

THE C. H. NORTON COMPANY NORTH WESTCHESTER CONNECTICUT 1886-1961



## **1886**

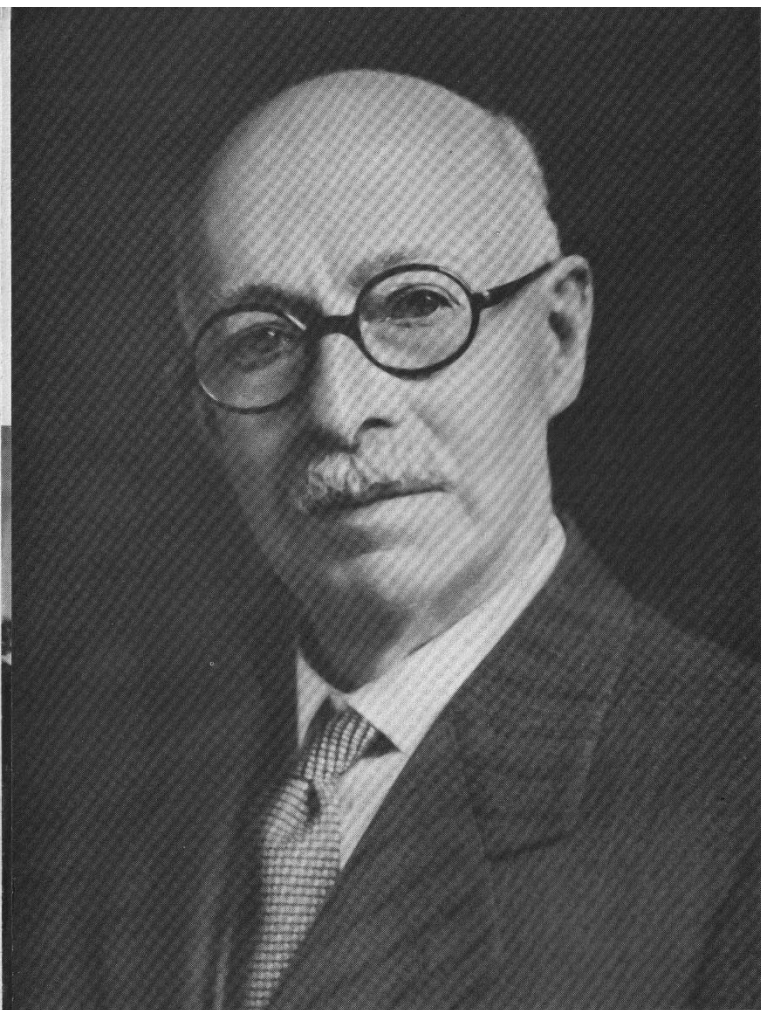
The early history of industry in the United States is largely a chronicle of the development of New England water power. The first settlements had to have grist mills, for grinding grain, and saw mills, and these required water for power. As industries developed, our major cities grew up on the banks of large rivers, where there was ample power for many factories. But in New England still there are hundreds of small towns and villages where some minor stream has provided power for many, many years and where there is at least one small factory still in operation. Deep in the New England woods, along unpaved roads, one discovers that even the smallest brooks were harnessed for power. Here, where there may be no other sign of civilization, are ruins of dams and mills where some early industrialist carried on his modest manufacturing operation.



The village of North Westchester, in eastern Connecticut, owes its existence to Jeremy Stream, a little river which starts in the hills of Hebron, then flows through pleasant valleys and meadows until it eventually joins the Connecticut River. The C. H. Norton Company also owes its existence to Jeremy Stream and the Norton family has a long association with it. In 1820 the current president's great-great-grandfather had a woodworking mill in Hebron on Jeremy Stream. Fifty years later, and five miles south, his grandson, Clarence H. Norton, had a grist mill on the same stream. In 1886 he moved across the road to establish a paper mill and now, 75 years later, the fifth generation Norton is still manufacturing on Jeremy Stream.

The right to use water for power was a precious right in early New England, granted to men who proved that they would use it well. One of the earliest water rights in Connecticut is on the Jeremy Stream in North Westchester. It was granted in 1725 and has served in turn to power a grist mill, an ironworks, a cotton mill and a paper mill. By 1938 when the picture at the right was taken, the paper mill had already begun to use steam and electricity as a supplement to the water wheel. During the hurricane of 1938 the river had a brief taste of by-gone glory: with electric lines down and water high at the dam, The C. H. Norton Company was able to supply the village with electricity. Soon afterward, however, the old water wheel was stopped forever, and electricity took over completely.





C. H. Norton had a simple but profound dignity. He managed his mill with policies which have long since disappeared. He worked in the heart of his mills, grinding grain or making paper, lifting bags of grain or heavy bales of paper, working directly with his employees. He also carried on personal negotiations with suppliers and customers who, in those days before the automobile, often came to stay overnight in the Norton home. In that older era a capable owner-manager could keep track of every detail and run a small mill without professional assistance.

C. H. Norton was operating a grist mill on Jeremy Stream when the paper mill nearby went out of business. The old water right there had been a valuable industrial property for many years, so he bought the mill (*see inside front cover*), without having any definite plans for its use. Consulting other paper mill operators in Connecticut he discovered that the wet machine paper process had great promise for the manufacture of rugged boards which could be used as substitutes for more expensive materials. He decided to go into operation and started his mill in 1886, making binder's board for book covers. Soon afterward he became a pioneer in this country in the production of button board for shoe and upholstery buttons. At the same time he began to sell shank board for shoes. In those days his method of production was effective but crude. The sheets of board were dried out in the fields in good weather, in lofts on rainy days.



