

The background features a vertical gradient from light purple at the top to light blue at the bottom. Scattered throughout are several realistic water droplets of various sizes, some with highlights and shadows, giving them a three-dimensional appearance.

TOWERS 2

INSPECTION AND MAINTENANCE

SAFETY

- 1 If possible two people should be present. If not ensure you have a mobile phone with you, that can send and receive signals and that someone knows where you are and can gain access in the event of an Emergency.
- 2 Lock ropes off or otherwise ensure they cannot be pulled on.
- 3 Ensure all bells are down, stop chiming hammers.
- 4 Wear sensible clothing – Boiler suit, sturdy shoes, Dust Mask, Ear Defenders. (PPE)
- 5 Torch and Head torch.
- 6 Carry tools in a bag when climbing stairs.
- 7 Ensure that you cannot fall down access ladder etc.

TOOLS

Spanners - Best option Ring or Open Jaw type
Try to use ring end if possible to avoid damage to bolt head.



Hammer,
Grease gun
Drills
Pliers
Oil Grease Penetrating Oil
Saw or Hacksaw
Tape Measure
Gaffer Tape
Vacuum Cleaner

BOLTS – BOLTS - BOLTS

They are everywhere and they all need to be checked starting with the most obvious

Headstock – Bell

Clapper – Headstock

Stay - Headstock

Bearing Housing – Frame

Wheel to Headstock

Wheel internal Bolts

Hasting stay runners - Frame

Pulley Blocks

Slider – Frame

Frame Bolts

Twiddle Pins



BELLS

Bell Inspection

Check the bell itself for chips, cracks or undue wear. Most commonly there will be some wear to the sound bow. If the wear is more than 10% of the thickness of the sound bow there is a risk of cracking. Call in the experts.

Check the bolts holding the bell to the headstock, if they have more than surface rust, change them as they can crack the bell.



HEADSTOCKS

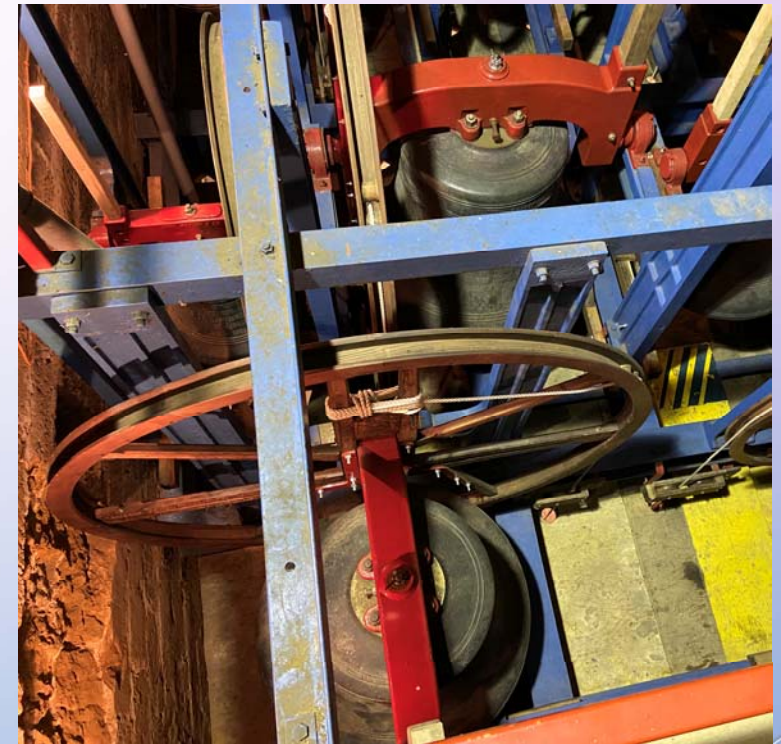
There are three types
Wooden, Cannon Retaining, Plain or Fabricated.

Timber headstocks should be treated with wood preservatives every 10 – 15 years. Bolt tightness particularly in hot dry weather should be checked

Cannon Retaining headstocks should be checked periodically to ensure that the bell is hanging vertically.

Gudgeon Bolts Any tightening should be done carefully to ensure alignment is not affected.

Misaligned gudgeons should be checked, minor misalignment is not normally critical



CLAPPERS

Check how secure the clapper is in the bell .
Lift the clapper to find out if there is slack.

Options for repair.

