi; in the American Museum of Natural History in New York, the Smithsonian Institution in Washington, and the Field Museum in Chicago. Another opportunity, though not so commonly utilized, is that of establishing friendly contacts with the professional lapidaries, most of whom are located in New York. It has occurred to the writer that other readers of the *Lapidary Journal* might enjoy such contacts indirectly, through the medium of the *Journal*, and this report is the result.

Ludwig Schuler may be regarded as the dean of American opal cutters by virtue of the length of his service, the excellence of his workmanship, the ingenuity demonstrated in his inventions in lapidary technique, and the perpetuation of his talents in his sons and grandsons, who have become professional lapidaries under his guidance.

Schuler was born in Germany in 1870, so that he is now 81 years of age. He still keeps busy each day in his lapidary shop on 45th street, just off Fifth Avenue. He was apprenticed to lapidary work at the age of fourteen, at Idar-Oberstein. His work in opals began in 1889 when this stone was first imported into Germany in large quantities. He worked in a prone position, grinding opals on a huge two-man sandstone which was turned by water-power. In 1898 he came to New York and was soon employed in a large lap-

idary shop located in Gold Street, near the old center of the jewelry trade. He was delighted to be able to sit erect at his work, and to cut the stones rapidly on silicon carbide wheels.

1906 was a memorable year for Schuler, for it was then that he opened his own lapidary shop. That was also the year in which he invented the hollow head sander which is so popular today.

Another of Schuler's inventions in lapidary technique was the backing of opal doublets with opal. In his early years in Germany, and later in America, all opal doublets had been backed with black onyx. Schuler introduced the opal backs about 1920. The gems soon became so popular that people preferred them to solid opals. At that time he developed a black, acid-proof cement for making the doublets, but he confesses that today he uses black dopping wax for this purpose.

Schuler is quite happy to explain the details of his opal cutting technique to anyone interested. "The real secret of success with opals," he says, "is in the choice of the direction of cutting so as to reveal the fire. One does not necessarily slit the stone parallel to the vein, as the fire in some stones may be seen to best advantage when looking along the vein, rather than across it. Moreover, the veins may not be straight. Careful study of each stone and some experience are necessary in order to insure success."

The remaining steps are more tangible, hence easier to explain. Large grinding wheels, two inches wide, of 60 and 80 grit, are useful for eliminating waste rock from the opal prior to slitting. Schuler slits the stone on a diamond saw while holding the opal in his hands. The saw blade runs in pure ker-

osene. He makes his own blades of common galvanized iron about a half-millimeter thick. The blade is first placed on a flat metal surface and hammered to give it the necessary rigidity. The sides of the blade are then smoothed by running the blade between blocks of silicon carbide. The saw is notched and charged with diamond by hammering, in the usual manner. The diamond is then worked in by turning the mounted blade by hand through a slit in a piece of agate.

The opal slab is trimmed to shape by grinding on silicon carbide wheels of 150 and 220 grit. A long stone may be cut in two by grinding a v-shaped notch across it and using nippers to break it at the notch. One should avoid using too much water on the grinding wheels if one wants to work as fast as professionals. The remarkable speed with which Schuler trims and shapes his opals is the result of the use of proper methods, combined with the confidence coming from years of experience.

Schuler cautions against the use of a gas flame for the dopping of opal. An alcohol lamp should be used. In preparation for dopping, the back of the stone is painted with shellac, which is allowed to dry for a few minutes before dopping. Schuler's dopping wax is a mixture of rosin, shellac, and plaster of Paris.

After being sanded on the hollow-head sander, the stone is given a preliminary polish on the side of a wooden wheel, using a paste of tripoli applied to the wheel with a rag. The final polish is given on the periphery of a six-inch wheel of soft felt, running at 800 r.p.m. Schuler warns that the heat developed by the usual hard felt wheel is sufficient to crack opal. The final polishing agent is red opticians' rouge which costs only a few cents a pound. This method yields an excellent result, which for years was known as "Schuler's polish" and thought to be produced by extraordinary means before the simplicity of the method and polishing agents was revealed.

In addition to the wealth of beautiful cabochons and opal doublets which Schuler displayed for the author, there was also a string of opal beads, nicely graduated in size. Schuler explained that these had been ground to size by a method involving the use of two metal

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tubes, one rotating, the other held obliquely in the hands, with the opal sphere turning, in grits, between them. After polishing, the beads were drilled at right angles to the greatest fire.

(Editor's Note: In corresponding with Ludwig Schuler's grandson, Otto H. Schuler, we learn the following additional facts. Henry Schuler is Ludwig's eldest son and he is engaged with his son, Otto H. Schuler in the business known as the Ace Lapidary Co. of Jamaica, N.Y., advertisers with us since our very beginning. The firm has long specialized in opal. Walter Schuler of 48 West 48th Street, New York is also engaged in the lapidary business with his son, and they likewise advertise with us on occasion. Walter is the youngest of Ludwig's three sons. The second son (name not given) is a specialist in engraving and encrusting gems.

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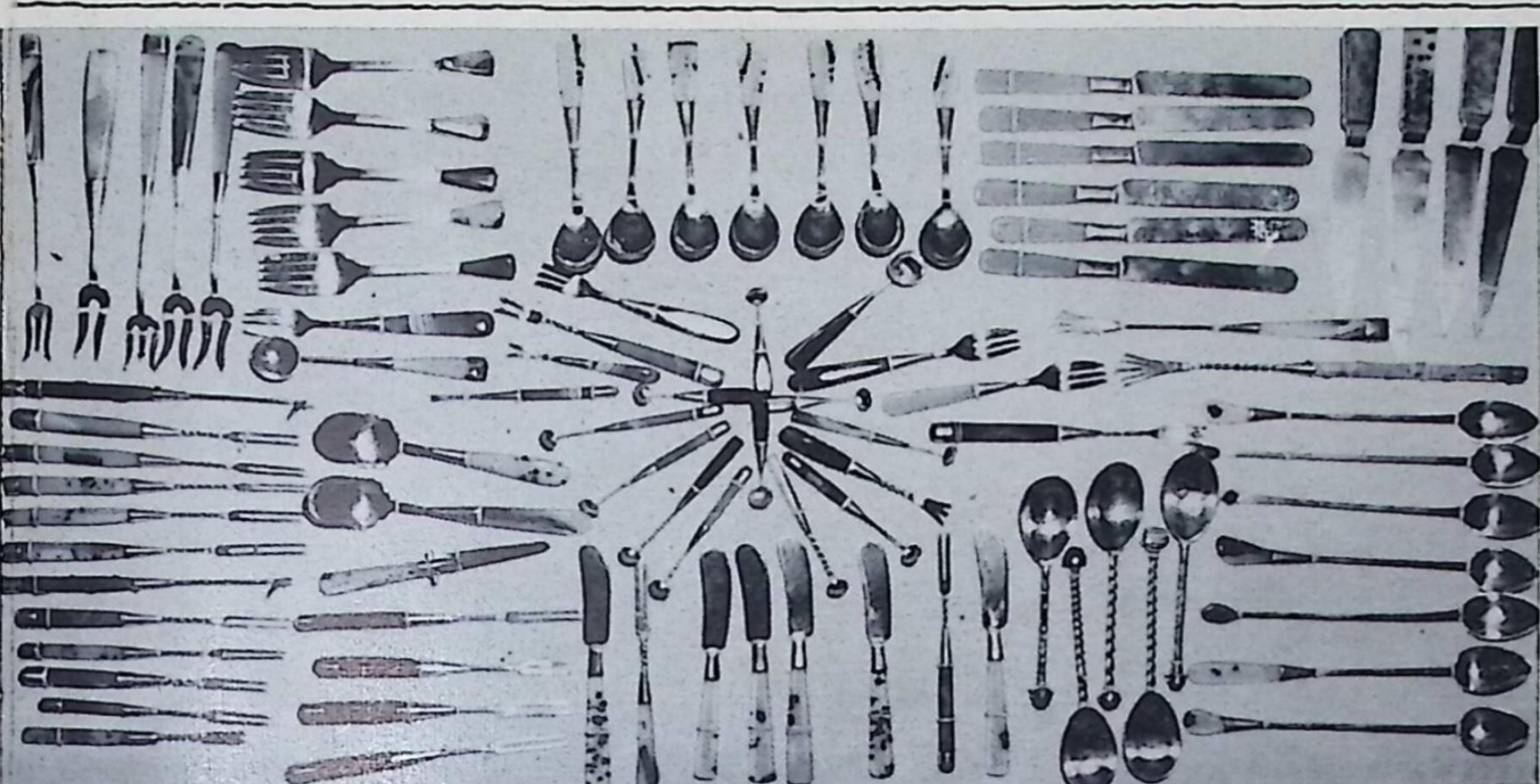
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Calendar of Events

August 15 through 19—The Fourth Annual Gem and Mineral Show of the *Orange Coast Mineral and Lapidary Society* at the Orange County Fair in Costa Mesa, California.

August 22 through 26—Mineral and gem exhibits of the San Bernardino County, California, societies and residents at the fair grounds at Victorville.

August 25-26—The Seventh Annual Mineral and Gem Show of the *San Fernando Mineral and Gem Society* at the Olive Avenue Recreation Center, 1111 W. Olive Ave. (near Victory Blvd.), Burbank, California. Free admission. Commercial displays. 1 P.M. to 10 P.M. on the 25th and 9 A.M. to 8 P.M. on the 26th.

September 1-2-3—Annual convention and show of the *American Federation of Mineralogical Societies* in conjunction with the *Northwest Federation of Mineralogical Societies*, with the *Tacoma Agate Club* as host. At Fellowship Hall in the Masonic Temple, South Second and St. Helens Ave., Tacoma, Wash. 10,000 square feet divided between member and dealer displays. For commercial space apply to A. A. Porter, 6515 Tacoma Ave. S., Tacoma 4. Other arrangements through Charles Wible, 909 S. Tacoma Ave., Tacoma 8. See advertisement on Page 194.

September 5 through 9—*San Jacinto-Hemet Rockhounds* annual exhibit at the Hemet (Calif.) Farmers Fair and Festival. All Riverside County Societies and citizens invited to exhibit.

September 14 through 30—*Pomona Valley Mineral Club* sponsors a county-wide mineral and gem exhibit at the Los Angeles County Fair at Pomona, California. This is the largest county fair in America.

September 22-23—Annual gem and mineral show of the *Mother Lode Mineral Society* at the Boy Scout Club House in Enslen Park, Modesto, Calif.

September 22-23—The Second Annual Gem Show of the *South Bay Lapidary Society* in Clark Stadium, Hermosa Beach, California. Admission free.

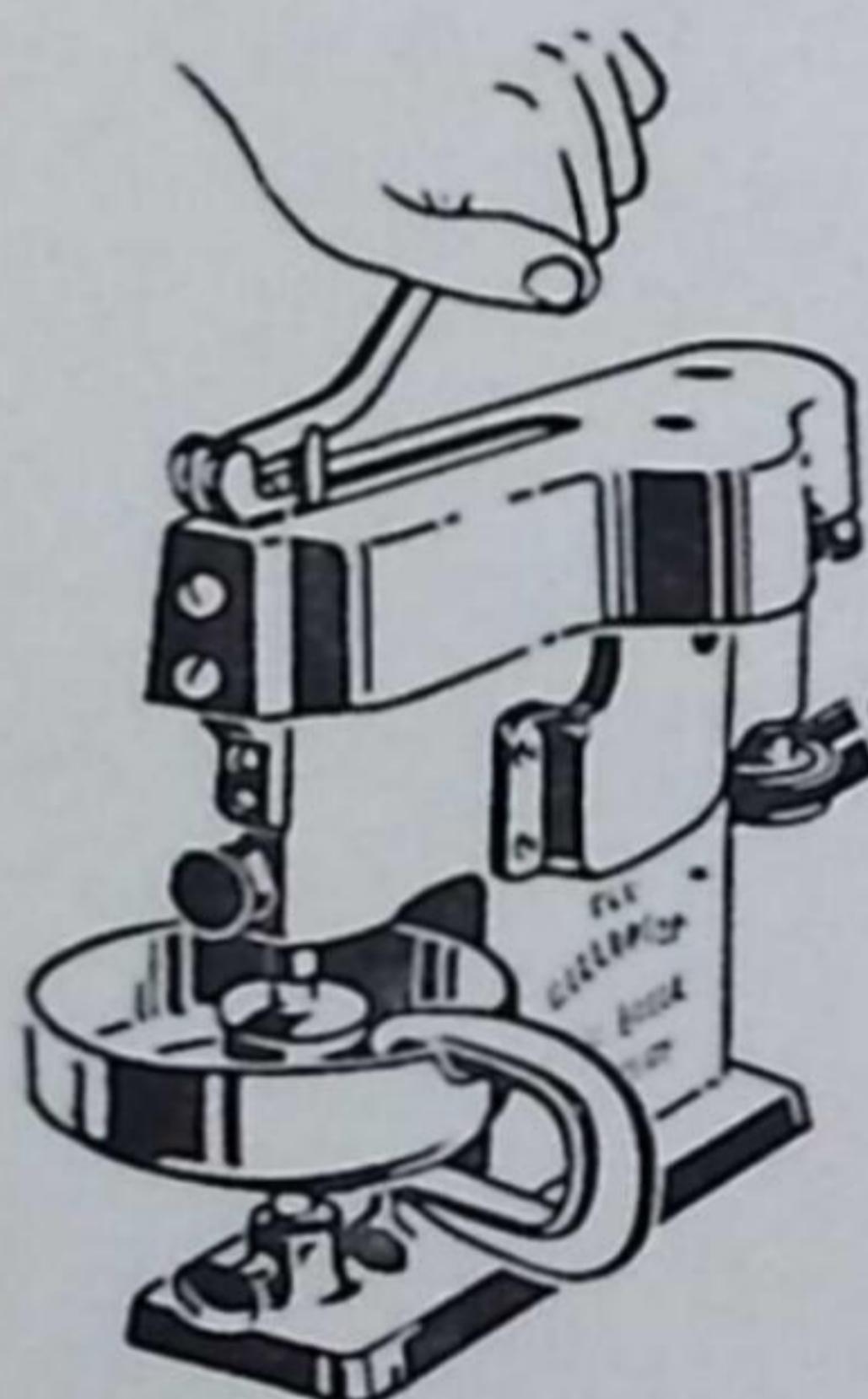
September 29-30—The Rockhound Fair sponsored by the *Compton Gem and Mineral Club* in the Veteran's of Foreign Wars Bldg., 119 E. Magnolia Street, Compton, California. See item on Page 227.

