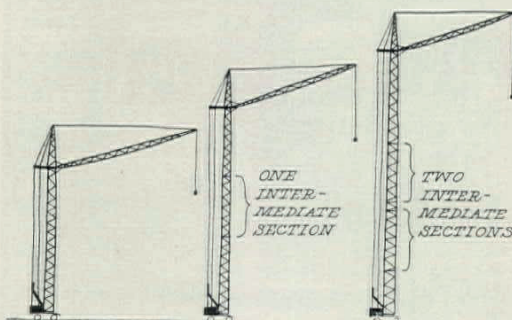


The giant cranes



COURTESY WEXLER CONSTRUCTION CO., INC.



Tall German crane, with 153 ft. tower and 70 ft. jib, sets a form for a concrete end wall on this 12-story parking garage in Boston, being erected by Wexler Construction Co. As sketches (left) show, the height of some models can be extended to maximum of 300 ft. by the addition of intermediate sections. Reach of the jib is governed by crane height and weight of the load; maximum jib length is 127 ft.

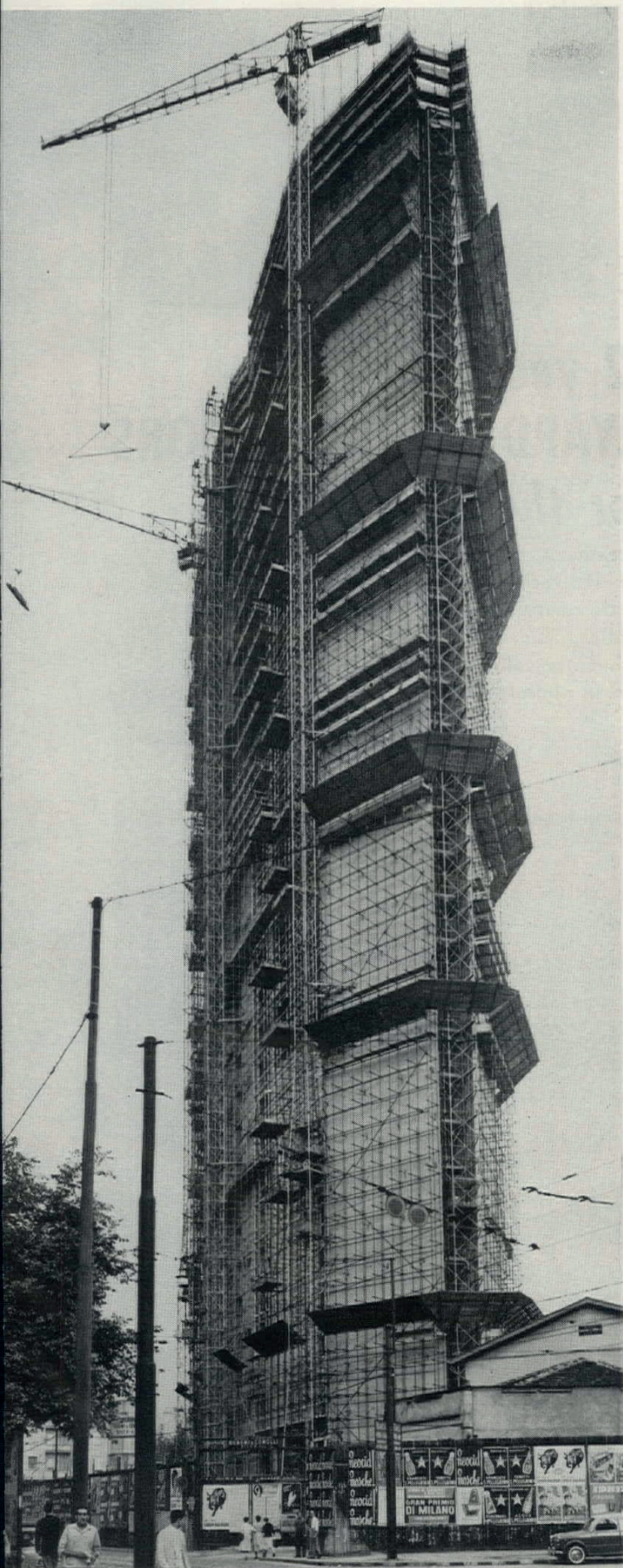
Most of U.S. construction has yet to see the giant lifting cranes that have risen to power in Europe within the last decade. To tell the truth, it is rather wary of them. These masts of steel, towering 300 ft. and more, are extraordinary, versatile machines, but they demand a high degree of skill in operation and, above all, a heavy schedule of work. Standing idle, a \$100,000 crane plus its \$188-per-week operator and \$143-per-week oiler (New York area wage rates) can soon erase a contractor's profit.

Such cranes are just beginning to find acceptance in this country, mostly in the large cities and on the biggest projects. The demand is growing swiftly; a few U.S. firms are now producing giant cranes. Use of large cranes has expanded more than 10 per cent every year since 1954 (discounting 1958, when construction volume dropped), and the trend seems to be toward broader use and toward even greater size.

