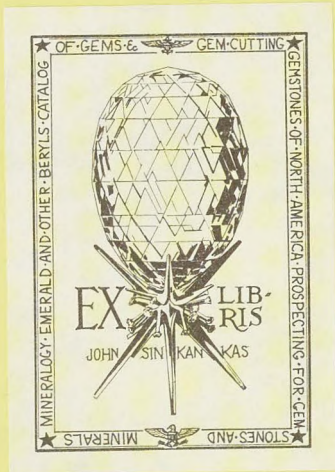


The image shows the front cover of a book. The cover is decorated with a marbled pattern in shades of olive green and brown. A dark brown, rectangular label with a decorative gold border is centered on the cover. The label contains the title "DIAMOND CUTTING IN AMERICA" in gold, serif, all-caps font. The spine of the book is visible on the left side, showing a plain brown material.

DIAMOND CUTTING
IN AMERICA



OF GEMS & GEM-CUTTING

MINERALOGY - EMERALD - AND OTHER - BERYLS - CATALOG

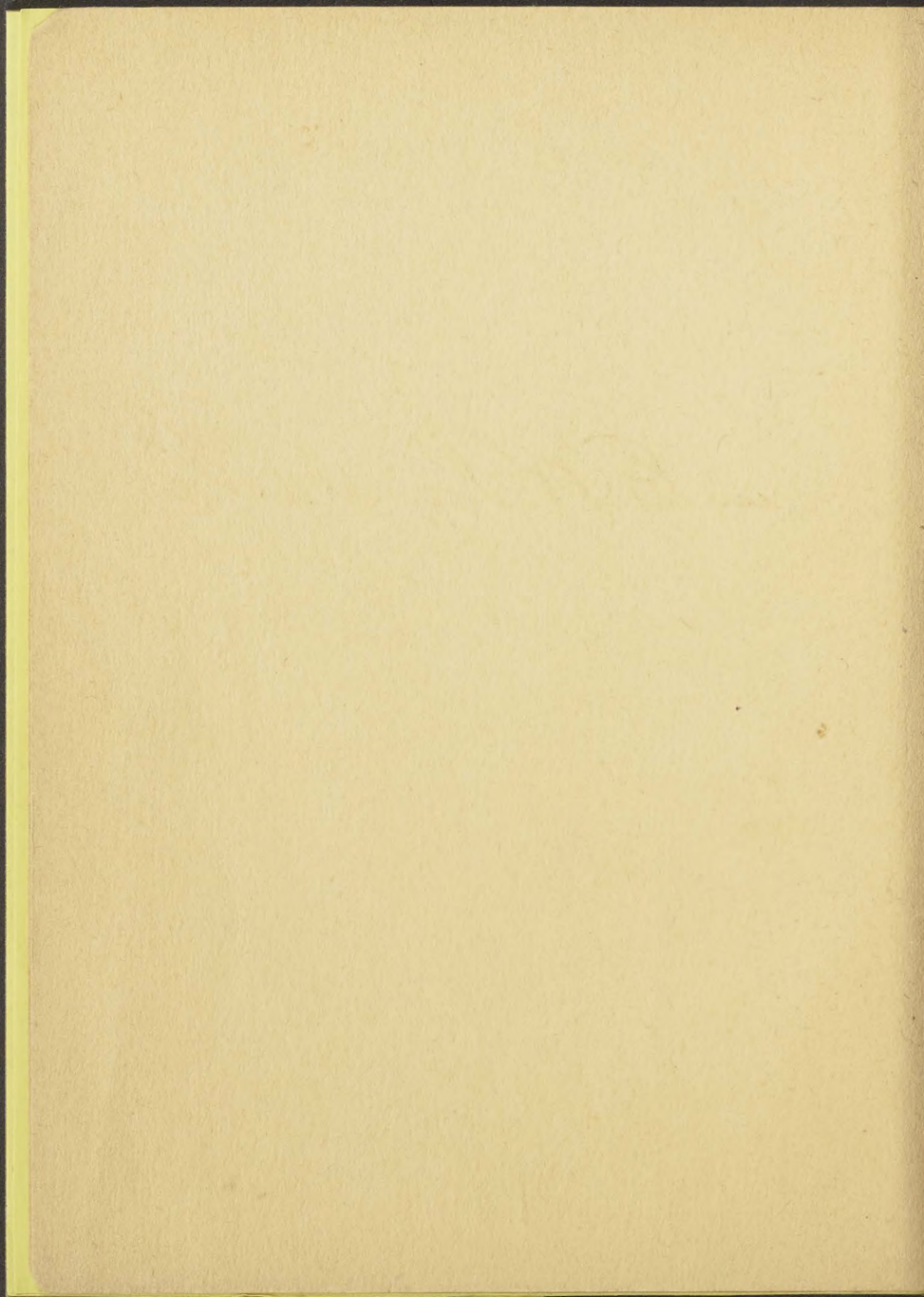
GEMSTONES OF NORTH AMERICA - PROSPECTING - FOR - GEM

MINERALS AND STONES



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JOHN SINIKAN KAS



This is Volume Number 217

Of a Limited Edition

Presented to

MR. *E. W. Reynolds Co.*

With High Assurances of Their Regard

From

STERN BROS. & CO.

NEW YORK CITY

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HE interchange of ideas, the free and disinterested discussion of problems that present themselves to those engaged in any line of industry, is a most worthy purpose.

¶ The gathering of the country's representative jewelers, to exchange ideas, cannot fail to be of great help in sifting trade conditions, placing the business on a higher plane, and should be of intense interest to all in the trade.

¶ That this first reunion of the National Jewelers' Board of Trade should come at this particular time causes us to feel exceptionally expansive and loquacious. In it we take an almost guardian interest; we feel an almost parental pride; presumptuous, of course, but pardonable, we think you'll agree.

¶ This is almost the anniversary of our twenty-fifth year as diamond cutters. Not a lifetime, to be sure, but consider-

ing the age of the industry itself in the United States, a goodly time—a trade lifetime. It is hardly possible to believe that less than a generation has seen such changes, such growth.

C Thus, after these many years of pleasant relations across wide areas, you can appreciate how happy we are to be able to celebrate by actually rubbing elbows and shaking hands.

C As a slight memento of this necessarily short moment we offer you this little booklet containing a synopsis of the development of the diamond industry. The facts relating to ourselves we hope you will receive in the spirit of reminiscence in which they are given. If we have succeeded in putting in convenient and ready reference form the details of the life-history of the diamond that you already know, or in extending your intimacy with this most precious of gems, our purpose will have been fulfilled.

