

COLUMN FOR FEBRUARY 12, 2005.

## HEADLINE; ELECTRICAL IN HERITAGE HOMES

As part of my series on Heritage buildings we have discussed the structure and now we will address what to look for in the electrical in an older home. First a little history here. Thomas Edison invented the first practical light bulb in 1879. The first electrical code was introduced in the USA in 1896, due mainly to the number of homes that burned down because of unsafe installations. By 1910 electrical lighting was lighting up the streets in major cities and fuse boxes and knob and tube wiring was now considered the premier wiring of the day. This method of wiring remained in use until close to the Second World War. Most homes had 30 amp entrance boxes and 120V service. By the time the roaring 20's came to a halt, over ½ of Canadian homes had electricity, mainly in the cities. By the mid 30's 240V service was now in use as electrical appliances like stoves became available and homes were commonly supplied at 60 Amp. This remained the standard well into the 1960's. A metal clad wire called BX was in use by the 30's and by the 40's, loomex, a non-metallic wrapped cable came into use and the labour intensive knob and tube died out. It was not until the 60's to 70's that grounded circuits started to filter into home wiring.

Where are the areas of issue with respect to an older home? The majority of issues are insurance and safety related, insurance being the major stumbling block when buying an older home. Home insurance companies have taken a hard stand on 60 amp services, the majority demanding upgrade to a 100 Amp service. According to one Insurance Broker I know, their reasoning is a 100 Amp service installed today is a breaker panel and the majority of homeowners do not know how to change the amperage size in a breaker whereas a fuse panel, they can easily screw in a 20 or 30 amp fuse where a 15 amp should be used and this can cause the circuit to be overloaded. The next issue is knob and tube wiring and this one ranks very close to 60 amp services. Knob and Tube wiring was the original system. It consisted of a series of ceramic posts and sleeves thru which the wire was strung. The connections were to be soldered together and then wrapped in fabric electrical tape. Junction boxes were rare and I often see wooden sub-panels in older homes. The issue with this wiring is the use we put on electrical systems today, we are addicted to electricity with all our modern conveniences. Age, rodent activity and heat build-up that will damage the insulation over time can cause problems and a fire is often the result and this is why the insurance companies have taken their stand.

What do you do if you find these issues in a prospective heritage home you want to buy? Upgrade to a new breaker panel can run anywhere from 700.00 to over 2000.00 depending upon the installation. If a new mast is needed or the panel moved due to modern regulations, an example here would be too close to a sink or water source. The knob and tube issue is more complex. I have seen cases where a complete rewire of a home was required and estimates over ten thousand dollars are not uncommon. I have seen estimates quite a bit less than that too so here it pays to get a licensed electrician involved and have him look the system over and give his opinion and cost evaluations. Knob and tube wiring causes some discussion amongst the electrical trades, if properly installed and not overloaded there is general acceptance that for average home use it is acceptable. Hydro One offers a service to inspect this wiring for a fee and offer a letter of opinion on the installation, some insurance companies have been known to accept this but the list is getting shorter.

A proper inspection of the system should be done in an older home, age of wiring, multiple connections and additional sub panels all add to these two main issues. Unless upgraded, most older electrical is ungrounded and this can cause some issue with appliances, computers and entertainment systems. This type of wiring is generally acceptable for clock radios, lights and general home use.

Now the answer to last week's question. What is an architave? The answer was C) moulding used to conceal joints. Now this week's question. What is a panic-bolt? Is it A) a release handle for plumbing supply lines B) a catch used in a window of a commercial building C) a style of hardware on a one-way yard gate. D) A bar used on a door for quick release under pressure. The answer in next week's column.

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