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Rochester Biography

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JOHN JACOB BAUSCH

94 YEARS OLD JULY 25th, 1924

Founder and President of Bausch and Lomb Optical Company.

LAST year employees of the Bausch and Lomb Optical Company followed their usual custom of presenting flowers to John Jacob Bausch, founder and president of the company, with a bunch of roses in celebration of his birthday. There were 93 roses in the bouquet, one for each year of Mr. Bausch's life which began in 1830 in the town of Suessen, Wurtemberg.

In the evening there was a family dinner at the home of Mr. Bausch. A feature of the decorations at the dinner was a replica in flowers of the first factory of the Bausch and Lomb plant erected at the corner of Andrews and North Water streets.

Mr. Bausch learned the optical trade as an apprentice with his eldest brother in Germany. In 1848 he came to this country, settling in Buffalo. Finding no demand for his knowledge in the optical trade he tried his hand as a wood turner and some months later came to Rochester where he found regular employment with a woodworking concern where he received a wage of a dollar a day. The savings from this wage he invested in his first venture in the optical business in Rochester but, failing to succeed, returned to his woodworking. An accident in which he lost part of two fingers on the right hand caused him to again return to the business of spectacle making and in 1853 he entered into partnership with Henry Lomb who advanced the sum of \$60, all his available capital, to provide a stock of raw material. A shop was rented in Reynolds Arcade and it was there that Mr. Bausch ground, on a hand machine, the first spectacle lenses made in this country.

The fight was uphill all the way and it soon became evident that more capital must be had. Mr. Bausch decided to return to



JOHN JACOB BAUSCH

Germany to interest friends there, leaving Mr. Lomb to carry on the business. He has many times paid tribute to the energy and loyalty of Mr. Lomb who during this time turned his hand to a dozen trades to keep things going, even selling a consignment of venison from Canada and making a house to house canvass with nursery stock.

During the Civil War Mr. Lomb enlisted in the Army of the Potomac and during his service he sent his monthly pay to Mr. Bausch to help finance the business. He was repaid on his return, as captain of his company, to find that the business had taken a turn for the better. In 1864 the shop at Andrews street and North Water street was

taken and here Mr. Bausch constructed a water-power grinding and polishing machine.

The real turning point of the business toward success came through an accident, Mr. Bausch says. He was strolling along the street one day when he picked up a piece of vulcanized rubber, then a new material. He immediately was impressed with the possibility of using this rubber as a substitute for the expensive horn then used for spectacle frames. Experiments were conducted, many of them in the kitchen of the Bausch home, and the first rubber-framed spectacles were placed on the market. There was an immediate demand for the new invention and in 1874 it was necessary to find larger quarters, the factory being moved to its present site in St. Paul street. Here the company branched out into new fields, making microscopes and other lenses. Captain Lomb's death occurred in 1908 but his son, Adolph Lomb, and his nephew Carl Lomb had come into the firm, as well as the sons of J. J. Bausch, and the business expansion had continued steadily.

In 1903 William Bausch began his first experiments toward the manufacture of optical glass in this country. This effort was abandoned for a time but in 1912 a glass maker from Jena was secured and the problem again attacked. The outbreak of the European War and the delaying of shipments from abroad gave further stimulus to these experiments and in the spring of 1915 light crown and dense flint glass of usable qualities were produced. In 1916 these experiments had been still further developed and by the time the United States went into the war in 1917 the company was in a position to supply the government with optical equipment made from glass manufactured in America.

For its service during the war in this direction the Bausch and Lomb Company received the recognition of the Ordnance Department.

The Bausch and Lomb Company has an enviable record for interest in its employees. On Mr. Bausch's 90th birthday a fund of \$250,000 was distributed among the employees on the ground of length of service and an additional gift of \$50,000 was made by Mr. Bausch to the benefit fund of the employees. It is not money gifts that have won the loyalty of the Bausch and Lomb workers, however, but rather the personal interest and sympathy which Mr. Bausch and all the other members of the firm express in their relations with their employees.

The firm employs many new comers to the city and has one of the largest and most efficient classes for the teaching of the English language and principles of citizenship to foreigners that exists in the city. It was the first of the industrial classes to be organized under the direction of the Board of Education and each year graduates a large number of men and women qualified for citizenship.

Today the firm occupies a foremost place not only in the optical manufacturing world but in the field of industrial welfare.

Founder of Optical Firm Known Throughout World Won International Fame



JOHN JACOB BAUSCH.

Feb. 15-1926
**Buzzsaw Accident That Cost
Immigrant Woodworker 2
Fingers Resulted in Big
Industry's Founding Here**

**Served America In
World War Demands**

**Man Who Started Eyeglass
Sales in Reynolds Arcade
Served as President For
Industry to Hour of Death**

John Jacob Bausch, America's leading and pioneer optician and one of Rochester's oldest business men and manufacturers, died at his home, 1075 St. Paul Street, yesterday morning at 10 o'clock, at the age of 95 years. Despite his remarkable age, Mr. Bausch, up until a very short time ago, took an active part in the business of the company and was its president up to the hour of his death. He visit-

ed the plant daily and was known to all the employees, many of whom he had known intimately from the early days of the business.

About three weeks ago illness confined him to his bed and since that time his strength left him slowly, finally resulting in his death.

Thrilling Life Story.

His career is the thrilling story of America and the wonderful phenomena of Americanization. More than 75 years ago, when Zachary Taylor was President, he came to America still a lad in his teens. On these shores he began his manhood career. Slowly and through the numberless trials and tribulations of a young business, he became one of Rochester's leading citizens, a leading figure in all of the community's activities, a friendly, open-hearted philanthropist who believed in hard work and perseverance, and built up in America a new industry and gave to Rochester America's leading optical institution.

On July 25, in Gross Suesen, a town of Wuerttemberg, Germany, the pioneer optician of America was born. On that day, in 1830, John Jacob Bausch first saw the light of day.

Dramatic as is the story of his success, there was nothing meteoric in his rise. On the contrary, it was due entirely to his indomitable pluck and that of his lifelong friend and partner, the late Capt. Henry Lomb.

His schooling completed, Mr. Bausch was apprenticed to his eldest brother, who was an optician in the home town. In 1848, when 18 years of age, he secured a position as optician in Berne, Switzerland, and set out with a knapsack on his back to make the journey on foot. This was the year of famine and social revolution in Europe

and times were extremely bad. The young optician obtained nine kreuter (six cents) for a pair of spectacles, and by working hard he was able to complete six pairs a day. Conditions were such that he determined to go to America the following year, and in the spring returned home to make his preparations.

Voyage Lasts 49 Days.

The voyage lasted 49 days. Arriving in New York, he was advised to go westward. Immigration was heavy, the city overcrowded and business at a standstill. Mr. Bausch

set out for Buffalo, taking the boat to Albany and completing the journey in box cars running on steel-topped wooden rails, the trip lasting two days. He arrived in Buffalo only to find the inhabitants fleeing from a terrible epidemic of cholera which was ravaging the city. For three months the young pioneer served as a cook's helper and for a short term as porter. To add to the pleasantness of the situation, his trunk was broken into and his belongings stolen. For an entire year he was struggling with want and barely earned sufficient money for necessary food and clothing.

There were no opticians in Buffalo and the young man tried to pass himself off as a wood turner, but, having had no experience, the scheme was a failure. On his second attempt, however, he was offered, and accepted, an opportunity to learn the business at fifty cents a day. In the spring he borrowed five dollars and traveled to Rochester. Here the employment was not much better than in Buffalo. Finally, however, he obtained work in a regular wood working establishment at a dollar a day.

Mr. Bausch then made his first venture in the optical business, writing home for his share of his late father's estate, with which he imported a stock of spectacles. For one dollar a week he rented a window from a watchmaker, but, after four weeks, he had sold practically nothing and was obliged to give up and return to wood working.

By this time he had become a good wood turner, earning what were considered good wages in those days, so that he was enabled to marry. Seven weeks after his marriage another apparent misfortune befell him, but which was in reality a most fortunate accident; his right hand was caught in a buzz saw, necessitating the amputation of two fingers. After a slow and painful recovery, Mr. Bausch was able to resume work, only to find that he had become timid as a result of the accident.

Re-enters Business.

During his illness he had considered starting in the optical business again and now he imported a small stock of goods which he sold from his house. His success here determined him to give up wood turning and take up the optical business in earnest. The present great plant had its small beginning, in 1853, in the gallery of Reynolds' Arcade, a structure which is now a landmark in Rochester and still an important building in the business district.

The year 1853 marks the entry of Henry Lomb into partnership with Mr. Bausch and the foundation of the present enterprise. The status of the pioneer opticians of this country will be appreciated when one learns that Henry Lomb was received into full partnership by virtue of a loan of sixty dollars. With their small amount of capital and a large amount of pluck, the

young men soon removed to a more favorable location on the ground floor of the Arcade. Here Mr. Bausch began to grind, on a crude hand machine, the first spectacle lenses which were ever made in this country.

Served in Civil War.

During this period the Civil War broke out and Mr. Lomb enlisted as a volunteer, serving with the Army of the Potomac until his regiment was mustered out of service. When he returned as captain of his company, it was to find the business holding forth some slight prospects. A room with water power was taken as a shop in 1864. Here Mr. Bausch constructed a power grinding and polishing machine which was the first lens grinding plant in America.

The immediate impetus to which the firm owed its first real success was the good fortune of Mr. Bausch in picking up on the street a piece of the then new material, vulcanized rubber. He was at once struck by its adaptability as a substitute for the horn spectacle frames then in use, and, as a result of his experiments, soon established quite a reputation for the company as manufacturers of vulcanite rubber mounted optical instruments, such as magnifiers, readers and rubber eyeglasses.

This was not accomplished without a deal of strenuous effort. Many a day did Mr. Bausch at 2 o'clock in the morning go to bed only to get up a few hours later to go to work at the store. The vulcanite at the beginning was softened on the family cook stove and the frames punched out on a hand press, which was fed by Mr. Bausch while Mr. Lomb operated the lever. It was by dint of such pluck and determined effort that these two men forged ahead in their struggle to establish a new industry in a new country.

Business Prospers.

After the first work shop was opened, the business grew rapidly and four years later a larger building in Water Street was occupied, the retail business having in the meantime been disposed of. Many were the developments which took place here between the years '68 and '74. Not only was the manufacture of eyeglass lenses developed to a comparatively high degree, but, also, Mr. Bausch invented and applied the first nose-piece to an eyeglass, and his samples made in the early sixties embody many principles now employed in the construction of eyeglass frames, nose-pieces, springs and guards. Vulcanite rubber loupes and magnifiers were also made here, of the same form as those now on the market.

In 1874 the patents on the vulcanite rubber mountings being about to expire, the partners felt that the time had come for carrying out the plans which they had long cherished, the manufacture

for the first time in America of the highest types of optical instruments. The site of the present works was accordingly purchased in that year, and a three-story brick building erected.

The first fruits of the new plant were microscopes—the first high-grade instruments to be produced at prices permitting their use in schools and colleges. For many years their ambitions of producing instruments to equal the European in quality, but at popular prices, placed a great financial strain upon the enterprise. The quality of the work steadily improved, however, until finally the partners were rewarded by seeing their ambition realized.

New optical products were from time to time added to the already expanded line. The manufacture of photographic lenses, projection apparatus as well as other optical instruments was begun. When the business of George N. Saegmuller, who has only just recently withdrawn from the firm and retired from business, was moved to Rochester from Washington, military and other high quality optical instruments, such as telescopes, etc., were produced.

Affiliates with Zeiss.

In 1907 an affiliation with the Carl Zeiss works at Jena was effected. This alliance did much to build up the prestige of the company, and added to the quality of its products. Enduring until the outbreak of the World War, this connection with Carl Zeiss was terminated when conditions made effective co-operation impossible.

During the war Bausch & Lomb served America well. Having developed the first plant in America to produce high grade optical glass in quantity, the organization founded by John J. Bausch produced 70 per cent of all the optical glass used by this country during the war in the production of military and optical instruments as well. The allies of America, England, France, Italy, Canada and Russia, also asked for large quantities of glass, and Bausch & Lomb was instrumental in furnishing much of it.

In 1923 the Bausch & Lomb Optical Company purchased and moved to Rochester the Stevens Company, manufacturers of the highest quality eyeglass frames and mountings. Thus the company again took up the manufacture of frames and mountings which rounded out a complete line of quality ophthalmic products.

Thus from a most humble beginning in a little shop in the old Reynolds Arcade, the plant founded by John J. Bausch grew and expanded until now almost every kind of optical product is produced in all of the manufacturing processes under one roof. These products reach men and women in all walks of life and are used in sciences, art and industry. They are sent to and used in every cor-

ner of the earth by all types of people in foreign lands. Rochester, through the institution established by Mr. Bausch, has become the optical city of the United States and is the acknowledged leader in this all important industry.

Active in Community.

Some years ago Mr. Bausch was active in the business and community affairs of the city. He took an active part in many of the business organizations, having been president of the Mechanics Savings Bank; and he had a great interest in the charitable work of the community. At one time he was president of the Rochester General Hospital. In recent years, however, he had gradually withdrawn from active part in these affairs, devoting

most of his time to the work in the plant.

In the passing of Mr. Bausch, employees of the great plant have lost a great friend as well as a kind employer. Up until just recently, employees have been accustomed to see the old gentleman here and there in the corridors.

Of the older employees, there will be many who, in the passing of Mr. Bausch, have lost a lifetime friend; for there are many who began as young boys in the plant and have grown up with the business, throughout which their connection with Mr. Bausch has been most intimate.

Besides his wife, Mrs. Caroline Bausch, Mr. Bausch leaves two daughters, Mrs. Carl F. Lomb and Mrs. William A. E. Drescher; two sons, Edward and William Bausch; and four grandchildren, Mrs. Herbert Eisenhart, Mrs. Joseph F. Taylor, Mrs. Gordon C. Baird and Theodore B. Drescher; and ten great-grandchildren.

Workers To Pay Tribute.

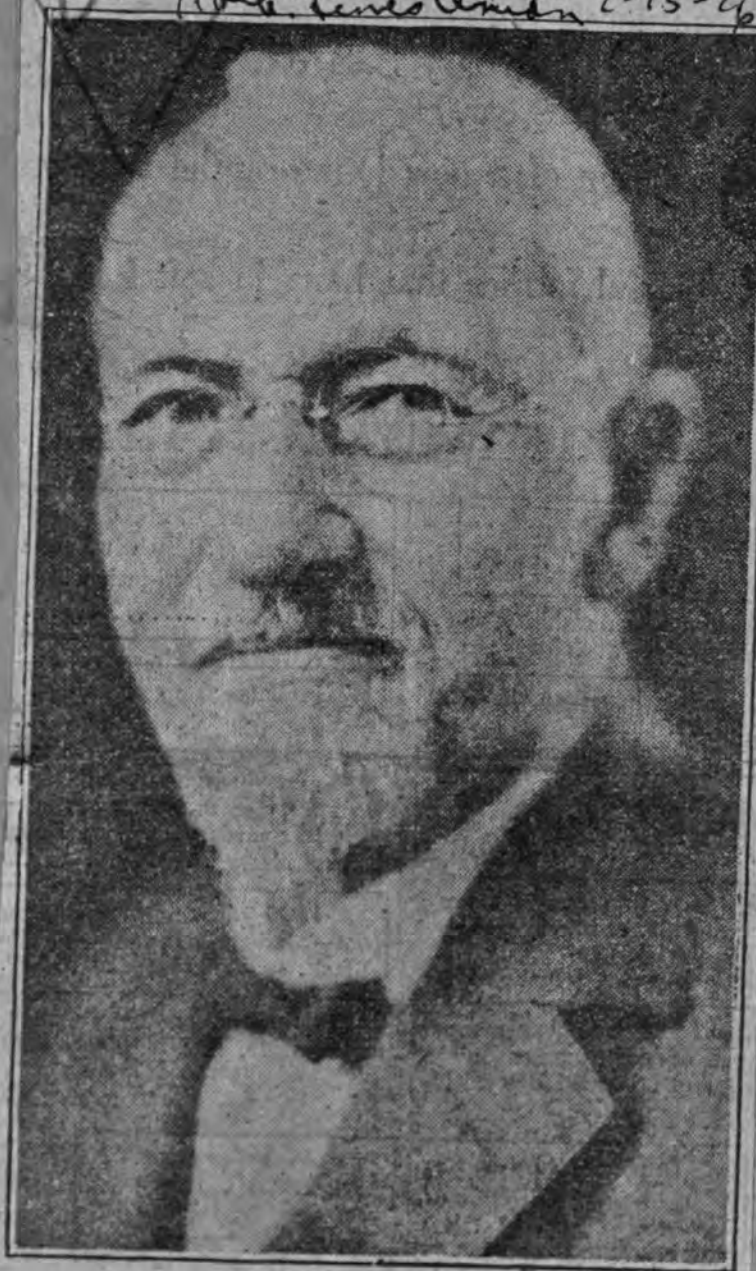
In keeping with the life of Mr. Bausch, who worked every day until a year ago, the factory will be open as usual today, but tomorrow the Bausch & Lomb organization throughout the world will close its doors in memory of the founder of the industry.

