

LET'S REBUILD OUR BUILDING

Behind the housing shortage is more than high costs. Our outdated local building codes are largely suitable for building a fire under your own City Hall

THE home-loving fellow who finds himself unable to scrape together enough postwar fifty-cent dollars to build, buy or rent the new house of his dreams shouldn't slap all the blame on the high price of materials and labor. A significant part of the difference between what you can afford and the price of the shelter you desire often lies in the excessive requirements and economy-killing restrictions of your home town's building code.

Your local code is supposed to confine itself to protecting life, limb, property and sometimes morals, by requiring that houses and other buildings be sturdy, healthy and safe. But in many of the 2,000 American municipalities which have building codes their provisions pad the incomes of contractors, coddle manufacturers and dealers in certain materials, favor craftsmen whose unions are politically wise, and butter the bread of other smart fellows who know their way around City Hall.

When it comes to political preferment in the building business, St. Louis' love—and Denver's too—is like a red, red brick, Chicago's is plaster, New York's, an expensive surplussage of structural steel and extra traps and vents for the plumbing. In Ed Crump's Memphis, which occupies a wide clearing between the piny woods of Tennessee and the hardwood forests of Arkansas, the code favors frame construction—which brickmaking Denver completely outlaws.

The building regulations of Birmingham, the Pittsburgh of the South, have been called the finest piece of propaganda the steel industry ever wrote. In such glassmaking towns as Toledo and Newark, Ohio, the codes encourage the employment of structural glass blocks.

There is no such thing as a national building code nor is one likely unless the Constitution is amended to make way for it. Only Massachusetts has a modern state code concerned with dwellings. Just a few weeks old, it opens the door to new products and processes for building houses whenever these innovations have proven they can stand the gaff of nature and man's carelessness just as well as the old conventional materials and methods. Elsewhere, under the existing American system, a building code—and the punishment it can inflict upon the housebuilder's pocketbook—is usually a hometown affair.

As things stand today, the inventor, the manufacturer and the dealer in the newer building materials may have to travel from town to town, call on each mayor, get the ear of an influential alderman, plead with and be pleasant to the city council, whose members may not know a joist from a joint, and talk cold, cold turkey with the building commissioner before he can hope to get started to first base with his product.

And often the city's bosses will reject it, sometimes for political reasons, sometimes because their code is old and restrictive and couldn't make way for an innovation without being rewritten and re-adopted—usually a long, expensive process.

To catch up with the inventions and discoveries of recent years in both materials and building practices most of the existing codes require review and revision. Half of them are over 15 years old, a fourth of them date back 20 years or more. In the opinion of Robert R. Wason, former president of the National Association of Manufacturers, every municipal building code in the country is obsolete and ready for the junk pile.

It may be that your home town's code compels you to have unnecessarily thick walls or provide floors for such live loads as won't occur even at your wake. The National Bureau of Standards and most

Most Chicagoans must put laths and three coats of plaster of specified thickness on their walls and ceilings — or else!

Although a 40-inch interval between 2-by-4 studs is quite adequate to assure safety, many codes require a 16-inch interval

In Chicago a fireplace for a gas or electric heater must have a brick, stone or concrete chimney. Chicagoans wonder why!

Some codes demand that floors must support weights much greater than will ever be placed on them. It means money wasted

In some places—Memphis, Tennessee, for example—brick construction is frowned upon and frame construction preferred



ILLUSTRATED BY LOWELL HESS

CODES

BY EDWARD ANGLY

There is no standard size for brick or roofing materials. Bricks come in 75 sizes, roofing slates in 1,000. Result: higher costs

Some building codes require twice as much concrete to be used as do others. You'll learn why when you read this article

In some places the codes require larger, and therefore more expensive, water pipes than good building practice recommends

In Denver and St. Louis, where bricks are manufactured, walls must be much thicker than is necessary. The codes require it

Building codes demand that ceilings be of a certain height. Every extra foot adds 10 per cent or more to the cost of the walls

If you build a house in Denver you must use something other than wood. Frame construction, much less costly, is prohibited

testing agencies have found that an eight-inch brick wall is sufficiently sturdy for residences, come fire or wind or homemade hoopla. But brickmaking Denver requires a twelve-inch wall, brickmaking St. Louis sixteen inches. If their two civic shields should show the wisest of the three little pigs rampant, that of Chicago ought to display a plasterer's trowel sinister—very sinister. With few exceptions, the Chicagoan must put laths and three coats of plaster of specified thickness on his walls and ceilings—or else.