October 20-21—The Second Annual Gem and Mineral Show of the *Whittier Gem and Mineral Society* at York Riding Club House, Santa Fe Road, Whittier, California. Free admission. Commercial displays.

October 20-21—Fourth Annual Gem Show of the *Hollywood Lapidary Society* to be held at Plummer Park Recreation Bldg., Hollywood, California.

October 25-26—The first convention and show of the new *Eastern Federation of Mineralogical Societies* to be held in Washington, D. C. Details in next issue.

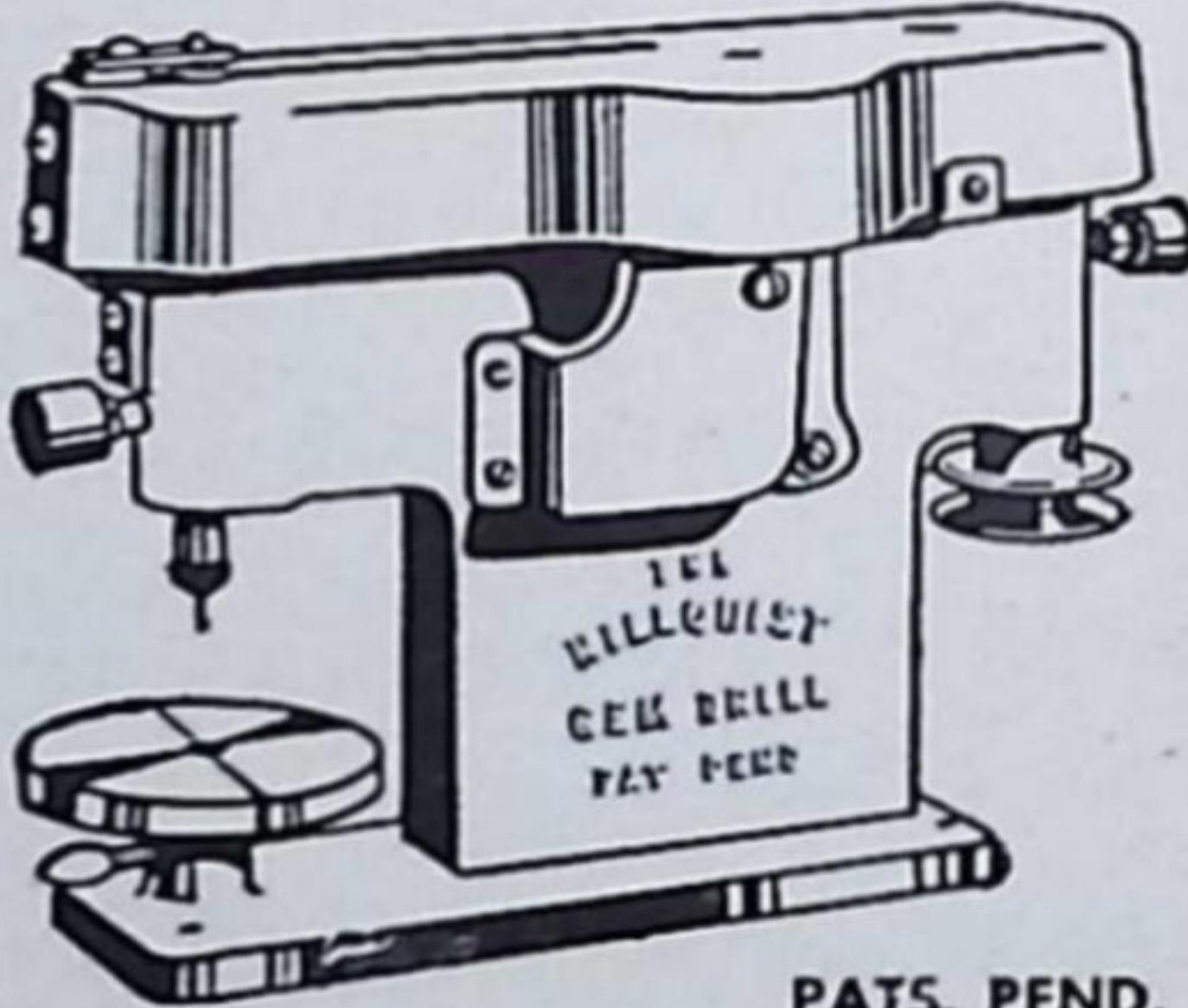
November 3-4—The Fifth Annual Gem & Mineral Show of the *Orange Belt Mineralogical Society* to be held in the National Orange Show building at San Bernardino, California.



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If you have found a useful short-cut in your shop send it in. We will give you credit. The most skilled craftsmen, as well as beginners, find this department useful.

The following tips were taken from the bulletin of the *Glendale Lapidary and Gem Society*.

Do you have difficulty polishing a thin slice of material, such as iris agate? Dop the piece to be polished to a discarded nodule or piece of agate and proceed to sand carefully, bringing it in contact with the sander for only a few seconds at a time. The large piece of agate will help to draw the heat away from the thin piece.

Do you have a slice of material to be resawed? Use a piece of angle iron which can be clamped in your saw vise. Cement the slab to the metal with sealing wax and proceed.

In your December, 1950, SHOP HELPS I see a mention of a reader using a quenching oil called "Mentor Oil." This may be similar to a Texaco flushing oil that I find to be the best saw coolant. It does not vaporize like kerosene or burner fuel. I sometimes thin it slightly with burner fuel. Bruce M. Ward, Miles City, Montana.

Ever try glycerine as a vehicle for carborundum when drilling stones? It adheres to the tube and stone so well that I never use a cup. Clyde H. Peach, Inspiration, Arizona.

From the *Washington Gem Cutting School*—Use a slow speed (1750 RPM motor geared 4 times) leather lap with Linde A for a fast polish on soft stones such as lapis or glass.

The following helps were contributed by W. G. French of Cedar Rapids, Iowa:
Wish to suggest the following for those who want a cheap way of making
small display cabinets for gem and mineral shows.

I have been using old self winding clock cabinets which the Western Union is now discarding in favor of plastic and more up to date materials. Most any large W.U. office will probably have a few they have replaced with new ones. I cut the front out with power tools and replace round glass with square, nail small cleats at sides using glass shelves, paint inside with some light color or use wall paper pasted in for a background.

Western Union just throws these cabinets in the junk so there should be some available everywhere. Contact the manager or line maintenance man.

Another thing that I have found very handy in the shop is one of those clusters of small glass jars mounted on a revolving metal stand. Designed for small nails, nuts or bolts I find they make a dandy place to keep different grades of abrasives or polishing compounds; each jar labeled for different grades. Sears sells them.

Editor's Note: We made one of these gadgets out of Burma Shave jars. Tack the lids to the rafters in the garage and the stuff is up out of the way. Pick out what you wish and just reach up and unscrew the jar. Everything is visible. Works fine—if you're six feet tall.

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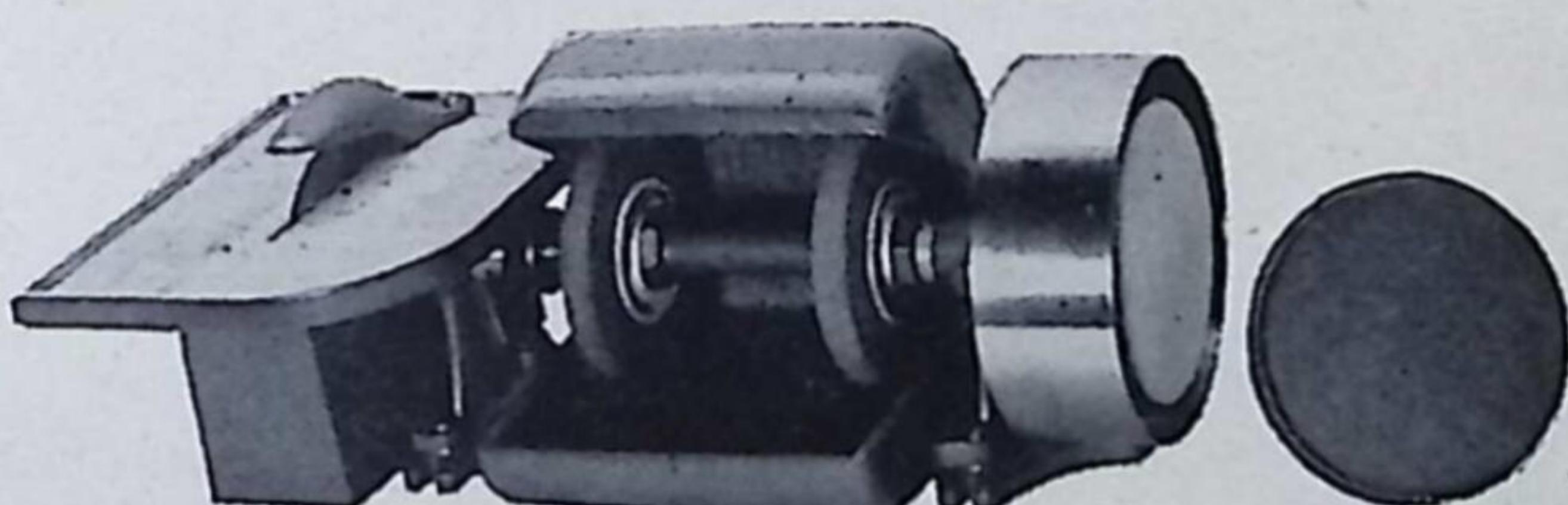
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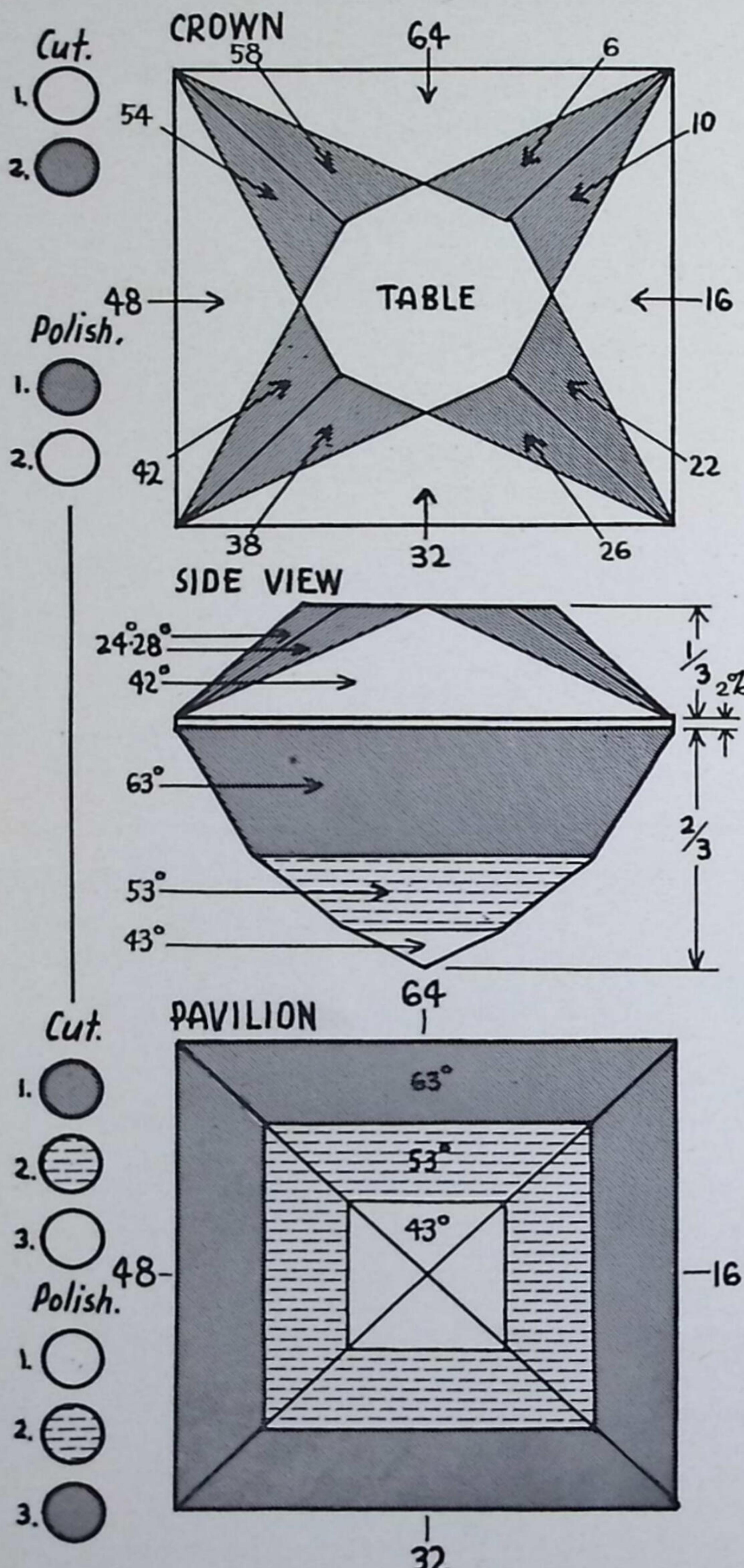
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ORDER OF CUTTING—

Crown

Cut girdle first at 90° to a perfect square, indexing at 64-16-32-48.

