H. W. Ellicott
North Moreton
May 19th 1872
First Ringing Lesson.
June 27th 1871.

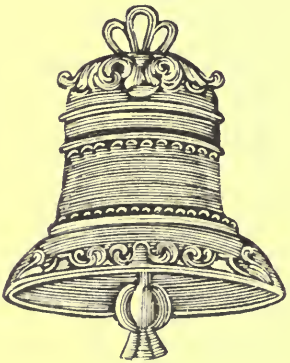
ELEMENTS

OF

CAMPANALOGIA:

OR AN

Essay on the Art of Ringing.



BY HENRY HUBBARD.

(Late of the Society of Norwich Scholars.)

Third Edition.

In musicâ, si non adsint harmonia, simplicitas et veritas, compositio omnino consistere nequit.

NORWICH:
FLETCHER AND SON, MARKET PLACE.
1808.

Price 3s. Embossed Cloth.

PREFACE.

In a treatise professing to teach the practice and principles of change ringing, it may probably be expected that many minute details relating to its history and progress would be given, but as these are matters more of curiosity than real utility they cannot consistently be carried out in the limited number of pages in this work. The origin of change ringing cannot be traced to any remote antiquity, for notwithstanding we have records of peals of bells as early as the ninth century, it does not appear to have assumed any scientific feature till the seventeenth, from which period it has been gradually matured. In its present improved state, perhaps there is no amusement requiring the employ-

ment of more faculties mental and physical than the art in question; for whilst the mind is occupied with the intricacy of the method, the hands are actively employed in the proper command of the bell, the dexterous management of which forms a very essential part in the art treated on. However acute the ear and unclouded the practitioner's intellect might be, yet if he was deficient in this point, he could never attain that degree of excellence necessary to constitute what is termed a fine striker* in change ringing.

The eye has also an important part to perform, as the bells are met indiscriminately, the particular one to strike after must be ascertained by sight, whilst the ear assists in regulating the time of the stroke, or adapts it to the compass the bells are ringing in.

* It is almost incredible how extremely small portions of time are forced upon the observation in change ringing. Assuming a quarter of a second to elapse between the striking of any two bells, (which supposition is very near the truth,) it will appear that an error of a quarter of that space too quick or too slow would be distinctly felt and heard by an experienced ringer, and hence the sixteenth part of a second becomes an appreciable quantity.

It is therefore manifest that in proportion as the practitioner's faculties are complete in these particulars, so will his attainments be as a practical ringer. It has required many years' labour and patient investigation to bring the science to its present state of refinement; some eminent men of the old school who greatly contributed to this were Anable, Holt, and Reeves, and many among the moderns whose names are conspicuous in these pages; their productions are highly creditable to the minds from which they eminated.

As all scientific acquisitions are progressive, it was not unreasonable to conjecture that great improvements had been made in the higher branches of the science. As nothing material has been published for a period of nearly forty years, I was desirous of giving publicity to them; in order to do this I communicated with some of the most able composers in London and other places of celebrity, the result has been many of those gentlemen furnished me with copies of their productions for in-

sertion. The great improvements made in Treble Bob Major and its complex variations, and also in Stedman compositions, will no doubt be well received and appreciated by those persons who are conversant with the great labour and difficulty involved in the true attainment of them.

I trust what has been said relative to the two courses of changes will be approved and generally understood; that which has hitherto been considered a mysterious and intricate subject is, I apprehend, rendered as easy and familiar to the understanding as can well be desired. It will be sufficiently clear in the case of transposition by four or any multiple of four that the course remains unaltered; it being only reduced to a simpler form, or in other terms, brought from a change with which course you are supposed to be unacquainted to one that is actually known.

Considering the number of pages and the quantity of matter embodied in this Essay, I think it may unhesitatingly be said to contain the most copious and

valuable collection of peals yet published, and its cheapness is certainly unprecedented in the history of change ringing.

I will not fatigue the reader with much preliminary matter as a multiplicity of words sometimes have a tendency to obscure the subject. I shall, therefore, merely observe that to facilitate the progress of young practitioners I have laid down the rules of each method in as consise a manner as is consistent with perspicuity; making such additional remarks when required as I imagined would be most conducive to that end. I have also consulted the ease and convenience of the young bob-caller, by giving the productions in regular parts, whenever it could conveniently be done without being detrimental to the music of the peal.

My principal aim in this Essay was to unite harmony with simplicity and truth: how I have succeeded must be left to the discrimination of the exercise at large. It only remains for me to thank those gentlemen (amateurs

and professors) who have done me the honour of countenancing the publication by their support, and trust they will find the confidence reposed has not been misplaced, as I believe the conditions announced have been literally fulfilled; under this impression it is submitted to the exercise to stand the test of the reasonableness of its precepts and the truth of its examples.

H. HUBBARD.

INTRODUCTION.

The favourable reception the former impressions met with, induced the present publication; in which is introduced a variety of new compositions which will be found both musical and entertaining.

Several Reverend gentlemen and public teachers have expressed their approbation of the work, and consider the science of church bell ringing an exercise well calculated to improve the mental and physical powers of the young persons under their tuition; more especially as its practice and principles are founded upon harmony and mathematical truth.

The facilities afforded to young practitioners is manifest, as the Author has successfully taught from its pages various companies of men to become proficients in the art. In order therefore to give it greater publicity, the price has been reduced; which circumstance will have a direct tendency to extend its circulation and render the principles of the science more generally known.

Leeds, Jan. 1868.

CONTENTS.

ELEMENTS

OF

CAMPANALOGIA.

In consequence of the limited number of pages in this work, it is requisite to omit such peals as are not in general practice, such as the reverse methods, which may be considered nearly useless, they not being rung, probably because the direct and double methods are much superior: it would therefore be inconsistent with the plan of conciseness and general utility to insert them.

A copious selection of the best and most popular methods in practice will be presented, which, doubtless, will be sufficient to gratify the tastes and meet the expectations of the most persevering practitioners. The student will see by the following table the number of changes afforded by any given number of bells to twelve inclusive which must be equal to the continued product

of the figures representing the number of bells, as shewn in the horizontal lines beneath; but the method of producing them conformably to the rules of the science will be shewn further on.

As all peals of bells, whose number exceed three, are composed of a determinate number of whole and half-notes, a dash is placed between the figures where the semitones lay :—

1 2	—	2
1 2 3	—	6
1-2 3 4	—	24
1 2-3 4 5	—	120
1 2 3-4 5 6	—	720
1 2 3 4 5 6 7	—	5040
1-2 3 4 5-6 7 8	—	40,320
1 2 3 4 5 6 7 8 9	—	362,880
1 2 3-4 5 6 7-8 9 10	—	3,628,800
1 2 3 4 5 6 7 8 9 10 11	—	39,916,800
1 2-3 4 5-6 7 8 9-10 11 12	—	479,001,600

I shall now proceed to lay down some instructions for the young practitioner. His first acquisition should be to make himself master of ringing a single bell, in the management of which he ought to be very expert before he attempts anything further; he should ring it with a steady, smooth pull, bringing it to a balance as nearly as possible, in order to be able to hold up or cut down, as occasion may require When he has acquired a tolerable sleight of ringing a bell,

it would greatly forward him, if an experienced ringer were to assist him on two bells thus:— 1 2, 2 1, 1 2, &c , by this means he would get a good idea of pulling after a bell, holding up and cutting, which evolutions are highly necessary before he can make any progress in change ringing.

The practitioner having arrived at this, he may next proceed to ringing of rounds upon four or five bells, as may be deemed most convenient. Here it is neccessary to offer some observations respecting the time or compass of ringing in general. The most natural way appears to be, by representing time by space or distance, thus; supposing the learner to ring the treble on five bells for instance, he should lead off at the hand stroke and bring her off the back stroke in the same time or distance the other bells strike from each other, and should allow twice the said time when he leads at the hand stroke, which may be understood thus:—

Hand stroke.	Back stroke.	Hand stroke.	Back stroke.	Hand stroke.	Back stroke.
12345	12345,	12345	12345,	12345	12345, &c.

The learner will see by the foregoing figures, that he invariably leads slow at the hand stroke and quick at the back stroke, and he must bear it in mind that this is a general rule upon any

number of bells, and in changes as well as rounds; for it is this distinction or open lead at the hand stroke that gives a bold and striking effect to the ringing, and makes it very pleasing to hearers when neatly performed.

There are good reasons for putting the learner to the treble; first because that bell being what is termed a plain hunt, its work is much easier than any other bell's work; again, because the bells are rung in rounds many times before and after the changes, it affords him an opportunity of learning to make well-timed leads; for if he can strike his bell in true time at leading he will find little difficulty in timing it in any other place, for good even ringing depends much upon the accuracy of the time sustained by the bell at the lead.

Hunting being the first part of ringing which is necessary to be understood, and indeed the groundwork on which it is founded, the learner will do well to make himself master of it before he attempts any more difficult part of the science. Having already supposed him to be ringing the treble in rounds, and standing in such a position as to command a sight of all the ropes, the first change he must strike into second's place by pulling after the one which followed him; he will now have one below and three above him, when his attention must be directed to

the three above him to see which is following him, and pull after that the next time; now counting himself to be in third's place he will have two below and two above him, still observing the two above him to see which follows him, and pull after that the next time; he will now count himself to be in fourth's place, having three below him there will remain only one to look after, which he will pull after the next time, this will be his first blow behind: now having four below him, he must follow the last of them, this will be his last blow behind He must now descend into fourth's place by letting the last one he pulled after pass him, and pull after the last of the three below him; the next blow he strikes in third's place, allowing the last he followed to pass him, and pull after the remaining two below him; he next descends to second's place, making way for the last he followed to pass him, by pulling after the remaining one; he will now be at the lead again, from whence he started, where he leads two blows, and hunt up and down in the same regular manner—step by step as before.

There is another point which I wish to impress upon the mind of the learner, that is, in hunting up, his bell will require to be rung much higher than when hunting down to lead because when hunting up he has to wait for five

bells striking, but when hunting down he has to wait only for three, hence the cause of the difference is manifest. It is further observed, this difference is inversely as to the number of bells, the ratio in the present instance being as five to three; on eight bells as four to three; and on twelve only as six to five.

Dodging and place-making, the other two parts constituting the practical part of the science, now require and explanation, as it will be often necessary to refer to them.

Dodging is nothing more than making a retrograde motion, or moving a place backwards, and then going on the same way as before; thus, supposing the practitioner to be hunting his bell up till he counts it to be in fourth,s place, then instead of striking the next blow in fifths, he must cut down into third's place, and then proceed through fourth's up behind; this is called dodging in three-four going up. Again, supposing him to be hunting down until he counts himself to be in third's place, he must hold up and strike in fourth's, whence he must pass through third's and second's down to lead, this is called dodging in three-four going down because it is performed in the places of the third and fourth bells in the order of rounds, and the same of any other places where the dodging occur.

Place-making.—A bell is said to make a place when it lies two blows in succession in any place excepting before or behind, that being considered in the work of hunting.

Having explained all that is necessary for the present, I shall now commence the changes on three bells, the other numbers following in regular order.

123
213
231
321
312
132
123

On three bells the changes run out by the process of hunting only, but four bells comprehend the three articles enumerated. The first four-bell method is the plain, the second the double, which will be all that is requisite on this number.

1234				1234			
2143	3124	4132		2143	4132	3124	
2413	3214	4312		2413	4312	3214	
4231	2341	3421		4231	3421	2341	
4321	2431	3241		2431	4321	3241	
3412	4213	2314		4213	3412	2314	
3142	4123	2134		4123	3142	2134	
1324	1432	1243		1432	1324	1243	
1342	1423	1234		1423	1342	4234	

DOUBLES,

OR METHODS ON FIVE BELLS.

Bob.	Grandsire.	Double Gran.	St. Simon's.
12345	12345	12345	12345
21435	21354	21354	21435
24153	23145	23145	24153
42513	32415	32415	42513
45231	34251	34251	24531
54321	43521	43521	42351
53412	45312	34512	24315
35142	54132	43152	42135
31524	51423	41325	41253
13254	15243	14235	14523
13524	12534	12453	14253
31254	21543	21435	41523
32145	25134	24153	45132
23415	52314	42513	54312
24351	53241	45231	45321
42531	35421	54321	54231
45213	34512	45312	45213
54123	43152	54132	54123
51432	41325	51423	51432
15342	B14352	B15432	15342
B13542	13425	14523	B13542
31452	31452	41532	31452
34125	34125	45123	34125

In Bob Doubles all the bells hunt until the treble leads, when the bell it takes off the lead make second's place and lead again, and the bells in three-four dodge; the bell behind lies two blows extra, having no bell to dodge with. If

a bob is called, the bell instead of making second's place, runs up quick, and the bell that laid to dodge in three-four down, runs down quick, and that which would have dodged in three-four going up makes fourth's place and down to lead This peal is sometimes rung by what are termed *extremes*, which are made thus : the bell that laid to dodge in three-four going down makes third's place and up, and that which should have dodged in three-four going up runs out behind, and the bell behind instead of lying four blows, lies only two, and hunts down to lead.

GRANDSIRE DOUBLES.

In this method the bells have a direct hunting course till the treble leaves leading, when the bell it took off the lead makes third's place and down, and the hindmost bells dodge; but when a bob is made, the bell that strikes the treble in second's place makes third's and down, and the bells behind dodge, which is immediately followed by the regular dodge. A single has the same effect as a bob on the bells behind, but the bell that strikes the treble in second's lay four blows in third's and down to lead, when the bell the treble took off the lead makes second's place and lead again.

