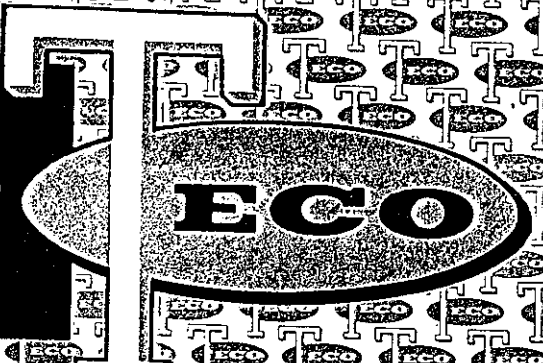


Our Twenty-Fifth Year



Silver Anniversary

This Silver Anniversary report of the Timber Engineering Company spans from the depths of the depression to these days of a healthy industry with a future bright with promise.

Our presentation here is not a mere look at the record—it is a tribute to the foresight, the staunch faith and sturdy courage of a small band of industry leaders, who in a very real sense were pioneers in the fields of timber engineering, research and lumber sales promotion.

This report is also intended to express a well-deserved appreciation of those engineers and technical men without whose scientific knowledge and enthusiastic cooperation many of the accomplishments would not have come to pass.

During the past twenty-five years the lumber industry has blazed new trails—through engineering to bring wide recognition to timber as an engineering material—through research in product development and wood chemistry to improve many of the 5,000 products made of wood—through better utilization of forest and mill residues by their conversion to new products.

When the year 1932 closed with an unbelievably low lumber production of only 10 billion feet, our industry and its customers had not heard of

- Clear span timber trusses of 250 feet
- Free standing wood towers spiring to 300 feet
- Timber structures with acres of floor space
- Mass prefabrication of light and heavy frame buildings for both war and peacetime uses
- Glued-laminated construction for schools, churches, stores
- Particle board from wood residues
- One-step seasoning and treating process
- Non-destructive testing of timber
- Laminated crossties
- A soil improver from sawdust
- Glued-laminated timber ship keels 110 feet long
- Hardened wooden desk legs
- Burn-proof furniture tops
- Laminated wooden rolls for manufacturing wallpaper—

All these were unknown twenty-five years ago, but because of engineering studies, research and education they are here today. Some of these developments have yielded highly satisfactory sales and profits for many companies and others show great promise for the future.

In these important forward steps Timber Engineering Company has had a leading part, as an affiliate of the National Lumber Manufacturers Association. Here then is the record . . . it stands also as a challenge to today's and tomorrow's men of foresight.

IN THE BEGINNING . . .

January 16, 1933

Ask any old-timer, and he will tell you experiences of 1932-33 that will make "your hair curl" as the expression goes these days. Those years simply were not considered a good time to start a new business.

At home and abroad things were greatly unsettled. In 1932 our lumber production was the lowest in half a century. . . . The Japanese invaded China. . . . Adolf Hitler came to power early in 1933. . . . U. S. banks and stock exchanges closed by presidential order. . . . Congress outlawed gold-payment clauses in public and private contracts. . . . Industry and agriculture were under Federal Government control through the N.R.A. and A.A.A. . . . Germany withdrew from the Disarmament Conference and the United States recognized the Soviet Union as the government of Russia. Those were troubled times.

Nevertheless, the Chicago Century of Progress exposition featured a lumber industry house sponsored by the National Lumber Manufacturers Association and guided by the most enthusiastic fellow of them all, Mr. George W. Dulany, Jr. (still young and enthusiastic today at 80). And through investigations in Germany and Norway by Dr. Wilson Compton and the late Mr. Axel Oxholm and studies here by industry leaders it was believed that the European timber connector system of construction could be introduced to U. S. builders with profit to both industry and public. Thus it came about that the Timber Engineering Company was incorporated on January 16, 1933 with \$1,000 capital as a national sales promotion, engineering and research agency for wood and forest products, geared to work with the NLMA and Federated Associations.

The first officers and directors were: Chairman of the Board, Mr. George W. Dulany, Jr., Louisiana-Central Lumber Co.; President, Dr. Wilson Compton; Vice-Presidents Messrs. Arthur T. Upson, Walter F. Shaw and the late C. Stowell Smith; Treasurer, the late Mr. W. M. Ritter, W. M. Ritter Lumber Co.; Assistant Treasurer, Mrs. Grace J. Landon and Secretary, Mr. Harry G. Uhl. Others who served on the board were Mr. Carl W. Bahr and the late Mr. Carl L. Hamilton of the Weyerhaeuser Sales Company.

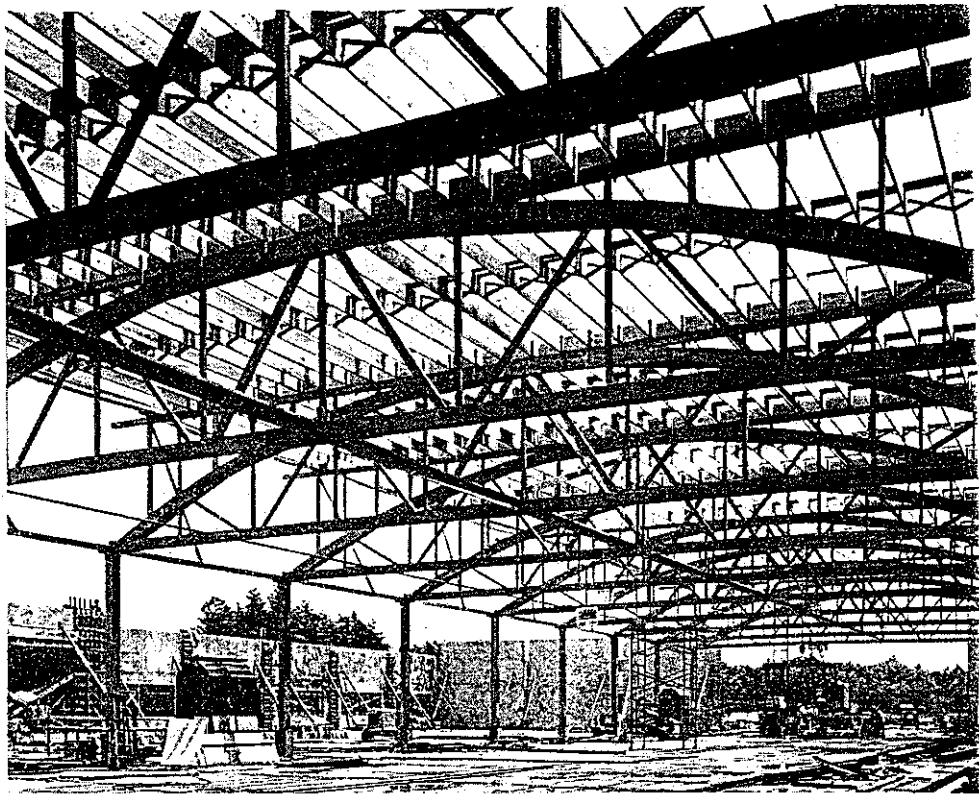
This industry-owned company has been self-supporting from the beginning. It has owned and controlled over 100 U. S. and foreign patents and trade marks. It receives no dues, contributions, gratuities, or subsidies. Its operations are conducted on the proceeds from the sales of its products and laboratory services. These proceeds are plowed back into the company for improved and expanded services and facilities with which to encourage more wood use and to develop broader, more economical utilization of forest products and their derivatives.