¶ The tragic story of the diamond has oft been told. Romancer and poet have both caught and stressed that part of its history—it is needless to retell it. A few reflections, however, may not be out of place.

¶ Through it all one must feel the presence of some mystic power; for only a supernatural force could lead men to such deeds of violence and give such strength to endure torture. Yes, in those times, the diamond (best known as the Great White Eye) was a religion, a demoniacal religion, demanding of its followers human life.

¶ The career of the Kohinoor was particularly gruesome. If all the maddening efforts to possess this one stone were ever written as fiction the story would be said by the critics to be the wildest flight of imagination.

¶ And perhaps if Kohinoor were not now blazing its presence upon the English Crown but were instead lost to

human eyes, a "folk etymology" would arise that here was the birth of the "bloodstone." One doubts whether even the historic fact that bloodstones were known long ere the last tragedy in the Kohinoor's eventful life could have shattered the belief.

¶ One of the princes, who, blinded, imprisoned, his wife and daughters threatened with dishonor, was asked by his conqueror why he clung so tenaciously to a mere bauble (of course, the conqueror deemed it worthless!) at the sacrifice of all that was really worth while, replied, and without the slightest tinge of irony: "It is good luck, for it has ever been the associate of him who has vanquished his foes."

¶ Good luck! What crimes to be committed in thy name, O Diamond! Yes, thou wert a religion and with thy fire thou didst blind men's reason.

¶ Looking back from this distance, we peace-loving moderns would suspect

that he who was so unfortunate as to come into possession of the Kohinoor would, like the accursed owner of the Bottle Imp of Stevenson's imagination, be only too anxious to give it away if anyone would have it.

C Our love of the diamond has lost its dangers. It is no longer a fanatic love; it is of the quieter, æsthetic kind, based as our love for every one of the fine arts is, upon a mental attunement with orderly mathematical laws.

C And if there were any who still were White Fire Worshippers at the time of the promulgation of Sir William Crookes' theory, he doomed them to final oblivion. His hypothesis that the diamond was formed by the action of intense pressure under cataclysmic conditions is quite plausible and is borne out by laboratory research of the great French chemist, Moissan.

