THE BELLS OF BIRCH

BY

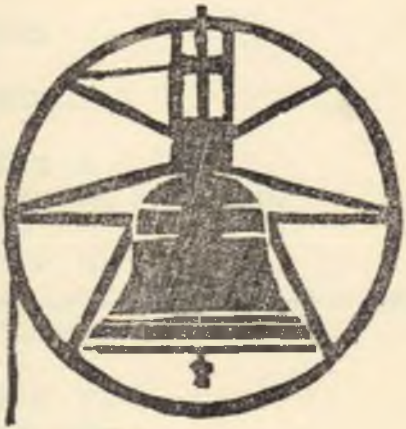
J. Huxstep & A. L. Mosley.

Price Sixpence.

THE HISTORY OF

THE BELLS OF BIRCH

AND AN ACCOUNT OF
BELL FOUNDING AND BELL RINGING



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Preface.

IT is hoped that this little book may be of interest to all at Birch and especially to those who have never seen the ringers at work and to whom change ringing is something of a mystery.

We at Birch possess a fine ring of eight bells - one of the few such rings in South Manchester - and for seventy-three years the bells have given excellent service. Now, however, the time for renovation has come and it must be emphasized that if our bells are to go on ringing the renovation must not be delayed.

Our thanks are due to the Rector for his kindness in allowing us the use of his printing press.

The proceeds of this book will be given to the "Belfry Repair Fund."

Foreword.

AS an amateur printer I am well aware of the great amount of patience and labour which this little booklet has involved; nothing but a real labour of love could have produced it, and as such I heartily commend it to all who love Birch.

But it means more than this to me. Our young ringers are a perpetual refutation of the suggestion that the Church of England is a middle aged institution. They are now all under thirty and this book is a real tribute to their keen desire to see the bells upon which they offer God service "well and truly hung" again.

To be a friend of these young men who are as regular at their worship as they are at their ringing is deemed a real privilege by-

Rector of Birch-in-Rusholme,
Hon. Chaplain to the Bishop
of Manchester.

S. James's Parish Church,

Birch-in-Rusholme.

CHAPTER I.

The History of the Bells.

"We ring the Quick to Church, the Dead to Grave,
Good is our Use, such Usage let us have."
(Rhyme at Fowey, Cornwall.)

THE old Birch Chapel stood on a site a few yards to the west of the present church, and it is reasonable to suppose that it possessed a bell from the time of its consecration, about the year 1590. All the pictures and prints of the old Chapel add to this supposition, for in all of them a large bell-cote is shown at the west end of the roof. However, there is no record of such a bell, nor can any trace of it be found.

In 1727, William Birch, one of the last of the Birches to live at Birch Hall, presented the Chapel with a new bell, which gave good service until 1846, when the old Chapel was demolished. Then it was moved to the tower

of the new church, where it was used for ringing for service until 1863, when the present bells were hung. Even then, the career of the small bell was not at an end, for until 1900, when the bells were rehung (mentioned later in the chapter), it was used to summon the ringers. Ever since then the bell has been in retirement in the tower.

That this bell was a new one and not a re-cast of one made earlier is proved by the inscription it bears :-

WM BIRCH ESQ HIS GIFT ✠ 1727

The fleur-de-lys is interesting as being the arms gained for the Birches by Ralphe Birch who fought at Agincourt.

The bell measures 11 ins. from lip to crown and has a diameter of 16 ins. at the mouth. Its weight is about 1 cwt. and its note is D sharp. It is in perfect condition, uncracked, and very little worn on the soundbow, where the clapper strikes. The name of the founder does not appear on the bell, but a small panel of floral decoration in the inscrip-

tion band has been identified with that used by Abraham Rudhall, the famous Gloucester bell-founder of the Eighteeth Century. Added weight is given to the theory that Rudhall was the founder by the fact that the bell of Platt Chapel was cast by him: it bears his initials - A. R. and is dated 1718.