Employees of the concern have ordered a blanket of violets, orchids and lilies of the valley, which will cover the casket. At 8.30 o'clock this morning there will be a meeting of the Early Settlers, an organization of employees who have been with the firm for at least 25 years, for the purpose of passing resolutions on the death of their co-worker. There are 250 members of this organization.

Tomorrow morning from 10 until 12 o'clock the Bausch home will be open to employees of the company who may wish to view the remains.

John J. Bausch, Bausch & Lomb Founder, Is Dead

Roch. Gen. Union 2-15-26



John J. Bausch, retired captain of industry, who gained world-wide prominence as a manufacturer of optical instruments, and founder and president of the Bausch & Lomb Optical Company, is dead at the age of 95. Death came yesterday morning at 10:04 o'clock at the family home, 1075 St. Paul street, after an illness of four weeks. Until December, 1924, he was active in the business he founded.

Funeral services will be held tomorrow afternoon at 2:30 o'clock from the house. The service will be private. Interment will be made in Mt. Hope Cemetery. The Rev. Frederick Frankendorf, pastor of Salem Evangelical Church, will conduct the service.

Active bearers will be M. Herbert Eisenhart, Joseph F. Taylor, Theodore B. Drescher, John C. Kurtz Jr., Gordon C. Baird, Carl L. Bausch.

Honorary bearers will be Henry Flucke, Albrecht Buehling, Joseph Hammele, Jack Powell, William Wishart, Paul Lemke, Edwin Hart, Raymond Kandler, Fred Saem-

muller, Edmund Hilgenreimer, William Patterson.

Honorary Committee.

The following honorary committee of the Old Settlers' Association of the Bausch & Lomb factory will attend the funeral: Henry Meyers, Henry Albrecht, John Hoch, Paul Lemke, Cornelius Zwierlein, Farnk Baum, Oscar Seeman, Carl Jaeger, William Wishart, William Woodworth, Jack Powell.

The following employees are acting on the committee on funeral arrangements: Otto Seebach,

George Leffler, Edward Reh, Gus Rosenhagen, Otto Kirchner, Charles Chard, George Gallasch, Conrad Kurzrock, William Stoehr, Louis Tetamore, Raymond Grant, C. A. Allatt, Sam Bouchard, Timothy Mahar.

Members of the Old Settlers' Association will meet at the factory tomorrow morning at 9 o'clock to go to the house in a body to view the body of their former associate. At 10 o'clock all employees will assemble at the factory and will go to the house in groups.

As the funeral cortege passes the factory a bell which was installed by Mr. Bausch will be tolled.

The Bausch & Lomb factory will be closed tomorrow as a tribute to the great leader in industry. Complying with wishes of the family who believe it would have been the desire of Mr. Bausch, officials arranged to operate the plant today.

The Bausch & Lomb Co. is linked with business life of many cities in many countries. Telegrams were sent to all branches throughout the world ordering a suspension of activities tomorrow.

Mr. Bausch is survived by his wife, Mrs. Caroline Bausch; two daughters, Mrs. Carl F. Lomb and Mrs. William A. E. Drescher; two sons, Edward and William Bausch; four grandchildren, Mrs. Herbert Eisenhart, Mrs. Joseph F. Taylor, Mrs. Gordon C. Baird and Theodore B. Drescher, and 16 great-grandchildren.

The death of Mr. Bausch removes not only a man of great significance in the development of manufacturing in Rochester, but one who occupied a unique position in the social life of his community and in relation to his employees.

Although the great growth of the Bausch & Lomb Optical

Company had for many years made it impossible for Mr. Bausch to have the personal knowledge of individual employees which was his for a long period in the early days of the business, he maintained his interest in those employed in the plant to a remarkable degree and had a keen memory for old employees and for their sons and daughters who had followed them in the plant. This interest was returned by every man and woman in the factory. Until about a year ago Mr. Bausch visited the factory daily and often passed through the various departments where his sturdy figure and kindly face were recognized by the workers.

Birthdays Observed.

For several years it was the custom of the employees to present a bunch of roses to Mr. Bausch on his birthday, the number of the flowers corresponding to the number of his years. Last year, on July 25, his 55th birthday, Mr. Bausch, for the first time, was not able to visit the factory to receive the roses in person and they were sent to his home. On Mr. Bausch's 50th birthday he distributed a fund of \$250,000 among the employees on the basis of their length of service. An additional gift of \$50,000 was made by Mr. Bausch to the employees' benefit fund. In late

years the community organization in which the employees were bound together as one large family with John Jacob Bausch as the kindly head to whom troubles and problems could be carried was expanded through modern industrial welfare methods which gave the same paternal care to the physical, mental and social welfare of the workers.

In 1922, Mr. Bausch's struggle to success was made the subject of an article, entitled "Do You Think That Luck Is Against You," which was published in The American Magazine.

John Jacob Bausch was born July 25, 1830, in Gross Suesen, Germany, and came to America when 19 years of age to find relief from unsatisfactory conditions in Europe. Before coming here he served an apprenticeship as an optician and later worked in Switzerland, but found that opportunities to advance in this line of work were limited.

Upon reaching America, after 49 days on a sailing ship, he set out for Buffalo, not knowing that the city was in the grip of a cholera epidemic. He found work scarce and became a cook's helper in a hotel. For three months he acted in that capacity, and then as a porter, but finally left because of the low wages. Immediately upon leaving he had the misfortune to have his trunk broken into and his watch, shoes and clothes stolen.

Received Aid From Henry Lomb.

After working for two weeks for a manufacturer of surveying instruments, and then for a furniture maker, where in a few months he learned the trade of wood turning, he came to Rochester. Here he again took up wood turning, but soon turned to his chosen optical profession, renting a window of a German watchmaker at 1 Main street for \$1 a week. The venture

failed in four weeks, however, and he was forced to return to wood turning. He became a good wood turner and was not long in earning what was then the good wage of \$7.50 a week. In 1849, he married Barbara Zimmerman. Only seven weeks after the wedding he caught his hand in a buzz saw and had to have two fingers amputated. For several months he was unable to work, living on loans from his employer and other friends, among whom was Henry Lomb. When his health was regained, he returned to his wood turning, but found himself too nervous to work at its successfully and decided to try the optical business again by selling eyeglasses, which he bought from Germany, in his home, while still working as a wood turner. This was so successful that he decided to devote all his time to it.

Made First Lenses In America.

His first place of business opened in 1853, was the front hall of a shoemaker's store on the second floor of Reynolds Arcade. Later he shared a store with a German manufacturer of hair goods on the first floor of the arcade, getting his rent free in exchange for acting as interpreter.

The lenses he imported from Europe did not meet his ideas of quality; so he built a hand-grinding machine and began to grind for his own use the first lenses to be produced in America. They were so much better than any others available that other opticians soon sought his surplus.

About this time he borrowed \$60 from Henry Lomb, giving as a security the promise that Mr. Lomb would be made a full partner if the business warranted such a move.

This was soon done, and after Mr. Lomb passed his examination in optics, Mr. Bausch went to Germany and came home with a quantity of articles including such things as meerschaum pipes and ivory ware. These things, as well as eyeglasses, they peddled about town and in the nearby villages, but all the time prospered little. When the Civil War broke out, and Henry Lomb enlisted, their assets about balanced their liabilities.

New Material.

One day Mr. Bausch chanced to pick up a piece of hard rubber in the street and conceived the idea of making eyeglass frames from it. After experimenting he succeeded in making excellent frames from the new material. The rubber had to be pressed and turned, which was done on Sundays, as well as late at night and early in the morning, heat being supplied by the family cook stove.

As the business expanded, a small frame building on the corner of Andrews and Water streets, which was equipped with power, was rented in 1864. Mr. Bausch designed a power lens-grinding machine and though the evolution of power machinery for optical purposes was gradual, improvements followed until the lenses he ground were firmly established everywhere in the eastern part of the country. A larger factory space was obtained in 1863 at River and Water streets, which was

occupied until the first building on the present site was built in 1874. For a time Mr. Lomb maintained sales offices in New York city, but after 10 years returned to Rochester. The business was then conducted under the name of the Vulcanite Optical Company, but was later changed to the Bausch & Lomb Optical Company.

From the production of eyeglass lenses and frames, the business branched out into many other lines. Microscopes, which could be sold at prices low enough to enable the poorer schools to buy them, were produced and first exhibited at the Centennial Exposition, Philadelphia, in 1876; high-grade photographic lenses came next, followed by such articles as projection and photomicrographic apparatus, stereo-prism binoculars, engineering instruments, range finders, ophthalmic instruments, optical measuring instruments, searchlight mirrors and other high-grade optical products. As the sons of the partners grew up, they, too, entered the business and gave their attention to various lines.

Many years before the outbreak of the World War, Mr. Bausch had expressed concern over his firm's dependence on Germany for its basic raw material, optical glass.

Optical Glass Made.

In 1912, William Bausch, son of J. J. Bausch, hired a Belgian glass

cutter, who had some knowledge of glass making, to do some experimenting in this work, but for some time little success was encountered. Then, in 1914, when the war in Europe made impossible further importations of optical glass, efforts were redoubled, and finally in the month of May, 1915, the first usable glass was produced. In 1916 a number of different types were being made, and they were shown at the conventions of the American Medical Association and the American Optical Association.

America's entry into the war in 1917, though not unexpected, caused a great flurry in the optical glass market. One of the first concerns of the government was to assure an ample supply of this valuable glass for the making of fire control instruments, without which the United States army and navy would have been practically helpless. At the Bausch & Lomb Optical Company at this time was the only firm in the country making usable optical glass, the Council of National Defense sent a group of scientists from the Geophysical Laboratory of the Carnegie Institution in Washington to co-operate with the Bausch & Lomb scientists in the development of this essential product. Through the efforts of the government workers, purer raw materials were secured, and by December, 1917, the results obtained were announced as satisfactory. Several other concerns were then assisted in the making of optical glass.

Made War Supplies.

In addition to developing the production of optical glass, Bausch & Lomb made many of the optical instruments needed by the army and navy. Practically every range finder in the United States navy

was made by the company founded by Mr. Bausch, while at the close of the war binoculars were being completed at the rate of 3,500 a week. Periscopes more perfect in design and rapid in operation than previous models were under construction, searchlight mirrors as large as 60 inches in diameter and

ground and polished like a lens, gun sight telescopes, altiscopes, torpedo tube sights, focusing caps—all were produced as rapidly as consistent with the high quality required. During the peak of war work 6,000 people were employed at the plant.

Expansion of Business.

As the Bausch & Lomb firm developed the business of George N. Saegmuller, who recently retired from business, was acquired and removed from Washington to Rochester. Military and other high quality optical instruments were then produced on a larger scale.

In 1907 an affiliation with the Carl Zeiss works of Jent was established, the alliance doing much to build up the prestige of the company. The connection was terminated during the World War.

In 1923 the Bausch & Lomb Co. purchased the business of the Stevens Company, manufacturers of the highest quality eye-glass frames and mountings.

Active in Civic Affairs.

For many years Mr. Bausch was active in civic affairs of the city. He was also identified with other activities. He displayed great interest in charitable work. He served for a time as president of Mechanics Savings Bank and president of the Rochester General Hospital. With advancing age, he retired from active participation in community work and gave up many of his business connections. At the time of his death he was honorary president of Mechanics Savings Bank and honorary vice-president of Rochester General Hospital.

In his "Story of My Life," a brochure published by his son, William, on the latter's 50th birthday, Mr. Bausch wrote:

"Failures have frequently fallen to my lot, but I have never given up hope and have been astonished frequently at the success which has crowned my efforts in the end. I have been in no sense a person of fortune; to no one but myself do I ascribe the results achieved through perseverance, industry, honest and a striving for knowledge, these have been my maxims."

The Story of My Life

By John Jacob Bausch

EDITOR'S NOTE—"The Story of My Life," the first installment of which follows, is a remarkable auto-biography of a remarkable man. It was written by John Jacob Bausch over a period of years, and in a most painstaking and precise manner. Every word of it was penned by Mr. Bausch, himself, and some of the earlier script was in German, necessitating translation. But none of the material was dictated or in any manner embellished or altered.

Mr. Bausch dedicated his story "to my children—in remembrance of your father," December 24, 1903, and it was privately published and presented to a small circle of intimates by William Bausch, his son, in commemoration of the latter's fiftieth birthday, March 25, 1911.

It is now given to the public for the first time, and will be reprinted in the Journal-Post Express.

By J. J. BAUSCH

My life has been a modest one and was for a long time a struggle for existence. With heavy toil and in the face of many difficulties was I forced to meet its exigencies in the earlier years.

My school days ended, I soon realized that I still had much to learn and so during my apprenticeship I sought to employ my time in the most useful manner possible. The opportunities offered, however, were too meager to satisfy my ambitions, and the only course open was to seek my fortune in the New World.

The risk I thus encountered was great, as I was young and inexperienced in the ways of the world. This inexperience I have been obliged to pay for often, but I have never regretted the step I took. Failures have frequently fallen to my lot, but I have never given up hope and have been astonished frequently at the success which has crowned my efforts in the end.

I have been in no sense a person of fortune; to no one but myself do I ascribe my good fortune. Perseverance, industry, honesty and a

striving for knowledge have been my maxims. Of a peaceful disposition by nature, I have maintained pleasant relationships with my fellow men. Spiritually and morally I have always sought to do my best and have dishonored my family with no stain.

Our married life was a happy one. We were always united in our plans; in the education of our children we were very fortunate, and we were free from severe illness for many years. Our method in the rearing of our children we carried out to the best of our ability, and I am now satisfied that our aim has been attained.

An especially good fortune sweetens my daily life, in that all the children have found such estimable helpmates, who understand how to keep love and harmony not only for themselves but for the entire family as well. My fondest hope and belief are that that bond will never be disturbed.

FIRST MISFORTUNE

It was only seven weeks after our marriage that the first severe misfortune befell us in the loss of two of my fingers. This



JOHN J. BAUSCH

misfortune struck deeply into my conscience. The thought of having made a woman unhappy troubled me sorely, but upon being able to resume work later on, contrary to my fears, that thought vanished.

The second and more severe misfortune was the death of our son Johnnie. His loss fell heavily upon the entire family, especially upon the mother. For many years his name could not be mentioned in her presence. We all did our best to distract her mind from the sorrow, but it was impossible. So heavily did the blow fall upon her that she suffered the rest of her life by reason of it.

Six months later she had the misfortune to be thrown from a carriage in a runaway, an accident which aggravated her condition. She was obliged later to undergo an operation, which, although successful, left her with a nervous ailment which recurred from time to time. Which of these different misfortunes was the real cause of her ailment is uncertain, but each was sufficient to hasten her death. Every

attempt to alleviate her suffering or to cure her disease proved of no avail, and only death freed her from her pain.

DEATH OF MRS. BAUSCH

In her labors and endeavors for the family she was untiring, and in every relation she put family first. Her constant exhortations to the children have borne good fruit, and she enjoyed domestic happiness without contention until her death, September 7, 1900.

It was very difficult during her illness to give her pleasure. All attempts were futile, and only in the most delicate way could we show her kindness. The disease was of such a nature that even in this way we could accomplish but little. Upon myself this rested very heavily, as I was obliged to be busy day and night. What I did I did gladly, however, because I considered it my duty. I am therefore satisfied that I can in no way reproach myself. I believe this fact is recognized, and feel that in consequence of it no one envies me the pleasant days I now enjoy in the closing years of my life, which are due to the loving care and companionship of Tante, mother's sister, who became my wife May 17, 1902.

We do not wish to forget what our dear mother did for us in her active life; we owe her much gratitude. The seed which she planted and the fruits which they have borne are greatly appreciated today by all, and we must honor her memory always for these results.

EARLY DAYS

I, Jacob Bausch, was born July 25, 1830, in Gross-Suessen, Germany. My father's name was Georg Bausch, and so far as I know he came from Kuchen. His parents were peasants. He was a baker, and carried on his trade in Suessen. My mother's name was Schmied. Her father was a forester. I still have a good remembrance of her parents, both of whom outlived her. From their married life came seven children — John, George, Anna, Katrina, Johanna, Anna, Jacob, Regina and Eustachius. My mother mother died in confinement with the last named child, which was a heavy blow for father and the children. The six day old child was brought up by an aunt, a sister of my mother, and father attempted to carry on the household work with the aid of a housekeeper. By reason of circumstances, which are shrouded in darkness, however, she was driven from home by the sisters.

Our mother was, as I look back, the real head of the family, and father was as if lost after her death. In the bringing up of the children mother was the moving spirit, and, because the sisters were as yet too young to carry on the household successfully, we were obliged to suffer by reason of it. I was six years old when my mother died, and can scarcely remember her, but this I know, that she was strict, and that after I had received the first pair of trousers I was given a flogging because they were brought

home in a somewhat disreputable condition.

My older brother was apprenticed as a wood turner, and during this time, and even after his apprenticeship, he aided my father in his work. He even assumed to lead him, because, as I now view it, my father was incapable of self leadership. Although we had the good advice of our aunt, our training was very deficient, and if we had not been a peace loving people by nature who knows what might have become of us?

CHANGED NAME

My name is registered in the baptismal record as Jacob, but I changed it in this country, as a Jacob Bausch was already here in Rochester on my arrival and my first letter from home had come into his hands. I changed my surname from Jacob to John J. I call attention to this change merely so that it may not give rise to false speculation.