Remove split pin and tighten clapper bolt, Replace split pin.

As above but add washers to raise the clapper slightly, may be necessary if the thread on the clapper is not long enough to tighten fully.
Install new leather washers between the clapper assembly and the crown of the bell (inside the bell).

If twiddle pins are fitted they may need readjustment to recentre the clapper in the bell. Lifters should also be checked.

Check the surface of the clapper where it strikes the bell they will probably need re-surfacing periodically. If the surface is visibly flat wrought iron can be re-surfaced, cast iron may need to be replaced. Occasionally 'blow' holes are found these should be weld filled if possible.

Clapper Types

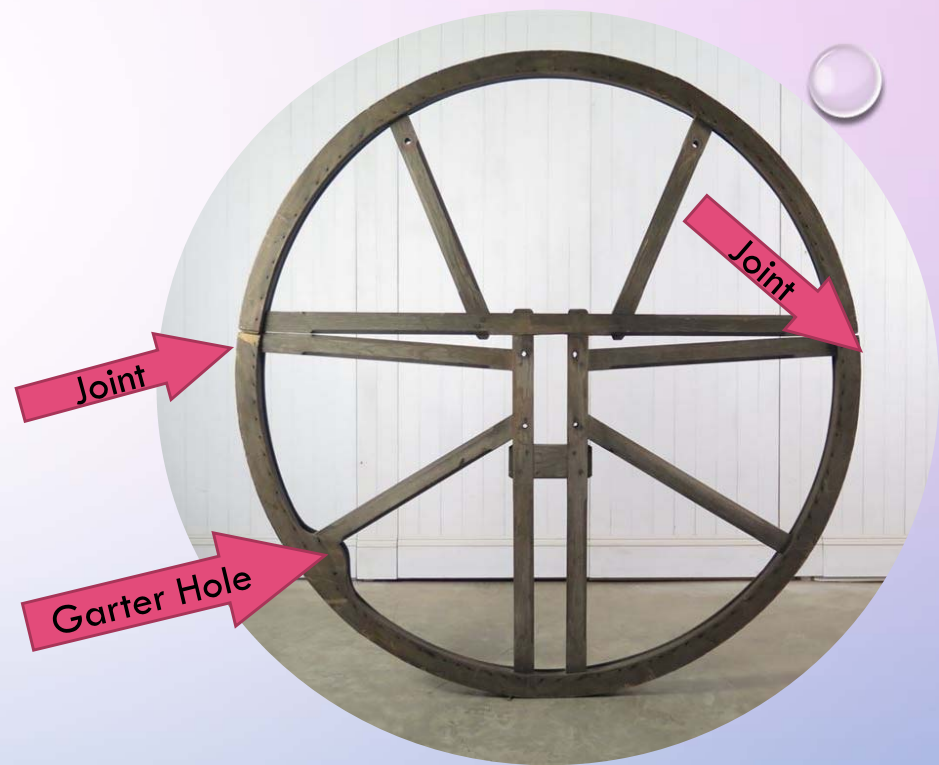
Cast Iron

Wrought Iron

Timber Shaft

WHEELS

- Check the wheel is straight and plumb.
- Check tightness of wheel on headstock.
- Check Bolt tightness particularly at the main joint.
- Check Shrouds
 - Sometimes the joint in the shrouds has been reinforced with small pieces of iron. Check for rust.
 - Check when wood was last treated with wood preservative (10 yearly application recommended)
 - Check any stays or braces fitted to the wheels.
 - Check for woodworm.
 - If holes are larger than 1mm it may be death watch beetle.

