

**Report on the Two Bells at  
the Parish Church of St Peter,  
Lee Brockhurst, Shropshire.  
Archdeaconry of Salop, Diocese of Lichfield.**



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## Introduction:

This report was compiled following my visit to the church on 17<sup>th</sup> February 2023 in the company of PCC Secretary Phoebe Ashton and Churchwardens Valerie Lusby and Roger Ashton. I take the opportunity to thank Phoebe for the invitation and all three for their welcome. The visit gave the opportunity for an examination of the bells from the ground, an explanation of their history and current state, a discussion of the issues which need to be addressed, the choices facing the church and the stages of implementation.

## Background:

St Peter's is a Grade II\* listed church, built of sandstone on a site which dates from the mid-C12 and having undergone restoration and extension in 1884, at which time the bellcote above the west gable was constructed.

The 1553 inventory of church goods records that there were then two bells at the church. The antiquarian H B Walters, in his volume "The Church Bells of Shropshire" (1915), also recorded two bells, saying of the smaller that it: "... is long-waisted ..... and probably mediaeval". The noted bell historian Ranald Clouston visited in 1984 and assessed its date of casting as circa 1400. It is estimated to measure 16 inches in diameter at the mouth and to weigh a little under 1cwt (50kg). The inscription on the present larger bell, estimated 19 inches diameter and weight 1½cwt (75kg), reveals that it was cast at the Gloucester foundry of Abraham Rudhall in 1721.

In the absence of evidence to the contrary, it is surmised that the smaller bell seen today is one of the two recorded in 1553. Bells of this age are rare. Of the 1,900 or so church bells in the diocese, only about 20 have definitively been given an earlier date. They often bear no inscription to aid the historian, this one being a case in point, and estimated dates of casting are arrived at from observation of their profiles. The lack of an inscription means that we do not know the identity of the founder. Its provenance has led to the bell being individually listed for preservation. The transport network available to bell founders of this period was crude, to the extent that it was usually preferred to assemble raw materials on site and cast the bell in the near vicinity of the church. These itinerant founders knew that the optimum metallurgical properties would be obtained if the molten bronze (bell metal being an alloy of approximately 80% copper, 20% tin) was cooled slowly. Hence, archaeologists have found many bell pits in churchyards where the mould would have been buried.

Several generations of the Rudhall family cast more than 5,000 bells during the years 1684 – 1835 and, for much of this period, they were the pre-eminent founders of their time. Their bells remain commonplace and, with a few exceptions, are not accorded significant historic merit. In addition to the founder's initials and the date, the inscription band on this bell bears the words "COME AWAY MAKE NO DELAY". Many Rudhall bells bear inscriptions specified by the purchaser but, where the church made no such request, the firm often applied one of several standard phrases of their own, as is the case here. The bell would have been carried upstream by barge along the River Severn, the final stage of its journey being cross-country from some chosen convenient landing stage.

We can only speculate about the circumstances which led to the introduction of the Rudhall bell, apparently taking the place of an earlier one recorded in 1553. It was not unusual in the past for churches to choose to replace older and smaller bells when permanent foundries and improvements in transport allowed for the casting and shipment of larger bells. This seems an unlikely explanation here, as the geometry of the bellcote constrains the size of bell which can be accommodated. Our best guess must be that the earlier bell failed in some way, such as to render it unusable. The high value of copper and tin has always been such that broken bells were usually sent to the foundry so that the metal could be re-used in a new casting.

Fig. 1. The two bells in the bellcote



The clapper of the smaller bell (Fig. 2) recently fell to the ground during ringing for a Sunday service. The church has taken this to indicate that the installation is in need of thorough examination, the likelihood that some degree of remedial work is necessary and that a Faculty will probably be required.

Fig. 2 (Photo by Phoebe Ashton)





### The Victorian influence:

As already noted, the Victorians had a significant impact on the church with the 1884 refurbishment. It is apparent from what we see today that they busied themselves with the bells as well, most of the fittings bearing much evidence of being of the period.

Both bells would originally have been cast with cannons – loops at the crown - by which they could be fastened with iron straps to a wooden headstock. These have been removed, almost certainly by the Victorians, a matter of extreme regret in the case of the mediaeval bell, but of relatively minor concern with the Rudhall bell.



Fig. 3 Example of a bell having its cannons intact

The flat-topped bells that resulted were each suspended by two bolts from their own simple wrought iron bar headstocks, supported at each end in cast iron bearing housings. These in turn rest on stone corbels built into the bellcote. The bells are rung by pulling on ropes that fall inside the west end of the nave which connect to the chains and levers visible in Fig. 4.



Fig. 4 The hanging arrangement

Attention is drawn to two areas of concern revealed in Fig. 4.

The point of entry of the end of the headstock into the bearing on the furthest right of the photograph shows a significant misalignment. This is probably the result of extreme wear of either or both the end of the headstock and/or the bearing and it leaves the bell in a somewhat perilous state. The extent of the problem is such that I have recommended immediate cessation of the ringing of this bell.

A wooden pad can be seen interposed between the top of the bell and the underside of the headstock of the Rudhall bell (on the right). This was carved on the underside to sit neatly over the irregular surface left by the removal of the cannons and present a flat horizontal surface to mate with the headstock. The corresponding wooden pad on the c.1400 bell is missing, presumed lost to decay. The resulting instability has led to the two bolts which secure the bell to the headstock bending along their unsupported length - note that the bell hangs vertically but the chiming lever is not horizontal. This bending of the bolts, together with the effects of corrosion, may have significantly reduced their strength, rendering this bell in a similarly parlous state. Given the loss of the clapper, it seems unlikely that any attempt will be made to swing the bell, but it would be prudent to place its rope out of reach.

