

## CHAPTER XII.

### BUNGALOW CONSTRUCTION IN SOUTH FLORIDA.



SINCE coming to Florida, almost ten years ago, I have been designing and building bungalows. During this period there has hardly been a time when I have not been altering an old one or planning or building a new. All the while I have been striving to produce something perfectly adapted to the environment. Long before I could finish one I would discover changes that would cheapen the cost of construction or add beauty or comfort to the structure. I disregarded all precedent, had difficulties with mechanics who would persistently do things the old way until finally I found myself doing most of the work with the help of a couple of negroes, who were willing workers but who could neither see straight nor saw straight.

In this part of Florida we sometimes begin at the beginning by cutting the trees and hauling the logs to the mill. The soil is lime rock, some of it loose, but much of it solid. This is good building material and by blasting, a lot of it may be secured on a small space for house walls, fence walls and roads in the process of clearing the land. The holes when filled with trash and rakings are fine for bananas and papaws. By building a kiln of wood and the proper kind of rock a fairly good quality of lime may be secured at a very low figure. With wood, stone, lime, sand and water all off the very lot you are building on, the house becomes in truth a product of the land.

The next step is to buy a galvanized iron pipe and a cheap pitcher pump. A twenty-foot length of pipe and sometimes much less is ample. A coupling is put on the end of the pipe. One edge of this coupling is filed or pounded sharp and opened over the beak of an anvil for a cutting surface. By churning this

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pipe up and down through the soft, white rock with the help of a little water two men in a few hours can have a pump in good working order—pump, pipe and labor not costing more than a ten-dollar bill.

A pile of planed lumber, costing about \$22 per thousand, a case of dynamite, with caps and fuse, and with plenty of lime and water, all is in readiness for business. I find it pays to mix some



A FAVORITE TYPE OF HOUSE IN THE TOBACCO DISTRICT OF WEST CUBA, WHERE CLIMATIC CONDITIONS, VEGETATION, ETC., ARE SIMILAR TO SOUTH FLORIDA.

cement in the mortar and cement is now so cheap that the increase in cost is slight. The center of a thick lime-mortar wall does not harden for a long time. A little cement therefore helps to stiffen it. By building low of rock and timber and by giving the main lines of the structure the right proportions and sharp outlines to produce contrast, the house appears to grow out of the land and when surrounded by vines and shrubbery becomes in fact part and parcel of it.

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The natural conditions to be considered are long, dry periods, continuous sunshine for months, very heavy rains and strong winds at times, which drive water in a fine spray through the smallest chink.

This calls for tight, cool, solid, low structures. I should add also that the well water is hard and cisterns are necessary, so that the roof must be of a material that will not taint or discolor or render impure the water.

Although a forester by profession, I do not believe that the



A CUBAN "BOHIO"—A HOUSE BUILT MAINLY OF PALM THATCH.

earth rotates upon a wooden axis, and I realize also that wood has been used in the past for many purposes merely because of its abundance and cheapness. It is, however, in the end an expensive constructive material if we consider the cost of paint and repairs, the danger from fire and the tribute we pay to fire and insurance companies.

The appearance of it is, however, good and although rock in this section is as cheap at the start, even considering the low price of lumber, many prefer the effects gained by a combination of both.

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I have used cement blocks, concrete, paper roofing, corrugated iron, shingles, tile, etc. I have even used old barrel staves, cut in half, for shingles. When one lives near the shore there is a possibility of collecting a lot of valuable drift lumber. I have captured ash, mahogany and Spanish cedar logs adrift in the bay. The tile in my hearth came from the floor of the engine room of a wrecked steamer. The wrecks often yield brass hinges, etc., which are difficult to get in any other way. The enterprising beachcomber can usually find many useful articles along the



TYPE OF BUNGALOW SUITED TO THE CLIMATE OF SOUTH FLORIDA.

shore and the waste of lumber on the beaches is enormous, since it is soon riddled with holes and rendered useless by borers of various kinds.