In encouraging wood use in construction, Teco's engineers develop typical designs of wood structures using Teco timber connectors. These are distributed without charge to architects and engineers for their guidance in developing their own specific plans.

The research services of the Teco laboratory's wood products development, wood chemistry, and particle board sections are available, on a fee basis, to all wood-producing and wood-using firms, associations, and to Government agencies.

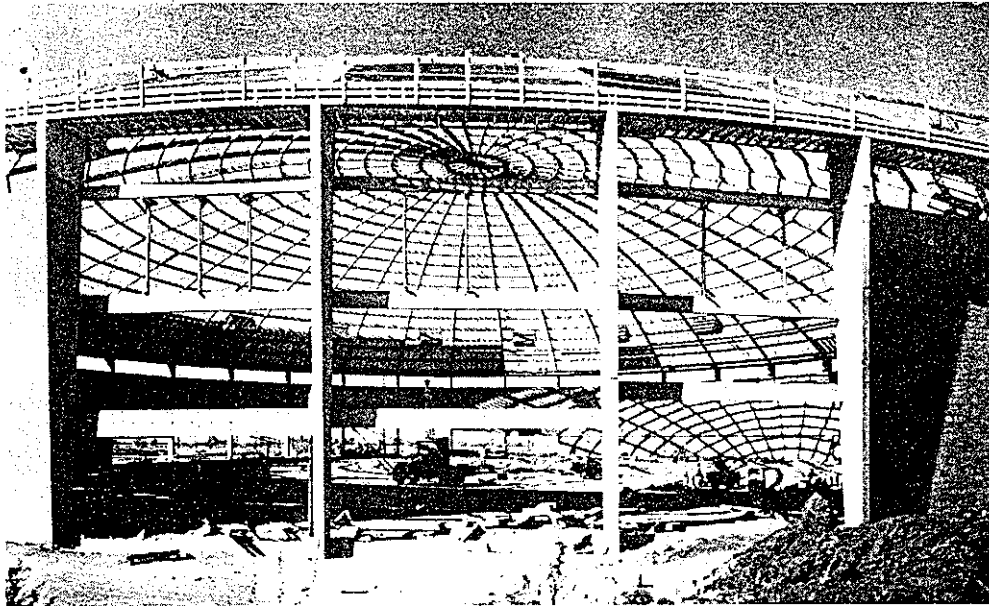
The services of the Timber Engineering Company today are in the following fields: (1) Timber engineering and designing (2) Technical and consulting services (3) Educational work (4) Research and product development (5) Sales of Teco products.

AND EVEN
BIGGER
THESE DAYS



Franconia, Va. warehouse of 1,250,000 sq. ft. of floor space (28 acres) spanned by 773 solid timber 71' Arch-Teco bowstring roof trusses. Total lumber used 5,388,000 bd. ft. Completed in 1953 in 10 months after ground-breaking. Designed, fabricated and erected by Timber Structures, Inc.

James H. Carr, Jr., formerly Secretary of Timber Engineering Company, and founder of James H. Carr, Inc. in 1949, was sales representative on the Franconia job.

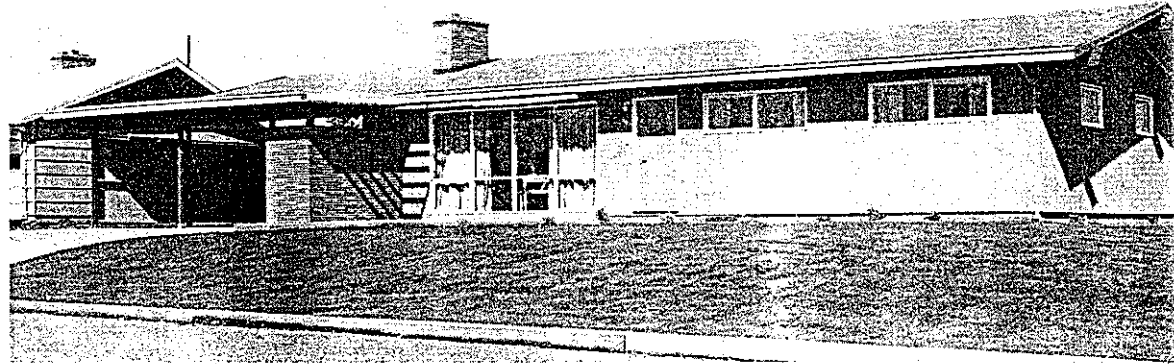


The world's widest span timber building, with a 300 feet diameter dome in the Montana State College sports arena completed in 1957 and seating 15,000. Built of glued-laminated Douglas fir with shear plates the dome has a center height of 92'. Dome was designed, fabricated and erected by Timber Structures, Inc., Portland, Oregon.

Ward Mayer, president and founder of Timber Structures, Inc., is another pioneer in engineered timber construction. Mr. Mayer was one of the founders and first president of American Institute of Timber Construction.



... AND 1957

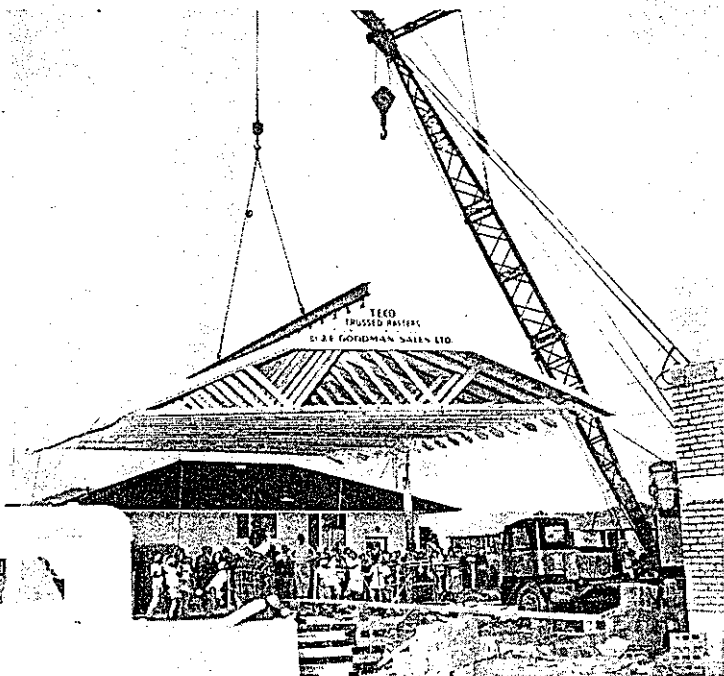


Illustrated here are typical housing jobs today that feature the Teco trussed rafter that eliminates interior bearing partitions. First introduced by Timber Engineering Company in 1940 and extensively promoted since 1946, there have now been over 200,000 housing units built with the Teco system. Teco rafters are popular for one-story homes, motels, garden apartments and small commercial buildings.