C All the ancient stones whose brilliancy became clouded with blood and

lust were mined in the Golconda mines in India, so-called because Golconda was in reality the mart where they were bought and sold while the mines themselves were spread over a wide area. The richest one was far to the south, near the Kistna River. It became exhausted in the seventeenth century.

C India's monopoly continued, however, up through the first quarter of the next century, when discovery was made in Brazil, about eighty miles from Rio de Janeiro. To maintain their supremacy, a long-sustained effort on the part of the Indian mine owners was made to hoodwink the world. They declared that the diamonds found in Brazil had been shipped from India and were being re-shipped. But the truth would come out, and prices then were at a low ebb.

C This time they were stayed by the Portuguese Government, which country then owned Brazil, who exacted such heavy duties and imposed such severe

conditions that no one would undertake the mining.

C The mines thus became, in 1772, a royal monopoly and so remained until the separation of Brazil from Portugal. On account of the difficulty of securing labor, the unhealthfulness of climate, and the high cost of living, the yield gradually waned until it was entirely eclipsed by the discovery of the greatest diamond mines of all time. Here in South Africa was to be found a veritable Colossus of Rhodes, The Cullinan Diamond, measuring in the rough 4 inches by $2\frac{1}{2}$ inches by 2 inches, and weighing over $1\frac{1}{3}$ pounds avoirdupois— $3024\frac{3}{4}$ carats.

C As much as the story of the Indian mines is one of bloodshed and horror, that of the South African is of titanic financial aggrandizement. The account of the struggles of Barny Barnato to hold out against the financial siege of Cecil Rhodes and his final surrender is

almost as picturesque in its way as the most thrilling tale of the Kohinoor.

C Rhodes won, and his company, the De Beers, practically gained the monopoly of the diamond market of the world.

C A little more than a century before the discovery of the first diamond near Hopetown, on the banks of the Orange River, Voltaire, with a background of the accounts of the untold wealth of the Brazilian fields, wrote an amusing as well as didactic satire entitled "El Dorado." One of the pictures is the arrival of European travelers in this land where, lying about on all sides, scattered indifferently, the mere playthings of children, are precious gems never before seen or even dreamed of.

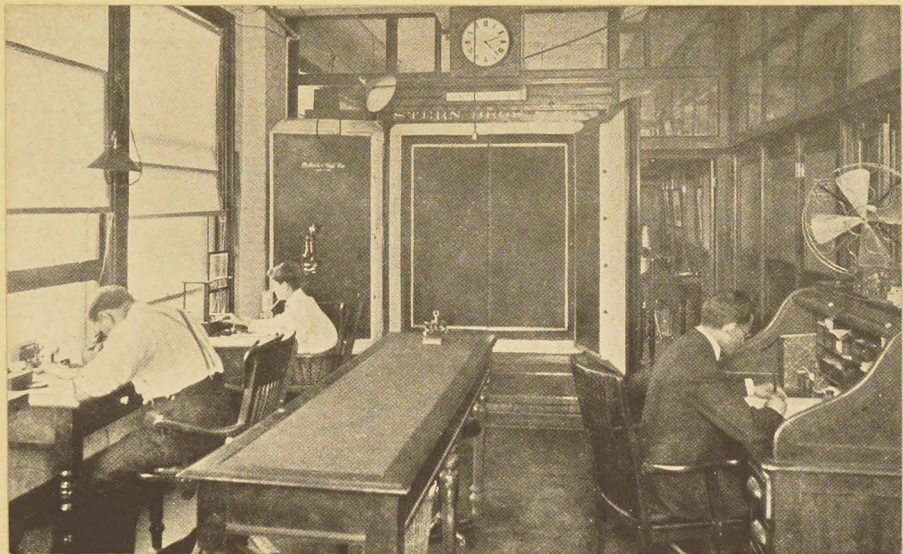
C The story of South Africa begins as if what the seer had written of jestingly, was really to come to pass. The children of a Boer farmer, Daniel Jacobs, while playing along the river, picked

up a white pebble and, with childish love of bright and glittering things, kept it as a play toy. They showed it to their mother, but she merely expressed the ordinary interest that mothers always express in things that delight their children, and very probably was glad that they had something to keep them amused for a while. A neighbor, however, chanced by some time later and, seeing it, suspected that it might be of value and offered to buy it. But the mother gave it to him gratis, refusing to accept money for a mere pebble. One is lead to assume that by this time the children were tired of their new toy.