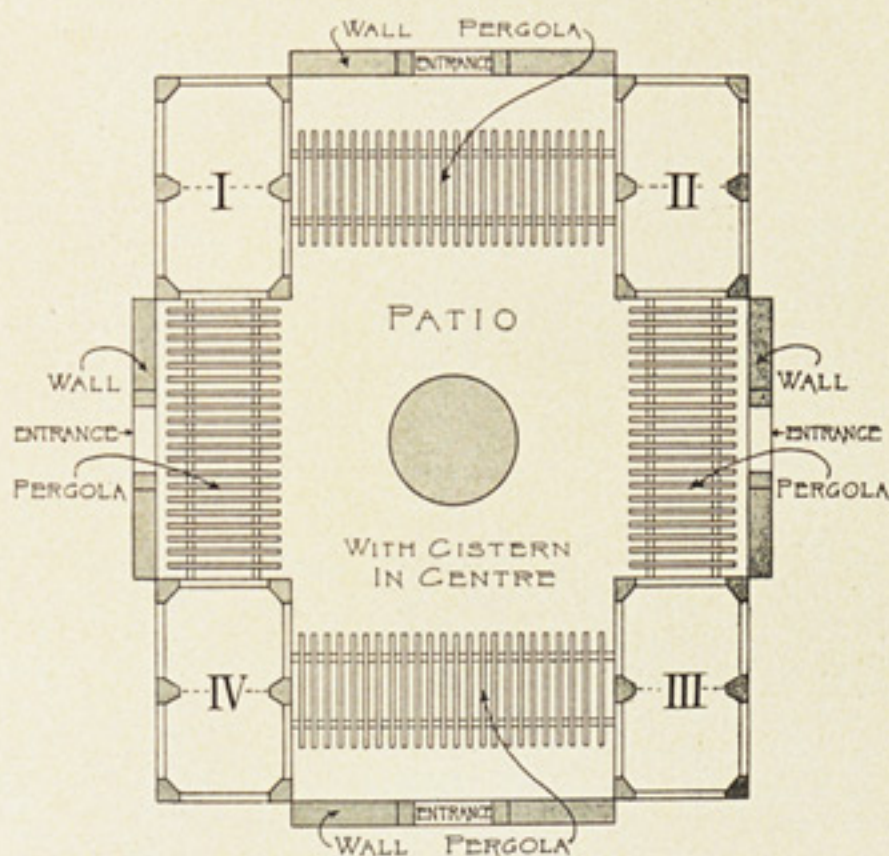
Since the roof is half the building, let me dispose of it first. Paper roofing or felt roofing is not very durable, it taints the water and looks cheap at best. Few people desire it as a permanent roof cover, although if carefully put on and frequently

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painted, it is tight and lasts longer than one would expect under the trying conditions of the tropics.

We have no snow, of course, and steep roofs are therefore unnecessary; in fact the roofs I have built have grown flatter until I have now reached the flat roof stage. A flat roof is easier to build, requires less material and in heavy rains and high winds much of the water blows off instead of into the house.

Shingles taint the water, curl up and open up in the hot sun so that the rain beats in and insects find a fine harbor under