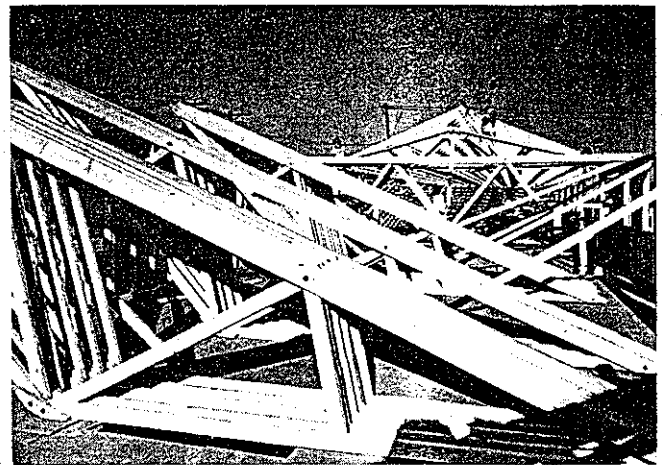
Above is shown attractive all-wood home on the West Coast.

At the left is shown "Operation Time Barrier" where Teco Wedge-Fit rings and Trip-L-Grip framing anchors were supplied by J. E. Goodman Sales Ltd., Toronto, Canada. The house was completed, including landscaping and interior furnishings, in 24 hours. Purpose was to demonstrate savings made possible through modern assembly line methods.

Below shows part of over 6,000 Teco trussed rafters supplied by Roof Structures, Inc., Webster Groves, Mo.

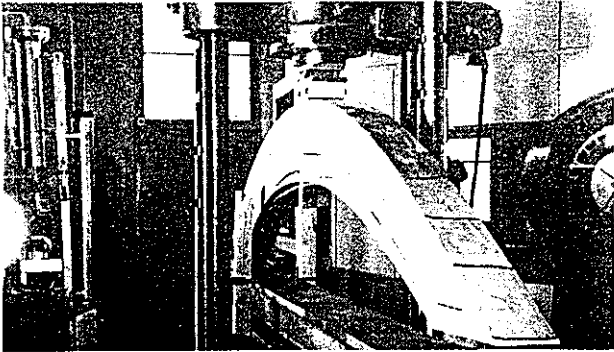
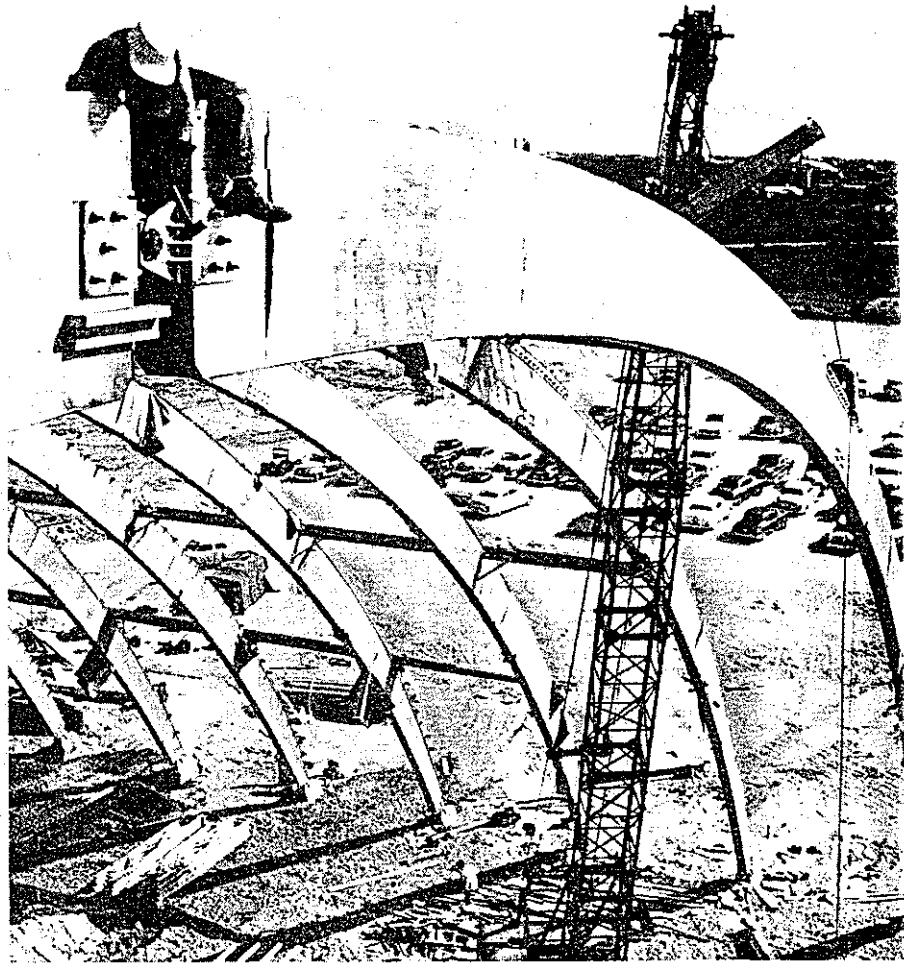


Colonial Manor Motel near Rockville, Md., used Teco trussed rafters supplied by James H. Carr, Inc., Washington, D. C.