The Birch Chapel bell as originally cast had canons, i.e. semi-circular metal hoops cast on to the crown and used for fastening the bell to the head stock, but these have since been removed. The marks left by them can still be seen on the crown of the bell. Other marks indicate that originally the clapper was hung from a crown staple cast inside the bell. Now it hangs from a bolt which is bolted through both the crown and the headstock.

Unfortunately neither the date of these alterations, nor the name of the firm which carried them out, is known.

The present bells constitute a ring of eight as fine as any to be found in Manchester. They were cast in 1863 by the firm of G. Mears & Co. (now Mears & Stainbank) at the Whitechapel Bell Foundry, London.

Before this date a band of ringers had been formed and the enthusiastic members practised at St. Philip's, Hulme.

The bells were hung in 1863 but unfortunately the proceedings were marred by a fatal accident. A beam fell on Mr. John Venables as he stood in the south porch, and killed him. The ringers had arranged to meet the bells at the old toll gate, Moss Side, to unhorse the cart which was carrying them and to draw them to the church. The sad accident already related, however, prevented this.

The bells gave good service until 1899 when it was considered advisable that they should be thoroughly overhauled. Messrs. Taylor, the famous Loughborough bell-founders, was the firm entrusted with this work. The bells were re-hung in a new frame with new wheels, pulleys and fittings at a cost of £220.

The following are the insciptions on the bells : -

TENOR (Note F, Wt. 13 cwt. 2 qrs. 19 lbs.)
From bequest of Alice Fletcher:
"Holiness unto the Lord."

7TH. (Note G, Wt. 9 cwt. 3 qrs. 26 lbs.)
A. F.:
"Awake thou that sleepest, arise from the dead."

6TH. (Note A, Wt. 7 cwt. 2 qrs. 2 lbs.)
A. F.:
"Watch ye; stand fast in the Faith."

5TH. (Note B-flat, Wt. 6 cwt 0 qrs. 22 lbs.)
Given by the Rector:
"Rejoice with them that rejoice, and weep with them that weep."

4TH. (Note C, Wt. 5 cwt. 2 qrs. 4 lbs.)
Given by the Congregation:
"Watch and Pray."

3RD. (Note D, Wt. 5 cwt. 0 qrs. 8 lbs.)
Given by the Congregation and Parishioners:
"Pray one for another"

2ND. (Note E, Wt. 4 cwt. 3 qrs. 7 lbs.)
Given by the Parishioners:
"Praise the Lord of Heaven:
Praise Him in the height."

TREBLE, (Note F, Wt. 4 cwt. 3 qrs. 0 lbs.)
Given by the Congregation:
"Praise Him, all ye angels of his:
Praise Him, all His Host."

Each bell also bears the following inscription:-

G. Mears & Co., Founders,
London. 1863.

The tenor bell measures 2 ft. 9 ins. from lip to crown and its diameter across the mouth is 3 ft. 8 ins. The treble is 1 ft. 9 ins. high and has a diameter of 2 ft. 3 ins.

The tower in which the bells hang is surmounted by a tall graceful spire 120 ft. high and consists of three storeys. From the porch a stone spiral staircase winds up to the ringing chamber, with its circle of eight bell ropes. The next chamber, reached by a wooden staircase, is the sound-deadening room, and immediately above it is the bell-chamber. The view of the surrounding district through the large louvred windows is very fine.

The bells hang in an iron frame of the "H" pattern and the treble, 2nd, 4th, 5th, 6th, 7th, and tenor are hung on one level. The 3rd. bell, owing to limitations of space, hangs in a separate "low-side" frame above the other seven. The height of the bells above the ground is fifty feet.

The first peal on the new bells was rung

on St. James's Day, July 25th, 1863, commencing at 4 p.m., before evening service. After this three more peals were rung before the end of the next year. Two of these were by ringers from St. John's Church and the third was by ringers from Ashton-under-Lyne. In February, 1865, the St. John's band rang a peal of 5088 Kent Treble Bob Major in 3 hours 5 minutes.

Our own ringers, as the peal-boards in the belfry show, concentrated on Grandsire Triples, and their first peal in this method is recorded thus:

Lancashire Association.

St. James's Birch Society of Change Ringers.

