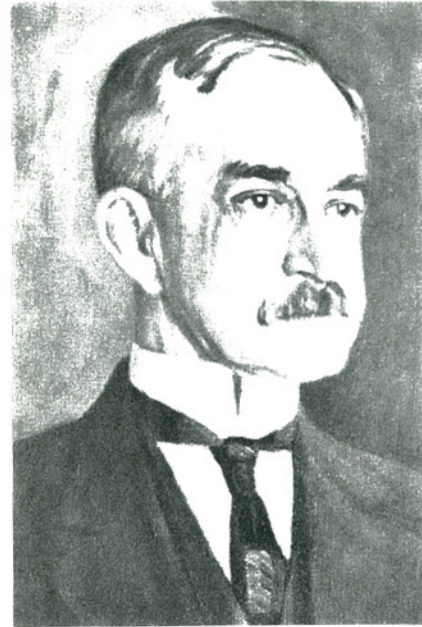
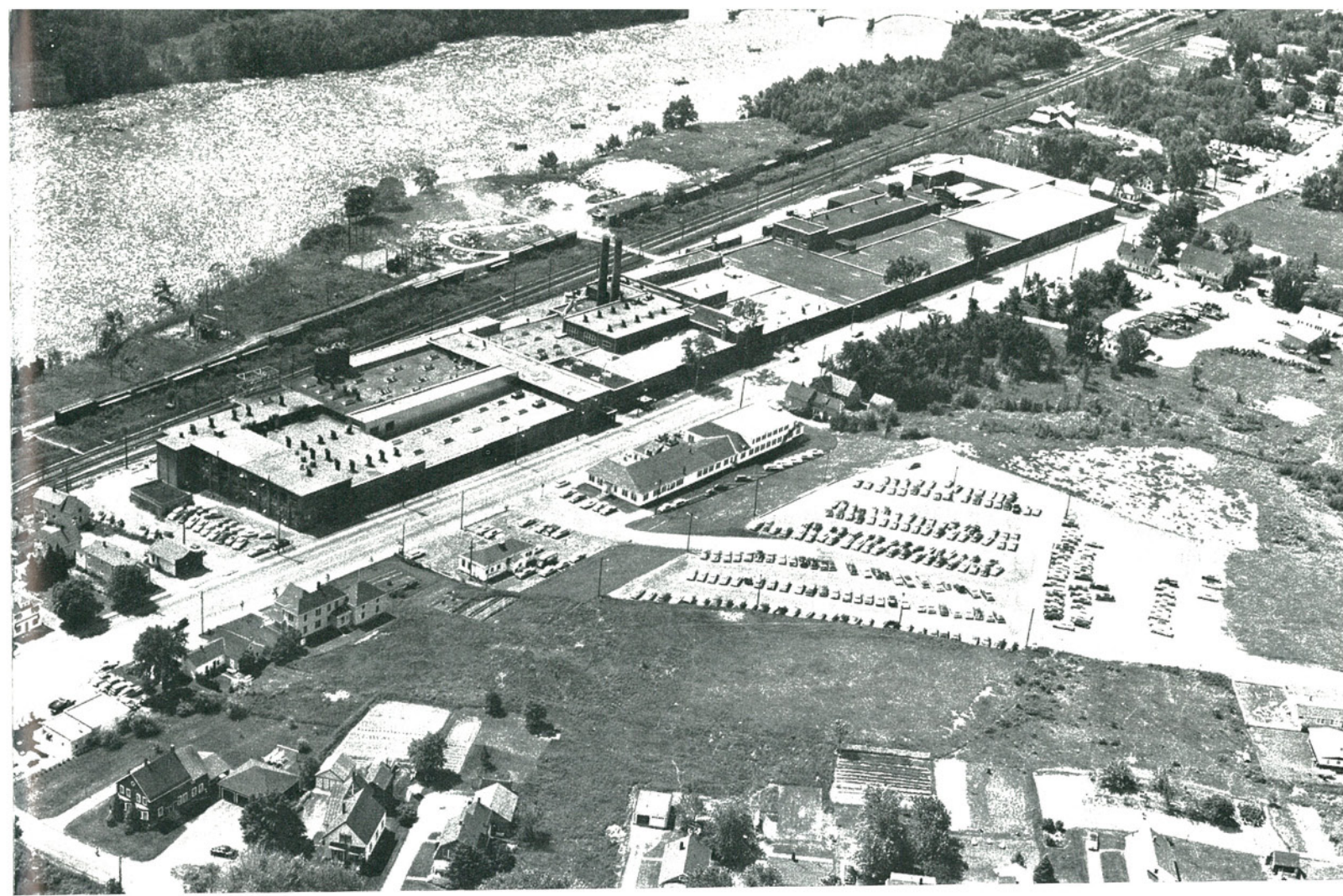


By Ernest C. Marriner



Above, Martin L. Keyes, founder of the Keyes Fibre Company. At left and below, early Keyes molding machines; the machine at the left is on display at the company's Maine office.