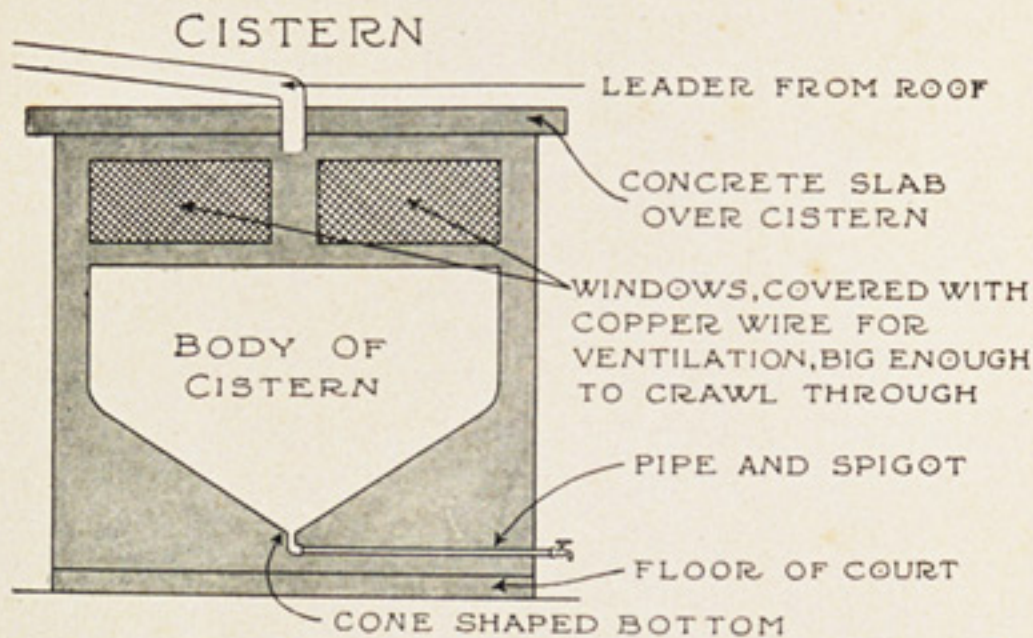


them. Corrugated iron is hot and noisy, although extensively used everywhere in the tropics, because it is cheap and quickly put on. It is tight and yields good water. Covered with concrete it forms a fine roof. Tiles are beautiful and cool, but they are seldom tight and since they are usually elevated on strips a couple of inches above the boards of the roof they form a fine harbor for rats and other vermin. If every crack is cemented

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an enterprising tropical rat will work at a tile till he loosens it. In time he will succeed in pulling out cement enough to squeeze through. Then he has lovely quarters. He could not be safer from intrusion.

I no longer build large houses. I have adopted instead the unit system on the bookcase plan. Each unit measures twelve by twenty-two or thereabouts. These can be built around a central court in any number to suit the size of your family, your lot and your bank account. These may be connected by "blow-ways" or "dog trots" or "pergolas" or "galleries" or "porches." I was working toward this plan when I struck the following



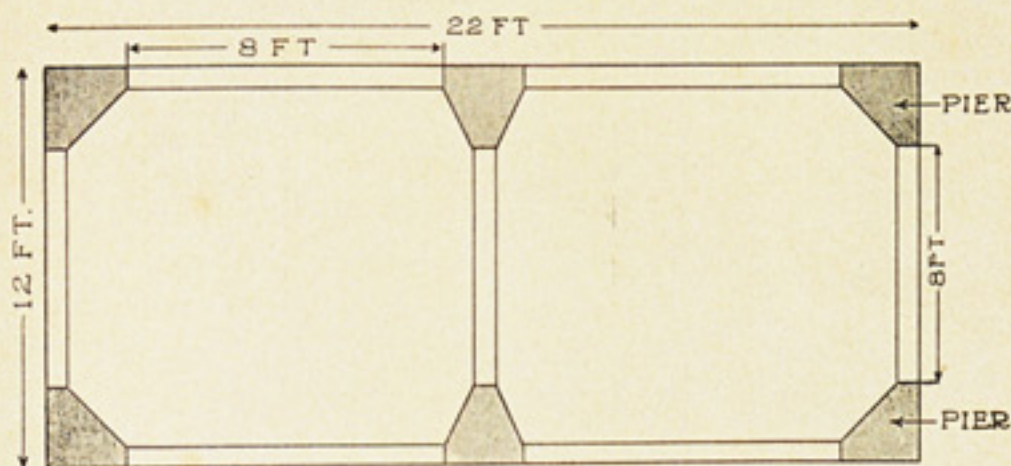
in an article on Chinese art in the International Encyclopedia: "A Chinaman's house, if he is a rich man, is a group of small one-story buildings interspersed with gardens, all within a bounding wall."

