

**HOW SCIENCE
SAFEGUARDS
YOUR
PURCHASE OF
GEMS**



Wiss FOUNDED 1848

665 Broad St.
Newark 2

554 Central Ave.
East Orange

Certified Gemologist

AND

REGISTERED JEWELER
AMERICAN GEM SOCIETY
UNITED STATES AND CANADA

A Modern Story of Progress

WE ARE happy to advise you that the services of a Certified Gemologist are available here to assist you in selecting your jewelry at this store.

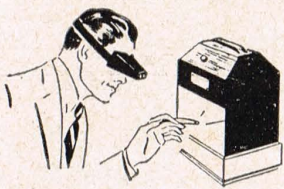


A Certified Gemologist has passed the comprehensive examinations required by the internationally accredited American Gem Society which has sponsored the new gemological profession and encouraged scientific procedure and ethical practices throughout the jewelry industry.

As Registered Jewelers, affiliated with the American Gem Society, we are happy to offer you this booklet which we feel ably demonstrates just what this modern science of gemology means to you, our valued friend—a satisfied customer.

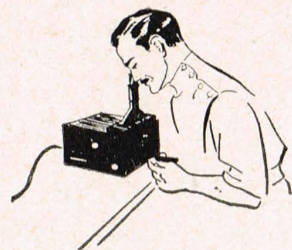
The story of how a new profession has been established within the oldest retail trade—of how science has recently offered the more progressive and conscientious jewelers an opportunity to supplant inherited beliefs and methods by proven facts and scientific practices—is a modern story of progress. We will tell it simply—explaining what it has done for us—what it will do for you.

For years, in line with the progressive policy of our firm, we have acquainted ourselves with every fact which would assist us in testing the genuineness, quality and value of the gems and jewelry we offer to our customers.



It was therefore natural that when courses and examinations were established in gemology, (the newly-introduced science of gems and jewelry), we were among the first to prepare as Certified

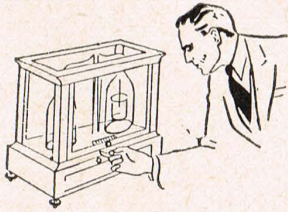
Gemologists and install gemological laboratory equipment. We welcomed the opportunity to acquire the comprehensive and scientific knowledge which, for the first time, makes it possible for jewelers to scientifically test and grade all such merchandise—as without this knowledge jewelers all too frequently had to rely upon the personal opinions of those from whom they purchased, and those opinions often differed.



Many laymen believe that any jeweler can accurately tell whether a stone is genuine—and, if so, classify it as to species and quality. But, this is not so! As a rule, he depends upon the color of the stone as a guide—but numerous different stones and hosts of imitations occur in the same color. For instance, there are eleven different genuine transparent gems which occur in the same color of green. Sapphires and zircons occur in numerous colors. There are green garnets—blue topaz—and so on! Except for the scientifically trained man, only those merchants with unusual experience in handling colored stones profess to be able to distinguish between them, and the number of instances in which such *practical* authorities disagree is a proof of the need of the Certified Gemologist. By passing examinations he alone has proven an expert knowledge of scientific methods of both testing gems and of grading diamonds—which knowledge is accepted as conclusive by scientists.

Many laymen also falsely believe that any jeweler can accurately determine the quality and therefore the value of a diamond. The slightest differences in the fine nuances of color, in the comparative degrees of flawlessness, and in the proportions and “finish” of a diamond greatly affect its value. Here again, only those jewelers with large practical experience in buying diamonds are proficient—and here again, the old-fashioned practical authorities have differed. But, as Registered Jewelers of the American Gem Society we now have available, the new scientific aids—specially designed instruments for





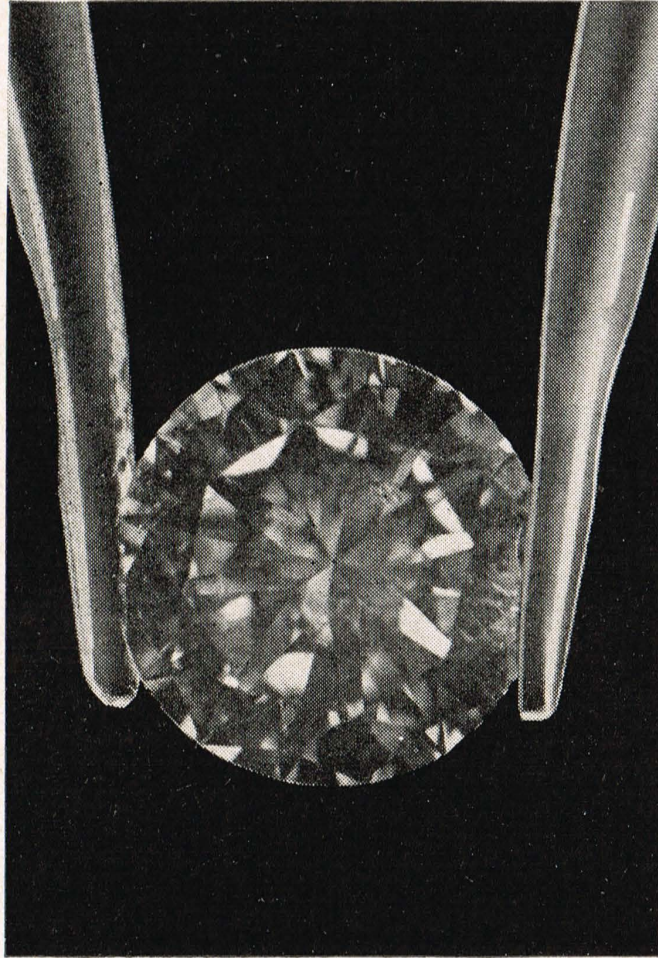
diamond grading and access to the international diamond "yardstick."

