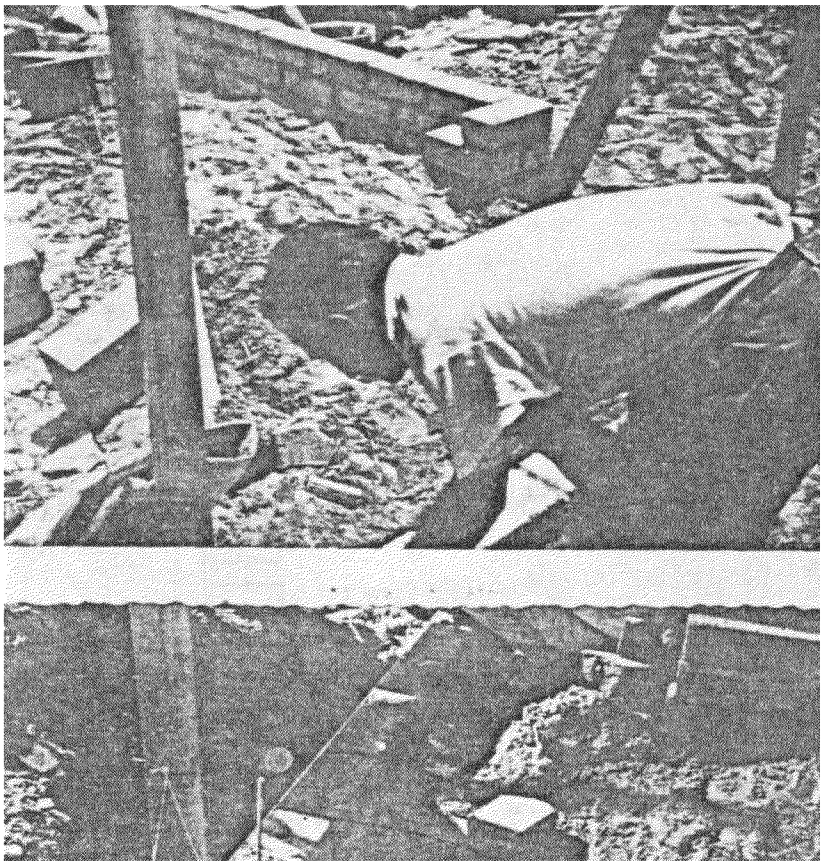

WALL END RETURN

& ANCHOR

CASTING LINTELS

FIG. 5
Wall Return, Reinforcing
& Lintels

and are limited so each person can build his own section of wall without trying to match or keep up with his neighbors work. To eliminate skills in locating courses, leveling and alignment, guide posts or frames for windows and doors located and leveled in place, are guides, with pins or nails at course heights marked with guide string moved from pin to pin. These posts are previously placed by the one skilled man on the site - the carpenter with his helper. Thus self-help techniques are facilitated and costs for construction can be saved by the sweat equity supplied by the residents-to-be, who also participate in the manufacture of the block. These features were demonstrated by the author in 1960 at the World Housing & Planning Congress held that year in Puerto Rico.

Assembled Buildings With Varied Roofs

The houses demonstrated in Puerto Rico were of two types; a 2 bedroom unit of 665 sq. ft. and a minimum 2 room shelter of 215 sq. ft. (see Fig.6,7 &Fig. 8). Two 2 bedroom units, referred to as House #2 and House #3 were shown, having identical floor plans, but incorporating 2 different roofs. House #2 roof was formed with reinforced precast beams with projecting top steel. Specially cast concrete blocks spanned between and rested on notches in the beams, making a flush ceiling left exposed. This could have been plastered or painted. Over the top of the beams and block, concrete was poured, locking up the top steel and the block monolithically. After curing, a white vinyl paint applied on top, made for a highly reflective watertight finish.

House #3 on the other hand shows a small channel beam running the full length of the house over the longitudinal walls. This was anchored to reinforcing rod coming up through the walls in the manner shown on Fig. 5 and described previously. Across the top of these channels was attached a deep draw white enamelized aluminum roof, drilled and fastened with self tapping screws as recommended. These roof panels were long enough to span completely across the outside walls including generous overhangs. Despite the tropical sun, the under surface was merely warm to the touch after several hours of exposure to the sun. This was due to the fact that the underside, at the ends of the house, were left open as shown, and all corrugated fillers were omitted. (see interior view Fig. 7)

Finished floors were made of soil-cement tile cast with an insert in the Cinva-Ram machine. These were laid over a tamped in place soil-cement beds, and joints were grout poured.

Extruded aluminum jalousies were fastened directly into the block through their frames. The top sections were of the glass type turned on end to act as baffles and draw in the breeze.(see Fig. 7)

Simple surface wiring, connectors and sockets fastened into the block, completed the houses, along with basic sinks, toilet and shower stall.

These building units, based on Puerto Rico 1960 prices and a production of 200 houses, was estimated to cost $1,400 per unit, including all labor and materials