On Monday, June 6th, 1892, eight members of the above society rang on the bells, in this Tower, Holt's Ten Part Peal of Grandsire Triples, consisting of 5040 changes in 3 hours.

Robt. Davies,	Treble.	Wm. H. Idle,	5th.
Wm. E. Ryder,	2nd.	Fredk. Ryder,	6th.
Ed. Burroughs,	3rd.	Tho. B. Idle,	7th.
Robt. Burroughs,	4th.	Geo. Phillips,	Tenor.

Conducted by T. B. Idle.

Later peals of Grandsire Triples, all by the Birch ringers, were rung on May 30th, 1908; January 21st, 1909; and January 20th, 1910.

On February 26th, 1927, the Middleton ringers rang a peal of Grandsire Triples at the consecration of Dr. Parsons as the first Bishop of Middleton, and in the next year another peal in the same method was rung, this time to commemorate the fifty years service in the belfry of Mr. Edwin Burroughs. The first peal of Stedman Triples took place on July 23rd, 1932, and was in honour of the translation of the Bishop of Middleton to the See of Southwark.

CHAPTER II.

The Founding, Tuning and Hanging of Church Bells.

"Sing We Merrily unto God Our Strength."

BELL founding is a specialised industry and demands skill in the workman of a high order: so much is this the case that the firms engaged in it are both old established and limited in number.

Bells are cast in moulds, the mould being either of sand or loam formed as an outer shell and an inner core. Into the cavity between the two the bell metal is poured and allowed to set. The mould for the outer shell of the bell is made by using a "strickle" board, cut to the shape of the bell's contour, and rotating it in a metal container already coated with loam. To give a smooth surface

the loam is coated with "blacking" or plumbago. The core is also made with a "strickle" board rotated round the outside of a pile of loam. Holes, called the "runner" and the "riser", are left in the top of the outer mould, the whole is carefully dried in a specially constructed oven and when fixed in position and bolted down, casting can commence.

Bell metal consists of an alloy of Copper and Tin, roughly in the proportion of 75-80 per cent of Copper and the remainder Tin. The Tin is added to the molten Copper a short time before pouring and the resulting alloy is poured from the cupola into ladles and transported to the mould. Several men now take a hand in the work; one holds a shovelful of sand in case the metal should run out from some unforseen spot, another holds a heated iron over the "runner" to prevent the metal entering the mould too quickly, another, generally the moulder himself, attends to the large wheel on the ladle, to regulate the speed of pouring. The "scum", that is any foreign material which rises to the top of the ladle, is removed by a forth workman. The moment

has now arrived, and to the layman it is a memorable scene when the pouring commences. The great ladle delivers its charge gently into the "runner" and when the mould is full the metal emerges from the second hole, the "riser", forcing out the air and gas and giving a visible indication to the moulder that everything is in order.

The casting is now left to cool for a few days or a week, according to the size of the bell, and after the loam is removed the fettlers get to work and remove all casting marks and the two large protruding shafts of metal which were the "runner" and "riser".

The bell is now ready for turning and tuning, and is placed in a machine like a vertical lathe, the bell being fixed mouth uppermost. After turning has been completed, which operation removes all the superfluous metal, the ticklish job of tuning is carried out Each bell has to be given five separate and distinct notes, i.e. the bell's key note, the octaves above and below the key note, and the third and fifth above. The bells of Birch were installed in 1863 and were not tuned by this method, but in spite of this their beautiful

tone gives an indication of the expert workmanship of nearly a century ago. Tuning is done by turning metal from the inner surface of the bell at certain parts, it being briefly stated that to deepen the tone, metal is removed.

After minute inspection of the bells as to their tone and workmanship, the crown of each is drilled to allow the headstock and clapper to be fixed. The headstock is of solid cast iron and serves the purpose of supporting the bell, in a partially balanced position, through two hard steel gudgeon pins or axles. In modern belfries the gudgeons are supported by heavy type ball bearings, and this is one of the directions in which the Birch bells will be brought up to date. The clapper, fixed inside the bell and moving in a circle in the plane of rotation of the bell, has a supporting eye bushed with "lignum-vitae" moving on a hardened steel pin.