Cut and polish table in 45° angle dop. Approximately 40% of the width of the stone at the girdle.

GRIND 1st—Four facets at 42° indexing 64-16-32-48.

GRIND 2nd—Eight facets at 24° to 28° indexing 6-10, 22-26, 38-42, 54-58. As this angle will vary, cut and try, see cut of crown.

ORDER OF POLISHING—

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

GIRDLE—Approximately 2% of total depth of stone.

ORDER OF CUTTING— Pavilion

GRIND 1st—Four facets at 63° indexing 64-16-32-48.

GRIND 2nd—Four facets at 53° indexing 64-16-32-48.

GRIND 3rd—Four facets at 43° indexing 64-16-32-48.

ORDER OF POLISHING—

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

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◆ Answers to Inquiries

NOTE—This department is one of the most important sections of the LAPIDARY JOURNAL. If you have problems write us about them. We will get the answer somewhere. And if you don't agree with an answer, give us your idea. A lively and useful Q and A department should become an encyclopedia of gem information through the years. Will you help?

Inquiry of C. N. Johnston, Davis, California.

The enclosed are two of a group of stones brought to the surface by a bailer operating at a depth of about 300 feet in a water well. Would be glad to know if they are unusual or have a name, etc.

Reply—

The "stones" you sent are sand spikes. They are merely a curiosity and without value. They have probably been formed in an underground cave from which you are now getting water. The wet sand has dropped from the roof and built up cones on the floor. The cave has later been filled with sand after the concretions hardened somewhat. Now you are bringing them to the surface with other sand in your buckets. Very large and harder spikes are not uncommon on the desert not far from us. A full account of them appears in *Desert Magazine* for July, 1949, available from this office for 35c.

* * *

Inquiry of A. G. Parser, New York.

Can you put us in touch with anyone who can supply siderite. We understand it is called "American Lapis" and comes from Arizona.

Reply—

You probably have reference to siderite, sometimes called sapphire quartz. This is a very rare indigo blue variety of crocidolite occurring at Salzburg, Germany. Sometimes called azure quartz. Then too you may refer to sidereal minerals or "gems from another world." These are called tektites and we possess a very fine one from Australia, greatly resembling lapis lazuli without pyrites. Of you may have in mind our California "desert lapis" which is dumortierite and also resembles lapis lazuli without pyrites. We know of no commercial source of any of these materials.

* * *

Inquiry of Emil J. Weyrich, Plattsmouth, Nebraska.

You mention making rutile doublets with a crown of harder material.

Obviously corundum or spinel (synthetic) would be ideal.

Would not a very light blue, such as aquamarine, be suitable to overcome the yellow cast of the rutile? Would cementing be done after the crown and pavilion are finished? Also dopping would loosen the cement—or is there a suitable cement which will withstand dopping? I have cut two nice rutiles and would like to try the doublet idea, but the questions above delay me.

Reply—

The M.D.R. Mfg. Co., (see inside front cover) makes the cement you are looking for. An inquiry to Thomas Daniel at the same address will bring forth the best advice on making doublets because he has probably made more than anyone. I suppose any material could be used as a doublet backing but since titania is synthetic the average lapidary would shudder at backing it with genuine material rather than some more synthetic. It is a matter of choice.

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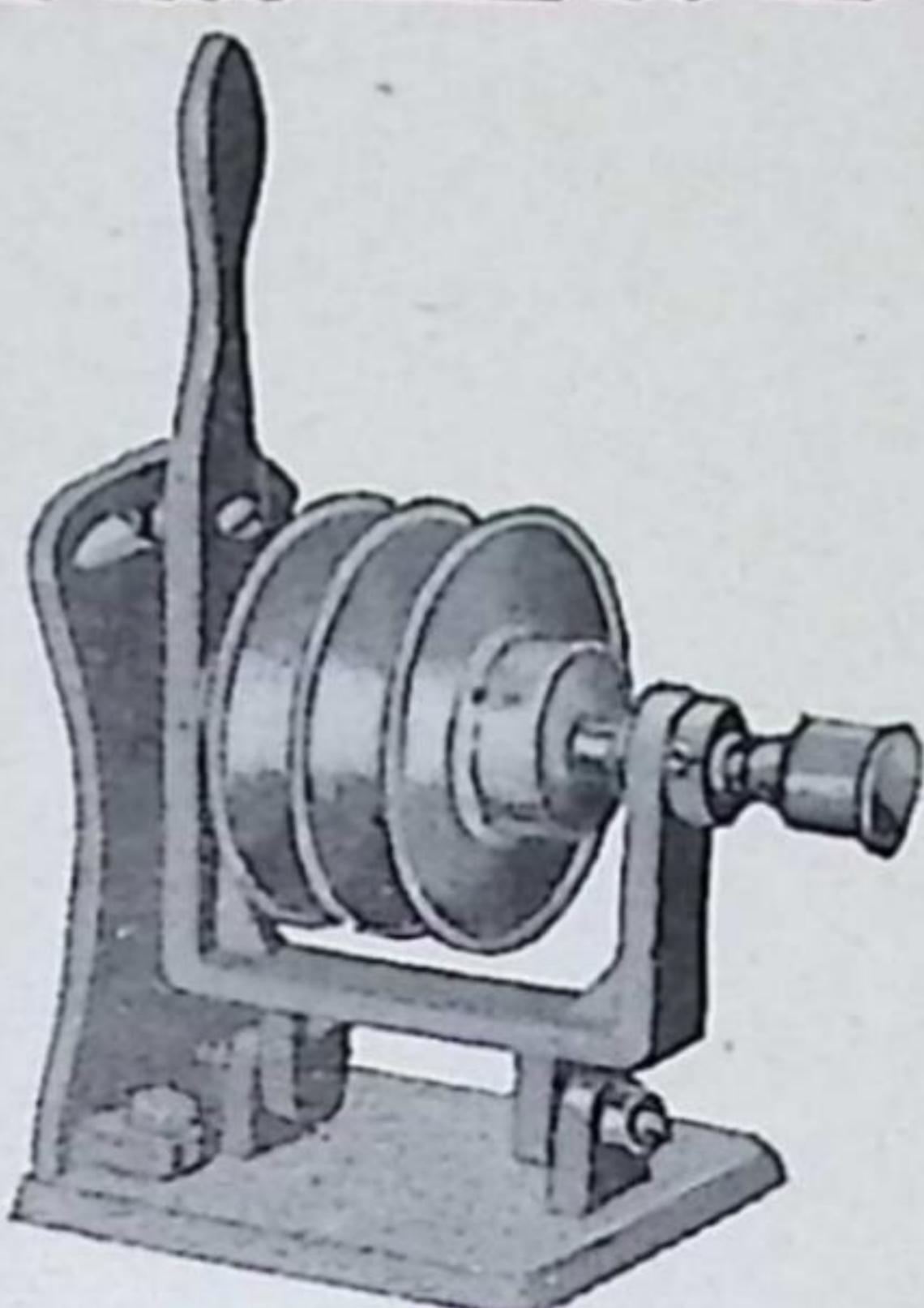
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◆ *Beginners Page*

During the past year we have had many inquiries about juniors. How can they fit into the adult club and how can lapidary activities be promoted as a part of a public school curriculum?

We have often remarked before societies that it was a lamentable fact that few in the audience were ever under thirty and indeed too few are under fifty years of age. Youth itself is a hobby. When young people finish their formal education they are not inclined for many years to feel the necessity of a study program in their pleasure filled lives. Raising a family is a study program of the first order and as an educational program it is at the top.

But we have noticed that the average age of the earth science groups is noticeably lower than it was several years ago and that is good. Through the intensive adult education program, begun all over the land in the early thirties, people have learned, as they did long ago in the Scandinavian countries, that the process of education should never cease if people wished to have a full life.

However it is the very young and the teen-age group that concerns our correspondents and we find many people inquiring how to organize a kids rockhound group. In almost every case the inquirer wants to know "what will happen if a child is hurt on a trip or at a machine?" We can not answer that question but children are hurt every day in thousands of other pursuits of happiness. We believe all societies should be incorporated and then no responsibility is going to be placed upon an individual member for injuries sustained on field trips to either adults or children, for damage caused by thoughtless persons who destroy property or leave gates open on ranches, etc., etc. The *Junior Rockhounds* of Prescott, Arizona, a branch of the *Yavapai Gem and Mineral Society*, is the first junior group we remember. It has had a conspicuous success and interested persons could get a lot of helpful advice from John Butcher, secretary. He was their first president and has been a leader of the group ever since its inception. John can be reached at 331 Park Ave., Pres-

cott. We understand that junior rockhounding is emphasized all over Arizona where every High School in the state has its own rockhound club. Each year these clubs enter an exhibit at the state fair for competitive awards. The result of this program is that the next generation in Arizona will no doubt be the best informed group of citizens of any state regarding the mineral wealth of their own commonwealth and its importance to its citizens.

Many school superintendents are coming to realize that the best way to interest young students in the science of geology, mineralogy, natural science and physical geography is to let them learn about hardness and values at the lap wheel. The resultant growing appreciation of beauty is a fine antidote for the comic books.

Many of the adult education programs include evening education in gem cutting and silversmithing. The machinery involved is now being used in day classes by the youngsters. One of the first of these classes, which has since grown into national importance, was the class started at *Woodrow Wilson High School* in Washington, D. C. by William T. Baxter, author of *Jewelry, Gem Cutting and Metalcraft*, now in its third edition. This book is used as a text book in schools all over the land. Many big city schools have fine lapidary shops but what about the little school?

The lapidary program for youngsters can be instituted with great success in the small towns too. A good example is the program of the Junior High School at La Porte City, Iowa; a town of less than 1800 population. Let Richard E. Holland, the town druggist, tell you how it came about. He writes—"Our school has had such a program since January, 1950. It grew as an idea of the class in science and their instructor, Mrs. Boyles. Early in the school year the eighth grade science class began the study of rocks and geologic formations for about three weeks. As one of their field trips they visited the local mineral and gem collections of William Bahr and H. R. Halbfass. The students planted the germ of the

idea when they saw the Halbfass equipment. Harold Matt, School Superintendent, was agreeable to instituting a lapidary class as a part of the science course but he was unable to provide any school funds for equipment. The eighth graders initiated a program of classwork for which they sold tickets. There are very few who can withstand a home demonstration of ticket selling and thus enough cash was raised to purchase two arbors and a saw. The class built their own tables. Now each student is required to polish one flat and one cabochon from material *he has collected in the field*. The result is that it has been noted that in every case the student is markedly more familiar with the geologic formations and types of minerals so that their grasp of the science course is far more complete.



Marlin Sturn, Joan Girsch and Melvin Hetrich at the school lapidary bench.

"For any who may be interested in promoting such a school class we advise that you take it easy. The best that can be expected is that a very few will continue the new interest after leaving the class. High School brings quite a few outside interests to compete with the lap wheel and the lapidary hobby is confining to a youngster who needs a lot of physical activity. At least you can expect that the students will benefit considerably by learning much more about the crust of the earth and they will have a good time while doing it."

There is enough in the foregoing experience to stimulate the imaginations of those who wish to bring a painless

form of teaching science into their own schools for their own children. For the youngster who maintains a permanent interest in the hobby will inevitably branch out into allied studies that will enrich his life. And, if nothing else, it will instill in the child the supreme satisfaction that comes from learning to do something with his hands and to promote that love of the rocks of the earth which was Man's first love in the beginning of things.

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Gems From The Mail Bag

Any show such as the one just concluded is the product of good teamwork and we have felt all along that you were a very competent member of our team. One of the astonishing things has been the divergent types of persons who have worked for this convention and the complete harmony that has existed. There was a tremendous amount of work and a good deal of anxiety but there has been no friction to leave a bitter taste.

The show appears to have been a success from all standpoints. Many persons came one day and returned the next because "there was too much to see at one time." Most of the dealers seemed to be satisfied and we are coming out with a little left over, just how much will not be known for a few more days when the rest of the bills come in.

Yours was no small part in all of this and we want you to know we realize that this was so and that you deserve and have our thanks. If credit goes to one person more than another, yours is a large share. Harold C. Mahoney, chairman, Oakland.

* * * * *

Please allow me to express my deep appreciation for your fine publication. I have been a regular subscriber from No. 1 and look forward with great anticipation to each new issue of the *Lapidary Journal*. Lester Burmeister of the *News-Herald*, Marshfield, Wis.

* * * * *

Just a note of appreciation for your outstanding contribution to the field. I am a professional titania cutter and whenever I am approached by a friend or acquaintance interested in learning about hunting or cutting rocks I always encourage your *Journal* first. My early issues are nearly worn out from being passed around — I always enjoy the advertisements too. Charles Tintinger, Arcadia, Calif.

* * * * *

I desire to express my appreciation in regards to your publication. I am a former rockhound of Los Angeles, as I was residing there six years until 1939 and I am studying each number with pleasure. Erik Magnussen, Charlottenlund, Denmark.