After the completion of my eldest brother's apprenticeship, my father was asked to have him learn the optical trade by a man named David Bntleon, a brother of my brother's employer. After the attractive prospects had been brought to his notice he was at last willing. My brother still had two more years to serve, but since he already had three years at wood turning, the fee for the apprenticeship was remitted. After completing his apprenticeship the opportunity presented itself to buy the tools, and they were offered to my father for 125 gulden (\$46.25). It was a great question for him whether or not he could risk so much money, but after much discussion he at last consented.

BROTHER HURT

I want to record here the fact that at the close of his apprenticeship, my brother fell from the barn belonging to his principal in Salach and broke an arm at the shoulder and two ribs, an accident which made it impossible for him to work for one year. The bone of the arm had been cut off three-quarters of an inch, which made the arm just so much shorter. Otherwise he completely recovered.

The tools lay for a few years unused on the bench, and, although I was bent on using them for wood turning, I did not have any luck with them. The entire winter before and after school, I endeavored to rig up a turning lathe, but did not succeed. The center wheel I could not place in the right position.

After six years' apprenticeship, including the period of misfortune, my brother concluded to begin the optical business, but it was difficult to find a market for his wares. He never received cash for his rubber spectacles, being able to dispose of them only in return for other goods. Even in this way, however, he gradually gained a footing, and did not have to pay for lodging and board, as he helped our father in his vocation.

I was ten years younger than my oldest brother, and had in the

meantime much opportunity in school to obtain ideas of business. When I entered my apprenticeship it did not take me long to learn everything that was to be learned, and after its completion I was very strongly inspired to round out my education. The striving to attain to the later knew no bounds. I would have given anything in my power if opportunity had been given me to enrich my professional training, but my teachers in their inexperience did not deem it necessary. Only when I reached that age when everything seemed too narrow did I hew my own way.

My time of service was to be three years, but in my sixteenth year I contracted typhoid fever, and this put me back three months. Everything which I could learn at the time with my brother was the grinding of lenses and the making of horn spectacles. That was all that he himself could do. His tools were very defective, and it was impossible to make anything better. Some of my own experiments in this direction were an utter failure.

In this way all avenues for my development were cut off. I often asked my brother to procure for me a place in an optical establishment at Stuttgart, where he was well known. But even for this the necessary money was lacking, and hence nothing came of it. The typhoid fever which I brought into the house had brought much misfortune to the family. Four weeks after I was taken sick my father came down with it, and four weeks later three other members of the family suffered likewise. My case was the severest, and no one thought that I would survive it. My father's case was also very severe, and he died. The others all survived. Our house was actually a hospital, and it was sad indeed to see our nurse also take it there and die. After that time no one dared to step over our threshold. My brother alone nursed us day and night until we were well. How he was able to do it has been a miracle to me to this day.

GOT NEW IDEAS

I must also here remark that during my apprenticeship I had much opportunity to obtain good ideas concerning life, which, as I believe, had much to do, or, at least, had given me courage to launch out into life as I then knew it. Friends of my brother who visited us every evening, brought many things into discussion in their intercourse from which I could learn much good. There were men among them who had seen much of the world, and they often talked about interesting subjects which gave me much insight into life and from which I could draw many lessons. Every night we talked until eight o'clock, and in the three winter months, until nine. And I believe these discussions served a good purpose for me. Sometimes they were a little bit beyond my age, but I know they were beneficial. I scarcely believe that without these experiences and ideas

which I was continually absorbing. I would have had the courage to have torn myself away from my inexperienced life.

After I had fully recovered from my illness, and after I had completed my apprenticeship, thoughts for my future occupied my mind. I saw clearly that I could not expect anything more than the life which I was now leading at home if I stayed there. I therefore decided to try my fortune elsewhere as soon as a desirable opportunity presented itself.

Soon after I learned from a friend that an optician was wanted in Berne, Switzerland. Without delay and without saying anything to my brother, I wrote thither, but instead of the answer coming to me it came to the mayor's office. The leading questions contained therein were: Was I honest? Could I obtain a good recommendation? In the event of an affirmative answer the place was open for me. My action caused much bad feeling for a while, especially in the case of my brother and the family. But secretly they were rejoiced that I had so much courage. After my guardian was willing to give me the traveling expenses I made my preparation for the journey.

HARD TIMES IN BERNE

In the year 1848, my eighteenth year, I set out on my journey to Switzerland with my knapsack on my back, and, since at that time the railroads were just in their infancy, I made the journey on foot. To some extent, however, I used the stage coach. Having arrived in Berne, I did not find everything according to my wishes. The business was a small optical store and I was the only workman. Not much opportunity to increase my knowledge was presented here. My work consisted of grinding lenses and repairing spectacles. The latter did not occur often, but when it did it caused me no end of trouble, because I was obliged to learn everything for myself, there being no one to show me.

I obtained nine kreutzer (six cents) for a pair of spectacles, and by working hard I was able to complete six pair a day. With these small earnings I could subsist, but I was not able to buy any extras. I found that I was placed on the same level in comparison with other working men, for everywhere they were paid but poorly. But in a person could subsist without incurring any debts he could be satisfied. The times were extraordinarily poor. A year before there was a failure of crops, and poverty was rampant in entire Europe. In every country the people were restless. Everywhere revolution broke out. The inhabitant of Baden de-throned their elector, and established a provisional government. Business was at a standstill. The people cared little about the laws. Everyone did as he chose. But the governments were at length compelled to grant more rights to the people, although it took a long time before affairs were again in regular order.

In the winter of 1849 I corre-

sponded with a friend in reference to the question of whether we ought not to go to America. I could not persuade myself to go without first having gained the permission of my guardian. He granted me this leave readily, and in the spring of the same year I returned home to make my preparation for the journey to America. On the 26th of April of the same year I took my departure with several friends for America. Our departure set the entire village in commotion. Whoever could walk accompanied us to the depot. Journeying to America at that time was something new to the people in our village, and the good people took as much interest in the event as though we were going out of the world. In accordance with a custom of the time, everybody gave us money, and tears could be seen in the eyes of all. Our journey was from Heilbronn on the Neckar River, and from Mannheim on the Rhine, to the North Sea at Havre. Here we were obliged to wait two weeks until the ship was ready for passengers. This ship had been a freight boat (of course, a sailing vessel) and was now provisionally used for passengers. We were obliged to supply the mattress and covers ourselves. Food we received from the ship, but the cooking of it we had to take care of ourselves. The provisions consisted of zwieback, coffee, butter, salt, rice, potatoes, pepper, ham, and a quart of water per day. The kitchen was set up upon the deck and consisted of nothing more than hearth with an iron bar and a crane, upon which which hung up the kettles. It was not possible to do any cooking in case of rain or stormy weather, and everyone helped himself in such cases as best he could.

CROSSING TOOK 49 DAYS

The journey lasted forty-nine days, and was accompanied by very many storms. Although no one had much appetite in stormy weather, nevertheless our provisions ran short eventually. Especially did we run out of butter. We were then forced to make our pancakes with water. Water was a very valuable article on that trip, as we could not buy any for money and we could not get more than one quart per day. Its odor was not especially inviting, but the pancakes, nevertheless, did taste good. An ocean trip at that time, and particularly for us, was a new venture, and we thought everything was as it ought to be; at least, we were satisfied with it. If one is young, he can endure much, and, even though something may appear hard, the reality of it is not felt. But when I look back, notably at this time when I know better, I see clearly how one generation has much the advantage over the one preceding.

After this glorious journey we landed at length in New York. Our first impression was of its immensity, and the pleasure was great. But when we came to land, we were chagrined to see

in and about "Castle Garden" nothing but rabble and a low class of people. With the exception of Grand Street, we saw nothing of the city, and the impression gained was not very good.

TOLD TO GO WEST

In Castle Garden, as well as in the emigrant hotels, we were advised to go westward, because New York was overcrowded. Business was at a standstill, and emigration was very heavy. Many revolutionists from the European countries found refuge in this country at that time. The prisons were emptied in many places in Germany and the prisoners were unloaded here. In a word, everybody flocked into the promised land. It was not told us at the time, but in certain sections in the west the cholera was epidemic. We, however, had no inkling of this condition, and set out for Buffalo. We took a boat to Albany and traveled in box cars on the old steel topped wooden rails from there to Buffalo, the journey lasting two days. Arrived there, we found the people fleeing from the city, and we knew then that we had selected a place for a new home at the wrong time.

There was no opportunity to get employment in my trade, and it was only by luck that I obtained a position in a hotel as a cook's helper, a position which I gratefully accepted because I did not know how else to subsist.

The epidemic of cholera was terrible in its devastation. In the streets you could see nothing but hearses and funeral processions. Some of my companions who had money went farther westward. Two, however, remained in Buffalo, who, in order not to suffer from hunger, hired out to the farmers, where they got their meals in return for working. I served three months as cook's helper, and a short time as porter, but the people paid poorly. As I could not get enough money, I finally left them, although my work had not been very hard and I could have endured it for a while longer. But then misfortune befell me in that my trunk was broken into and my watch, shoes and clothing stolen. I was obliged to take my pay in board and remained there three weeks until they asked me to go.

TRIES WOOD TURNING

In the meanwhile I was looking around for other work. For two weeks I was employed by a manufacturer of surveying instruments, but he had so little work to do that I was consequently dismissed. Again I had to seek work. There were no opticians in Buffalo at the time, and I therefore made an attempt to pass myself off as a wood turner. I was employed immediately by a German maker of bedsteads, but this employment did not last long. I was dismissed on the same day, the man seeing that

I was a wood turner. I did not give up, however. Upon further inquiry I found employment in a furniture business, where I had the same experience. The foreman told me that I was no wood turner, but that if I would work for fifty cents a day he would give me a chance to learn the business. I naturally accepted his offer with pleasure. This employment would have done very well if I could have worked full time, but such was not the case. Consequently my wages were scarcely enough to pay for my board.

From the time that I came to Buffalo and until I left there I had not seen any money. I might have sent home for some, but I was too proud to do it and did not wish to have the report

spread about. I had constant hopes for better days to come.

In regard to shoes and clothing especially, since the theft from my trunk I was in a deplorable condition. During the Winter I had learned enough about wood turning to be able to say truthfully I had become one.

In the Spring I borrowed five dollars and traveled back to Rochester, where I obtained work immediately, but it was not much better than that in Buffalo. The Summer was very dry, and hence I could not get employment for a full week. For an entire year I was struggling with want. I was even put out of a boarding house because I could not pay for a week's board. At length, I received a position in a regular wood turning establishment at one dollar per pay. It then became possible to buy clothing and to pay my debts. During the entire time I had thought of going back again to New York; but, on account of the lack of the necessary traveling expenses, I could not carry out my desires. Later, when I had more means at my command I gave up the idea entirely.

FAILS IN OPTICAL LINE

It then struck me that I might possibly begin an optical business, if I could become more acquainted with the conditions here. A year later I wrote to my brother, telling him what my plans were and at the same time asking him to send me what still remained as my share of my father's estate. My portion of the estate amounted to about three hundred gulden, and for this sum I would purchase enough spectacles to make a good beginning. Upon receipt of the goods I immediately looked for a suitable place. I made arrangements with a German watchmaker at No. 1 Main Street in which he gave me a window for one dollar per week. That expense was not much, but too much for my receipts. After four weeks I was obliged to give up again, having sold almost nothing. Then for a short time I became a peddler, until I was obliged to take up wood turning again.

At that time I had come to the conclusion that I could not make anything in the optical business. I therefore sought my old place as wood turner again. I concluded to remain at that trade and to seek a future living in it. I believe I would have succeeded in this, too, as I already had made plans to begin a business of my own.

How we were able to worm along so many years is a mystery to me today. We were obliged to borrow from one to pay another. From friends in the city we received very little help. I know of but one instance, when I borrowed fifty dollars from our old friend, Herman Haas. This money I promptly paid back, and the great kindness I shall never forget.

The owner of the Arcade presented us in the year 1857 with two months' rent, because business conditions that year had been very bad. We saw then that there were some good people living, although we had believed that the entire world was in league against us. In such a condition our business dragged on until the war broke out in the year 1861.

As long as my friend, Henry Lomb, had been with us in the business he boarded with us, in order that no money should be taken away from the firm. He had no personal expenses at all. In our case the expenses were greater, because the family was increasing. In this way it at length came about that I became indebted to Mr. Lomb. This grew to a large sum in the course of time.

Our business increased very slowly, but naturally our expenses grew. Years passed, and we had not made any financial gain. To the contrary, from the beginning up to the year 1861 we actually had lost, and when Mr. Lomb went to the war, our debts just equalled our resources. In addition to that, I owed Mr. Lomb one thousand dollars. That was the net result of the hard work of eight years.

CONTINUALLY IN DEBT

If I had not had the good fortune to have a few kind benefactors, my business would have come to an end long ago. These benefactors, however, had faith in me, and gave me time to pay my debts. In this way it was possible to drag on until a way was found. If this had not been the case we would have failed, and would have remained debtors to our friends. What would have become of us under these conditions we can only imagine. It would have been a terrible blow if I had been obliged to give up the business loaded with debts when I had not a cent with which to pay them.

Such a crisis was near indeed. I dared not say anything of these circumstances at home, and thus

was obliged to bear all the burden alone. If my brother had refused to help once, my misfortune would have been sealed, and how I then could have satisfied my creditors I could not tell.

I never liked the life in the store, for that business did not pay, and if I had not been able to use my spare time in experimenting, I should not have known what to do with myself. I have made and prepared eye glasses which in appearance, were like tortoise shell, but the American horn which we used was too brittle to stand use.

FIRST RUBBER FRAMES

About this time I had the good fortune to find a piece of rubber on the street which I thought suitable for eye glass frames. I immediately tested this to find its suitability for the purpose for which I wanted it. As my previous experiments had been made with horn, it did not take me very long to make eye glass frames from hard rubber. I found this material extraordinarily well adapted to the purpose and it was immediately seen in the business. In the preparation of the material, I was still inexperienced, and for a long time I sawed the eye glass frames by hand. Now, this was naturally a slow process, but rapid enough for the needs of our store.

For a long time I rose every morning at 5 o'clock to work up a small stock of this rubber, and it was this stock which attracted the attention of a manufacturer of watches, who purchased several dozen frames from me from time to time. At length he was not satisfied with a few dozen, and he often begged me to make more. The article was new and found a ready sale in the market.

It was a slow process to make improvements, chiefly because there was always a lack of funds, and then again we were both obliged to make ends meet. But the demand increased, and I could not meet it in the old way by hand work. I was therefore compelled to resort to something new. It took me a long time to find a way to increase the output, but I finally hit upon it.

LOMB GOES TO WAR

In the Spring of 1861 when war broke out between the North and the South, my friend, Henry Lomb, was one of the first to go to the front. I was then alone. I had a watch maker, Christian Altpeter by name, to whom I gave a window in return for looking after my business during my absence. It was at this time that the business took an entirely different turn.

I took my brother into partnership, as I wanted to give my entire attention to the rubber work. He was the first workman to be employed by us. About this time our American gold rose in the market, in consequence of which few things were imported. The demand for rubber eye glass frames also increased, and ac-

cordingly I enlarged my accommodations, renting to that end, an upper room in the Arcade for a shop. Pressing and turning I did at night in my own house. I did enough pressing on Sunday with the aid of the boys to last for an entire week. I heated the rubber on the cook stove. Turning I either did at night or very early in the morning. Many a day I rose at 2 o'clock, or vice versa went to bed at 2 o'clock, to be in the shop again at 7 o'clock in the morning.

I employed workmen as soon as I found opportunity to teach them the trade, and by the time my friend, Mr. Lomb, returned on furlough I had four workmen. During his absence Mr. Lomb regularly sent me his monthly wages, and at that time gold was very scarce. Then, too, the purchasing price had even become double in the second year. This proved to be a great help to us in getting us out of our stringent circumstances. When he finally returned after an absence of a year and a half, the business had no more debts, and there was besides some money in the bank. This fact caused him much delight.

We employed foot power at that time for all our turning and polishing, but we could not meet the demands of the market. The shop in the Arcade under the roof became too small, but since I was obliged to spend some of my time in the store I could not think of changing our location until Mr. Lomb should return from the war.

FOOT POWER LATHES USED

We rented a small room on the corner of Andrew and Water Streets, which was equipped with power. I then gave my entire time to the manufacturing business. This I was not able to do before, because very often people came to see me. After we had obtained power for our shop work, everything went on better, but our inside arrangements were not what we wanted them to be. And because we were obliged to learn everything the perfecting of our product was slow. The little money that had been saved was soon used up, and, although the shortage was not as great as formerly, we were still obliged to put everything into the business. At times it was even necessary to send out our invoices before the goods were shipped in order to be able to draw upon them to have money for our next pay day.

BUSINESS GROWS RAPIDLY

The small portion of the shop on Water Street soon became too small for us, and we were obliged to add to it until we possessed the entire corner. The volume of business increased so much that it became impossible for me to handle it. We therefore sold the retail store to Bausch & Dransfield. By this move I secured the help of Mr. Lomb and Christian Altpeter, and also some money which at the time was a considerable help. Mr. Altpeter had

conducted a watch repair business in our store, but he gave this up and worked for us, when his services on smaller jobs proved

a valuable assistance.