A jeweler of any reasonable experience can detect substitutes for diamonds, but substitutes for other gems can only be *conclusively* detected by scientific instruments in the hands of a scientifically trained man. Therefore we augment our expert knowledge of gems by utilizing these instruments—which disclose facts not discernible to the human eye—another safeguard to you.

As full-fledged members of this new profession, we are no longer dependent upon statements of those from whom we buy. We are in the unusually advantageous position of being able to purchase for you by scientific tests, to reject inferior merchandise, to sell you the finest quality, and to be sure that our representations are accurate.

The ethical requirements for registration of jewelry stores by the American Gem Society, the Certified Gemologist qualifications, the various instruments and tests, and other features explained in the following pages, constitute the most complete plan to safeguard your purchases of gems and jewelry known to science.





FLAWED DIAMOND AS SEEN UNDER
A DIAMONDSCOPE

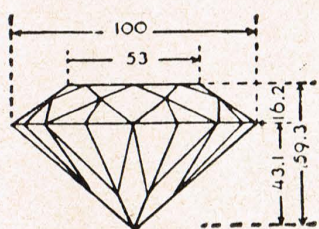
Factors Affecting Value of Diamonds

The quality and value of diamonds vary as to their weight, color, "make," and comparative absence of imperfections. The hackneyed terms, "blue-white" and "perfect," are an unreliable guide to purchasing since their meaning varies greatly among jewelers and cannot be standardized.

Imperfections. Flaws, if visible to the eye, seriously affect the desirability of diamonds and if not visible, more or less affect their

brilliancy and sometimes their durability. Surface blemishes or scratches are usually of less importance. Whether flaws are detected depends upon magnifications and methods used by the jeweler. Because the meaning of the term "perfect" varies among jewelers, the American Gem Society recommends the term "flawless."

"*Make.*" This term refers to the polish and more especially to the proportions—the roundness and width of the girdle (rim), the size of the culet (flat facet at base of stone), and especially the relationship of both the top and bottom of the diamond to its entire width. "Make," although overlooked by many jewelers, is of utmost importance to beauty, and hence, value.

