

## Bush Fire Barrier Fence

In a Lysaght magazine was an article ("Towards an unburnt country") about research findings of how different type of fences behave in bush fires.

The pictures show me that when the flames hit the fence they "gulf" / "spill over" the top. This poses a great danger of the fire spreading to structures close to a fence. Seeing these pictures reminded me of something unrelated but the same principle may be used in fire fighting.

Some years ago I read in a Dutch newspaper, that the results of an experimental sound barrier between a freeway and a housing development was successful. They had put a horizontal ledge on top of the sound barrier (Figure 1 & 2). The idea was that when the sound hits the barrier it is reflected back towards the freeway and does not spillover sound (Fresnel refraction?) towards the houses (Figure 3).

Fig

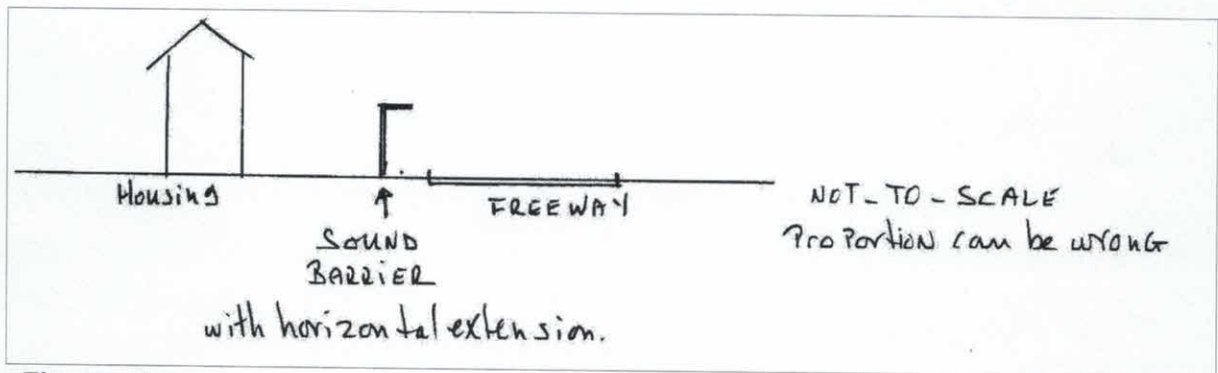


Figure 1

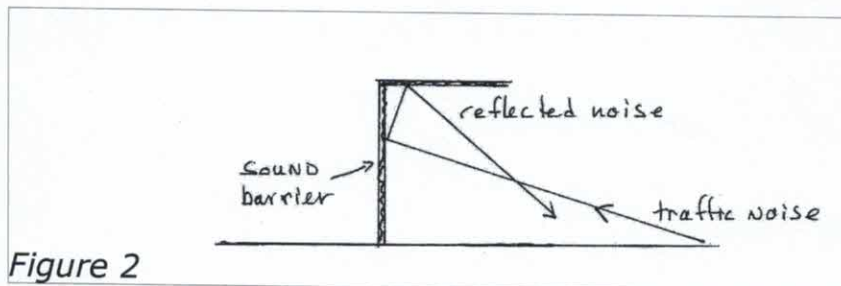


Figure 2

Maybe the same principle works when a horizontal ledge is put on a fence and the fire that is burning next to the fence burns onto itself, like back burning and starving itself of oxygen (Figure 4).

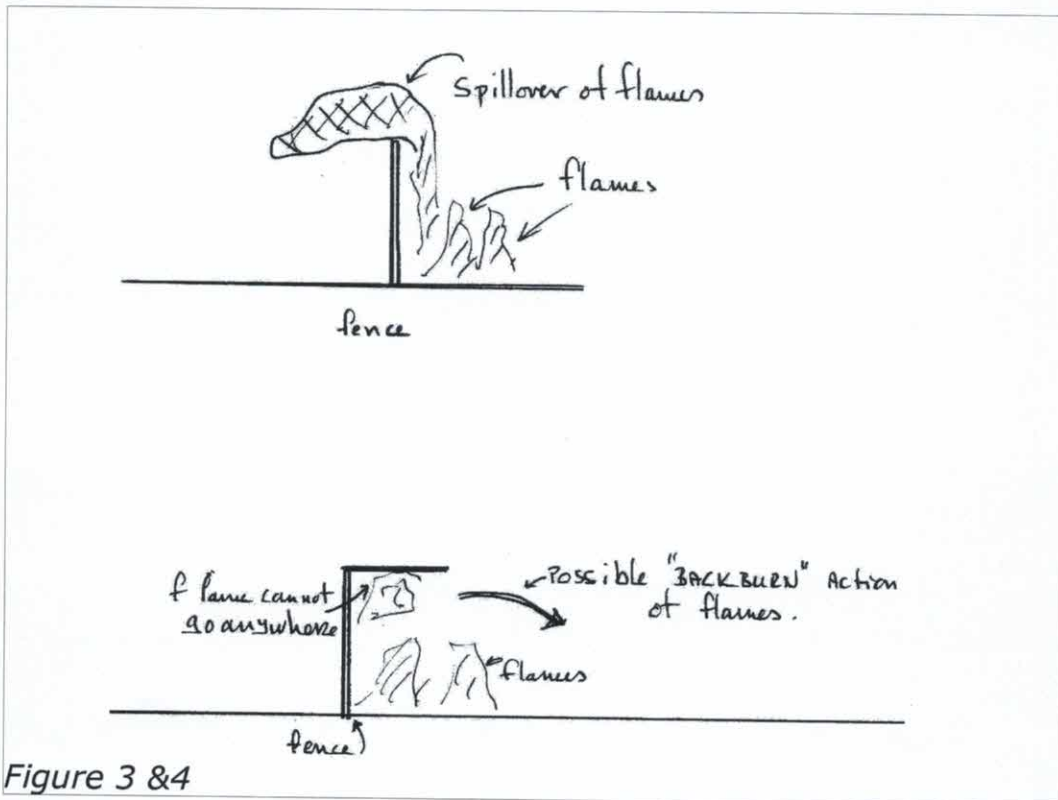
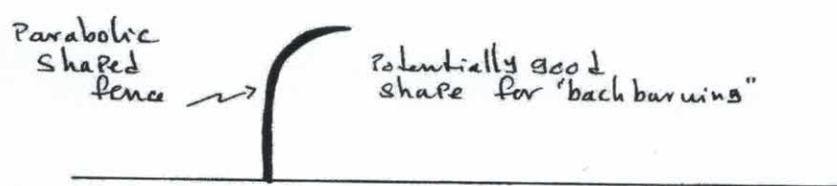
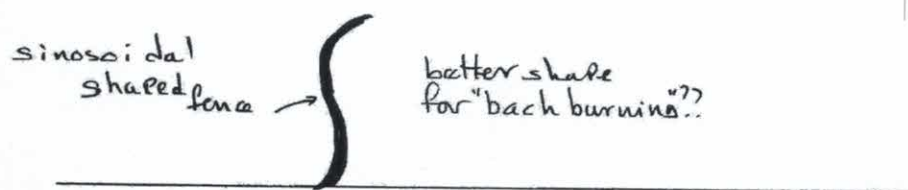


Figure 3 &4

Different shapes of fences maybe more efficient, eg sinusoidal or parabolic (Figure 5). A parabolic shape maybe optimal. This thought is related to an article in Scientific American (some issue between 1965-1975) about emergency exits in cinemas where parabolic shape around emergency exits was most effective.

Figure 5



Original document was written in February 2007.

Travelling in 2018 in the Netherlands I noticed as barriers along parts of the railways curved (parabolic?) towards the rail fences.