Mr. Altpeter had worked for us from two to three years, when one day he came to me with the report that he intended to start in business of the same kind with his brother-in-law, Mr. Straehle. I was naturally much surprised, and endeavored to persuade him not to carry out such a plan. I even offered to take him into our business, giving him a quarter interest.

The next day after I had made Mr. Altpeter this offer we received a letter from the American Hard Rubber & Comb Company, stating that they wished to turn over to some one the exclusive rights to manufacture rubber eye glass frames and other optical goods during the life of their patents. When Mr. Altpeter heard of this he went to New York (I traveled with him) to get this right for himself, and, because I was sure of my ground, I gave him the opportunity to speak with the American Comb Company first. He was much annoyed when he came out, having found that they preferred us to him, and was very much set

against us. He could not get any rubber, but he vowed in New York that he would enter into the severest competition with us in the manufacture of horn eye glasses. This threat he actually carried out, but the eight hundred dollars, which his brother-in-law invested in the business, soon went.

In my first visit to New York we had not spoken of the details of the new arrangement with the American Rubber Company, but some weeks later, when our dear mother departed for Germany, the matter was finally settled (1866). The friendship between Mr. Lomb, Mr. Altpeter and myself had been very warm, but was now turning to enmity. We still allowed him to make eye glasses in our store in order to pacify him, but when we broke off all arrangements with him, his animosity grew. Later on he went to Chicago.

The contract which we had with the American Hard Rubber & Comb Company was not as good a venture as we had expected, but we decided to abide by it rather than to give it up. The stock was divided into five parts. Mr. Lomb and I were to get two-fifths, and the company three-fifths. We tried very hard to get half, but did not succeed. It was found later that we had done better than we had anticipated. We realized a nice sum of money during the six years. When the

patent expired we bought the company's entire stock. During this time it had gone up in price, and we were obliged to pay about eight times as much for it.

Mr. Lomb was obliged, when the company was formed, to go to New York to live in order to attend to the sales there. He remained ten years, until we found it to our advantage to conduct the business from this place. At this same time we changed the name of the firm from the Vulcanite Optical Instrument Company to the Bausch & Lomb Optical Company, as even at that time we had begun to manufacture microscopes and the name "Vulcanite" in the title could not apply to this.

SAW BIGGER FIELD

Our business at that time was in good condition, but still we often considered whether or not we could little by little work up into higher optics. It was difficult to make a beginning, however. I wrote to Mr. John M. Borsch of Philadelphia, asking whether he could not find it possible to secure for my son, Edward, a position with Mr. Zentmeyer in Philadelphia, for this man at that time stood high in the profession. Nothing came of it however.

We then learned the name of another man in Philadelphia who was a very competent optician. We went to him and had an interview, but nothing came of this either. He told us that he was the only man in America who could grind photographic and microscopic lenses, that he had just recently begun his business, and did not wish to divulge its secrets.

GUNDLACH ENGAGED

Later we heard of a Mr. Gundlach, who was living in Hackensack, N. J., and who had come to America but a short time before. He was to all appearances not in the best financial condition. Mr. Lomb looked him up, had an interview with him, and gave him certain addresses where he might learn something concerning our standing. Shortly after Gundlach came to New York and Mr. Lomb engaged him for fifteen hundred dollars a year.

Some days later, however, he returned, saying that he had heard certain things concerning us which displeased him, and he therefore wished to remain alone. As a result of several conversations with him, we re-engaged him at a salary of two thousand dollars, with the understanding that he was to get five hundred dollars in advance.

TOOK WHOLE BURDEN

Mr. Lomb was very ill at that time. In fact, he was so ill that his physician commanded that everything of a business nature should be kept from him. I did not even dare to write him myself concerning business affairs.

During this time, I spoke much with our boys and also sought counsel with Messrs. Bartholomay and Goetzman, but, as

pride and my joy consists therein that in the end we were nevertheless rewarded.

Epilogue

From the humble beginnings and, at times, harrowing struggles narrated above Mr. Bausch and Mr. Lomb laid the foundation for what has become one of the greatest industries in the world. Their original enterprise, the manufacture of eye-glass lenses, has grown to mammoth proportions, world-wide in their scope, and nearly every line of optical endeavor has been added to the firm's activities.

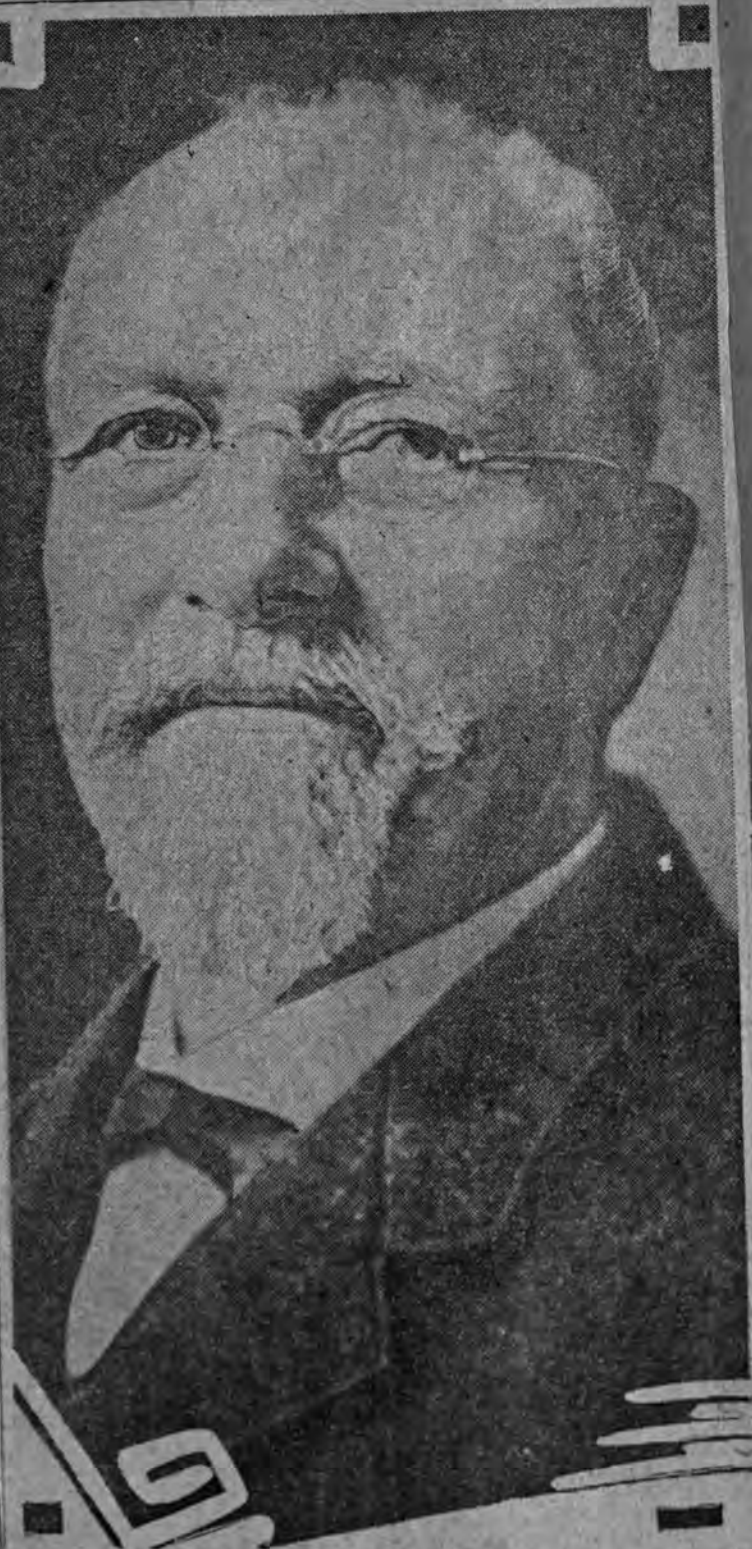
The manufacture of microscopes, begun in 1874, has developed until the company's product rivals in quality and popularity that of the oldest firms of Europe. The photographic field is also their debtor. With the iris diaphragm shutter of between-the-lens type Bausch & Lomb solved the problem of rapid exposure. In the early nineties they made an arrangement with the Carl Zeiss Optical Works, of Jena, whereby they began the manufacture and sale of the anastigmat photographic lens under the Zeiss formulae.

IMPORTANT ALLIANCE

This agreement led to a step of great importance to the optical world, when in 1908 an alliance was consummated between the two companies, by the terms of which the ideas and experiments of the technical bureaus of both are interchangeable and their interests are united. Shortly prior to this George N. Saegmuller, at that time operating in Washington, D. C., had entered the company, and the manufacture of engineering and astronomical instruments became an important branch of the enterprise. The government is the company's biggest customer in this line, purchasing at home the large range finders and other apparatus which it formerly was compelled to seek in the foreign market.

Other lines which have been equally developed include projection apparatus, chemical and laboratory apparatus, microtomes, field and opera glasses, centrifuges, photomicrographic apparatus, magnifiers and reading glasses, together

Ruled Big Plant at 80



JOHN J. BAUSCH

This photograph, one of Mr. Bausch's favorites, was taken in 1911, when he was eighty and still the active head of the world's largest optical plant, the Bausch & Lomb Co., which he founded.

Founder of Giant Optical Plant at His Desk



JOHN J. BAUSCH

Mr. Bausch, president and founder of the mammoth Bausch & Lomb Optical Co., who died yesterday at the age of ninety-five, is shown at the desk where he spent many days up to the time of his last illness.

Bausch Honored at Dinner As 'City's Richest Man'

D. C. Howell '29
**Feted by Organization
He Has Served As
President 25 Years**

By HENRY W. CLUNE

Men who have basked in the warm glow of his friendship for varying periods in the twenty-five years that he has been president of the Rochester Club, last night honored Mr. Bausch at a testimonial dinner in the ballroom of the East avenue clubhouse.

More than three hundred club members were present, and all spoke of this representative of Rochester affairs, and jolly good fellow as "Billy," rather than William Bausch. They were men of sundry occupations and professions; men who, once they passed through the front door of the clubhouse, laid aside their workaday cares to pay tribute to a man who has been skillfully directing the destinies of their social organization for the last quarter of a century.

'Richest Man'

"His friends," read a printed tribute on the program, "are in every stratum of society—his position in large affairs has never reduced the simple democracy of the man himself."

One realized the sound truth of that statement upon entering the foyer of the clubhouse, where Mr. Bausch, before dinner, was receiving his friends. There was something real—an electric spontaneity—in the way these men, who had come to honor him, greeted him. There was something fine in the simple cordiality of his greeting to them. Billy Bausch, as they call him, has an inherent social grace in his intercourse with his friends that would make him an outstanding figure, even though he were not a person of importance in the civic and industrial sides of Rochester life.

Douglas Malloch, brilliant humorist and poet, who was one of the speakers of the evening, characterized him as a "two gaited man," and read one of his own compositions to stress this point; Judge Willis K. Gillette, whose talk was entitled "Our President," in other language corroborated the thought that Mr. Malloch had partly expressed in verse.

"Billy Bausch is the richest man in Rochester; as this gathering of his friends will attest," said Mr. Malloch. "And I am the poorest man in this room, because I know him in Rochester, as this poorest man



WILLIAM BAUSCH

George W. Sweeney Present

An orchestra played, and the diners sang, "For He's a Jolly Good Fellow," as Mr. Bausch, accompanied by a few of his closest friends, entered the ballroom and took his seat at the speakers' table. At that table, besides some of the older members of the club, and the speakers, were George W. Sweeney, vice-president of the Bowman string of hotels, of New York city, who has been a friend of Mr. Bausch ever since the days when he was a resident of Rochester, and Harry B. Boller, another close friend, of Buffalo.

The room was brilliantly decorated with greenery and cut flowers, and the service and dinner were perfection. The club employees were playing hosts to their friend, last night, and not their employer; and they had made special efforts for the occasion. Late in the evening, when William J. O'Hea, on behalf of the club members, presented Mr. Bausch a beautiful silver vase that stood more than forty inches off the floor, the vase was carried to the speakers' table by Miss Mildred Seel and Miss Martha Carroll, office girls at the club, and the twenty-five American beauties that the vase contained were the contribution of the club employees.

"Our friend, Billy Bausch, has served us unselfishly and untiringly, for twenty-five years," said Mr. O'Hea, in making the presentation.

"and it is not easy nor is it necessary to review the many thoughtful things he has done to make our lot happier. Let it be sufficient to say that we know and appreciate that his has been a labor of love."

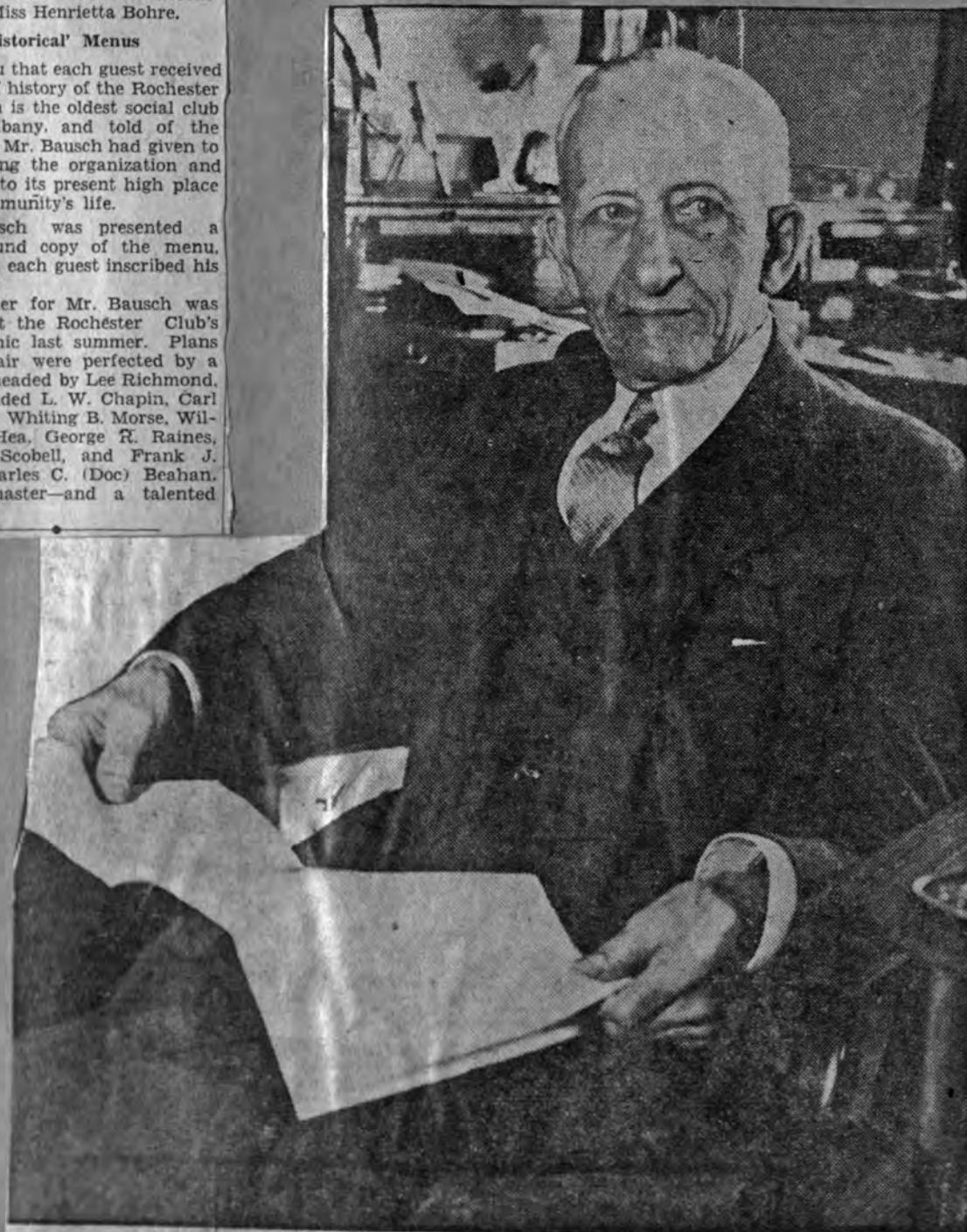
Miss Madelyn Walker, an employee of the Bausch & Lomb Optical Company, who has shown exceptional vocal ability, and who is being assisted in a musical career outside of her business hours, was heard in two numbers, that were favorites of Mr. Bausch. She was accompanied by Miss Henrietta Bohre.

'Historical' Menus

The menu that each guest received gave a brief history of the Rochester Club, which is the oldest social club west of Albany, and told of the efforts that Mr. Bausch had given to strengthening the organization and bringing it to its present high place in the community's life.

Mr. Bausch was presented a leather bound copy of the menu, upon which each guest inscribed his name.

The dinner for Mr. Bausch was inspired at the Rochester Club's annual picnic last summer. Plans for the affair were perfected by a committee headed by Lee Richmond, which included L. W. Chapin, Carl S. Hallauer, Whiting B. Morse, William J. O'Hea, George R. Raines, Ernest C. Scobell, and Frank J. Smith. Charles C. (Doc) Beahan, was toastmaster—and a talented one.