The practitioner, when ringing the Double Grandsire, will have to observe when the treble turns him from behind, to make third's place and back, when the bells before will make a single dodge, coinciding in every respect with the work when the treble is before.

ST. SIMON'S DOUBLES.

The two bells the treble leaves before, in this peal, continue dodging until it comes down and part them, for which reason, the bells from behind makes third's place and back; and the bell the treble takes the lead of, make second's place and lead again, which cause the bells in three-four to dodge, and the bell behind to lay four blows as in Bob Doubles.

NEW DOUBLES.

Although more intricate, this peal is similar to the preceeding as respects the bells dodging before till parted by the treble, and the bells from behind making third's place and back; but here are two extra third's places: namely, the bell when the treble takes the lead which goes up, and the bell when it leaves the lead which goes down. The bells behind strike only one blow, except the bell the treble leaves behind,

which lies a pull and strikes one blow in fourth's place repeatedly till the treble comes up and turn it from behind; the bell the treble takes off the lead makes second's place and lead again as in the preceding peal. The bobs and extremes are made as in Bob Doubles.

New Doubles.	Stedman's Slow Course.	Double Stedman's Slow Course.
12345	12345	12345
21354	21435	21354
23145	24153	23145
32415	42513	32415
23451	24531	23451
32541	24351	23541
23514	42315	32514
32154	24135	23154
31245	21453	21345
13254	12543	12354
13524	15234	13254

STEDMAN'S SLOW COURSE.

It must be observed in ringing this peal, the bell that takes the treble off the lead, leads a whole pull and strike one blow in second's place repeatedly till the treble takes it off the lead, then hunts up behind; the bell before with it leads one blow, makes second's place, and lead another blow, then hunts up behind; the former is called a whole-turn bell and the latter a half-turn bell. Now it is clear that when these two bells are before, those from behind must make

third's place and back, which may be known by the treble being above third's place.

In ringing the Double of this method, the practitioner will, in addition to the foregoing rules, have to notice when the treble is behind, as whole and half-turns are done behind in a similar manner as before in the single method. The courses of these peals are produced by repeating the given leads twice or thrice, according to the number of bells transposed at the back stroke lead of the treble. The Grandsire methods having two plain hunts the courses are shortened one lead.

STEDMAN'S PRINCIPLE.

This method derived its name from the circumstance of its having been composed by Mr. Fabian Stedman, and it is unquestionably a master-piece of all five-bell peals, as it is also upon all odd bell methods. If the learner has perused the foregoing methods he must have seen the treble has been the guide in all of them but in this, each bell has the same work to perform, which consists of a slow and quick bell down alternately, for which reason, the lesson of what is termed the slow work must be committed to memory, which is as follows: taking the fourth bell for example, when coming from behind it makes third's place, down and leads a whole pull, strikes one blow in second's and

leads another whole pull, this is called the first whole turn; it then makes third's place and down, lead one blow, which is the first half-turn; it next makes third's, down, and lead another blow, this is the last half-turn: it then makes third's place again, down, lead a whole pull, one blow in second's and lead another whole pull, this is the last whole turn; whence it makes third's place and up, which complete the slow work. The bells above third's place always dodge twice before and after laying the pull behind. The work of the quick bell is nothing more than hunting down and leading a whole pull, then hunting up and commence the dodging as before described. That the young practitioner may be able to trace the work, and thereby more fully to comprehend these instructions, the full course is given.

12345

21354	35421	42135	13542	51243
23145	31542	11253	15324	52431
32145	13152	11523	51234	25341
23154	31425	41532	15243	52314
21345	31452	15423	12534	53241
42351	13425	54132	21543	35214
13245	14352	51423	25134	32541
31254	41325	15432	52143	23514
13521	11235	51342	25413	32154
15312	12153	53124	21534	31245
54321	21135	35412	42513	13254
53112	21153	31524	15231	12345

MINOR,

OR METHODS ON SIX BELLS.

Bob Minor.	Double Bob.	Court Bob.	Double Ct. Bob.
123456	123456	123456	123456
214365	214365	214365	214365
241635	241635	241356	241356
426153	426153	423165	423165
462513	462513	243615	243615
645231	645231	426351	426351
654321	462531	462531	462531
563412	645213	645213	645213
536142	654123	654123	465123
351624	561432	561432	641532
315264	516342	516342	614523
132546	153624	153624	165432
135264	156342	135264	156342

BOB MINOR.

In this peal all the bells have a plain hunting course excepting when the treble leads, when the bell it takes off the lead makes second's place, for which reason the bells above make a single dodge. To ascertain when the treble is at lead, is by the place it is met in, thus: supposing a bell in going up passes the treble in two-three, that bell must dodge in three-four going up: and if it passes it in three-four, it dodges in five-six before laying the pull behind; but if it meets it in four-five, it must dodge in five-six after laying the pull lastly, meeting it in five-six, the dodge must be

made in three-four going down. There is another rule rather more commodious, and of more general use as it serves for any number of bells; it is termed the course method After laying next the treble, to dodge in three-four going down, the next lead in five-six after laying the pull, then in five-six before laying the pull, next in three-four going up, and finally laying next the treble again.

In the Double Bob method, attention must also be directed to the treble's being behind, at which time the four foremost bells dodge, and the bell the treble turns from behind makes fifth's place and return.

The plan of making the bob has already been explained under Bob Doubles, and the single is made by the two bells in third's and fourth's places lying still.

COURT BOB.

This first method of Court is so extremely simple in its composition as to require but little to be said upon it. The bell the treble takes off the lead makes fourth's, third's, and up: the fourth's place causing a dodge upon the two hindmost bells, and the third's place a dodge on the two bells the treble leaves before.

In the Double method, fourth's and third's are made from before as in the foregoing peal, and in addition, third's and fourth's from behind; these conditions combined, cause single dodging before and behind, before and after leading and laying the pull, except when the treble interferes. that being plain hunt, no bell can dodge with it.

The bob is made in fourth's place, and the two bells behind dodge till parted by the treble; and when a single is made, the two bells in second's and third's places lay still.

Oxford Bob.	Double Oxford Bob.	Stedman's Slow Course.	Double Stedman's Slow Course.
123456	123456	123456	123456
214365	214365	214365	213546
241356	241356	241635	231564
423165	423165	426153	325146
432615	243615	246513	235116
346251	426351	264631	253461
364521	243651	624351	523641
635412	426315	642315	532614
653142	246135	462135	352164
561324	421653	641253	531246
516342	412635	614523	513264
153624	146253	165432	153624
156342	142635	156342	135642

OXFORD BOB.

In this peal the bell going up passing the treble in two-three, dodges in three-four, makes fourth's place, and down to lead; it will also

after passing the treble in three-four, make fourth's place again, dodge, and go down to lead. The two bells the treble leaves behind, dodge till it comes up and part them; and the bell the treble takes off the lead, make second's place and lead again.

When ringing the Double method, the two bells the treble leaves before continue dodging until parted by her, and the bell passing the treble in two-three makes fourth's and third's, dodging before and after, then proceeding upwards; the bell the treble takes off the lead makes second's place, as in the Single method.

Adopting similar rules from behind is all that is requisite in this peal; the bobs and singles are made as in Bob Minor.

STEDMAN'S SLOW COURSE.

The principal difficulty in this peal consists in doing the whole and half-turns correctly, (see Stedman's Principle.) There are two whole turn bells and a half-turn one; the bell the treble takes off the lead does a whole-turn, makes third's place, and up: and that which strike the treble in second's place does the half-turns; when the one in course after it, meeting the treble in three-four, makes third's place, down, and does the other whole-turn; the two parted from behind

by the treble making fourth's place and return, then hunt down quick

This Double method the practitioner will find rather intricate, it having whole and half-turns behind in addition to those of before: when to make them are indicated by meeting the treble in corresponding places from behind, as it was met in from before in the Single method There is another circumstance in the double, that is, the bell the treble takes off the lead, makes third's place and commence half-turns before; in uniformity, the bell the treble turns from behind, makes fourth's place, and do half-turns behind. The bob is made on the three hindmost bells and the singles as in Court Bob.

Having concluded peals with the treble plain hunt, the next that are introduced to the practitioner's notice are called Treble Bob peals; the term, no doubt, derived from the peculiar motion of the treble, which consists of dodging before and after leading the pull; it dodges also in three-four, and before and after laying the pull behind: in consequence of which one treble lead has as many changes as two leads where the treble is a plain hunt. In these, the necessity of singles are superseded, the effect of them being produced in the regular work.

VARIATIONS OF TREBLE BOB.

Oxford Treble Bob.	Kent Treble Bob.	College Exercise.	Imperial.
123456	123456	123456	123456
214365	213465	214365	214365
124356	124356	124356	123465
213465	214365	213465	214356
231645	241635	231645	241536
326154	426153	326154	425163
321645	421635	321645	241563
236154	246153	236154	425136
263514	261513	263514	452316
625341	625431	625341	543261
623514	624513	265314	453216
265341	265431	623511	542361
256431	256341	265341	453261
521613	523614	623514	542316
526431	526341	263541	452361
254613	253614	625314	543216
245163	235164	652134	534126
421536	321546	561243	351462
425163	325164	562134	534162
241536	231546	651243	351426
214356	213456	615423	315246
123165	123165	164532	132546
213456	214356	614523	315264
124365	124365	165432	132546
142635	142635	164523	135264

OXFORD TREBLE BOB.

In this method, the practitioner will observe, there is a bell called the slow hunt, performing thus:—it dodges with the treble, leads a pull, makes second's place a pull alternately till the

treble comes down and dodge with it again. The next thing to be observed is, third's and fourth's places are invariably made when the treble is dodging before, which are known thus; suppose the practitioner to be coming from behind, immediately he gets in three-four; if the treble is below, he must make third's place and up; if he is in three-four going up, with the treble below, then he must make fourth's place and down; the bell that made the first fourth's place goes into the hunt, and that which left the hunt makes the last fourth's place. When a bob is made, the bell that makes the first third's place, immediately makes fourth's, which causes it to make the last third's place also, whence it goes up, and the two hindmost bells make two dodges extra.

KENT TREBLE BOB.

This peal is similar to the preceeding, it only differs from it in making the places; if going down, instead of making third's and back make fourth's, third's, and down; if going up, instead of making fourth's and back, make third's, fourth's and up. At a bob, the bell making third's and fourth's, immediately makes fourth's and third's and down to lead.

COLLEGE EXERCISE.

This peal resembles Oxford Treble Bob, till the treble dodges behind, when the bells in three-four lay still; moreover, fifth's place is made when the treble is full behind, which retain the same two bells in three-four, and cause them to lay still at the last dodge of the treble, whilst the two bells before make a triple dodge; the slow hunt then leaves, and the bell that dodged with it assumes the hunt for the remaining part of the lead. The place-making in three-four at the dodging of the treble before, and the seconds, place at the time of her full lead, cause triple dodging on the two bells behind. The practitioner will see, in those peals where second's place is made at the treble lead, the bob is made in fourth's place, and the bells before run quick.

IMPERIAL.

This and the three following peals, the practitioner will find very intricate, and previous to attempting them, it would be well to make himself acquainted with the work of each bell throughout the given lead, so that, in ringing, when he comes to the lead end, he may be enabled to proceed with the work of any bell in whose place he may happen to fall. Pursuing

this plan in each lead successively, until he ultimately falls into his original position again. These are infallible rules for these or any other methods; but, most probably, practice and observation will suggest rules less burthensome to the memory, more particularly when practising these complex variations upon a higher number of bells.

Cambridge Surprise.	Superlative Surprise.	London Surprise.
123416	123456	123456
214365	214365	213546
124635	124635	125364
216453	216453	215634
261435	261435	251643
624153	624153	526134
621435	261453	521643
264153	624135	256134
624513	264315	526314
265431	623451	562341
256413	632415	653214
524631	364251	635241
256431	632451	365421
524613	364215	356412
542631	346251	534621
456213	432615	543612
546123	342165	453162
451632	431256	541326
456123	342156	543162
541632	431265	451326
514623	413256	415362
156432	142365	145632
516342	413625	416523
153624	146253	146253
156342	142635	142635

TRIPLES,

OR METHODS ON SEVEN BELLS.

Plain Bob.	Grandsire.	Double Grandsire.	New Bob.
1234567	1234567	1234567	1234567
2143657	2135476	2135476	2135476
2416375	2314567	2314567	2314567
4261735	3241657	3241657	3241657
4627153	3426175	3426175	2346175
6472513	4362715	4362715	3264715
6745231	4637251	4637251	2367451
7654321	6473521	6473521	3276541
7563412	6745312	4637512	2375614
5736142	7654132	6473152	3257164
5371624	7561423	6741325	2351746
3517264	5716243	7614235	3215476
3152746	5172634	7162453	3124567
1325476	1527364	1726543	1325476
1352746	1253746	1275634	1352746

After the instructions given for these methods upon five bells, it would be useless to trouble the practitioner with any further comments, as he will readily see, by the treble leads before him, notwithstanding there are two additional bells, that the work is similar, and must be rung by referring to where he meets the treble, or by the course method, as described in page 15.

STEDMAN'S PRINCIPLE.

1234567	B4376215	5471263
2135476	3472651	5742136
2314567	3746215	7541263
3241657	7342651	5714623
2346175	7436215	5176432
2431657	4732651	1574623
4236175	7423561	1756432
4321657	7245316	7154623
3426175	2743561	7516432
4362715	2475316	S5761432
4637251	4273561	7564123
6432715	4725316	7651432
6347251	7452136	6754123
3642715	4751263	6571432
3467251	4572136	5674123
		&c.

