



1853 / 1953



**INTO A  
NEW CENTURY  
OF OPTICAL  
PROGRESS**

A graphic featuring the Bausch & Lomb logo (a shield with 'B' over 'L' and '&' between them) on the left. To its right, the years '1853 / 1953' are written in a stylized font. Below this, the text 'INTO A NEW CENTURY OF OPTICAL PROGRESS' is written in bold, uppercase letters. A red circle and a red diagonal line intersect behind the text.

# A NEW CENTURY

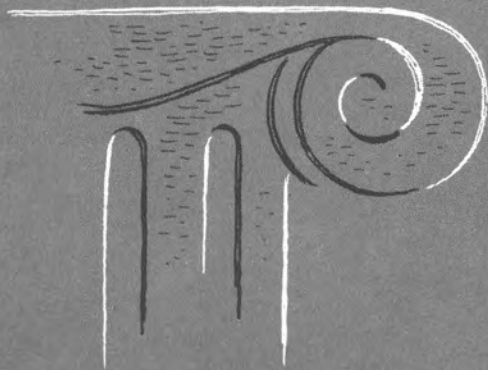


BAUSCH & LOMB CENTENNIAL



*In what sense is that long or short  
which is not? For the past is not now and  
the future is not yet. There is not one day  
present as a whole. One hour passeth away  
in fleeting particles. The present flies so  
rapidly from future to past that it  
cannot be extended by any delay.*

*—St. Augustine*



**YESTERDAY**

**TODAY**

**TOMORROW**

It was a far different world in 1853. The first shots were fired in the Crimean War, while at home, dark clouds of political dissension caused by the slavery issue were spreading across the land. Commodore Matthew Perry was sent that year by President Franklin Pierce to far-off Japan to negotiate a trade agreement. In Congress, a bill was passed ordering the Secretary of War to make surveys for a transcontinental railroad. And in Rochester, New York, J. J. Bausch rented a small store front from a watchmaker and started an optical business.

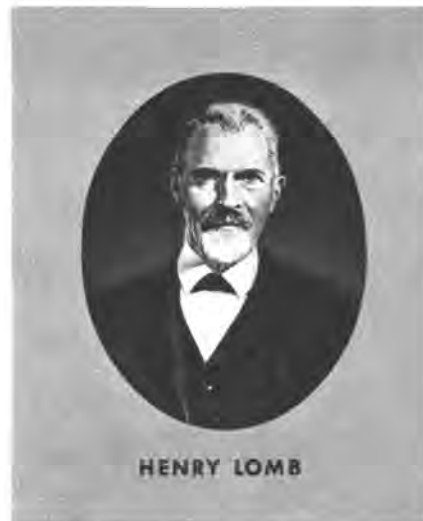
Today, the business founded by John Jacob Bausch—the Bausch & Lomb Optical Co.—attains its hundredth anniversary. As we pause at this milestone, pride in review of our achievement is tempered by the challenge of the future. Our contributions to human welfare are but a token, measured against unfilled needs. The prestige of age and accomplishment is a responsibility to those whose confidence we have won.

In the mirror of the past, we see the image of the future. To that future—to our progress, with the progress of the world we serve—we dedicate our Centennial.

BAUSCH & LOMB OPTICAL CO.  
Rochester, New York

# THE FIRST

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THE partnership of John Jacob Bausch and Henry Lomb was a notable example of faith and mutual trust. When Bausch opened his little optical shop in 1853, it was with the help of sixty dollars borrowed from his friend, Henry Lomb. In 1861, Lomb entered the Union Army and served as a captain in the 13th Regiment, New York Volunteers, sending home his soldier's pay to keep the struggling business alive. Neither partner, during their long years of association, thought it necessary to require a contract from the other.

The first promise of success came with the development by Bausch of a spectacle frame made from hard rubber. The kitchen range in his home served as the shop laboratory for this first "plastic" eyewear. From this, the little shop became a successful manufacturing enterprise. As the years passed, new and increasingly complicated products were developed—destined to carry the fame of the Company to the far corners of the earth.