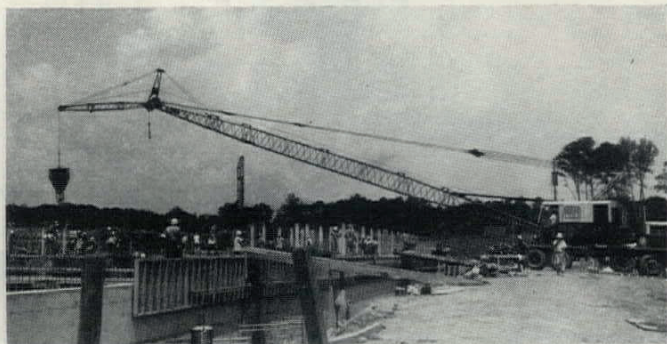
The crane's chief advantage over the derrick or elevator, its major competitors, is its ability to eliminate rehandling of materials. With derrick or elevator, materials often must be transferred by dolly or wheelbarrow to the working station, whereas the crane can hoist and position materials in a single step. For example, it can pour concrete directly into forms and later can be used to dismantle the forms and erect them elsewhere.

To be sure, the crane is not adaptable to every type of construction. If a building is so broad as to have some of its working stations out of reach of the crane, builders usually find that it is more economical to use a combination of alternate devices, such as elevator and dolly.

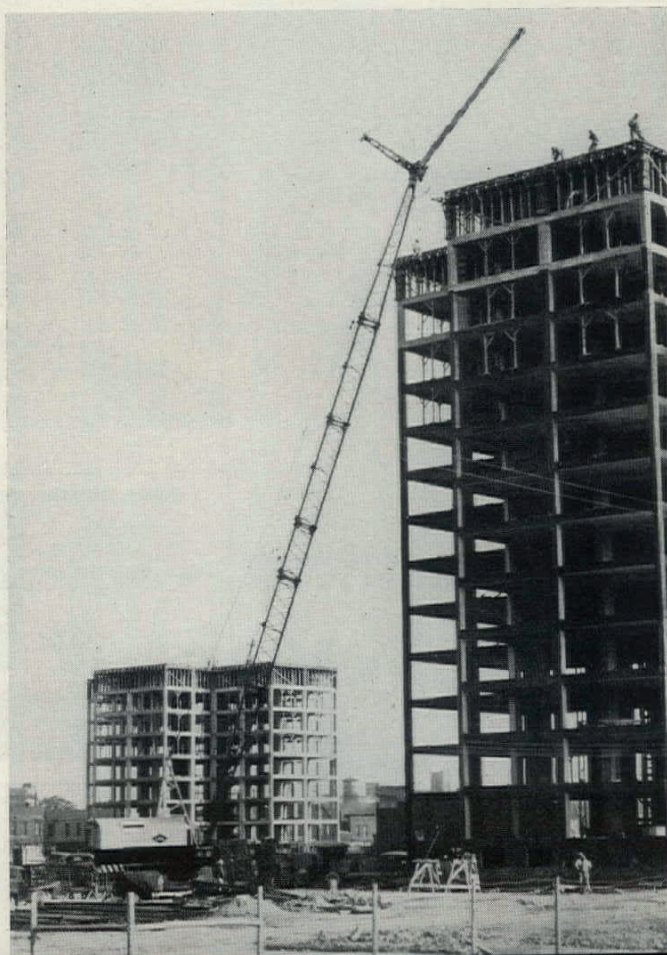
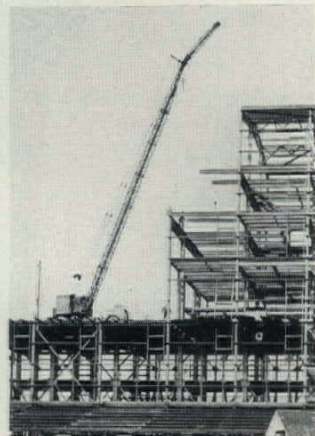
But where conditions are suited to it, the crane's efficiency is often sufficient to reduce the building time of a major structure by as much as a month or two. Indeed, the big cranes' advantages have sometimes proved so pronounced that some architecture has been modified to benefit from them. For example, the ability to pour concrete directly into forms, using the long-boom crane, has been partly responsible for the rise of the cross-shaped and star-shaped buildings, now seen in New York and Chicago. Only a few construction tools in history have worked such a modifying influence on architectural design.



Italian crane (left) stands so tall (424 ft.) that it must be attached for support to the side of the Pirelli Building in Milan (by Architect Gio Ponti). Its jib is 75 ft. long, with a lifting capacity of 3,300 pounds and lifting speed of 182 ft. per minute.



Long-reaching crane (above) pours concrete for a shopping center in Atlanta. Boom length is 100 ft.; the jib length, 30 ft. Hoisted crane (right), at work in Canada, stood at ground level during construction of first stories, then was lifted—by cranes—to third floor for completion of the job. Maneuverability of a crane gives the contractor added leeway (below) on a multiple housing development in Detroit. A crane, unlike a derrick or elevator, can be moved readily from one building to the next as construction progresses.



PHOTOS: COURTESY BALDWIN-LIMA-HAMILTON CORP.; THE W. SROVEL CO.

ARCHIVIO FOTOGRAFICO