C The neighbor succeeded in selling the pebble for £500. But people remained skeptic about the advisability of prospecting until a couple of years later, when a shepherd picked up what was afterward to be known as the "Star of South Africa."

C Then the Europeans began to come. If they did not find the new land an exact reproduction of El Dorado, still no one had dreamed of Cullinans or Excelsiors. The productiveness of the new mines can be imagined when it is known that the Kimberly groups alone yielded, in the first sixteen years, thirty-six million carats, whereas the total output of Brazil during the long period which they have been worked is scarcely more than thirteen million.

C To reclaim from the dark recesses of Mother Nature's cradle where the diamond is born, the swarthy skinned Kaffir, under the supervision of skilled white engineers, work like human moles to bring to the surface of the mine the dimondiferous (blue ground) mud bearing the coveted gems in the rough. The mines have now reached a depth of 2000 to 2500 feet. The hoisting from this great depth is done by modern electric elevators. (These



VIEW OF FACTORY OFFICE

elevators are built in the United States and exported to Africa.)

¶ Up until recently the one serious step was the separation of the gem from the worthless substance. The eagle eyes of the native Kaffirs had to be depended upon and in the great mass to be sifted a diamond might easily go unnoticed now and then—accidentally or otherwise. But a very ingenious discovery has eliminated that chance of error or theft.

¶ In rough outline the method of mining is somewhat like the following:

¶ When freshly mined, the blue ground is too compact and unyielding for any immediate attempt to retrieve the precious stones. But it disintegrates with varying degrees of rapidity under atmospheric influence. It is carted away and spread on "floors," spaces of open field cleared of brush and leveled off, known as the "compound," where it is allowed to stay for a minimum



CLEAVING

of six months and an approximate maximum of two years. The natives live in compounds, large square enclosures which are surrounded by a barbed-wire fence, with a netting over the top to prevent anything being thrown in or out. The Kaffirs are entirely shut off from the outer world; in fact, they enter the shaft through an underground passage. Contracts are signed by the Kaffirs for a term of service extending from three to nine months. In the compound is to be seen an example of native life; mimic waltzes, banging concertinas, evoking weird noises on strange looking wood contrivances, are the pastimes of their leisure hours. Every class and tribe is represented in the mines, making an amazing ethnological study.

C When sufficiently broken up the mud is taken to the washing and concentrating machines by means of which the diamonds and heavier constituents

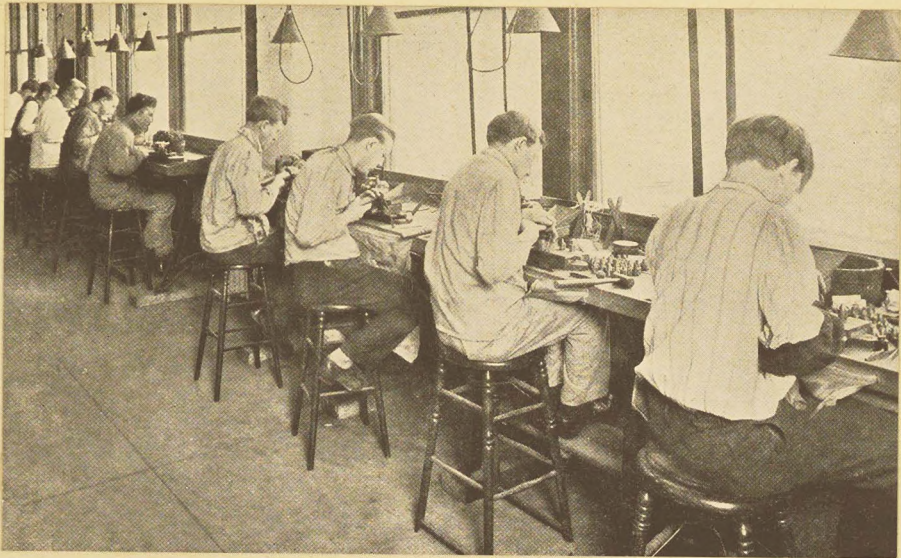


DIAMOND-CUTTING LATHE WITH CUTTER AT WORK, SHOWING THE MANNER OF CUTTING A DIAMOND

are separated from the lighter material.