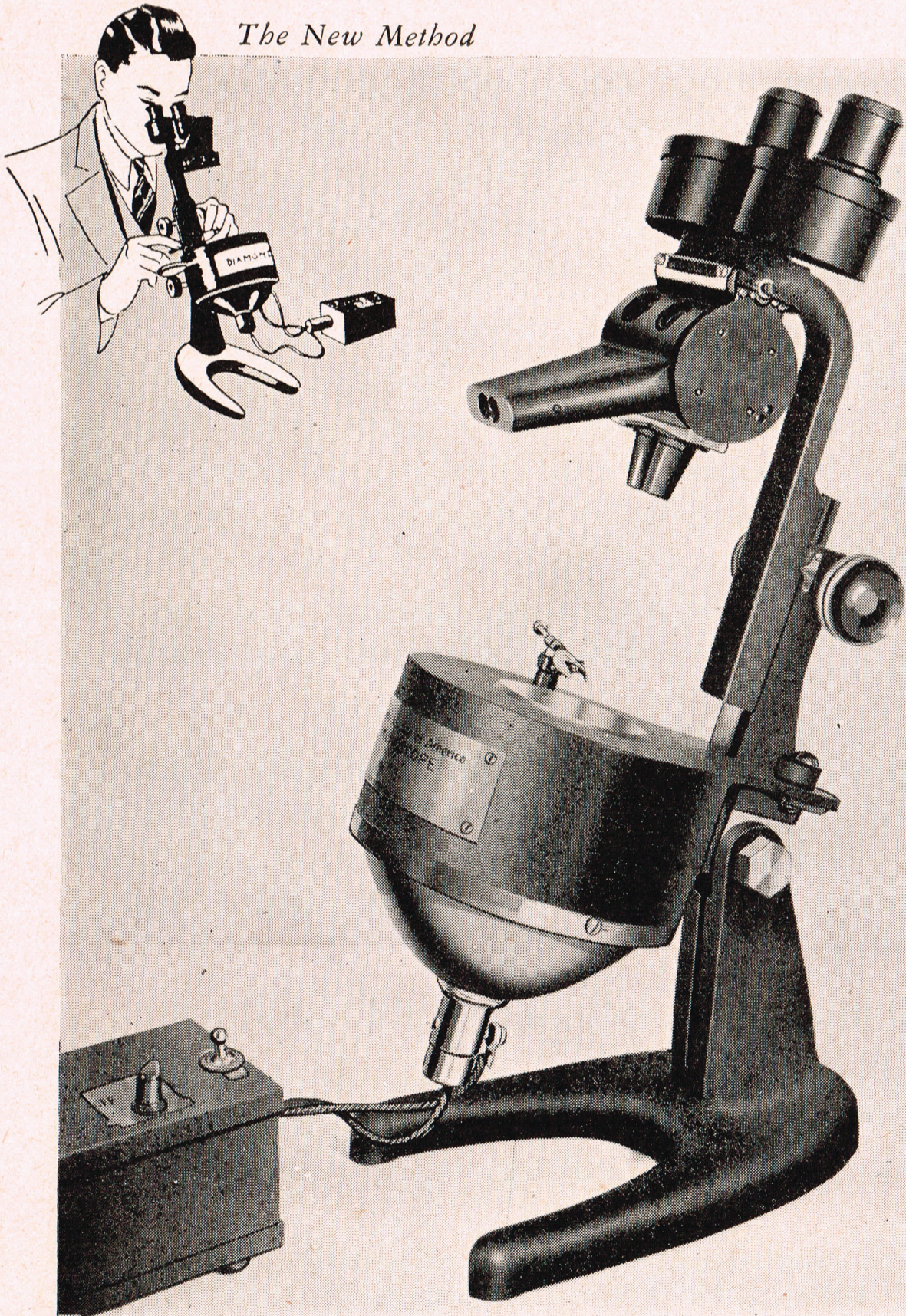


Color. Most diamonds which appear colorless to the layman contain varying tints of yellow, the slightest variations affecting their comparative desirability. Difficult at best—jewelers' opinions have greatly varied because of unscientific and unstandardized methods of grading color.

Weight. Often the least important.



The New Method



THE DIAMONDSCOPE

Detecting Imperfections

The detection of imperfections depends upon magnifications and method used. We examine our purchases with the Diamondscope—a microscope which magnifies imperfections and locates their position. Its patented base illuminates the diamond in a unique manner which eliminates from the otherwise mirror-like surfaces those reflections so troublesome to the old-fashioned diamond men. With only their loupes—which varied in strength of magnification



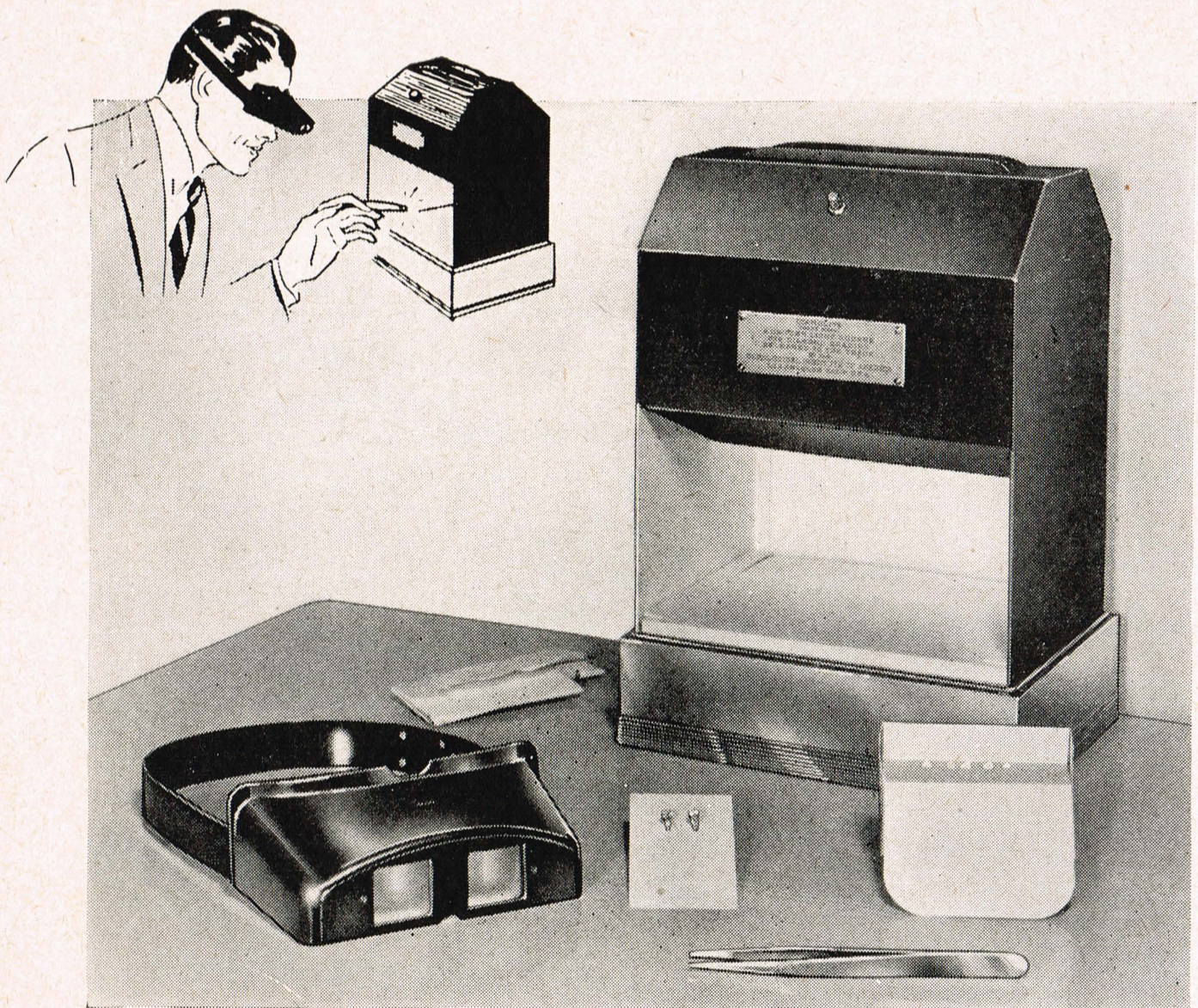
The Old Method

—they searched about for imperfections among these confusing reflections. The Diamondscope at one inspection reveals every imperfection.