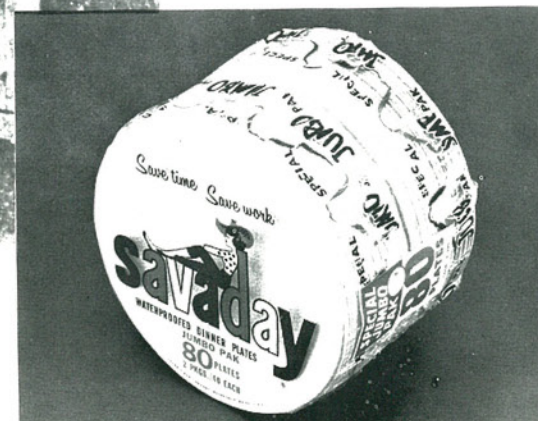
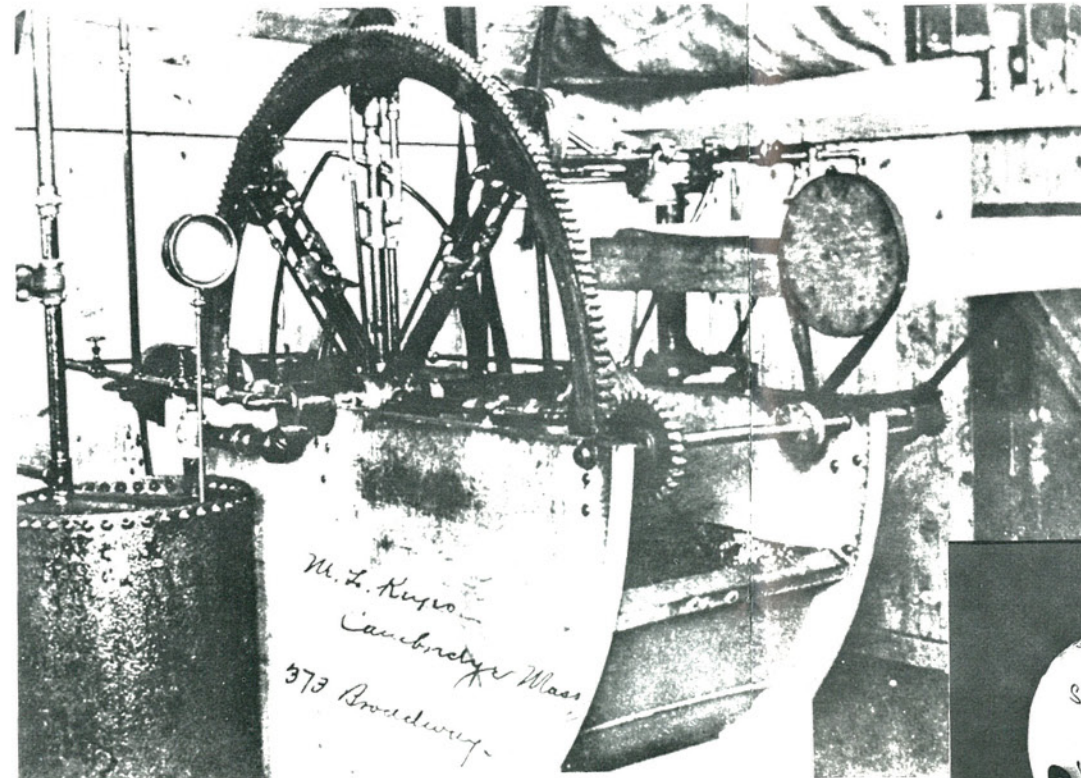


Above, Keyes Fibre Company's Maine plant, incorporating the original shop in the building's center, stretches along west bank of the Kennebec near Waterville.

