

How Is It Made? Trees-to-Presses Is Absorbing Tale

Vegetable Fibers Are
Base for All Paper;
Process Is Intricate

All paper is made from vegetable fibers. Trees, cotton, flax, jute, straw, esparto, sugar cane, cornstalks, hemp, bamboo and many other plants and grasses are used, but the finest quality paper comes from pulp of which spruce is the base.

The fibers of the spruce wood are strong, uniform and have been found to be best adaptable to paper making.

About half of a spruce log is usable fiber in a paper mill. The rest is lignin and other binding agents which must be removed. It is the job of the pulp mill, usually located near the forests, to separate the usable fibers from the rest of the wood. This is done by various "cooking" processes involving the use of dissolving agents—usually sulphites and sodas.

Cut Into Chips
After the bark and knots have been trimmed from a log, the wood is fed into enormous machines which cut it up into small chips. The chips go into great retorts called "digesters" where the "cooking" process soon dissolves, washes and drains away everything but the wood fibers. The result is paper pulp.

Pulps usually are blended at this point in accordance with the particular grade of paper wanted. Pulps of various kinds can be mixed such as tobacco, coffee and whisky are blended to improve flavor, aroma, etc. Modern paper mills have extensive laboratories and research staffs which constantly experiment with new blends and mixtures.

Many More Processes
Pulp is paper, but it isn't yet ready for commercial uses and must go through other intricate processes before it is in condition for the trade. The paper mill does this job.

Pulp fibers go through machinery which soaks them so thoroughly each fiber virtually is swimming around by itself. To help out in this, the mushy solutions go through "beaters" which crush and stir the pulp in great tanks and between iron "ribs." The pulp is flattened, frayed, beaten and otherwise maltreated.

Paper makers say paper is "made in the beater," which means its ultimate quality is determined by how well the pulp is beaten. In the beaters, too, color is added to the pulp if the finished stock is to be "other than natural white." "Size," that is water-proofing so the paper will take ink, is also added here, as are various fillers—china clay, fuller's earth, starch, etc.

Bleached by Chlorine
Bleaching is sometimes done in the beaters, although many pulp mills do it. Chlorine is the principal bleaching agent and it turns the pulp from its natural yellowish tinge to the plain white most paper must be.

The real miracle of paper making comes about in an extremely simple process. It is in the Fourdrinier machine that the watery pulp emerges as paper.

Fourdrinier is probably the most important name in paper making. Henry and Sealy Fourdrinier, two wealthy English brothers, patented themselves in perfecting a machine invented in 1798 by a Frenchman named Louise Robert. The latter developed a rough mechanism with a moving wire screen that made a continuous sheet of paper. Up until that time, 1798, all paper was made by hand, one sheet at a time, in wire-bottomed moulds.

The Fourdriniers acquired the Robert patent and worked out a machine which is basically the same today.

Liquid Paper First
"Liquid paper" in the form of pulp which is 1/2 of 1 percent pulp and 99 1/2 percent water flows onto a moving screen of bronze wire. The screen is 65 mesh and it shakes sideways as it moves forward. This motion interlaces the fibres and at the same time drains part of the water away through the screen.

The Fourdrinier screen gives the paper its first tentative form—a loosely knit, pulpy and watery mass that has some resemblance to a sheet of paper. It is still about 80 percent water at this point and has just enough tensile strength to jump a short gap from the screen to press.

This is another endless belt, made of high grade wool. This belt takes the pulpy paper under rolls which squeeze out more water and compress the paper still more compactly.

More Water Removed
The presses take out 10 to 15 percent more of the water and send the paper on to the driers, which are huge metal rollers filled with steam. These dry out all but 6 percent of the water and squeeze the paper into its final, paper-thin dimension. From the driers it emerges in substantially its finished form.

Calendars, which are very heavy and highly polished steel rollers, give it a final smoothing and ironing, and then nothing remains but to wind it on reels and process it into the myriad shapes and sizes demanded by modern business.

