

Last Winter Clawed at Chimneys

By BILL HIBBARD --of The Journal staff

You CHEERED the mild winter this year but your opinion may change once you take a look at your chimney. You saved a bundle on heating, but if you has a gas furnace that falls into the 80% efficiency range, damage to your chimney may have accelerated beyond the normal this year.

That's the warning from Bill Hussel, owner of Chimney Doctors in Menomonee Falls Hussel admits that he has a vested interest in the situation. But he adds quickly that he'd stand to gain more by keeping his mouth shut and letting chimneys deteriorate to the point where they have to be rebuilt.

The problem Hussel brings up is caused by condensation that forms when gas is burned. The Wisconsin Gas Co. estimates that a typical home in this area puts 12,000 to 15,000 gallons of water into the air each winter, he says. In the old days, with a lot of hot air going up the chimney, all of the water stayed in vapor form until it got outside the chimney.

However, when mid-efficiency furnaces replaced the old ones in the last seven years or so, heat loss was curbed, chimney tops got colder and condensation started occurring. This, then, led to freezing and thawing of the condensed water, a process that can eat out mortar joints between clay flue tiles. When that mortar is gone, the moisture can cause outside bricks and their mortar joints to deteriorate. (In houses 60 years old or older, flue tiles may not have been used, so the chimney interior generally is plain brick and mortar, which is even more susceptible to the problem, Hussel says.)

The problem intensified last winter because of the mild weather. Often the condensed water would melt during the day, then freeze at night, and the increase in these freeze/thaw cycles caused more damage, Hussel says. Last year at this time, repair orders were running a week and a half ahead of actual work, while this year the gap has increased to four and a half weeks because of the increased volume of calls, he says.

Now is the time to check your chimney or have it checked, he recommends, so any needed work can be done outside the heating season. Wait until fall and you may find repair firms even more jammed with jobs.

"Most people don't realize they have a problem with their chimney until they're hit by a falling brick," Hussel says, "and there seem to be more falling this year."

Before that happens, the homeowners can make a basic check by opening the cleanout door at the bottom of the chimney. (Sometimes a more specific check of the inside of the chimney can be made by using a hand mirror and tilting it at various angles inside the cleanout chamber, Hussel notes.) If you find suspicious rubble, such as pieces of mortar, flue tile and/or brick, lying on the floor of the cleanout chamber (or can see gaps between flue tiles when you use the mirror), it's time to have a professional take a look.

Hussel says other symptoms that may indicate a problem include:

- Mortar pieces and chunks of brick falling on the roof or into the gutter alongside the chimney or inside the attic.
- White salt forming on the side of the chimney. This also can indicate a cracked concrete chimney cap, another problem that should be taken care of as soon as possible.

Generally, the worst damage occurs from attic-floor level to the top of the chimney, Hussel says. Outside chimneys are likely to experience problems over a bigger area, as the cold surrounds even their bases from three sides.

When called to check a chimney, Chimney Doctors drops in a video scanner with two viewing screens, one for the operator at the top of the chimney and one for the homeowner. It shows where mortar is missing between flue tiles and where the tiles are cracked.

The cure for problem chimneys may be a stainless-steel flue liner, which averages about \$1,300 installed, Hussel says. Or, depending on the stage of deterioration, a cure could require a complete rebuilding of part or all of

the chimney at a price considerably more than that. Rebuilding of one 15-foot top section cost \$2,900.

After the round stainless-steel liner is installed, a special chimney insulation is poured down around the outside to cut heat loss through the chimney itself. The insulation looks like wet sawdust and hardens when it dries.

Hussel says he's experimenting with a stainless-steel lining for just

the upper part of a customer's chimney, using a non-hardening insulation, so that if the experiment doesn't work, he can pull out the partial and clamp on enough more for a full length liner with little extra cost to the customer.

Hussel had one last warning. He said homeowners who had switched from oil to gas in the last decade or so should be especially wary, particularly if they didn't have their chimney cleaned when they switched.

"Oil produces less water but more soot, and that clings to the inner walls of the chimney," he says. "When water condenses, the soot acts like a sponge. So you have moisture present constantly and that speeds deterioration."

Hussel has a passel of horror stories to tell about crumbling chimneys. He hopes a word to the chimneywise will be sufficient to save some money.