That fills my bill exactly, and I am neither Chinese nor rich. The cost of a unit is about \$200 and each unit ought to be rentable almost anywhere at \$5 per month. Suppose one owns only a small lot. Place a unit on each corner. Connect the units with pergolas and close the spaces open to the street with an attractive wall. In the center one would have a spacious patio.

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In the patio is the place for the cistern, which should be built above ground. If above ground the water may be completely drawn off at any time by means of a spigot. The bottom of the cistern should be cone-shaped, with the apex down, from which the pipe leading to the spigot should start. In that way every speck of sediment may be drawn off at any time.

In the tropics the cistern should be screened and well ventilated. It is cooler above ground than below it. Pump water is always warm in cool weather. If the cistern material is slightly porous all the better. The evaporation will cool the water like a Spanish olla and on the basis of the iceless refrigerator. It is necessary to screen out the mosquitoes since cisterns are their favorite breeding places.



The flat roofs are fine places for solar heaters. A flat tank on the roof into which water may be pumped by hand with a small force pump in a sunny climate yields fine, warm water for bathing if covered with glass sash.

The following is a brief description of how I build a unit house: I lay up a narrow wall of rough stone (12x22 feet), a foot or more above the ground. I usually build against boards and pile in mortar and rock. This enclosure I fill with rock, which is packed and pounded down solid. Over the surface of this I lay a cement floor.

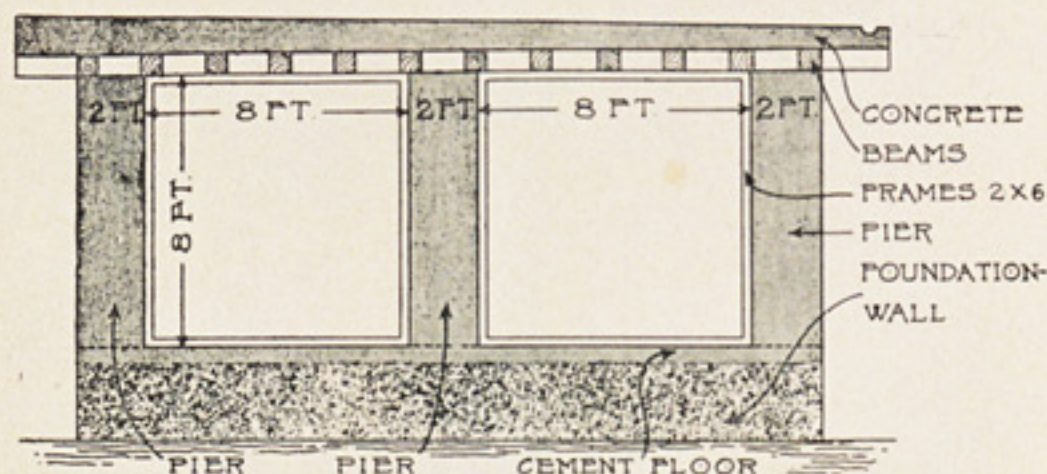
On the cement floor I set up frames of 2x6-inch stuff, each frame 8x8 feet, two frames on each side and one at each end.

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This leaves room for three piers on each side. These piers are triangular in shape, showing two feet on each face on the outside. They are constructed of concrete, one part cement, two sand and four blasted rock. This mixture is thrown in a wet state inside of rough pier forms.

By making these piers triangular they are strong; it gives a fine space inside for hanging a mirror or picture or for shelves and it avoids sharp corners in the house. The tops of the 8x8 frames serve as a plate on which the roof beams rest. They rest also on the tops of the piers.