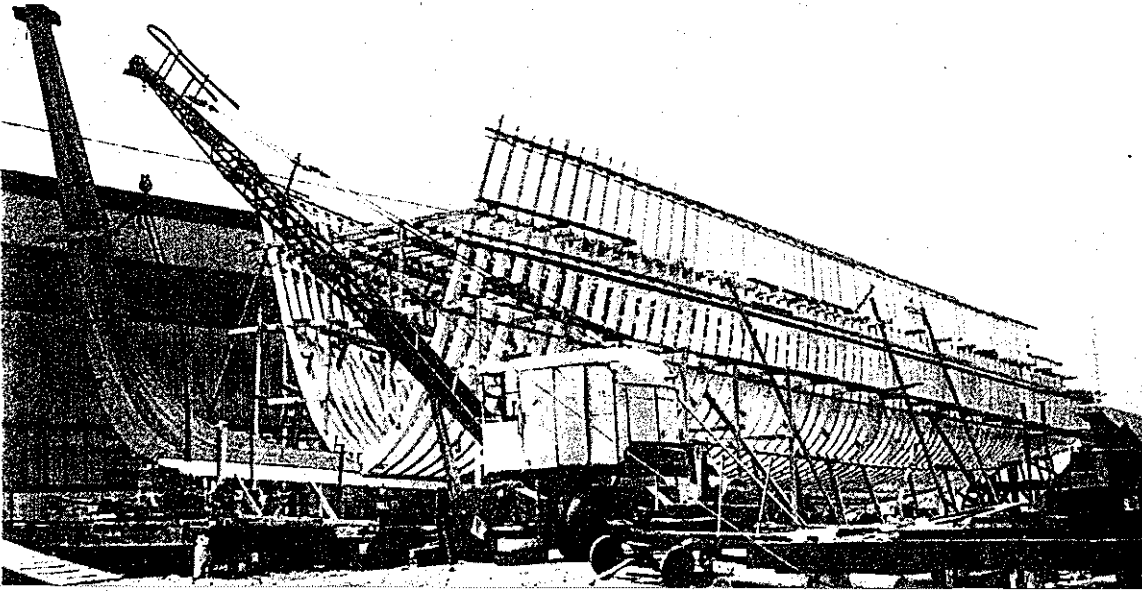
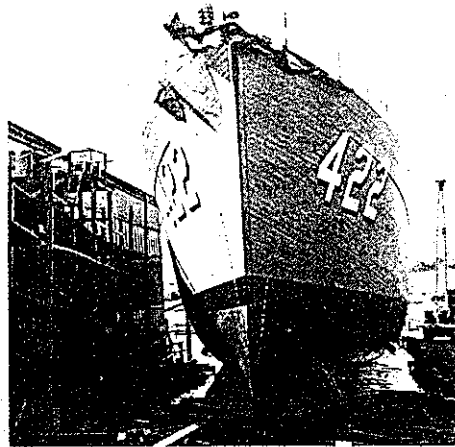


... THEN AND NOW

These record wood arches, built of 200,000' of glued laminated southern pine, are 46" deep with a clear span of 242½' and with a rise of 74'. Teco shear plates were used at all wood to steel connections. Design and fabrication by Unit Structures, Inc., Peshtigo, Wis. This sports arena seats 3,500 and provides a 176' x 55' jai alai court at West Palm Beach, Fla.



Teco technologists tested and demonstrated to Navy that pressure treated white oak, red oak and Douglas fir could be successfully glued without loss of strength for use in all wood 165' mine sweepers. Over 150 of these non-magnetic ships using over 66,000,000 feet of lumber have been built. Other recent publicity of this research achievement was advertised by Koppers Company in recent issue of Saturday Evening Post.



THE LANK-TECO TRUSS

During the years 1941 to 1946 Mr. Everett S. Lank, one of the country's leading timber engineers, greatly aided in developing the art of timber design. Among his accomplishments was the issuance of a U. S. patent to Teco for improved design methods for flat, pitched and saw-toothed trusses. His modified pitched type of truss resulted in substantial materials savings and reduced deflection.

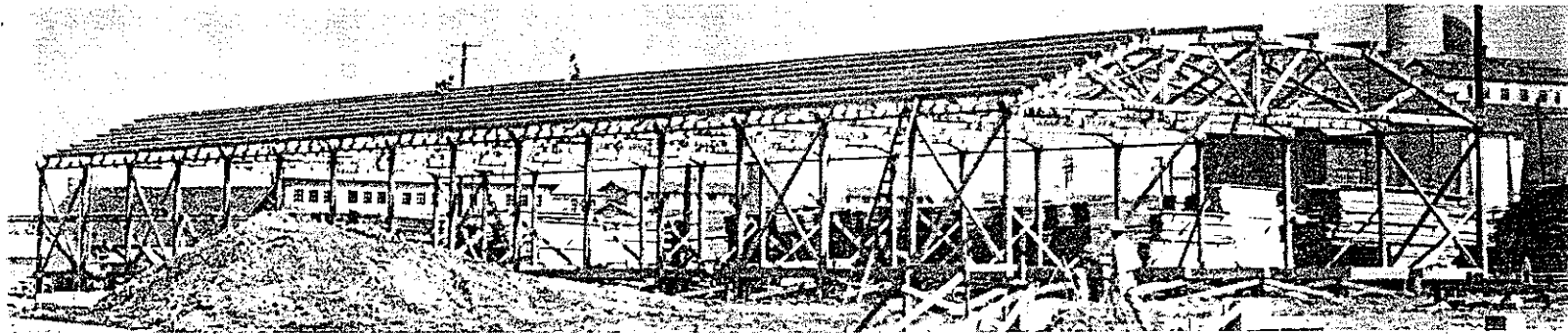
The November 1945 meeting of the

Teco board passed the following resolution: "... In recognition of Mr. Lank's outstanding contribution to the knowledge and practice of timber engineering, it was the consensus of the Board that these types of trusses are to be known and publicized as the 'LANK-TECO Truss'."

Mr. Lank, since 1946, has been successfully operating the Lank Woodwork Co. of Washington, D. C.

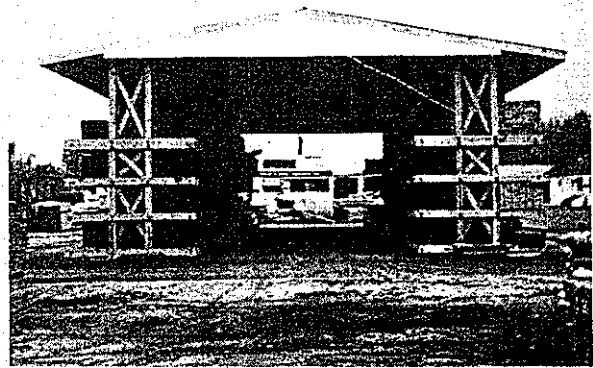
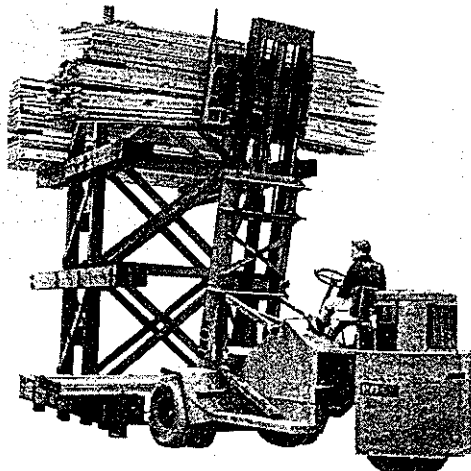
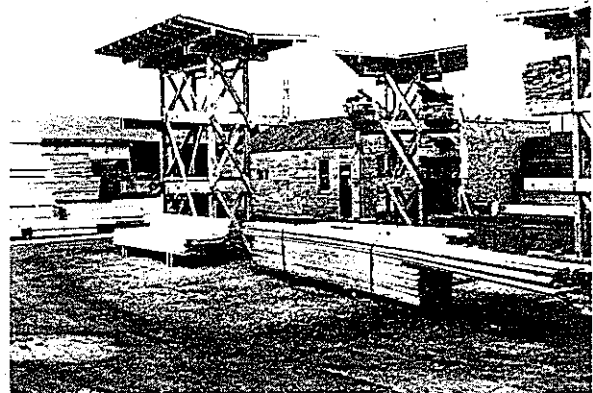