Certified Gemologists grade their diamonds under 10 magnifications, sometimes using the next higher magnification of the Diamondscope to check their results. The highest magnification is used only for the detection of synthetic gems of other varieties.

The “make” of diamonds—which so greatly affects value—is also more easily and effectively revealed by the Diamondscope. It is the subject of many months of scientific study by the Certified Gemologist.

You, yourself, can see imperfections and “make” through the Diamondscope, which only a diamond man could otherwise see. We invite you to thus examine the gem you buy from us.



THE DIAMOLITE

Determining Color

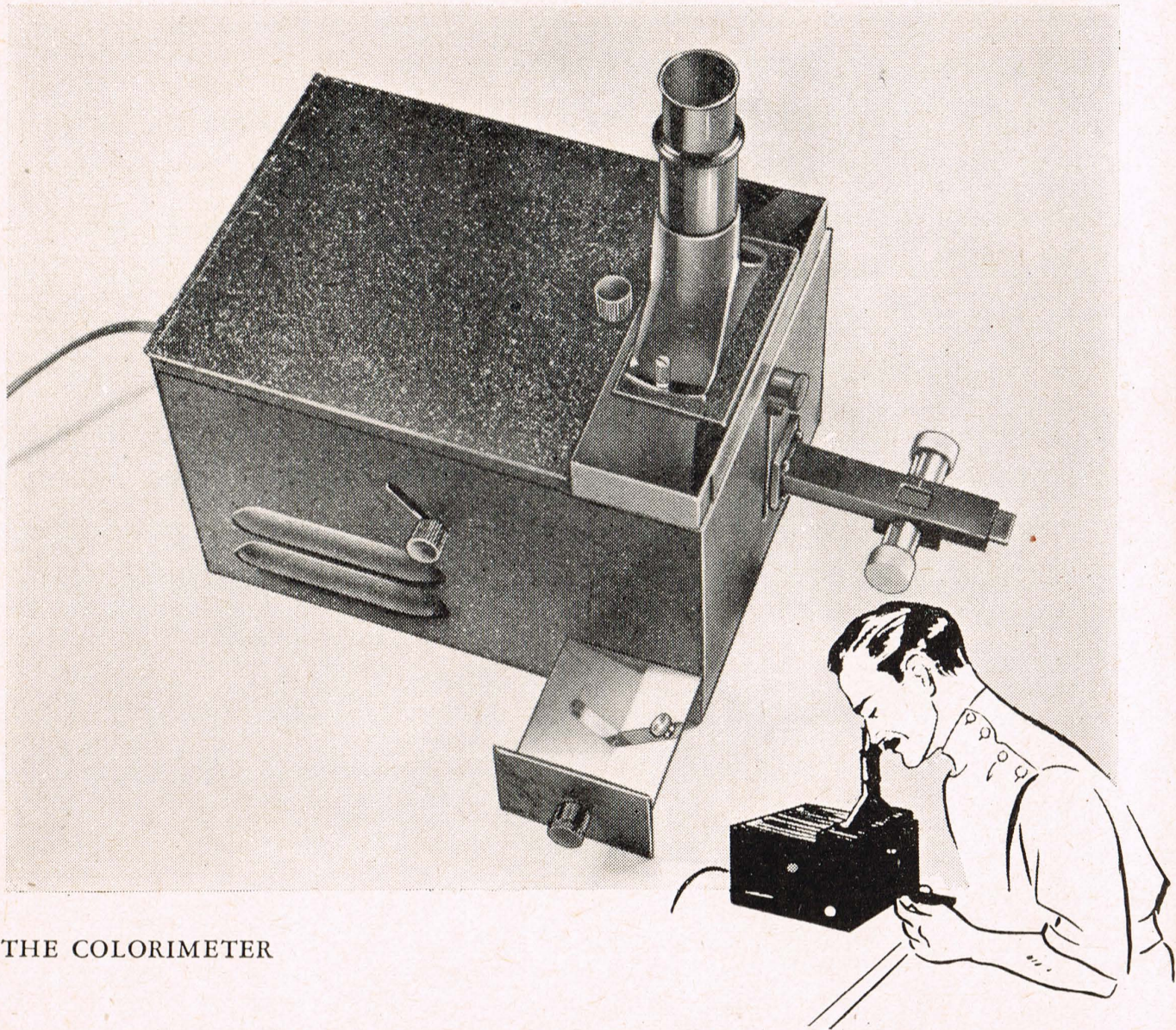
The apparent color of a diamond depends upon the light in which it is examined. Its color may differ in daylight or artificial light. Also, because of ordinary reflections from its mirror-like surfaces, its true body-color may be masked. This is particularly true of light reflected from colored walls, buildings, or other objects. For instance, a yellowish diamond seen under a blue sky will show the color of the sky and not of the diamond. It was

these reflections which made it difficult to see a diamond's true color under the old-fashioned methods.