* * * * *

I believe that anyone seriously interested in lapidary work can't get along without the *Journal*. I sing its praises where ever I go. Col. R. L. Mitchell, Alexandria, Va.

* * * * *

Your contribution to the growth of gem-cutting on this continent as a hobby is highly commendable. Fred O. Soughton, Terrace Bay, Ontario, Canada.

* * * * *

I wish to tell you how much I have enjoyed your magazine for the past four years. I was one of your original subscribers and I have kept all my issues and have had them bound. Good luck as you continue to publish a fine magazine! William L. Mitchell, Athens, Ala.

Have just read "Jade Sources—Past and Present" in the June issue and found it all extremely interesting. Thank you most sincerely for publishing your exciting magazine and particularly for all the things in it about jade. Ruth Seelhammer, Spokane, Wash.

* * * * *

Since I have started getting your magazine I look forward to every issue eagerly. It is as good a publication as any I have ever seen. Dr. Arnold N. Bennett, Narrowsburg, N. Y.

* * * * *

I should like to take this opportunity to assure you that a better or more inclusive magazine for the lapidary could not be published. Barry Marshall, Portsmouth, N. H.

* * * * *

The *Journal* sure is a wonderful publication in its particular field. P. A. McAlpin, Deming, N. M.

* * * * *

My young seaman son just handed me six dollars for my birthday and insists I order the *Lapidary Journal* today as I have mentioned it so often. He expects to sail away soon and knows I'll think of him extra often when I read and study your wonderful magazine. Phil Bryan, Modesto, Calif.

* * * * *

The June *Journal* came yesterday and as usual it is unsurpassed—no, it is unequalled for timely, interesting articles, departments and ads. However it has aroused my curiosity, because several pages are totally blank—pure lily-white.

I would greatly appreciate your sending me a copy since I am a charter member and desire to keep a complete and unbroken file. I find the *Journal* invaluable for reference purposes.

This is the first time I could ever find the slightest fault with your publication and nobody in particular is to blame for I realize "such things happen in the best of families." May you have ever increasing success with the *Journal* and soon make it a dozen a year! O. L. Kepler, Glendale, Calif. (Editor's note: Please see item on page 225.)

* * * * *

Each issue is a pleasant experience. Don't want to miss a single one. Judge Le Roy Friday, Cape Girardeau, Mo.

* * * * *

Your article on jade in the June *Journal* is the best short story on jade that I have ever read. It tells so very much in a few sentences. It explodes a number of fallacies held by our local authorities. James W. Anderson, Baltimore, Md.

* * * * *

The sustained excellency of your magazine is only surpassed by your courtesy. Though I sometimes receive your magazine very late I have never missed an issue since you began. When I return home from my business trips, the first thing Mother hands me are the copies of the *Journal*—and I always read late the first night. Your new location sounds great.

I and many other part-time rockhounds are glad for you and envy you. Albert Henry Blacker of *Associated Steel Co.*, Cleveland.

June was another swell issue. Re—*Personal Facets*: You could not have written better. More beginners give up and quit than we will ever know because some super-critical so-and-so sells them a bill of goods. Many cutters knock themselves out trying to come up with a perfect polish when it just isn't in the stone to begin with. Also—practically all material has flaws. Some of these actually improve the appearance of the gem, such as little crystal vugs. Ralph Salsbury of *Mission Mineral Mart*, San Diego, Calif.

The June issue was one of the finest issues to date—as each successive one seems to be! Scott J. Williams of *Minerals Unlimited*, Berkeley, Calif.

STOP AND SEE US AT

our booth at **Tacoma** on September 1-2-3 at the annual show of the American and Northwest Federations of Mineralogical Societies.

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AUSTRALIA'S OPAL FIELDS

An Adventure by Tom and Sam in the Opal Mines of Australia
By NORMAN H. SEWARD
Kew, Melbourne, Australia

Away to the opal mines we go,
My mate, big Sam and I.
We may not strike any fine, rare gems
But we're going to have a try.

So, we loaded our tools in our old Ford truck,
Our picks and shovels and tent,
Our windlass and ropes and buckets,
And away, in high hopes, we went.

For the lure of opal was in our blood,
To find those gems so rare.
What matters hardship, toil and sweat
With adventure to do and dare.

Those opals with their lustrous fire,
Deep red and green and blue,
Like plumage gay or Autumn leaves
Or the rainbow's beauteous hue.

Opals like the setting sun,
Or coals of fire so bright,
Or like the gentler moonlight rays
With beams of softer light.

Such beauty hidden in the earth
Deep down beneath the soil,
Waiting for man to dig it out
With shovel, pick and toil.

So, off across the plains we drive,
'Midst trees and scrub and rocks,
Past kangaroos and parrots gay,
Winging their way in flocks.

Then, to the opal fields we come
Where opal stones are found;
We pitch our tent, we peg our claim
On the opal mining ground.

Then, with shovel, pick and windlass,
And yards of good strong rope,
We dig far down beneath the sod,
With stout hearts full of hope.

Five, ten, fifteen, and twenty feet
Down, down, and down we go,
'Til we find a seam of opal
In the depths far down below.

Then up from Sam comes a joyous shout,

"A rich opal patch I've found."
So we haul to the top a bucket-full
And tip it on the ground.

There on the ground we spread them out.

A mass of brilliant color,
Deep reds and blues and crimson-greens,
All clustered thick together.

A great success our mine thus proved,
With good hauls from the ground,
And eager miners gathered 'round
To see the stones we'd found.

But soon our claim was dug right out,
No opal could be found,
With thankful hearts we took our leave
From the opal mining ground.

We loaded up our tent and tools
And home we went rejoicing,
Our Ford truck packed with precious gems,
So well worth our possessing.

And though we're only tough, rough men
With hearts and arms like steel,
Our hearts go up to the One who does
These precious gems reveal.

(Note: These verses are founded on fact. Opal is often found in patches or "pockets" —sometimes just a few feet below the surface, but often far deeper down, apparently in a bed of an old underground creek or gully. Fortunate miners therefore (like Sam and Tom) may soon strike a rich "pocket" of opal, while other miners, digging a shaft nearby, may strike nothing at all after days of toil. Only quite recently a rich "pocket" of this nature was found, and one large stone of great beauty and value, was sold on the field for one thousand pounds, equal to about three thousand dollars in U. S. A. currency. Unfortunately, such finds are very rare, and the tendency on the opal fields now seems to indicate that opal of all descriptions is getting very scarce. However, Australia is a vast country, full of mineral deposits of all sorts, and doubtless new opal fields will be discovered in the course of time, as more prospecting is done.)

N. H. Seward)

Editor's Note: It was just such a piece of opal as Mr. Seward describes that he sent to us last Fall. Weighing 11½ ounces when we received it we polished it down to 8 ounces and exhibited it at the big Oakland show in June.

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These marbles make nice cabinet specimens. If you are interested in making jewelry, cut one marble in half, set into earrings, or drill a hole and hang the marble on a chain for a necklace. These marbles make unusual and beautiful jewelry at little cost to you.

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18 mm. through 21 mm. \$1.25 each

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LAP LICE

(Picked up from *The Voice*, publication of the *El Paso Mineral and Gem Society*)

This thing of finding mysterious scratches upon gems which were being polished, the Rockhound being ready to swear that there was not a one when the stone was placed upon the polishing lap, had worried me for some time. I have examined many lovely cabochons which friends have brought to me, nearly perfect except for the fact that the polished surface revealed many minute scratches which spoiled the gem for everybody. I have even seen scratches which had been covered by the so-called "Beilby flow" and my curiosity was so highly aroused that I determined to make a thorough investigation into the matter. I got nowhere until I happened to remember how, in my younger days, while a "devil" in a country newspaper printing plant, I had been shown "type lice" swarming in the aqua pura which held the hand-set type together in the 13M-wide columns of the page form. After that my investigation forged ahead and I am now pleased to report the results. The strange scratches upon the gems are caused by lap lice, a sub-microscopic organism which thrives upon improperly treated and handled polishing laps and multiply very rapidly at the least slackening of vigilance upon the part of the lapidary. It is well-known what effect such parasites have upon both hounds and humans, always leaving many scratches in their wake, but none ever suspected that they could produce the same effects upon hard stones such as agate until my investigation was completed. As it is absolutely impossible to see these tiny trouble makers, the lapidary must deal with them only through deduction and theory. It is an established fact that their activity increases with uncleanness of the polishing lap, too much pressure and not sufficient moisture. This activity is evidenced by the great increase in scratches which appear after such conditions as mentioned above are allowed to exist. No one knows why these lap lice become so active under these conditions, but after a thorough cleaning of the polishing lap, be it felt, leather or other material, a reduction in pressure on the stone and the addition of moisture in slight amounts, the tortured stone seems to regain its resistance to the activity of the parasites and comes

out with no scratches and a beautiful polish. It is also evident that lap lice multiply much more rapidly upon the equipment of the beginner than upon that of the experienced lapidary. Of course this may be caused by their life cycle, of which no one knows, which reaches its limit after so many stones have passed over the laps, but the most popular theory is that the old timers have learned to avoid the conditions which tend to make them multiply to the extent to which the stone is damaged. Strong disinfectants and insecticides seem to have no effect upon these active scratchmakers, therefore we would not advise their use upon the laps. The best protection for the stones in process of being nicely polished is continued vigilance to prevent the conditions as mentioned above. Any discoveries made by other Rockhounds concerning the activity and control of lap lice will be gladly received and the facts published in the *Voice*.

* * *

DIAMONDS WERE TRUMP

No one attending the big Oakland show in June was aware of the recuperation from severe headaches that the Editor was going through. He had company too in the person of Thomas Warren, President of *Ultra-Violet Products, Inc.* and the *American Gem & Mineral Suppliers Association*. The publicity for the show was built around the magic word "diamonds." For we all felt that the non-rockhounding public would respond quicker to diamonds than they would to agates or pyrites and it was the non-rockhound we wanted to reach . . . the rockhound would come anyway, we thought.

And so the Editor made arrangements with Martin Ehrmann to have him display a million dollars worth of diamonds in addition to his own collection of colored diamonds, many of them colored in the cyclotron at the University of California at Berkeley. Two weeks before the show opened we learned to our dismay that General Ehrmann had been called very suddenly back to the service on a secret mission and was in Europe almost before his family knew that he wouldn't be home to dinner. He couldn't be reached and he could have no communication with us. Mrs. Ehrmann then jumped on the ball and saw that we had a wonderful

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Nodules from Plume Bed (Plume not guaranteed) (4 lbs. 5.00)	1 lb. 1.50
Priddy Ranch Nodules (2 lbs. 1.25)	1 lb. .75
Polka Dot Agate	1 lb. .75 2 lbs. 1.25
All of above (total \$6.00)	for \$5
Oregon Rhodonite	1 lb. 1.00
Obsidian (Gold or Silver Sheen)	1 lb. .75 2 lbs. 1.00
Beach Agate & Jasper from Oregon Beaches	1 lb. .50 3 lbs. 1.00
Obsidian (Red & Black)	1 lb. .50 3 lbs. 1.00
Petrified Wood (Gem Quality) from Washington	1 lb. .50 3 lbs. 1.00
Sugar Nodules from Oregon	1 lb. .50 3 lbs. 1.00
The above 6 items (total \$6)	for \$5

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display of mounted diamond jewelry pieces in addition to the General's green diamonds.

But we still had no display of loose impressive diamonds and there seemed to be nothing to do but get someone in New York on the telephone and holler "help" long and loud. We did. Mr. Warren talked to his cousin, Governor Dewey. The Governor got busy and tried to get the owner of the Hope diamond to let us have it. He had gone off to Europe. We then talked to Gladys Hannaford, known to many rockhound groups for her wonderful lecture *Diamonds from the Ground Up*. After several disappointments at her end she finally got an old time firm of cutters in New York (the Baumgold family) to consign more than a half-million dollars worth of diamonds to their customers in Oakland — Davidson & Licht. These folks have one of the leading jewelry stores in Oakland and they cooperated splendidly in setting up the display and seeing that it was transported safely to vaults each night. We have in preparation an interesting story on the Baumgold diamond cutting family for early appearance in the *Journal*.

Some of the more interesting items in the display were a 65 carat golden brown pear shaped diamond that was 21 carats larger than the Hope diamond; a golden brilliant of 3.58 carats that was not a "canary" diamond; a 13.13 olive green emerald cut stone; a 2.01 canary brilliant; a .68 jet black and 2 light rose-brown cushion cut diamonds weighing 24.12 carats. These were the major diamonds. There was also a 35.15 rough diamond with a visible inclusion, vials of diamond powder and a collection of diamond cutting tools.

And so, after the expenditure of more than a hundred dollars in telephone calls, the New York people, from the Governor down, finally pulled us out of our jackpot and diamonds were trump again. Thank you New York — your hearts were good too.

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ATTENTION—ALL SUBSCRIBERS

We greatly regret that an error occurred in our last edition (June). Some of the copies were defective and no printing appeared on several pages. These pages were 98-99-102-103-154-155-158-159. When we first noticed this in our mail room we had already stuffed several thousand *Journals* in envelopes and placed them in the mail sacks. All copies were checked thereafter to see that only perfect copies were sent.

Please examine your copy (*dealers too, please*) and if you find a defective one it will not be necessary to return it to us. Just write your name and address on one of the blank pages, tear it out and mail it to us and we shall send you a good copy. Please excuse us this time. It wasn't the desert heat so much as the stupidity.