Pulpwood to Pie Plates -- The KEYES FIBRE STORY

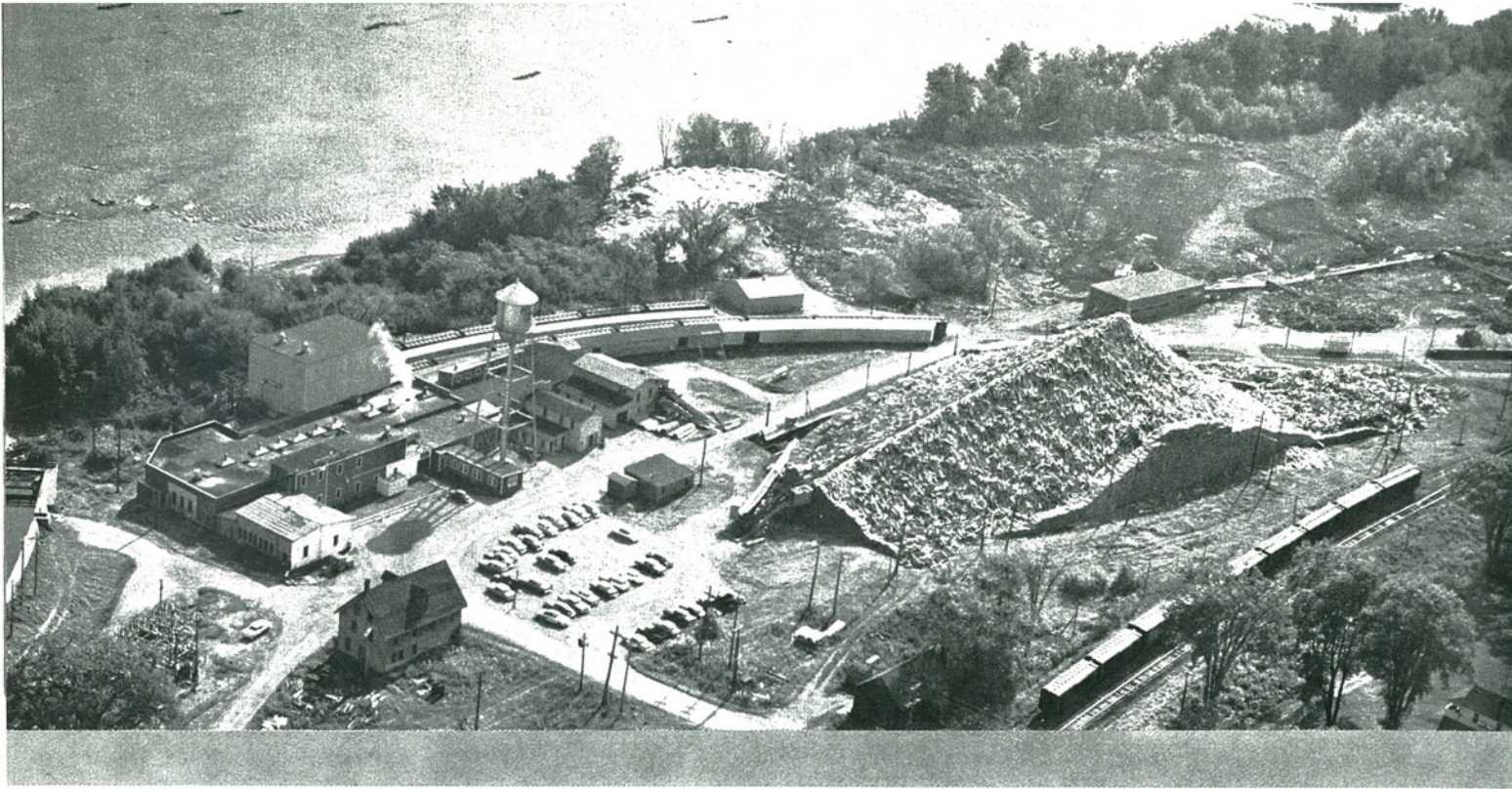
IN thousands of American towns there are oaks that grew from little acorns, but only in Waterville, Maine, is there a great industry that grew from a maple chip.

More than sixty years ago a young man named Martin Keyes, working in a veneer mill in upper New York state, saw workmen spreading their lunches on big chips of maple veneer, and pondered the possibility of making real plates from those chips. At the first opportunity, Keyes steamed some veneer and formed it into plates. The result did not satisfy him, but instead of abandoning the idea, he turned to ways and means of making the plates from ground pulp.

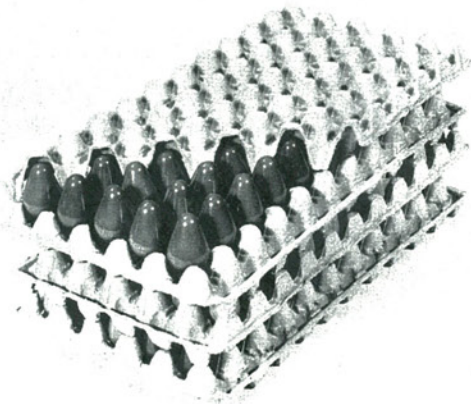


When he was still a boy, Martin Keyes had begun to invent things. At the age of ten he had made a fishing reel that he continued to use throughout his life. He turned out exquisitely designed furniture. Always he kept beside his bed a pad and pencil in order to jot down inventive ideas that came to him in the night. He was therefore no novice at invention when he produced the world's first successful plates from molded pulp.

