

Gigantic Plywood Industry Grew From Humble Beginning

The fir plywood industry, which in 1955 celebrates its 50-year spectacular rise as producer of "America's Busiest Building Material," had humble beginnings in a little box and drum factory on the bank of the Willamette River near Portland.

A few hastily assembled panels, manufactured for display at the 1905 Lewis and Clark World's Fair Exposition in Portland, marked the birth of an industry which in the short space of a half century blossomed into a \$400 million dollar annual business employing 24,000 workers in nearly 100 plywood mills in Washington, Oregon and California.

These are the plants which compose the western fir plywood industry accounting for two-thirds of all the nation's plywood and 95 per cent of all softwood plywood. During 1955, through their industry trade association known as Douglas Fir Plywood Association, the manufacturers are maintaining a sales promotion program dramatized by the Golden Jubilee Anniversary theme.

The industry highlighted 1955 commemorative events with its annual meeting in Portland June 19 through 21 when 50 "Golden Ideas" for building with fir plywood were unveiled. Many of these ideas are embodied in the Fir Plywood Jubilee free show which comes here October 25. The show will be at the Exhibit Building hours 2 to 9 p.m.

Selection of Portland as the focal point for many jubilee year celebrations honors the city where in the turbulent days of 1905 a handful of wood workers turned out the first plywood panels.

First Fir Plywood
The birth scene was the Portland Manufacturing Co., owned and operated by Peter Autzen and Gustav A. Carlson, its superintendent was N. J. Bailey, a lathe expert hired from the Midwest. When World Fair officials asked the firm to come up with an exhibit, the three men went to work. Other woods had been used in making panels in the East and in Europe but fir plywood had never been tried.

The panel crew at Portland Manufacturing Co. cut fir veneer on a crude St. Joe lathe and dried the veneer for two weeks on a loading dock. Then the veneer was run through a steam kiln ordinarily used for regular lumber.

The panels were placed together with the glue applied with a hand brush. Ten panels, 3-ply each were in the first group to go into a home-made press built of planks. Regular house jacks were used to set the glue under pressure.

But the crudely-made plywood was a success at the Fair. Easterners asked about it, westerners commented on it. Portland Manufacturing Co. got its first orders soon after the Fair opened.

Doors First Use
Door manufacturers were the first buyers of the fir plywood and for years the first plants built were simply adjuncts to door firms. Five years after the Portland plant got under way, William C.

Wheeler and George R. Osgood began making plywood for their Tacoma door business. Osgood's son, George J. Osgood, and Henry McCleary began a third plywood mill at McCleary, Wash., in 1911. A second Tacoma plant, Bufilem Manufacturing Co., began making panels in 1916 to become the fourth fir plywood manufacturer in the Pacific Northwest.

By this time, the industry was making inroads into other markets. Besides a bustling door panel business, manufacturers began selling plywood for use as trunk stock and for drawer bottoms. World War I curtailed further expansion but in 1920, Craig Spencer and Gus Barilelli started Elliott Bay Mill in Seattle. The first plant erected independent of a door panel concern.

Worker-Owned Plants
In 1921, J. J. Lucas and E. E. Westman, a pair of Tacoma, organized the industry's first worker-owned plant at Olympia. One of the great success stories of the West. They sold \$500 shares to 125 workers and started Olympia Veneer Co. At first there were no paychecks and no profits. Workers lived together, cut each other's hair and cut corners on all other expenses. A year after it opened, the firm was staggering but still on its feet, slowly forging ahead. A few years later, success was assured. Olympia Veneer branched out, bought two other plants and finally sold the original plant in 1946, changing the name to Associated Plywood Mills, Inc. Only a few months ago the firm completed a full cycle of development when it was bought by United States Plywood Corporation.

Significantly, about 75 per cent of all fir plywood is now produced by worker-owned mills. The roaring 20's saw plywood break into a new and expanding market. Detroit automobile manufacturers ordered hundreds of thousands of feet of panel material for use in running boards and floor boards, as well as other smaller auto parts. In 1924, the industry produced 125 million feet of fir plywood.