Edward Bausch, photographed last week in his office.

TRIBUTES TO EDWARD BAUSCH TESTIFY TO HIS FIRM'S ACHIEVEMENTS

Geneseeans Honor His Research

By ROY YERGER

IN THE future of America and of civilization, Bausch & Lomb Optical Company with its unsurpassed mastery of light is a key industry.

And it is a key man in this key industry that the Society of the Genesee has chosen to honor at its annual banquet in New York City's Hotel Commodore Monday night.

Edward Bausch, president of Bausch & Lomb Optical Company, long has been ranked as one of Rochester's foremost citizens. Not only is business eminence his. He helped organize the Institute of Applied Optics at the University of Rochester, on whose River Campus stands a physics building in honor of John Jacob Bausch and Henry Lomb. He has been a moving spirit in the Community Chest; the Rochester School for the Deaf knows his generosity. Testament to his active life is the number of his clubs, Country Club of Rochester, Genesee Valley Club, Oak Hill Country Club, Rochester Club, Rochester Athletic Club, the Germania Bowling Club.

The business which Edward Bausch has helped build on the bank of the Genesee is of towering import. Bausch & Lomb is alone in America in its mastery of light. The optic lenses it produces bring stars within the range of man's vision and open to him the wonderland of the atom; they serve to conquer disease, analyze metals, steer ships and shape the world's destiny.

The honors which the Society of the Genesee will heap next week upon Edward Bausch will be a well-merited tribute both to the man's long life of achievement and to the triumphant service of his company to the world.

IT may be that many in Rochester do not grasp the full significance of the \$10,000,000 enterprise to which William Bausch has devoted his life.

Spectacles, binoculars, opera glasses, telescopes, microscopes and reading glasses are well-publicized



Bausch & Lomb manufactures.

Yet the firm inventories the staggering total of 17,000 specialized products, most of which never can gain popular renown. Normally, Bausch & Lomb has on hand about 16,000 different orders, many of these for instruments of which they sell only a half dozen a year.

The metalloscope is an instrument of vital importance, but hardly a familiarly Bausch & Lomb product to the man in the street. It is used by such concerns as the United States Steel Corporation, Bethlehem, Canadian Pacific Railways, and General Motors to determine the crystalline content of their steels, and whether or not the carbon has been dissolved.

This metalloscope, together with the industrial electrocope produced by Bausch & Lomb, can analyze metals more accurately than can chemistry. It can, for instance, discover traces of manganese in steel that would have eluded the chemist entirely. Thus Bausch & Lomb contributes to the structural soundness of skyscrapers and railroads and all the multitudinous works of man in which steel is used.

World Gains By Bausch Products

Then there is the contour projector, by which the outlines of tools, dies, gear teeth, screw threads, and any number of items can be thrown on a screen and their accuracy checked to within 1-10,000 of an inch.

Contour projectors are used by all large automobile concerns, by American Can to determine the accuracy of sealing mechanisms, by Western Electric to make telephone plugs fit neatly, by Henry Ford, A. C. Spark Plugs, and a hundred others.

And then there is the matter of reflectors. Bausch & Lomb has equipped almost every movie studio in America with these instruments, all the airfields, all the battleships, all the coast defense system. They make about half the nation's movie projection lenses, all the optical mechanisms for the talkies. Their balopticons have entered nearly every high school and college in the land.

Their analytical instruments are invading the textile, ceramic, and food industries; drugs are being analyzed by indices of refraction in special Bausch & Lomb refractometers; Bausch & Lomb saccharimeters are used by the government and by importers of sugar to determine the amount of sugar in a given solution; Bausch & Lomb instruments caret to jewelers and the manufacturers of ball bearings.

And from time to time, Bausch & Lomb makes for an individual scientist a new instrument to accomplish his own particular research. If the project is one of service to mankind, Bausch & Lomb never hesitates, though development of the instrument may take years and its cost may be great. Often only one of such an instrument ever is sold, and that at a financial loss to Bausch & Lomb; but the world is benefited.

IT IS extraordinary labor that goes on in the Bausch & Lomb plants in Rochester—labor more minute than the work of ants and as painstaking.

For test purposes, Bausch & Lomb workmen can grind glass to plus or minus 1/1,000,000 of an inch, a dimension one-tenth of a wave-length of light. In doing this, they pass beyond the limits

Above is one of Bausch & Lomb's less known instruments—the contour projector. It is of incalculable value in many industries, for it throws on the screen the outline of minute objects magnified many times. Here, for instance, one may discern the slightest imperfections in the thread of a tiny screw, for the jagged outline of the thread appears on the screen as great saw-teeth. Lower is Edward Bausch himself, president of the Bausch & Lomb Optical Company, who will be guest of honor at the dinner of the Society of the Genesee in New York next Monday. Mr. Bausch, renowned as the pioneer in the development of precision microscopes at reasonable prices and a scientist who built his first microscope at the age of 14, is shown looking into one of his firm's latest and most accurate instruments.

of ordinary mechanics and step into the world of miracles for two pieces of glass so accurately ground, when placed one on top of the other, will adhere by molecular attraction, and human power cannot draw them apart. If broken with a hammer, they often will not crack at the line of fusion.

The Bausch & Lomb scientific specialty is the microscope, and the company sells about 15,000 of these a year. The average medical microscope has 300 parts, to manufacture which 3,250 distinct catalogued operations are required. The first lens of such an instrument is no larger than a pinhead. Yet the barely visible speck must be machined to unsurpassed accuracy.

A watchmaker thinks well of a watch machined to within 1-10,000 of an inch; the tiniest of microscope lenses must be accurate to within 1-1,000,000. Behind it are placed six or eight other lenses, the largest about the size of a dime. They are all just as accurate and must be perfectly centered and held in place by a diamond-machined metal nose piece.

Another vast field of Bausch & Lomb is the manufacture of spectacle lens. Theirs is the development of Orthogon bifocal lens which, while the line dividing the two lenses is practically invisible, afford much sharper vision and show no disturbing color fringes.

Providing the world with spectacle lenses of such excellence and clarity is an achievement in science; an achievement in distribution engineering is the system whereby, when one's glasses are broken in San Francisco or in Melbourne, Australia, a local optician can duplicate the lenses. When one considers the millions and millions of possible lens combinations, it is indeed a feat to provide opticians with precision equipment and lens stocks that permit prompt filling of any spectacle prescription.

It is difficult to overestimate the role cheap, accurate microscopes has played in the war on disease; it is difficult to overestimate the importance of restoring normal eyesight to hosts of persons, including many of the world's leaders in every field. Bausch & Lomb, under leadership of Edward Bausch, has pioneered in bestowing both these boons on humanity. It will be in public acknowledgment of the benefits Mr. Bausch and his organization have conferred on humanity that the Society of the Genesee will have him as honor guest this year.

Science Serving Mankind

Edward Bausch's Life Devoted to Increasing Man's Control over Vision and Time

"Will it serve mankind?"

Edward Bausch has made that question the central point of his industrial creed. As president of the great industrial organization, the Bausch & Lomb Optical Company, he has never asked, when a new invention, a new device in the highly specialized field of his concern has been proposed, "Will it make money?"

Entering the Bausch & Lomb Optical Company shortly after being graduated from Cornell University, Mr. Bausch's capability as an organizer and his high scientific gifts helped materially to bring the company which he has served throughout his adult life to its present pre-eminence in the development and manufacture of optical instruments. During these long years of service he has held zealously and unswervingly to the ideals of service to his fellow men. He has brought light where previously there was darkness; he has vastly aided the prosecution of industrial and medical science.

On Monday night, January 23, in the Hotel Commodore, New York City, Mr. Bausch will be the honored guest at the annual dinner of the Society of the Genesee, and many of his fellow citizens, as well as leaders in various walks of life in the Metropolis, will pay homage to this modest, unassuming industrialist and scientist, whose works have gone out from the St. Paul Street factories of his com-

pany to every section of the civilized world.

Son of Pioneers

Edward Bausch was born in Rochester September 26, 1854, the oldest of six children. His parents were John Jacob and Barbara Bausch. They left their birthplace in Wurttemberg, Germany, in 1849, partly because of the oppression following the unsuccessful revolution in Germany in 1848, which sent to this country a number of forward looking, intellectual Germans, many of whom later became outstanding in American affairs.

For a time John Jacob Bausch and his wife lived in Buffalo. A violent cholera epidemic, breaking out in that city, sent them to Rochester, and here they remained for the rest of their lives. In Germany Mr. Bausch had first become familiar with the optical business when he served a short apprenticeship for his brother, who was engaged in that trade. Arriving in Rochester, Mr. Bausch rented space in a clockmaker's window and attempted to establish an optical business of his own. Success was not instant; he was forced to abandon his window space, because of lack of patronage, and he turned for a time to wood-turning. In this occupation a buzz saw ripped off two of his fingers and the accident so handicapped him that he decided again to enter the optical business, this time opening a small shop in Reynolds Arcade.

Adversity still pursued him. At one point, when the business was on the verge of closing out, he managed to borrow a small but sustaining sum from Henry Lomb, a recently returned veteran of the Civil War, and with Lomb as a partner, the business was reorganized and given a fresh start. It was a humble venture in the early years, but the indomitable spirit of the two pioneers carried it through years of varying fortune to an ultimate and magnificent success.

Microscope Interests

As a boy, the son of the founder of the Bausch & Lomb Optical Company, young Edward Bausch divided his interests between music, of which he was particularly fond, and the activities of his father's shop. In the early days he assisted the partners in the manufacture of hard rubber spectacle frames; he composed a waltz, he studied Beethoven, Mozart and Haydn; he became, in the latter years of an impressionable boyhood, passionately interested in the possibilities of the microscope, a new and wonderful instrument about which his father often talked for hours.

In 1871, Edward Bausch entered Cornell University, from where he was graduated four years later. Beginning his business career the year of his graduation, he entered earnestly into the development of microscopes, a department of the Bausch & Lomb Optical Company only then begun. Under the guidance of an experienced German designer and computer, Edward Bausch and his brothers, Henry and William, did all of the optical work for a company exhibit of microscopes for the Centennial Exposition at Philadelphia in June, 1876, and continued this work for many years after.

Edward Bausch was sent to take charge of the exhibit and spent several months in Philadelphia. This gave him an opportunity for a wide acquaintance among visitors, microscopists, and also to study the construction and performance of instruments sent out by firms in the leading European countries. A further great advantage was the opportunity to see the developments and operations of machinery, all of which was to be of great benefit to him in his later career. He also had charge of Professor William H. Rogers'

Ruling Machine, which adjoined the firm's exhibit, and here acquired experience in making rulings on glass.

Early Demand Slight

To get a broader picture of conditions of that day, it must be remembered that there were no laboratories in either the educational or industrial institutions in the sense in which we know them today. The leading so-called microscopists throughout the country owned the instruments which the students used and the practice of requiring students in some of the leading medical schools to purchase their own microscopes only then had its beginning. Because of this the demand for instruments was very limited and the production exceeded the demand. This fact, coupled with some serious mistakes in the design of the instruments, brought the firm in 1878 very close to financial collapse.

The affairs of the company, however, were finally straightened out, and the business relied on solid foundations although before this was accomplished Henry Bausch, broken in health by his arduous labors, was forced to seek rest in Europe for a year.

During these early years Edward Bausch made repeated trips throughout the eastern states to obtain contact with the leading scientists and to exhibit the products being made at the Bausch & Lomb plants. In 1878 he married Matilda G. Morrell of Syracuse and Mr. and Mrs. Bausch went to Boston on a trip that combined a honeymoon with business.

Dr. Holmes Helps

For some time the company had noticed an increasing sale of microscopes in and around Boston. When Mr. Bausch and his bride reached that city, the

former made inquiry of the Bausch & Lomb representatives as to the reason for these sales. There, quite unexpectedly, he enjoyed one of the notable experiences of his life. He met that eminent figure in American letters, then a professor in the Harvard Medical School, Dr. Oliver Wendell Holmes.

"He was a small, dapper little man, of exceeding charm," Mr. Bausch said. "Mrs. Bausch, naturally, was tremendously thrilled. She says she will never forget that meeting; it was, in fact, for both of us, one of the

outstanding events of our lives." Meeting Dr. Holmes, Mr. Bausch learned one of the reasons for the increased sales of Bausch & Lomb microscopes. In his classes at Harvard, the distinguished doctor had encouraged his students to purchase microscopes for their own benefit and as a gesture of encouragement to an American industry which, he said, was doing a splendid work in the field of science.

Hears Edison Defended

Later, in 1878, while attending his second meeting of the Association for the Advancement of Science, at St. Louis, Mr. Bausch met another outstanding American, who at that time was only beginning a career that made him a world leader in his particular field. This man was Thomas A. Edison.

Mr. Edison, who had recently sold his invention of quadruplex transmission of telegraph signals to the Western Union Telegraph Company, was being derided in some scientific circles as a mere money-grubbing promoter. At the St. Louis meeting of the Association for the Advancement of Science, a famous American astronomer, who was familiar with the work Edison had done in electrical research, took the floor of the meeting in a stirring defense of the inventor.

"It was an impressive thing to hear the defense of a comparatively unknown young man whom later we came to know as a world figure," Mr. Bausch said, in relating this incident. "When the man who spoke in Mr. Edison's defense had finished, much of the skepticism that had existed regarding the sincerity and soundness of the inventor was dissipated. Mr. Edison at that time was a shy, retiring man. Even then he showed signs of the deafness that ultimately robbed him of hearing. My first meeting with him made a lasting impression."

Works with Eastman

In 1883 the Bausch & Lomb Company began the production of photographic lenses and this was followed by the Iris Diaphragm Shutter in 1888, which, with its later improvements, was the basis of all photographic shutters from that time until the present day. This invention brought about the first personal contact between Edward Bausch and George Eastman, which was to result in close and harmonious operations for many years, and which gradually resulted in the development of popular photography. The invention of new types of microscopes and new types of projection apparatus, marketed under the name "Balopticons," followed in quick succession, and the variety of microscopes was increased.

In the 80s the influx of European instruments became a serious menace. As instrument and optical work was entirely done by

skilled manual labor, and since European wages were much lower than wages in America, it was recognized that the aid of modern machine methods must be applied if the firm was profitably to maintain itself. This threw new burdens on the shoulders of Edward Bausch. Besides his work in the design of new instruments and in the computation of new optical work, he was forced to attack the problem of internal improvement, a problem with which he was engaged for many years.

In this work separate experimental rooms in which trustworthy employees were placed to carry out new processes, build new machines, and apply new methods, were required. Some of these new machine methods required years of study and trial, but in time the entire method of production was transformed and many of the methods introduced in this experimental era have continued without change. Others have been generally adopted by producers of precision instruments.

Gains Recognition

A recognized leader in the optical business, Edward Bausch was made vicepresident of the Bausch & Lomb Company in 1899. He was considered at that time a leading microscopist and inventor. Much of his time was spent in preparing papers on scientific study and lecturing to various groups of scientific men throughout the United States. In presenting him with a silver loving cup, Morris Earle, spokesman for the photographic dealers assembled for a conference called at the Bausch & Lomb plant in 1905, said, "Edward Bausch stands for all integrity, honesty and honor that is in the photographic world. He has been called the Prince of Rochester, but I give him another new name: He is the Prince of

American Photographic Public."

In 1908 he received the honorary degree of Master of Arts from the University of Rochester. In 1926 he became president of the Bausch & Lomb Optical Company, a position which he now holds.

The influence of the business which Mr. Bausch heads touches countless lines of human activity. More than a great industrial plant, it is a great institution for the advancement—the perpetuation—of civilization.

To realize this thoroughly one might attempt to visualize a modern world suddenly deprived of all optical instruments and devices. We would be instantly precipitated into the Dark Ages.

Medical research, so utterly dependent upon the microscope, would be seriously curtailed due to the lack of its most effective weapon, the microscope; railroad and steamship transportation, dependent upon time, would have to be stopped; photography would cease; men would stumble about the world with their impaired vision unaided by spectacles; automobiles could not be built and all of the great modern engineering projects would have to be abandoned. The pace of the world would again be slowed to ox carts, pestilences would kill off millions of the world's inhabitants, and transportation on sea would again go back to those tortuous three-month Atlantic crossings of Columbus. Civilization, as we now know it, would break down.

Time Control Vital

To make the first proof of this premise it might be well to consider time, and the dependence of most of our modern institutions on time. Time is established, checked and rechecked every day, through observations made of the heavens through telescopes. In this country this daily time check is made by scientists at the Naval Observation Station at Washington, D. C. Without the telescope, this work could not be carried on. And without time, chaos would quickly come to our modern life.

One railroad train running between New York and Buffalo, with no time schedule, would need an entire track of its own, with no other trains following or preceding it. Without time, the S. S. Europa, equipped with all other modern apparatus, except apparatus for the recording of time, might leave New York for Liverpool and instead of reaching its destination, the great ship might very reasonably run into the African coast.