This peal is founded upon the principle of Stedman's upon five bells, the slow work, dodging, &c., being in every respect the same; the only difference necessary to be explained is making the bobs and singles, which are generally upon the three hindmost bells at the parting of the sixes.

At a bob, the bell dodging in four-five going up makes fifth's place, when its position is immediately changed to that of four-five coming down at which time the two hindmost bells dodge six changes extra, (see the treble and fifth,) which alter their course in going quick or slow, inasmuch as the treble will go down

again quick, and the fifth slow, and *vice versa*. The way to ascertain whether to go down quick or slow; is to observe how your course bell go down and go contrary. In the example before us, the fifth is course bell to the treble, and the second course bell to the fifth; now supposing you are dodging in four-five going down, and strike your course bell the first blow in fourth's place, it has made third's and gone slow, then you must go quick; but if you do not strike it till the last blow in fourth's, it has been quick, then you must go slow.

There is another method, independent of the course bell, which cannot easily escape the practitioner's observation, and it will be very useful upon higher numbers; that is, when going down he will readily perceive the bells that have been quick from those that have been slow, by the time and positions met in when going up, then if he dodges with any bell that has been quick, must go quick too; if he passes them without dodging he must go slow. When a single is made, the bell dodging in four-five going up, does the same as at a bob; and the bell that has completed its last dodge behind, makes sixth's place and recommence the first dodging position again, because that in seventh's place is not affected by the single, but proceeds with the work as though there had been none called.

MAJOR,

OR METHODS ON EIGHT BELLS.

Plain Pcb.	Double Pcb.	Double London Ct. Bob.
12345678	12345678	12345638
21436587	21436587	21436587
24163857	24163857	24163857
42618375	42618375	42618375
46281735	46281735	24681357
64827153	64827153	42863175
68472513	68472513	48236715
86745231	86745231	84327651
87654321	68472531	48372561
78563412	86745213	84735216
75836142	87654123	87453126
57381624	78561432	78541362
53718264	75816342	87514326
35172846	57183624	78153462
31527486	51728264	71835642
13254768	15372846	17386524
12527486	15738264	13768542

The first and second of the preceding methods are so similar to Plain and Double Bob Minor that it is unnecessary to make any further remarks upon them, as an examination of the given leads will be quite sufficient for the student's purpose, when he can adopt the rule of ringing either by meeting the treble or the course method according to that he considers most familiar to him.

DOUBLE LONDON COURT BOB.

This peal consists of single dodging before and behind, before and after leading and laying the

pull, unless the treble interferes, when of course the dodge must be omitted. The place-making is thus: the bell the treble takes off the lead, makes sixth's, third's, & sixth's, and hunts down after her; and the bell she turns from behind makes third's, sixth's, & third's, and hunts up after her.

The bob is made upon the three hindmost bells, thus; the bell going to make sixth's place, instead of so doing, runs quick out behind, for which reason the two hindmost bells omit the dodge; and the bell that falls into sixth's place finishes the place-making of the bell that was called up.

Norwich Court Bob.	Double Norwich Court Bob.	Double Oxford Bob.
12345678	12345678	12345678
21436587	21436587	21436587
24135678	24135678	24135678
42316587	42316587	42316587
24361578	24361578	24361578
42635187	42635187	42635187
24365817	24365817	24365817
42638571	42638571	42638571
46283751	46283751	24365871
64827315	64827315	42638517
68472135	46287135	24368157
86741253	64821753	42631875
87614523	68412735	24613857
78165432	64187253	42168375
71856342	68427135	41263857
17583624	16847253	14628375
15738264	18671523	14263857

NORWICH COURT BOB.

To ring this method it must be observed, the bell the treble takes off the lead, makes fourth's and third's, dodges in three-four, and hunt up behind; and that passing the treble in two-three, dodges in five-six, makes sixth's, fifth's, and up; whilst the places are making, there is double dodging before and behind: the bell that falls into sixth's place at the lead end, dodges in five-six and three-four in its way down

In the Double method, places are made from behind in addition to those of before, namely, the two bells which the treble parts from behind, make third's and fourth's, fifth's and sixth's, dodge, &c.; these extra conditions cause regular dodging before and behind, except the treble interferes, when it is necessarily omitted. The bob is made on the three hindmost bells, thus: the bell dodging in five-six going up, makes sixth's place, and the two bells behind continue dodging till the treble parts them.

Notwithstanding this Double Court is full of work, the practitioner can simplify it by considering that the two bells which the treble

parts from before or behind are the place-making bells, and those it leaves before or behind are the dodging bells.

DOUBLE OXFORD BOB.

Those practitioners who are experienced in the preceding method will find but little difficulty in performing this, the extra dodging being occasioned by the additional places, second's and seventh's, when the treble is before and behind, which will be evident by comparing the work of a treble lead of one with that of a treble lead of the other.

VARIATIONS OF TREBLE BOB.

Oxford Treble Bob.	Kent Treble Bob.	Imperial.
12345678	12345678	12345678
21436587	21436587	21436587
12435678	12435678	12436578
21346587	21436587	21435687
23164857	24163857	24153867
32618475	42618375	42518376
32164857	42163857	24158367
23618475	24618375	42513876
26381745	26481735	45231786
62837154	62847153	54327168
62381745	62481735	45321786
26837154	26847153	54237168
28673514	28674513	52473618
82765341	82765431	25746381
82673514	82674513	52743618
28765341	28765431	25476381
27856431	27856341	52743681
72584613	72583614	25476318
72856431	72856341	52473681
27584613	27583614	25746318
25748163	25738164	27564138
52471836	52371846	72651483
52748163	52738164	27654138
25471836	25371846	72561483
24517386	23517486	75216843
42153768	32154768	57128634
42517386	32517486	75218643
24153768	23154768	57126834
21435678	21345678	51762384
12346587	12346587	15673248
21345678	21435678	51763284
12436587	12436587	15672348
14263857	14263857	15763284

The practitioner will see by comparing the Oxford and Kent Treble Bob methods with those upon six bells, that such similarity exists as to render any more instructions upon them unnecessary, the slow hunt, place-making, &c., being the same.

IMPERIAL.

To ring this method, and more particularly the three following Surprise peals, will require much skill and well-directed practice in the individuals who attempt them. The experienced practitioner will, by an examination of the given leads, be enabled to form more definite ideas of the rules to be adopted in ringing them than any written statement could possibly convey, which must of necessity be long and complicated: besides it would occupy more space than could consistently be devoted to this part of the subject, without furnishing an adequate degree of utility.

Cambridge Surprise. 12345678	Superlative Surprise. 12345678	London Surprise. 12345678
21436587	21436587	21354768
12463857	12463578	12537486
21648375	21645387	21573846
26143857	26143578	25178364
62418375	62415387	52713846
62148735	26145837	52178364
26417853	62418573	25713846
62471835	26481537	52731486
26748153	62845173	57234168
27641835	68241537	75321486
72468153	86425173	73524168
27648513	68245713	37254618
72465831	86427531	32745681
74256813	68472513	23476518
47528631	86745231	24367581
74256831	68472531	42637851
47528613	86745213	46273815
45782631	68754231	64728351
54876213	86572413	67482315
45786123	68752143	76842135
54871632	86571234	78641253
58476123	85672143	87462135
85741632	58761234	84761253
58714623	85716243	48716523
85176432	58172634	84175632
85716342	85712364	84716523
58173624	58173246	48175632
51876342	51872364	41876523
15783624	15783246	14867253
51738264	51738264	41682735
15372846	15372866	14628375
15738264	15738244	14263857

CATERS,

OR METHODS ON NINE BELLS.

Plain Bob.	Grandsire.	Double Grandsire.
123456789	123456789	123456789
214365879	213547698	213547698
241638597	231456789	231456789
426183957	324165879	324165879
462819375	342618597	342618597
648291735	436281957	436281957
684927153	463829175	463829175
869472513	648392715	648392715
896745231	684937251	684937251
987654321	869473521	869473521
978563412	896745312	684937512
795836142	987654132	869473152
759381624	978561423	896741325
573918264	795816243	987614235
537192846	759182634	978162453
351729486	571928364	791826543
315274968	517293846	719285634
132547698	152739486	172958364
135274968	125374968	127593846

STEDMAN'S PRINCIPLE.

123456879
213547698
231456789

324165879	436281957
234618597	463829175
243165876	643281957
423618597	634829175
432165879	364281957
342618597	346829175

The foregoing methods so nearly resemble those given upon seven bells, that it would be useless to trouble the reader with any remarks upon them, but commence immediately on the next number of bells; now having the nine digits employed, it will be expedient to adopt three additional characters as representatives of 10th, 11th, and 12th, for to avoid confusion, each bell must be known by a single character, 0, x, & z, are therefore selected for the purpose.

ROYAL,

OR METHODS ON TEN BELLS.

As the Plain, Double, and Treble Bob methods upon ten bells are so easily derived from those given on eight, they are for that reason omitted in this place; but as the Courts differ materially on each number of bells, the following leads are inserted for the practitioner's inspection.

The Double method being considered rather intricate, a few hints relating to its practical rules may not be unacceptable to the young practitioner.

Norwich Court Bob.	Double Norwich Ct. Bob.
1234567890	1234567890
2143658709	2143658709
2413567890	2413567890
4231658709	4231658709
2436185078	2436185079
4263810597	4263810595
4628301579	4628301578
6482035197	6482035197
4628305917	4628305917
6482039571	6482039571
6840293751	6840293751
8604927315	8604927315
8069472135	6840297135
0896741253	8604921753
0987614523	8069412735
9078165432	0896147253
9701856342	8091674523
7910583624	0819765432
7195038264	0189674523
1759392846	1098765432
1573920486	1907856342

The work of this peal consists of single dodging before and behind, both before and after leading or laying the pull except the treble interferes. The places made from before are fourth's and third's, and eighth's and seventh's; the former are made by the bell that the treble takes off the lead, and the latter by the bell meeting her in two-three; in both cases the

place-making bells dodge in five-six: a similar rule is to be observed from behind, *i. e.* seventh's and eight's are made by the bell the treble turns from behind; and the bell meeting her in eight-nine, makes third's and fourth's, each dodging in five-six, as observed of those from before. The next point is, any bell that is not concerned in the place-making, invariably dodge in two places, which depend upon the position the treble is in; therefore knowing where to omit the dodge, previous to meeting the treble, is of much importance. which is thus: the bell that takes the treble off the lead, omits the dodge in seven-eight; the next bell from before omits it in five-six; and the third from before omits it in three-four; and in like manner from behind.

The bob is made on the three hindmost bells and the dodging is similar to Court Bob Minor.

CINQUES,

OR METHODS ON ELEVEN BELLS.

Double Grandsire.	Stedman's Principle.
1234567890ɤ	1234567890ɤ
21354769 8ɤ0	21354769 8ɤ0
2314567890ɤ	2314567890ɤ
3241658709ɤ	3241658709ɤ
342618507ɤ9	234618507ɤ9
43628105ɤ79	2431658709ɤ
4638201ɤ597	423618507ɤ9
648302ɤ1957	4321658709ɤ
68403ɤ29175	342618507ɤ9
8604ɤ392715	43628105ɤ79
806ɤ1937251	4638201ɤ597
08ɤ69473521	64328105ɤ79
806ɤ1937512	6348201ɤ597
08ɤ69173152	36428105ɤ79
0ɤ896711325	3468201ɤ597
ɤ0987611235	
ɤ9078162453	
9ɤ7018265 43	
97ɤ1028 5634	
791ɤ2058364	
7192ɤ503846	
17295ɤ30486	
127593ɤ1068	

The plain methods of Cinques are not inserted, as they are so easily obtained from the Caters, to which the student is now referred. What has been said upon them is equally applicable to these, there being no other difference than the additional bells.

MAXIMUS,

OR METHODS ON TWELVE BELLS.

Court Bob.	Double Court Bob.
1234567890yz	1234567890yz
2143658709zy	2143658709zy
2413567890yz	2413567890yz
4231658709zy	4231658709zy
243618507z9y	243618507z9y
42638105z7y9	42638105z7y9
4628301z5y79	4628301z5y79
648203z1y597	648203z1y597
68402z3y1957	68402z3y1957
8604z2y39175	8604z2y39175
806z4y293715	806z4y293715
08z6y4927351	08z6y4927351
0z8y69472531	0z8y69472531
z0y896745213	z0y896745213
zy0987654123	0z8y69475123
yz9078561432	z0y896741532
y9z705816342	zy0987614523
9y7z50183624	yz9078165432
97y5z1038264	y9z701856342
795y1z302846	9y7z10583624
7591y3z20486	97y1z5038264
57193y2z4068	791y5z302846
517392y4z608	7195y3z20486
1537294y6z80	17593y2z4068
13527496y8z0	157392y4z608

Norwich Court Bob.	Double Norwich Ct. Bob.
1234567890yz	1234567890yz
2143658709zy	2143658709zy
2413567890yz	2413567890yz
4231658709zy	4231658709zy
2436185907z9y	2436185907z9y
4263805z7y9	4263805z7y9
4628301z5y79	4628301z5y79
6482031z1y597	6482031z1y597
6842032z3y1579	6842032z3y1579
8604z2y35197	8604z2y35197
6840z2z3y5917	6840z2z3y5917
8604z2y39571	8604z2y39571
806z4y293751	806z4y293751
08z6y4927315	08z6y4927315
0z8y69472135	806z4y297135
z0y896741253	08z6y4921753
zy0987614523	0z8y69412735
yz9078165432	z0y896147253
y9z7018563142	zy0981674523
9y7z10583624	yz9018765432
97y1z5038264	zy9107856312
791y5z302846	yz1970583624
7195y3z20486	y1z9078563142
17593y2z4068	1y9z7058362 4
157392y4z608	19y7z5038264

The first method of Court will be found very simple in its construction. The bell which the treble takes off the lead, makes fourth's, third's, and up; the fourth's place causing the eight uppermost bells to make a single dodge, and the third's place a single dodge upon the two bells the treble leaves before.