# HUNDRED YEARS

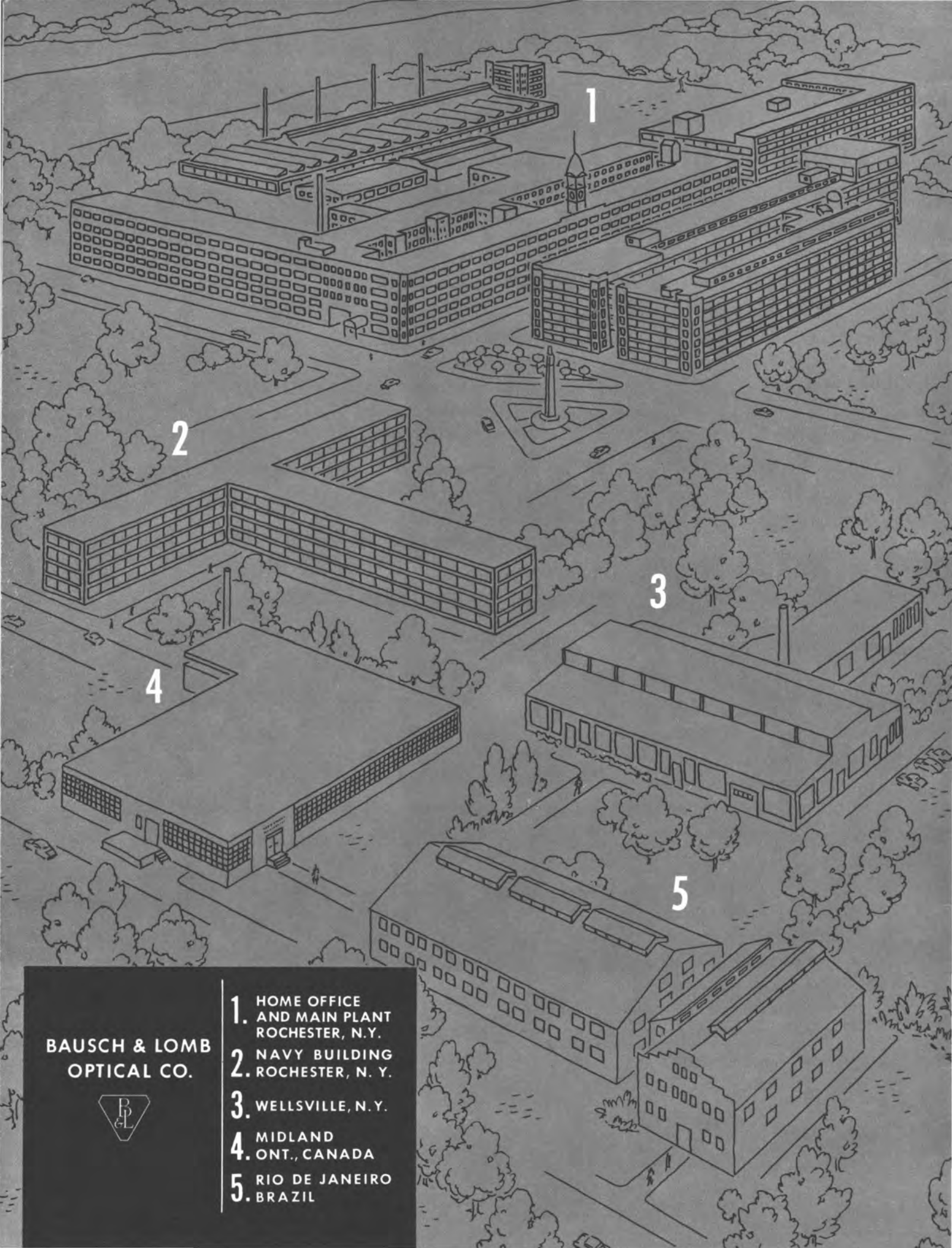


For 69 years, two sons of J. J. Bausch worked together in the Company until their death during the same year, 1944. Edward Bausch, trained at Cornell University, foresaw the need of science for more microscopes. In 1874, when only 50 such instruments existed in the United States, he set about to develop mass-production machine methods for their manufacture. Such methods in his lifetime made microscopes available at modest cost to laboratories and schools throughout the world—a contribution of untold value to scientific and technological progress.

His brother, William, was a pioneer in the production of optical glass in America. His earlier successful experiments became of prime importance at the outbreak of World War I, when with the help of the Geophysical Laboratories of the Carnegie Institution, Bausch & Lomb served as the principal source for optical glass—forever freeing America from dependence on foreign sources for this critical material.

Integrity, resourcefulness and perseverance—these were our sturdy foundations—the heritage of our yesterdays, the inspiration for our future.





