

GEM STONES

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SUMMARY OUTLINE

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JEWELRY INDUSTRY IN 1944

The sales value of taxable jewelry in 1944 reached a record total of approximately \$1,063,000,000, 7 percent above the previous high of \$998,094,416 set in 1943. The gain is attributed principally to increases in prices rather than to a larger volume. Sales were unusually heavy during the first quarter, but from April to August they fell below the corresponding months in 1943, owing to an increase in the excise tax to 20 percent on April 1 and the belief, then current, that the war would end soon. The public had become accustomed to the new tax by September, and for the last 4 months of the year sales exceeded those of the corresponding months of 1943. Christmas shopping, which began as early as September because so many were overseas, also exceeded that of 1943. Diamonds, Swiss watches, rings, and gold-plated silver-based jewelry were the leading items. Medium-price articles sold best, although some very expensive items were purchased, probably as a hedge against inflation.

Taxes on jewelry in 1944 were \$152,765,380, an increase of 53.6 percent over those of 1943, due largely to the higher tax rate.

Prices rose somewhat in 1944 but on the whole probably less than those of good clothes or other comparable commodities.

The prosperity of the jewelry trade was based upon a record national income (161 billion dollars, compared with 147.9 billion in 1943), a large number of weddings, much cash in the hands of the average citizen, and subnormal competition for the American spending dollar.

Sales by wholesalers were somewhat less than those of 1943, and, owing to a shortage of labor and restrictions on the use of certain metals, their stocks decreased in 1944. The resale of old jewelry bolstered retailers' volume.

The retailers increasingly feel the competition by the department stores, and the sales of the latter show greater increases than those

of the retailer. A number of department stores conduct a brokerage business in used jewelry, said to be profitable. Upstairs distributors and door-to-door solicitors also compete with the sale of medium-price items, the bread and butter of the retailer.

The Canadian retailer had a good year, as did his South African and Australian confreres, although each was plagued by a shortage of stocks. By the purchase and resale of old jewelry, a vestige of life is kept in the British trade.

Costume jewelry is now a big business, sales running into several tens of million dollars a year. Base metals, silver, glass, ceramics, plastics, and a host of other materials are used, and prices of individual items have skyrocketed.

POSTWAR PROSPECTS

As to the postwar outlook, competition within the retail trade will be keen, but for a time the jewelry trade will have an advantage, for its reconversion should be rapid. One encouraging factor is that during the war many Americans have repressed a desire to spend money on beautiful things. However, if in the postwar period a substantial reduction in the national income occurs, the jewelry trade will be more adversely affected than trades dispensing food, clothes, and other necessities. With the re-entry of the European cutters into the market, gem cutters in the United States, South Africa, and Palestine will have keener competition. Some of the war-born cutting centers are likely to shrink in size or disappear. Although the consumption of industrial diamonds may decrease for a time, their expanding use in drill bits and wire-drawing dies indicates that the industrial market will be well-maintained.

FASHIONS IN JEWELS

Diamonds always show to best advantage when set in white metal. Until the war is over, palladium serves as a reasonable substitute for platinum, but thereafter platinum, without much doubt, will be the mounting par excellence for fine gems. Gold, often in two or three tones, was used, particularly in mounting colored stones; silver for the less precious stones. Even ultrafashionable jewelers began mounting garnets and other less costly but effective gems with diamonds, rubies, and sapphires. Flower designs (sometimes mounted on springs), ribbons often tied in bowknots, butterflies, and tiny animals were popular, and Victorian jewelry sprang into popularity. Egyptian motifs in necklaces are effective. Multiple-use jewelry and single-gem ensembles, clips and pins worn on coats, gowns, and hats, bracelets, earrings, and rings remained popular, whereas choker collars and hair ornaments were innovations. Stones of tremendous size are worn in rings, bracelets, and pendants. The double-ring ceremony now predominates at weddings, the service husband desiring a tangible link with his far-off wife; even double engagement rings are now used, the groom-to-be wearing a seal or crest ring.