In 1893 the old paper mill burned down and was replaced by the building shown at the right. Four wet machines were set up. Production increased and Norton boards enjoyed prosperous markets. After the first World War, however, the demand for button board nearly disappeared, and the company found itself with insufficient markets for its product. Edward H. Norton joined the company in 1920 and spent the next ten years exploring new possibilities while he learned the business. In 1928 a serious fire destroyed most of the machinery in the paper mill. C. H. Norton was then 75 years old. He turned the management of the company over to his son. Ed had determined that the most promising market for wet machine board was in shoe counters. He rebuilt the mill (*see inside back cover*) and installed equipment expressly designed for the production of counter board.

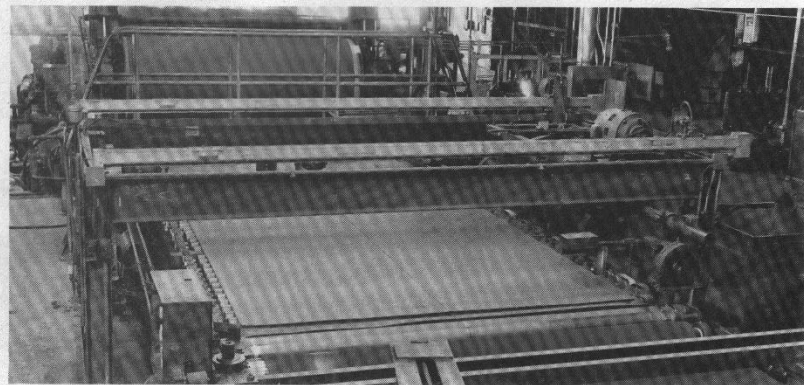




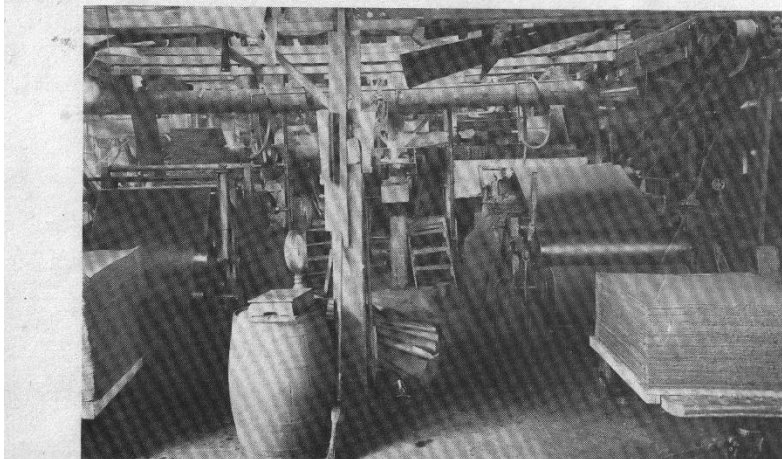
The paper mill Ed built in 1928 was modern, at the time. He installed a metal dryer in which sheets of board were hung on carts, thus freeing the company from dependence on the sun. The four wet machines were the best available. A new breaker beater and two finishing beaters were fitted with the types of knives considered ideal for producing the carefully brushed fibers required for counter board. Standards for shank, button and binder's board had not been severe, but counter board had to be moldable, durable and water resistant. A complete change in raw materials and fiber development was needed. There were already several well established mills making good quality counter board. The new path Ed had chosen for his mill was not an easy one.

Ed was a man of deep sentiment and amazing realism. He read the newspapers and business journals and enjoyed chatting about the rise and fall of stock markets and governments, but he felt that he learned more about business prospects from talking with visiting salesmen. He was profoundly attached to the policy of owner management which his father had established and proud of his father's achievements, but he recognized that in another era his ability alone was not enough to assure business success. He brought in the best professional assistants he could find and then gave them a free hand to contribute their best abilities to his team. He gave them his confidence and support and they were loyal to him.

In 1931 he hired Andrew N. Gilmour to be his superintendent. Andy knew papermaking from A to Z, as had his father and grandfather before him. He and Ed worked feverishly during the difficult depression years to perfect a high quality of counter board. In 1934, believing that he had such a product, he hired George Hall as salesman. At the same time he secured the services of the Wm. S. Richards Co. of St. Louis. Under the leadership of Mrs. Richards and Jack Reynolds, counter board from the Norton mill soon found markets in the growing St. Louis shoe industry. By 1937, with George and Jack urging him to make better board and Andy urging him to make more sales, Ed and his team had secured a permanent place in the counter board industry.



During the years of growing success, with the bad periods and the good, profits were reinvested in plant improvements. From 1940 to 1946 it was impossible to get new machinery, but Ed was busy planning for a massive modernization. In 1947 he replaced his four small wet machines (*left*) with one big one (*above*), fully automatic and engineered for modern, precision operation. In 1949 he added an automatic conveyor dryer. His new plant was modeled after pioneering done by other mills, but was the first in this country to have full automation from the start of the sheet forming process to the end of the drying process.