**BAUSCH & LOMB  
OPTICAL CO.**



- 1.** HOME OFFICE  
AND MAIN PLANT  
ROCHESTER, N.Y.
- 2.** NAVY BUILDING  
ROCHESTER, N.Y.
- 3.** WELLSVILLE, N.Y.
- 4.** MIDLAND  
ONT., CANADA
- 5.** RIO DE JANEIRO  
BRAZIL



## BAUSCH & LOMB TODAY

It is a far cry from the little shop in the Reynolds Arcade to the modern B&L organization and its global affiliations. Besides its main plant in Rochester totaling 1,500,000 square feet of floor space, the Company today has four other factories in the United States, Canada, and Brazil. Its sales outlets include more than 170 branch offices in this country and abroad. Its personnel now numbers over 8,000 people.

Another kind of growth, however, is in the Company's concept of its primary purpose. Simply stated, that purpose today is to make all products that best serve the optical and visual needs of mankind. This calls for an enlarged engineering staff for research and product design, modern manufacturing facilities for efficient quality production, and progressive practices in all other phases of modern management.



## GLASS . . . *the basic material*

Performance of any optical part depends on the properties and qualities of the glass from which it is made. Indeed the limiting factor in optical design often is the suitability of available glass—or the possibility of creating glass of the desired characteristics.

For decades the Bausch & Lomb Glass Plant has been devoted exclusively to production of optical glass—a manufacturing operation in itself of considerable proportion. Here, in the year just passed, 2,500,000 pounds of sand, along with sixty other ingredients, went into the manufacture of 3,500,000 pounds of glass—of 120 distinct types. This glass produced 22,500,000 pressings and required 468,000,000 cubic feet of gas.

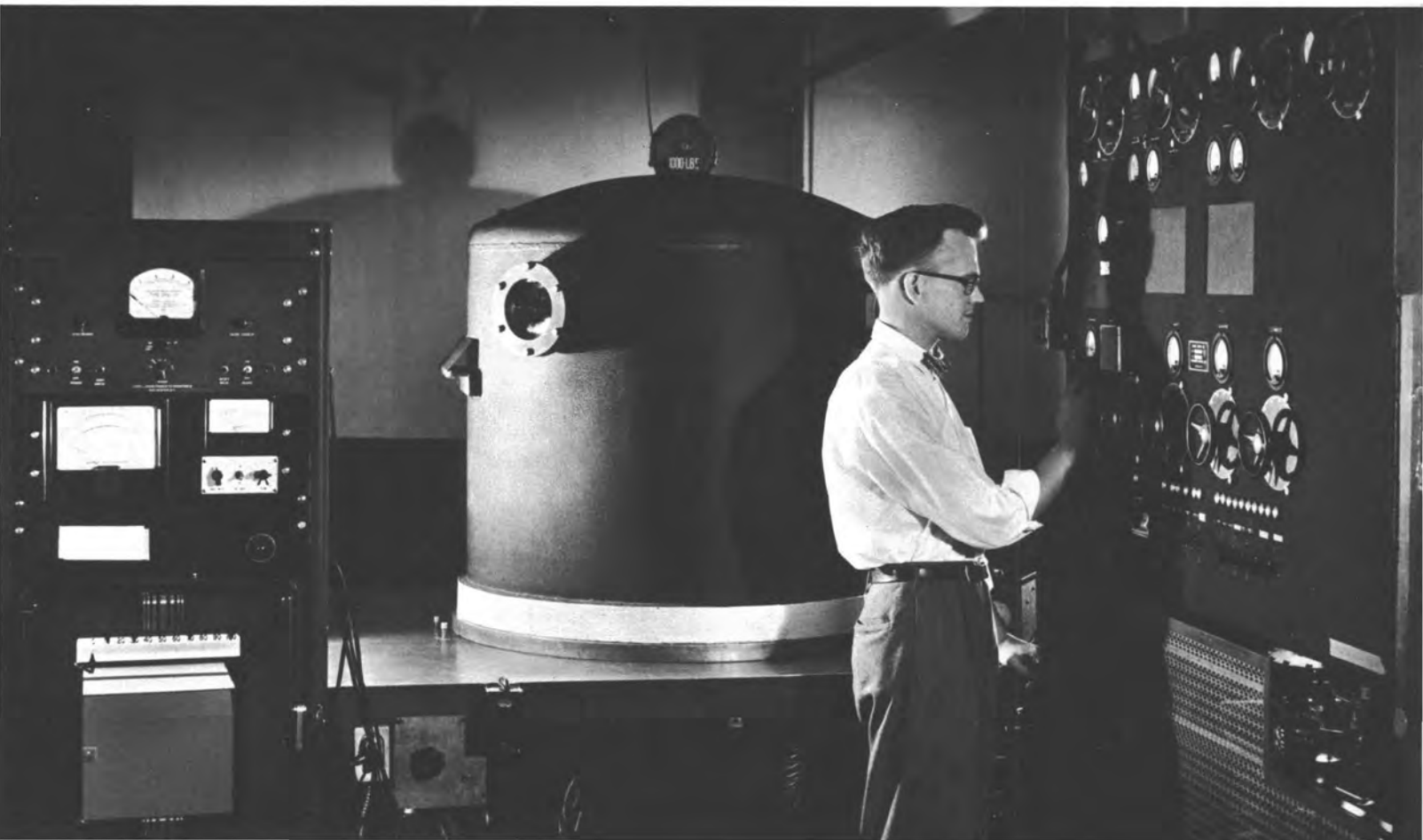
Foreign labor rates still make it possible to purchase optical glass abroad more cheaply than it can be made here. However, the B&L Glass Plant has been continuously maintained since World War I because of the technological advantages which it affords. Continuous quality control—from sand to finished product—is an asset of inestimable value.