Melee (small diamonds) to mount fine gems continued to be in short supply and expensive and were replaced in part by cabochon rubies and sapphires. Diamond, ruby, and sapphire (multicolored sapphires continued their vogue) led in popularity, followed by

topaz (true and citrine), aquamarine, emerald, and amethyst. Many other stones were worn, and the peridot is deservedly gaining popularity.

The ever-insistent demand for diamonds caused colorless, then blue and red, stones to be dominant, followed by yellow, green, and purple stones.

DOMESTIC PRODUCTION

In 1944, the value of uncut stones from domestic sources used in jewelry and related industries approximated \$41,000, which is substantially lower than the \$67,000 and \$150,000 reported in 1943 and 1942, respectively. The professional gem miner sought strategic minerals; the amateur collector did not have gasoline or tires to pursue his hobby, and the tourist (the principal purchaser of domestic gem stones) was almost nonexistent. The western lapidaries, professional and amateur, largely cut stock collected in a happier day. A few gem stones were byproducts of the intensive search for mica in the New England States.

As producers, the leading States ranked as follows: Arizona, Wyoming, Colorado, Washington, Montana, and Oregon.

Turquoise was the leading gem produced, its value having been about \$17,000. Miami, Ariz., is a new locality. The Castle Dome Copper Co., Inc., states that in its open pit "occasional specimens of turquoise are uncovered during routine mining operations. Occurrence is in the form of small veinlets. Although of sufficient hardness for gem purposes, most of this material is of a very pale-green or blue color, requiring impregnation with oil to darken the stones before they are of commercial value." Presumably, the better stones are collected and perhaps sold by the miners.

W. P. King and two miners worked the King mine, 11 miles southeast of Manassa, Colo., for about 3 months in 1944. He estimates the value of the finished product at \$7,000. The Hall and Ashcroft turquoise properties in Colorado were not operated. Apparently, the mine near Beowawe, Nev., did not operate in 1944, nor did Los Cerrillos in New Mexico. The Navajo and Pueblo silversmiths look to Colorado, Arizona, and other States for the turquoise used in their jewelry.

Agates, jaspers, and related quartz minerals probably were next in importance. Most of them are obtained in Washington and Oregon. Other producers were Montana (moss agates), Arizona (agatized wood and chalcedony), Idaho, Colorado (agates), South Dakota (agates), and Wyoming (Sweetwater moss agates). Scotts Rose Quartz Co., Custer, S. Dak., sold a little rose quartz for jewelry use and larger quantities of lower-grade material for rock gardens.

Bert A. Rhoades reports that 3,000 to 4,000 pounds of jade (nephrite) were mined in the Lander, Wyo., field. He and Byford Foster ran small cutting shops continuously and readily sold all they could cut. Three other cutters worked part time. Fred Abernathy sank a pit on nephrite in place, but the nephrite so far found is partly altered. In the summer of 1944 rough nephrite was being sold at \$1 to \$10 a pound. Some of the green jade is of good quality, and the black makes a good material for objets d'art.

Chinese agents purchased 5,890 pounds of Wyoming jade during the year to be shipped to China after the war.

The Montana sapphire industry had a poor year. Virtually all this sapphire is used industrially, only a small percentage being set in jewelry. The Perry-Schroeder Mining Co. of Helena, Mont., operated during only the first 4½ months of 1944. It produced about 4,500 ounces of culled sapphire containing \$200 to \$300 worth of gem material. No other Montana sapphire mine operated.

Alfred M. Buranek reports that the Clay Canyon, Utah, variscite deposit was worked for a short time in 1944, and that some good nodular variscite was shipped to the East. Smaller amounts were recovered from the Grantsville (Tooele County) and Lucin (Box Elder County) deposits. He estimates the value of the 1944 Utah production at approximately \$2,000. He adds that Japanese internees collected some topaz from Topaz Mountain; that a little fine malachite and azurite were obtained from the Dixie Apex mine near St. George; and that other gem stones collected in the State included "snowflake obsidian" (Black Creek), jet (southeastern Utah), and agate and chalcedony. Chalcedony was also found near Fruita, Mesa County, Colo.