Secret Messages Once Kept on Thin Metals

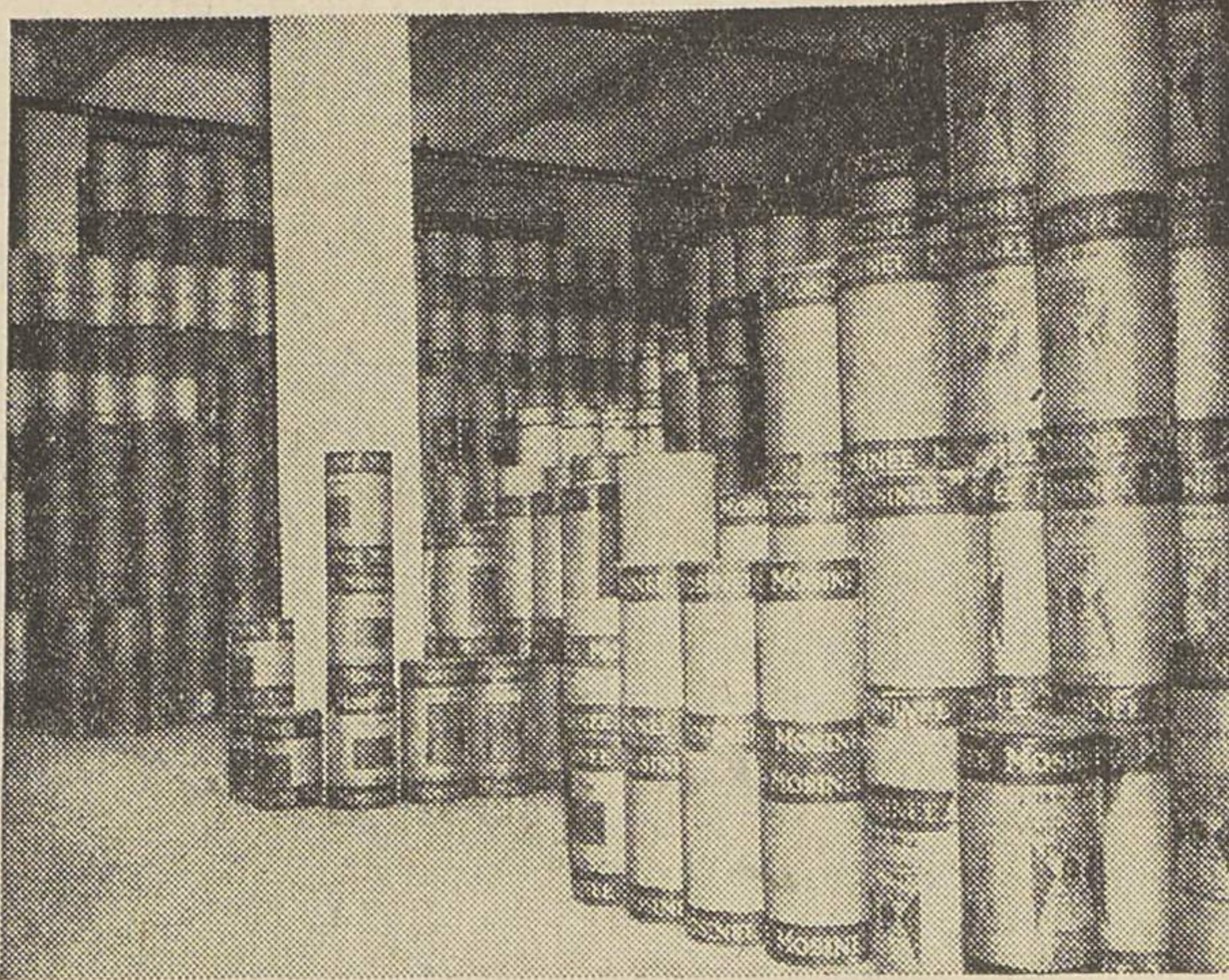
Many curious practices flourished before the popular use of paper. Aeneas Poliorctus, who lived about 720 B. C., relates that women carried secret messages written on small leaden volumes, or rolls of very thin metal, which they wore as earrings. These were made pliable by beating with a hammer, and sometimes were sewed into women's shoes to allay suspicion.

Sultan Slain, First Turkish Mill Wrecked

Around the beginning of the last century the Sultan Selim II established what was said to be the first paper mill of modern times in Turkey. It was located at Scutari, a suburb of Constantinople.