Nicholas Norton is shown at right next to the refining engine which was installed at the recommendation of Charlie Myers.

Behind him is the automatic dryer installed by his father (and named for his sister Nancy). After Edward Norton died in 1958 Nick became president.

He carried on the continuing program of plant improvement. In the picture below

Charlie is shown in front of the pulper which was installed in 1959. At the

same time the stock preparation system was altered to provide continuous flow,

constant recirculation and blending, and to provide for automatic control.

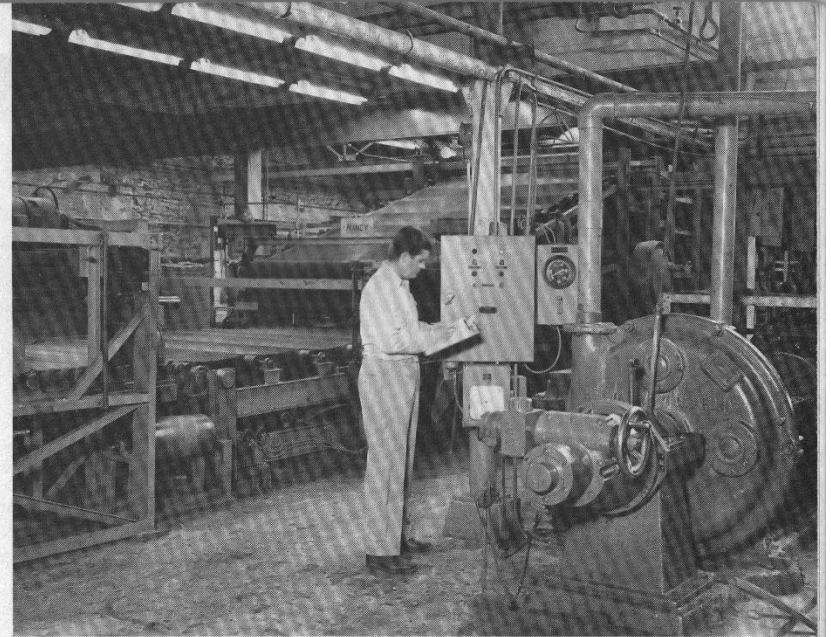
Once again, as with any major change, restless nights were spent, but the team

functioned smoothly as before and soon Nick and Charlie were satisfied that both

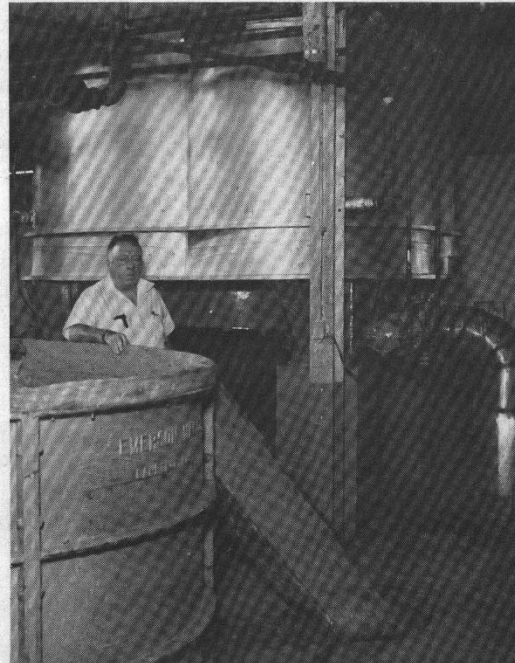
product quality and plant efficiency were at a new high. Also in 1958

Norton Williams, Ed's nephew, joined the company as vice president, contributing

his broad experience in business management on a part-time basis.

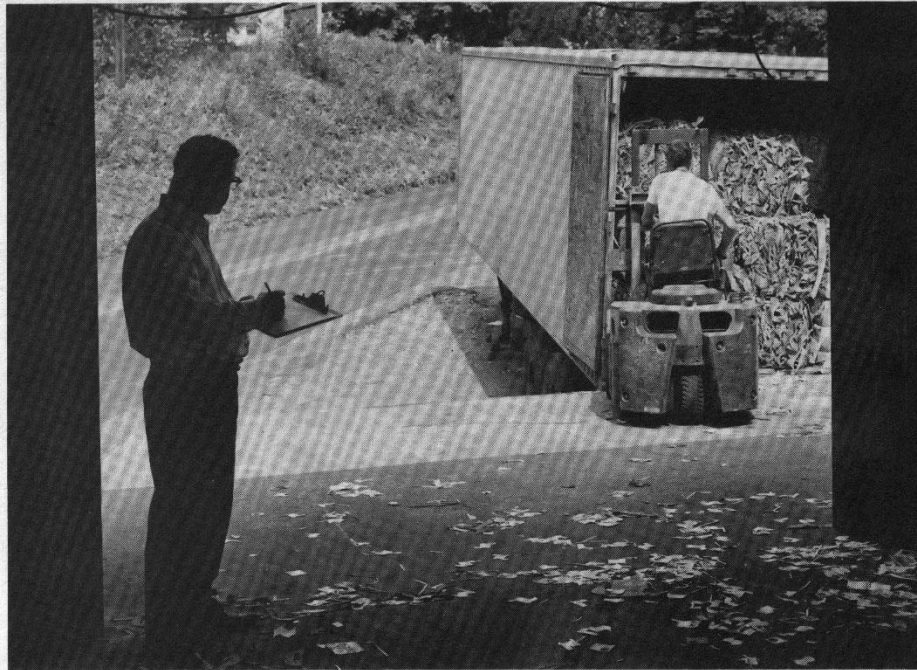


The years from 1947 to 1950 were full of restless nights for Ed. He and Andy struggled week after week to bring the new plant up to peak efficiency. Just as success appeared on the horizon Andy died suddenly, leaving behind a substantial monument of product and plant improvement. After a long search Ed found a superintendent who had the know-how he needed. Charles L. Myers was another man whose papermaking skill was learned from his father as well as from long experience. He had unique qualifications for filling a critical spot in Ed's team.