Dr. Stuart A. Northrop reports that some fine green smithsonite was produced in the Magdalena district, Socorro County, N. Mex.

Other gem stones produced in the United States in 1944 were transparent albite (Newry, Maine), amethyst (Stow, Maine), aquamarine (Newry, Maine; New Hampshire; North Carolina; and Virginia), caesium beryl (Maine), garnet (Arizona), golden beryl (Maine), obsidian (Arizona), peridot (Arizona), white topaz (Maine), and colored tourmaline (Rumford, Maine).

In 1944, John Adair published a scholarly ethnologic study of American Indian silversmiths, entitled "The Navajo and Pueblo Silversmiths."

CANADIAN GEM STONES

Apparently there was no gem-stone production in Canada in 1944.

A. W. Jolliffe, of the Canadian Geological Survey, writes that in the Yellowknife Beaulieu pegmatites, Northwest Territories, small crystals of blue-green tourmaline are common; larger ones occur, but they are usually of poorer quality; red tourmaline is less common; and deep blue lazulite, possibly of gem grade, also occurs. He reports that sapphire is found in quartz at Outpost Islands, Great Slave Lake; cordierite, in the same region; fine chiastolite at Quyta Lake, 20 miles north of Yellowknife, and translucent brownish to mauve-pink andalusite in quartz bodies cutting aluminous sediments.

ACCESSIONS TO MUSEUMS

Dr. E. P. Henderson, of the United States National Museum, reports that a cat's-eye emerald of 4.56 carats was added to the Roebbling collection in 1944. The chatoyant band is well-developed, and the color of the emerald is a good green. He adds that a new mineral, brazilianite, from Brazil, a hydrous sodium-aluminum phosphate, has gem possibilities; and Dr. Frederick H. Pough, of the American Museum of Natural History (New York), reports that he has two gems, each of about 20 carats, cut from brazilianite. They are slightly green-yellow in color and very brilliant.

A number of rock-crystal seals belonging to former Emperors of China have recently been placed on exhibition in the Philadelphia Museum of Art. They and many other examples of Chinese art were given to the museum by Major General and Mrs. William Crozier of Washington.

IMPORTS ¹

The value of imports of precious and semiprecious (real and imitation) stones, exclusive of industrial diamonds, totaled \$77,529,806, 8 percent more than in 1943. The value of imports of rough diamonds, emeralds, pearls, and "other precious and semiprecious stones" increased, whereas that of cut but unset diamonds decreased.

Precious and semiprecious stones (exclusive of industrial diamonds) imported for consumption in the United States, 1943-44

Commodity	1943		1944	
	Carats	Value	Carats	Value
Diamonds:				
Rough or uncut (suitable for cutting into gem stones), duty free.....	751,240	\$37,443,240	896,547	\$43,445,219
Cut but unset, suitable for jewelry, dutiable.....	193,701	31,453,089	169,097	29,263,121
Emeralds:				
Rough or uncut, free.....	8	248	1,966	1,668
Cut but not set, dutiable.....	3,194	32,508	38,666	81,233
Pearls and parts, not strung or set, dutiable:				
Natural.....		167,284		242,221
Cultured or cultivated.....		107		15,394
Other precious and semiprecious stones:				
Rough or uncut, free.....		47,726		105,401
Cut but not set, dutiable.....		2,590,931		3,725,453
Imitation, except opaque, dutiable:				
Not cut or faceted.....		2,621		14,550
Cut or faceted:				
Synthetic.....		167,166		503,718
Other.....		102,450		23,887
Imitation, opaque, including imitation pearls, dutiable.....				
		8,149		23,113
Marcasites, dutiable: Real.....				
		96,154		84,828
		72,116,673		77,529,806

GOVERNMENT REGULATIONS

In January 1944, the use of gold and palladium in the manufacture of jewelry was liberalized, and on August 14, 1944, all restrictions were removed by the War Production Board, the two metals no longer being in short supply. The restrictions against copper interliners in gold-plated and gold-filled stock were almost simultaneously modified. Iridium was released from allocation on July 21, 1944, although the conservation provisions of the allocation order remained in force. The supply of this metal has been increased. No release of restrictions on the use of platinum can be expected for some time, as military and essential requirements for the metal remain large.