An unsophisticated engineer whose blueprints failed to allow for the pulls and stresses of City Hall politics might wonder why the Windy City requires a two-story house to be capable of bearing the same wind load as a twenty-five-story skyscraper. Or why Chicago restricts masonry to six materials that were good enough in grandfather's day—or in Al Capone's.

A Chicago fireplace for gas or electric heater must have a brick, stone or concrete chimney. Plumbing pipes must measure an inch larger—and thus are costlier—than those recommended by the National Bureau of Standards as adequate for the health and safety of all non-Chicagoans. The protected area in which it is forbidden to erect wooden houses covers nearly nine tenths of the city. Yet amid the Loop's heavy masonry walls some new shops and air lines' ticket offices are shielded only by unbraced glass sides fifteen feet high.

Seek Adoption of New Code for Chicago

Three years ago the Chicago Association of Commerce, through the Pierce Foundation, sponsored a critical study of the city's building code by an outside engineer, Howard Vermilya. On the basis of his findings others are now hammering out a proposed substitute in the hope that a new regime in Chicago's City Hall will adopt it. Meanwhile many a gouged builder has moved away to the suburbs with his saw and hammer—and checkbook. Building permits in Chicago were 23 per cent lower in the first half of 1947 than for the same months of 1946—and the whole country was slipping further and further away from the supposed goal of a million new homes a year.

Structural steel made its bow in the '80s and one might suppose that by now, the makers of building codes would be in agreement on just how much stress that stuff can safely undergo. Yet Chicago requires stresses of 24,000 pounds per square inch while New York and Detroit allow 18,000—a 33 per cent difference which can run into uncomfortable sums if one is putting up a skyscraper, spacious plant or large apartment pueblo. Most model codes recommend 20,000 pounds as par for the course.

Concrete ceased to be a novelty even before the Model T replaced the horse, but some building codes still shy from it. Or perhaps your city hall is excessively fond of the local concrete dealer. In either case one city may require twice as much concrete to be poured for a given purpose as is deemed necessary in the next town down the highway.

Your code probably tells you how high your ceiling should be? How high can your pocketbook follow it? The Department of Commerce and most private agencies which employ experts to brood forty hours a week over the housing situation deem anything in excess of seven feet six inches unnecessary so far as health and security are concerned. Greater height might add to your comfort and pride of possession, or enhance the beauty of your rooms, but every extra foot will add 10 per cent or more to the cost of the walls. Chicago demands an eight-foot ceiling; some cities have been talked into requiring nine feet.

The cost of your floors will depend not only on the material you choose but also on how strong the code orders it made. Even if yours is a family prone to minor domestic rioting or to playing host for the jamborees of all the neighborhood jitterbugs, your floors are never likely to be imposed upon by live loads of as much as 40 pounds a square foot. Some communities fix the load design minimum at 25 pounds, others run as high as 70 or 80. Each increase jacks up the cost of construction. Has your town's building code taken into consideration the allowable stress on your pocket-nerve?

Does your code specify what materials—planks or studs, bricks or plaster, or a fixed weight or size of cast-iron soil pipe—you must use for certain purposes? Or does it leave the way open for such innovations as plastics and (Continued on page 108)



George Munger wears a football uniform during games and shouts his head off with the team. Outside of football, fox hunting, a Main Line tradition, is a favorite hobby

MAIN LINE FOOTBALL