When Charlie arrived at The C. H. Norton Company the mill was at an important crossroads. The new machinery was installed and broken in. But there is a long distance from installation of first class equipment to achievement of first class operations. Charlie had a rare genius which was invaluable at this stage: he had a flair for experimentive engineering. Day after day he played with the intricate details of the automatic functions which had been installed. At the same time he recommended purchase of an additional refining engine to improve stock preparation, and a change in raw materials to provide a longer, coarser fiber. He felt that this would provide him with greater opportunities for precise fiber development and also give the board longer fiber characteristics for better molding. In an amazingly short time Charlie had the mill running smoothly and had made important improvements in product quality. The result which most clearly illustrates his ability is the fact that after he had installed a consistency regulation system with careful controls throughout the stock preparation system, the mill was able to stop weighing finished production to sort it into different thickness categories. We are now able to produce to exact specifications any thickness we require.

Paul Myers, receiving clerk, checks incoming load of raw material. The C. H. Norton Company uses the best materials available and blends them carefully to produce the ideal fibers for shoe board.

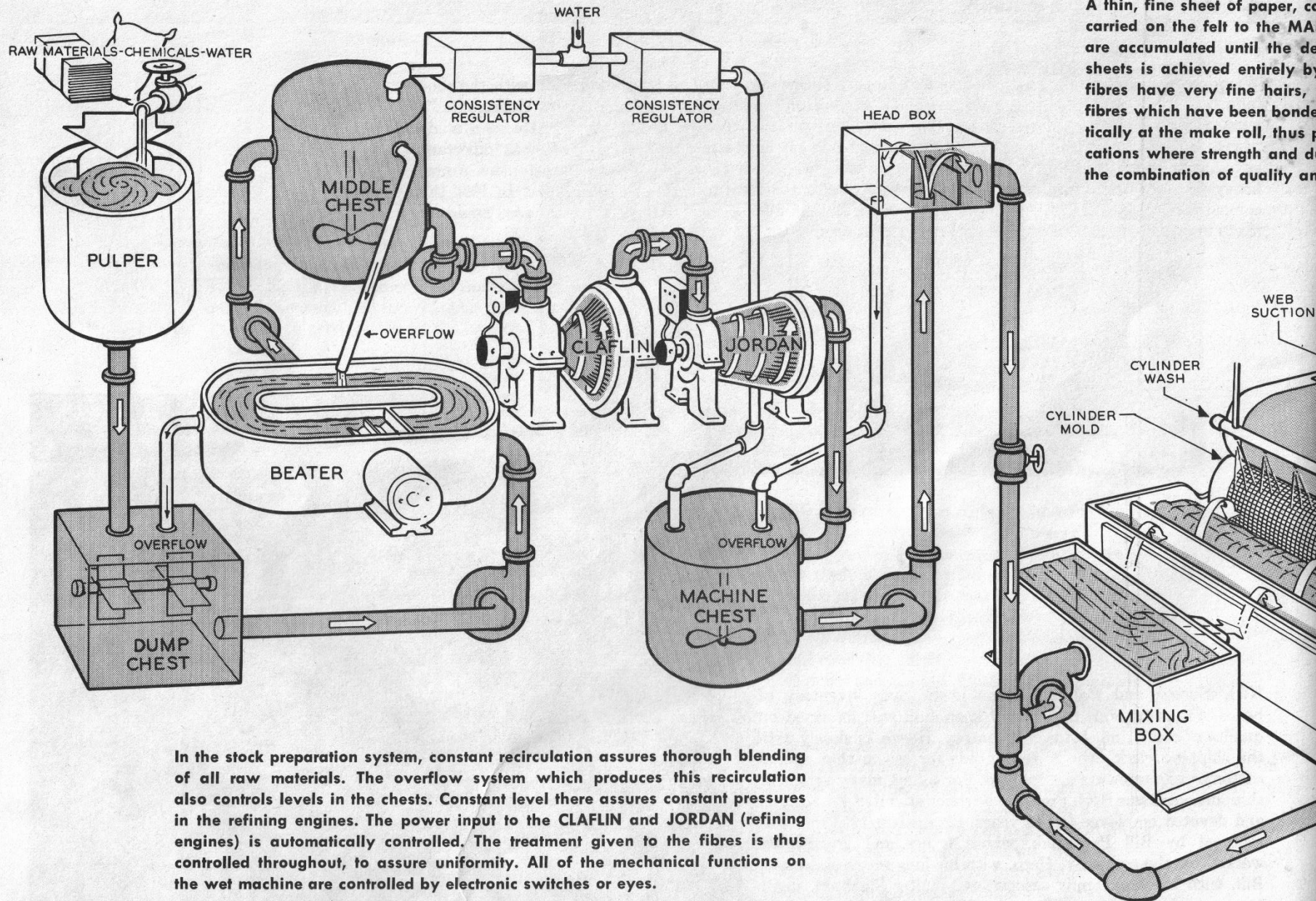


Bill Pasternak, shipping clerk, and Joe Weiner, calender operator, check thickness of board coming from calender. Frequent checks are made throughout the mill on all phases of the process. Every man is thoroughly familiar with the factors which affect quality in his section of the operation. The shipping and receiving clerks, the maintenance engineer and the two foremen are all trained in laboratory techniques and perform regular tests, both in process and on finished production. In our small mill every man must perform many different duties. Over the years our employee group has changed, yet retains continuity. Several men have been with us for many years. Some had fathers who worked here. After the war we were able to hire men who fled from eastern Europe. These men have varied skills and strong loyalties. Our customers' best guaranty of quality product is the alert and devoted men who watch over every operation with keen attention to detail.

When George Hall retired in 1952 Ed hired Robert Nickerson. Bob had long familiarity with the shoe industry. His grandfather had been one of C. H. Norton's customers for shank board. George Hall's outstanding selling had placed the company in a fine position, but Bob kept moving. He soon made friends in the industry and brought new business in. Bob has been aware that service is often as important as quality and has constantly suggested improvements in the service we provide to our customers. A new heavy skid has been introduced, as well as more careful attention to sheet size uniformity. In 1960 the company purchased its own highway equipment, so that delivery of board in the local area could be made under direct control of personnel devoted to serving the customers.

Nick Norton and Bob Nickerson check over inventory of board. Frequent trips to the mill keep Bob well informed on quality of board and status of inventory. He works closely with the shipping clerk, who is responsible for seeing that special customer requirements are fulfilled. For many, many years our shipping clerk was Herb Finley, a boyhood friend of Ed Norton, and devoted employee for 46 years. He died in 1958 and was replaced by Bill Pasternak, whose father and grandfather worked for the company. Herb, with his long years of service, Bill, with his long family association, Walter Stachura, night foreman, who has been with us for 32 years, Charlie and Bob, with their experience and ability, typify the service which The C. H. Norton Company provides to its customers.



