Gremlins (hammering) in the walls

Hot water boiler systems.

Many times, we get noise complaints, and its usually from new residents that move into older buildings that have a boiler heating system with baseboard heaters in each room.

The complaint is they are hearing knocking sounds within the walls and or ceiling. Mostly during the evening hours, while sleeping or when they awake.

The cause is the conduit, for the hot water to heat the space, is a copper pipe. Over the years this pipe begins to sag and will rest on the wood floor or ceiling joists. Copper has a great expansion rate. When hot, the pipe will grow, and as it cools it shrinks in diameter and length causing movement against the wood joists. As the hot water from the boiler begins to circulate through the pipe because the thermostat calls for heat in the apartment, the pipe expands causing the rubbing between the wood joists and the copper pipe. As this pipe rubs along the wood it sticks as its expanding and causes the popping or hammering sound.

OPEN FLAP IN BASEBOARD

The fix is to not turn the heat down. Set your thermostat to the desired temperature that is comfortable to you and leave it. When we turn the thermostat down at night before going to bed the heating stays off longer allowing the copper pipe to really cool down. Then sometime during the night when the apartment temperature and the pipe temperature has dropped, the heat comes back on and circulates very hot water through that now very cold pipe, and we start hearing the hammering sound from the pipe expansion against the wood joists.

Hint
If you don't want your bedroom the same temperature as the rest of the apartment, a good alternative would be to simply adjust the flap inside your baseboard heater. Closing it will reduce the temperature in the room, and of course opening it will have the opposite effect. Try closing the flap halfway, leave it for few nights, and then adjust according to your preference.

CLOSED FLAP IN BASEBOARD

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