

Gramophone Company - No 4 soundbox

The No 4 soundbox has a diaphragm of mica, the traditional material for diaphragms. This is a natural material, noted for its resistance to heat (it was used in stoves before heat resistant glass was developed), and I have never heard of such a diaphragm cracking. Rough treatment can cause it to delaminate, however, especially round the centre where the stylus bar is attached.

The problem with the backplate is common on No 4 soundboxes from around 1929. It is caused by the backplate expanding with age, being made of a zinc-based alloy, so that it becomes very tight in the front section, which is made of brass. The backplate not only expands, it tends to become very fragile, so that any attempt to lever it out of the main rim may break it.

However, if the diaphragm is already damaged beyond repair, the remains of the diaphragm can be removed, and the backplate gently levered apart from the inside. Work all round the perimeter, a little at a time. This is less likely to cause breakage than levering round the outside.

Once the backplate is out, file down the step that fits into the rim (if a lathe is available, this can be done more neatly and quickly). If it is broken, it can be repaired with epoxy resin; care is needed to ensure that it is kept absolutely flat.