Need For Waterproof Glue
But while the growing automobile business provided a much-needed impetus in panel sales, it also pointed up fir plywood's great early weakness—the glue. For years, animal glue had been used. Later, an adhesive made from casein, a milk derivative, was developed and in 1924, a soy bean glue came on the market. Each was an improvement of the other but all had one drawback—none could give a fully waterproof glue-line, imposing a definite ceiling on the industry's potential.

The stock market crash of 1929 was followed by hard times and the plywood industry was rocked with a succession of bad fortunes. Detroit slammed the door in its face and quit buying panels for automobiles. "The glue line won't hold up," the car makers said. Several mills closed their doors, temporarily, and one went into receivership. Others were forced to place their crews on a two-day-a-

week schedule. Short rations and small paychecks were common but the industry dug in—and held.

Meanwhile, Harbor Plywood Corporation, a pioneer firm formed in Aberdeen, Wash., in the early 20's saw the hope of a waterproof glue as the key to future markets previously untouched by plywood. The management team headed by A. R. West made a far-sighted move when it set up a small laboratory to look into the problem.

West hired Dr. James V. Nevins to direct Harbor's search for a waterproof glue that would be suitable for volume production of fir plywood. Nevins, a tireless inventor in everything from 3-D screens to new uses for wood waste, was joined by Michael Pasquero, a young University of Washington chemical engineer at the time and William Martin, another young technical man from the University of Southern California. The trio went to work in the fall of 1933. Days blended into weeks as Nevins and his aides worked day and night. The year 1934 was plywood's darkest as Nevins raced against contracting markets and failing sales.

Exterior Plywood Achieved
In December 1935, Harbor Plywood announced that Nevins had been successful. He had perfected an exterior glue suitable for production use on fir plywood. In January 1936, commercial production of exterior fir plywood began and a short time later, M and M Wood Working Co. at Longview began to produce a plywood with a synthetic phenolic resin waterproof glue-line.

This development is the most important single technical advance in the history of fir plywood's progress. It meant vast new markets in building, in boats, in farm structures, signs and industrial uses. Today, fully 35 per cent of all fir plywood is exterior type with waterproof glue and some industry leaders look for the day in the future when all fir plywood will be made with waterproof bond.

Meanwhile, as the depression years wore on, the manufacturers intensified their efforts to find a workable program of joint industry promotion. Previous attempts at joint promotion begun in the early 1920's had lapsed or died.

Big Promotion
In 1938, there was another market downturn and the industry again joined hands, subscribing a large joint promotion fund to be administered by Douglas Fir Plywood Association.

W. E. Difford was brought in to direct the program on the basis of his outstanding record as a leading sales promotion executive which had brought him an almost legendary reputation as a "healer of sick business." Difford brought a new concept to plywood promotion in a program that sparked the most spectacular era of new growth in the industry's progress.

Earlier concepts of quality based primarily on face grading were revised to emphasize the glue-line as the key to plywood quality. Standards were set up, field ex-



GUNFIRE TEST on highway signs, conducted by laboratory technicians at a northwest rifle range, proved fir plywood's greater resistance to this act of vandalism.

posure studies begun and industry-wide quality control was based on a statistically randomized sampling program.

Difford put trained men in the field to render market level advice and service to plywood suppliers and users and to contact code officials and lending authorities. Emphasis in advertising was switched from the consumer to the specifier, the architect and builder. Simultaneously, the industry concentrated much of its effort on lumber dealers with the result that today they sell 50 per cent of total fir plywood output. Basic research to develop engineering data on plywood was launched looking toward development of plywood use in advanced construction techniques.

The industry's product was carefully standardized and DFPA was the first trade association in the world to register an association trademark. The entire promotion program was keyed to the new grademark as the banner of quality.

With customer confidence in the product building in the field, markets again expanded, and by early 1939 the industry was back on its feet.

War-time Effort
When the Japanese struck Pearl Harbor, the nation plunged into war. Thirty-one plywood mills turned over their entire output to government needs. Plywood built bombs and offices and theaters in the South Pacific and in the Aleutians. Plywood PT boats staged the first forays against the Japanese during the grim early days of the war and plywood assault boats carried troops across the crucial crossing of the Rhine in 1944. Plywood-made box cars and crates for airplane ship parts. Plywood—30,000 feet of it—went into every Liberty ship built during the war.