We grade our purchases in the newly developed Diamolite which eliminates falsifying lights and reflections. It reveals the true body color of the diamond and makes it possible for us to compare the diamonds we buy against our color series of G. I. A. "key" or "comparison" diamonds and in exactly the light and under the same conditions as do all other Certified Gemologists who use this instrument. There remains unstandardized only keenness of eyesight and color perception among Certified Gemologists.

Also our long experience in grading an unusually large number of diamonds gives you an additional assurance in purchases from us.





THE COLORIMETER

Grading Against the International “Yardstick”

This instrument—maintained only at the International Headquarters of the Gemological Institute of America for the exclusive use of the gemological profession—is the only scientific “yardstick” of diamond colors. Upon it the Institute has graded a color series of diamonds for us which we use as “key” or “comparison”

stones. Against these key stones we compare and grade our purchases in the Diamolite. The scale of the G. I. A. Colorimeter reads twelve grades between colorless and slightly yellow. The first—colorless—and the second and third—with increasingly faint yellowish tints—have all been rather generally sold as “blue-white”—a trade term which is somewhat of a misnomer, since a diamond with a bluish body color is a “fancy” diamond, very rarely encountered. Thus the stones against which we grade and the light in which we compare our purchases are scientifically uniform standards established by the Institute.



How Other Gems Are Tested

Genuine stones may be alike in appearance but, in fact, be entirely different gems and therefore vary as to rarity and desirability. The difference between them is determined by analyzing at least two of the following properties of each stone:

Refractive Power

Refractive Character

Optic Character

Nature of Inclusions

Specific Gravity

Hardness

Instruments used to determine these properties—most of them especially designed for use without removing gems from their mountings—are described in the following pages.

Imitations—glass, composition, or “doublets”—are easily detected by the use of the simpler of these instruments, but synthetic stones may often be identified only by observing the nature of their inclusions under the high magnifications of the Diamondscope or Gemological Microscope.

It is apparent that the ability to make conclusive tests results only from a long study of specialized courses, and that the possession of such ability can be proven only by the passing of established examinations.

Detecting Synthetic Stones

To determine whether a gem is man-made or of natural origin, the Certified Gemologist often depends upon high magnification of the interior of the stone for the birthmarks that reveal the origin of the gem. Figures 1 and 2 illustrate how such birthmarks appear to the Certified Gemologist as he examines them under the high magnification of our DIAMONDSCOPE. Such photographs are called photomicrographs.

FIGURE 1

Coarse needle-like inclusions (often called "silk") as seen in a genuine ruby in our DIAMONDSCOPE. These are never found in synthetic rubies.

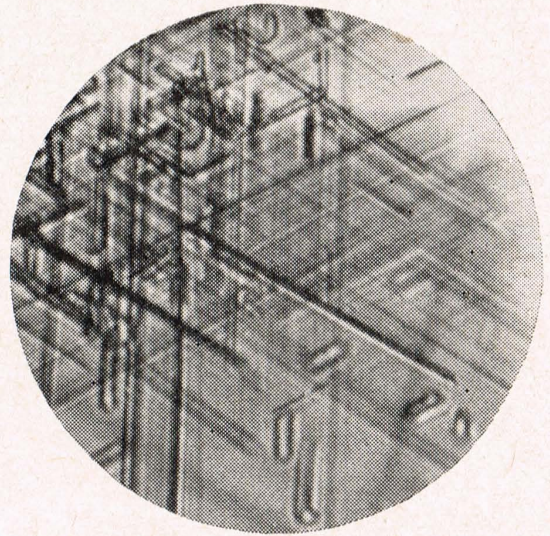


FIGURE 2

The spherical gas bubbles and curved growth lines as seen in a synthetic ruby in our DIAMONDSCOPE. These are never found in genuine rubies.