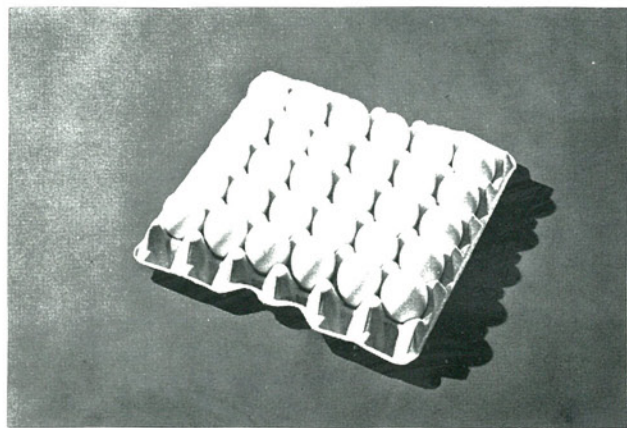
Keyes' problem was to devise both a machine that would turn out the plates and a process that would dry them efficiently. But there were arduous years of trial and error, hope and disappointment, between Martin Keyes' drawings and his finished machine, ready to turn out usable dishes of molded woodpulp. One of the many posers was how the plates could be removed from the molds. Keyes solved this problem by reversing the process of suction to one of repulsion from an air compressor. The question of drying the plates called for a dozen experiments before finally a conveyor was devised with an open mesh



Above, peeled pulpwood stacked at Keyes Fibre Mill, Shawmut, Maine, for manufacture into paper plates, pie plates, and prepacking trays for food products.



Keyes also manufactures filler-flats for packing Christmas tree light bulbs, above, and for cases for shipping eggs, below.



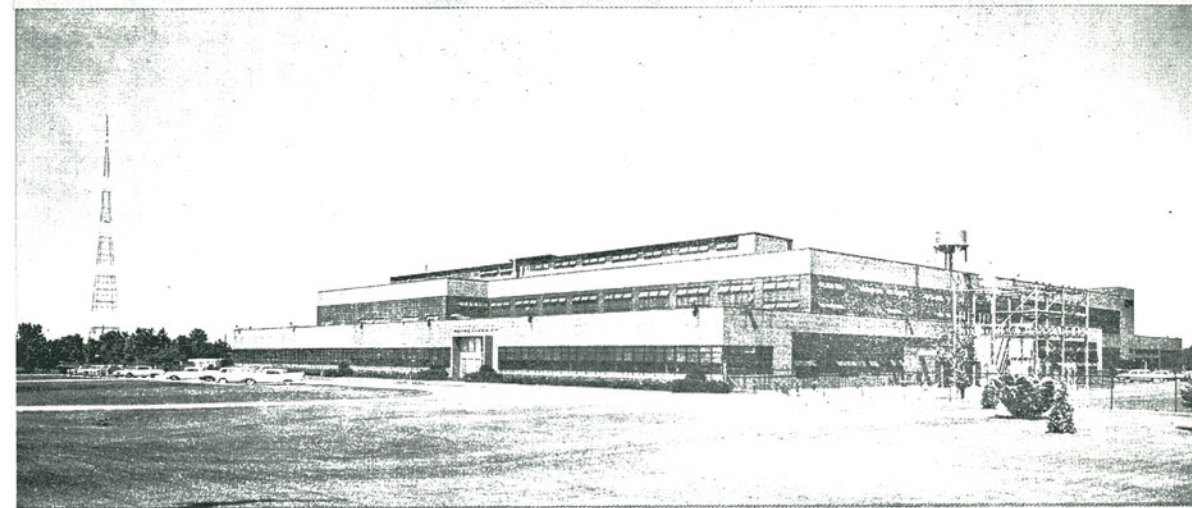
belt which traveled through a heated tunnel 150 feet long.

Although Martin Keyes was a native of New Hampshire, he was led to set up his novel machine in Maine because, in the 1880s, he had worked in a papier mache mill at Gorham. There he had become friendly with Edmund Sprague, who had since acquired an interest in the Portland Iron Works. When Keyes approached him in 1902, Sprague liked the design and agreed to make the machine. In order to try it out without undue publicity, Sprague advised Keyes to get in touch with a builder named Savage, who was then constructing a pulp mill for the firm of Lawrence, Newhall and Page in the Shawmut area of Fairfield. In turn, Savage told Keyes that he would find in Shawmut the man he needed to help him set up and try out the new machine.