Again, when new, both bells would have been fitted with cast-in crown staples. These iron ‘rings’ were placed in the mould prior to pouring the molten bronze such that, on solidification, part of the staple was embedded in the crown and part exposed on the underside. This provided a means to suspend a clapper.



Fig. 5 Looking up inside a bell, showing an example of a cast-in crown staple.

We know from the form of the clapper of the c.1400 bell, with its ‘closed eye’ top, (see Fig. 2) that the Victorians made changes and in Fig. 4 we see the tops of central bolts through both headstocks and bells. These features indicate that some form of assembly that included a hinge pin was introduced.

Cast-in crown staples have a history of being troublesome. Always of iron, they corrode over a period of time. Iron oxide occupies a greater volume than the parent metal, and the expansion that accompanies corrosion is a known cause of cracks forming in the crowns of bells.

The Victorian engineering described here has served the church well for 139 years. It has though, as we have seen, now reached the end of its useful life, and the need for a full refurbishment of the installation is indicated.

As previously stated, the loss of the cannons from the c.1400 bell is highly regrettable. The knowledge of how to identify ancient bells was available in 1884, but was limited to a few specialists in the subject. We should not rule out the possibility that the work was entrusted to a well-meaning local blacksmith who could not be expected to recognise the significance of what he was doing. Any work that is now proposed must include the preservation intact of that which remains.

### What is to be done?

The following is likely to be suggested by a competent bell-hanger. All would be in accordance with advice published by the Church Buildings Council and would, in all likelihood, lead to the granting of a Faculty.

- The two bells and all of their fittings to be removed from the bellcote and taken to the contractor’s works. (This will require the erection of scaffolding fitted with a hoist capable of bearing their weight.)
- The headstocks, bell bolts and clapper suspensions to be separated from the bells and discarded.
- The bells to be cleaned and carefully inspected for any cracks. If any are found, this to be reported back to the church and further consultation to take place with the DAC over possible appropriate measures.
- The status of any remaining cast-in staple ironwork to be established. In the case of the Rudhall bell, a professional opinion to be determined over the merit of drilling out any remaining stumps or of drilling stress-relieving holes. In the case of the c.1400 bell, no such drilling to be performed, it being judged that, if corrosion of the staples has not caused cracks in the bell after 600 years, it is unlikely to do so in future.
- Cast resin pads onto the crown of each bell, these to replace the previous wooden pads.
- Provide for each bell a new headstock, complete with rolling element bearings, in either galvanised and painted mild steel, stainless steel or hardwood; the choice of material to be made by the church. The headstock of the c.1400 bell to be fixed via the two existing holes in its crown.
- Provide for each bell a new independent crown staple and a new clapper in ‘SG’ iron.
- Return the bells to the church, hoist into the bellcote and mount on the existing stone corbels, making any necessary minor modifications to the masonry. Refit or replace as necessary the chains and bell ropes to permit manual chiming.

This part of the report would be incomplete if it failed to mention the possibility of dispensing with the need to pull on ropes, but instead to have the bells struck by electro-magnetic hammers (EMH), initiated by the press of a button indoors. Fig. 6 illustrates such a mechanism. In the case of large bells, the hammers can be concealed inside the bells themselves, but those at St Peter’s will not permit this. The hammers would be readily visible, something which would be widely regarded as unacceptable as it would have a detrimental impact on the appearance of the church. The granting of a Faculty to permit this would therefore be unlikely.



Fig. 6 Example of an externally mounted EMH

## Miscellaneous:

There are a number of bell-hanging contractors in this country having the knowledge, skills and expertise to undertake the necessary work at St Peter's and a list was supplied during the visit.

Discussion took place about the likely cost of the work and some fund-raising methods that might be employed. Three grant-making bodies that are known to have supported work of this nature are listed below.

The role of Bell Adviser is one where my responsibility is primarily to the DAC and I am warned against acting as a consultant to individual churches, this to avoid any risk of a conflict of interest. However, this report has been compiled with a dual purpose:

1. To record for the benefit of the church the issues that were raised and discussed during the visit;
2. To provide the information that the DAC and the Chancellor will need in the event that an application for a Faculty is made.

This report was considered and approved by the DAC without amendment at its meeting on 23rd February 2023.

I trust that readers will find the contents of value. If members of the church should wish to discuss any relevant matters in more detail, then I will be only too happy to assist where possible.



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**Benefact Trust** (<https://benefacttrust.co.uk/>). *Previously known as the Allchurches Trust, this is part of the Benefact Group which includes Ecclesiastical Insurance. A significant proportion of Ecclesiastical's profits is made available for grants to churches.*

**Shropshire Historic Churches Trust** (<https://www.shropshirehct.org.uk>). *This is the organisation to which proceeds of the annual 'Ride & Stride' appeal goes. They place an emphasis on supporting listed buildings.*

**National Churches Trust** (<https://www.nationalchurchestrust.org>). *Their 'Foundation' programme offers "small grants to support small but urgent maintenance and repair issues or to carry out small investigative works".*