* * *

ULTRA-VIOLET LAMP SALES BOOMING

(As reported in the *Los Angeles Times*)

Like ghosts of the armies of prospectors who sought their fortune under the burning sun, many modern ore seekers are prowling the back-country of California and other western States looking for their bonanza—at night.

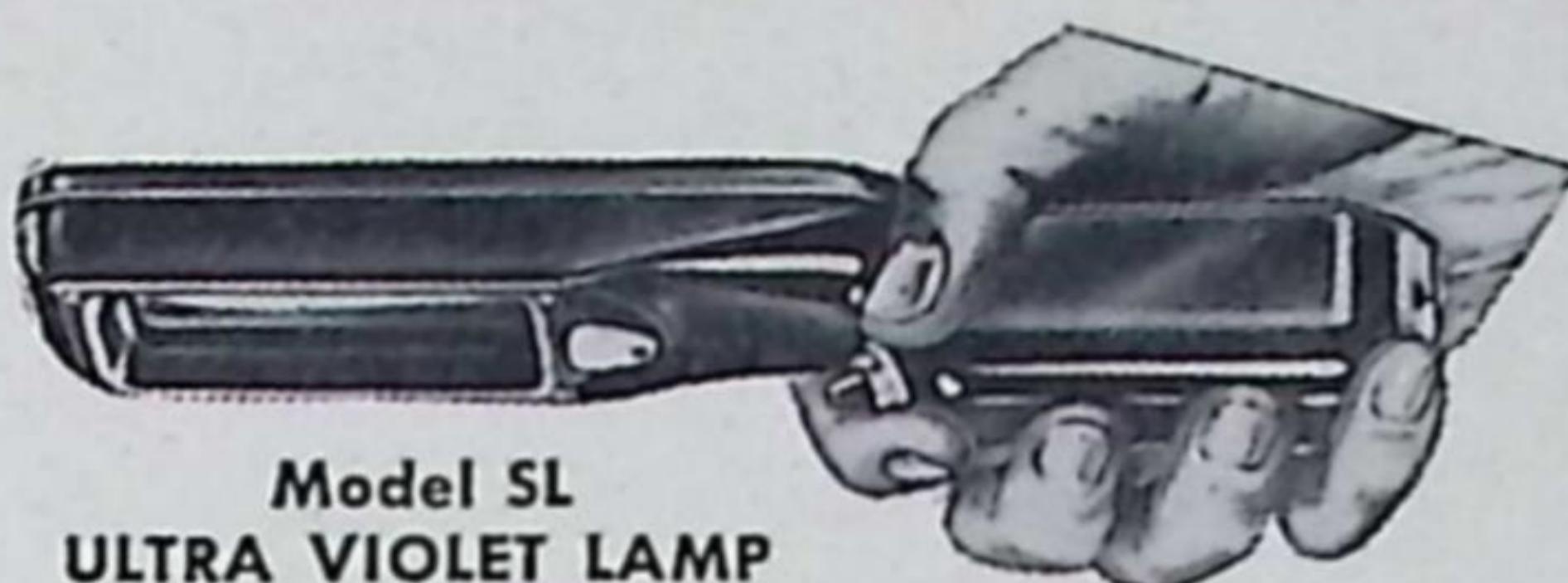
They're after tungsten, mainly, and certain other metals that glimmer eerily when caught in the "black light" of the ultra-violet ray flashlights they carry.

Currently, tungsten is the goal of most of these night walkers because it is now in critical supply. The Defense Minerals Administration recently offered a record high price of \$63 a ton for 1% ore in an effort to stimulate production and encourage search for new deposits.

Tungsten is short because over the years domestic production—with California, Nevada and North Carolina the biggest producing States—has averaged only 40% of United States needs. Until a few years ago China and Korea were major sources. Now most overseas supplies are cut off.

Scheelite, the chief tungsten ore in the U. S., is white or brownish rock in daylight, almost indistinguishable from other valueless minerals likely to be found with it. At night under black light it looks entirely different.

It, along with such minerals as uranium, has the property of fluorescence.



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That is, it glows when exposed to ultra-violet radiation and reflects white, blue-white or yellow, depending on impurities in the ore. It has resulted in many new discoveries.

An indication of the boom in prospecting for scheelite is the upsurge in sales of ultraviolet lamps used to spot the stuff. Thomas Warren, president of Ultraviolet Products, Inc., of South Pasadena, California, and president of the American Gem & Mineral Suppliers Ass'n is sole manufacturer of black-light prospecting equipment. He reports sales have doubled since the Korean war. He now produces 600 lamps a month and expects to increase that to 800. The lamps sell for \$34 to \$67.

Prospectors roam at night through areas of granite or in an area of sedimentary rocks near granite where scheelite is most likely to occur. Their special lamps are pointed at the ground to spot "float" — loose ore fragments carried away from a deposit by water or weather. Once the glowing scheelite float is found it is usually a matter of simple detection to trace it to the source, usually a vein in the native rock.

Warren believes amateur prospectors have a better chance of finding tungsten than any other valuable mineral. This, he says, is because tungsten has never before been the object of an all-out search. Before World War II, its price was too low to make any but the richest rock worth mining. Now, because of the new price, prospectors are out in force.

Tungsten has a wide variety of important uses. Most people know it as the material used for electric light and radio tube filaments. It is also a vital component of jet airplane engines and armor-piercing shells and a major alloy of steel.

MINERAL NAMES COMMITTEE ESTABLISHED

To receive suggestions for mineral and rock names of local interest, a Mineral Names Committee has been established. Prof. Richard M. Pearl of Colorado College has accepted appointment as Chairman, and the other members will be announced later.

The purpose of this Committee is to receive and record names that have been proposed for unusual varieties of rocks

and minerals that do not already have established names. Collectors and lapidaries occasionally find such material for which they desire trade names, but they do not care to go to the trouble and expense of registering them through the Government. Even that procedure would not bring them to the attention of other hobbyists in this field. Many such stones already have names of recognized geological standing, but the names are not suitable for commercial purposes or for familiar use among collectors and cutters.

It is not the purpose of this committee to encourage additional names; in fact, fewer names would better serve the interests of most amateurs, who are confused now by the many names that are applied to minerals and rocks. Nevertheless, it is hoped that this committee can act as a clearing house for new and local names so they can be available for those who want such information.

The committee will not be able to enter into correspondence with those who furnish names, but entries will be acknowledged by postal card. After being investigated, the names will be recorded and made available in printed form for distribution at intervals to the secretaries of affiliated societies. Please send any names of this sort, with descriptions, a small sample and an explanation of the name, to Prof. Richard M. Pearl, Colorado College, Colorado Springs, Colorado.

* * *

ROCKHOUND FAIR TO BE HELD IN SEPTEMBER

The Compton Gem and Mineral Club will sponsor a rockhound fair on September 29 and 30 in the Veterans of Foreign Wars Building, 119 E. Magnolia St., Compton, California. Twenty other societies in Southern California have been asked to participate with a token display in addition to the usual large and fine display of the Compton members.

Kazanjian Bros. will display their collection of large black sapphires and several other private collections are expected to be shown. The Los Angeles School of Jewelry will demonstrate jewelcraft. All phases of the lapidary art will be shown by actual demonstrations by society members.

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Gray-green with quartz inclusions.

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ARIZONA FAIR WILL FEATURE MINERALS AND GEMS

For the sixth straight year, A. L. Flagg is serving as Superintendent of Minerals at the 1951 Arizona State Fair, November 3 through the 12th.

"When the fair opens this year the exhibit in the minerals building will be bigger and more complete than ever before," Flagg says, "and that will be a big order since the building is full from floor to rafters now."

Flagg is one of the best qualified men in the field to serve as Minerals Superintendent, having been a consulting mining engineer for many years. He came to Arizona in 1906 and except for six years spent in mining exploration in Mexico his activities have centered in the state. His personal collection of minerals, gathered during the last 57 years, is one of the outstanding ones in the field.

"I don't go in for glamor in my specimens," he said, "but try to concentrate on the specimens of real scientific value." His private collection of uranium ores is one of the most extensive and complete in the country.

It was Flagg who first started competition in mineral collections at the fair in 1947. He is most interested in the junior rockhounds and sponsors special exhibits for them. The junior classes are open to all grade schools in Arizona and some highly competitive contests develop each year. The schools compete for the Phelps Dodge Corporation trophy, which becomes the property of the winning school during the year in which it is won.

In addition to the permanent exhibit and the competitive exhibits, the always popular fluorescent exhibit and special exhibits will be on display at the 1951 event.

SAN JOSE LAPIDARY SOCIETY GOES RAIL ROADING

(As reported by RAYMOND M. ADDISON)

The Wild Cat Rail Road, Los Gatos, California, was the scene of the *San Jose Lapidary Society's* Swapping Bee, June 17. The Wild Cat Rail Road is owned and operated by William Jones—Casey Jones to every one. Casey is an old rail roader from away back. He has been retired about two years but he hauled the Southern Pacific's crack *Lark* from San Francisco to San Luis Obispo

for many years. The swapping bee was arranged by C. R. Rice and R. D. Williams, both members of the Society. The Station was the swapping center where, between runs, the members traded their surplus materials. Every time the familiar call "board" was sounded everyone dropped everything and climbed aboard for another trip around the system.

The road's trackage runs around through the Jones ranch and orchard. The seven car train is pulled by a real railroad engine; miniature, of course, but in every way a complete engine. All around the tracks there were stations marked Jasper, Opal, Agate and other gem names. Casey, as he used to ride the cab of the Lark, took the train around the system time after time. Always he left the station with a full load. C. R. Rice, who rides the S. P. from one end to the other in his work was seen aboard on every trip. Remember the mail man who, on his day off, goes for a walk? Rice enjoys his railroadin'. Mr. Jones has a roundhouse full of miniature engines—5 in all. The roundhouse is a real museum. He has many old pictures of historic railroading, old clocks and bells, head lights and tail lights from noted trains.

Between spells of trading the members of the Society spent their time looking over "Casey's" keepsakes. Several of his engines are complete in every respect and about one-third the scale of regular engines. Aside from the swapping, which is always interesting, it was a wonderful trip aboard Casey Jones' Wild Cat Train.

* * *

THE PEGBOARDERS

(As reported by RALPH E. JOHNSON)

In the nineteen hundred and fiftieth year of the Christian era, a small group of skilled craftsmen, dedicated to the lapidary arts, gathered themselves together into a closely knit organization they chose to call the "Pegboarders," after the best known of the primitive tools of the ancient craft of gem cutting.

The aims of the group, based upon the premise that the minds of several working together could accomplish more than working separately, were—to pool the collective knowledge of the members, in order that each and all, would have a greater sphere of information on which to draw; to produce, by experiment and



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research, new and improved techniques in the field of lapidary and related subjects; to investigate things heretofore unknown, or on which little or no information is available. There was to be friendly coordination of effort to bring about, by any honest and honorable means available, a broader understanding and a greater enjoyment of the inspiring field to which they had dedicated themselves.

The Pegboarders chose to be, and remain, a small and exclusive organization, in order that its purposes do not become secondary to financial, social, and administrative problems, so common in the larger groups. It was ordained that additional members be chosen with extreme care, in order that those individuals whose interest in the lapidary arts was a mere passing fancy, or those unable or unwilling to contribute appreciably to the advancement of the aims of the group, or those whose actions, intentional or otherwise, would have a tendency to cause friction and disunity, would be eliminated, leaving only the chosen few, found to be desirable and productive additions to the order of Pegboarders.

Three degrees were established to classify the status of each member, according to his knowledge and ability in the lapidary craft. The degrees are named for, and compare as nearly as possible, to the trade designations. Of necessity, the requirements of an Apprentice, are higher than those required by a beginner to the trade, and require a showing of permanent interest, proven by an acquired skill in cabochon cutting. The requirements for Journeyman, are that the member has acquired a skill and technique in all the basic forms of gem cutting, sufficient to make him capable of performing the work as a skilled tradesman. A Master craftsman must be able to perform his work in an outstanding manner, solving all problems that arise, in all phases of his trade, to an extent far beyond that of the average member of his trade, and the Degree of Master must therefore embrace all of these qualifications.

The success of the Pegboarders in the first year of its existence is a matter of record. Research has accomplished more than the expectations of any of its membership, and each meeting has been a great inspiration and source of im-

proved knowledge to all who attended, and a great loss to those of us who were unable to do so. It is felt that one and all have been greatly enriched by our group activities, and this is only the beginning. Future possibilities are unlimited, and if the accomplishments of the past few months are any indication of the future, the expectations are beyond the imagination of any of us.

The "Pegboarders" are limited to 20 members who must remain active to retain their membership. The definition of Activity is interpreted to mean a definite amount of lapidary work must be shown each month as a completed project during the period between meetings and for advanced degrees additional work in the form of papers on the results of research and experiment, technical lectures and one full thesis before the degree of Master can be considered.

We have no president, secretary or treasurer. Each member takes his turn as moderator of the monthly meetings and is in charge for one month previous to his meeting. Our slight necessary expenses are met by immediate assessment. Rules of procedure have been outlined by the governing board which consists of the nine charter members. All awards, basic changes of procedure and the release of informative papers by our members for publication must be passed upon unanimously by a quorum of the board. We have taken steps to register our name and emblem as a sort of trade mark. We are not a secret society. We like visitors but we are darned hard to join. Oh yes, we live in Sacramento, California.

* * *

GEM VILLAGE GRAND OPENING AND ROCK SHOW

America's only Rockhound Colony is teeming with activity this summer. Tourists from everywhere are finding how easy it is to reach the Village, going West or East over U. S. Route No. 160. The Villagers are planning a Gala Day for Sunday August 19—the date of the formal opening of Glenn's new Motel and Cafe. Coming from California the Glenns bring with them the best experience in construction and management of motels and cafes and assure their many friends of a royal welcome and unsurpassed entertainment.