▲  
Clean, efficient, and precise are the many different types of machines now used in lens grinding and polishing.

▼  
Bausch & Lomb pioneered in the metallic coating of lenses and prisms to improve and control light transmission.



# LENSES AND PRISMS

Since the time, long before the turn of the century, when Bausch & Lomb pioneered in the use of power for lens grinding, this Company has continuously examined its manufacturing techniques and processes, always seeking to improve them.

Anyone who has ever visited an optical plant, even as recently as World War II, would be amazed at the new methods now to be seen at Bausch & Lomb. Through a major postwar modernization program—involving an investment of more than \$6,000,000—revolutionary ideas have been studied, developed, perfected, and put into operation.

The new manufacturing methods, combined with modern design, result in products of higher quality, better performance, and longer service. These, in turn, help science and industry to continue to advance the frontiers of human knowledge and accomplishment.



Close-up of fine-grinding of lens surface with modern diamond-impregnated surfacing tool.

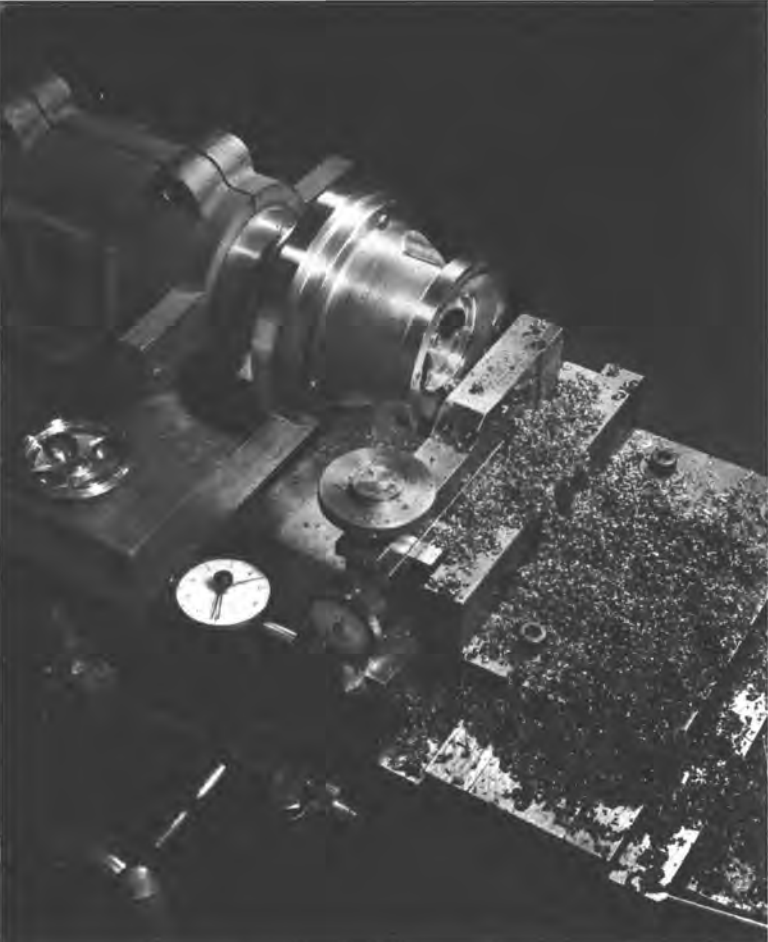


This type of equipment is used in blocking lenses, preparatory to grinding and polishing.