The War Production Board virtually prohibited the sale after March 1, 1945, of any jewelry containing tin.

Although brass may be used for silver-plated flatware, no nickel is available for production of nickel-silver. As the silver trade must depend entirely on newly mined silver, the production of silverware in the United States is small today.

¹ Figures on imports compiled by M. B. Price, of the Bureau of Mines, from records of the U. S. Department of Commerce.

Government regulations for control of the jewelry industry are not confined to the United States. As of October 15, 1944, the Japanese Munitions Ministry required that all platinum in the hands of its citizens be sold to the Government, indicating the severe shortage of that important war metal in Japan.

Late in October, Sweden further restricted the importation of gold, platinum, and other valuables, presumably to prevent the Nazis from using Sweden as a haven for their ill-gained wealth.

On August 1, 1944, Canada permitted the importation of jewelry from the United States. However, taxes of one sort or another are so high that it is unlikely that the trade can be large. On September 11, 1944, Canada permitted free production of jewelry and silverware, except that of items in which tin or platinum is used. Price control continues.

EFFECT OF WAR UPON THE GEM-STONE TRADE

Aerial bombing and artillery fire have doubtless destroyed some of the fine, historical, ecclesiastical jewelry of Europe; for example, that of St. Gennaro, patron of Naples, said to have been sent for safekeeping to the Monte Cassino monastery.

In October, the State Department announced that that department and Great Britain had asked neutral countries to deny protection for the Nazi loot, including jewelry. Some of the latter is in safe-deposit boxes in neutral countries under non-German names.

The war industries have borrowed from the jewelry trade methods of precision casting, both the "lost wax" and plaster-of-paris methods.

Although colored stones, especially ruby and sapphire, and many of the lesser gem stones have never been more popular, most of the world's colored-stone mines (except those of Brazil) are shut down. Consequently, many of the colored stones used today in jewelry are coming from stocks or from old jewelry. The restricted supply accounts for the rise in prices.

With the fall of the Vichy Government, the diamond production of French Guiana, perhaps totaling 20,000 carats a year, fell into the hands of the United Nations.

As the year ended, the Mogok ruby mines, heavily bombed in December, were still in the hands of the Japanese, but the Burmese jade and amber mines had been regained by the United Nations. The Mogok ruby mines apparently were won early in March 1945.

Of course, the gem mines of Thailand and Indochina were still in enemy hands. The shortage of fine cultured pearls, Japan-grown, is reflected in higher prices.

The Chinese, having been until recently cut off from one of their principal sources of jade (Burma), are investing in fine jade, the stock of which is depleted.

Our boys in the Armed Forces in India and Ceylon have purchased cultured pearls, synthetic gem stones, and glass imitations as real gems. The swindle is usually first detected when the "gems" are appraised by the American customs authorities or by some organization like the Gemological Institute of America. Similar tricks are age-old in the Orient, and even the expert is on his guard when buying gems in the East.

On the other hand, some of our men overseas make worthwhile purchases, and the star sapphires, emeralds, and cameos they acquire may well be valuable heirlooms generations hence.

DIAMOND

Although 1944, the sixth year of World War II, was not quite as good a year in the diamond industry as 1943, under the circumstances, it was much better than might have been expected. The demand for both industrial and gem stones was excellent.

Production expanded owing largely to greater production of bort from the BCK mines and of gem stones from South Africa. West African output (Gold Coast and Sierra Leone) also may have been larger. Stocks continued to decrease, consumption again exceeding production, particularly of industrial grades.

Diamond cutting appeared stabilized at about 11,000 artisans, enough to satisfy the world demand for "virgin" cut, supplemented, as it was, by well-cut stones from old jewelry.

The price of gem stones (both rough and cut) increased, but in the early fall, when some foresaw the immediate reopening of the Belgian cutting shops, the price of small cut slumped badly. By the end of the year, however, the loss had been overcome. The price of industrial stones remained stable.