Also the Villagers have under wrap other surprises and treats for all visitors.

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Note: Bead making instructions—\$1.00	
We have a few strands of gradu- ated Wyoming Snowflake Jade beads for sale. Length of strand approximately 17". Price \$75.00 plus tax	

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

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BOOK REVIEW

Handbook of Gem Identification by Richard T. Liddicoat, Jr., Third Edition, 1951—Published by the Gemological Institute of America, Los Angeles. 349 pages. Price \$5.00.

Fifty-two pages have been added to the new edition of the popular *Handbook of Gem Identification*, first published by the Gemological Institute of America in 1947. This increase in size is largely due to the addition of a comprehensive chapter which gives detailed descriptions and property ranges of all the important gemstones, as well as many of the minor ones.

In the elaborated new edition, recently developed testing instruments are described and their purposes and importance outlined; the "spot method" of refractive index determination is more fully discussed than in previous editions; explanation is given of the radiographic and fluorescence methods of pearl examination. Additional gemstones have also been added to the tables and flow charts, plus a Cleavage and Parting Table in the Appendix. Tables already included in previous editions are Specific Gravity, Refractive Index, Hardness, Optic Character, Pleochroism, Birefringence, Color Dispersion, and Property.

Designed to aid jewelers, gem collectors, or students of gemology who have access only to a limited number of instruments, the book outlines simply and concisely conclusive methods for the identification of all colored stones and pearls. Detailed tests which are given, if carefully followed, make possible accurate identification with the least possibility of error.

Because it explains fully all types of gem testing instruments on the market, their value in identifications, and how they can be most effectively used, the *Handbook of Gem Identification* is also of tremendous value to anyone with a completely equipped gemological laboratory.

There are 117 illustrations in the book, including an abundance of photomicrographs showing characteristic inclusions useful in the identification of gemstones.

The rapid development and distribution of synthetic gem materials has increased the need for their positive rec-

ognition and the portion of the book covering this subject has been greatly revised and expanded to provide the greatest possible protection for the user.

Attractively bound in dark green washable vellum, indexed for quick reference, the book has a glossary of the more common gemological terms used in the text. The *Handbook of Gem Identification* may be ordered direct from the *Lapidary Journal* at Palm Desert, California. Price is \$5.00 postpaid plus sales tax in California.

* * *

FAMOUS ANDERSON AGATE-SILVER TABLEWARE IS FOR SALE

Our readers' attention is called to the advertisement appearing in this issue across our center spread. It pictures many of the original items created by James Wesley Anderson of Baltimore. Many of the items were in the display that was awarded the Gold Cup at the Sacramento convention in 1949. This work was first described in the October 1947 *Lapidary Journal* and again in the August 1949 issue.

Mr. Anderson has accumulated so many items and has had so many requests for their purchase that he has decided to unload the lot with one wholesale dealer so that they can be distributed to those who desire them without his going into business.

All of Mr. Anderson's work is original and all of it hand crafted; none of it is cast. These are heirloom pieces and they will all be sold at a fraction of their real value we believe. Give the pictures some study with Christmas (or just yourself) in mind.

Fine Crystal Specimens
Minerals and
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COME IN AND LOOK THEM OVER
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OPALIZED OBSIDIAN From Mexico

"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.

SEND ME \$5.00 for about 3 lbs, and get the thrill of your rockhound experience . . . No exchanges or free samples. Rockhound special of one pound of fragments for one dollar postpaid. All will contain the red "peanuts" in pitchstone matrix.

DO NOT SEND CASH in letters to Mexico. Frequently letters are not delivered and cash is irrevocably lost.

Cobalt ore specimens. No. 1 strategic mineral. Sent postpaid for a dollar.

REFERENCE—Mr. J. L. Kraft of Chicago has been my friend for many years. I'm sure he will vouch for my honesty.

ALBERTO E. MAAS

Sonora

Alamos

Mexico

ABOUT THE BOOK LIST

We are not publishing a second installment of the gem bibliography in this issue because we have a bear by the tail and we don't dare let go. We asked for cooperation in the task, never dreaming that the idea would be received so well that we would be buried to our nose in deep cooperation. It will take the weeks between now and the October issue to collate all the material sent to us from all over the nation. We have received extensive lists from Dr. Frederick Pough of the American Museum of Natural History; J. W. McBurney of the Bureau of Standards at Washington; Robert Y. Pratt of Seattle; Harry R. Ringwald of Hollywood; Dr. Ronald MacCorkell and Thomas Daniel of Los Angeles; Pierre Beres, Inc., of New York; Lawrence L. Copeland of the Gemological Institute; Dr. Henry C. Dake, publisher of the *Mineralogist* at Portland, Ore.; Arthur W. Browne of Mountain View, Calif.; J. D. Patton of New York; Dr. George Switzer of the National Museum and Dr. Richard M. Pearl of Colorado Springs.

And from far away Japan we received a list of all the gem books ever published in Japan. To our great surprise they date back to 1774 and there are only thirteen of them. Three of them were written by the sender, Takeo Kume.

No women wrote to us but then we have never heard of a lady bibliophile.

And so we are going to start all over again for there were so many new titles before 1883 that it seems best to republish a corrected list up to that time in the October issue if it does not get too big.

So great was the interest created in old books that many of them were "under the counter" at Oakland. Dr. Willems of Chicago and Dr. Mueller of Kansas City both brought along a lot of fine items. From this stock we acquired three volumes published prior to 1883 that were not in the list we published in the June issue. They were: *Commentarium in Vetera Imperatorum* published in 1619; *Osservazioni Istoriche and Medaglioni* by Cosimo the Third, Grand Duke of Tuscany, published in 1698; *Les Pierres Precieuses* published in 1870. Much of these books we shall never decipher as they were written in Latin, Italian and French respectively.

(Continued on page 238)

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A whole year's cutting (5 lbs. minimum order) lb.	.50
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Turquoise, selected, fine color, medium size pieces. Minimum order 3 ounces, per ounce	1.20
A dollar bill will bring you samples, so you may check. We guarantee these materials to please.	

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—FROM A FEW GRAMS
TO A FEW POUNDS

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From the Famous
MONTEREY DEPOSIT

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Rough — \$3.00 per lb.

Slices — \$1.00 per inch

S. N. PARMELEE
1850 BAY ROAD
EAST PALO ALTO, CALIF.

Visitors Welcome



Wear a rockhound emblem. Mount your own cab. Pins for ladies and tie clasps for men \$2.50 without cab or \$3.50 with cab (plus tax). Free membership in Rockhound Kennel Club with each purchase. No dues.

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301 BELLEVUE AVENUE LA JUNTA, COLORADO

SPECIAL

1 piece South American Agate
1 piece New Mexico Agate
1 piece Washington Wood
1 piece New Mexico Opalized Wood
1 piece New Mexico Fluorite (Massive)
2 Oregon Nodules (Ochoco)
2 Texas Biscuits (Woodward)
2 New Mexico Nodules (Baker)
Total about 8 pounds—Only \$1.95
Plus Postage

LAS AGATAS

1906 W. Olive Ave.
Burbank, Calif.



ATTENTION GEM CUTTERS

Amateur or Professional

We offer the following scarce rough—

Precious golden topaz—emerald green fluorite—lemon yellow scapolite—deep blue cordierite—light blue topaz—Four Peaks amethyst—chrysoberyl.

Collectors—

We will cut to order for collectors rare stones of Danburite, phenacite, andalusite, spinel, apatite, cyanite, fluorite, scapolite and cordierite.

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Plume, moss, bands and variegated.
75c and up per pound in the rough
25c and up per inch in slabs
Also good Texas fluorescent rough

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Full Line of Lapidary Supplies
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WE NOW HAVE

Tiger eye in all colors

Blood stone

50c a sq. in. slabbed

Genuine agate marbles. Get your selection now.

Try Our \$5.00 Slab Assortment
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Wyoming nephrite jade—1/2" up \$1.00 to
\$2.00 per slab

Mineral and Fossil List, 3c

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APATITE CRYSTALS IN MATRIX

Countless other crystals from Mexico and Arizona.
Turquoise from Nevada, Arizona and New Mexico.
Arizona banded agate—50c per pound
Apache Tears (gem quality)—\$1.00 per pound
Arizona fire agate—albite—pink muscovite—lepidolite.
Fossil leaves and ferns from the carboniferous period.
Will guide you on a trip through the weird Superstition Mountains. See silversmiths at work.
12 miles east of Mesa near the base of the Superstition Mountains.

SUPERSTITION MOUNTAIN MINERAL & GEM SHOP

Route 2, Box 478A Mesa, Arizona

BEAUTIFUL ROCKS

From the caves of New Mexico—
Polished pieces suitable for paper weights
50c — 75c — \$1.00
Book ends, cut and polished, \$3.00 a pair and up.
Lamps with photo shade \$15.00
(\$12.00 without shade)
Good cutting material, including ricolite,
50c a pound
Nice specimen pieces of polished and unpolished serpentine and cave formation material at \$1.50 for an assortment.

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303 N. Mesa Carlsbad, N. M.

♦ News of the Societies

Note: Most of the societies had an annual meeting and election of new officers recently with no other program. The names involved are of no particular interest except to the societies concerned and we have no room except for newsworthy or interesting and helpful items. Many societies too have suspended meetings for the summer. Secretaries should see that the JOURNAL receives notices of meetings, etc., by September 1st for inclusion in our next (October) number. All we need is your regular society meeting notice or bulletin, we cull from them the things we need and especially written "publicity" is not required; it is usually too long for use in these columns.



LOS ANGELES LAPIDARY SOC. recently heard an interesting lecture by Dr. Richard H. Swift entitled *The Glyptic Art of the Greeks*. He showed several ancient pieces of lapidary equipment used by the Greeks and displayed his collection of cameos, intaglios and jewelry made as long ago as 2500 B.C. The materials used then were much the same as today except for sapphires, which came along much later. Herbert Monlux demonstrated his new automatic gem drill which turns off when the hole is drilled.

* * *



CHICAGO LAPIDARY CLUB has already set the dates for their second annual show as May 17 and 18, 1952. Marshall Field has already arranged to display next year's prize winners following the show. Don't miss the account of their recent wonderful show in this issue. Beginning in September there will be THREE speakers at each meeting.

* * *



SAN DIEGO LAPIDARY SOC. members recently took Donal Hord's great jade statues of THUNDER and LADY YANG to the Oakland convention in an armed caravan and prettied them up each morning.

* * *

SAN JOSE LAPIDARY SOC. (Calif.) had the largest and most outstanding club gem display at the Oakland convention. This included Raymond Addison's famous cameos. Burton Stuart of Palo Alto, editor of their Lap Bulletin for the past three years, was recently made President.

* * *

MICHIGAN LAPIDARY SOC. (Detroit) recently heard Dr. Chester B. Slawson tell of his trip to South Africa in a lecture on the diamond fields. Meetings have been suspended for the summer.

LAPIDARY AND GEM COLLECTORS CLUB (Washington, D. C.) recently heard Commander John Sinkankas in a talk about his lapidary experiences. The Commander conducts the new and highly informative lapidary section in Peter Zodac's *Rocks and Minerals* magazine. James Benn of the National Museum staff recently gave a talk on the gems in the national collection.

* * *

GLENDALE LAPIDARY & GEM SOC. (Calif.) recently heard Erna Clark in a talk on the gathering and preparation of iris agate. Mrs. Clark is writing this story for the next edition of the *Journal*.

* * *

HOLLYWOOD LAPIDARY SOC. (Calif.) recently heard Eldon Soper in his talk on polishing flats. This talk too will soon be published in the *Journal*.

* * *

GEM CUTTERS GUILD (Los Angeles) was awarded the second place ribbon at the big Oakland show. Aaron Otto recently gave a talk on the optical finish.

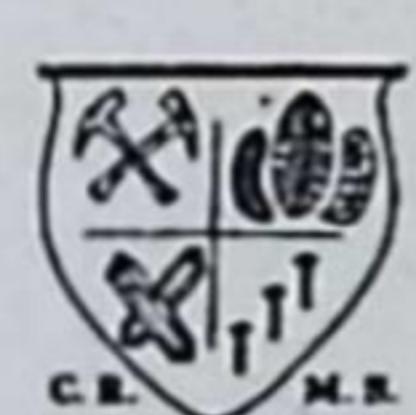
* * *

WASATCH GEM SOC. (Salt Lake City) recently had a quartz family mineral night, "including opals" (they said. That's what the man said.)

* * *

CLEVELAND LAPIDARY GUILD recently heard Robert Tesmer, frequent contributor to these pages, in a talk on *Gems In Literature*. A benefit auction followed the talk at which \$165 was raised for the society's own faceting equipment. 175 members were present.

* * *



CHICAGO ROCKS & MINERALS SOC., recently became a member of the National Parks Association, formed for the preservation of our National Parks against encroachment by commercial interests. Other societies, and certainly the Federations, should support this movement.

* * *



SAN DIEGO MINERAL & GEM SOC. recently heard Charles Parsons in a fascinating talk on synthetic gems. The society will renew its own shows this year and have commercial displays again.

* * *



SAN FERNANDO MINERAL & GEM SOC (North Hollywood, Calif.) will give their annual show in August (See Calendar of Events) and for the first time they are having commercial displays.

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(Continued from page 234)

But since they are all written in the Latin languages we are having a great deal of fun deciphering them. For we were an avid Latin student in our younger days, having acquired a knowledge of advanced Latin in our study for the Presbyterian ministry, which idea we later abandoned.

