

JOHN TAYLOR & CO

(E. Denison Taylor)

BELL FOUNDERS & BELL HANGERS

BELL FOUNDRY

LOUGHBOROUGH

ENGLAND

CH/LC.

7th. September, 1936.

Mr. T. B. Worsley,
32, Castle Street,
BOLTON, Lancs.

Dear Sir,

Deane Church - Bells.

With reference to our Mr. Fidler's interview with you and his inspection of the bells in the tower of Deane Church on Friday, the 14th. August, we have been giving the matter our careful consideration and find that if an entirely new framework is installed it would be practicable to have the present ring of eight bells recast into a heavier and deeper toned peal, the tenor bell of which would weigh approximately 16-cwts. The key of the recast peal would be F natural, whereas the existing peal is in the key of F# but, in addition to being of deeper tone, the recast bells would be richer and more musical in every way.

In the process of recasting, the metal of the present bells would be utilised again but would be brought up to correct standard alloy of copper and tin and sufficient new best quality bellmetal would be added not only to compensate for wastage in melting but also to ensure that all the bells were of full rich tone to suit their deeper pitch. Moreover, the remodelling of the peal in this way would enable us to tune the bells on our "true-harmonic" system, ensuring that the overtones or harmonic notes of the bells are in accurate musical relationship with the fundamental notes.

We believe it is generally recognised that the musical effect of the existing peal falls far short of the standard which we have attained with our modern peals and we do not think that there should be any objection to the recasting of the bells from a historical point of view as none of them date prior to 1718, the founders and dates of the bells being :-

Treble	.....	John Taylor & Co., Loughborough.	1896
2nd.	.....	" " " " "	"
3rd.	.....	Richard Sanders, Bromsgrove.	1718
4th.	.....	" " " "	"
5th.	.....	" " " "	"
6th.	.....	Thomas Mears, London.	1792
7th.	.....	" " " "	1831
Tenor	.....	Richard Sanders, Bromsgrove.	1718

We have no doubt whatever that if the bells are recast and increased in weight as suggested above, a wonderful transformation would be brought about, both as regards the tune and tone of the peal, which could not fail to impress favourably all within hearing of the bells.

As the recast bells will be larger in diameter than those now in the tower it would not be possible to utilise any of the existing bell fittings or the present framework again; new fittings throughout would be required and an entirely new bellframe would have to be installed.

The present frame is arranged in two tiers. The lower tier is constructed of timber and is in very poor order; all the frame joints are loose and the head cills have been cut away in order to allow the bells to swing clear. The bottom cills of the frame are carried on three main beams spanning the tower North to South, the ends of the beams resting on an off-set. There is old decay in these beams and in order to prevent a collapse, a steel girder has been placed alongside the beam on the Western side of the tower and a channel has been secured to the underside of the middle beam. Although these reinforcements take a certain amount of the weight of the peal they do not result in the framework remaining steady for even under the ringing of one bell, the lower tier frame moves excessively and such movement will of course be even greater when all the bells in that tier are being rung. Owing to the decay in the beams the lower tier frame appears to have sunk, with the result that the gudgeons and bearings of the bells in question are now well out of alignment. The upper tier frame is constructed of 'H' shaped castings carried on rolled steel joists; this tier of framework is in good condition but the amount of reconstruction and re-arrangement which would be necessary to accommodate a larger and heavier peal would cost as much if not more than replacing by an entirely new frame.

Owing to the restricted dimensions of the bellchamber we advise that the new framework, which will of necessity have to be arranged in two tiers, should be constructed of metal throughout, i.e. cast-iron sections carried by a foundation of heavy rolled steel girders; the lower tier frame would be composed of 'H' shaped castings carried on a foundation of steel girders, and the upper tier frame would be of "low-side" frame sections of cast-iron carried by a cill of girders which would take bearing on the tops of the castings of the lower tier frame. The ends of the main foundation girders and also of the cill of girders carrying the upper tier frame would be drilled at the ends and fitted with a series of steel pegs so that when grouted into the tower walls they would not only be firmly anchored thereto but would also form a bond or "tie" to the tower structure. The whole arrangement of frame and girders would be thoroughly tied and braced together in all directions so as to form a self-contained unit which would remain absolutely firm and rigid under the ringing of the entire peal.

The new fittings necessary to suit the recast peal in a new framework should all be of our most improved type, designed to place the bells in first-class ringing order and so that they will remain thus for a great many years with the minimum amount of maintenance and steeple-keeper's attention.