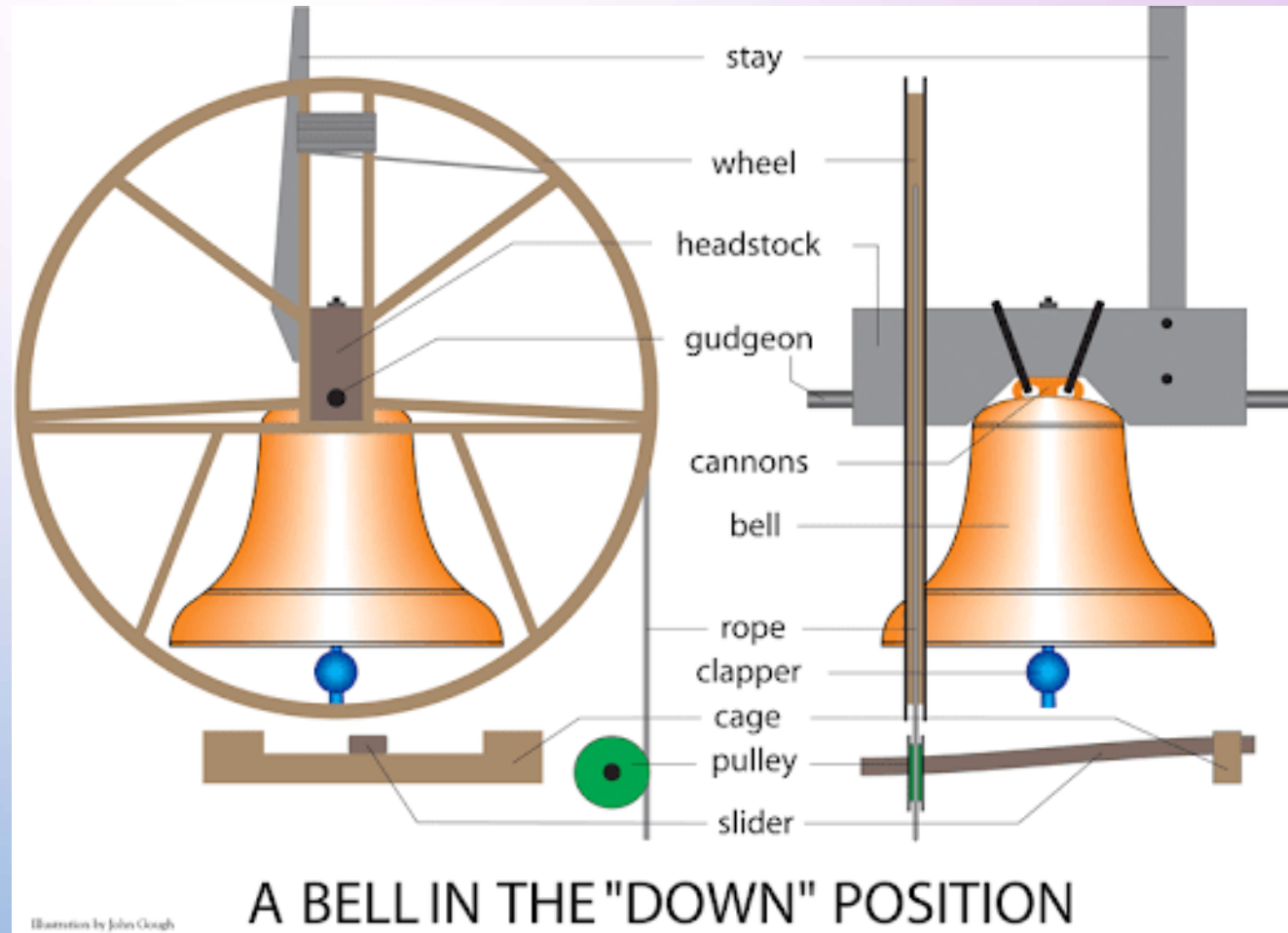


SLIDERS AND STAYS

The presentation last Wednesday led by Nick Churchman covered stays more than adequately.

Sliders

These should be checked for free movement and that the stay is contacting them fully. Any signs of excessive wear, splitting etc should be identified. The slider stops hinge pin should also be checked



PULLEY WHEELS AND BOXES

Checks

- Pulley and boxes secured firmly to frame
- Pulley Bearings do the pulleys run free?
- Signs of wear or grooving on pulley wheel
- Elliptical pulley wheels
- Type of pulley wheel
- Affects of pulleys on ringing



An example of an early type plastic roller showing serious grooving.

A similar roller showing what the wearing surface profile should be like.

FINALLY – (for now)

Make a record of your inspection and the date it was carried out and let the tower have a copy.

CCCBR - Manual of Belfry Maintenance

from <https://ccbr.org.uk/shop/>

This book is a very useful guide.

It has a schedule of Regular Maintenance pages 110 & 111

Any works that involve lifting gear / hoists is not normally covered by Church or Guild Insurance and will require a Faculty. See Chapter 2 Manual of Belfry Maintenance

<https://www.youtube.com/watch?v=wivmJivhXXo>

If you haven't seen this before, it is worth a watch.