In the second method the additional places, ninth's and tenth's, are made by the bell which the treble turns from behind, the former place causing single dodging on the eight foremost bells, and the latter, a single dodge upon the two bells which the treble left behind.

NORWICH COURT BOB.

In this peal, the bell which the treble takes off the lead, makes fourth's and third's, and that meeting her in two-three, makes tenth's and ninth's, the former places causing a single dodge on the eight uppermost bells, and also upon those two bells the treble left before; but when the latter places are made, a dodge is made on the two bells behind, which is immediately followed by a single dodge upon those eight bells below.

DOUBLE NORWICH COURT BOB.

The ringing of this peal is so extremely intricate as to render it impossible for any but the most experienced practitioners to accomplish it, that to attempt to lay down rules for its performance might be deemed impertinent and unnecessary. The writer is well aware that

those persons, by merely inspecting the method know how to deal with it quite equal to the most elaborate instructions that could be given upon that part of the subject.

The student having progressively gone through the elementary part, from whence the practical rules of ringing are derived, his attention will now be directed to the principles of the science: namely, composing, proving, and calling peals, the particulars of which will be inscribed in the following sheets; but previous to this it is requisite he should be apprized that upon any number of bells there are half the changes which are termed in course, and half out of course; the former division are of the same nature as the round, and the latter diametrically opposite to it, *i. e.* such as will come only within two bells of round, or can be brought to that state by transposing by fours, which have the effect of retaining them in the same course they were in the preceding change, as the following examples are intended to show.

In and out of course of the changes.

Example 1.	Example 2.	Example 3.
123 In course	1234 In course	12345 In cors.
213 out	2134 out	21354 in
231 in	2314 in	23145 in
321 out	3241 in	32415 in
312 in	3421 out	34251 in
132 out	4312 out	43521 in
123 in	4132 in	45312 in
	1423 in	54132 in
	1243 out	51423 in
		15243 in
		12534 in

Example 4.	Example 5.	Example 6.
123456 in	1234567 in	12345678 in
213546 in	2135476 out	21354768 out
231456 in	2314567 in	23145678 in
324165 out	3241657 out	32416587 in
342615 out	3426175 in	34261857 out
436251 in	4362715 out	43628175 out
463521 in	4637251 in	46382715 in
645312 out	6473521 out	64837251 in
654132 out	6745312 in	68473521 out
561423 in	7654132 out	86745312 out
516243 in	7561423 in	87654132 in
152634 out	5716243 out	78561423 in
125364 out	5172634 in	75816243 out
	1527364 out	57182634 out
	1253746 in	51728364 in
		15273846 in
		12537486 out

By referring to the third example, the fact of four bells changing not altering the course is sufficiently established, as every change is in course; but in the first and fifth examples, the reverse case manifests itself; namely, if two or six bells change, it alters the course inasmuch as each change is alternately in and out of course. The second and sixth examples are also alike in their operation, showing that two and four bells changing alternately, have the same effect as six and eight changing in the same manner. From these simple principles the following inference is drawn; if four, or any multiple of four, change places, the change is retained in the same course; but any number changing that is not divisible by four without a remainder, put them out of the course they were in the preceding change. In the same manner it may be shewn from the fourth example, that six and ten bells are similar in their effect.

When the student has made himself acquainted with these particulars, he will be enabled to ascertain the state of the two courses of changes in any method whatsoever, on which is founded the only true basis of composing and proving the truth of peals.

On the Terms Bob and Single.

The term bob, in its general acceptation, denotes an alteration in the course of the bells, which in some methods will carry out the changes to the extent admitted by the number of bells; but in other methods, when the in and out of course changes are differently disposed, it is necessary to have a single to turn the course of the changes; see Example 3, where every change is in course, and consequently not any of the half out of course could be obtained without this alteration; namely, reversing the work of two bells. Each of those alterations will be distinctly noted; the bobs by a dash (-) and the singles by the letter (s) immediately opposite the changes to which they apply.

Commencing with the following peals in the plain method, which are each divided into three equal parts, the practitioner must observe that the time for calling is when the treble strikes into second's place, prior to coming to lead, in order to give sufficient time to prepare for making the bob. These are given by the back stroke leads of the treble, which being so understood it would be superfluous to introduce it.

DOUBLES,

OR COMPOSITIONS ON FIVE-BELL METHODS.

PLAIN BOB.

120	120	120	120
3524	3524	3524	3524
5432	5432	5432	-3542
4253	4253	-5423	5234
s2453	-4235	4352	2453

Each twice repeated.

These peals will serve for Simon's and New Doubles.

GRANDSIRE.

120	120	420
2534	2534	2534
-3425	s4325	-3425
3542	4532	3542
-4235	-3245	s2435
4523	3524	2543
s3245	-2435	-4325

Each repeated.

This method having a bell in the hunt with the treble, the bobs and singles must be called one change sooner than in the foregoing peal. The same rule applies to all Grandsire ringing.

STEDMAN'S SLOW COURSE.

120	120	120
-4253	5234	5134
3425	s5423	-3542
5342	s5342	-4325
2534	2534	-2453

Each twice repeated.

In the above method, it is requisite to call the bobs as in Grandsire ringing, but the singles one change later,

STEDMAN'S PRINCIPLE.

120	120	120
12345	12345	12345
21345	21354	21354
23145	23145	23145
34251	34251	34251
34512	s34521	34512
41325	42315	41325
41253	42153	41253
15432	25431	15432
15324	25314	15324
52143	51243	52143
52431	51432	s52413
23514	13524	21534
s23154	13245	21345

Each to be repeated.

These peals are given by the last change of each six from the line across. As two sixes (a slow and quick one) comprehend the rule, as a treble lead does in other methods, the course

will be produced by multiplying twelve by the number of bells in peal. The single is made by the two hindmost bells lying still.

MINOR,

OR COMPOSITIONS ON SIX BELL METHODS.

PLAIN BOB.

EXAMPLES OF TREBLE LEADS.

216	240
-23564	-23564
-23645	36245
34256	64352
-34562	45623
-34625	-45236
42356	-45362
-42563	56423
-42635	62534
s24356	23645
	s32456

Repeated.

The following peals are given by the bob changes.

720	720	720	720
23564	64235	s32564	-23564
45236	64352	45326	s25364
45362	23645	45263	-32564
34562	62345	24563	s35264
25346	62453	35246	-42356
25463	54623	35462	
12563	63425	43562	This twice repeated.
35426	63254	25436	
35264	12635	25364	
s24356	s24356		

Each of these to be repeated.

The observation for calling the first of the preceding peals of 720, is a bob every time the tenor dodges behind, unless the fifth is with her: and the second peal, when the fifth is behind without the tenor; these will be a sufficient guide to calling the others. The next two peals are each divided into two parts, and are produced with the least number of calls possible these are from the collection of Mr. Woods.

720	720
s32564	s24356
-53264	-32456
s52364	s23564
-35264	-52364
-42356	s53264
s43256	-25364
-24356	-43256

720

123564	132564
465213	465321
153264	145236
142536	145362
154236	134562
154363	125346
456123	125463
135462	142563
143562	135426
125436	135264
125364	

The last peal inserted in this method is on a peculiar plan, by that eminent composer the late Mr. John Holt, of London. He has produced it without singles by calling the treble into the bobs; the first bob in which the treble is concerned, it dodges behind, which, by adding two changes to the lead, put the treble leads out of course, in which state they remain till she dodges behind at her third bob, which also adds two changes to the lead, and put the treble leads into their original state. The second bob in which the treble is concerned, it makes fourth's place, which shortens the lead four changes, counteracting the four changes added by her two dodges. By referring to the rules in page 42, it will appear that this method has alternately two changes out, and two in course, consequently when the treble makes a dodge, thereby adding two changes to the lead, that her leading must be thrown out of course: hence the effect of a single is produced.

If the bells happen to get misplaced, they may be called round by the following rule: if all apart, call the fifth up till the tenor dodges behind prior to laying her pull, which will bring the tenors together; the next lead, see whether the changes are in or out of course; if in course, call the fifth down till the third makes fourth's place, when the bells will be in

plain course; but if out of course, call the fifth down till the fourth make fourth's place, and they will come round with a single. From this example, the practitioner may arrive at the plan of calling other peals round, as it would occupy too much space to dwell upon this in the other methods.

The following are the first part of each peal in the various methods with the treble plain hunt, which, being twice repeated, completes the first half, when by calling a single and repeating, the 720 changes of each will be produced. (See Bob Minor.)

The Double Stedman's Slow Course is an exception to this rule; the singles must be omitted at the half-way and end.

Double Bob and Oxford Bob. 720	Court Bob. 720	Double Court Bob and Stedman's Slow Course. 720
56342	35264	56342
42635	56342	42635
-23564	-64235	35264
64352	43652	-64235
-45236	35426	35426
36524	52364	-26435
24653	-26435	35642
-45362	-63542	42563
62534	34625	-63542
34256	42356	42356

Double Oxford Bob. 720	Double Stedman's Slow Course. 720
42635	35642
64523	s45263
56342	56324
-23564	62435
-45236	23546
24653	s43652
62345	s53264
36524	36425
-45362	62543
34256	s42356

VARIATIONS OF TREBLE BOB.

The following are the first part of each peal of the Treble Bob methods, each of those are to be twice repeated to produce the 720; and as the Oxford and Kent methods have the plain and bob leads of the former like those of the latter,

the same calling will do for either. The usual way of this is by calling the tenor in and out of the hunt, unless the fifth is with her; but a variety of peals may be obtained by changing the observation bells. The other peals having a bell lay next the treble at the plain lead, will require to be called when the tenor is behind without the fifth, similar to the half-peal of Bob Minor.

Oxfd. & Kent Treble Bob.

720

42635
-64235
-26435
42563
54326
35642
-63542
56234
25463
42356

College Exercise.

720

64523
-23564
45623
36245
-45236
62345
-45362
23645
56423
34265

Imperial.

720

-23564
36245
64352
45623
-45236
-45362
56423
62534
23645
34256

Cambridge Surprise.

720

56342
42635
-23564
64352
-45236
36524
24653
-45362
62534
34256

Superlative & London Surprise.

720

42635
64523
56342
-23564
-45236
24653
62345
36524
-45362
34256

TRIPLES,

OR COMPOSITIONS ON SEVEN BELL METHODS.

PLAIN BOB.

To call two courses, with the seventh the observation, a bob must be called when she dodges in five-six, either going up or down, and when laying behind; and for five courses, call when she dodges in five-six both up and down; for another touch of five courses, call the two foregoing places, and when she lays behind; this, in the language of the belfry, is termed, middle, wrong, and home.

The two examples of treble leads contain respectively, the Queen's and Tittum changes, they are in three equal parts. The meaning of Queen's and Tittums is; in the former the bells are in the position of chords of thirds, and the latter in chords of fifths.

252	336
-235746	352746
372654	573624
763425	765432
-764532	647253
657243	-642375
526374	436527
	354762
	-357246

Musical Touches.

476 — m. 4ts in w. h.

32546 s -
24536 - - -
43526 - - -
23546 s - -
34526 - - -
42536 - - -
23456 -

Extent of Tittums.

476 — m. 4ths w. h.

64523 -
23564 - -
34562 - - -
24563 - - s
43562 - - -
32564 - - -
45263 - -
23456 - - s

Extent of Tittums reversed.

532 — .4ts in w. h.

23546 - -
34526 - - -
42536 - - -
32546 s - -
24536 - - -
43526 - - -
32456 -
23456 - - - s

Extent of Tittums.

630 — m. 4ts in w. h.

23546 - -
34526 - - -
42536 - - -
32546 s - -
24536 - - -
43526 - - -
25346 s
42356 -
23456 - - -

Half-quarter peal, only one single.

728 — m. 4ths w. h.

64523 -
25463 - -
45362 -
35264 -
24356 - - s

Repeated.

812 — m. 4ts in w.

23546 - -
42536 -
34526 -
45326 - - -
24356 -

Repeated.

924

52346 M. in H.
43256 4ths W.
32456 M. 4ths W.
25346 in

1092

52346 M. in H.
43256 4ths W.
32456 M. 4ths W.
25346 in
43526 4ths W.

Each twice repeated. H. H.

These touches are all adapted to the 7th as the observation; observe, the middle occurs 1st lead or lead after course end. and the wrong the lead before course end.

1260	1260	1260
35246 In	52346 m. in h.	23546 m. in
42536 4th's w.	43256 4th's w.	45326 4th's w.
25436 m. 4th's w.	32456 m. 4th's w.	53426 m. 4th's w.
25346 m. in	25346 in	32546 in
43526 4th's w.	43526 4th's w.	45236 4th's w.
35426 m. 4th's w.	35426 m. 4ths w.	52436 m. 4th's w.

In each of the above Quarter-peals the 6th and 7th are 18 times home.