In 1808 the sultan was assassinated and the factory, together with a printing plant which he had built, were destroyed.

Rolls and Rolls of Paper



A view of the basement storage space, showing a few of the rolled stock. Carpenter prints commercial labels and trade names on rolls of wrapping paper before it goes out into business channels.

Bread Made of Paper

Some authorities on ancient Egyptian paper contended that the papyrus plant which constituted the body of the Egyptian paper maker's stock, was united with a paste consisting of bread crumbs soaked in boiling water. The sheets then were beaten to the required thickness.

WIN ATTENTION WITH COLORED COATED PAPERS

Colored Coated Papers used on direct advertising get attention and increase results. No paper distributor in the United States offers a wider or finer selection of colored coated papers than Carpenter Paper Co. Ask to see these unusual papers.

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- Woodbine Colored Enamel
- Woodbine Duplex Post Card
- Dullchrome Coated Book
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- Melochrome Post Card
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- Currency Cover
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A colored coated paper for every direct advertising need

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● To Carpenter Paper Company:
● Congratulations on your fine
● new home, and best wishes
● for your continued success
● and prosperity.

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● CORPORATION
● of
● AMERICA

CONGRATULATIONS

to

CARPENTER
PAPER COMPANY

On the Successful Completion
Of Their New Oklahoma City House

LONGVIEW FIBRE COMPANY
Longview, Washington

Personnel in City Now Exceeds 70

CONTINUED FROM PAGE ONE

a bookkeeper in 1923. All the company's credit relations with customers are handled through his office.

C. O. Burnside, started with Carpenter as a country salesman 18 years ago. Later he transferred to the city sales force and specialized in calling on the printing trade. He was advanced to sales manager in 1940 and now is in charge of all the company's sales organization.

Perry Gilkison, warehouse superin-

tendent, has the longest service record of any one now with the local Carpenter branch. He started in Guthrie Feb. 15, 1916, as an all-around hand under the late L. F. Leach. Gilkison drove a team and wagon about the Guthrie streets, making deliveries, and also served as the warehouseman, shipping clerk, receiving clerk, janitor, etc. He came to Oklahoma City in the move on 1916 and now is in charge of the big crew that handles the thousands of tons of paper flowing through the plant each year. When the company moved recently from its old Grand avenue quarters to the new Second street building, Gilkison supervised the transfer of stock and equipment so smoothly no shipment

was delayed for a moment. Manager of the wrapping paper division is Carl Wilson, who has been with Carpenter 11 years. He began in a minor clerical capacity and worked up to head a department which carries some 10,000 different items. This division handles the sacks, bags, wrapping paper and other material in which much of Oklahoma carries home everything from bread and onions to furcoats.

The fine paper department, head-

ed by Norton Burbage, also has 10,000 or more items and supplies the materials for which printers, publishers and stationers have constant demand. Burbage, another Carpenter veteran, is nevertheless young enough for military service and expects to be called up later this year.

Another important division is the stationery department, which handles myriad types, sizes and varieties of letter paper. Al Turner, with Car-

penter eight years, is manager. These men, with the help of numerous subordinates and a smoothly functioning sales, secretarial, accounting and warehouse staff, run the business that is the Carpenter Paper Co. in Oklahoma. It has a round-number investment of \$500,000 in building, equipment, stock and real estate here now. It is a sizable stake, but one which Carpenter is glad to bet will increase as Oklahoma grows and prospers.

To Carpenter Paper Company:
Congratulations on your fine new home, and best wishes for your continued success and prosperity.

Whiting-Plover Paper Company
Stevens Point, Wisconsin
Manufacturers of Air Dried Bond,
Ledger & Thin Papers