This man was Bert Williamson, still living in a spacious home overlooking the present Keyes plant on the Waterville-Fairfield line. Williamson was at the inventor's side when the first shipment of a carload of molded pulp pie plates, for the use of bakers, left the Shawmut plant on June 24, 1904. He remained there through all the struggling, formative years, and continued in a supervisory capacity with the company for more than twenty years after Mr. Keyes' death. Bert Williamson has good reason to remember exactly when the mill at Shawmut was started. On November 2, 1903, he asked Mr. Keyes to let him have the next day off. "What are you



MACHINE AND PATTERN SHOP, WATERVILLE.

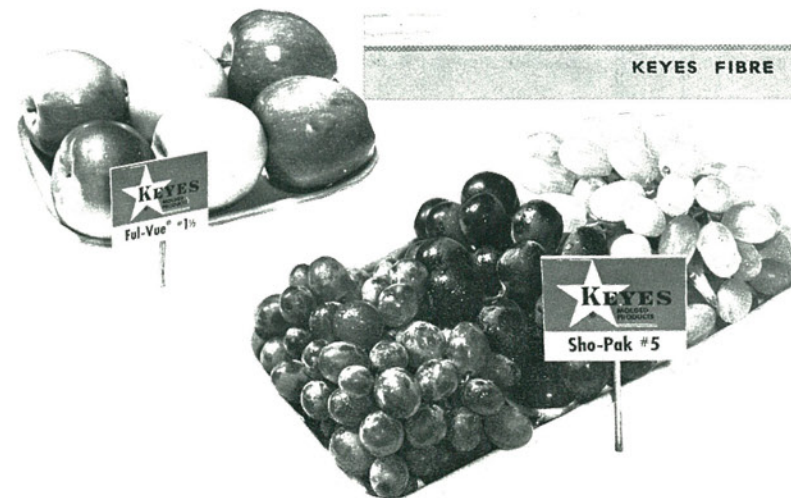


KEYES FIBRE COMPANY'S PLANT AT HAMMOND, INDIANA.



KEYES FIBRE COMPANY'S PLANT AT SACRAMENTO, CAL.

Keyes Fibre fruit and produce pre-packaging trays.





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thinking of?" protested Keyes. "You know perfectly well every day counts till we get this mill up." "Yes, I know," said Williamson, "but I'm going to get married." "Well, go ahead and get married," shouted Keyes. "You can have tomorrow off, but you make sure you're back here by seven o'clock the next morning."

Like many other inventors, Martin Keyes had little money, and it soon became evident that the only way he could develop a prosperous manufacturing business was to form a stock company. Charles D. Brown of Boston, an experienced salesman of fibrous products, agreed to assist in financing if he could have charge of sales. Help also came from Keyes' two brothers-in-law, William Brooks and E. H. Allyn, as well as from the three individual owners of the Lawrence, Newhall and Page firm. Counting Keyes himself and Nathan Hurd, a Boston attorney who performed the legal work, these comprised the eight original stockholders. Capital was fixed at \$150,000, an issue of 1500 shares at \$100 each. But from the beginning Mr. Keyes held control. His seven associates together owned 500 shares, and 1000 shares were allocated to Keyes in return for his assignment to the company of all existing and future patents.

Before he obtained exclusive patents Martin Keyes had to engage in considerable litigation. His first major victory in the courts had an unusual angle. All his life Mr. Keyes kept a diary, in which he recorded daily events, including a detailed record of his experiments to perfect a machine to make plates from molded pulp. After lengthy dispute, the court admitted Keyes' diary into evidence, and the jury decided that the daily items could not have been fabricated after the event.

THAT first carload of pie plates — which still leads older people of the area to refer to the Keyes plant as "the pie plate" — came near to being the last. Price-cutting competition from makers of stamped paper plates forced Keyes to close for several months in 1905. But somehow Brown rounded up a few orders and the plant reopened. Then in

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1906 the business got a sudden boost when a whole carload of plates was ordered by a single buyer in San Francisco, where earthquake and fire had created a big demand for disposable dishes.