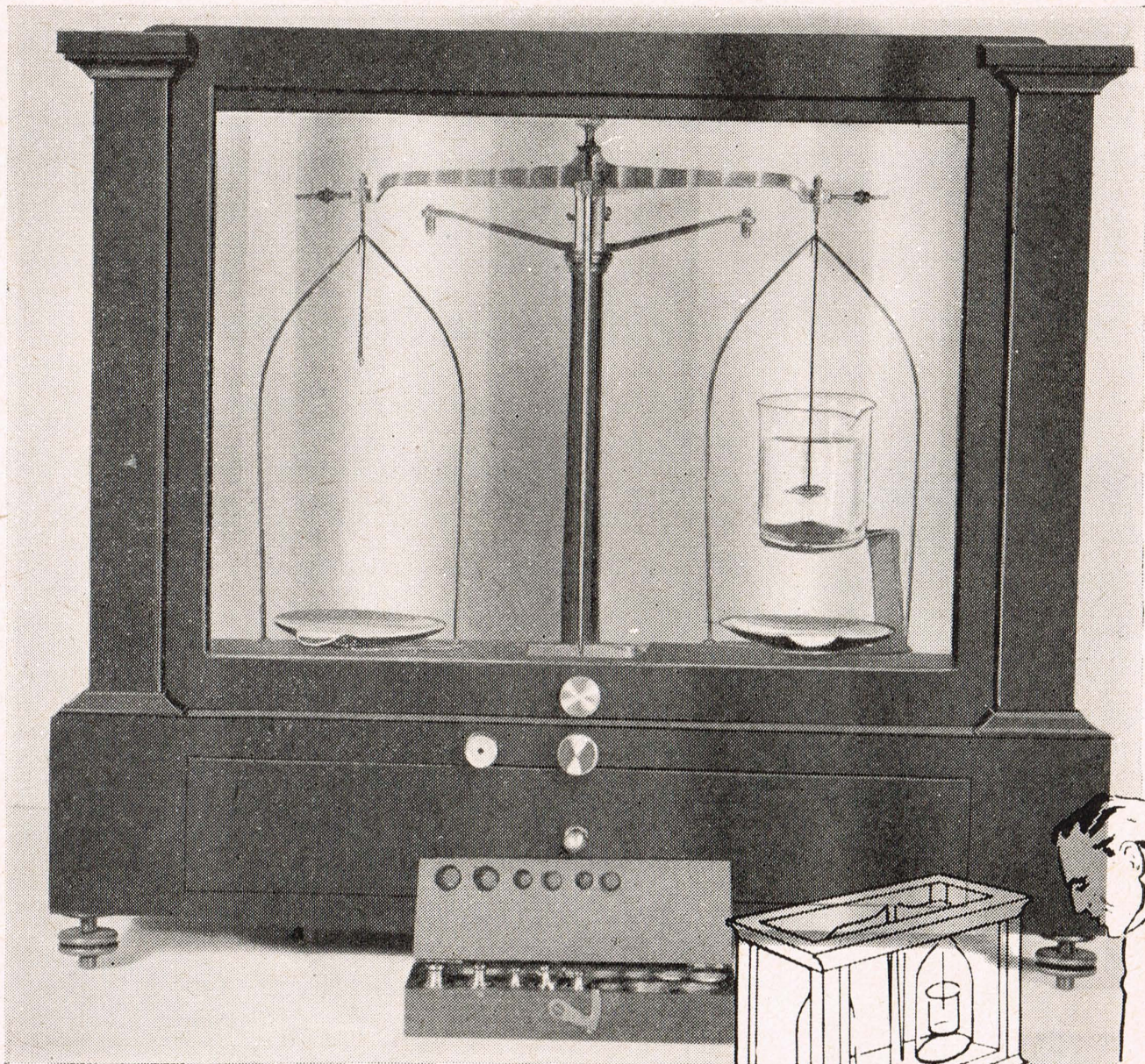
THE REFRACTOMETER

Determining Refractive Power

Gem species vary from one another in their ability to bend—or refract—the light which passes through them.

The Refractometer reads this refractive power of most gems on an interior scale. As every gem species has its specific refractive power, the Refractometer shows the difference between them.

When our Certified Gemologist corroborates the Refractometer test by at least one other instrument test, he avoids mistaking—even though they may look alike—a less valuable variety for a more expensive one.



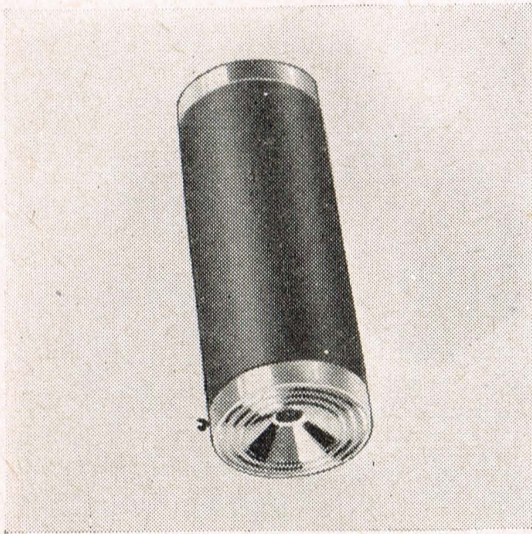
SPECIFIC GRAVITY SCALES

Determining Specific Gravity

Gem species vary in weight—in the same manner as do feathers and lead. For instance, a two-carat emerald is much larger than a two-carat sapphire. This property is known as Specific Gravity and as each species has its own specific gravity, these specially

fitted scales—which first weigh the gem in air and then in water—are used to obtain it. When our Certified Gemologist corroborates this test by at least one other instrument test, he avoids confusing two similarly appearing varieties. However, as only unmounted stones can be put to this test, it is used only when other tests are not conclusive.

Determining Refractive Character

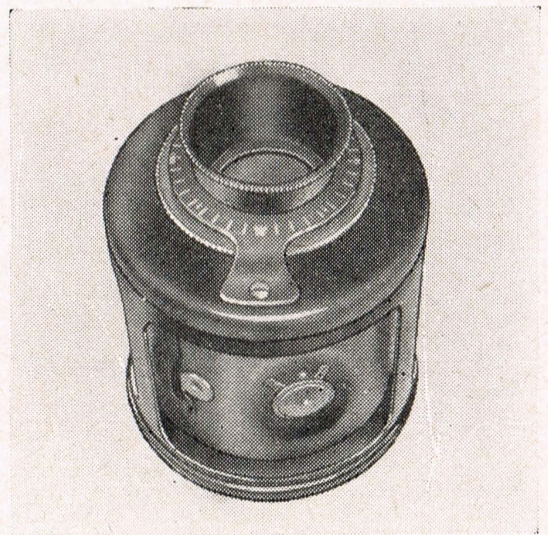


THE DICHROSCOPE

Garnet and spinel are the only commonly encountered genuine red stones which are singly refractive and either the Polariscope or Dichroscope—which reveals their refractive character—separate them from the more valuable ruby. Ruby—like most doubly refractive stones—reveals two colors when observed through the Dichroscope.