We quote an interesting paragraph from Dr. Pearl's letter, for his gem book collection is unique in one respect. Let him tell it: "my own gem library has over 400 books strictly on gems, and it is by no means the largest I have seen. It has one possible claim to distinction however—I believe it to be the largest library on gems ever assembled by anyone in proportion to the amount of money available. Over 300 of the books were acquired during the years 1932 to 1946, during which time I was mostly in school or the Army and my total income averaged less than \$500 yearly. Anyone can obtain a most enviable book collection by signing checks; the real achievement comes in cleaning a bookstore in return for an item one cannot afford, hunting through attics in small towns, and tracking down an allegedly rare and out-of-print book to the original publisher in South Africa or Burma who still has it in stock, as I have done on various occasions. I could write a book!"

And so—wait for the October issue.

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(Continued on next page)

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Hand wrought—beautifully finished—Complete with all attachments—

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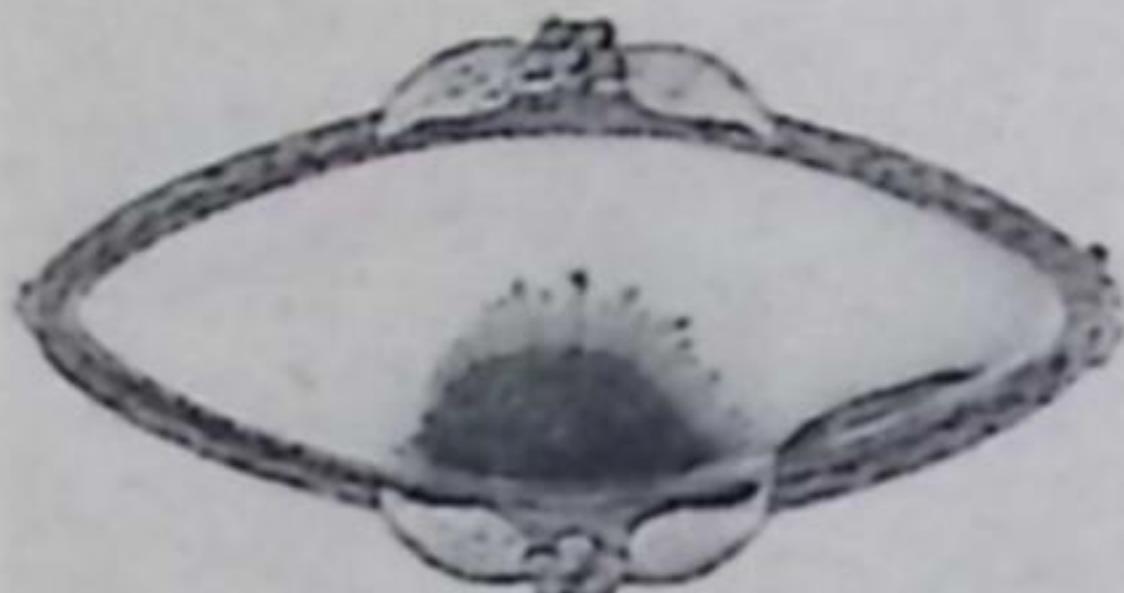
Made of gold-filled stock in the manner of fine Watch case material.

GUARANTEED FOR A LIFETIME

Priced Surprisingly Low ★ Within the Reach of Everyone

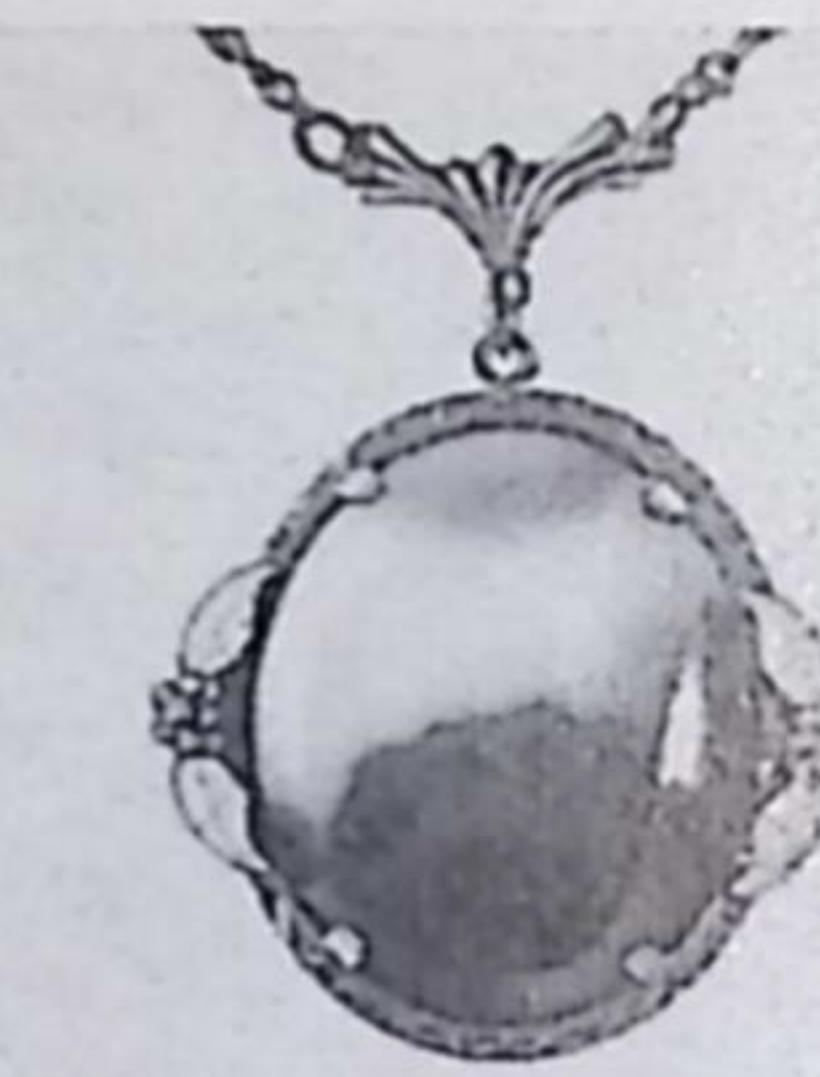


849X BRACELET



921X BROOCH

Many precision stone sizes and shapes—ear rings, pendants, bracelets, brooches, tie chains and cuff links. Also matching Ladies' and Men's rings with 10K gold top and sterling shanks.



918-30X PENDANT

These fine settings will enhance the value and beauty of ordinary stones and give your choice gems priceless intrinsic value that will be cherished for many years.

It is no longer necessary to apologize for, or lower the dignity and value of, Nature's fine gems with the false economy of low quality mountings. For a little more, the same stones can be made into desirable jewelry, a credit to your craftsmanship.

Available at all better shops, including the following
FULL-LINE DISTRIBUTORS

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Berkeley— Minerals Unlimited
1724 University Ave.
Balboa— L. R. Evans
310 Island Ave.
Buena Park— Ghost Town Rock & Book
Shop
Compton— Compton Rock Shop
1409 Long Beach Blvd.
Corona Del Mar— Orange Coast Gem Crafts
914 Coast Blvd.
Glendale— Pascoe's
1414 W. Glenoaks Blvd.
Long Beach— Elliott Gem Shop
235 E. Seaside
Los Angeles— Allen Lapidary Equip. Co.
3632 W. Slauson Ave.
Chuck Jordan's
Town & Country Market
J. J. Jewelcraft
2232 Colorado Blvd.
R & B Art-Craft
11021 S. Vermont Ave.

Napa—
Brandt's Mineral Shop
1034 Sonoma Hiway

Paradise—
Woodward Jewelry
Box 686

Sacramento—
George W. Roper
Public Market Bldg.

San Diego—
Superior Minerals & Gems
4665 Park Blvd.

San Gabriel—
Rainbow Gem Co.
546 W. Mission Dr.

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Portland—
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228 S. W. Alder

Prineville—
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Pop's Agate Shop
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Casper—
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Riverton—
Tom Todd
230 E. Pershing

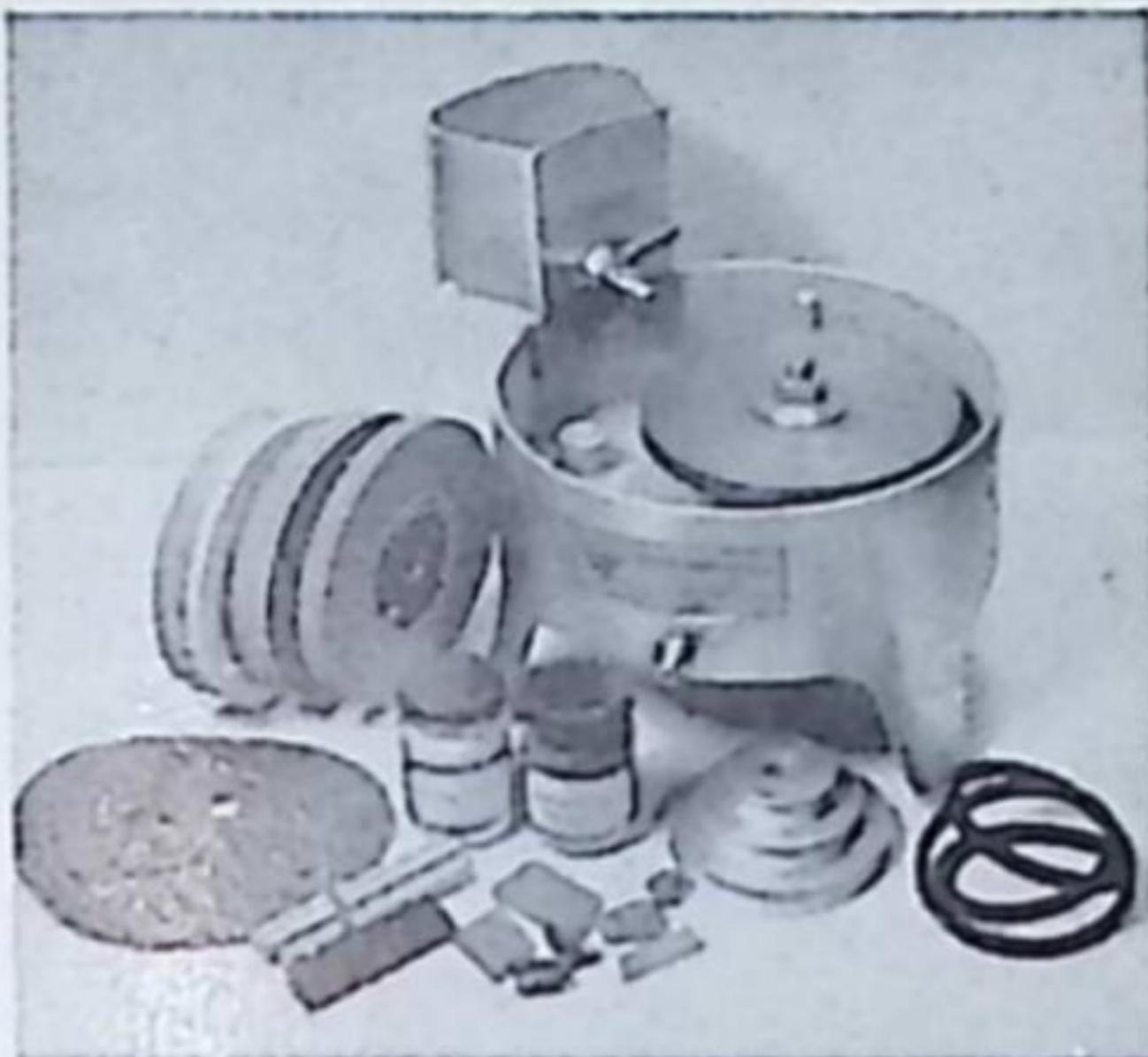
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from above distributors or write us.**

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HOBYCRAFTS, INC.
CLEVELAND 2, OHIO

PRECISION EQUIPMENT INSURES FINE GEMS



WHY BUY LARGE BULKY EQUIPMENT?

The "Gemlap" Model 4-A Cabochon Unit offers you a small, compact Grinding, Sanding, Polishing and Lapping machine, complete with all accessories except Motor, as illustrated.

\$42.50 F.O.B.

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

'GEMLAP' MODEL

2-A TRIM SAW

Takes 6" or 8" Blade

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

A cast trough around the top of the body allows coolant to return to the reservoir through apertures under raised REMOVABLE table. Size 14 $\frac{1}{4}$ " long, 8 $\frac{1}{4}$ " wide, 8" high. Less Blade.....