To give "mechanical advantage" so that the work of the ringer is made as light as possible, a large diameter wooden grooved wheel is fixed beside the bell. To this the rope which descends to the ringing chamber is

attached.

The bells are now ready for hanging in the Tower and for this purpose a framework has previously been erected either of the open frame type or the "H" frame type, hoisted into position in convenient sections. The headstocks are fitted into their self aligning ball bearings, and lastly the bells are raised and firmly bolted to the headstocks. Several accessories such as pulleys and guides are placed in position, and when the ropes are fixed everything is ready for the "Grand Opening." The ropes are specially made in lengths of sixty to seventy feet, and woven into their strands are coloured "sallies" to give the ringer a firm hold on the rope at "hand stroke."

The ringers will be delighted to act as conductor to anyone wishing to make a more intimate aquaintance with the bells.

CHAPTER III.

Bell Ringing.

"Ring out the old, ring in the new,
Ring out the false, ring in the true."

ON the Continent, especially in Belgium, Holland and France, the tendency has always been to use bells in the form of Carillons for the playing of Airs, rather than for Change Ringing, and in recent years the Carillon has also become popular in the United States and in Canada. It is only in the British Isles that scientific Change Ringing is practiced to any extent, and its title, "The Ringing Isle," applied centuries ago, is still justified.

Bells for Change Ringing, such as the eight which we have at Birch, are hung so that each may be rotated in a complete circle

backwards and forwards. To prevent a bell from swinging completely over when it reaches the top of its stroke, the headstock is fitted with an ash stay having a metal trigger at its end. This trigger, when the bell is mouth upwards, engages in a slide provided with stops and placed below the bell, the whole arrangement allowing the bell to rest in a position prior to ringing. Incidentally, the wooden stay acts as a "fuse", in that it breaks and saves damage to the bell should the ringer give too strong a pull on the rope.

When a bell leaves the top of its stroke its weight greatly assists the ringer in his effort to complete the circular movement. Indeed, with a modern ring of bells, it is not so much strength that is required as skill - the weight of the bell does the work, the ringer controls the weight. By the time the circle is made the clapper has struck the bell, thus giving one note only for each revolution.

There is often confusion between the terms "Ringing" and "Chiming". Ringing, in the true sense of the word, means that a bell speaks by swinging in complete revolutions. It is only in this way that the full, rich tone

is obtained. Chiming or tolling as it is sometimes called, is carried out by allowing the bell to swing through an arc of a circle only, its movement being controlled by the checking of the rope.

Assuming that changes are to be rung and that the bells are "down", that is with their mouths pointing downwards, it is necessary to "raise" them, or in other words, to bring them to rest with mouths pointing upwards. They are swung backwards and forwards, higher and higher, until they attain the "set" position. The effect during the raising of the bells in peal is very musical. First the Treble speaks, then the Treble and Second, then the Treble, Second and Third, and so on, until all the bells are chiming softly. Then as they swing higher their tone becomes louder until they are all swinging full circle.

When striking takes place in the following order- Treble, Second, Third, Fourth, etc., the bells are said to be rung in "Rounds". The order of ringing may be varied by each ringer allowing his bell to take a new position according to the "calling" of a "Conductor".

This is known as "Call Changing". A variation of this is to allow the bells to take up pre-arranged positions at given signals. Of these the most common are - "Tittums", in which the bells are rung in the order - 15263748; "Queen's" or "Crossums" - 13572468; and "Whittington" - 12753468. When Birch Bells are rung for weddings and for the Watch Night Service, Rounds and Crossums are the order, varied at intervals by firing, that is, allowing the bells to speak all together.

At funerals either the "Minute Bell" is tolled, or the bells are rung fully muffled or half muffled. Half muffling gives a very beautiful effect, each quiet round being an echo of the previous loud one.

Change ringing is never practiced on less than five bells and even then the tenor is usually rung "behind" each change.