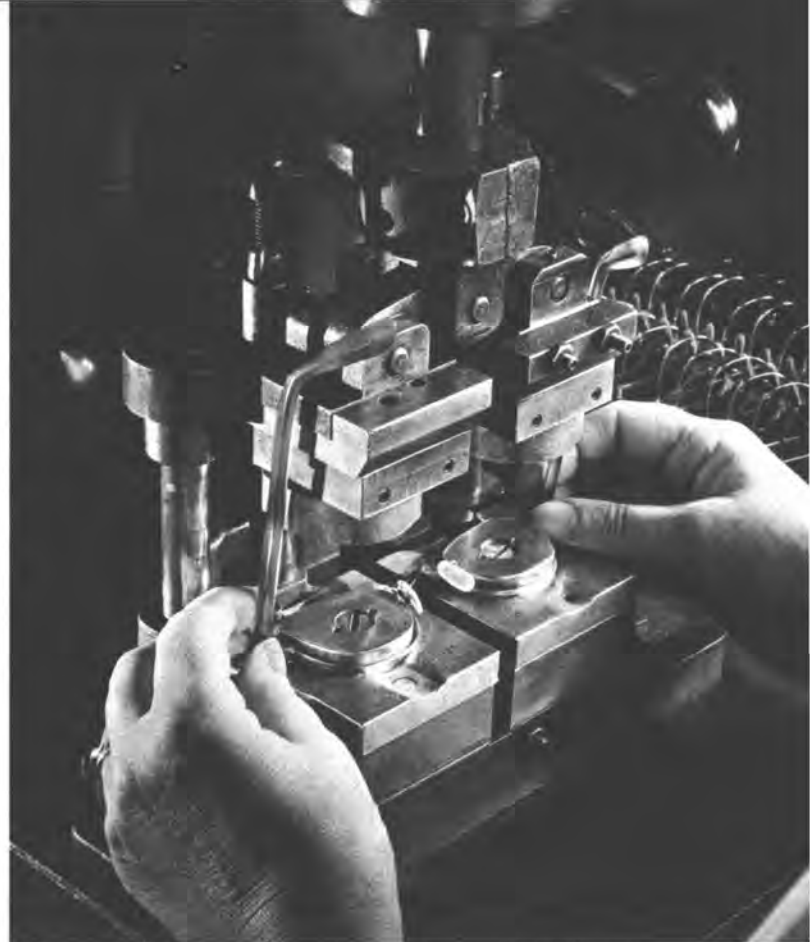


Special electric furnace for fusing the bifocal segments to the major ophthalmic lens blanks.

Optical parts are subjected to frequent inspection throughout manufacturing processes.



Diamond-turning (perfected by B&L) helps to obtain extreme precision in the ball-bearing race of a microscope nosepiece.



The manufacture of spectacle frames calls for metals of proper stamina and resiliency, production methods of extreme precision.

## PRECISION IN METALS

An optical plant is primarily devoted to manufacture of things made of glass. But a lens or prism seldom can serve a useful purpose unless suitably mounted. Hence, successful optical design and manufacture almost invariably reflect the composite genius of optical and mechanical engineering. Indeed, at Bausch & Lomb, almost as many people are involved in the production of metal parts and assembly of glass and metal as in the manufacture and processing of glass. And since the function of a metal mount may be to hold a lens or prism in exact position, it must match the precision (often measured only as a fraction of a wavelength of light) of the optical part.

To achieve style, grace, and beauty of ophthalmic eyewear—to assure precision and mechanical security in the optical systems of scientific instruments—Bausch & Lomb employs all the modern, accepted methods and many special precision processing techniques.

# THE SUM OF THE PARTS

Proper performance of every optical product—Retinal Camera or spectacle lens, Research Metallograph or simple magnifier—involves much more than glass quality and precision manufacture. Equally important is the proper engineering to meet specific needs.