1260	1260	1260
26345 m. 2 ot. 3 in	36542 2 out 3 in	23546 in h.
53426 4th's	25436 4th's	36542 m. 4th's h.
26543 2 out 3 m. w.	36245 2 o. 3 in w.	25643 m. 4th's
35426 4th's	52436 4th's	53246 out
		36245 m. 4th's h.
18, 4-6's, 6, 7-4's, and 6, 6-7's.	As the preceding.	52436 4th's
		15, 7-4's 9, 6-7's.

1260	1260	1260
43652 w.	43652 w.	43652 w.
35642 4th's w. h.	52643 4th's h.	52643 4th's h.
63542 h.	65243 h.	65243 h.
25346 w. h	25346 w.	32546 w. h.
43526 4th's w.	43526 4th's w.	45236 4th's w.
35426 m. 4th's w.	35426 m. 4th's w.	52436 m. 4th's w.
6, 4-6's, 9, 7-4's, & 9, 6-7s.	These two as the preceding.	

Each twice repeated. H. H.

5040*

	1	5	6	
45236	-		-	
24536			-	
52436			-	
64523	-	-	-	
56423			-	
45623			-	H. H.

This course of bobs nine times repeated, with the exception of singles being substituted at the thirtieth and sixtieth course ends, complete the peal. These will answer for New Bob Triples also, the treble leads being the same.

GRANDSIRE.

This method being much esteemed and extensively practised, the following variety is given.

377	378	420
s572634	752634	345267 s. before b. home
345267	347265	425367 before and w.
243756	653724	235467 before and w.
432756	476253	32546 { before and w. / s. m. bef. & w.
s234756	654732	
342756	276354	24536 before and w.
423756	652743	34625 before and h.
s764523	376452	23456 in, out at two, h.
357264	s423576	
	234576	All the 7-5-6's.
Round next lead.	342576	
	653742	
The six 7-5-6's.	s246375	
	The six 5-7-6's.	

* This peal was rung at St. Mary's church, Hunslet, April 15th, 1866, in 3 hours 28 minutes, conducted by James Haigh. Tenor 22 cwt.

434

345267 s. bef. bob H.
42536 before and w.
23546 before and w.
43526 s. before
32546 before and w.
24536 before and w.
52436 in and out
23456 before and w.

Extent of Tittums.

447

35426 before and w.
43526 in and out
32546 before and w.
24536 before and w.
34526 s. before
42536 before and w.
23546 before and w.
-742635
-357264

Extent of tittums, round at hand.

1260

26543 in & out at 3
52643 in and out
65243 in and out
25346 w.
54326 before and w.
43526 H.
35426 H.

Twelve 7-4's & twelve 6-7's.
H. H.

447

35264 in & out at 2
25463 w.
45362 w.
25364 single w.
35462 w.
45263 w.
-764352
-237564
-642753
-376542

Round at 2. All the 5-7-6's.
Tittums reversed.

1092

26543 In & out at 3
52643 in and out
65243 in and out
25346 w.
54326 before and w.
35426 in and out

The twelve 7-4's.

1386

34256 H.
45236 before and w.
53246 before and w.
23645 w.
63542 w.
56342 in and out
24653 before
52436 in, out at 2. H.

Twelve 7-4's, 12, 4-6's, & 12, 6-7's.

1316

34526 s. before bob H.
45326 H.
53426 H.
32456 before and W.
25436 before and W.
54236 H.
42536 H.
23546 before and W.
35246 H.
52346 H.
24356 before and W.
43256 H.

Repeated. The 24, 6-7's.

1638

54632 W. M.
36245 in & out at 4
23645 in and out
63542 W.
53246 W.
34256 before and W.
45236 before and W.
52436 H.

The twelve 4-6's, twelve 7-4's, and twelve 6-7's.

Twice repeated.

H. H.

The following touches are given by the bob cahanges, divided inio three equal parts.

672	882	1260	1344
752634 1	752634 1	752634 1	752634 1
467325 1	237546 3	237546 3	347265 2
754623 3	742365 3	742365 3	243576 5
367254 1	537642 1	537642 1	432576 4
673254 4	635274 5	635274 5	764253 2
426573 1	356274 4	356274 4	327564 1
674235 3	423756 1	673542 3	643752 2
526374 1	354267 3	256473 1	526374 2
53246		452367 5	675243 3
	The twelve	524367 4	326475 1
Part end.	7-4's		673254 3
	with Queen's		426573 1
	and Tittums.		524367 3

H. H.

The following peal is an elaborate production of Mr. Holt's; it is in ten parts of 504 changes each, by the bob changes as follows :—

5040.*

752634 [1]	642735 [1]
347265 [2]	746523 [5]
243576 [5]	547362 [5]
542637 [5]	345276 [5]
765342 [1]	763524 [2]
367254 [5]	567432 [5]
543726 [2]	245367 [1]
745632 [5]	342756 [5]
647253 [5]	743625 [5]
2 846375 [5]	257364 [2]

THE SINGLES.

midway { 325476 / 235476 } { 324567 / 234567 } end.

Method of conducting this peal; the second being the observation.

FIRST HALF.	SECOND HALF.
Out of the hunt	Out of the hunt
One in the middle	One the wrong
Into the hunt	One right
Out at five leads	One the middle
One right	One wrong
One the middle	One the right
One the wrong	Into the hunt
One right	Out at five leads
One the middle	One the wrong
Into the hunt	Into the hunt

* This peal was rung at Christ's Church, Spitalfields, in the year 1851, by eight members of the College Youths, London, without calling or the slightest intimation of the calls given.

DOUBLE GRANDSIRE.

672	756	840
275634	275634	275634
-342567	-342567	-342567
-673254	-673254	-673254
-546327	-546327	-546327
573246	573246	573246
-465327	562473	562473
-274536	-735246	-735246
265374	762435	762435
243765	-357246	-357246
-652374	362457	-463725
-746235	374562	457263
752346	325674	432657
-467235	-743562	-574263
452367	725643	532674
473652	736425	-745263
-524367	754236	732645
	-367425	756432
	354267	724356
		-567432
		524367

1050	1176
342567 2	462375 4
423567 2	534762 3
674352 1	345762 2
236574 3	623574 1
362574 2	746352 1
743256 1	237546 3
627543 3	372546 2
276543 2	463257 1
432657 1	574326 1
574263 1	745326 2
745263 2	267534 1
567432 4	342756 1
5243	423756 2
	354267 4
The twelve 7-4's.	The twelve 4-6's.

Each of the preceding touches are in three equal parts, which will be seen by observing the part ends where 4, 6, 7 are at home; these are given by the back stroke treble leads, as examples for young practitioners. The 5040, by Mr. Holt, is similar to his peal in the single method, the principal difference consisting of an additional bob with the observation bell before.

5040

672453 [1]	762543 [1]
536247 [1]	567324 [5]
235764 [5]	365472 [5]
732456 [5]	463257 [5]
647532 [3]	574326 [1]
326754 [1]	425763 [4]
653247 [4]	634572 [1]
476325 [1]	256734 [3]
374562 [5]	752463 [5]
573246 [5]	457326 [5]
275634 [5]	264735 [1]

THE SINGLES.

midway { 325476 / 235476 } { 324567 / 234567 } end.

STEDMAN'S PRINCIPLE.

To call two courses of this method, two bobs in succession in any part of the course repeated does it; for three courses a bob upon any three bells twice repeated; and for five courses a plain six between two bobs four times repeated. The following are given by the last change of each six as examples for the young practitioner. As the sixes are not generally commenced from rounds but from the second change, 2314567, it is placed at the head of the column to commence pricking from.

60	77	84	94
2314567	2314567	2314567	2314567
-3425167	s3425176	3426175	3426175
-3451267	3457261	3467251	3467251
4136572	-4732561	-4732651	4735612
-4165372	4726315	-4726351	4751326
1547623	7641253	7645213	7142563
1572436	7615432	7651432	7126435
-5214736	6573124	-6174532	-1674235
5243167	-6531724	-6145732	-1642735
-2315467	5162347	1563427	6213457
-2314567	-5123647	1532674	6235174
	1354276	5217346	-2561374
	-1342576	-5273146	-2513674
	-3215476	-2351746	5227146
		2314567	-5371246
			-3152746

The next are given by the bob sixes, the two figures above and below the change are intended to shew on which six the bob is made, as the first is a slow six, the second a quick one.

216	216	252
2314567	2314567	2314567
3425167	7143526	3425167
3451267	71	34
2365174	1274365	4632571
2351674	1243765	46
31	3521674	6743215
3175264	35	67
1532746		3521674
15		35

Repeated.

312

2314567
3425167
34
46
4765312
6543712
65
5164327
5143627
13
1324576
3415276
34
72
7216453
2674153
26
5162374
5123674
13
1372546
3215746
32

These two twice repeated.

480

2314567
3425167
34
4632571
4625371
12
1243576
2315476
23
3721564
3715264
41
4132567
1245367
12
2614573
2645173
34
3121576
4135276
41
1743562
1735462
75
7563124
5371624
53
32
3241567

Each to be repeated.

Curious and Musical Touches.

408	408	480	432
3425167	1674235	3425167	3461275
3451267	3261574	4632571	5632174
2365174	3215674	4625371	2465713
2351674	2571346	6572413	4135276
3175246	5123746	5264713	6342571
1532746	1452367	2134576	Plain six.
2674153	1423567	1425376	2154367
5162374	5162374	4712563	Part end.
5123674	5123674	4725163	
1372546	1372546	3241567	Twice repeated.
3215746	3215746	2135467	
Plain six.	Plain six.	1623574	
3254167	3254167	1635274	
Part end.	Part end.	4312576	
		3245176	
		2734561	
		2745361	
		1423567	H. H.

Repeated.
The 24 5-7-6s and 5-6-7s.

504	756	1260
1674235	1674235	7143526
1675243	1675243	6421375
4273651	1673254	6437521
	5274631	6475321
P. S. P. E.		7246135
2351467	P.S. P.E.	2671435
	2431567	
		P.S. P.E.
		6354271

Each twice repeated. Four times repeated.

The three following are quarter-peals, the first having the six-seven ten times the wrong way and five times the right. In the second, the seventh and fourth are together behind fifteen times : and the third has the six-seven fifteen times right containing Tittums and Queen's, the latter immediately following the former. These are composed in five equal parts The second and third are so simple in their construction as to be easily comprehended by the young bob-caller Taking the second for example. by observation of the seventh, it is called thus-—

Last whole turn, first bob.
First whole turn, second bob.
Down slow a double, third and fourth bobs.
Down quick a double, fifth and sixth bobs.

whichcompletes the first part. Thesixth is the observation bell in the third, and it runs thus:—

Down quick a double, first and second bobs.
Last whole turn, third bob.
First whole turn, fourth bob.
Double slow a double, fifth and sixth bobs.

1260	1260	1260
7143526	1674235	34
71	16	34 31275
12	57	41 32675
1263754	5736412	41
1275463	5741236	2567413
12	5712436	25
71	13	36
7146325	1375642	3615724
16	3516742	3672415
1624753	35	3624715
43		
4375621		

1st part end	352146	356412	523146
2nd ,,	543216	512463	452316
3rd ,,	415326	163425	145236
4th ,,	124536	625431	314526
5th ,,	231456	231456	231456

H. H.

The last change of each part of the three touches is given, for, when conducting, the bob-caller should at least make himself acquainted with the part ends, and, when more experienced, such prrticular course ends as will enable him to ascertain whether the work is going on correctly.

The next is a complete half-peal, divided into five equal parts, the production of a gentleman who was a great lover and patron of the art inasmuch as he (at the expense of several thousand pounds) erected a splendid tower in his park,

which he furnished with a peal of twelve bells upon which he used to practice his interesting and favourite amusement.

2520*

3425167	5473216
34	54
6143725	12
61	1276435
1264357	2614735
12	26
1267345	6321457
12	63
1265374	3562174
12	35
2716543	57
27	5742316
5647123	2675134
56	26
2165347	5413267
2153647	54
	621345 part end.

J. P. Powell, Esq, Quex Park, Isle of Thanet, Kent.

The following is an ingenious production of Mr T. Tharstan, Birmingham given by course-ends. It contains 240 bobs and two common singles; the latter called at Nos. 14 and 2.

* This half-peal was rung in Norwich upon handbells, [retained in hand,] by four of St. Peter's company, in 1831, conducted by Mr. S. Thurston. Its truth was attested by competent judges with the sixes before them. Time of performance, 1 hour 17 minutes by the following persons.

S. Thurston, treble & 2nd — F. Watering, 5th and 6th
H. Hubbard 3rd and 4th — J. Hurry, 7th and tenor.

231456

*5040.

246351 3 4—7 8	236514 3 4—7 8
432561 3,4,5,6—12 13	352164 3,4,5,6—12 13
342516 5 6	532146 5 6
356412 3 4—7 8	516342 3 4—7 8
543162 3,4,5,6—12 13	135462 3,4,5,6—12 13
453126 5 6	315426 5 6
416523 3 4—7 8	216435 3 4
154263 3,4,5,6—12 13	142365 3,4 5,6—12 13
514236 5 6	412356 5 6
526134 3 4—7 8	436152 3 4—7 8
215364 3,4,5,6—12 13	314562 3,4,5,6—12 13
435216 5,6,7,8	134526 5 6
426315 3 4—7 8	156324 3 4—7 8
234165 3,4,5,6—12 13	531264 3,4,5,6—12 13
324156 5 6	351246 5 6
316254 3 4—7 8	326541 3 4—7 8
123564 3,4,5,6—12 13	253461 3,4,5,6—12 13
213546 5 6	523416 5 6
256143 3 4—7 8	546213 3 4—7 8
512463 3,4,5,6—12 13	425163 3,4,5,6—12 13
152436 5 6	245136 5 6
146532 3 4—7 8	346125 3 4
451362 3,4,5,6—12 13	413265 3,4,5,6—12 13
541326 5 6	143256 5 6
536421 3 4—7 8	126453 3 4—7 8
345261 3,4,5,6—12 13	241563 3,4.5.6—12 13
125346 5,6,7,8	421536 5 6
136245 3 4—7 8	456231 3 4—7 8
321465 3,4,5,6—12 13	524361 3,4,5,6—12 13
†254316 4 6, 14 17 18	‡231456 2
s	s

† This course has 26 sixes.