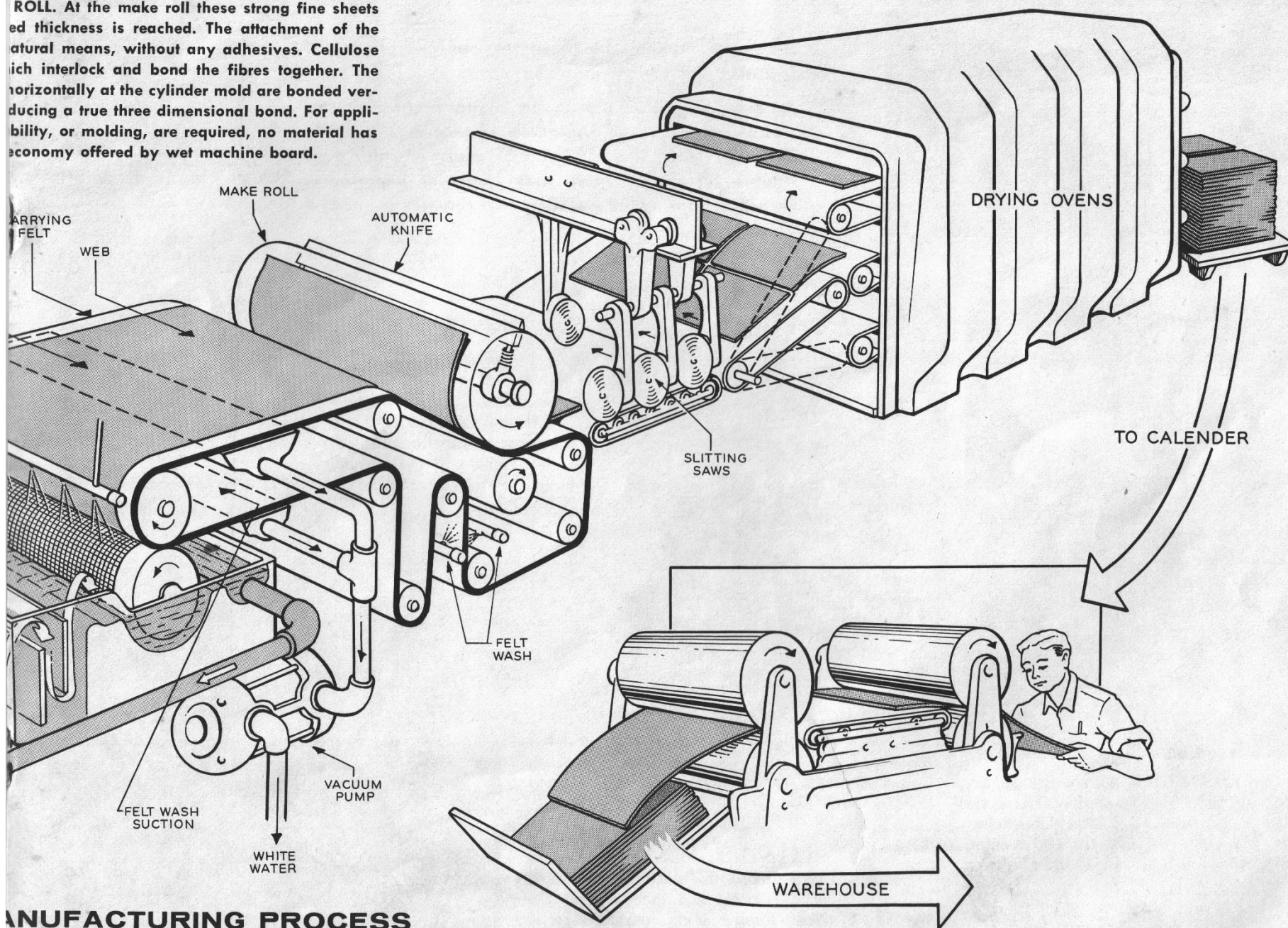


In the stock preparation system, constant recirculation assures thorough blending of all raw materials. The overflow system which produces this recirculation also controls levels in the chests. Constant level there assures constant pressures in the refining engines. The power input to the CLAFLIN and JORDAN (refining engines) is automatically controlled. The treatment given to the fibres is thus controlled throughout, to assure uniformity. All of the mechanical functions on the wet machine are controlled by electronic switches or eyes.

The wet machine process is used to produce a thin, fine sheet of paper, carried on the felt to the MACHINE. The sheets are accumulated until the desired thickness is achieved entirely by the fact that the fibres have very fine hairs, which have been bonded together at the make roll, thus producing a sheet of paper where strength and durability are the combination of quality and quantity.

DIAGRAM OF NORTON M

d to produce strong and durable, rugged boards.  
 d the web, is made at the CYLINDER MOLD and  
 ROLL. At the make roll these strong fine sheets  