CONGRATULATIONS

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PAPER
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on their fine new facilities
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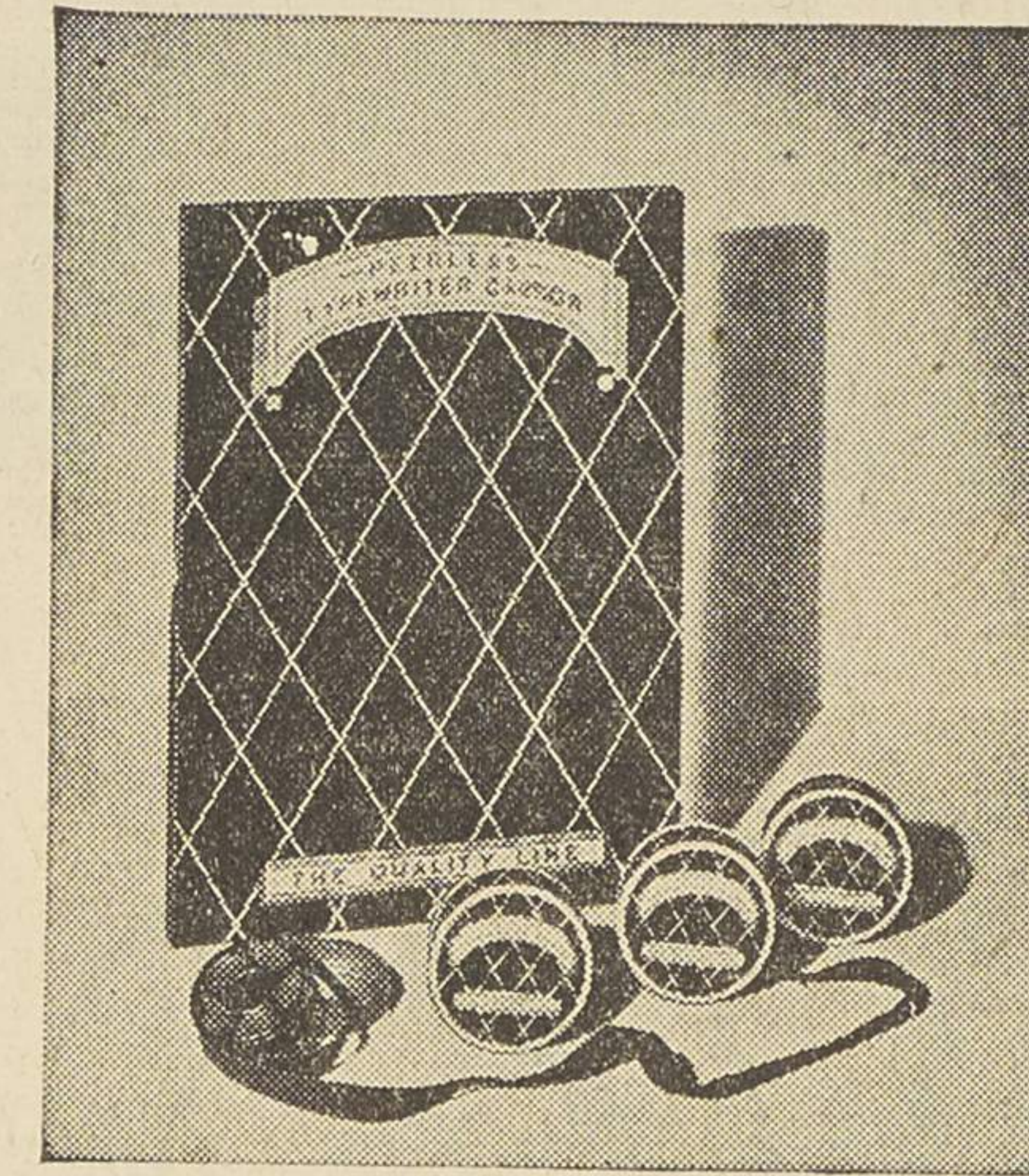
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Great Southwest Has Made
Possible This Fine, Modern
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SECURITY SAFETEX GUMMED TAPE
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Carpenter Paper Company
from the suppliers of their
Peerless Carbon Paper
and
Inked Ribbons

FORWARD MARCH!

"Open House" is tangible evidence of Carpenter Paper Company's policy of a continuing service and progressive-ness. To them we extend our heartiest congratulations and best wishes. We are proud to be identified with them as they move steadily on.

RISING PAPER COMPANY

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This is a modern world and business is done in a fast modern manner as Carpenter Paper Company has so ably demonstrated.

Carpenter Paper Co. is to be congratulated on their splendid progress—their faith in the future—the erection in Oklahoma City of one of America's most modern and best equipped buildings.

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