C And now is when the discovery mentioned above simplifies matters. It was found that the diamond is the sole heavy element of the blue ground, with the exception of two other substances, which are easily sorted afterward, that adheres to grease. Accordingly the "greaser" became the final step and the diamonds were ready for classification. From the washing room the reclaimed rough stones, comprising all sizes and qualities, are taken in sealed boxes, under heavy guard, to the sorting room, where men highly skilled and of many years' experience sort them into groups of quality, comprising all sizes from one carat up—sometimes including stones weighing from 100 to 150 carats. They are varyingly grouped according to their quality and method applicable to their cutting.

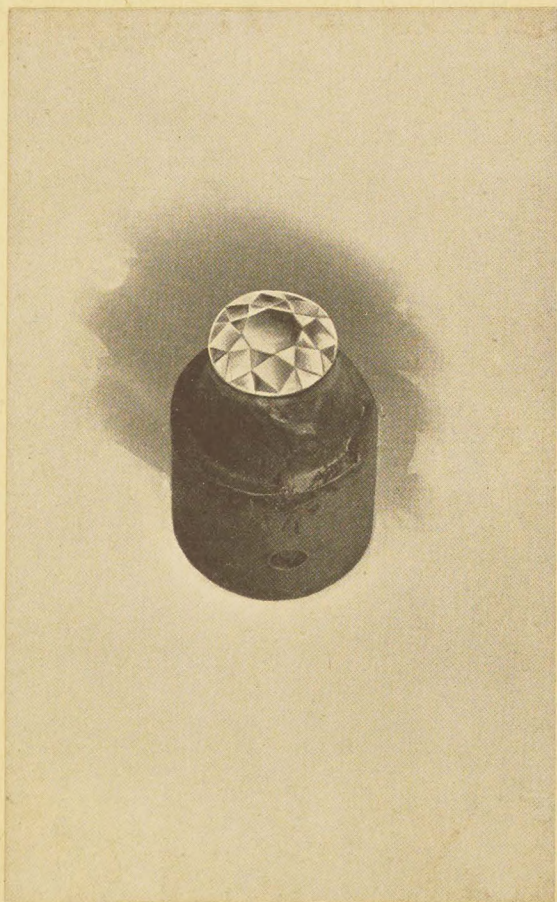
C On to the cutters !



CUTTERS AT WORK

C They are now ready to start on their long voyage from their South African home. Transported across two oceans they finally reach the hands of the cutter, whose skill converts them into what Plinny calls "the gem coveted by kings."

C The art of converting the rough diamond to the finished gem is subdivided into three distinct branches: First, cleavage or division of the stone; second, cutting; and third, polishing. The problem involved in cleavage is two-fold. First, to obtain the most desirable sizes and second, to eliminate flaws and defects. This process requires the utmost care and skill on the part of the operator. The stone is closely examined to determine the directions of the planes of cleavage. The operation of cleaving is performed by cutting a V-shaped groove on the rib of the diamond, geometrically parallel with the face of the cleavage plane.



**DIAMOND SET UP READY TO ATTACH TO
CUTTING LATHE FOR FINAL TOUCH-UP**

¶ Into this V-shaped groove a wedge-shaped steel knife, the narrow edge of which is ground flat, is inserted and struck a sharp, light blow with a wooden mallet. Modern diamond cutting has introduced a process known as sawing, which has greatly reduced the necessity of cleaving. By this process a diamond can be sub-divided across its grain, the result of which is a great saving of weight. We have for some few years been operating in our plant 115 of these sawing machines.

¶ The diamonds are then given to the cutter, who grinds them into spherical forms ready for the polisher.