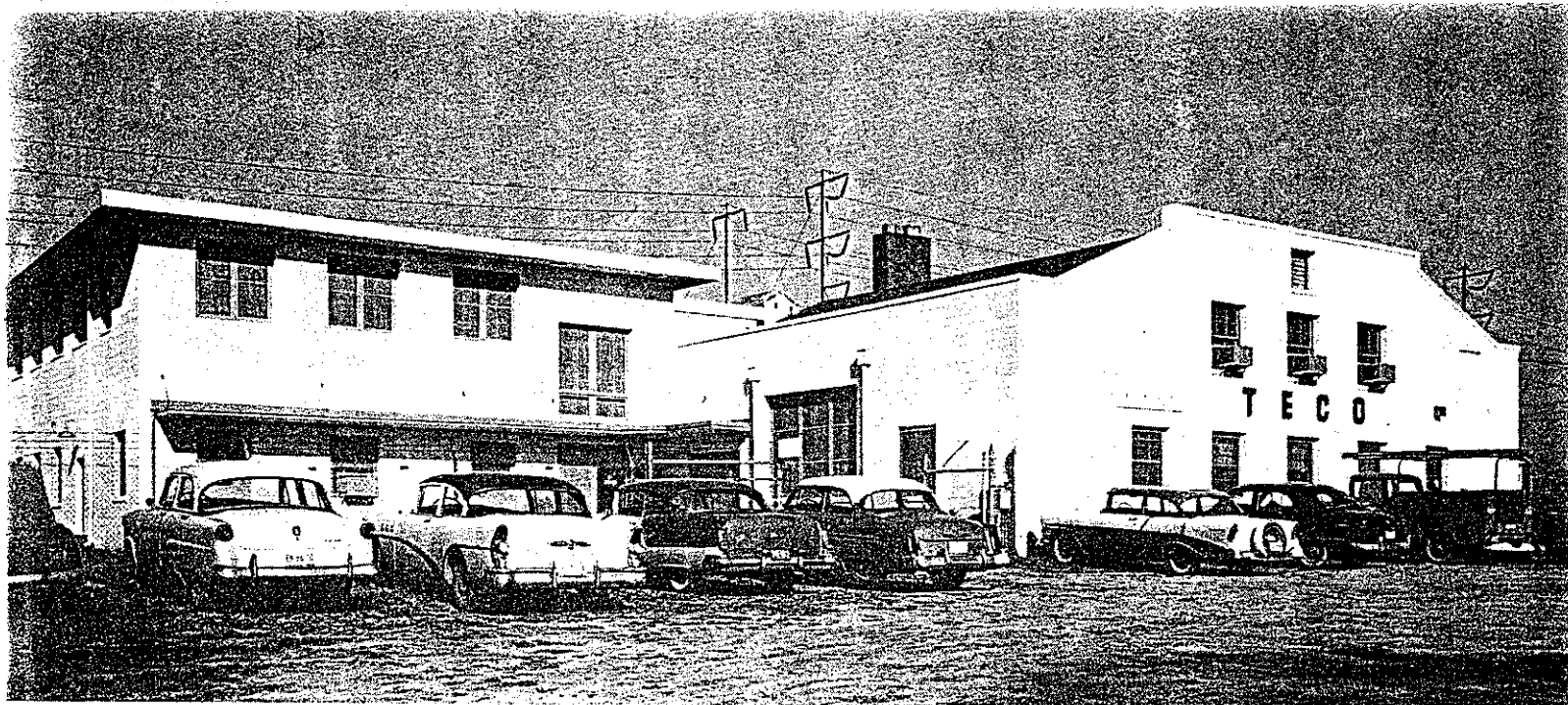
Mr. E. S. Lank



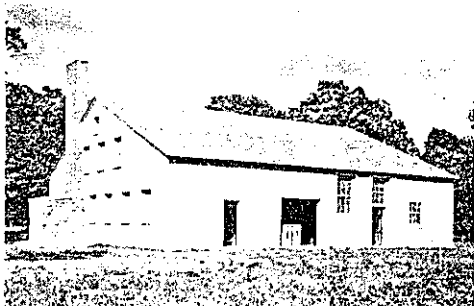
Lank-Teco 60' trusses built by the Crossett Co., Crossett, Arkansas. Early this year the company started building this 60' x 210' shed and a 120' x 300' shed as part of their program to improve their lumber handling and storage facilities. The trusses were prefabricated by the Crossett Lumber Co. and construction work was under the supervision of the company's Chief Engineer, Edward Brown.

The increasing use of fork lift trucks in retail yards has called for new procedures for short- and long-time storage. Below and center show "tree" racks designed by Teco and fabricated by Rilco Laminated Products, Inc., St. Paul, Minn., for use in Ohio and Illinois. Lower right shows 46' x 120' racks that can store 350,000' lumber at Boise-Payette Lumber Co., Boise, Idaho. Some firms report that the racks reduce material handling costs by half.





PRODUCT DEVELOPMENT AND CHEMISTRY LAB 1944-1957



IN THE BEGINNING . . .

To help meet war needs, and competition after the war, industry leaders by resolution called upon the Timber Engineering Company in November 1942 *"for the establishment as soon as possible of a Product Development Laboratory together with a program and plan for securing the widest possible interest and support within the industry for such a research program."*

Under the guidance of Mr. George W. Dulany, Jr. the year 1943 saw the Timber Engineering Company start its laboratory and in March 1944 the first Teco lab building was opened in Washington. Other interested industry leaders then serving on the Teco board included Messrs. Paul V. Eames, F. K. Weyerhaeuser, Corydon Wagner, A. J. Glassow, Wilson Compton, M. L. Fleishel, John W. Watzek, Jr., R. C. Winton, and the late Mr. C. C. Sheppard.

Since 1944 the plant has been expanded four times and additional land purchased for a total of over two acres. The land, buildings and equipment are valued at over \$500,000.

Something over 600 different projects in 48 fields of wood product development and wood chemistry research have been conducted. A sampling of over 100 projects taken at random shows a total expenditure by clients of \$610,000 and estimated benefits of \$38 million. The projects cover a wide range, from mine sweepers to wallpaper rolls, and the costs ran from as little as \$200 to \$25,000 and higher.



