CENTRAL COUNCIL OF CHURCH BELL RINGERS

(Towers and Belfries Committee).

Report

on the tower, bell-frame, fittings and bells

of the Church of

S. Bartholomew, GREAT GRANSDEN, Huntingdonshire

by

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1. Scope. This report is intended to cover the condition of the bells, fittings and bell-frame, and of the tower so far as ringing is concerned. The bells were not seen in motion, so any comments on frame or tower movement are necessarily tentative.

2. Description. (a) Tower. The tower is of four stages, marked externally by string courses with small set-offs, and internally by floors. It is built of brown cobbles, with stone dressings, and stands in axis with the nave, with its E wall in line with the aisle W walls. There are pairs of buttresses at the W angles, reaching up two stages. A stair turret is built within the SW corner, reaching to the base of the bell stage. The top of the tower is embattled, and carries a short spike.

Dimensionally, the tower is slightly larger NS than EW, at ground floor level about 13'-6" by 12'-3" internally, with a wall thickness of about 4'-9". This latter reduces at each stage, the bell-chamber wall thickness being about 3'-6". The heights of the stages, floor to floor, are approximately 24'-6" ground, 14'-6" old ringing room, 13'-6" clock room and 20' bell chamber, giving a total (internal) height of about 72'.

Internally, the ground floor forms part of the church; it has a full-height, full-width arch to the nave, and in the W wall a door surmounted by a 3-light window, both under a similar large arch. There is a door to the turret stair in the SW corner.

The next floor was the old ringing chamber: it is now empty, and is lit by quatrefoil windows in N, W and S walls. Above this is the clock room, entered from the turret stair by a short flight of timber steps - the floor level is set at the sill level of the N, W and S single-light windows, well above the doorway level. The room contains the clock and the large chime barrel, the latter set diagonally in the centre, the former in the NW corner. Both have recently been converted to electric winding.

The uppermost stage houses the bells. It has twin windows in all four walls, all containing louvres and bird wire. The sills have been cut down to accomodate the bell-frame, which is placed diagonally in the tower.

(b) Bell-frame. The frame is supported by two large timber beams running NE-SW, bearing on the sills of the E window, N wall and S window, W wall (one beam) and on the N window, E wall and W window, S wall (the other beam). There are pits for six bells, so arranged that four swing NE-SW and two NW-SE: down the centre of the frame, reading from NW to SE, are treble, 2, tenor and 4, all swinging NE-SW; in the NE corner is 3, and in the SW corner 5, both swinging NW-SE. The frame is of timber throughout, and is very tight to the tower, being wedged from it in several places. It is almost 4' high, giving a 'hanging height' of about 57'-6".

(c) Fittings. The bells in general are hung from their canons to timber headstocks, have centre-bolt clappers, and are fitted with two-part timber wheels with pairs of iron wheel stays, and with timber straight stays

and curved sliders: some differences are noted in the next paragraph.

The second retains its cast-in iron crown staple for suspending the clapper (a bad feature). The third has had its canons removed, and is bolted to its headstock through the crown. The clappers themselves, though not their suspensions, appear older than the majority of the fittings.

Treble, 2 and tenor have ball bearings; 3, 4 and 5 have plain bearings, packed with oily cotton waste.

The ground pulleys seem newer than most of the fittings, and seem to have been installed somewhat too high: the ropes are cutting grooves in one end of most of their boxes.

All bells have at least two chiming hammers, which strike on the bells externally: the tenor has three. The pairs of hammers on treble and 2 and the single hammer on the tenor strike opposite the wheels; the hammers on 3, 4 and 5 and the pair of hammers on the tenor strike through the wheels. All have a rather primitive pattern of spring to hold them clear of the bells.

(d) Bells. Details of the bells are as taken from Rev. T. M. N. Owen - Church Bells of Huntingdonshire (London, 1899) and checked on site: some discrepancies in dates were noted, and Owen has been followed: casts or rubbings of the inscription bands would be the best way of resolving these. Diameters are as measured, and the approximate weights calculated therefrom: it will be noted that I consider the tenor lighter than do Taylors (their letter on the notice board).