1 2 3
2 1 3
2 3 1
3 2 1
3 1 2
1 3 2
1 2 3

If changes on three bells were rung they would be six in number, as shown. It will be noticed that each bell pursues a uniform path. The treble (1), for example, leaves the "lead" and works its way to the back striking once in "seconds place".

At the back two blows are struck before returning in a similar manner to lead. This is called "plain hunting" and on three bells the "extent" (all the changes obtainable), may be produced by this work alone.

On four bells only eight out of the possible twenty-four changes are obtained by allowing each bell to hunt. The extent is obtained by introducing a "plain lead," that is, the bell the treble takes from lead strikes twice over the treble and returns to lead. The other bells, unable to continue their hunting course, "dodge" behind. Here the treble is the only bell in the hunt. The other bells do work in a definite order, viz. "making" seconds place, dodging 3-4 down, dodging 3-4 up. Dodging "up" means that a bell "dodges" on its way "up" to the back and dodging "down" means dodging on the way "down" to lead.

1	2	3	4
2	1	4	3
2	4	1	3
4	2	3	1
4	3	2	1
3	4	1	2
3	1	4	2
1	3	2	4
1	3	4	2
3	1	2	4
3	2	1	4
2	3	4	1
			etc.

"Methods" of change ringing may be divided into "odd-bell methods" and "even-bell methods," the former being rung on five, seven,

nine or eleven bells with the tenor "covering," and the latter on six, eight, ten or twelve bells.

The commonest "odd-bell" method is called "Grandsire." In it the treble has a plain hunting path throughout, and there is always one other bell in the hunt with the treble, i. e., doing the same work. The bell the treble takes from lead "makes" third's place, while the other bells dodge behind. The extents cannot be obtained by the use of plain leads alone so "bob" and "single" leads are introduced. These alter the work of all the bells except the treble.

Stedman's Principle is also applicable to odd numbers of bells. In it the treble, instead of hunting, does the same work as the other bells. The foundation of the principle is that three bells do ordinary three-bell changes (shown earlier), while the other bells dodge behind. At the completion of the changes, i. e., every six, one dodging bell takes its place in the changes and the bell it displaces goes behind to dodge.

The following are the first few changes of Grandsire Triples and Stedman Triples:

1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8
2	1	3	5	4	7	6			2	1	3	5	4	7	6	
2	3	1	4	5	6	7			2	3	1	4	5	6	7	
3	2	4	1	6	5	7			3	2	4	1	6	5	7	
3	4	2	6	1	7	5			2	3	4	6	1	7	5	
4	3	6	2	7	1	5			2	4	3	1	6	5	7	
4	6	3	7	2	5	1			4	2	3	6	1	7	5	
6	4	7	3	5	2	1			4	3	2	1	6	5	7	
6	7	4	5	3	1	2			3	4	2	6	1	7	5	
7	6	5	4	1	3	2	etc.		4	3	6	2	7	1	5	etc.

"Plain Bob," the simplest "even" bell method, is simply a continuation of the work on four bells already explained. It may be rung on six, eight, ten or twelve bells and the tenor is "rung in," it no longer "covers" each change. The treble alone has a plain hunting path, and, as on four bells, the bell the treble takes from lead makes second's place, the other bells dodging at the back. Here again "bobs" and "singles" are used to obtain the various extents.

Plain Bob Minor.

1 2 3 4 5 6	
2 1 4 3 6 5	5 6 3 4 1 2
2 4 1 6 3 5	5 3 6 1 4 2
4 2 6 1 5 3	3 5 1 6 2 4
4 6 2 5 1 3	3 1 5 2 6 4
6 4 5 2 3 1	1 3 2 5 4 6
6 5 4 3 2 1	1 3 5 2 6 4 etc.

The following table gives the names of peals and the extents which may be produced:

No. of Bells	Name.	No. of Changes.
5	Doubles.	120
6	Minor.	720
7	Triples.	5,040
8	Major.	40,320
9	Caters.	362,880
10	Royal.	3,628,800
11	Cinques.	39,916,800
12	Maximus.	479,001,600

A peal of Triples consists of the full 5040 changes, but on eight bells and above any number of changes over 5000 is counted a peal.