Detecting Imitations

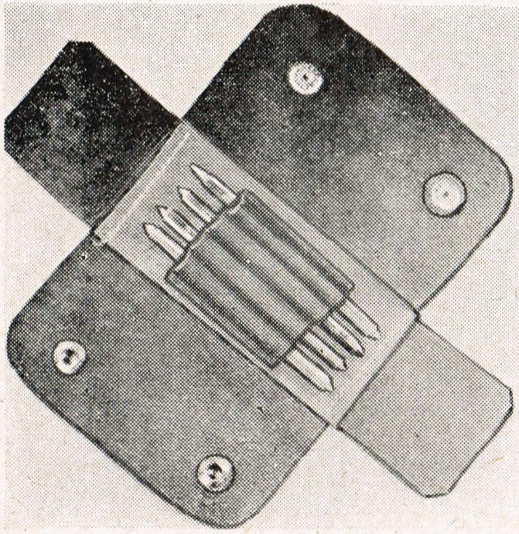
Most genuine stones may be identified from their imitations by their refractive character. Imitation stones are singly refractive—most genuine stones doubly refractive. This difference — even between colorless stones such as rock-crystal and glass—is revealed in the Polariscope.



THE POLARISCOPE

Determining Hardness

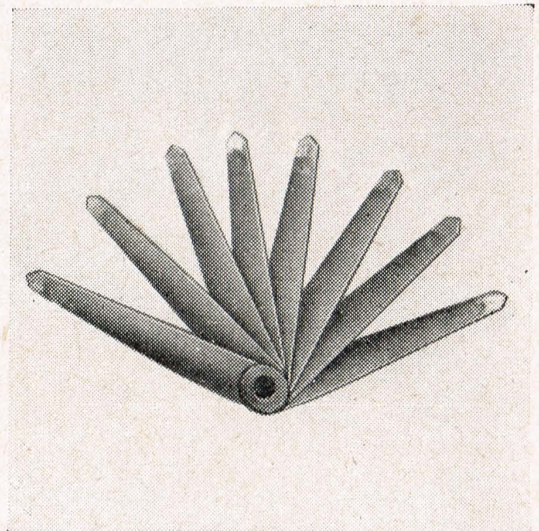
Pointed fragments of minerals of varying hardness are used in testing rough or unpolished minerals. But as they scratch—and may otherwise damage a valuable gem—they are used by our Certified Gemologist only in applying tests to unpolished portions of opaque gems—such as turquoise—which cannot be tested by Refractometer, Polariscope or Dichroscope.