Before Keyes' factory had been in operation four years, Lawrence, Newhall and Page sold their pulp mill. The new owners agreed to continue supplying Keyes with water, but within a year the timberlands that went with the pulp mill ran out and the new purchasers sold the plant, land and water interests to a company that planned to develop hydroelectric power. This forced Martin Keyes to move to a new site. He investigated possibilities in Gardiner, Windham and Westbrook, as well as in several towns in the upper New York area. Keyes, who was a prohibitionist, went with Bert Williamson to northern New York to inspect prospective sites over the Labor Day weekend in 1907. There they witnessed a parade in which a number of the marchers were intoxicated. Turning to Williamson, Keyes said, "Bert, you and I could never use that kind of labor."

Whether or not he was influenced by prohibition in Maine, Keyes decided to buy a piece of land east of the highway on the dividing line between Waterville and Fairfield. Here he erected a modest brick building, which turned out its first plates on September 20, 1908, and is still the nucleus of the giant

Best wishes to
the Keyes Fibre
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PINE & PAPER
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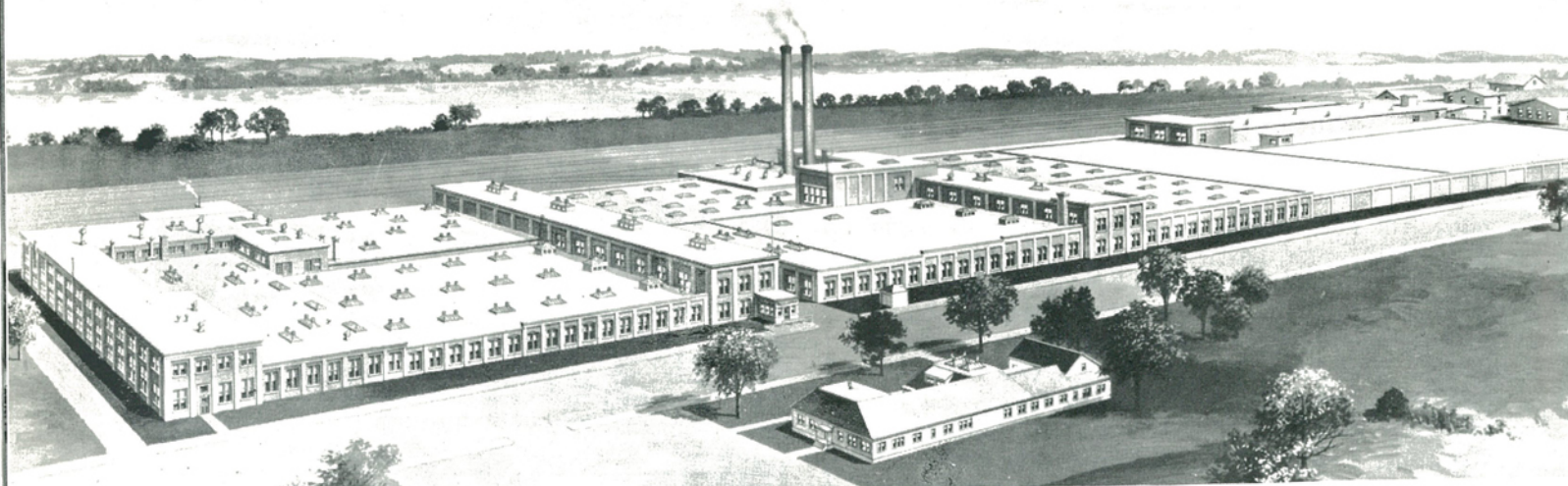
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Great Northern, the State's largest producer of newsprint and ground-wood specialty papers such as catalog, directory, and coated magazine papers enriched Maine's economy in 1963 by over \$67,000,000. Difficult to measure, but certainly a major factor in the State's tourist industry, was the money spent by those who vacationed on Great Northern lands. The company's 650 miles of wilderness roads and 100 campsites are major attractions to hunters, fishermen, and campers. Scientific harvesting of forest products and a wilderness playground go hand in hand with Great Northern.

GREAT NORTHERN PAPER COMPANY



Architect's drawing of the Waterville plant in the early fifties.

plant that now stretches half a mile along the roadway.

Although the company had been operating for five years when it moved into the Waterville plant, it still produced only eight separate items, all of them pie plates or trays in which grocers dispensed tub butter, lard, pickles, and similar commodities. Charles Brown marketed the products under his own trade name, giving neither publicity nor reputation to Keyes. In 1911 Brown's contract was replaced by one made with John M. Hart of Chicago, and business expanded gratifyingly under the Keyes name.

Martin Keyes died in 1914 and his son-in-law, Dr. George C. Averill, became president of the company. Keyes Fibre Company so prospered under Dr. Averill's management that, when it was sold in 1927, the net worth exceeded four million dollars.