Design of products is the responsibility of the Bausch & Lomb Research and Engineering Division. Of its staff of over 300 people, many are scientists and technicians engaged in original research—optical, electronic, chemical. Their specialized knowledge embraces all scientific fields served by Bausch & Lomb. Their research, their product development and improvement, their awareness of new product opportunities—these are fundamental to the Bausch & Lomb concept of useful service in its New Century.

These tools of modern research, engineering, and product design symbolize the electronic calculators, the chemical laboratories, the testing equipment, and the many other facilities required by B&L scientists.





Balrim Frame



Cordelle Mounting



Balcrest Mounting



Counselor Frame



Ray-Ban Sun Glasses



Protective Eyewear

## THAT EYES MAY SEE BETTER

Today, a lifetime of keen non-tiring vision is possible because we enjoy the professional services of optometrists and ophthalmologists and the technical skills of opticians and optical laboratories. And B&L products include everything these specialists need for their comprehensive services.

Your visual correction is determined by an examination using several precise ophthalmic instruments. Every lens prescribed is one of several dozen types, in one of several hundred "powers." The spectacle frame or rimless mounting to hold the lenses correctly before your eyes—and to be well-styled and pleasing in appearance—may be of gold-filled metal or plastic or a combination of both.

In the optical laboratory, where prescriptions for glasses are filled, are batteries of specialized equipment for grinding, polishing and edging lenses, assembling lenses and frames, and verifying the finished prescriptions.

Few people realize the extent or the complexity of these professional and technical services. Indeed, as many as five hundred separate processes and operations—first in the B&L plant, then in the optical laboratory and fitting room—are required for some glasses.



For a hundred years, spectacle lenses have comprised one of the most important lines of Bausch & Lomb products.



Everything needed for a professional eye examination is designed by B&L engineers and produced by B&L craftsmen.

Here is the prescription surfacing department in a modern ophthalmic laboratory. Many other departments and operations are necessary in the competent execution of the patient's prescription.





**1** Probably no single instrument has contributed as much to scientific progress as the microscope.

**2** The Industrial Refractometer is used for quick, easy, and accurate readings of per cent solids.

**3** The Contour Measuring Projectors accurately measure and check irregularly shaped parts.

**4** Baltar and Animar Motion Picture Lenses serve the needs of both amateurs and professionals.

**5** Photogrammetric instruments convert aerial photographs to accurate topographic maps.

**6** Binoculars and hunting sights are two of the many B&L products that enhance outdoor fun.





## OPTICAL TOOLS OF SCIENCE

The accelerating tempo of technical, industrial, and professional progress during the past century has been paced by the development of scientific optical instruments. It would be difficult to imagine how our world could have progressed without the “eyes of science”—optical instruments for research, control, and examination.

Starting with the work of Pasteur, Lister, and Koch, the microscope has been the principal instrument in modern medical science. The whole of metallurgy—and with it the automotive, aviation, machine tool, and metal-working industries—relies on spectrographic and metallographic analysis of metals as a measurement of performance characteristics.

Sound motion pictures, television, astronomy, photography, illustrated magazines, and newspapers—all require use of optical systems or processes. The school teacher with a micro-projector, the food processor with a refractometer, the forest ranger with a binocular, the master machinist with a contour projector, the sportsman with a hunting sight—each reflects one small facet of optical science at work in our modern society.

# THE NEXT HUNDRED YEARS

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At the stroke of midnight, today becomes yesterday and tomorrow becomes today. And each new day will add its quota of knowledge—knowledge built on and added to all we have ever learned—a new basis for what we are yet to learn.

And so with our tomorrow—our New Century of Optical Progress. The course we will follow is indicated by the route we have travelled. Our accomplishment of tomorrow will be greater than that of today, just as the achievement of today surpasses that of yesterday.

Bausch & Lomb faces the future with high hope and confidence. New products are on our drawing boards. More are to come as the shaping of new scientific projects is translated into optical needs. New and even better manufacturing methods and processes are in course of development. Tomorrow, like yesterday and today, will continue to focus on the perpetual goal “greater vision through optical science.”



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## Optical Products of Today and Tomorrow



The facing spread is a cross-section of the optical phase of this moment in scientific progress. During the next century, optical instruments and systems, of types now unknown, will be helping to solve the secrets of the future.