These new fittings would include headstocks of cast-iron, the advantages of which are that they do not become worm-eaten as in the case of so many timber stocks and, not being affected by atmospheric conditions in that they do not twist or split, they remain therefore in perfect alignment in their bearings in a manner which is impossible with wooden headstocks, and the introduction of these iron stocks by ourselves some forty years ago is one of the greatest improvements ever made. Moreover, our cast-iron headstocks are of hollow box section which although more expensive to make are a much more substantial job, being stronger than the girder type which is often supplied by other bellhangers.

To the headstocks would be fitted steel gudgeons turned up perfectly true in the lathe after having been fitted, also our special ball bearings which are of a greatly superior type, consisting of a double ball race of large size balls which minimize friction; they are, moreover, totally enclosed to exclude all dirt and grit and made so as to prevent the leakage of lubricant on to bells and framework - the housings of these bearings are specially manufactured by ourselves so as to contain a reserve supply of lubricant which will last approximately twelve years and thus there is no necessity on the part of the steeple-keeper to pay constant attention to the matter of lubrication as is the case with the type of bearing now in use.

The wheels would be of seasoned oak, hand made, finely finished and well braced by heavy wheel plates. The clappers would be correctly proportioned and fitted independently in the head of each bell, with grease caps provided for the lubrication of the clapper joints. The new stays and sliders would be of our patent type with dinglers, pawls and curved iron slide bars, a vast improvement over the old-fashioned wooden ones which are still, we believe, in general use by all other bellhangers. The new rope rollers would be fitted on enclosed ball bearings which contribute so greatly to the smooth running of the bells, whilst the bellropes would be made of best quality hemp with flexible ends and coloured worsted salleys.

The existing clockhammer which sounds the hours on the tenor bell is of a poor type and in the estimate submitted we have included for providing an entirely new hammer and securing to the framework by means of a strong wrought iron bracket; any new wiring and quadrants required for connecting up to the clockworks would also be supplied.

There is a certain amount of work which can quite well be carried out locally and which we have therefore not included in our specification. The work in question would include the cutting of holes in the walls of the bellchamber to take the ends of the girders of the new bellframe and building these in after our men have hoisted and placed the girders in position; a hatchway would have to be made in the floor of the clock chamber and the present hatch in the ceiling of the ringing chamber would need slightly enlarging. We would provide the necessary particulars for the local contractor's guidance, free of any additional expense.

We believe that the way in which we carry out our work is sufficiently well-known to you as to make it unnecessary for us to enlarge upon our various achievements, but should it be desired for us to supply a list of the Churches in your immediate neighbourhood or in the whole of Lancashire where the peals have been through our hands, we shall be only too ready to comply with such request.

Any further information we are able we shall be pleased to give you, and respectfully looking forward to hearing at an early date that it is proposed to go forward with the scheme,

We remain, Sir,
Yours obediently,

John Taylor & Co

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7th. September, 1936.

THE PARISH CHURCH,
D E A N E, Lancashire.

SPECIFICATION AND ESTIMATE.

FOR THE RECASTING OF THE PEAL INTO A RING OF EIGHT BELLS WITH TENOR WEIGHING APPROXIMATELY 16-CWTS., AND REHANGING WITH NEW FITTINGS IN ENTIRELY NEW FRAMEWORK.

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REMOVAL OF BELLS AND BELLFRAME FROM TOWER.

To deliver at the Church the necessary tackle and tools, dismantle the bells, lower to the ground and forward to our Foundry at Loughborough.

To remove the bellframe from the tower and place the timbers outside the Church at the disposal of the Church Authorities whose property they remain.

RECASTING BELLS.

To recast the bells into perfect musical tone and tune, the existing bellmetal to be utilised again but brought up to correct standard alloy of copper and tin and sufficient new best quality bellmetal to be added not only to compensate for wastage in melting but also to produce a ring of eight bells with the tenor weighing approximately 16-cwts., in the key of F natural; all the bells to be of correct proportionate weight so as to ensure an "even balance" of tone from treble to tenor.

The recast bells to be scientifically formed as to their shape, thicknesses and general design so as to produce the pure sweet toned effect for which our bells are so well-known, and to be tuned on our special "true-harmonic" system which ensures that the hum note, an octave below; nominal, an octave above; tierce, a minor third above; and quint, a perfect fifth above the fundamental note, are all in accurate musical relationship. The recast bells to be clean, sound and homogeneous castings and to have a sandblast finish.

FITTINGS. To supply and fit to each bell entirely new fittings of our latest and best make, containing notable recent improvements in design so that all may be kept in good order with a minimum amount of steeple-keeper's attention.

