Things That Need To Be Invented Part II

By George Porter

This is obviously the second in a series of articles about things that need to be invented to make our homes better. This means better for the consumer, and/or the installer, and/or the manufacturer. The first article dealt with the need for a special climate control system for the gulf coast and this one will deal with tools that we need to make better homes.

Somebody needs to invent a laser protractor. It is not really much of a challenge to do this but to the best of my knowledge none exist. What this will look like when it is assembled will be similar to a saw guide for table saws. If you have ever seen one of these guides it simply slides in the groove parallel to the saw blade and the part that pushes the board pivots to what ever angle you want to cut the wood. 180 degrees are marked along the semicircle pivoting part of the device, you simply loosen the wing nut, line up the degrees of the angle you want to cut the board tighten the nut and push the board with the flat side. If you can't picture this don't give up yet, it will get better. If you can sort of understand what this looks like then picture two laser pointers, one attached to the part that slides in the saw top and the other attached to the part that pivots. What you want to do is create a tool that is an adjustable angle measuring device. When the tool is set to 90 degrees the two laser beams will be exactly 90 degrees to each other. On the other hand when the two laser beams are aimed at two points you will be able to read the scale and it will tell you what the angle is. Such devices are available but not with lasers. The lasers enable you to measure angles between things that are hundreds of feet apart if you want.

So, what would you do with this tool? Suppose you were in a factory and you had some problems with the roof line mating up on your multi-section homes. The floors fit fine but when the home is installed on the footers and very carefully leveled with a water level at the frame, the roof still has a gap in it. The problem here is easy to see, the marriage walls are not at a 90 degree angle to the main beams. If they both were the two walls would fit perfectly. The solution to the problem however requires you to know how they got that way so you can correct the problem. Did they shift during transit? Was the home built wrong at the factory? Is only one wall not square, if so, which one? At the present time we have no quick practical way to determine these things. If installations are to go smoother then fixing this problem would be a help.

This is where the "laser angle gauge" or whatever you decide to call it will help. This device can be attached to a little tripod and set at the edge of the marriage wall of the home. One laser can be lined up with the bottoms of the main beams and the other can be pointed straight up at a 90 degree angle and see if it matches the roof edge. This tool could be used as though it was a giant carpenters square to see if the chassis was straight or exactly what is the roof pitch of a certain home. When you put the camber in the frame you could see exactly how much you are putting in instead of just measuring the length of the bead welded on the beam. A tool such as this will tell us a lot about our construction techniques. We really sort of stack the components of the home together. First the chassis, then the floor, the walls are put on the floor and the roof is put on last.

If for some reason these parts were not being stacked up straight then an installer has a heck of a time making it fit and look good without a lot of on site time and materials. The best time to catch this is when they are being stacked, not when you have to change the shape of the structure to make it fit and then having to fix drywall to finish it off. There have been many rafter systems pulled apart by installers trying to close the gap between the two halves. When the roof is weakened like this in a high snow load area, it could cause a roof failure. One of the more common problems is that you get the roof tight but the ceiling inside the home is a few inches apart. This means filling the gap, making the marriage wall openings uniform from the floor to the ceiling, and usually a lot of trim labor. This tool could be used to determine when this misalignment occurs. If the home is out of square at the factory door then production needs to work on the problem. If it is out when it gets to the dealers lot then either the truck driver and/or the factory need to work it out. Either the driver did something he should not have done, like drag the home frame over some high railroad tracks, or the factory needs to redesign the home because it will not travel as it should.

No home ever made will ever be perfect but we should do what we can to always move in that direction. This tool should help us see some of the problems and when they occur. We may or may not be able to do something about what we find but we will at least know where to work on it.

This tool should cost about $75 or so and the world needs it, so go invent it. Good luck

Next Issue: New kind of roof and what if you could have a permanent installation manual complete with all the blueprints for the foundation and construction of the home for under a dollar.