‡ This consists of 2 sixes.

* This peal was rung by the Society of Norwich Scholars, in 1853, at St. Michael's Coslany, conducted by Mr. C. Middleton. Time of performance 2 hours and 57 minutes.

MAJOR,

OR COMPOSITIONS ON EIGHT-BELL METHODS.

PLAIN BOB.

As the touches and peals in this method will, generally, be given by course-ends, it will be expedient to show the young practitioner the position of the tenor at the bobs which produce them: they are known by the terms, *wrong*, *before*, *middle*, and *home*, which are as follows:—

W. B. M. H.
12357486, 17864523, 16423857, 14235678;

and when he sees course-ends represented by five figures, must understand that the treble and the large bells are at home, *i. e.*, in their own places, in reference to the order of rounds. These conditions premised, I shall give the table of course ends and commence the touches.

TABLE OF COURSE ENDS.

1st.	Bob the wrong produce	52436
2nd.	,, the wrong and middle ...	42635
3rd.	,, the wrong and home... ...	45236
4th.	,, the wrong, middle, & home	64235
5th.	,, the middle...	43652
6th.	,, the middle and home ...	64352
7th.	,, at home	42356

To ring two courses, call as directed opposite the third or sixth-course end, and for three courses, as the first, fifth, or seventh. These three might properly be termed simple course-ends, each being produced by one bob, the others, compound course ends, being obtained by two or more bobs. To ring five courses, call as described opposite the second or fourth; the others are presented in figures, which, with the exception of the 800, are in the tittum position. Each of them are divided into three equal parts.

720 W B M H	720 W B M H	1056 W B M H
42563 - - -	45362 - - - -	52364 - - -
35426 - - -	34256 - -	35264 -
		42356 - - -

800 W B M	1392 W B M H	1392 W B M H
25463 - -	23564 - -	42563 - - -
45362 -	52364 -	54263 -
25364 s	35264 -	25463 -
35462 -	42356 - - -	34256 - - -
45263 -		
35264 s		
23456 - -		

1856	W	M	H
45236	-		-
24536			-
53246	-		-
25346			-
32546			-
65324	-	-	-
36524			-
45362	-	-	-
34562			-
53462			-
24365		-	-
32465			-
43265			-
52364		-	-
3526478			
5637284			
6748342			
7864523			
-7842635			
-7823456			
-7835264			
-7856342			
8674523			
6482735			
4268357			
2345678			

H. H.

1868			
12345678			
21436587			
24163857			
42618375			
46281735			
64827153			
68472135			
86741253			
87614523			
78165432			
71856342			
17583624			
17856342			
8674523			
6482735			
-6423857			
-64352	W	M	H
23645	-	-	-
42635	-		
64523	-	-	
56342	-	-	
35264	-	-	
42356	-	-	-
34256			-
25346	-		-
32546			-
51326	-		-
35426			-
43526			-
24536	-		
53246	-		-
45236	-		
23456	-		-

J. BURMAN.

1871	W	B	M	H	1872
35246	-			-	45236
23546				-	24536
52346				-	52436
34526	-			-	43526
53426				-	54326
45326				-	35426
32456	-			-	42356
43256				-	34256
43562		-		-	34562
54362				-	53462
23465			-	-	24365
42365				-	32465
34265				-	43265
52463			-	-	52364
4526378				-	3526478
5647283					5637284
-5678432					6758342
6853724					7864523
-6832547					-7842635
-6824375					-7823456
-6847253					-7835264
8765432					-7856342
7583634					8674523
5372846					6482735
3254768					4263857
2345678					2345678

H. H.

The last touches are specimens of the plan for producing any given number of changes. Now the 15th course-end being 35264, it is manifest if 3-4 lay still on going off, that 45263 will be obtained by the same calling; from either of those course-ends the bells can be brought round in eleven leads, the former at back stroke and the latter at hand. Hence the dates can be rung in this method twice in sixteen years, by adopting the above course-ends to come round from; the even numbers from 35264 and the odd from 45263; the calling of each alike, the coming round excepted.

The following peals are on the five-part plan, which will be found useful to the young bob-caller, being more easy to retain in memory than those of longer parts.

5040	W	M	H	5040	W	M	H	5040	W	M	H
64235	-	-	-	64352		-	-	43652	-		
36245	-			36452			-	63254	-		
43265	-			43652			-	56234	-		
26435	-		-	65432	-		-	23564	-		-
32465	-			46532			-	52364			-
63425	-			54632			-	65324	-		
42635	-		-	63542	-		-	32654	-		-
34625	-			56342			-	53624	-		
62345	-		-	31562	-		-	62534	-		-

H. H. H. H. T. HURRY.

The next are divided into three equal parts; the first by the late Mr. Anable, of London, which is called by the observation of the wrong and middle, omitting the wrong when the sixth is at home, and calling a bob at home when the fifth and sixth come home, which is at the end of each 1680 changes.

5040 W M H	5376 W M H	6048 W M H
43652 -	64235 - - -	64235 - - -
64235 - -	26543 - -	26543 - -
26543 - -	52364 - -	52364 - -
52364 - -	43526 - - -	43526 - - -
35426 - -	54632 - -	54632 - -
45623 -	65243 - -	65243 - -
64352 - -	26354 - -	32654 - - -
36245 - -	43265 - - -	46325 - - -
23564 - -	52436 - - -	24365 -
52436 - -	45623 - -	53246 - - -
42635 -	64352 - -	25634 - -
64523 - -	23645 - - -	62453 - -
56342 - -	62534 - -	34625 - - -
35264 - -	56423 - -	63542 - -
42356 - - -	45362 - -	56234 - -
	34256 - -	42563 - - -
		35426 - - -
		42356 - -
	H. H.	H. H.

The following peals are constructed upon a particularly easy plan, being composed in parts of 672 changes each, as shown by the nine bob

changes annexed, which being four times repeated would come round at 3360, but by the addition of a bob at home, the part end 14235678 is produced, which twice repeated completes the peal.

10080	10080
2357486	2357486
2378564	2378564
7238564	7238564
3728564	3728564
6452837	5237486
2378456	5278364
7238156	7528364
3728156	2758364
5642837	6435827
62534 part end.	45623 part end.
H. H.	H. H.

Either of the two foregoing peals may be reduced by omitting three bobs in which the seventh is concerned in any of the courses, omitting them in four, eight, twelve, sixteen, and twenty courses, the numbers obtained will be respectively, 9184, 8288, 7392, 6496, and 5600; and omitting them in twenty-two courses, will reduce it to 5152.

DOUBLE BOB.

What has been said of the preceding methods relative to calling short touches, will, with one exception, apply equally to this; namely, the full course, repeating four times in that, will repeat only once in this. The others producing the same number of changes, though somewhat different course-ends. Of the following touches the first is with the sixth undisturbed; the second in the tittums; and the third is on the plan of Mr. Anable's peal.

1008	W	H	1200	M	W	B	H	1680	M	W
52436	-		35264			-		54632	-	-
35426	-		25463	-				36245	-	-
42356	-	-	64352	-	-			42563	-	-
			25346	-	-		-	65324	-	-
								35426	-	

With the following peals, the tenors together, and one of 10080 with them parted in a similar manner to those in the plain method, which admits of being reduced to the same numbers, I conclude this method.

5040	M W H	6048	M W H	10080
54632	- -	54632	- -	3578264*
36245	- -	36245	- -	7358264
42563	- -	54263	- - -	5738264
65324	- -	62345	- -	6423857
35426	-	43526	- -	3578426
24653	- -	25634	- -	7358426
56342	- -	43652	- - -	5738426
43265	- -	56234	- -	2643857
62534	- -	43265	- - -	6357284
52436	-	62534	- -	56234
34625	- -	35426	- -	part end.
26543	- -	62453	- - -	
45362	- -	54326	- -	H. H.
63254	- -	23645	- -	
42356	- -	46532	- -	
		23564	- - -	
B. ANABLE.		65432	- -	
		34256	- -	

T. HURRY.

* These nine bobs, four times repeated, would bring them round as 3360, but instead of coming round, calling a bob at home, the part end 14235678 is obtained, which, twice repeated, completes the peal.

GRANDSIRE BOB MAJOR.

These two excellent productions are by Mr. E. Stokes, of Birmingham, each having the 6th twenty-four times wrong and twenty-four times right. For Grandsire on even numbers see p. 42.

5040

43652		M
63254		M
25364	8th in 2	
52364	7th in 3	
23564		H
42365	7th in 2	
62345	8th in 3	
32546		M
25346		H
53246		H
24356	8th in 2	
34652		M
64253		M
25463	8th in 2	
52463	7th in 3	
24563		H
32465	7th in 2	
62435	8th in 3	
42536		M
25436		H
52436		H
34256	8th in 3	

6000

32654	7th in 2	H
36254		H
62354		H
52364	8th in 3	
25364	7th in 3	
42563	7th in 2	
34265	7th in 2	
64235	8th in 3	
46235	7th in 3	
23645	8th in 2	
23546	7th in 2	H
35246		H
53246	7th in 3	
24356	8th in 2	
24653	7th in 2	H
46253		H
62453		H
52463	8th in 3	
25463	7th in 3	
32564	7th in 2	
43265	7th in 2	
63245	8th in 3	
36245	7th in 2	
24635	8th in 2	
24536	7th in 2	H
45236		H
54236	7th in 3	
34256	8th in 3	

Twice repeated.

DOUBLE LONDON COURT BOB.

As this method is not in general practice a great variety might perhaps be deemed unnecessary; the following will, therefore, serve as examples. The first course of the peal is given by the bob changes to show the position of the tenors, as in this peal the sixth bell cannot be removed without parting them; the remainder will be given by the course-ends. The small numerals to the right show the number of the lead in each course where the bob is made.

1008		5040	
	1 6		
24536 - -		3768254	
25346 -		7524386	
34256 -		5836742	
		4365827	
Twice repeated.		3287456	
		2546378	1 6
		46253 -	-
		26543 -	
		56423 -	
		42563 -	-
		52643 -	
		62453 -	
		45623 -	-
		65243 -	

H. H.

NORWICH COURT BOB.

In those peals that have the bob on the three hindmost bells, the number of the lead in each course where the bobs occur are pointed out by numerals placed to the right of the course-ends. In this method the bobs at the first, second, and fifth leads, are similar in effect to middle, wrong, and home in Double Bob Major.

816 1 2 3 5	1152 1 2 3 5	1680 1 2 5
35264 - -	35264 - -	35264 - -
53462 - -	53462 - -	45362 -
52436 - -	23564 -	56423 - -
	24536 - -	25634 - - -
		52436 - -

5040 1 2 5	5376 1 2 5
35264 - -	35264 - -
63542 - - -	56342 - -
46325 - - -	64523 - -
24653 - - -	26435 - - -
52436 - - -	63254 - -
23564 - -	35642 - -
62345 - - -	43526 - - -
46253 - - -	32465 - -
54632 - - -	26354 - -
35426 - - -	65243 - -
52364 - -	54632 - -
65243 - - -	35426 - - -
46532 - - -	52364 - -
34625 - - -	26543 - -
42356 - -	42635 - - -
H. H.	34256 - - -

DOUBLE NORWICH COURT BOB.

The three touches in the tittums are given by the bob changes; but the peals by the course-ends, or bob changes, such as appear most suitable to the purpose. In the 5600, by ommitting the last three bobs in any two parts, four courses will be eliminated, and the peal reduced to 5152 changes.

416	912	1248
5738642	8674235	8674235
8472635	2758643	2758643
6758423	8473652	8473652
6758234	6728435	6728435
6758342	7863542	6728254
2345678	4235678	6728543
		3542678

Twice repeated.

5040 1 4 6	5040 1 4 6	5600 1 4 6
53624 - - -	53624 - - -	54326 - -
26354 - -	43526 -	43526 -
63254 -	63425 -	34625 - -
52364 - -	36524 - -	46325 -
23564 -	46325 -	63425 -
35264 -	64523 - -	36524 - -
62534 - -	34625 -	65324 -
25634 -	54326 -	56423 - -
56234 -	45623 - -	64523 -
		45623 -
H. H.	H. H.	H. H.

Four time - repeated

5440	1	5	6
26435	-	-	
56234	-		
65432	-		-
25634	-		
52436	-		-
62534	-		
42635	-		
24536	-		-
64235	-		
46532	-		-

T. HURRY.

6000	1	5	6
43652	-	-	
35642	-		
46532	-		-
63542	-		
45362	-		-
56342	-		
64352	-		
53462	-		-
36452	-		
65432	-		
34562	-		-

H. H.

6160*	1	4	6
65324	-	-	
52364	-		
63254	-		-
35264	-		
62534	-		-
23564	-		
36524	-		
25634	-		-
53624	-		
32654	-		
66234	-		-

S. THURSTON.

Four times repeated.

