

December 1949

The American City



For an article on the ambitious Christmas displays in the square of Taunton, Mass., see page 121

*A*S THE DECADE of the 1950's approaches, officials and citizens in cities, towns, and villages throughout the globe will take "time off" to give thought to the future of their communities, and to reflect on the true meaning and spirit of the Christmas season -- community fellowship and good will to all, which will ultimately build a peaceful world.

to apply approximately 50 tons each, or a total of approximately 400 tons.

The test specification was that the girder should be tested to "destruction." However, on October 25 the testing engineers were unable to destroy it. Actually the girder carried 11 times its working load without outright failure. Two days later when it was tested to destruction it failed by overcompressing the concrete in the top flange. The wires did not fail. The first crack appeared in the lower flange when the total load had reached 225 tons. At that point the deflection was $2\frac{5}{8}$ inches. When the total load reached 540 tons, or all that was available for test, the deflection was $15\frac{1}{4}$ inches. Immediately prior to destruction, the deflection was $25\frac{1}{2}$ inches.

The results have not yet been fully evaluated to determine the maximum load at the time of failure. Cracks first appeared when the girder was carrying twice its working load. However, the cracks immediately closed, so that they could not be detected as soon as the load was removed. Many of the engineers present expressed the thought that they would like to have a design that would eliminate the cracks in the concrete within the safe range of the working stresses. From the results of the tests it appears that the bridge in Philadelphia meets these general requirements.

The savings in concrete and steel were substantial when comparing this girder to one designed by the conventional methods. Professor Magnel estimated that a conventional girder would be 10 feet deep, as compared with the $6\frac{1}{2}$ -foot depth of the prestressed girder. Similarly he estimated that the web would have to be 3 feet wide, as compared with 7 inches. In all, 60% more concrete would be required, and five times as much steel. However, the steel in the prestressed girder is $2\frac{1}{2}$ times as costly, offsetting to some extent the savings in this item.

Personnel

Representing the City of Philadelphia at this test was Thomas Buckley, Director of Public Works; A. Zane Hoffman, Chief Engineer; Samuel E. Baxter, Assistant Chief Engineer; E. R. Schofield, Principal Assistant Engineer, retired; J. R. Grandinetti, Principal Assistant Engineer, Bureau of Engineering, Surveys and Zoning; Max Barofsky, Principal Assistant Construction Engineer. The Henry W. Horst Company of Philadelphia is the general contractor for the bridge. The Preload Corporation of New York is the sub-contractor for the pre-stressed concrete superstructure and conducted the tests for the city.



PHOTOS COURTESY OF "CONTRACTORS AND ENGINEERS MONTHLY"

As the load is applied, the girder gets probably the most extensive inspection in structural engineering history.

A running comment on the test observations was made by Professor Magnel during the afternoon. Representing the Preload Corporation were J. H. Hession, president; Curzon Dobell, vice-

president and general manager; J. R. Crom, vice-president; E. H. Thwaites, vice-president; A. G. Formel, construction manager; M. F. Fornerod, chief engineer.

Universal Public Service—A Proposal

A DRASTIC modification of present methods of manning the public services is proposed by David E. Lilienthal, retiring Chairman of the Atomic Energy Commission, in his challenging book, *This I Do Believe*, published by Harper & Brothers.*

It seems to me (says Mr. Lilienthal) that a moral obligation to engage in the public service during a part of every qualified man's best years has become, for the generation that lies ahead, an actual necessity; that there must be an increased movement into the public service from private pursuits by exceptionally qualified people who would not in ordinary times consider public service as any part of their life's work; it is equally important that we put increased emphasis on rotation in the public service, in order to augment the flow into private responsibility of men with knowledge of government gained from actual experience. . . . I am inclined to think that the idea of public service as a *life-time career* has certain severe limitations, judged by present-day public needs. Here I differ with some students of public affairs; it seems to me that the advantages of the permanent-career public service are customarily over-stated, in the light of our own American needs, and that the disadvantages have not been sufficiently understood.

What I urge is a fluid kind of "citizen-service, in which men and women move from private life into public service for a

period of years, and then back to private life. Thus there will be an almost ideal situation, as I see it, in this: On their return to private life, these citizens will be experienced in first-hand knowledge of public affairs and of the special difficulties that beset the public servant; we will have public servants whose judgment will be enriched by recent experience in the day-to-day problems of private affairs.

Such a plan has a number of advantages to the country. The proposal also has in it an element of common fairness, for the grim and wearing tasks that so often are the lot of the responsible public servant should not be exacted of one man for an indefinite period, but should be deliberately rotated.

Hoosick Falls Gets Its Factory

Ground was broken on October 27 for the factory in Hoosick Falls, N. Y., to which pledges by the men and women of the community were given amounting to \$80,000. The B. & M. Shoe Company, of Boston, of which Meier J. Billig is president, will occupy the new factory, which at the start will employ some 150 men and women. This project was outlined on page 91 of the August 1949 issue of the *THE AMERICAN CITY*. Nevins & Morrissey are the contractors. It is planned to open the factory about the end of January 1950.

* See page 161 of this issue.