Paul V. Eames
Director 1936-37
1942-43



F. K. Weyerhaeuser
Director 1942-44



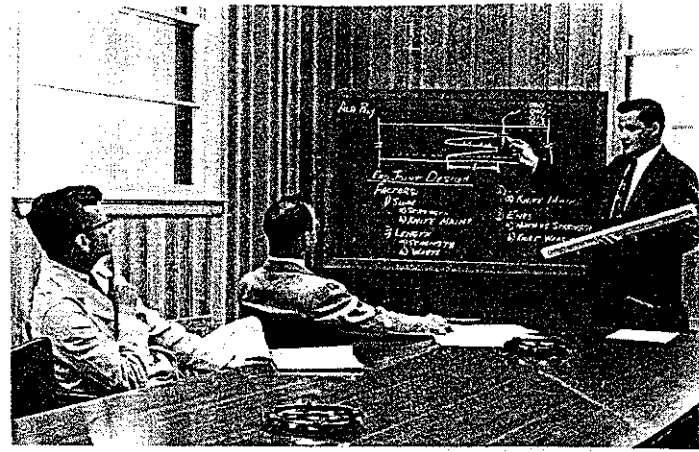
Corydon Wagner
Director 1936-48
1950-51



A. J. Glassow
Director 1942-45
1947-49, 1950-54



† C. C. Sheppard
Director 1936-43
1948-49



FIELDS OF TECO RESEARCH

During the operations of the laboratory over 600 projects for individual companies, associations, and Government agencies have been carried on in 48 different fields such as:

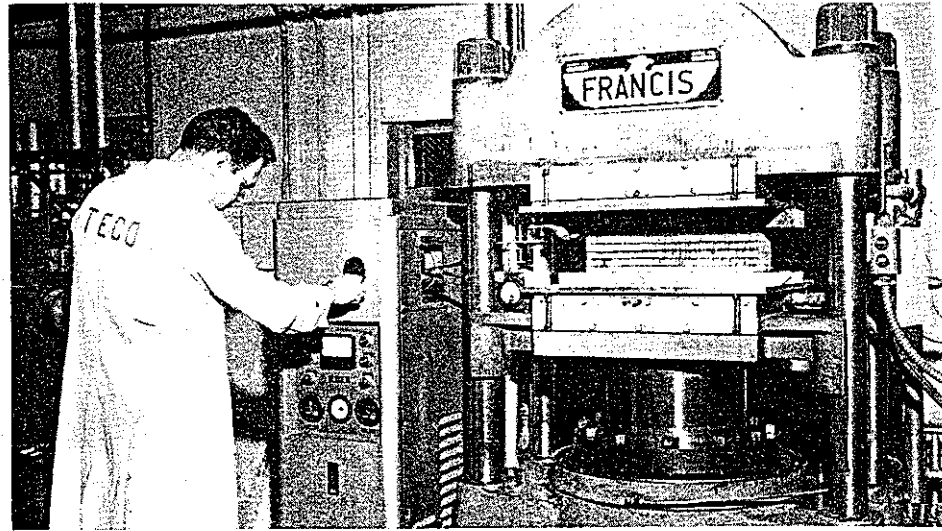
- | | |
|------------------------------------|---------------------------------|
| Adhesives | Paints |
| Adhesive Uses | Particle Board |
| Building Construction | Plywood |
| Chemistry | Preservatives |
| Construction Components | Preservative Processes |
| Containers | Quality Control Equipment |
| Dimensional Stabilization | Quality Control Methods |
| Doors | Residue Utilization |
| Electronics Processes | Sealers and Moisture Repellents |
| End and Edge Gluing | Seasoning |
| Fasteners | Special Inspection |
| Fiber Processing | Specifications and Grades |
| Finishes | Stains |
| Fire Retardants | Training Programs |
| Flooring | Timber Testing |
| Furniture | Ultrasonics and Non-Destructive |
| Impregnation and Coating Processes | Tests |
| Ladders | Utilization Surveys |
| Laminated Wood | Vehicles |
| Laminating | Vessels |
| Market Studies | Windows |
| Molded Products | Wood Processing |
| | Wood Properties |



Work area on Teco laboratory's new second floor. Doweloc industrial flooring, developed at the laboratory for D. B. Frampton Co., Columbus, Ohio, was selected for this area where traffic is heavy.



Quality control tests of glued laminated structural wood members.



Glued laminated wood specimen being prepared in hot-plate presses for quality control tests.

QUALITY CONTROL — IMPROVED PRODUCTS

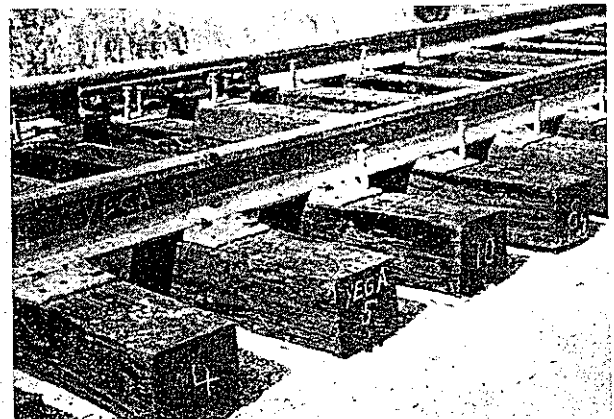
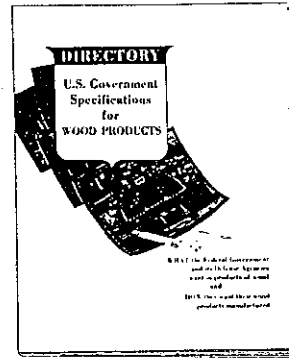
Manufacturers of lumber and wood products were hesitant in bidding on some Government contracts because the specifications were obsolete. A review of over 1,400 Government specs, completed in 1953, by Teco wood technologists for the Corps of Engineers resulted in including a wider variety of species and grades, permitted the use of gluing and laminating, and otherwise offered a better basis for filling orders quickly and economically for the wood industries' largest customer.

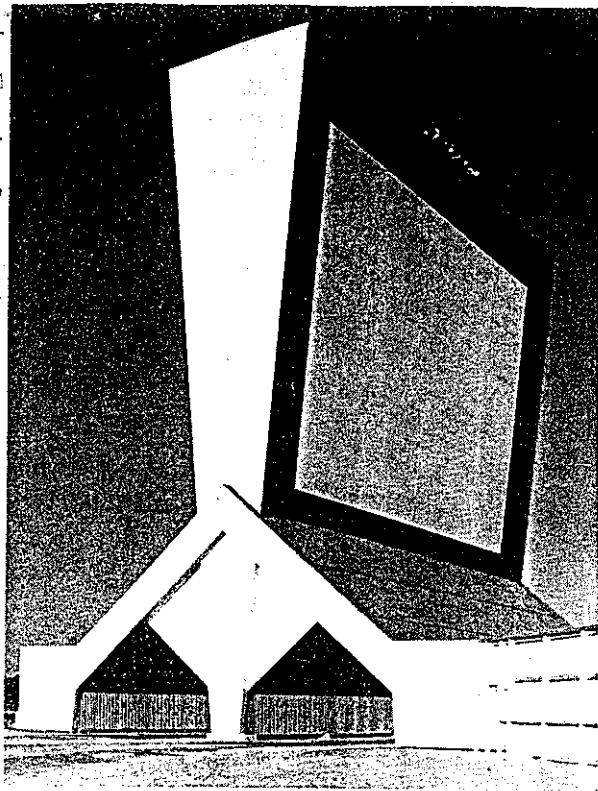
A typical case was a military order for 165,000 dining tables, with solid legs, requiring nearly two million feet of top grade lumber in one species. Unable to get the quantity in grade and size quickly, the specification was reviewed by Teco. Subsequent revisions, permitting a choice of six to eight species and glued laminated instead of solid legs, enabled a manufacturer to accept a profitable contract, deliver the goods promptly and save the Government nearly \$345,000.