5040	1	4
63254		-
45362	-	-
26543	-	-
34625	-	-
52436	-	-
62534		-
43265	-	-
56342	-	-
24653	-	-
35426	-	-
65324		-
42563	-	-
36245	-	-
54632	-	-
24536		-

H. H.

6048	1	4	6
65324	-	-	
42563	-	-	
62345	-	-	-
54263	-	-	
36452	-	-	
25634	-	-	
35426	-	-	-
62534	-	-	
43265	-	-	
56342	-	-	
24653	-	-	
54326	-	-	-
62453	-	-	
35264	-	-	
46532	-	-	
36245	-	-	-
54632	-	-	
34256	-	-	-

Each twice repeated.

10080
8674235
6483527
6483275
6483752
2758643
4386527
4386275
4386752
2758436

1st part end 45623
2nd ,, 62345
3rd ,, 34562
4th ,, 56234
5th ,, 34256

by an additional bob when the tenors are before in the last course.

H. H.

* This peal was rung by the Society of Norwich Scholars, at St. Michael's Coslany, in the year 1831; it was completed in 3 hours and 45 minutes, conducted by Mr. Samuel Thurston.

5376	1	4	6
65324	-	-	
25463	-	-	-
54263			-
36452	-	-	
25634	-	-	
35426	-	-	-
21536	-		-
63425	-	-	
23564	-	-	-
36524	-		
62534	-		
32465	-	-	-
56234	-	-	
43652	-	-	
53246	-	-	-
34256	-		

Each twice repeated.

6048	1	4	6	
65324	-	-		
42563	-	-		
62345	-	-	-	
54263	-	-		
36452	-	-		
25634	-	-		
35426	-	-	-	
62534	-	-		
32465	-	-	-	
56234	-	-		
43652	-	-		
53246	-	-	-	
64352	-	-		
25463	-	-		
36524	-	-		
26435	-	.	-	
53624	-	-		
42356	-	-	H.	H.

5184	1	4	5	6
56452	-	-	-	
43265			-	
35264	-	-	-	
54263	-	-	-	
25346			-	
45526	-			-
56524	-	-	-	
34562		-	-	
52246			-	
34256	-			

5184	1	4	5	6
36452	-	-	-	
32465		-	-	
25463	-	-	-	
53462	-	-	-	
45236			-	
32546	-			-
26543	-	-	-	
23564		-	-	
52136			-	
34256	-			-

9408	1	4	6	
65324	-	-		
25463	-	-	-	
54263			-	
36452	-	-		
25634	-	-		
35426	-	-	-	
21536	-		-	
63425	-	-		
23564	-	-	-	
43265		-		
56342	-	-		
21653	-	-		
51326	-	-	-	
42356	-			

H. H.

In the 5376, the sixth is at home twelve times wrong and twelve times right; by omitting the three bobs distinguished thus,] two courses will be exterminated, and consequently, the peal reduced to 5152 changes still retaining the above properties.

In each of the other peals, with the exception of the 6048, the sixth is twenty-four times each way in in the least possible number of changes In reference to the first peal of 5184, the given part must be twice repeated; but instead of allowing the bells to come round, a single is added when the tenors are before in the thirtieth course, thus $\left\{\begin{matrix}18765432\\17856432\end{matrix}\right\}$ producing the course-end, 24356, which being repeated completes the peal.

The next peal is similar, only a bob happening when the tenors are before in the thirtieth course, a single must be substituted.

In the 9408, a single must be added in the forty-second course, when the tenors are in the position before described, which will produce the first half-peal as in the two preceding peals.

DOUBLE OXFORD BOB.

As the touches and peals of Double Bob (where the bob before is not used,) are equally applicable to this, it would be needless to insert peals in this method.

VARIATIONS OF TREBLE BOB.

The propriety of classing the Kent method with the Oxford will be apparent from the consideration that the treble leads, bob changes, and consequently the course-ends being the same in each, and whatsoever is composed true of the latter may be applied to the former. It has been already stated that at a bob the bells above fourth's place dodge two pulls in addition to their regular work. Now as the treble uniformly dodges before and after leading her pull, which the other bells do not, it is clear that any bell dodging above fourth's place at a bob must fall into the same position as in the preceding lead; hence each bob with the tenor above fourth's place lengthens the course one lead, which must be taken into account when computing the number of changes in a peal of the above methods.

As the peals will be given by course-ends, that plan not only being more concise but more commodious than the bob changes, the following table is given; and if the practitioner makes himself acquainted with it, he will be better enabled to comprehend the structure of the various productions about to be submitted to his notice.

In the table of course-ends, and throughout these methods, the characters M, B, W, H, will indicate the places of the bobs in each course; namely, middle, out of the hunt, wrong, and home. It will, moreover, be observed, that by using the bob with the tenor out of the hunt, the same course-end will be produced differently. The latter part of the scale is, however, only adapted to eight bells, whilst that of middle, wrong, and home, serves for ten and twelve.

TABLE OF COURSE-ENDS.

23456		M.	W.	H.		M.	B.	W.	H.
43652	produced by	1			or	2	-	1	
54632	,,	1	1		...	2	-	2	
64352	,,	1		1	...	2	-	1	1
65432	,,	1	1	1	...	2	-	2	1
35642	,,	1	2		...	2	-		
63542	,,	1	2	1	...	2	-		1
46532	,,	1	1	2	...	2	-	2	2
36452	,,	1		2	...	2	-	1	2
56342	,,	1	2	2	...	2	-		2
63254	,,	2			...		-	1	
35264	,,	2	2		...		-		
32654	,,	2		2	...		-	1	2
52364	,,	2	2	2	...		-		2
56234	,,	2	1		...		-	2	
62534	,,	2	1	2	...		-	2	2
23564	,,	2	2	1	...		-		1
26354	,,	2		1	...		-	1	1
25634	,,	2	1	1	...		-	2	1
52436	,,		1		...	1	-	2	
45236	,,		1	1	...	1	-	2	1
24536	,,		1	2	...	1	-	2	2
43526	,,		2	1	...	1	-		1
35126	,,		2		...	1	-		
54326	,,		2	2	...	1	-		2

Very few touches of these methods will be required, as a great assortment of two, three, and five courses can be obtained from the table of course-ends, as any of them will repeat once, twice, or four times, according to the number of bells transposed: and as either or both parts of the scale may be used, these will furnish an almost endless variety.

1600

	M	W	H
35264	2	2	
53462	2		2
64235	1	1	
45236	1		2
23456		1	1

1760

	M	B	W	H
52364		-		2
24365	2	-	1	2
45362	1			2
54263	2			2
23456	4th's & in.			2

1856

	M	B	W	H
52364		-		2
63452	1		1	
45326	1		1	2

Repeated.

5280

	M	O	W	H
62534		-	1	2
21536	1			2
46532	1			2

6th's place bob. 42635 78
4th's place bob. 64235 78
Ditto. 26435 78

5280

	M	O	W	H
32654		-	1	2
24653	1			2
43652	1			2

6th's place bob. 64235 78
4th's place bob. 26435 78
Ditto. 42635 78

5280

	M	O	W	H
36452	1			2
23564		-	1	2
34562	1			2

6th's place bob. 43265 78
4th's place bob. 24365 78
Ditto. 32465 78

Each of these are in five equal parts, and contain the 120 course-ends.

6th's place bob 12436587 is made thus: 14263578

5040	M	W	H
-24536		1	2
25346		1	2
63542	1		1
--32546	1		2
45236	2		2

Repeated.

This peal has the 6th 24 times right with the large bells in the tittum position, & 24 times right with them at home.

5088	O.	H
52364	-	2
26543	-	
64235	-	
36452	-	2
65324	-	
52643	-	
24536	-	

5088	out	H
35264	-	
63542	-	2
34625	-	
42356	-	
25463	-	
62534	-	2
23645	-	

The 5th and 6th 14 times each way.

Each twice repeated. H. H.

5088	in	W
352764	-	
573462	-	
425763	-	2
274365	-	
732564	-	
357462	-	
423567	-	2

Tenors parted, various positions.

5184*	M	O.	W	H
46532	1		1	2
32465		-	2	
23564	2			2
24365	2			1
25463	2			1
-3425867				
-2345867				

This peal contains the 24, 867's. 786's, & 678's. The 6th runs eight courses after the 7th & eight courses before the tenor, it is the first peal composed on this plan. If the bob at the wrong is omitted, it will reduce it to 5088. H. H.

5280				
6th's place bob.	4263578			
4th's place bob.	6423578			
Ditto.	2643578	M	W	H
	24365		1	2
	23645		1	2
	46325	1	-	2

6880†	M	B	W	H
52364	2		2	2
65243		-		2
42563			2	2
45623			1	2

J. REEVES.

These four times repeated contain the 120 course-ends.

* Rung at Birstal, in 1862, called by J. Barraclough, and at Woolwich, in 1864, conducted by B. Fakenham.

† Rung by the Norwich Scholars, at Alburgh, Norfolk, in 1827, conducted by Mr. Samuel Thurston.

5120	B	W	H
35264	-		
56342	-		
64523	-		
36245	-	2	2

Clavis.

5120	M	W	H
36452	1		2
23564	2	1	2
34562	1		2

H. H.

5280	M	W	H
52364	2	2	2
43265	1		1
34562	2		2

H. H.

5440	M	W	H
52364	2	2	2
32654		2	1
56234		2	2

H. H.

5440*	M	W	H
56342	1	2	2
36452		2	1
52643	1	2	2

C, Middleton.

6240	M	W	H
24536		1	2
25346		1	2
35426		2	1
64523	1		1

H. H.

6720	M	B	W	H
36452	1			2
54632	1	-		2
56342			1	2
62345	2	-	1	2

J. Cox.

6720†	M	B	W	H
32654	2			2
53246		-		2
36245	2	-	1	2
65243	1			2

H. H.

6720‡	M	B	W	H
36452	1			2
36254	2			2
56342		-		2
62345	2	-	1	2

H. H.

Each of the above peals are in five equal parts; in the first peal of 5440, by omitting a bob at home in the thirteenth course, and one the wrong in the fourteenth, it will be reduced to 5024 changes.

* This peal was rung at Loddon, March 5th. 1855, conducted by J. Truman.

† This peal was rung at St Giles's, Norwich, in 1832, conducted by the author.

‡ Rung at Pudsey, in 1867. in 4 hours 8 m., called by John Ross.

7040

	M	B	W	H
52364	2		2	2
26543		-		
64235		-		
64352		-		1
34562	1	-		1

H. H.

7360*

	B	W	H
26354	-	1	1
24653	-	1	1
45236	-		
53462	-		
36524	-		
62345	-		

S. THURSTON.

The first peal of 5120 is remarkable for its antiquity; it is not known by whom it was composed, and is said to be the first peal of Oxford Treble Bob ever rung. Each of the 6720 peals contains the 120 course-ends; and Mr. Thurston's peal has the sixty seven-eight's before, which will conclude peals in five parts.

The next are on the three-part plan; the first having the sixth its extent wrong and right, and the second is a production by Mr. Samuel Austin, of the Society of College Youths, London, which number has not been superseded with the tenors together.

* This peal was rung at St. Andrew's, Norwich in 1837, conducted by Mr. Samuel Thurston, and performed in 4 hours and 44 minutes.

5088

	M	B	W	H
54326	1	-		2
26435	2	-		2
32465	1	-	2	
25463	2	-	1	2
42356	4th's and in.			

D. WOODS.

8448*

	M	B	W	H
35264		-		
56342		-		
65243		-	1	2
53246	2	-	1	1
53462		-		1
26435	2	-	2	1
32654		-		2
62534	1	-		1
23645		-		
34256		-		

S. AUSTIN.

Of the various lengths in these methods with the tenors parted, it may be observed, that the late Mr. Eversfield, of Gravesend, produced one of 14,016 changes, and Mr. Wright, of Leeds, Yorkshire, a peal of 15,168, which are now superseded by Mr. Thomas Day, of Birmingham, who has obtained the astonishing number of 15,648 changes, which will appear by the course-ends.

* This peal was rung in 1848, at St. Matthew's Bethnal Green, London, by the St. James' Society. It was conducted by Mr. H. W. Haley.

15648

236745 Out, two in fifths, one at home
473526 in and out and one in the wrong
476325 in. two in fifth's, one at home
756425 two the wrong
756324 out, one in fourth's, two at home
347526 in. and two the wrong
456237 in and out, one at home
524736 in
743256 one the middle, one the wrong
467235 out, and one in fifth's
627543 out. the middle and in
53246 in and out
53462 out, one at home
36245 two the middle and out
64352 out
26543 out. two the wrong, two at home
63542 one middle, in, and one in fifth's
34625 out
42356 out [T. Day. Birmingham

In consequence of the part end 42356 coming up first, this peal admits of being brought round from either parts, namely; by two bobs at home from the first part end, making 5280 changes, or by one bob at home from the second part end, when the number of 10,464 will be obtained.

10080*

435726 In and out. one fifth's, and two at home
376452 one middle, in and out, one at home
467523 in and out, one fifth's
627543 one middle, in
524637 in and out. one wrong, two at home
52364 out, one at home
26435 two middle and out
32654 out, and two at home
36524 one middle, out, two wrong, and two at home
62534 one middle and out
23645 out
34256 out [W. Eversfield, Gravesend.

* This peal was rung at Rochdale, Norfolk, on March 23rd, 1860, in 6 hours and 25 minutes. Conducted by Mr. B. Smith.

The next peals are not divided into parts, but are on the plan of the course of bobs continuing throughout. The last two have the sixth its extent wrong and right with the same bell alternately.