Health, the physical welfare of man, would be set back hundreds of years without the use of optical instruments. In the days before the microscope came to the aid of medical research, the Black Plague, cholera, Asiatic cholera, yellow fever, small pox, diphtheria, tuberculosis and countless other diseases ravished entire communities and oftentimes made serious decimations in great nations. The advent of the microscope made possible, first, the discovery of existing microbes, both pernicious and benign; and, secondly, it permitted the observation of the growth and behavior of these minute organisms. These studies resulted in the establishment of the science of bacteriology.

Microscope Helps Canal

An outstanding and direct example of the results made possible in medical research through employment of the microscope is found in the construction of the Panama Canal. Here the feat was not so much an engineering accomplishment, as an achievement in preventive medicine. Pest-ridden Panama was an impossible place in which to live until the medical workers, armed with microscopes, invaded the land and began their attack on the yellow fever germ. In a short few years they transformed this disease-infested country into a place suitable for the occupation of both canal workers and civil inhabitants.

The microscope is as necessary to our individual or community welfare as clothing and food. It was Edward Bausch, who, over a period of years of experimental work in laboratories, and later in pioneer salesmanship, "popularized" the microscope by manufacturing these instruments at a price within the reach of most men engaged in research. The microscope, once the plaything of wealthy dilettantes in science and a few serious, but isolated scientific workers, has now become a common instrument in many fields.

It is indispensable in metallurgical research and in the research activities of various industries that employ metals in their capital operations. Thus, without the microscope, it would be impossible to develop the steel alloy that goes into, say, the front axle of an automobile and gives to that particular part strength sufficient to withstand the severe strain to which it is subjected at each unevenness of the road. The correct materials for the bearings of an automobile and various other automotive parts are determined by microscopic experimentation. How exact these determinations are is evidenced from the fact that frequently automobile bearings remain in good condition after the car in which they are a part has covered 40,000 miles.

Vision Helps Defense

Modern military and naval operations, without the employment of optical instruments, would have to be abandoned. By virtue of these instruments the firing of a gun on a ship or land battery may be controlled with accuracy up to a distance of approximately 17 miles. Small armament on shipboard and all large armament on land are equipped with built-in telescopes. Correct sighting of these will direct fire at a high degree of precision.

The submarine and trench periscope were important naval and

military accessories in the World War and binoculars were part of the equipment of naval and army officers.

It has been said, perhaps with a reasonable degree of truth, that one enemy ship, modernly equipped with optical instruments, could destroy the entire United States navy, if the latter were held on a given area of the ocean, providing the American ships were deprived of their optical apparatus.

Engineering and surveying are entirely dependent upon optical instruments, and through the use of these instruments it is possible to begin a great bridge from opposite sides of a river and have the last beam dropped into place with only a variance of a fraction of an inch. The same is true of a railroad tunnel often dug from the opposite sides of a mountain to meet in perfect line in the middle of the mountain.

Spectacles Help Genius

But perhaps the greatest contribution of the optical science lies in the field of artificial vision. Without spectacles, most men would be groping about the world, uneducated, uninformed, unobserving. Most of the great men of affairs today suffer from some impairment of vision which necessitates the use of spectacles. It was Theodore Roosevelt, a sufferer from this difficulty from early youth who, at 14 putting on his first spectacles, exclaimed, "I had no idea how beautiful the world is!"

Our presidents all down through the years, and even including George Washington, were aided by spectacles. Without the use of spectacles, many of our greatest geniuses would have remained impotent. Charles Steinmetz, the electrical wizard of the General Electric Company, whose work has been of such high importance in the modern world, could have carried out few of his experiments and realized few of his achievements without the aid of spectacles.

In the development of all of these inestimably valuable safeguards of our modern and aids to a more highly developed civilization, Edward Bausch has taken a leading part. Many times he has blazed the trail that others have followed. He has stood, first of all, for quality; secondly for a price sufficiently reasonable to make the devices that his company manufacturers available to the greatest possible number of users. He has been more the scientist than the industrialist; more the humanitarian than the captain of commerce. His creed has permitted no compromise with commerce when commerce has threatened the ends of science. He stands today as a man of great scientific knowledge, high capabilities as an organizer, and as a citizen of the Genesee, yes, and the entire nation, may well be proud.

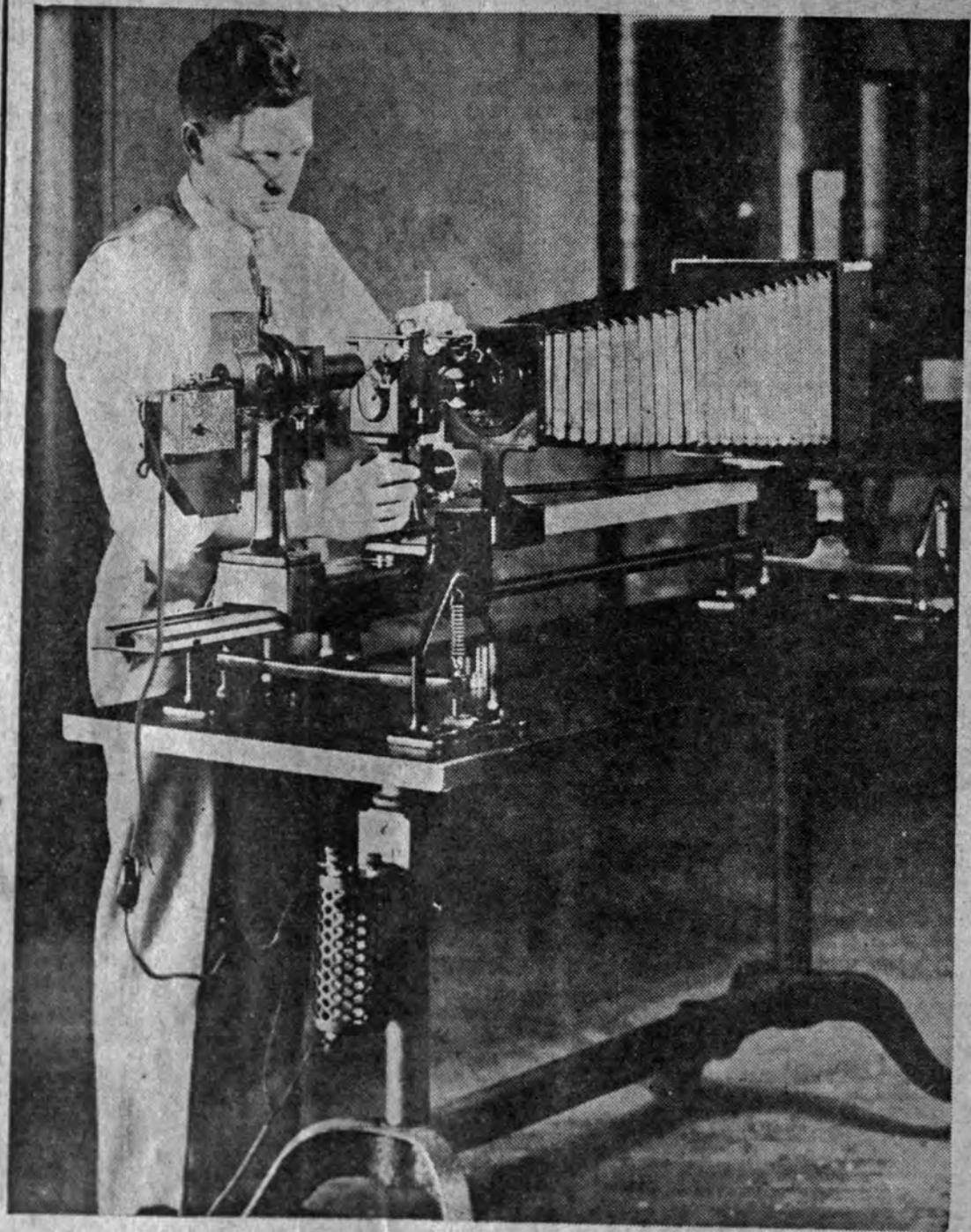


A pair of the earliest spectacles made by Bausch & Lomb, at about the time of the Civil War.

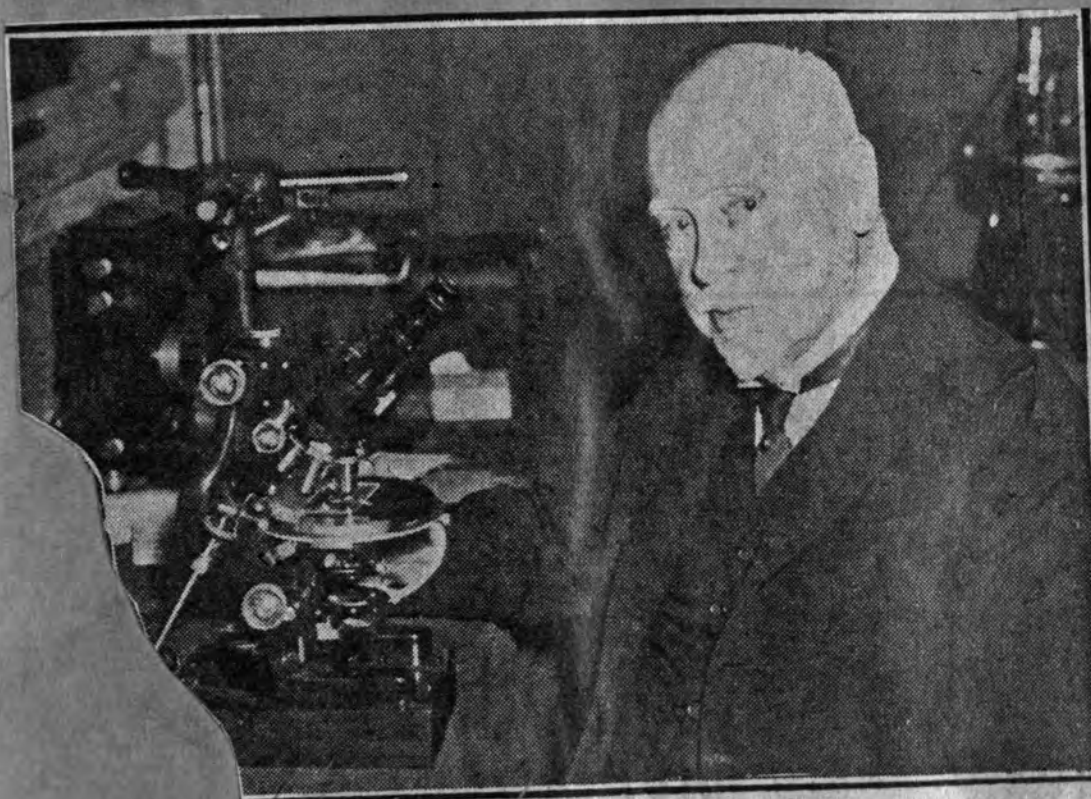
By Henry W. Clune



One of the many modern spectacle styles made by Bausch & Lomb today. Unlike the old-fashioned kind, modern eyewear enhances one's personal appearance.



A modern photomicrographic outfit, used by metallographers in the development of metals and their various alloys.



A modern Bausch & Lomb research microscope, shown in use by Dr. William Welch of Johns Hopkins University at a recent convention of The American Association for the Advancement of Science.



The first microscope made by Bausch & Lomb, over fifty years ago. The costume and the glasses are typical of the period.

GENESEEANS' GUEST OF HONOR BORN, ACHIEVED ON RIVER'S BANK

Rochester Public Library
54 Court St.

Edward Bausch Lived Close To Genesee

By ROY YERGER

ON the precipitous bank of the Genesee River, Edward Bausch was reared and there he has built the vast factories which are monument to his achievement in life.

So is it eminently fitting that Edward Bausch should be singled out for tribute by the Society of the Genesee, men and women who gather one each year to enshrine in memory their youth in the Genesee Country.

Of the hundreds of notables who will banquet in the Hotel Commodore in New York City one week from tonight, there will be few in whose lives the Genesee River has flowed more intimately than in the life of their guest of honor.

Edward Bausch, president of the world-famed Bausch & Lomb Optical Company, was born Sept. 23, 1854. His father, John Jacob Bausch, and his mother, Barbara Zimmerman Bausch, established the family home in St. Paul Street, near Vincent Street. The boy grew to maturity there, within sight and sound of the stately stream. He played on its steep wooded banks in the summer; and in the winter he skated on the river ice. He learned to love the rocky gorge from the thundering upper falls to the lower.

Today the rickety old Vincent Street span has been replaced by the broad John Jacob Bausch Memorial Bridge, named in tribute to Edward Bausch's father. And on the east bank of the river is the Bausch & Lomb Optical Company, a towering yet unselfish enterprise which in large measure is tribute to Edward Bausch himself.

REVOLUTION in Germany, cholera in Buffalo, and two fingers chopped from a man's right hand all helped shape the career of Edward Bausch.

When unrest and revolution rocked all Europe in the eventful year of 1848, John Jacob Bausch and Barbara Zimmerman were living in their native Wuertemberg



Here are photographs that portray the life of Edward Bausch. In the picture above he is shown (at the right) as he photographed an eclipse about 1900 outside the Bausch & Lomb plant in St. Paul Street. His assistant was the late George Hommel (left), then factory manager. 1, shows Edward Bausch at the age of 18, when he entered Cornell University, already having learned in his father's little shop a foundation in the optical science that was to be his life's work. 2, shows Edward Bausch at the age of 30, just after he had been granted his

first patent—a patent which has been followed by 30 others as his research produced inventions. Even today he has two patents pending. 3, shows Edward Bausch at the age of 70, just before he was elected president of the Bausch & Lomb Optical Company. 4, shows Edward Bausch as he is today at the age of 79, looking back on a long lifetime of achievement and looking ahead to a still greater future for his company. 5, shows Edward Bausch in his doctor's gown and cap as he received the honorary degree of LL. D. from the University of Rochester in 1931.

Won Renown In World of Optics

In Germany. The stern repressions that followed the abortive uprisings, drove them both, in company with a host of other intellectual Germans, to America in 1849.

In Buffalo, they met and were married. Dread cholera ravaged that city a year later and they fled to Rochester. Here John Jacob Bausch earned his living as a wood turner—until a mishap cost him two fingers on his right hand. He was impelled to return to the optical trade his elder brother had taught him.

First he opened an optical store in old Reynolds Arcade and in his spare time made spectacles and lenses. Young Edward often watched his father at work in the little one-room shop. Sometimes the boy would help, heating sheets of rubber on the family cook stove, then carrying the melting mass to the woodshed where his father with a hand press punched out hard-rubber spectacle frames.

Heating these rubber sheets was a responsible task, for a spoiled job meant serious financial loss to the Bausch family. Edward proved apt, and his father taught him lens work. At the age of 14 he constructed his first microscope, crudely copying an instrument made by Charles Spencer, the pioneer American builder of microscopes.

In Rochester, Edward Bausch attended a private school. Also he studied music and his life-long interest in the art was born. Not only did he play works of great masters; he composed pieces for the piano. His Cascadilla Waltz, composed in 1871 during his first year in Cornell University, was published and dedicated to his parents.

EDWARD Bausch remembers the Civil War well. For one thing, Henry Lomb, who had lived with his family and was associated in the struggling optical business, marched off at President Lincoln's first call for volunteers and promptly won a captaincy.

And the war boom brought a quickened demand for optical instruments. The Bausch business expanded to quarters at Water and River streets. These gains were not lost with the cessation of hostilities; in 1865 Henry Lomb opened a sales branch in New York City, and by 1874 Bausch & Lomb was ready to erect a three-story manufacturing plant. Perhaps Edward Bausch had a voice in the choice of the Genesee River bank site where Bausch & Lomb plants ever since have been located.

Edward Bausch graduated from Cornell University in that year 1874 and entered his father's business. He had faith in the future, for he argued the advisability of putting a slate roof on the new factory building, contending that the plant soon would need additional stories to handle its volume of business. The slate roof was put on, but in 1889 it was removed and extra floors were added.

The elder Mr. Bausch and Captain Lomb long had been ambitious to enter the field of higher optics, and in the fall of 1875, they began production of microscopes under guidance of an experienced German designer. When the Centennial Exposition opened in Philadelphia in '76, they had a creditable display ready.

Edward Bausch spent three months in Philadelphia in charge of this exhibit, meeting scientists from all over the world and studying rival instruments of European manufacture. Here he conceived the ambition he has so well realized—to bring the microscope out of the few laboratories into the many; to produce good microscopes on a large scale at low prices.

In 1876, there were only 15 microscopes in the country, each

made to order at almost prohibitive cost. Today, Bausch & Lomb has produced a quarter of a million microscopes. The instrument they list at a price of \$120 comprises 1,500 parts, some of which are

contrived to a degree of precision beyond any other man made element. Henry Ford himself has estimated it would cost him \$30,000 to build one similar instrument in his Detroit shops.

Yet this miracle was not achieved without struggle and trial. The company lost money on its first microscopes. There were anxious months and years. Through it all, Edward Bausch labored mightily, traveling about the country to obtain contacts with leading scientists and immersing himself in research at home.

In 1883, Edward Bausch was granted a patent on a microscope illuminating device. It was the first of the two or three dozen inventions of his lifetime. In 1888, he contrived the famed iris diaphragm shutter which, with later improvements, still is the basis of all photographic shutters. This invention brought personal contact between him and the late George

Eastman and for decades the two Rochester men worked together in fostering popular photography.

