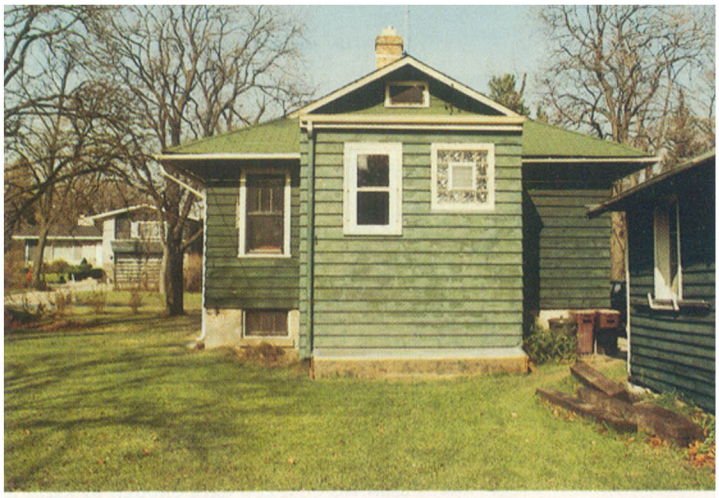

The backside of the Hanig home (above), drab and uninviting, was transformed into an eye-catching passive solar collector by adding a living room on the west and greenhouse to the south, and removing the garage (below and right.

Location: Glencoe, Illinois
Challenge: Give a facelift and blend passive solar into a suburban ugly duckling with its backyard to the south.
Solution: A new wing and greenhouse for passive solar; blown-in insulation, new siding and windows at existing walls.

When Peter and Alice Hanig purchased this home, the neighbors suggested they burn it down and build a new home in its place," says architect Michael Kollman. But rather than torch the project, they saw an opportunity. The humble bungalow is in a ritzy North Shore Chicago neighborhood. So they hired Kollman to design an addition, upgrade thermal performance and add passive solar features

The house started with major energy flaws. The plan ran north-south, there was no insulation, and a garage blocked the southern sun. Kollman's design tore down the garage (the Hanigs didn't need it anyway), and added a living room on the west and a greenhouse to the south. The extra 33 feet of south glazing allows the sun to warm the greenhouse and the floor of the addition, both quarry tile over a 4-inch slab.

The walls of the addition are 2x6'x insulated with R-19 batts and one inch of Thermax on the outside. Felt paper and clear cedar siding was installed over this. The inside finish is wallboard over a poly vapor barrier.

The siding was removed on the exisitng part of the house and fiberglass was blown through holes in the sheathing. Where inside walls had to be reworked, a poly vapor barrier was installed, but they relied on a vapor barrier paint for most surfaces, with some discontinuities at intersecting partitions.

Winter sun streams into the Hanigs' new living room (above, where it is absorbed by the quarry tile floor and stored in the 4-inch concrete slab below. The greenhouse is seen beyond.