All roofs in the tropics should have a good overhang. In early times on this coast houses were built with practically no



eaves. They saved lumber and felt safer in times of storm. Eaves throw the water from the house and shade the walls, thus rendering the house much cooler, since the secret of keeping cool in the tropics is keeping in the shade and in good ventilation.

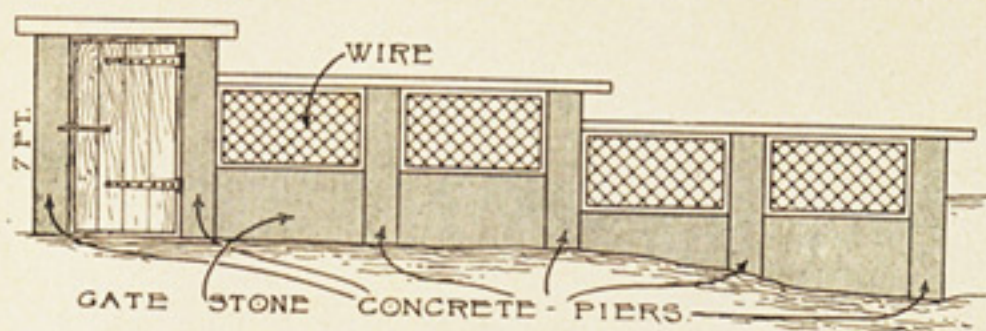
On top of the roof-beams I lay corrugated iron. Boards may be used instead between the beams and afterwards removed. On this I lay four inches of concrete reinforced with poultry fencing, barbed wire or common galvanized wire of any kind. A rim of cement serves for a gutter and the slope is left to one corner or to the middle of one side. Thus iron gutters are dispensed with. This roof forms a pleasant mirador and a second story may be put on in the same way if the owner desires.



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The main part is complete—the finish is easy. A Tropical house should have many openings so as to be all-porch in hot weather and yet tight as a drum in times of storm. Tongue and groove stuff shingled on the outside is good. I use narrow shingles (three-inch) and put one nail in each shingle. A small shingle when it contracts makes a smaller crack than a wider one and if only one nail is used it is less apt to split in the process of expansion and contraction. I prefer shingles and up-and-down boarding to clapboards, since then the rain drips or runs down with the grain of the wood. Good copper screening is necessary, but glass is often dispensed with, solid board shutters being often used.

Such a building is cool and cheap. It has no large timbers in it. It is anchored to the ground by stone pillars and a solid