Today one of Mr. Bausch's closest friends is William G. Stuber, Mr. Eastman's successor as head of Kodak.

IT IS astounding to consider what the development of optical science has meant to the world. In 1876, the amputation of a finger was more often fatal than not. Cheap abundant microscopes, the fulfillment of Edward Bausch's dream, have changed all that.

Today nobody dies from the infection of a finger amputation. There is no yellow fever and no Asiatic cholera on this continent. Preventive research has achieved vast progress in hundreds of other diseases—for thousands of sciencemen granted a patent on a microscope microscope, have been studying these diseases.

Eyeglass lenses are one of Bausch & Lomb's chief products. Without spectacles some of the world's greatest men would be groping in half blindness and their talents forever undeveloped. Astronomy, metallurgy, engineering, surveying, military and naval operations—all are utterly dependent on optical science.

The man who has fostered such contributions to civilization assumes the stature of a public benefactor. In the case of Edward Bausch, such tribute is all the more deserving, for his associates in Bausch & Lomb testify that never has he asked the question which is the yardstick of most manufacturers:

"Will this new invention, this new product, return to the company a profit?"

Instead Edward Bausch has ever guided the pursuits of his company by this credo:

"Will this new device serve mankind? If so, we will produce it."

Edward Bausch, 83, Enjoys 'Bit of Golf'

Edward Bausch, chairman of the Bausch & Lomb Optical Company Board, is 83 years old today.

A family dinner to celebrate the event is planned in his home 663 East Avenue. On the eve of his 83rd birthday, Mr. Bausch described himself as in the best of health and still able to enjoy a "bit of golf."

Bausch Rounds Out His 83rd Year

Still able to enjoy a game of golf—and to work up a healthy "burn" when he muffs a shot—Edward Bausch, chairman of the board of the Bausch & Lomb Optical Company, will celebrate his 83rd birthday tomorrow.

A family dinner is planned to celebrate the event at his home, 663 East Avenue. He is in the best of health, he said today.

Edward Bausch at 82 Sticks to Job

Guiding Genius of Lens Empire Recalls Early Days in City

EDWARD Bausch's boyhood wasn't all play.

Although he was sent to private schools and later to Cornell University, he spent many hours helping his father in his tiny optical shop.

Possibly for that reason this was just another day at the office for the chairman of the board of directors of the Bausch & Lomb Optical Company.

But to hundreds of associates, friends and members of his family who called to congratulate him, it was his 82nd birthday anniversary.

Unobtrusive and almost shy, Mr. Bausch dislikes interviews. As a special concession to the occasion he pushed back a mass of business correspondence on his desk for a half hour of reminiscence.

TRACES PLANT'S GROWTH

HOOKEING his hands comfortably back of his head of thick gray hair, Rochester's leading industrialist slowly traced the growth of the plant from a tiny room in the old Reynold's Arcade, where his father carried on with two assistants, to the present mighty factory in St. Paul Street where more than 3,000 persons are employed.

The sole product of the original shop was an eyeglass with hard rubber rim, ground and fitted by hand.

Today no single catalog even lists all the 10,000 varied lines of optical instruments and supplies turned out by skilled craftsmen using the most modern machinery, much of it devised by Mr. Bausch himself.

"This very office," he said, "is just about on the site of the home in which I spent most of my boyhood."

The river gorge beyond then was no clutter of gas tanks, smoke-spouting chimneys, garbage disposal plants and coal piles.

THE RIVER BEAUTIFUL

"IT WAS like a park or a beautiful country spot with trees going to the edge of the water which ran swift and clear," he went on.

"We swam and played Indian and roasted potatoes. That was before Rochester had a sewage system or waterworks. We all had our own wells in those days."

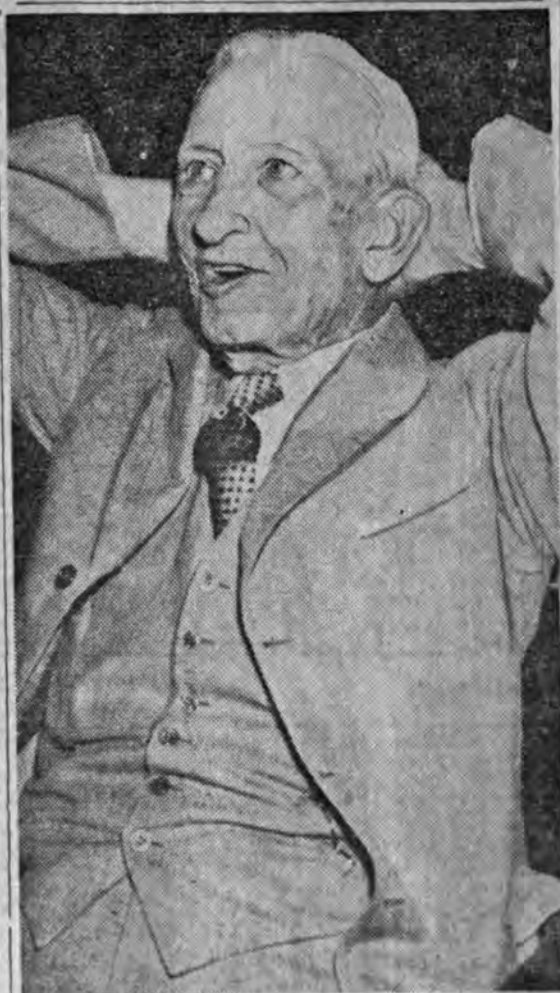
Although he has received honorary degrees and congratulations of presidents, governors and diplomats for his scientific achievements, Mr. Bausch is proudest of his firm's Old Settlers Club where 300 members all have been with the organization more than 25 years.

Passing years have brought no diminution of Mr. Bausch's interest in his work nor in his outside activities. He still bowls weekly with members of the Germania Club which he helped found 60 years ago.

The group first rolled on the Falls Field alleys in St. Paul Street.

Recalls Circus Grounds

"THERE'S a junk pile there now," he sighed as a somewhat mournful smile spread over his face. "The earliest circuses that came to town used to play there."



Dr. Edward Bausch

After a few years the bowling club moved to the Reisky alleys across the street.

"And there's a dry cleaning plant there," he lamented.

Many members of the old group now meet Wednesdays at the Rochester Club. Although the fixtures are more modern and luxurious they still stick to nine pins.

In the group are Carl Lomb, Will Bausch, Irv Winn, the Spiehlers, Adolph and Oscar, Jim Gleason, Will Drescher and Dr. Fritz Zimmer.

Mr. Bausch still likes golf, too. His summer was almost spoiled because his visit in Germany was so rainy he only got in three rounds. In his younger days Mr. Bausch circled 18 holes in the low 90's but he doesn't like to talk about his scores these days.

"It's as much fun as it ever was, though," he chuckled.

Nights Mr. Bausch likes to listen to music, read, or play a quiet game of rummy. Occasionally he plays bridge but thinks most people are inclined to take it too seriously.

Edward Bausch Personified as Ideal Industrialist

EDWARD BAUSCH, chairman of the board of Bausch & Lomb Optical Company, has been singled out by George E. Sokolsky,



Edward Bausch

noted author, lecturer and economist as the personification of the ideal, kindly, capable industrialist who helped create the mighty wealth of the country.

Sokolsky, an ardent radical until converted to the American system of government by personal comparison of its bountiful fruits with the poverty and hardships of existence under other regimes, wrote a sympathetic sketch of Bausch and his achievements in an article entitled "Economic Royalists" printed in yesterday's New York Herald-Tribune.

After a visit in Rochester Sept. 23 to address a luncheon at the Chamber of Commerce, Sokolsky wrote of his experiences and impressions as follows:

I WENT up to Rochester the other day and found myself involved in an endurance contest with an 82-year-old economic

royalist. It wasn't really a contest, for I gave out early in the race.

Climbing stairs, walking through factory rooms, looking at lenses and microscopes, down into the basement and over into another building — all this was nothing to the elderly prince of plenty. It was in the day's work.

Edward Bausch's father was a penniless immigrant from Germany. He borrowed \$60 from Henry Lomb and set up in the eyeglass business. This was back in 1853. He peddled glasses, built a factory and in time created one of the largest optical companies in the world.

Let me state the story in economic terms. John Jacob Bausch and Henry Lomb when they started possessed this capital: \$60; one had a knowledge of glass grinding; one was a mechanic. They also possessed energy, willingness to work, honesty and character.

WITH these as assets, they created jobs for thousands of men, developed a national industry; built a reserve of wealth for the city in which they lived; made the United States free from imports for an essential item in the national defense.

A rather neat job, I call it. Edward Bausch is the son. Lots

of Bausches and Lombs and cousins and son-in-laws and whatever you want, work in the plant — which, in my opinion, is sound business and sound sociology.

The day I was up in Rochester Edward Bausch had just come back from Europe. He had not been around, so we did it together. Lots of old-time Germans work in that plant — the kind that were so pleasant before the war — the pretzel-eating and beer-drinking kind.

Well, we got onto a freight elevator — and out went the right hand of the operator. He was as old as Mr. Bausch, I should imagine, by the look of him, and he acted the equal. He shook hands. "How are you, Mr. Bausch? Glad to see you back." And they smiled at each other. They were glad to be alive and working.

It is not paternalism that these men experience. It is a social equality between the worker and the boss. It is an understanding equality between the worker and the boss in which each man knows not his place, but his responsibilities and obligations to the other man. And what interested me so much was that the class-consciousness propaganda of the last few years had not brought bitterness either to the employer or the worker. These men knew each other and had faith in each other.

SO it went through the shop. One foreman or supervisor or something — a fellow working in muddy emery and rouge in the polishing room — got quite excited when he saw Mr. Bausch. He had worked out something. He wanted to show it to the old man. In another place I saw Edward Bausch turn on a young fellow: "How's your father?" And they had a talk on family

BAUSCH TO GET HONOR MEDAL OF ENGINEERS

D. & C. NOV 8 1936

Citations Also Go To Henry Ford, Cleveland

D. & C. NOV 18 1936

"For distinguished service in engineering and science."

Edward Bausch, 83-year-old chairman of the board of the Bausch & Lomb Optical Company, with Henry Ford and Dr. Ambrose Swasey of Cleveland, has been selected for honors by the American Society of Mechanical Engineers. The society has announced the award of its distinguished service citation to Mr. Bausch and the award, bearing the quotation given above, will be made at the society's annual meeting in New York.

To Henry Ford will go the Holley medal, bearing the inscription, "for great and unique acts of an engineering nature that have accomplished a great and timely public benefit." Doctor Swasey, scientist, president of New York State Baptist Education Society and patron of Colgate-Rochester Divinity School, will receive the Hoover medal.

Mr. Bausch at 83 still works at the plant daily. Among his inventions is one recently contrived with other members of the engineering staff, known as the "contour measuring projector." It is a microscope coupled with a projection apparatus with which can be projected a highly magnified image of small machine parts. It is expected to aid in testing the magnitude of error in the design of delicate machinery.

Edward Bausch Awarded Medal for Service In Engineering, Science

Times-Union NOV 17 1936

Outstanding honor came to a Rochesterian today when the American Society of Mechanical Engineers announced the awarding of its medal to Edward Bausch.

Mr. Bausch's name is linked with that of Henry Ford, who likewise will receive a medal at the annual meeting of the society in New York Dec. 1.

"For distinguished service in engineering and science," reads the citation of the chairman of the board of Bausch & Lomb.

Mr. Ford's citation is "for great and unique acts of an engineering nature that have accomplished a great and timely public benefit."

Mr. Bausch has been a constant contributor to engineering progress since he built his first microscope in 1872. He has had more than 40 patents issued in his name and others are pending.

Remains Active At 83

At 83, he is still active, working daily at the Bausch & Lomb Company. His latest work, which he shares with other members of the scientific staff, is the design of an instrument known as the "contour measuring projector." This is a combination microscope and projection apparatus with which the highly magnified image of small machine parts, tools and dies may be projected upon a screen for study and comparison. It is expected to simplify the task of measuring and showing the magnitude of error in the design of delicate machinery.

Mr. Bausch has been active in the optical industry since entering the service of the company in 1874, immediately after he left Cornell University.

In Charge of Exhibit

In 1876 he was in charge of the Bausch & Lomb exhibit at the Philadelphia Centennial. He made many trips to Europe to study foreign methods of manufacturing optical equipment.

Mr. Bausch is a fellow of the Royal Microscopical Society and a member of the American Microscopical Society. He is a life member of the American Association for the Advancement of Science, the Archeological Institute of America, Rochester Engineering Society, Rochester Historical Society, American Scene and Historic Preservation Society and the National Geographic Society.

He was active in the establishment of the Institute of Optics as

part of the physics department of the University of Rochester and the establishment of the Bausch & Lomb Physics Building at the university.

Engineers Plan Honor For Bausch

Edward Bausch, venerable Rochester inventor-scientist-industrialist, will receive the medal of the American Society of Mechanical Engineers Tuesday night in the auditorium of the Engineering Building in New York City.

Mr. and Mrs. Bausch left for New York today. They will stay at the Waldorf-Astoria Hotel in preparation for a round of dinners at which Mr. Bausch will be honored, prior to presentation of the medal Tuesday night.

James E. Gleason, president of the Gleason Works, will present the medal, bestowed on Mr. Bausch "For distinguished service in engineering and science."

Honor for Henry Ford

Henry Ford, Detroit industrialist and inventor, will receive a medal at the same meeting.

A group of Rochesterians, headed by Carl S. Hallauer, will leave Rochester for New York Monday night to attend the presentation meeting and to gather at a dinner given by Mr. Hallauer in the Commodore Hotel preceding the meeting of the society.

Guests will include: Mr. Bausch, Frank W. Lovejoy, president of Eastman Kodak Company; Mr. Gleason, Sol Heumann, president-treasurer of Keller-Heumann-Thompson Company, Inc.; Jeremiah G. Hickey, president of Hickey-Freeman Company; Carl L. Bausch, vicepresident of Bausch and Lomb Optical Company; Joseph W. Gavett, Yates Professor of Mechanical Engineering, University of Rochester; Henry Kurtz, and Carl R. Bausch, president and treasurer of E. E. Bausch and Son Company.

Holds 40 Patents

Mr. Bausch, who at 83 goes to his office at the Bausch and Lomb plant daily, where he is chairman of the board, built his first microscope in 1872. He now has more than 40 patents issued in his name and others are pending.

Among the distinguished guests who will attend the presentation meeting are: Dr. W. S. Ladd, dean of Cornell Medical College; Dr. Maurice Holland of the National Research Council, Dr. Duane Roller, editor of The American Physic Teacher; Dr. James P. C. Southall, professor of physics in Columbia University; Theodore J. A. Obrig, of Gall and Lembke Company, New York City; Dr. Clifford L. Treleven of the department of physics, Columbia University; Reginald Gilmore, president of the

Sperry Gyroscope Company, and L. N. Van Riper of the Optical Wholesalers' National Association.
Times-Union NOV 28 1936

Edward Bausch, Active at 83, Sees America Lead in Optics

D. & C. DEC 2 1936

Energetic and mentally alert at 83, Edward Bausch yesterday in New York expressed the belief that America leads the world in precise craftsmanship as he added the medal of the American Society of Mechanical Engineers to an imposing array of scientific honors.

The engineering award, presented in New York jointly to Henry Ford, was a reward for proving that German skill and patience, transported to America, can continue profitably to make bits of glass an eighth of an inch in diameter conform to within 1-200,000 of an inch.

Mr. Bausch, however, did not permit his questioner to remain long on the subject of scientific research.

He recalled Saturday's Army-Navy game, remarked about the record attendance of 102,000 and recalled another football game scheduled 62 years ago.

Rugby Game Banned

As president of Cornell University's Athletic Association, he had completed arrangements for a game to be played at Cleveland by students of the University of Michigan and his own alma mater who had been amusing themselves with a newly-devised American version of English rugby. The boys were ready to leave Ithaca for Cleveland when Cornell's president, Andrew D. White, informed young Bausch:

"I will not permit 30 men to travel 400 miles merely to agitate a bag of wind."

Turning again to science, Mr. Bausch said:

"It is my own belief that America leads the world today in precise craftsmanship while perhaps the best European work of that type is being done in England at present. I visit Europe every year to study new developments in optical instruments."

At 14 Mr. Bausch himself built his company's first microscope and at 83 he works in his laboratory regularly on the design of new instruments.

Works on New Design

His latest work is the design of an instrument known as the "contour measuring projector," a combination microscope and projection apparatus with which the highly magnified image of small machine parts, tools and dies may be projected upon a screen for study and comparison.

Mr. Bausch is a fellow of the Royal Microscopical Society and a member of the American Microscopical Society. He is a life mem-

ber of the American Association for the Advancement of Science, the Archeological Institute of America, Rochester Engineering Society, Rochester Historical Society, American Scenic and Historical Preservation Society and the National Geographic Society.

He was active in the establishment of the Institute of Optics as part of the physics department of the University of Rochester and the establishment of the Bausch and Lomb Physics Building at the University.

Another story on Page 1.

Engineers Give Bausch Medal for Optics Work

High honors in the science of engineering went to Edward Bausch in New York City last night.

The 83-year-old Rochester scientist and manufacturer, chairman of the board of the Bausch and Lomb Optical Company, was one of six, including Henry Ford awarded medals of the American Society of Mechanical Engineers at its annual meeting.