It is estimated that the improved specifications have materially added to wood's competitive position and have yielded a minimum savings to the Government of \$2½ million annually.

Crossties seasoned and treated by patented process developed by Teco in research jointly sponsored by railroad and lumber industries.

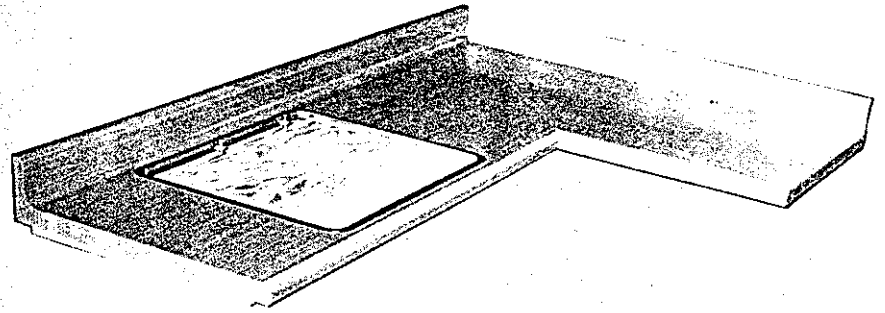
Exposure tests of tie coatings, another joint project.



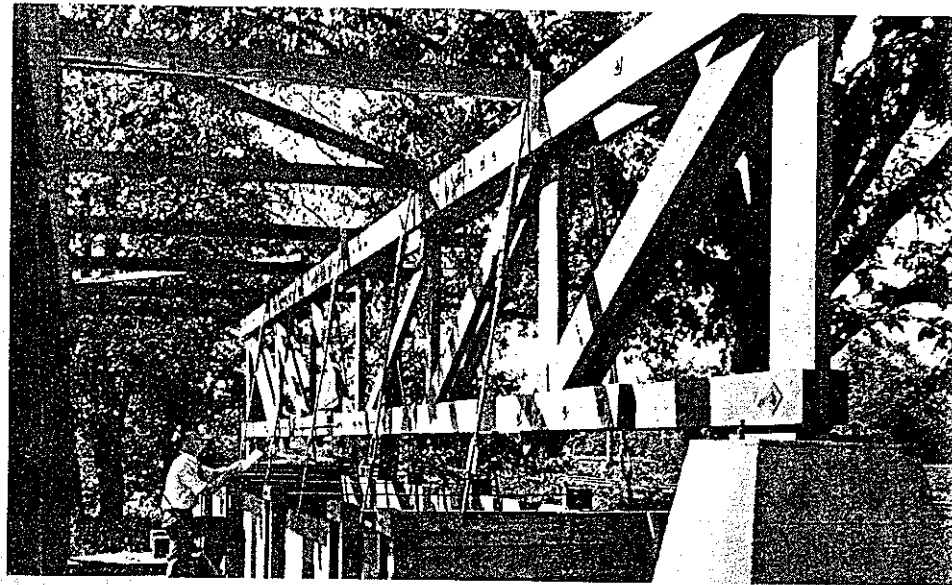
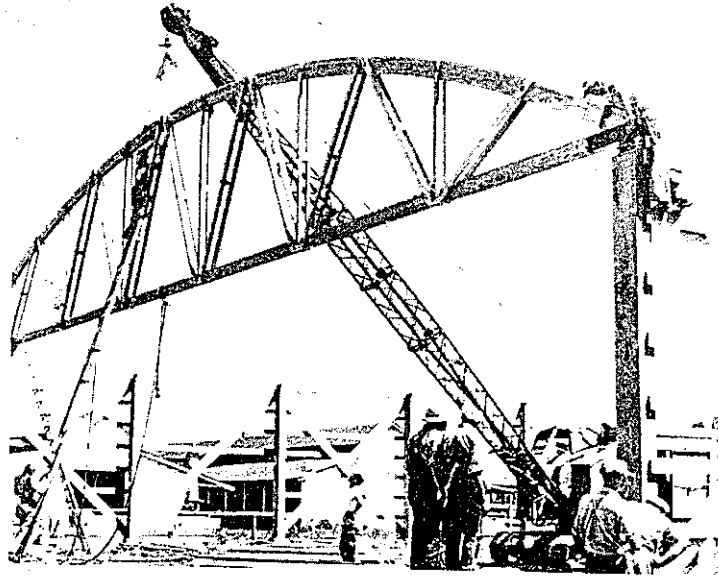


Outdoor theatre tower with glued laminated structural members using Teco connectors. Designed and fabricated by Unit Structures, Inc., Peshtigo, Wis.

Eighty-foot bowstring trusses designed and fabricated by Rilco Laminated Products, Inc., St. Paul, Minn. for Freeborn County fair building.

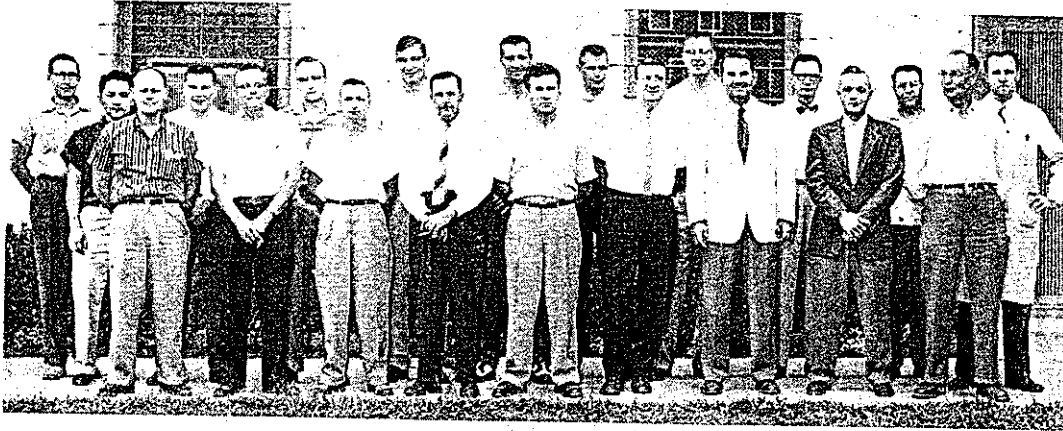


Development of a new type plastic overlaid wood sink top is another Teco achievement in wood product development.



