

Mr. J. J. Fletcher,—

When the plate is hot it elongates, and when it is cool it gets shorter.

Mr. Lewkowicz,—

The plate in shrinking gets cool and shrinks hole away from the bolt. The plate first squeezes the bolt, and when it cools off the bolt fails to fill up the hole.

In marine practice we try to avoid anything like overheating of plates in boilers by putting fusible plugs in which will melt at certain temperatures. When these go off we know what to do.

Mr. Garden,—

I am sure we have all listened with a good deal of interest to the very practical talks of practical men on the subject of boiler explosions. It is not quite clear to me, however, where our learned friends draw the line between a rupture and an explosion, if as the first speaker has stated, putting water on to a hot crown sheet will cause the sheet to rupture, this rupture opens a seam so wide that the steam rushes through and lifts the boiler off the truck and lands it in the ditch with my little experience this would appear to be an explosion. I cannot see why it is not the same as if the sheet is allowed to overheat and the pressure of the steam blows it down, the result is the same. In neither case I think, is there any excessive accumulation of gas as would be experienced in the explosion of gunpowder or other combustibles.*

After reading an article in the "Locomotive Engineer," some months ago on the question of putting water into boilers on hot crown sheets, I am fully convinced that there are more boilers damaged by trying to rake the fires or smother them with sand and coal, than there would be if the engineers were instructed to get the water in as quickly as possible when they notice the shortage. The great trouble with boiler explosions is that the engineer does not notice the shortage of water until after the boiler is blown up and usually he leaves no record behind as to what remedy he thought most advisable to apply.

Chairman,—

We will call on the scrutineers to make their report.

*The energy being stored in the hot water and released through the opening causes a reaction similar to the recoil of a gun.