 ed thickness is reached. The attachment of the  
 atural means, without any adhesives. Cellulose  
 ich interlock and bond the fibres together. The  
 horizontally at the cylinder mold are bonded ver-  
 ducing a true three dimensional bond. For appli-  
 bility, or molding, are required, no material has  
 economy offered by wet machine board.



**MANUFACTURING PROCESS**

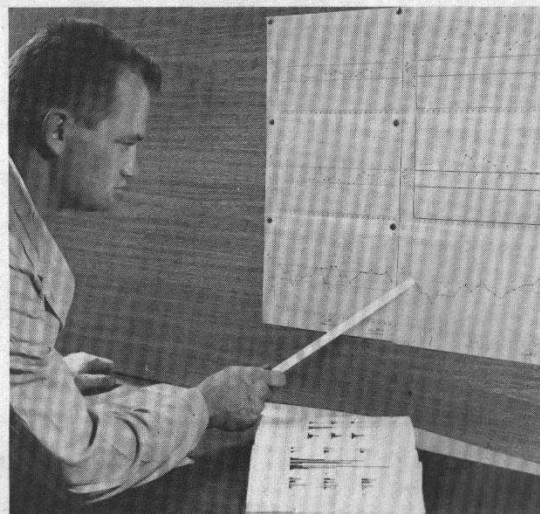
## QUALITY CONTROL

We use quality control to assure that our finished product will meet our customers' requirements.

An essential part of our quality control program is statistical control. Major variations in process are easily detected, but minor or gradual changes can cause trouble far greater than their apparent importance. Statistical charts and graphs reveal changes in product before they become serious.



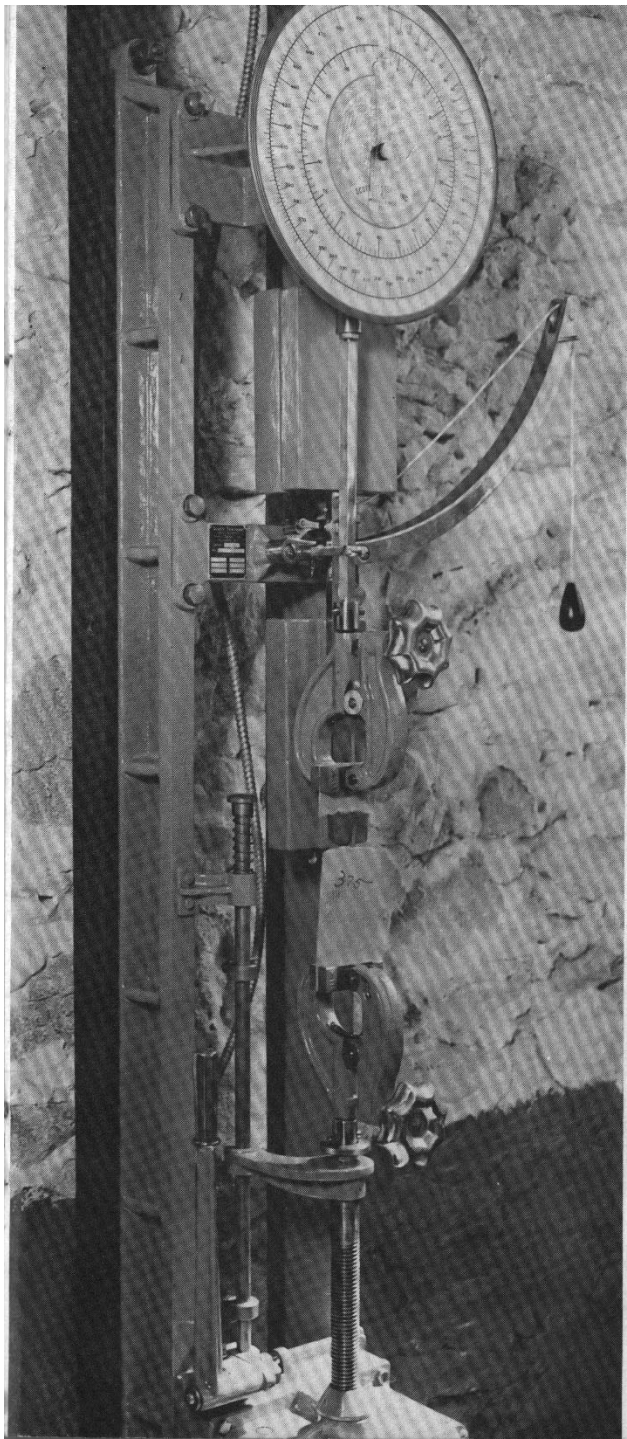
**PROCESS CONTROL** — Many checks are made of raw materials and product during the manufacturing process. Here Stewart Mosteller, maintenance engineer and trouble shooter, weighs a sheet of board to check operation of dryer.