John Hart played a significant part in the sale of Keyes Fibre. He had become interested in an improved machine for making articles from molded pulp, developed by Merle Chaplin, an independent inventor who had once worked for Keyes. A group of Maine men joined Hart and Chaplin in a venture to finance production with the new machine, which was set up in an unused building at the Bath Iron Works. But the promoters feared the stiff competition from Keyes. While the Chaplin machine was being tried out, the engineer in charge, Galen Watson, made plates, then beat them up into pulp again, as part of a plan to induce Dr. Averill to sell the Keyes Company. After long negotiation, Dr. Averill and his associates were persuaded to sell, and on August 11, 1927 the new owners set up the Keyes Fibre Company, Inc.

The leading figure in the new company was Maine's foremost industrialist, Walter Wyman, whose aggressive energies had built the Wyman Dam, resurrected the defunct Bath Iron Works, and turned a small power plant on the Messalonskee into the great Central Maine Power Company. As the new president of Keyes, Wyman characteristically planned immediate expansion of the business. At that time ev-

eryone believed that any connection with Samuel Insull was like owning an oil well, and when word got around that Insull was behind New England Industries which, in turn, was supporting Keyes, the prospects seemed bright.

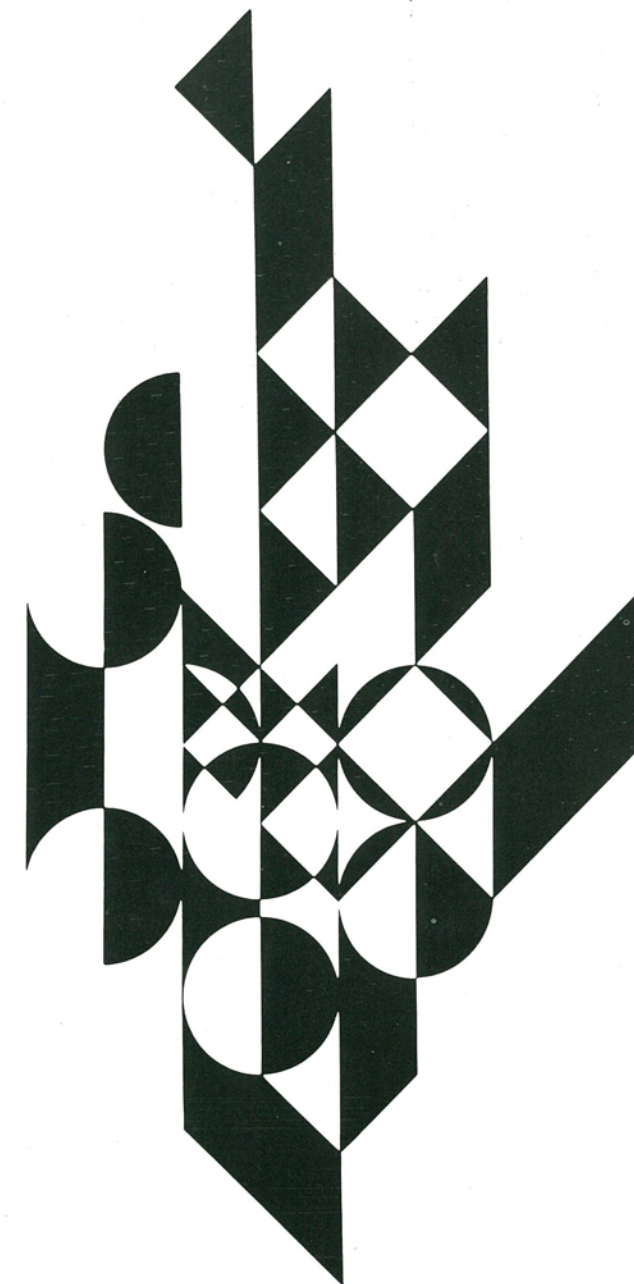
As a result of its expansion, Keyes Fibre was especially hard hit following the collapse of the American business boom in October, 1929. During the ensuing three years, when the nation saw the failure of more than 100,000 businesses, the permanent closing of 5000 banks, and the halving of national income, it looked as if Keyes would have to seek bankruptcy through failure to meet current obligations.

However Keyes Fibre, along with other industries, was saved when, in 1934, Congress passed the much needed Amendment 77B to the National Bankruptcy Act. This amendment provided that if a company could prove its solvency for the long run, despite inability to meet current debts, a U. S. District Court could grant permission for reorganization. Such a decision was declared in favor of Keyes in August, 1934, and in March of the following year the Keyes Fibre Company, Inc., was replaced by the Keyes Fibre Company, the name retained to this day.