¶ In modern factories the old process of hand cutting has been superseded by a more skilled method, as follows: A diamond is cemented in a brass dop, having a threaded recess which fits to a screw on an adjustable lathe head. Another diamond is cemented into the head of a long tool which the cutter

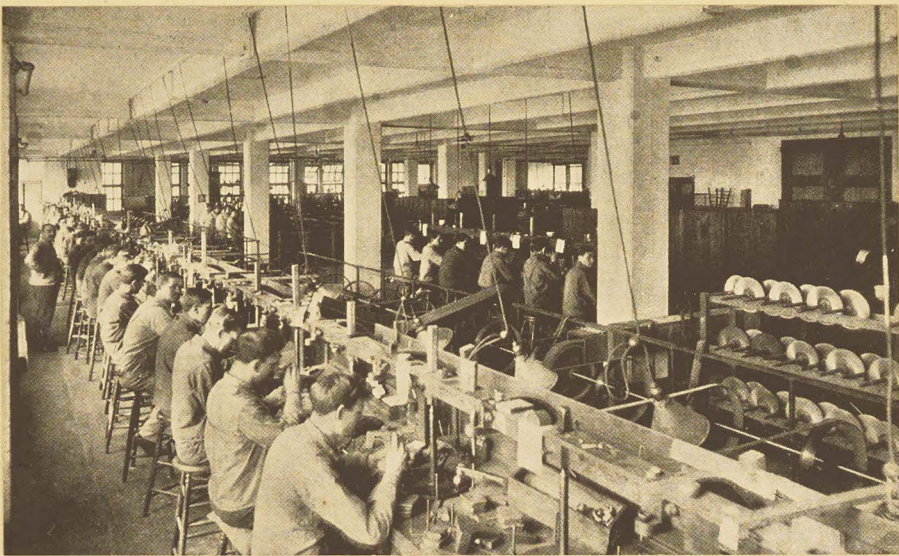


DIAMOND POLISHER AT WORK

holds, and by skilful manipulation brings it in contact with the diamond attached to the adjustable head of the cutting machine. In this manner both diamonds are cut at the same time.

C We have now progressed to the third and final stage known as polishing, which reveals the beauty of the gem, dependent on the angles of the planes and their geometrical relation to one another does the prismatic radiance of the diamond depend.

C The diamond, when it comes from the cutter, is placed in a brass gripping device, known as a machine dop, which is likewise a modern innovation. By means of a holder the diamond is brought into contact with a steel disc, revolving at the rate of 2000 revolutions a minute, the surface of which has previously been covered with a composition of diamond dust and olive oil. In this manner facet after facet is perfectly polished.



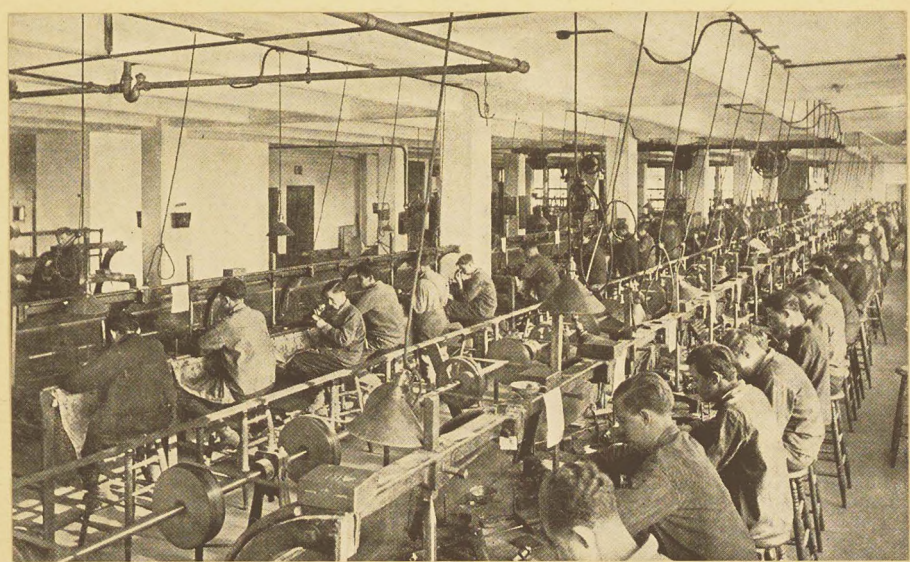
NORTH SECTION, SHOWING DIAMOND POLISHERS AT WORK

¶ The earliest records we have of the lapidarist's art is mention of several cut diamonds among the treasures of Louis of Anjou toward the end of the fourteenth century.

¶ The modern method of brilliant cutting is generally ascribed to Louis de Berquem, of Bruges, who in 1475 cut several celebrated diamonds for Charles the Bold.