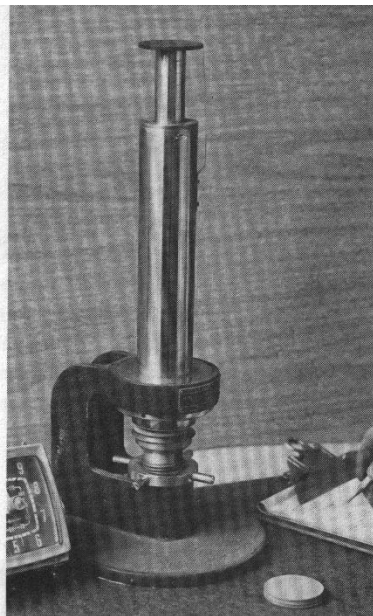
**CHART CONTROL** — Charts provide a permanent record of automatic functions and of test results. Our chart library is an invaluable part of our quality control program. Here a Quantum technician examines a record of dryer performance.



**STATISTICAL CONTROL** — Test data are recorded statistically by means of calculators and nomographs. Here Mrs. Evelyn King, our bookkeeper, develops statistics.



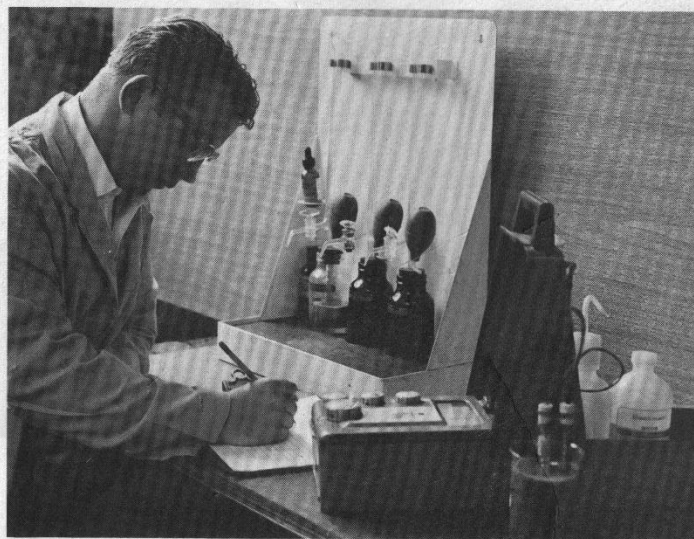
Scott Tensile Tester



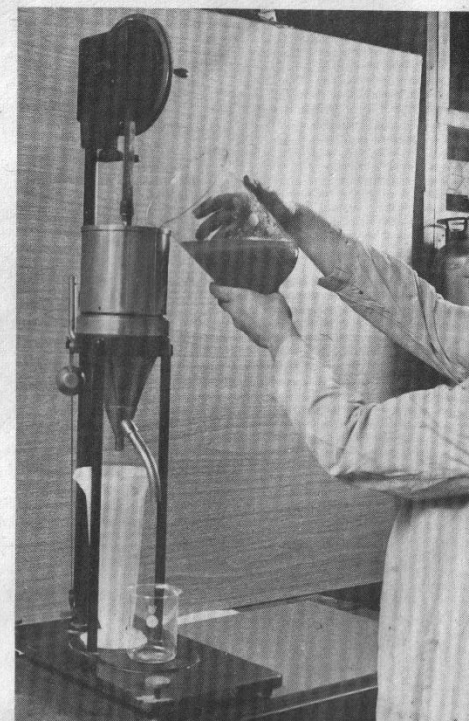
Densometer



Felix Czaja, night foreman, performing Mullen test, to determine bursting strength.