Under the general management of Wallace Parsons, who later became president, the new company soon expanded, introducing egg trays, bottle packs, containers for electric bulbs and fluorescent tubes, plant pots, berry baskets, apple trays, Chinnet and Savaday plates and dishes in many sizes and shapes.

The now famous Keyes line of fibrous plastic articles, embodying a combination of pulp and resin, began in 1940 with the production of Kysite serving trays for cafeterias. During World War II the plastics division made caps for naval shells and pistol grips. After the war plastic salad bowls, cups and saucers, and tracks for window frames were added to the production lines.

A need for space in which to grow had preceded Keyes' wartime expansion. South of the Keyes factory was the plant of the Lombard Company, makers of



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the unique caterpillar tread log haulers that were the forerunners of the modern war tank. After the Lombard business had been closed, in 1941 Keyes acquired the land and buildings and, during the next twenty years, erected additions that finally gave the Keyes plant 1500 feet of front on the highway.

By 1947, when the sales of Keyes products had been in the hands of John M. Hart and his associates for thirty-six years, Keyes bought the Hart organization and set up its own sales department with headquarters in New York. That department was moved to Waterville in 1956, and took up quarters in the company's greatly enlarged office building.

Keyes has always designed and constructed its own machines and dies, and has maintained a corps of engineers, draftsmen and mechanics who work constantly at radically altering existing machines or designing and building new ones. One of Keyes' newest buildings houses the engineering shops in the Waterville Industrial Park.

The Keyes Fibre Company, with Ralph H. Cutting as president, now operates three large factories in Maine, Indiana and California, where over 400 items of molded pulp and plastic products are made by the millions each year. The men and women who put out this impressive list of products have increased in numbers from twenty-seven persons who did all of the work at the little factory in Shawmut in 1905, to

1000 workers in Waterville and Shawmut alone, with many more at Hammond, Indiana and Sacramento, California. In the original plant Martin Keyes paid his women workers ten cents an hour for a ten-hour day, and his highest paid employee earned \$2.50 a day. Nowadays, the Keyes wage scale is among the best in the pulp and paper industry, and its record of excellent relations between management and workers is demonstrated by the fact that Keyes has never had a strike.

For many years Keyes Fibre's operations have been international in scope, with the company receiving royalties for the use of its patents in Great Britain, Ireland, Holland, Norway, Denmark, Finland, South Africa, Argentina, Brazil and Chile. Recently a Keyes office has been established in London; a half interest has been purchased in Keyes Fibre of Canada, and the company's first foreign factory is being erected at Viul, Norway.

This far-flung Maine enterprise proudly displays, at the entrance to the Waterville factory, the little machine on which Martin Keyes made his first plates. And in the company offices, along with a photograph of Martin Keyes' birthplace in Lempster, N. H., is a fine portrait of the ingenious man who began the building of a great international industry at the moment when he observed veneer mill workers eating their lunches on improvised plates of maple chips.

STEEL SERVICE

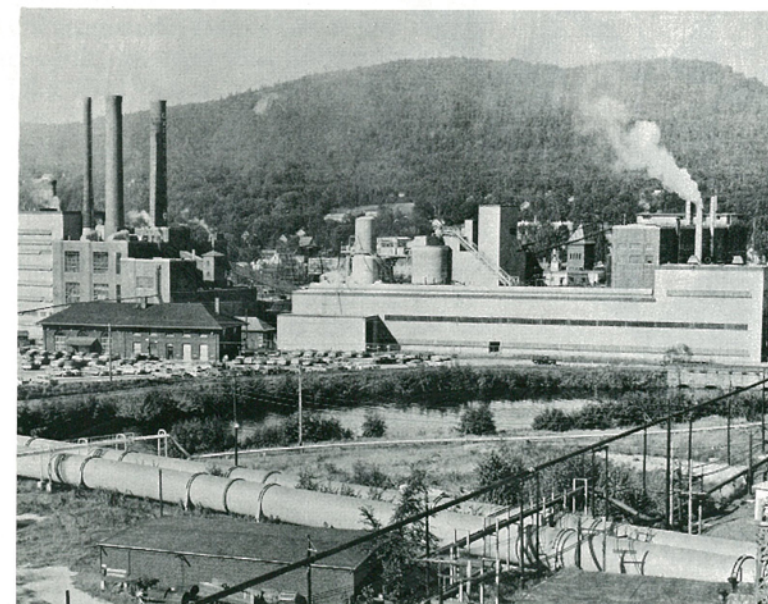
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