Share dealings.—The shares of diamond-mining companies, virtually all of which are listed on the London Stock Exchange, registered a slight loss during the year, their performance being less satisfactory than that of the average stock on either the London or the New York exchange.

Market.—Sales in 1944 by the Diamond Trading Co., which in pre-war times sold about 95 percent of the world's production, were somewhat over £17,000,000 worth of rough, compared with £20,400,000 in 1943, the record year. Sales of gem stones held up better than did those of industrials. At several of the "sights," more stones could have been sold if there had been enough sorters to prepare them.

The American retail trade prospered in 1944, and diamond sales probably reached a peak, topping those of 1943 slightly. Sales of diamonds at retail have probably doubled since World War II began.

The price of fine cuttable rough continued to advance in 1944. Since 1939, small cut has tripled or quadrupled in price; fine cut stones have doubled in price, the increase in the case of larger stones being somewhat less.

Stocks of diamonds, both in the producers' and the Diamond Corporation's hands, have continued to decrease, and for some fine grades of industrials we are now dependent entirely on production.

Imports.—The total value of imports of gem diamonds in 1944 exceeded that of 1943, a gain of 16 percent in rough or uncut imports offsetting the loss of 7 percent in cut but unset diamonds. The quality of rough imports decreased somewhat, but that of cut, considering the slight increase in price in 1944, was constant in the two years.

Diamonds imported into the United States, 1943-44, by countries

[Exclusive of industrial diamonds]

Country	Rough or uncut			Cut but unset		
	Carats	Value		Carats	Value	
		Total	Average		Total	Average
1943						
Argentina.....				67	\$12,590	\$187.91
Belgian Congo.....	1,840	\$42,294	\$22.99			
Belgium and Luxemburg.....	1,369	21,444	15.66	19,693	1,341,493	68.12
Brazil.....	5,773	557,541	96.58	40,933	6,487,150	158.48
British Guiana.....	2,254	46,243	20.52	185	21,839	118.05
Canada.....				49	5,255	107.24
Cuba.....				21,913	3,340,950	152.46
France.....				567	99,401	175.31
French Guiana.....				19	2,010	105.79
Gambia and Sierra Leone.....	3,861	80,432	20.83			
Gold Coast.....	1,000	17,653	17.65			
Mexico.....				406	41,273	101.66
Netherlands.....				569	121,524	213.57
Palestine and Trans-Jordan.....				50,361	9,153,273	181.75
Peru.....				14	1,283	91.64
Portugal.....	11	225	20.45	83	10,888	131.18
Portuguese Guinea and Angola.....	1,664	40,141	24.12			
Switzerland.....				112	22,773	203.33
Union of South Africa.....	705,429	35,502,163	50.33	33,394	6,667,871	199.67
United Kingdom of Great Britain and Northern Ireland.....	20,262	782,350	38.61	25,336	4,128,516	162.95
Venezuela.....	7,777	352,754	45.36			
	751,240	37,443,240	49.84	193,701	31,458,089	162.41
1944						
Australia.....				1	500	500.00
Belgium and Luxemburg.....	(1)	5	5.00	641	137,063	213.83
Brazil.....	25,619	726,378	28.35	25,031	4,219,310	168.56
British Guiana.....	2,613	64,405	24.65	532	61,162	114.97
Cuba.....				43,683	6,749,686	154.52
Gambia and Sierra Leone.....	725	13,164	18.16			
Gold Coast.....	1,350	24,860	18.41			
Mexico.....				1,092	30,738	28.15
Netherlands.....				20	11,423	571.15
Palestine and Trans-Jordan.....				53,883	9,337,281	173.29
Union of South Africa.....	854,239	42,197,278	49.40	32,676	6,514,128	199.36
U. S. S. R.....				1,436	202,180	140.79
United Kingdom of Great Britain and Northern Ireland.....	6,201	233,977	37.73	10,102	1,999,650	197.95
Venezuela.....	5,800	185,152	31.92			
	896,547	43,445,219	48.46	169,097	29,263,121	173.06

¹ Less than 1 carat.