Bell	Dia (in)	App.Wt.(cwt)	Inscription
Treble	28¼	5¼	J TAYLOR & CO FOUNDERS LOUGHBOROUGH 1883
2	30¼	5¾	C & G MEARS FOUNDERS LONDON 1854
3	32½	6¾	BRYANVS ELDRIDGE ME FECIT 1658
4	35½	8½	VENITE EXULTEMUS DOMINO (and, on waist) Hung by G. Day & Son Eye A J EDMONDS VICAR R CHAPLIN G T V MARSHALL CHURCHWARDENS OCT 1895
5	38¼	10	BRYANVS ELDRIDGE ME FECIT 1658
Tenor	43½	14¼	THOMAS W . . . . 1787 (the rest of the original inscription has been filed off, and R TAYLOR incised)

The three older bells have been quarter-turned.

3. History. Owen states that these were originally five bells by Eldridge, 1658, cast at the Chertsey foundry in Surrey. It is not now clear whether the tenor is a recasting, as suggested by the extract from the Overseers' Book for Mich. 1787 quoted by Owen, or whether perhaps this bell was acquired from elsewhere to make a minor five into a major six, as the inscription might suggest. At all events, three of Eldridge's bells have since been recast, in 1854, 1883 and 1895, and the whole ring were rehung at the latter date. There is little evidence for the date of the frame: it may be 1787, when the bells may have become six; but it looks later than that, but earlier than 1895. Since then, ball bearings have been fitted to three bells, and the ringing level has been lowered one floor.

4. Condition and suggestions. (a) Tower. I noted nothing structurally amiss with the fabric. Sundry small cracks were visible, but none seemed of any importance. One or two small points did occur to me: the electrical arrangements for the clock and chime winding gear seemed to leave something to be desired - it all seemed a little hand-to-mouth. The 'windmill' on the chime barrel ought to be protected: someone coming in just as the chime finished could

be injured by it. The bird wire in the bell chamber windows is not fully effective and should be repaired.

(b) Frame. This seems in good order, though to be sure one would need to see it during ringing - rather a tall order in view of the lack of space! All bolts should be freed and tightened up to keep any movement to a minimum. The diagonal arrangement ensures the best distribution of forces to the tower, and hence the minimum tower movement as a whole, and the general tightness would seem to preclude any dangerous relative movement between frame and tower.

(c) Fittings. Here there is quite a lot on which to comment. It is probably fair to say that the whole mechanical installation at 80 years old is probably nearing the end of its useful life - though equally it is obvious that given reasonable care it can be made to last some time yet, and it is by no means dangerous in any way.

A number of the headstocks show some signs of beetle attack, and the tenor headstock has a sizeable split. It would be wise to check for beetle activity generally, and to consider some sort of treatment if necessary. The split in the tenor stock needs watching for signs of extension.

On several bells, the bolts holding the gudgeon pins to the headstocks are loose: these particularly, and all other bolts, should be freed and firmly tightened; they should then be checked at least once a year.

The clappers should have a leather baldrick or strap providing a bearing surface: these should be checked on all bells, and replaced where necessary.

The bearings seem all in reasonable order, though it seems likely that the three sets of plain bearings have not too much life left in them.

The ground pulleys, as suggested, seem wrongly placed: however, this problem (wear in the ends of the boxes) can be overcome by cutting down the box ends and rounding them off.

The chiming hammers are a cause for some concern. The springs which should hold them just clear of the bells are now virtually useless: half the hammers rest on the bells and the others are too close. The effect of a hammer resting on the bell is eventually almost certain cracking - probably the reason why three of the original bells have had to be recast. It would be well worth putting in new springs throughout: this would also improve the sound as heard outside.

(d) Bells. These appear sound: no action is required. It might be of interest to 'rub' the inscription bands to be sure of the dates.

5. Summary.

- There appear to be no structural problems.
- The frame bolts should be kept tight.
- A check should be made on beetle attack and appropriate action taken.
- General maintenance on fittings is suggested and detailed.
- The chiming hammer springs should be replaced as a matter of urgency.
- Consideration should be given to rehanging within, say, 10-15 years.