In one of the great tributes to the soundness of the industry quality control measures instituted by DFPA, there was never a government inspector in a plywood plant during the war. The grademark was all that was needed.

Post War Expansion
With victory, the mills returned to peace-time production. No "war babies" plywood had not profited but had actually suffered much from the restrictions of the war.

Uses Of Plywood Proved In Show

Behind the scenes in the Fir Plywood Jubilee free show which comes here October 25 is ample proof of the show theme: "You Can Build Anything With Fir Plywood."

You'll be able to see the show at the Exhibit Building, hours 2 to 9 p.m., but you won't be able to see all the fir plywood which has gone into "workhorse" areas of the two circus wagons carrying the display.

Among these uses of the versatile building panels are big pulley wheels for an endless belt carrying animated sections of the display, strong shelves for the musical equipment, supports for industry displays. All of these are uses suggested in the industrial section of this industrial show.

The Douglas Fir Plywood Association, trade promotion body for the west coast industry, has merely taken a leaf from its own notebook in these uses of the modular panels in the all-industry show.

An Old Fashioned PAT ON THE BACK and OUR BEST WISHES TO THE

Plywood Industry

ON ITS 50th Anniversary!

Fir plywood, produced only on the West Coast, is sold everywhere. It is used to build millions of useful things, and new uses are being discovered constantly. We are fully aware of the importance of fir plywood to this area's economy, and we will continue to lend our support to the industry and to its efforts on behalf of fir plywood's increasing popularity and usefulness.

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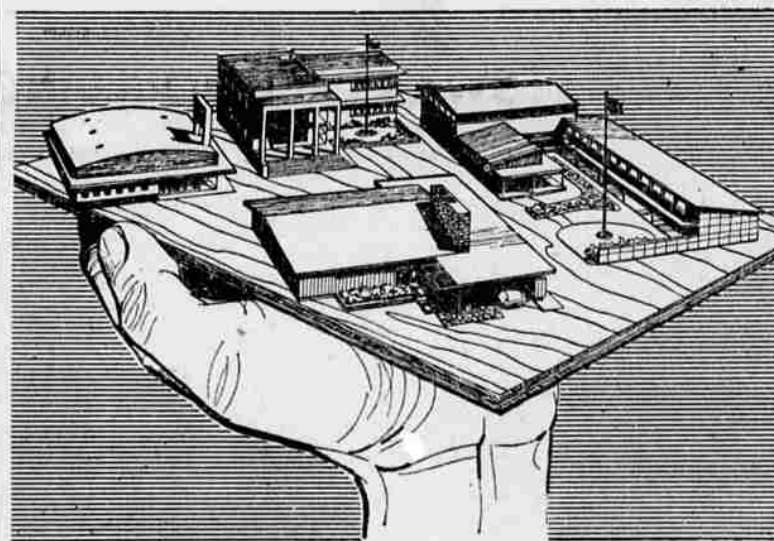
Klamath Falls

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FIR PLYWOOD...

a giant in the building Industry!



Fifty years ago the first fir plywood was made at Portland, Oregon, and was exhibited that year at the Lewis and Clark Exposition in Portland. Today, the fir plywood industry on the West Coast is a \$370,000,000 giant and is still growing!



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Fir Plywood Jubilee FREE SHOW

Klamath County Fairgrounds Tuesday, October 25, 2 to 9 p.m.

To commemorate fir plywood's 50th Anniversary, a colorful circus-type exposition has been arranged, and will appear at the Klamath County Fairgrounds October 25. This show will entertain, will inform, will show how fir plywood can add to your living pleasure when used around your home . . . indoors and outdoors. There's something of interest for all ages, so plan to attend.

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- See new "Golden Ideas" for indoor-outdoor living!
- See sound-color movies on plywood manufacture.
- See colorful "menagerie" of fir plywood circus animals.
- See dramatic displays depicting plywood industry's growth and importance.

AT KLAMATH FALLS
OCTOBER 25
2 PM 'til 9 PM
at the **FAIRGROUNDS**