Cutting.—Before 1940, about 90 percent of the world's diamonds were polished in the Low Countries—Belgium and the Netherlands. Since then the industry has been widely scattered over the world. The 11,000 artisans and apprentices (about one-third the prewar force) adequately supplied the world with cut stones, notwithstanding the fact that for perhaps 20 percent of their time they were unemployed (strikes, lockouts, and shortage of rough). The United States, Palestine, and Brazil are the current cutting centers.

World production.—Owing to the war, accurate figures as to diamond production are not available. The figures given for 1944 production in the table that follows are entirely estimates, but the grand total is probably approximately correct.

The world production of diamonds in 1944 is believed to have been valued at about \$40,000,000. The increase in caratage is due to an increase in BCK's crushing bort production of some 2,650,000 carats; to expansion of output in Sierra Leone, the Gold Coast, and the

South-West African alluvial mines; and to an appreciably larger production in the South African pipe mines. The value as well as the production was larger, because of increased pipe production. Of the total, some 80 percent was industrials and 20 percent gem stones.

Figures showing the production for 1940-44, corrected in minor details from those published in the chapter of this series for 1943, follow.

World production of diamonds, 1940-44, by countries, in metric carats
[Including industrial diamonds]

Country	1940	1941	1942	1943	1944 (estimated)
Africa:					
Angola.....	784,270	787,000	1,791,850	794,990	800,000
Belgian Congo.....	9,603,000	5,866,000	6,018,236	4,880,000	7,540,000
French Equatorial Africa.....	¹ 16,000	30,000	20,000	20,000	5,000
French West Africa.....	¹ 75,000	35,000	20,000	20,000	20,000
Gold Coast.....	¹ 825,000	1,000,000	¹ 1,000,000	1,000,000	1,000,000
Sierra Leone.....	750,000	850,000	¹ 850,000	850,000	850,000
South-West Africa.....	30,017	46,578	56,420	100,000	154,000
Tanganyika ²	6,222	29,052	40,327	52,998	53,000
Union of South Africa:					
Mines.....	¹ 371,447			170,885	550,000
Alluvial.....	¹ 172,027	158,422	117,628	³ 131,444	148,525
	543,474	158,422	117,628	302,329	698,525
Brazil.....					
	¹ 325,000	325,000	300,000	275,000	(*)
British Guiana.....	¹ 26,764	27,000	27,000	27,000	27,000
Other countries ⁴	31,750	34,350	40,836	29,650	34,000
	13,016,497	9,188,402	9,282,297	8,351,967	⁶ 11,500,000

¹ Estimate.

² 1940 and 1944: Exports; 1941-43: Production.

³ Cape and Transvaal, without Namaqualand, estimated at 53,210 carats.

⁴ 250,000 to 370,000 carats.

⁵ 1940-41: Borneo, India, New South Wales, U. S. S. R., and Venezuela (Venezuela produced, respectively, 14,525 and 29,399 carats); 1942: Borneo, India, New South Wales, Rhodesia, U. S. S. R., and Venezuela (Venezuela produced 31,570 carats); 1943: Venezuela (23,020 carats), Borneo, India, New South Wales, U. S. S. R., United States (Arkansas), and Bolivia; 1944: Venezuela (22,037.07 carats), Borneo, India, New South Wales, and U. S. S. R.

⁶ Approximate.

Industrial diamonds.—World War II has been fought not only by cannon and other heavy munitions but by industrial diamonds, quartz plates, calcite prisms, and cathode-ray tubes. The diamond in over-all is used in making virtually every kind of war munition, owing to the closer tolerances gained and time saved by its use.

Industrial diamonds are normally a byproduct of gem mining. However, in the carbonado mines of Bahia, Brazil, and the large BCK mines in the Belgian Congo, the gem stone is the byproduct.

Although the United Nations have at their disposal the production from about 99.9 percent of the world's diamond mines, yet, notwithstanding the increased production of industrials in 1944, at least a quarter of the stones used by them must be drawn from stocks mined before the war.