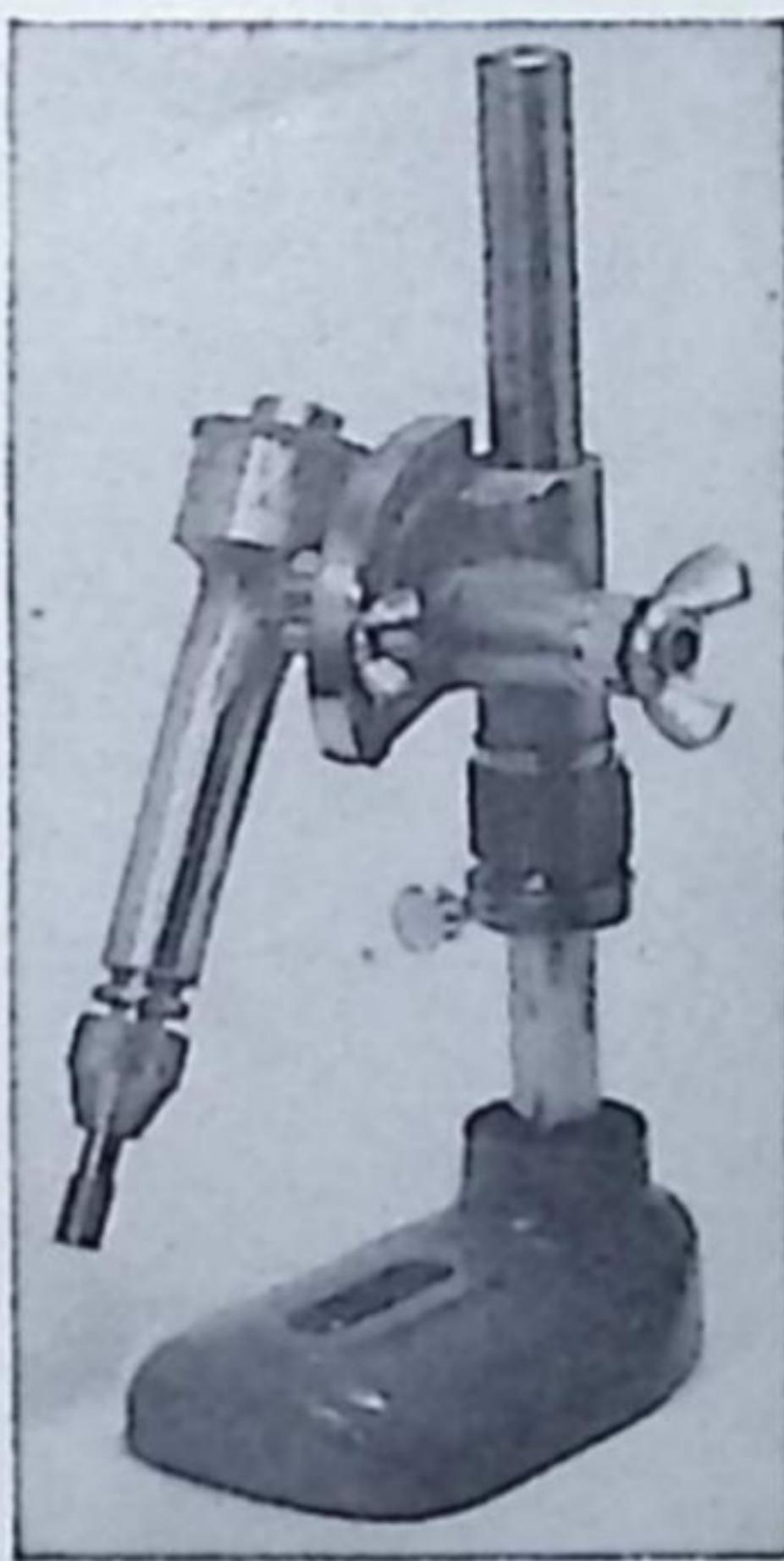
\$32.50 F.O.B.



"GEMLAP" MODEL FH-3 FACET HEAD

For use on Gemlap Model 1-A or any other type horizontal machine. Constructed entirely of Bronze and Brass with exception of stand-rod, which is of MONEL, $\frac{5}{8}$ " diameter. Adjustable knurled raising and lowering micromatic adjustment. Cast iron machined base. The head has two inclosed bevel gears, which mesh together on all of the 32-calibrations, plus a calibrated vernier (cheater) for split facets and cutting odd shapes. An angle stop is provided on the refractive index quadrant, so that the head may be tilted for inspection without removal from the stand-rod. Brass dops are held by a split collet chuck. Complete with one brass dop and wood case.....

\$37.50

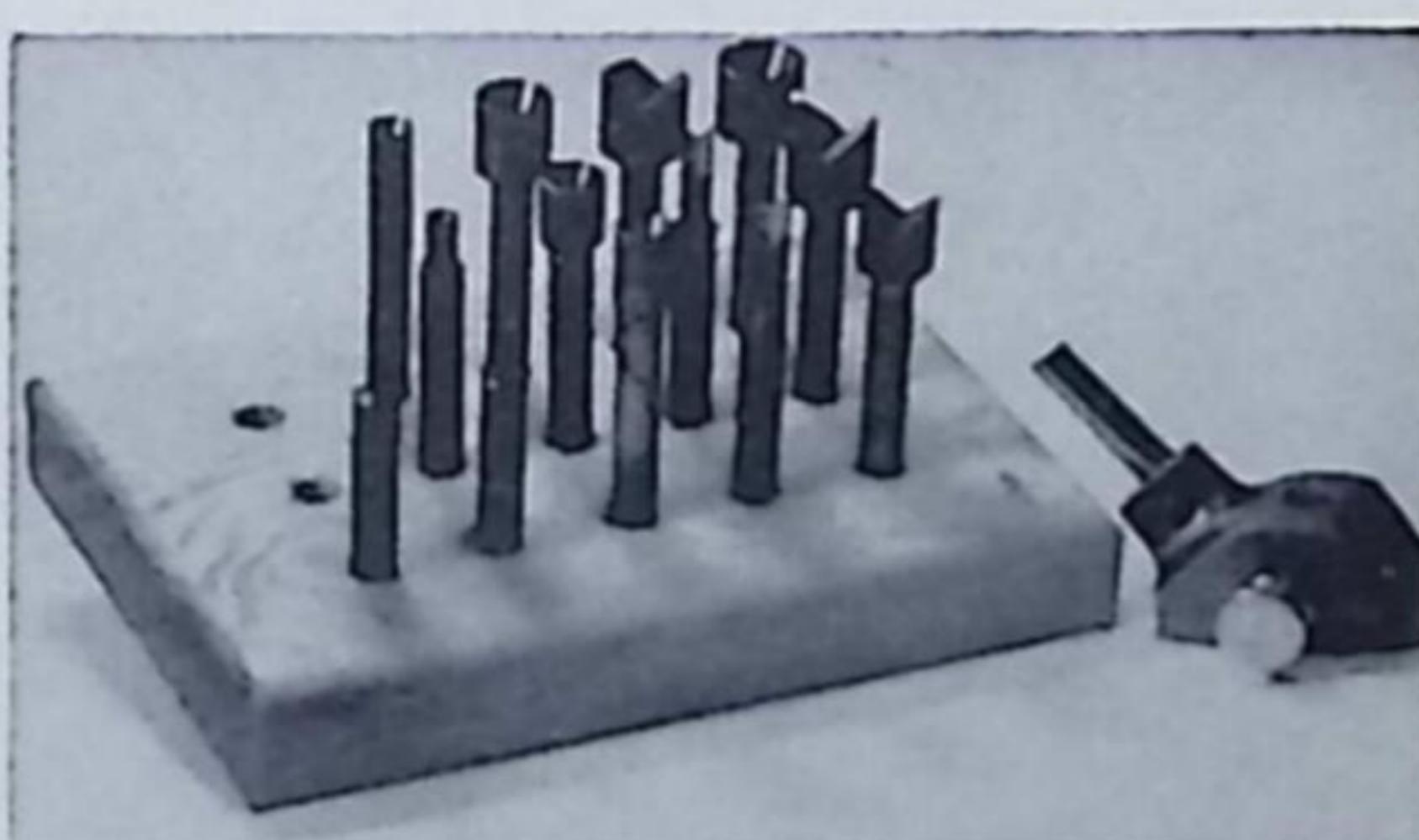
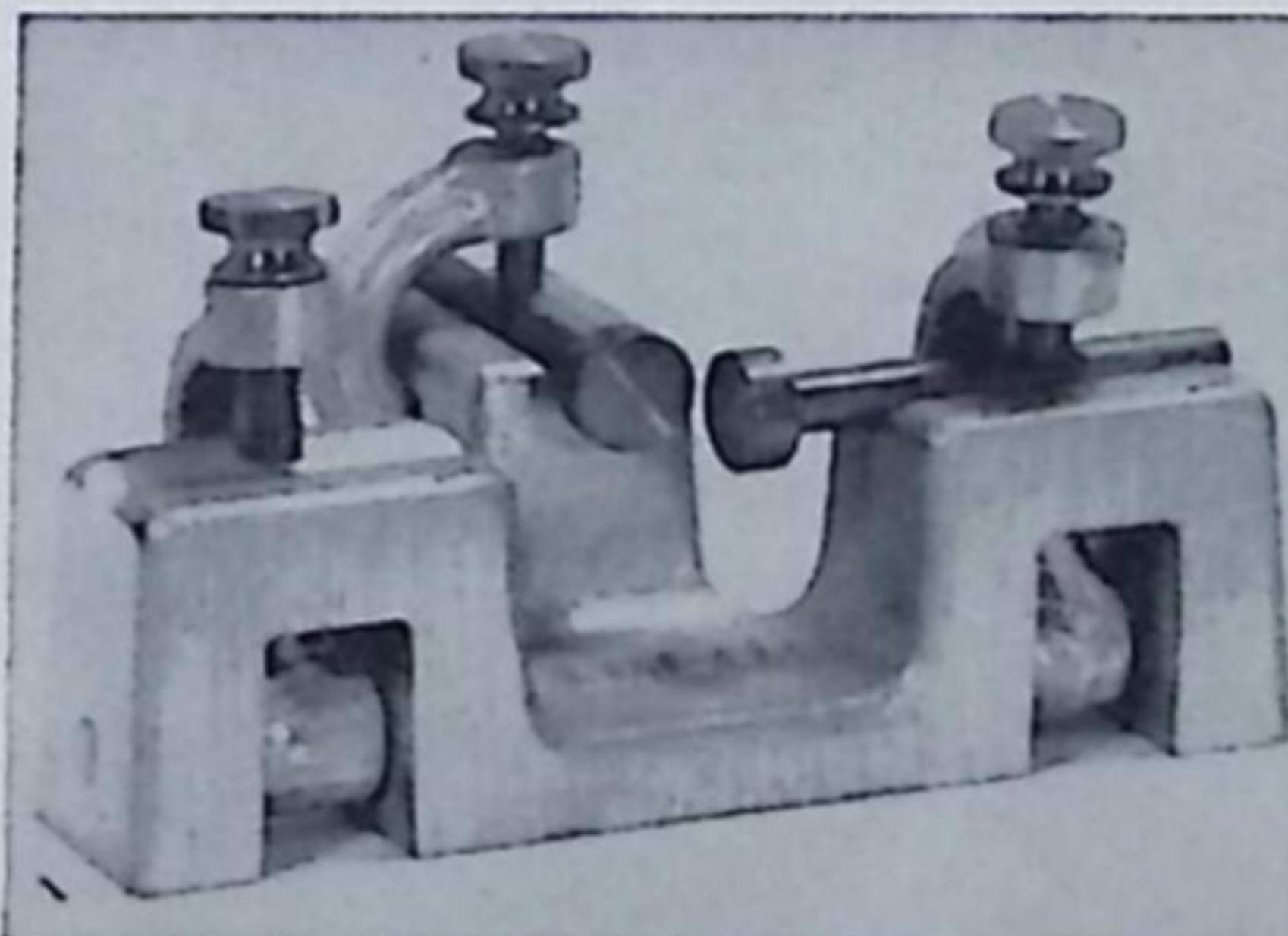


"GEMLAP" MODEL

SR-1 SPEED REDUCER

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

\$15.50



"GEMLAP" BRASS DOP STICKS

A complete set of 13 machined brass dops 2 $\frac{3}{4}$ " in length, $\frac{1}{4}$ " diameter shank, head sizes from 1/16" to 1/2" and in a variety of shapes. Mounted on a wood base....

\$7.50

45° Facet Table Grinder.....

\$3.50

"GEMLAP" TRIPLE "Y" BLOCK

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

\$5.50

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and Supplies

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Balance scales with Troy weights and carat weights.....	\$18.50
Sterling Stamp, straight....	\$2.50
Hand Made Stamp.....	3.25
. 2" dapping blocks.....	7.50
Dumore—Heavy duty flex shaft..	\$65.00
Dumore—Precision drill press.....	66.00

Jewelers Saw Blades

No. 2/0—\$2.00 gross No. 4/0—\$2.50 gross No. 6/0—\$2.75 gross
No. 8 and 8/0—\$3.00 gross

FACET CUT STONES

Synthetic Rubies

6 mm. round — \$1.75
8 mm. round — 2.50
10 mm. round — 2.90
12 mm. round — 3.95
10x12 mm. oct. — 3.80
12x14 mm. oct. — 6.50

Synthetic White Spinel

6 mm. round — \$1.20
8 mm. round — 1.65
10 mm. round — 2.25
12 mm. round — 3.15
10x12 mm. oct. — 2.25
12x14 mm. oct. — 3.60

Synthetic White Sapphire

6 mm. round — \$1.75
8 mm. round — 2.50
10 mm. round — 3.30
12 mm. round — 5.00
10x12 mm. oct. — 4.15
12x14 mm. oct. — 5.85

10K gold bezel wire (fancy) 50c inch

Gold filled tie clip 75c each (clip only—no chain)

Chinese silver coffee spoons (ready for stones in handle) \$2.40 each

Chinese silver pill boxes (ready for stone) \$4.80 each

Gold Plated Cuff Link Backs with 16 mm. round bezel cup \$1.20 pair

Gold Plated Cuff Link Backs with 12x18 mm. oval bezel cup 90c pair

Gold Plated tie clips with 7x21 mm. bezel (on chain) \$1.20 each

Gold Plated Tie Bar with 16 mm. square or round bezel cup \$1.32 each



All prices F.O.B. Los Angeles

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