A 50' full scale flat Pratt timber truss under test at Teco lab.

Important to furniture industry is Teco's color stabilization of light finished woods.



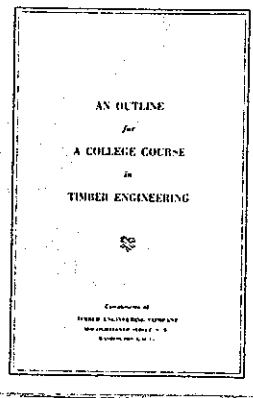
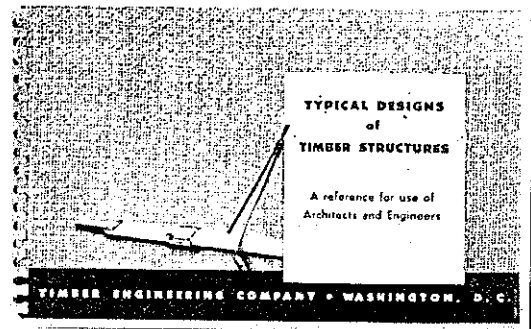
MEN FOR INDUSTRY

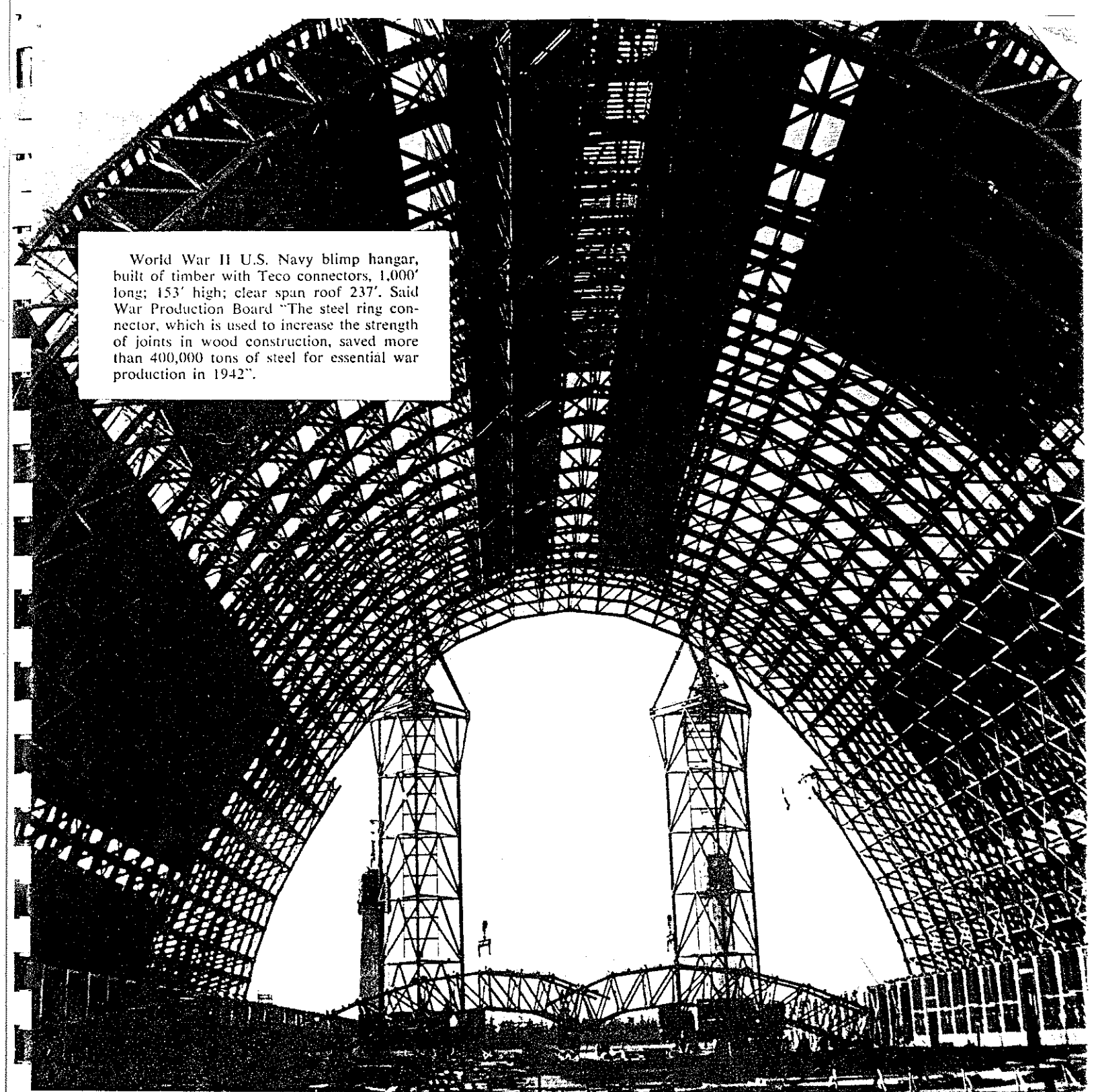
In 1949, at the request of furniture and wood working firms, the Timber Engineering Company laboratory conducted its first short course in wood adhesives and gluing. Since then 26 courses have been conducted. Some 300 men from industry, students and government have attended these one week courses. Shown above are the men who attended a course last summer.

As a guide to architects and engineers, Timber Engineering Company published in 1942 the first of three editions of *Typical Designs of Timber Structures*, a book of 100 roof truss designs with materials lists. During the war years 45,000 copies were distributed in the U.S. and Canada. This popular book has now reached a circulation of 120,000 copies.

The Teco story on film is in two sound-color movies made in 1954 and 1955. "Coming Out of the Woods," a 20 minute run, features lumber and wood product research in the Teco lab. It has been shown over 1,000 times to over 100,000 industry people. "Engineered Timber Construction" is a 14 minute film which has been seen by more than 400 groups of architects, engineers and students.

For the past 20 years Timber Engineering Company has supplied each fall to professors of architecture and engineering free technical lumber literature for student use. Mailing this fall went to over 700 professors. As a further aid in 1948 Teco supplied professors "An Outline for a College Course in Timber Engineering".





World War II U.S. Navy blimp hangar, built of timber with Teco connectors, 1,000' long; 153' high; clear span roof 237'. Said War Production Board "The steel ring connector, which is used to increase the strength of joints in wood construction, saved more than 400,000 tons of steel for essential war production in 1942".

HERE THEN IS
THE RECORD . . .
SILVER ANNIVERSARY
REPORT

Here then is the yield from the investment of \$1,000:

Lumber sold for use with Teco connectors—	
Over 100,000 carloads f.o.b. mill value	\$110,000,000
Sales of Teco products	\$ 18,000,000
Teco lumber trade promotion	\$ 5,000,000
Teco designing, engineering and research	\$ 1,000,000
Research work done in Teco Laboratory	\$ 2,500,000
Teco land, buildings and equipment value	\$ 800,000