Mr. Bausch accepted the medal before a distinguished audience which included Dr. James Rowland Angell, president of Yale University and Paul D. Cravath, attorney.

Mr. Bausch announced earlier that his company, largest American manufacturer of gunsights and other optical equipment for the fighting forces, has inaugurated a policy which will restrict its sales to U. S. forces.

Million in Contracts Rejected

Refusal of contracts offered by France and England has cost the company a million and a half dollars, Mr. Bausch said.

The agile and alert inventor and manufacturer, who made his company's first microscope when he was 14 years old, touched subjects other than armaments.

He cited the rapid spread of the use of the spectroscope in crime detection.

"He helped to place America in the forefront of the optical industry," said James E. Gleason, president of the Gleason Works, in reading a citation of honor to Mr. Bausch.

Developed Machinery

"Early in his career, Mr. Bausch decided to devote his efforts to building up in America an optical industry as great as that which then existed in Europe. Realizing that American wage standards could not compete with those of Europe, he turned his attention to developing machinery that would duplicate the work of old world craftsmen.

"Old timers said it couldn't be done, but Mr. Bausch showed that it could."

Mr. Gleason cited the invention of lens grinding machinery as Mr. Bausch's greatest contribution to the science of optics.

Dr. William L. Batt, president of the society, in presenting the medal, said, "Mr. Bausch, this award has been conferred on many distinguished engineers. It is a pleasure to include you in this select company."

Sees Morals Above Engineering

Mr. Bausch, embarrassed by the applause which swept the formally attired audience, thanked Doctor Batt and bowed his appreciation of the ovation.

Among speakers were Doctor Angell of Yale, who called on en-

gineers to place morals and religion above engineering and economics in value to society and described the dependence of society today on achievements of the engineer.

Carl S. Hallauer, vicepresident of Bausch and Lomb, entertained at

dinner for Mr. and Mrs. Bausch before the meeting of the society.

Among dinner guests were Mr. Gleason, Frank W. Lovejoy, Sol Heumann, Henry Kurtz, Carl R. Bausch and Carl L. Bausch, all of Rochester.

M. Herbert Eisenhart, president of Bausch & Lomb, said today the company was continuously receiving requests from foreign governments for supplies of optical war equipment.

"We take the attitude, however, that we are not and should not be interested in supplying material to aid European countries in waging war against each other," he said.

"If the United States gets into war a different problem will be presented," he added.

National Science Society Honors Edward Bausch

RVF Biography, Bausch

T-M, Nov. 9, 1937

The parent chapter of Sigma Xi, scientific society, last night conferred alumni membership upon Dr. Edward Bausch, 83-year-old Rochester scientist, at his own university, Cornell.

The chairman of the board of Bausch & Lomb Optical Company was notified of the election, a signal honor for scientific achievement, today.

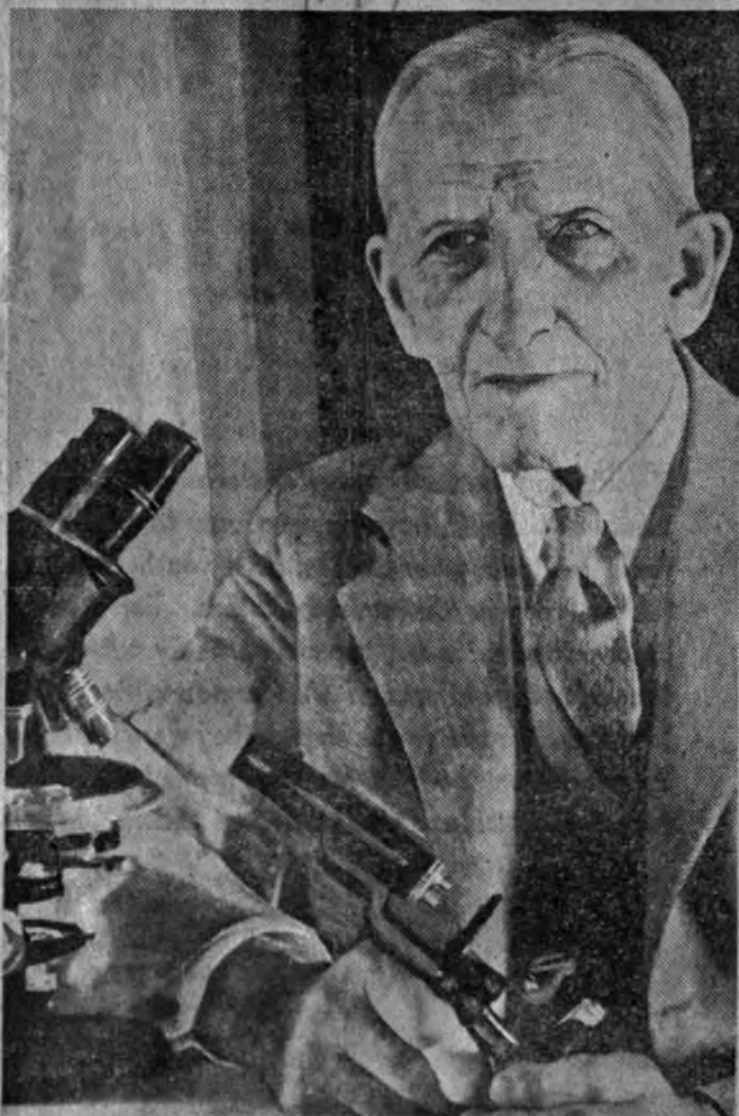
Best known for his invention of the iris diaphragm shutter which contributed greatly to the popularity of photography, Dr. Bausch is also noted in the optical industry for the construction of automatic grinding machinery which has cut the cost of optical parts and placed such instruments as the microscope within the reach of everyone.

Made Microscope at 14

Dr. Bausch constructed his first microscope when he was 14, and in 1875 was graduated from Cornell, where Sigma Xi was founded in 1886. Today there are 70 chapters in universities here and in Canada, with an active membership of 12,500, many of them distinguished men of science.

A pioneer in the field, Dr. Bausch has been identified with the optical industry for more than 60 years. He has more than 40 patents to his credit and is still active in his company's research work. In 1936 he was awarded the medal of the American Society of Mechanical Engineers for meritorious mechanical developments in the field of optics.

For 60 years Dr. Bausch has maintained close contact with workers in every field of science, thus bringing about construction of instruments made to their requirements and often from their sug-



EDWARD BAUSCH

gestions and aid. The Chamot chemical microscope and the Sharp research microscope he developed at the instance of Dr. E. M. Chamot and Dr. Lester W. Sharp of Cornell.

With the outbreak of the World War, the work of Dr. Bausch and his brother, William, was recognized when the National Research Council and the Naval Board found that experiments they had directed had resulted in the production of optical glass of suitable quality for fire control instruments, thus insuring America's independence of Europe in production of that material.

Backs University Institute

Dr. Bausch's interest in science has been further evidenced in his support of the Institute of Applied Optics, University of Rochester, and, by his contributions, with others, of the physics building at the university.

Dr. Bausch is one of a few alumni making important contributions to the advancement of science and human welfare who have been elected to Sigma Xi.

The society encourages original investigation in science, pure and applied, and among the more important of its functions are the maintenance of a fraternal spirit among scientists, holding of meetings for scientific discussion, and granting of fellowships.

Members are elected chiefly from among advanced and graduate students in scientific departments who have a high scholastic standing and have demonstrated unusual promise and ability in scientific investigation.

Only five alumni memberships in Sigma Xi have been granted in the past 15 years.

Back at his East Ave. home last night after attaining a coveted honor in scientific circles—alumni membership in Sigma Xi, scientific society—Edward Bausch opined there still is tremendous opportunity for young men in scientific fields.

Opportunities, as a matter of fact, are greater than ever, the 83-year-old chairman of the board of Bausch & Lomb Optical Company declared. With relatives and friends he had just returned by motor from Ithaca, where he accepted membership in Sigma Xi at Cornell University. Only five such memberships have been granted in the last 15 years.

"Naturally, I consider that a very great honor," he said last night.

To a chance question as to possibilities open to young men selecting scientific fields for their life work, he said:

"The scientific and precision field offers extraordinary good prospects now. With all of the advances that have been made, opportunities are greater than they ever were before."

The man who at 14 built the first microscope in the plant of his father, the late John Jacob Bausch, and who 69 years later still works in his laboratory regularly on design of new instruments, is not unacquainted with honors in scientific fields. He is a fellow of the Royal Microscopical Society and a member of the American Microscopical Society. He is a life member of the American Association for the Advancement of Science. Actively interested in historical lore, he is a member of the Archaeological Institute of America, Rochester Historical Society, American Scenic and Historical Preservation Society and National Geographic Society.

On his trip to Ithaca he was accompanied by Mrs. Bausch, his brother, William Bausch and his wife, and several friends. Following a dinner party Tuesday, attended by Cornell professors and men of high scientific rank, the Rochester scientist was present the Sigma Xi award Tuesday night. Yesterday, before returning home, Dr. and Mrs. Bausch were guests of President Edmund Ezra Day of Cornell.

Bausch Scientific Career Crowned by Sigma Xi Laurels

T-M, Nov. 9, 1937

Dr. Edward Bausch, 83-year-old Rochester scientist, was expected to return to the city late today after formally accepting alumni membership in Sigma Xi, scientific society, at Cornell University last night.

Dr. Bausch was accompanied by Mrs. Bausch, his brother and research associate, William, his wife and several friends, when he left yesterday to receive the honor, one of the highest given for scientific achievement.

Dr. and Mrs. Bausch were the guests today of President Edmund Ezra Day of Cornell and Mrs. Day.

Only five alumni memberships in Sigma Xi have been granted in the past 15 years.

Among the many achievements of the chairman of the board of Bausch & Lomb Optical Society is the invention of the iris diaphragm shutter, which spurred the popularity of photography,

IN CELEBRATION OF HIS EIGHTY-FOURTH BIRTHDAY Edward Bausch entertained informally at a cocktail party Monday afternoon from 3 until 5 o'clock at his home in East Ave. Here gathered a large number of relatives and friends to bring their felicitations and good wishes to one of Rochester's first citizens.

Times-Union SEP 28 1938

Bausch Gets High Honor at Cornell;
Says Science Opens Door to Youth

Work of Dr. Bausch Gains Signal Honor Of Scientific Society's Alumni Membership



Dr. Edward Bausch, who works just as hard today as he did when he was a young man, took time off from his work at the Bausch & Lomb Optical plant yesterday long enough to be informed that he had been named an alumni member of the Sigma Xi, honorary scientific society founded at Cornell.

Optical Firm's Board Chairman Still Active In Research

Dr. Edward Bausch's work day was interrupted yesterday. The Rochester scientist was notified that Sigma Xi, national scientific society founded at Cornell University, had conferred an alumni membership upon him Tuesday night. It was only the fifth such membership conferred in the last 15 years.

However, the interruption didn't last long for the 83-year-old chairman of the board of Bausch & Lomb Optical Company was too busy working in the huge plant as he has been for most of his life.

Vision of Scientist

Glancing at the thriving St. Paul St. factory with its immense buildings, one might form a mental picture of the man who guides its thousands of workmen—an industrial tycoon, hidden in a large marble and glass office, knee deep in Persian rugs and unreachable behind a formidable array of secretaries.

But glancing at the record of the scientist, Dr. Bausch, inventor of the diaphragm shutter, the Chamot chemical microscope and countless other optical devices, one might envision a white-haired, tired scientist humped over his latest creation in a musty laboratory.

A look at Dr. Bausch's office and the first impression wilts like an orchid in the desert. It is plain, no larger nor smaller than a dozen others in an orderly row on the ground floor of the building, easily available from a common hallway for all business offices and nary a secretary in sight.

Adept at Bowling

Dr. Bausch himself dispels the second impression. He is tall and straight, with a springy step that belies his 83 years, with a firm handshake and quick humor in his conversation indicative of an interest in world affairs.

He is a board member in three banks and two other businesses besides Bausch & Lomb but he would rather talk about golf or better than that—bowling.

Sixty years ago Rochester's Germania Bowling Club was formed. Two charter members are alive, Dr. Bausch and his partner, Carl F. Lomb.

"My golf isn't so good anymore," Dr. Bausch admitted yesterday. "In fact, I'd hate to tell you the score of the last time I played, but bowling's different."

At 83, the scientist still bowls regularly and turns in good scores—as some of the younger members of the club have found to their sorrow.

He has been playing golf for more than 30 years. "Ever since I could afford it," is the way he explained it. When Dr. Bausch started playing there was only one course in the city and golf was looked upon as a "sissy" game.

Work Sole Interest

For the first 50 years of his life almost his sole interest was his work and he often probed into optical problems from 7 a. m. until 1 or 2 a. m. the following day.

But he has a word of advice to younger men who would follow in his footsteps.

"Work intensely at something you like, but take time out to relax and play a little," he explained. "When I reached 50, I wished I had done a little more relaxing."

Although he retired as president of the company about three years ago, Doctor Bausch comes to his office daily, prowls through the many departments offering words of advice that solve many problems, stops for short chats with his hundreds of employees, most of whom he knows intimately, and works on some new optical developments.

Retire?

"What for?" he asked "I'm having more fun now than I ever did. I can work on things I want to and relax when I feel like it."

Plan to Mark 60th Wedding Anniversary

TIMES-UNION OCT 29, 1938



Mr. and Mrs. Edward Bausch of East Avenue who will celebrate their 60th wedding anniversary with a dinner Monday for 650 members of the Early Settlers Club of the Bausch and Lomb Company, at Oak Hill Country Club. The occasion will also mark Mr. Bausch's 65th year with the company.

A double celebration will take place on Monday night when Mr. and Mrs. Edward Bausch of East Ave. will celebrate their sixtieth wedding anniversary.

The affair which will be held at the Oak Hill Country Club will be in the form of a dinner for the members of the Early Settlers Club of the Bausch and Lomb Company of which Mr. Bausch is chairman of the Board of Directors. Wives of the club members, members of the families of Mr. and Mrs. Bausch and a few intimate friends will attend.

The affair will also mark Mr. Bausch's 65th year with the company.

On this occasion of their anniversary Mr. and Mrs. Bausch

wished to be surrounded by those early members of the company who have walked with them through the years of business development.

The Early Settlers Club has the distinction of being one of the oldest, as well as one of the largest organizations of its kind in America. Unlike many industrial employee organizations employees become eligible to membership only after having completed 25 years of continuous service. Membership at present is 380 with an average service record of 35 years. Present officers of the club are: President, Carl Wittig; vicepresident, John Gast; secretary, John Sabel, and treasurer, Henry Krause.

A reception will precede the dinner which will be served at 7:30 p. m.

Host Cuts Anniversary Cake



Mr. and Mrs. Edward Bausch cut cake presented by staff of Oak Hill Country Club at celebration of the couple's 60th wedding anniversary. Nine hundred guests attended the fete.

D. & C. NOV 1 1938

Friends of Bausches Fete Couple At Dinner of Early Settlers Club

A "few" friends of Mr. and Mrs. Edward Bausch of East Avenue went out to Oak Hill Country Club last night to join in celebration of the couple's 60th wedding anniversary.

Tables for the dinner occupied all available space on the main floor and balcony; automobiles of the wellwishers formed a continuous line on the country club road from 6:30 to 7:30, and when all the diners were seated they numbered 900.

It was a triple celebration—observance of Mr. and Mrs. Bausch's anniversary, annual dinner of the Early Settlers Club of the Bausch & Lomb Company, of which Mr. Bausch is chairman, and celebration of his 65th year with the company.

Clubhouse Jammed

Of the 900 guests, 60 were from out of town, more than 600 were club members and their families and the rest business associates and neighbors.

The clubhouse literally was jammed when Mr. and Mrs. Bausch arrived. They paused long enough in the corridor to allow photographers to "shoot" pictures before being escorted into the chrysanthemum-decorated ballroom by Carl S. Hallauer, company president. The 900 guests delivered an ovation.

At conclusion of the dinner a three-foot high cake was presented to Mr. and Mrs. Bausch in behalf of the country club staff. This was followed by presentation of a leatherbound book containing the autographs of the Settlers Club members, a desk set, tendered by Dr. Carl Huber in behalf of the Germania Bowling Club, and 60 roses, given by Mrs. Eva Frank, representing women of the club. Carl Wittig, club president, presented the autograph book. A congratulatory speech in behalf of the company's affiliated distributors was given by Reed McIntyre of Philadelphia.

Worked in Factory

A native of Rochester, Edward Bausch worked in the factory founded by his father, John Jacob Bausch, before going to Cornell

University. While at school he met Matilda Morrell of Syracuse, the present Mrs. Bausch. Graduating from Cornell in 1857, Bausch then re-entered the optical company and began experimenting on construction of microscopes. His father died in 1905 at the age of 91. Edward, having taken over presidency of the firm a few years before, continued in that capacity until his retirement several years ago.

The Settlers Club was organized in 1916 with a membership of 350. It has distinction of being the oldest as well as one of the largest organizations of its kind in America. Employees become eligible to membership only after having completed 25 years of continuous service. Present officers are: President, Wittig; vicepresident, John Gast; secretary, John Sabel, and treasurer, Henry Krause.