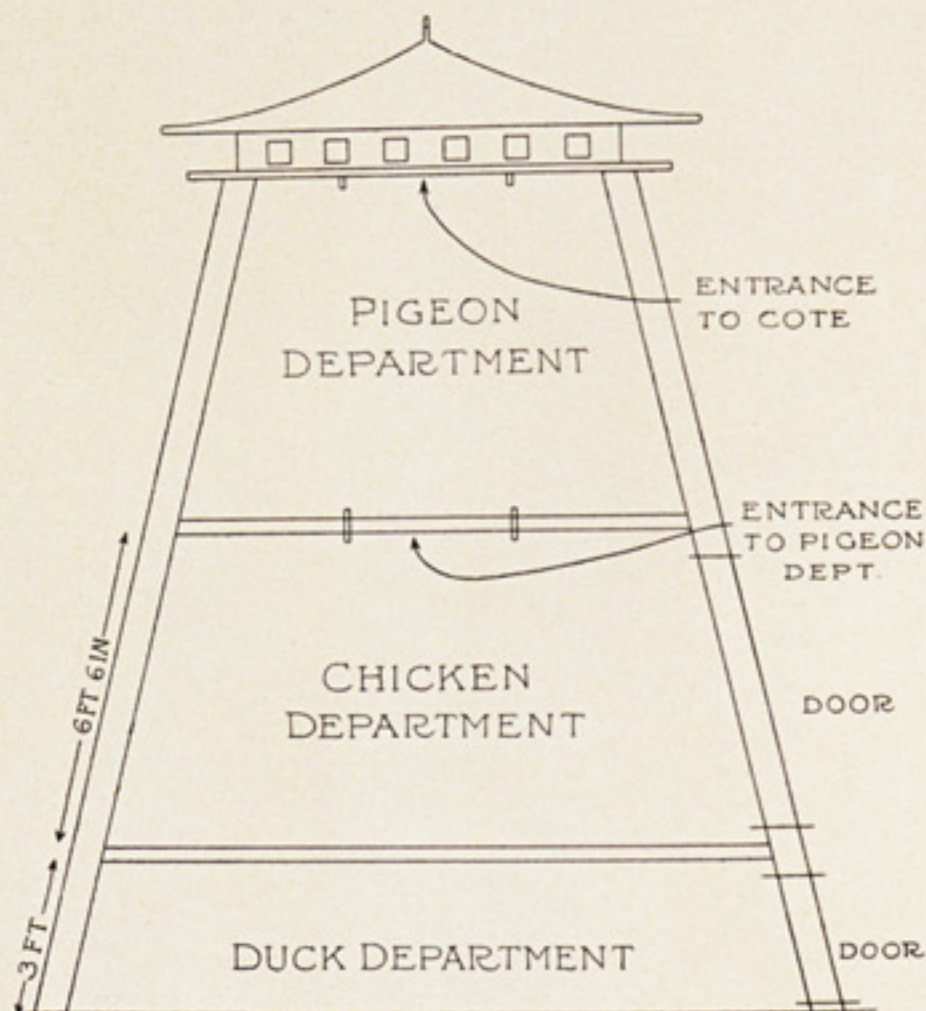


slab of a roof. One of the corner piers may be made hollow for a chimney, and a fireplace is pleasant since there comes a time in almost all tropical countries when a fireplace fire is grateful.

Such a house looks plain and solid—Assyrian or Zuni-like in character—quite in contrast to many of our ornate, gingerbread carpenteresque constructions, but the shubbery in the patio and the vine-covered pergolas and fences with many shades of leaf and flower give it all variety necessary. These units may be connected with a fence and the following I have found to be very good and not very expensive: Put up posts ten or twelve feet apart, five or six feet high and one foot square, built in a form of the same kind of concrete mentioned above. Connect these with a wall two or three feet high. Run

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a 4x4 railing along the top of the posts and fill the space with poultry wire. This is "horse high, pig tight and bull strong," and is at the same time attractive and fine for vines. These unit houses cannot properly be called bungalows, since a bungalow is supposed to be a low, flat, rambling, wooden structure, often with a thatched roof in the East Indies, but the term in America



now covers a multitude of sins. One of these unit houses I have built for a garage, but prefer to call it an "autola." One unit may be used for a kitchen and lavatory. In case the baby is cross or some one snores it is easy to relegate them to the units in the farthest corner of the patio. In conclusion let me add that no place, however small, is complete without a place

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for animals of various kinds, the houses for which may be built in the same way around a central court. Then, too, many people are fond of pigeons. I have built a dove cote twenty feet in the air on top of four posts put slantwise in the ground. Two feet from the ground I have built a floor of boards which serves as a roof for the ducks and a floor for the hens. Six or eight feet higher up I have built another board floor, which serves as a roof for the chickens and floor space for pigeons. The whole is enclosed in netting. The pigeon house has a hole in the center underneath so that they can enter their department from below and thus be safe from intruding hawks.



A UNIT HOUSE IN PROCESS OF CONSTRUCTION. CONCRETE ROOF AND CONCRETE FLOORS. THIS HOUSE CONSISTS OF THREE UNITS JOINED TOGETHER ON A TRIANGULAR LOT. VIEW FROM SOUTHWEST.  
(PHOTO BY KAUFMAN, MIAMI, FLA.)



SAME HOUSE—VIEW FROM NORTHWEST.