what they are doing

The Skyscraper Problem

Ernest Flagg

If we consider the list of evils, as enumerated, which has resulted, or which seems likely to result, from the unrestricted erection of high buildings, and also the list of the admittedly good points which those buildings possess, we find that all the evils, with the exception of ugliness, are due to overcrowding, and that all the good qualities are dependent upon not overcrowding. Therefore, we can safely conclude that a plan which will prevent overcrowding while still permitting the erecting of high buildings is the best one to adopt. If such a plan can be found, why is not the problem solved, for what more can be desired than to avoid the evils, while retaining the benefits of high buildings?

The plan I propose is very simple, and, I think, entirely practicable. It is as follows:

I would establish a general level of height for all buildings, low enough to be effective in accomplishing the objects desired by the skyscraper builder; that is to say, equal to about once the width of the street on which the building faces, without other restriction as to area than that the least horizontal dimension of any court or area left vacant for light should equala certain proportion, say one-tenth of the height of the wall or walls of the building to which it belongs and which enclose or partly enclose it.

Then on an area sufficiently restricted, say, one-quarter of the area of the plot on which the building stands, I would allow the building to any height without other restriction than that this part of the building be set back somewhat from the street so as not to darken it. For corner plots and plots facing on open spaces more liberal rules might be made than for inside plots. I would also allow an owner to dispose of his right to build high in favor of any adjoining plot.

ECONOMICAL PAVEMENT

Economy in construction is a dangerous goal to set before one, if it involves any sacrifice in quality of materials or workmanship. This is particularly true of concrete work, in which "the very best possible" is the only result that should be considered satisfactory. We have always insisted—and cannot insist too strongly—on the prime importance of high-grade quality in all materials entering into concrete construction, and high-grade skill in every detail of their manipulation.

Where we point, therefore, to an example where a good concrete pavement was laid at a cost of less than 70 cents per square yard, we are not holding this price up as a standard of economy that all road engineers should try to attain. Prices of material and labor, transportation, and local conditions, vary greatly; and as regards final cost, as every contractor knows, every piece of work is a job unto itself. In the Chicago district and vicinity, experience has demonstrated that a first-class modern concrete pavement cannot be laid at any figure approximating 70 cents per square yard, but will range in the neighborhood of $1.25.

Nevertheless, in these days of record-breaking, the unusually low cost of construction in the special example of pavement work referred to—which was laid down last year in Fort Smith, Arkansas—will attract wide attention of road officials to the superior economy of concrete over all other road-building materials that meet the requirements of long life, low cost of maintenance, and satisfactory service.

The job comprised about 100,000 square yards of one-course concrete pavement. The average cost was 69.4 cents per square yard. This cost includes the removal of about ¼ cu. yd. of earth per square yard of pavement, in the grading and the rolling of the subgrade. It also includes a 10 per cent allowance for depreciation on equipment, but no charge for superintendence. The pavement was 6 in. thick, of the 1-course type, unreinforced, and was made of 1:2:4 concrete.

The main equipment consisted of a No. 23 "Chicago" batch concrete mixer and ¾-cu. yd. 1-horse carts, besides the usual grading implements. Portland cement on an average cost $1.18 per barrel; gravel and sand averaged $1.25 per cubic yard; broken stone, crusher run, averaged $1.20 per cubic yard. The above prices are for materials delivered on the job. Local gravel and sandstone were used, but the best sand was shipped about 30 miles by rail. Common labor (both negro and white) was paid for at the rate of 15 to 20 cents per hour; engineman, 25 cents; foreman, $125 per month; and teams, 35 cents per hour.