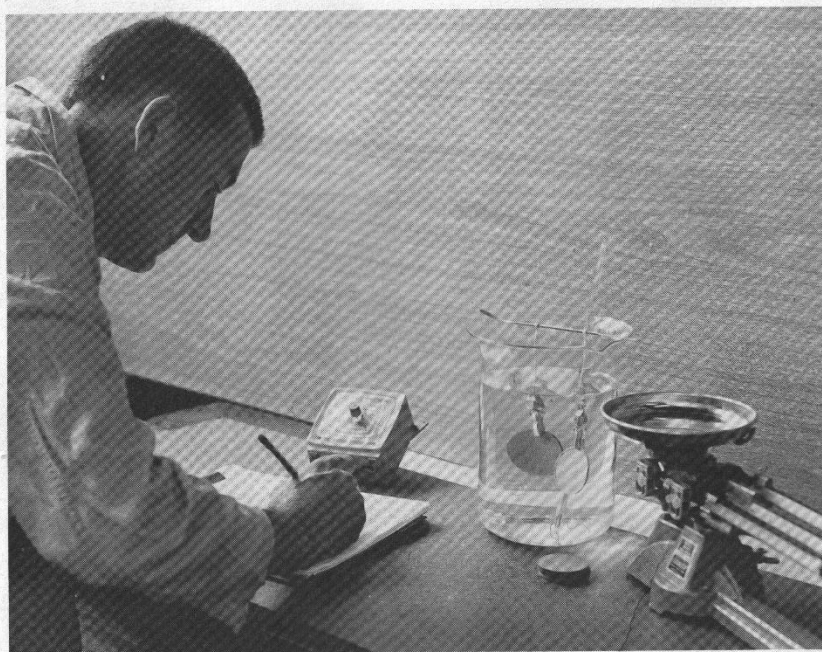
Paul Myers taking pH reading



Canadian Freeness Tester

## CONTROL LABORATORY

The backbone of our quality control program is our laboratory. Some standard and some original equipment is in constant use to test materials for physical properties. In this way we assure delivery of uniform and high quality materials. Typical tests made in the lab are flexural characteristics, water absorption, ply adhesion, bursting strength, tensile strength, density and compression set. All of the tests in our program are under constant review and we constantly search for new tests which will improve control of our product.



Bill Pasternak performing water absorption test, one of the key parts of counter board control.



Walter Stachura, night foreman, performing flexural test on FLEXTESTER, a device developed by The C. H. Norton Company.

## RESEARCH AND DEVELOPMENT

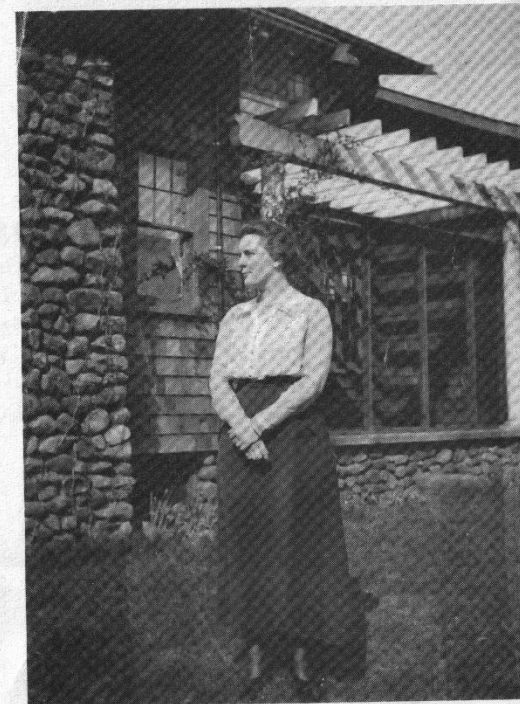
During 1961 The C. H. Norton Company chose the firm of Quantum, Inc. to work with it in research and development. This partnership between one firm which is experienced in manufacturing and administration and a second firm which is experienced in scientific method and broad research, offers to each opportunities for progress which cannot easily be obtained by small companies.



A technician at work on a Norton project in Quantum's fully equipped laboratories.



Executives of The C. H. Norton Company in conference with Quantum's staff. Norton Williams, Vice President, is third from left.



Miss Norton at the time she joined the company in 1911.

**SYLVINA C. NORTON, SYMBOL OF  
MANAGEMENT CONTINUITY AT  
THE C. H. NORTON COMPANY**

In the same year that we mark the 75th anniversary of her father's company, Miss Norton celebrates her 75th birthday and 50th year of service to the company.

Having been bookkeeper and corporation secretary since 1911, she partially retired in 1956. But when her brother died in 1958 she returned to full-time activity. She now serves as treasurer and office manager.

Thus Norton family management, which now extends into the third generation, is represented by an experienced businesswoman who provides continuity between our early policies and our new ideas, helping to put the two in proper balance.



Mr. and Mrs. C. H. Norton at the turn  
of the century.



Nort Williams with his uncle, the  
second president.



The third president gets early training  
in papermaking from the second president . . .

. . . and instruction in transport from  
the first president.



## **1961**

There is little of the appearance of a factory village about North Westchester. It has a quiet street with attractive lawns and houses, shaded by maples and elms planted long ago by forefathers of the present residents.

The current president is descended from the man who ran the first grist mill on Jeremy Stream in 1725, as well as from the owner of the iron foundry which operated there in 1800. He still has a crude cannon which was made in the ironworks and fires it off each Fourth of July. Over the years many new men have come to North Westchester and to the mill; most have stayed all their lives.

The mill and its staff is surrounded by friends and relatives. Jeremy Stream no longer turns the wheels of the mill, but it provides 250,000 gallons of water per day to make paper. Our traditions are old and strong.