These fittings to consist of WHEELS of well seasoned oak, strengthened with wrought iron wheel plates; curved cast-iron HEADSTOCKS of hollow box section, fitted with steel GUDGEONS turned up perfectly true in the lathe after having been fitted; self-aligning BALL BEARINGS, heavy duty type, British made, with a double ball race of large size balls, in specially made housings which are totally enclosed to exclude all dirt and grit and which are lubricant-retaining and do not require refilling with lubricant except once every twelve years; wrought iron CLAPPERS correctly proportioned to each bell, with independent crownstaples with grease boxes fitted to the joints which are of improved design, consisting of turned steel pins working in lignum vitae bushes, the point of suspension of each clapper in relation to the pivots of the bell to be arranged to vary in definite and regular progression from one bell to another, ensuring that the moment of impact of each clapper is regular throughout the peal; "Hastings" type STAYS and SLIDERS, the stays to be fitted with sockets and pawls and the slide bars to be of a curvated pattern in cast-iron, securely affixed to the frame by wrought iron brackets; hard wood ROPE ROLLERS or pulleys running in enclosed ball bearings, fitted with hard wood roller boxes securely affixed to the framework by wrought iron brackets.

BELLROPES. To supply an entirely new set of eight bellropes, made of best quality hemp with flexible ends and coloured worsted salleys.

BELLFRAME. To supply an entirely new framework for the ring of eight bells, also steel supporting girders; the whole to be of strong and massive construction, designed in accordance with the most up-to-date and scientific principles so as to withstand the strain and thrust caused by the ringing of the bells, and built by modern engineering methods.

The BELLFRAME to be of TWO TIER construction, the lower tier to consist of 'H' shaped castings specially strengthened to support the weight of the upper tier frame which will be of our "low-side" pattern.

(cont.)

BELLFRAME (cont.)

The FOUNDATION of the frame to consist of heavy rolled steel girders. The upper tier frame to be bolted to a cill of rolled steel girders which will be mounted upon brackets cast upon the legs of the 'H' castings beneath. Each girder of both lower and upper tier frames to be "anchored" at the ends and firmly grouted into the tower walls.

The frame sections to be of tough grey cast-iron of heavy and massive proportions, accurately machined and fitted together. The feet of the castings and the seatings for the bell bearings to be machined, ensuring perfect alignment. The whole structure of frame and girders to be thoroughly braced in all directions by wrought iron tension bars, all requisite stays, plates, bolts, nuts, washers and rivets to be supplied.

The type of framework proposed is illustrated by the enclosed photograph (Walsall).

ERECTION.

To deliver the bells, new framework, girders, fittings, &c. to the Church and hoist into the bellchamber.

To set the girders in position in the bellchamber, in correct alignment, and to assemble and erect the new framework thereon.

To hang the bells with their fittings in the new framework, all correctly adjusted.

CEILING BOSSES.

To provide all necessary ceiling bosses to guide and protect the bellropes where they pass through the floors.

CLOCKHAMMER.

To provide an entirely new clockhammer for sounding the hours on the tenor bell, the hammer to be secured to the new framework by means of a strong wrought iron bracket, and connect up to the clockworks as at present, any new quadrants and wiring necessary for this purpose to be supplied.

PAINTING.

All the iron and steelwork of the bell fittings and of the framework to be thoroughly scraped and painted with two coats of best quality anti-corrosive paint before despatch from our Foundry and with a third coat after installation in the tower.

CARRIAGE. To pay all carriage of the bells, fittings, framework, girders, &c. and of all tools, hoisting tackle, &c. between the Church and our Works.

MAINTENANCE. To provide a set of spanners and card of instructions for the steeple-keeper's guidance in the maintenance of the peal.

ESTIMATE. We undertake to carry out the whole of the work specified in the foregoing, leaving the bells in proper ringing order, for the sum of

.....£ 596. 0. Od.

(FIVE HUNDRED & NINETY-SIX POUNDS)

Excluding mason's and joiner's work as explained in covering report.

INSCRIPTIONS may be placed upon any of the recast bells at an extra charge of 6d. (sixpence) per letter.

GENERAL. The foregoing estimate provides for all bell-hangers' time and expenses, &c. at work in the tower and travelling, also all assistance, insurance, &c. - all workmen engaged by us being insured under the Employers' Liability and Workmen's Compensation Acts.

We take responsibility for damage to the fabric of the Church by men in our employ during the progress of the work in the tower.

We undertake to carry out the work to the satisfaction of the Church Council and Ringers.

John Taylor & Co