The supply situation of the United Nations is believed to be comfortable. Japan, on the other hand, is desperately attempting to confiscate gem stones for industrial use, and the Germans were using sintered-carbide-tipped tools as a substitute.

The demand for crushing bort continues at a record level. Dr. H. Whittaker emphasizes that the cheaper grades of industrials can replace the more expensive grades for most purposes at a saving in

cost. The consumer is learning to use the cheaper grades, as many of the finer grades are in short supply.

Owing to the exploration boom in the gold fields, more drilling was probably done in Canada in 1944 than ever before. The use of the diamond drill in blast-hole drilling is also expanding.

Fine, sound diamonds, some of gem grade, are used in making diamond dies. Since the war began, the United States has become self-sufficient in the production of dies, even those with small apertures.

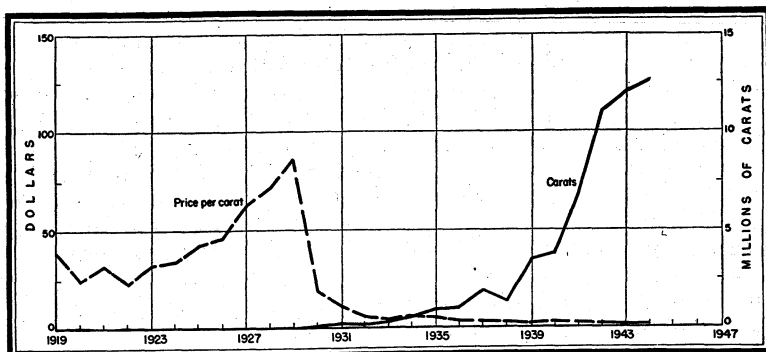


FIGURE 1.—United States imports and average price per carat of industrial diamonds, 1919-44.

Figure 1, prepared by Herbert Backman, illustrates the tremendous increase in use and the sharp decline in average price per carat of industrial diamonds during recent years.

Imports of industrial diamonds into the United States during the past 5 years were as follows:

Industrial diamonds (glaziers', engravers', and miners') imported for consumption in the United States, 1940-44

Year	Carats	Value		Year	Carats	Value	
		Total	Average			Total	Average
1940.....	3,809,071	\$11,026,563	\$2.89	1943.....	12,084,133	\$21,890,568	\$1.81
1941.....	6,882,248	14,908,809	2.17	1944.....	12,614,507	22,816,827	1.81
1942.....	11,203,704	22,057,577	1.97				

RUBY, SAPPHIRE, AND EMERALD

The emerald mines of Colombia were not operated. The Burmese, Siamese, and Indochinese gem mines (largely sapphire and ruby) may have been operated on a small scale; they were in enemy hands. The Ceylonese mines were bled of labor by the island graphite mines. The production of gems, therefore, was small in 1944.

An unusually large star sapphire was exhibited for sale in New York early in 1945. It is said to have weighed over 800 carats in the rough; it was cut into a stone of 392½ carats.

LESSER GEMS

Dr. Frederick H. Pough, in a series of articles that appeared in the *Jewelers' Circular-Keystone* in 1944, has made an important contribution to our knowledge of the Brazilian gem stones. The articles contain valuable data on gem-stone prices received by miners in the field as well as dealers' prices at Rio; geographical and geological occurrence of the various gems; the heat-treatment of some of the gems; and the Brazilian cutting industry. At present Brazil is the largest producer of the lesser gem stones.

Up to the end of 1939, Australia had produced opals valued at £1,987,090. Incomplete returns for 1939 follow: New South Wales, £1,020; Queensland, £50 (only seven miners); South Australia (Coober Pedy field), £6,020—a total of £7,090. In 1944, it was reported that the black-opal fields were no longer operated.

The Anglo-American Corporation of South Africa and the South-West Africa Co. in 1943 formed the Kaokoveld Exploration Co. to prospect for minerals and precious stones in the Kaokoveld territory. This area, of 40,000 square miles, is in the northwestern part of South-West Africa.

Rubellite (red tourmaline) of excellent quality is reported to occur in Mozambique (Portuguese East Africa).

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