¶ From that time down toward the end of the last century the industry has been almost entirely connected with the history of Holland. Only within the past generation has any country been able to compete with her, and as yet only in quality of output and not in quantity. That we be not deemed guilty of egotism the words of "Britannica" may well be quoted. Speaking of the American industry it says: "The quality of work done is fully equal if not superior to any in the Old World."

¶ Due to the unstable conditions of



SOUTH SECTION, SHOWING DIAMOND POLISHERS AT WORK

governmental affairs in these mediæval times, the artisans pursuing this industry, not feeling safe with their valuable wares, found that the country that offered them the safest refuge was hospitable Holland, and consequently the skilled craftsmen from France, England and Portugal made Amsterdam the center of the European trade. Holland thus gained about all the knowledge of gems and gem cutting there was to be had up to that time.

¶ From a craft in which the greatest skill, ingenuity and artistry were needed, it became no more than a heritage of certain mechanical motions handed down from father to son exactly as received.

¶ It was the New World that gave new stimulus to the art. In the sixties, Mr. Henry Morse, of Boston, associated with Mr. James Yerrington, of New York, opened the first diamond cutting establishment in America. Morse real-

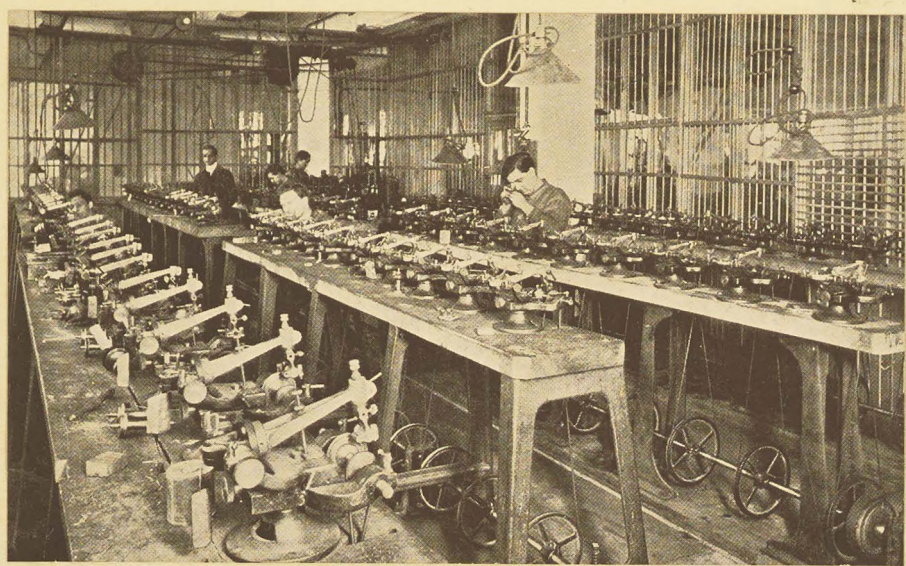
SAWING MACHINE

ized how important mathematical precision is to the beauty and radiance of the gem. He trained several workers and succeeded in attaining a rare perfection.

¶ He might be said to have given the final grounding of science to the art of diamond cutting. But he did not succeed in establishing a permanent industry. His was one of those pioneer attempts which, though they flicker out themselves, give presage of something lasting that is to come.

¶ In the early eighties a few more attempts were made, but with no better success.

¶ Then in 1892, after twenty-three years as diamond jobbers and wholesalers, we entered the new field, destined to be the first commercially successful diamond cutters in America. In that year we opened a little loft at 29 Gold Street, with seven men in our employ. After seven years our force had grown to



GENERAL VIEW OF DIAMOND SAWING ROOM

twenty men and we moved to 142-146 West Fourteenth Street, where we remained for thirteen years, the force increasing to sixty people. We then removed to our present building at 136-142 West Fifty-second Street, where our space has been increased to 30,000 square feet and our staff to 325 people, with the most modern equipment the world has ever seen in a diamond-cutting plant.

Q Yes, these last twenty-five years have seen great changes and great growth. Today we are the most extensive diamond cutters in America, and growing steadily!

Q The account of the development through those fertile years—fertile in experience, fertile in friends—would fill a book many times the size of this. At some future time we may tell the story in another edition more extensively.

Q But, as yet, we really are not old enough to dwell too scrutinizingly upon

the past. You know the story about the man—Oh! but we do wax too garrulous, and garrulousness is another sign of old age.

¶ So for the present on to the future!



