The Learning Curve

A regular feature sponsored by the Central Council Education Committee
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Over the top

This month we will think about stays. The stay is a simple, fairly minor bell fitting. It probably costs less, and is simpler to make than any other component, so why should ordinary ringers know about it, let alone talk about it?

When you first learnt to ring, you were probably told that the stay is like a safety valve or an electrical fuse. It will break before anything else does, and so avoid costly damage.

You might also have been told the reason for having a stay in the first place (or else you worked it out for yourself). It allows you to rest the bell in the 'up' position, and therefore saves the chore of having to raise and lower the bell for every touch. On a normal sized bell that would take a couple of minutes and rather more effort than ordinary ringing.

But that is all it is for. During normal ringing the stay and slider should never reach the end stop. Ideally, you should have been taught how to set the bell reliably with hardly any impact on the stay. So why do stays get broken?

The folklore

Non ringers associate 'breaking a stay' with that irritating question they always seem to ask when they hear you are a ringer - "Have you ever been taken up to the ceiling?" - an event so rare that most ringers have never seen it happen. But stay breaking is sadly more common.

Some novice ringers are told "You aren't a real ringer until you break a stay", and some people say "We are always breaking stays because we have lots of learners." The first is certainly not true, and there is no reason why the second should be either.

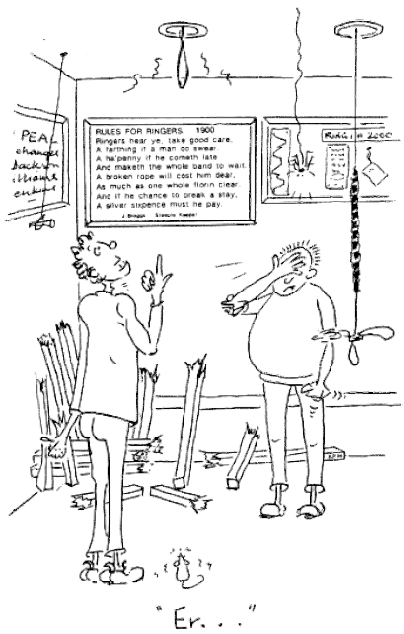
Why stays break

A stay breaks if you subject it to a very large impact. And if you hit the stay repeatedly it will become fatigued and then need rather less force as the 'final straw'.

You might be surprised at just how large the force on the stay is when you bang it. It might not feel too bad to you on the end of the rope, but then you are not taking the full force of the bell. When a heavy moving object stops suddenly, the forces involved are very large indeed. If you have ever walked into a lamp post you will know!

The other thing you might not realise is that the normal force when you rest the bell on the stay is a lot less than the weight of the bell. The bell is almost balanced, so only a small fraction of its weight is needed to hold it in place. In fact the force on the stay is about the same as you feel when you lift the bell off the stay to start ringing.

So there is a huge difference between the normal force the stay is designed for, ie supporting the bell at rest, and the force you subject it to if you bang it.



How to avoid breaking stays

The simple answer is not to bang them. Whenever you set your bell, you should bring it to rest just beyond the balance, and then ease it back gently against the stay. When you do that, the force as it touches the stay is not much more than the static load needed to support the bell at rest. Think of the stay like the hand-brake of a car - you should only apply it after coming to rest, and not while you are still travelling at speed.

Handle your rope tidily to avoid the risk of missing the sally, but above all, moderate your pulling so that you only need to check moderately. Then even if you did miss the sally, nothing too drastic would happen.

Learners need not bang stays

Most learners will occasionally touch the stay while ringing, but there is no reason why they should bang it hard, at any stage of training, and certainly not regularly.

The key is to instil the habit of moderate pulling right from the start. Ringing is a skill, it is not a matter of brute force. Encourage the habit of feeling what the bell is doing. Then even the occasional missed sally, or misjudged pull will be a minor upset and not a disaster.

Getting the right balance between how much force to apply at handstroke and backstroke is also important. Many learners find it easier to pull the backstroke, because there is no catching and releasing to interrupt it. That is a pity because as the bell comes down from backstroke to handstroke, the weight of the rope 'pulls' it anyway. Combine this with over pulled backstrokes, and you have a recipe for bumping the stay

When you start teaching, you must be in control. That applies whichever method you use. If you teach 'bell up', then while ringing the handstroke you can make it impossible to bang the stay at backstroke, and vice versa. If you teach 'bell down' then the early stages occur before coming near the balance.

When your learner first rings both strokes solo with the bell fully up, you should of course be on hand to intervene if needed. Providing you have insisted on moderate pulling before getting to this point, you should be able to cope with the odd small lapse.

Of course you must then begin to 'stand back' and let your student perform the task unaided. But the distance you retreat should be consistent with your confidence that you have instilled a safe, moderate style of handling.

What if your student has problems? Things don't always go as smoothly as we would like, so it won't always happen like the text book. But you should never accept, or allow your student to accept, stay banging as normal. If it happens, it should be corrected as quickly as possible. If it creeps back in later, you should comment on it and not ignore it.

There is another saying, more appropriate than the folklore above. "If a learner breaks a stay, it is always the tutor's fault."

Overheard

The scene is a practice night. Young Learner (YL) has just broken a stay and is rather distraught. Friendly Visitor (FV) standing near had just come in and noticed YL bumping the stay a lot. He tries to placate her.

FV: "Don't worry, these things happen."

YL: "But it wasn't my fault".

FV: "Do you know what happened?"

YL: "It didn't work properly."

FV: "How do you mean?"

YL: "It didn't bounce!"

At that point the penny dropped in FV's mind, and as he looked despairingly at the tower captain he noticed the pile of broken stays in the corner.

What FV now realised was that YL's total experience of ringing a bell included the feel of it bouncing off the stay as an integral part. In YL's mind this was just as natural as the way that the sally bobs or the way the rope slows down as it rises. YL had developed a style that relied on the familiar bounce. She did not control the bell near the balance, she just relied on the fact that if she pulled it like she normally did, it would bounce back roughly as she expected.

How had she got to this state? Obviously no one had told her it was important to be able to pause with her bell held just over the balance to control it, and no one had shown how to do it. Nor had she practised setting her bell at every stroke - in fact she had difficulty setting it at all.

During all of the months that she had been ringing, everyone accepted that she banged the stay almost every stroke. One wonders how they could do so. If you taught your daughter to drive a car, surely someone in the family would comment if every time she went round a corner she mounted the kerb, and every time she parked she bumped the wall.

The analogy might seem far fetched, after all bumping a car on a wall causes damage. But what about the pile of broken stays? That is damage, even if it is less serious than a broken gudgeon.

I heard this story long ago, and I don't know whether it is true, but I suspect it is. Certainly the lessons it can teach us are real enough.

Tail End

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