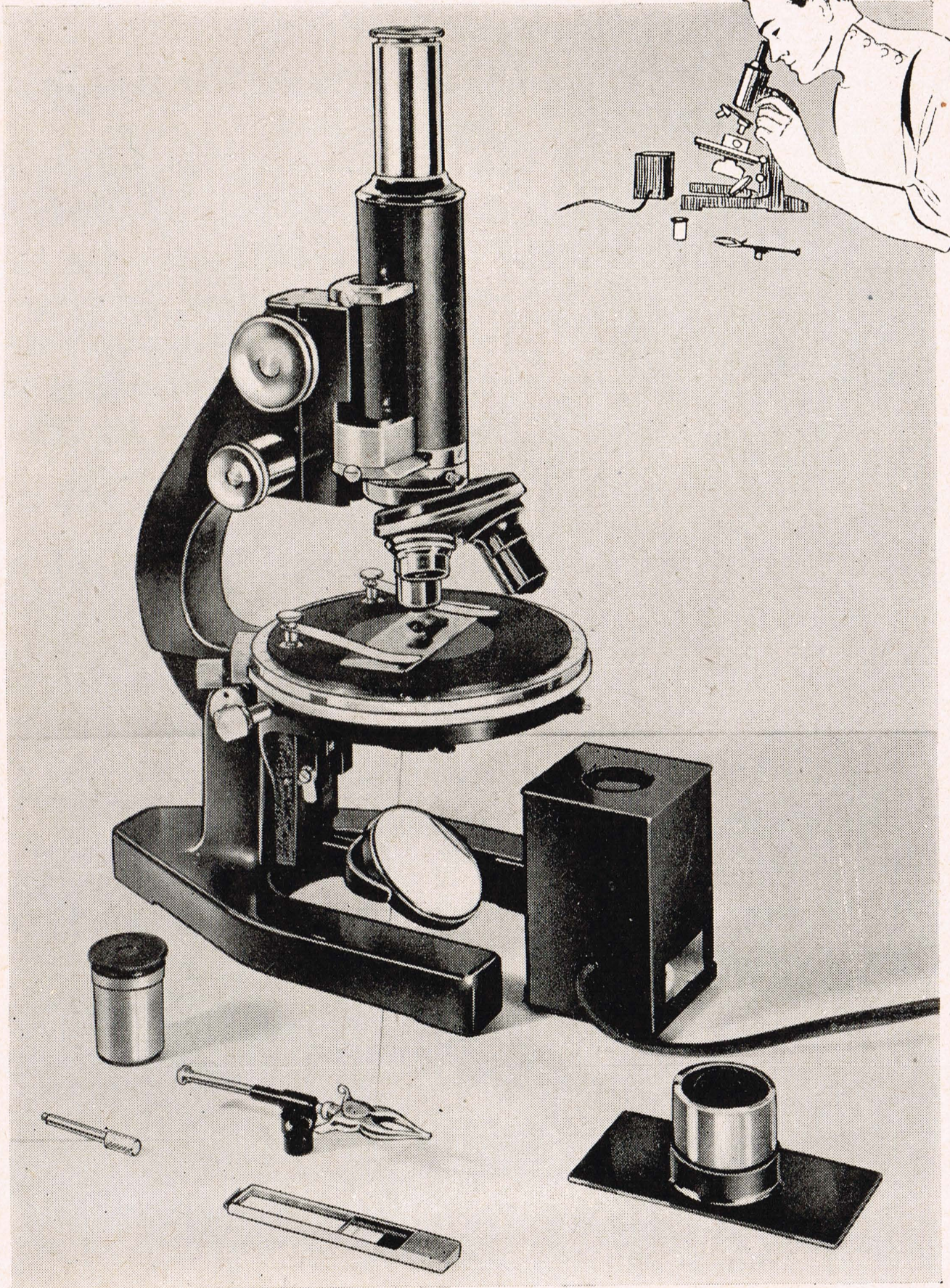
HARDNESS POINTS

Testing Metals

The quality of precious metal alloys is tested by the use of chemicals and needles such as illustrated. Thus the fineness of gold jewelry—whether 14 Karat, 18 Karat, etc.—is verified and so the proportion of platinum in a mounting is also determined.



TESTING NEEDLES



THE GEMOLOGICAL MICROSCOPE

Determining Optic Character

The special Gemological Microscope determines optic character by analyzing interference figures in gems. Occasionally necessary in determining the difference between certain gem species when their other properties are not sufficiently conclusive.

DIFFICULT DETERMINATIONS

The Gemological Microscope has a range of magnifications from 30 to 600—greater than that of our Diamondscope—which range is also necessary when a particularly clever synthetic is encountered. The great majority of synthetics we can more quickly identify under the Diamondscope.

Gemological microscopes are installed in the laboratories of the Gemological Institute to which we can send the occasional problem gem. A special attachment (not shown) designed for use with them is used to detect cultured pearls.



The Profession and How It Serves You

All professions developed from trades were once like most of the jewelry trade today—the product of practical training supplemented by hearsay and inherited beliefs. But technological changes make obsolete the business of yesterday and the new gemological profession is already firmly established in the United States and Canada. As in other professions, scientific examinations in this profession now protect you against unqualified persons and against misrepresentation due to inadequate knowledge. The Certified Gemologist is in the same category as your dentist or lawyer—and if the store is registered by the American Gem Society you are also protected against misrepresentation due to lack of ethics.



Gemological Institute of America

Sterling McGemsmith

*has satisfactorily completed the four year courses
of this Institute in*

The Science of Gem Stones

*and passed the examinations required by its
Examinations Standards Board.*

March 10, 1944



Edward Wigglesworth
George A. ...

Secretary Examinations Board

Chairman Board of Governors

The Certified Gemologist Qualifications

The Certified Gemologist must pass four rigid examinations, two of them under a proctor at an accredited university. The courses and examinations are the most comprehensive of their kind in the world today. The examinations were compiled by world authorities chosen by ballot of interested scientists and of jewelry trade associations. One requires the accurate identification of 20 unknown "colored stones" and another the meticulous grading of a group of loose diamonds. As gemology is a specialized science, all Certified Gemologists in the Western Hemisphere have—so far—prepared for examinations by studying the four-year professional courses of the Gemological Institute of America.

Ethical Qualifications of Member Stores

While the services of our Certified Gemologist safeguard you against *errors due to inadequate knowledge or inaccuracy*, there is still another service, internationally established, in which we cooperate with the American Gem Society. It safeguards you against misrepresentation due to carelessness or deliberate intention. The Society investigates the ethical policies of all firms who wish to become members of the profession and to observe its customer-protection rules. The Society also conducts yearly examinations which assure you that the Certified Gemologist is keeping his knowledge up to date, and that the firm is continuing to maintain its established policy of customer-protection. Then this emblem is awarded.



Because this system of titles and registration protects you against even any unforeseen change in the ownership of our firm—as well as against unethical jewelers everywhere—we display this emblem on our windows.

It is with pride that we offer you this new diamond and gem service, the most complete known to the Scientific world. We are one of the seventy-six firms in the United States and Canada who have one or more Certified Gemologists to serve you.

When Restyling, Repairing or Cleaning Your Jewelry

The structure of some gems—including some diamonds—is such that they can be harmed—and much of their value destroyed—by inadequate knowledge on the part of the jeweler with whom they are left for remounting or repair.

The Certified Gemologist has made a comprehensive, scientific study of the structure as well as of all the various properties of gems. We will see that the proper care is taken in handling your gems when left for restyling, repairing or cleaning, and we can offer suggestions for caring for them yourself.

This is just one more feature of our scientific service—which we believe you will agree could not be more comprehensive.



We Invite You . . .

To see for yourself the manner in which we grade diamonds and test other gems with scientific instruments.

In some instruments, such as the Diamondscope, you can see for yourself the quality of your purchase in a manner heretofore possible only to a trained diamond man.

In the future, buy as we do—in the modern scientific way!