5344					5056*					5088†				
	M	B	W	H		M	B	W	H		M	B	W	H
23564	2		2	1	56342	2	-		2	52364		-		2
46532	2	-	2	1	53462	1	-	2	2	53624			1	2
34625	2		2	2	54632	1	-	2	2	56234	1	-	2	2
42356	2		2		35426		-		2	32654	1	-		2
42563	2		2	1	23564		-		2	53246		-		2
63524	2	-	2	1	25634			1	2	45362	2		2	2
23645	2		2	2	26354	1	-	2	2	43652			1	2
34256	2		2		53624	1	-		2	54326		-		2
34562	2		2	1	25346		-		2	25463		-		2
52643	2	-	2	2	42563	2		2	2	24653			1	2
25346	2			2	45623			1	2	52436	2		2	2
56342	2	-	1	2	24536		-		2	36245	1		2	2
42635	2		2	2	32465		-		2	32465	1	-	2	2
23456	2		2		34625			1	2	34625	1	-	2	2
					23456	2		2	2	23456		-		2
T. HURRY.					H. H.					H. H.				

* This peal was rung at Trinity Church, Low Moor, in 1857, in three hours called by Josiah Barraclough.

† This peal was rung at Earlsheaton, in 1856, in 3 hours 6 minutes, called by Wm. Preston.

In each of the two following peals the sixth is at home twenty-four times wrong and twenty-four times right; and it may be remarked in reference to the 5376, that each four courses are called alike, with the exception of an extra bob when the tenor goes out of the hunt in the last course of the peal.

5056*

M	B	W	H
5	2	3	6
2	4	1	3
1	4	2	3
2	4	3	6
4	5	3	6
2	4	3	6
1	4	3	6
1	4	2	3
2	4	1	3
1	4	2	3
1	4	3	6
1	4	2	2
1	4	2	2
1	4	2	3

5376†

M	B	W	H
5	2	3	6
2	4	1	3
1	4	2	3
2	4	3	6
4	5	3	6
2	4	1	3
1	4	2	3
2	4	3	6
4	5	3	6
2	4	1	3
1	4	2	3
2	4	3	6
4	5	3	6
2	4	1	3
1	4	2	3
2	4	3	6

5088‡

6423857
7826543
5278364
3752486
5372486
8642753
5324786
2534786
7325648
8627435
5428367
2548367
3425786
2345786
7423658
8627543
3528467
2358467
4523786
2453786
7524638
8627354
5432786
3542786

H. H.

‡ This peal by the bob changes, twice repeated, contains the twenty-four 786's, 867's, and 678's.

* This peal was rung at Birstall, in 1862, in 3 hours 3 minutes, conducted by Josiah Barraclough.

† This peal was rung, in 1853, at Birstall, Yorkshire, in 3 hours and 17 minutes, conducted by Mr. William Goodall.

5024					5056					5120				
	M	B	W	H		M	B	W	H		M	B	W	H
54326			2	2	52364	2		2	2	36452	1			2
25463	2		2	2	34625	2	-	2	2	62453	1			2
32654	2		1	2	26435			2	2	26354	2			2
24653	1			2	45326	2	-	2	2	23564			1	2
52436	-			2	54263	2			2	34562	1			2
36245	1		2	2	43265	1			2	42563	1			2
32465			1	2	62345	1	-		2	24365	2			2
64235			2	2	25346	1			2	63425			2	2
36452	2		2	2	62453	2		1	2	64235			1	2
23564	-		2	2	26354	1	-		2	62345			1	2
34562	2	-	1	2	64352	2	-	1	2	65243	2			1
63425	-			2	52436	1		2	2	54632	-			
25346	1		2	2	54326			1	2	35426	-			2
23456	1	-	2	2	23456			2	2	24536			2	2
										25346			1	2
J. LATES.					P. CASHMORE.					23456			1	2
										H. HALEY.				

In each of the three foregoing peals, the fifth and sixth are made to work their extent of wrong and right, and by an examination of them, the student will see that fourteen is the least number of courses possible in which these properties can be developed.

Having inserted a variety of peals in the foregoing method, the student's attention is next directed to the process of proving peals, when he will perceive, from the peculiar difficulties attendant on Treble Bob compositions, that

many of those peals have not been obtained without considerable labour; for compositions in this method however judiciously arranged, so as to produce true treble leads, are, notwithstanding liable to be false with the treble dodging before, in three-four, five-six, and also behind when the tenors are parted.

After ascertaining the truth of the treble leads by placing the leads affected by the bobs (middle wrong, home, &c.) under distinct heads, then proceed to prove the interior by the following proof scale. In using of which, the peal must be pricked by the back stroke treble leads, which must be read off in the same manner as the given changes are read from rounds.

PROOF SCALE.

2345678

False with treble in 1-2—2346587

„ treble in 3-4 { 4236587 / 3426587

„ treble in 5-6 { 5436287 / 6432587

„ treble in 7-8* { 7436582 / 8436527

* The two changes with the treble in 7-8 need not be used except in peals where the tenors are parted.

There is another method of proof, that is, by the course ends, which will only answer for peals where the tenors are kept together.

To prove by this method the course-ends which are followed by bobs in the middle must be transposed. Thus if one the middle, 43652 from 23456, and if two the middle, 63254, from 23456 and the same from every course-end, which are followed by bobs in the middle.

By this method the following are the false course-ends, 24365, 32546, 46253, from 23456, and the same from every course-end. In peals where bobs are made with the tenors before the following 53624 must also be used.

In the following intricate variations, it will be seen that Mr. Middleton has produced peals of Cambridge Surprise with the tenors together, which are also applicable to London Surprise, and are reducible to 5152, by the omission of the bobs braced. Messrs. Banister and Cox have also obtained peals with the tenors together, which may be considered an acquisition to the science, as the peals hitherto composed in these methods are with the tenors apart.

IMPERIAL.

6048

1 3 5 7

234675-
763452- - - -
236157 - -
236571-
753642- - - -
235647 - -
235476-
743562- - - -
342567 -

Twice repeated.

C. LINDSEY.

CAMBRIDGE SURPRISE.

5600

M W H

43652 -
56234 - -
23564 - -
52364 -
35264 -

5600

M W H

42356 -
32654 -
56423 - -
42563 - -
54263 -

Four times repeated.

C. MIDDLETON.

SUPERLATIVE SURPRISE.

5376*	6048	6720
M W H	M W H	M W H
43652 -	65432 - - -	64352 - -
56234 - -	46532 -	36452 -
26435 -	54632 -	43652 -
53162 - - -	26435 - -	25634 - - -
45362 -	42635 -	62534 -
34562 -	64235 -	56234 -
Calling the six courses of Mr. Shipway's thrice completes the peal.	52436 - -	Four times repeated.
	45236 -	
	24536 -	
	Twice repeated.	
	J. COX.	W. SHIPWAY.

LONDON SURPRISE.

5280†	5600‡	5600
	M W H	M W H
8642735	54632 - -	65432 - - -
6235874	36245 - -	46532 -
5748236	42563 - -	54632 -
3624857	36524 - - -	23645 - - -
7823564	45623 - -	62345 -
6452378		
5642378	W. BANISTER.	J. COX.
4562378	Each four times repeated.	
W. SHIWAY.		

By omitting the bobs braced in the first three parts of the 6720, it will be reduced to 5376, which was rung at St. Giles's by the Norwich Scholars in 1835, called by Mr. S. Thurston.

By omitting the bobs braced in Mr. Cox's peals, each will be reduced to 5152.

* Rung at Woolwich, in 1849, called by Mr. W. Banister.
† Rung at St. Andrew's, Norwich, in 1835, called by Mr. S. Thurston
‡ Rung at Woolwich, in 1849, called by Mr. W. Banister.

The following are the proof scales of the preceding variations; and it may be further observed, that London Surprise, (with the tenors together,) can be expeditiously proved by the course-ends, like Oxford Treble Bob, by transposing for a bob in the middle, as in that method; the false course-ends being the same in each.

Imperial.	Cambridge Surprise.	Superlative Surprise.	London Surprise.
2345678	2345678	2345678	2345678
1-2 & 5-6 { 5673248, 6572348	1-2 { 7582634, 5783624, 3452768, 5234768	1-2 { 5783246, 5238746, 6572834, 3472865	1-2 { 4867253, 6827453, 4286587, 3426587
3-4 { 5872346, 5672843	3-4 { 6547283, 6843257, 3628475, 4268375	*3-4 { 5276834, 5473862, 5782546, 8532746	3-4 { 8624375, 4652872
7-8 — 5642378	*5-6 { 5347862, 8342756, 5326874, 4382576	*5-6 { 8852647, 7362548, 5374682, 5376428	*5-6 { 6724385, 4658327, 8427365, 4628752
	7-8 { 8347652, 4326578	7-8 { 7345826, 2354876	*7-8 { 2457865, 2438756, 6743285, 6548237

These (*) need not be used in peals with the tenors together.

TABLE OF COURSE-ENDS,

Adapted to the three Surprise Peals.

			M	W	H
43652	produced by		-		
54632	...	...	-	-	
65432	...	...	-	-	-
64352	...	..	-		-
52436	...	...		-	
45236	...	...		-	-
42356	...	...			-

CATERS,

OR COMPOSITIONS ON NINE-BELL METHODS.

PLAIN BOB.

Any of the touches of plain on eight bells, where the bobs before are not used, may be rung on this; a similar plan of calling producing the same course-ends; the number of changes being merely augmented in the ratio of nine to seven; but as Cater ringing is not esteemed when out of the tittum position, it would be useless to say any more upon it, but commence the touches. It will be required to bring 7, 8, 9, to the position of 9, 7, 8, at the course-end. The student will perceive there are various ways of doing it: first, by calling the 9th down five leads successively; secondly, by having 7, 8, 9, in the two bobs, the first and second courses; but the most expeditious way is by calling the seventh to make fourth's place then the ninth down, and the seventh again in fourth's place: this plan brings the sixth behind the ninth, which is the most musical position possible to be obtained. A touch on each plan will be given, also one of

900, with the tittums inverted, *i. e.* at hand instead of back stroke, when the large bells will have the position 7, 9, 8, at the course-ends. These, and the two peals, will be sufficient as examples.

540

1 7 8

542356 -
34256 -
-23456 -

864

1 7 8

-64352 - -
-36452 -
24653 - -
62453 -
34256 - -
-23456 -

612

35792846
98645237
42738596
42357689
25463 1 7 8
45362 -
35264 -
-23456 - -

1044

35792846
98645237
42738596
42357689
42562978 1 7 8
54263 -
25463 -
34562 - -
53462 -
45362 -
-23456 - - -

900

57983624
78645293
78426359
78234965
78392546
42635 1 7 8
64523 - -
56342 - -
35264 - -
67895432
79426385
79234568
78352846
79583624

The most musical peals of these Caters are obtained by putting the course-ends out of course by an extra bob with the tenors before, by which means the fifth and sixth bells are behind the ninth throughout, which is exemplified in the following peals. The dashes to the left of the course ends denote bobs with the tenors before.

1854	5004	6156
s32574968	35792846	1st course as
27983654	98645237	the 5004.
27869435	98426753	32564 1 7 8
76452389	27358694	52463 -
98243756	56497823	34265 - -
98472635	32748596	24563 -
65527489	32457689	54362 -
65243978	32264978 1 7 8	23465 - -
54986723	52463 -	43562 -
54879362	34265 - -	25364 - -
54738296	24563 -	35462 -
54327689 1 7 8	54362 -	45263 -
42563 -	23465 - -	32456 - - -
52364 -	43562 -	42653 -
43265 - -	25364 - -	36254 - -
23564 -	43256 - - -	26453 -
53462 -	23654 -	46352 -
24365 - -	46352 - -	23654 - -
34562 -	36254 -	63452 -
25463 - -	26453 -	43256 -
45362 -	34652 - -	62354 - -
35264 -	64253 -	32456 -
-23456 - -	-32456 - -	

Each repeated. H. H.

GRANDSIRE.

This method is justly esteemed for the simplicity of its construction, and the harmonious effect to be produced from it. As none of its changes are out of course, it, consequently, can be brought round either at hand or back stroke without having recourse to any other means than the effect of the bobs. The following are a selection of musical touches; three of them are given by bob changes, and the others by the course-ends and bob changes united.

503	575	1151
75293846 [1]	75293846 [1]	75293846 [1]
68749352 [2]	68749352 [2]	46738295 [3]
79685423 [5]	79685423 [5]	23456978 [1]
34728596 [2]	34728596 [2]	46237589 [5]
24357689 [7]	65392847 [2]	36452978 [7]
96285743 [2]	89675432 [1]	56394827 [7]
78936425 [1]	47829365 [1]	34562978 [5]
43758296 [1]	65493827 [3]	45362978 [6]
96482753 [3]	89675243 [1]	32457689 [5]
37958264 [2]	27839465 [1]	24357689 [6]
	96285743 [4]	54263978 [7]
Round at	78936425 [1]	42563978 [6]
two leads.	43758296 [1]	96482753 [1]
	96482753 [3]	37958264 [2]
	37958264 [2]	

396

75293846
46738295
23456978
34256978
95384726
78965234
89765234
26849375

827

75293846
68749352
79685423
34728596
65392847
89675432
47829365
65493827
89675243
27839465
65294837
89675324
37849265
842357689
65492837
89675342
37829465
65394827
89675234
27849365
96285734
78946325
843758296
96482753
36958264
All the 57689's

486

97285634
68917325
53624789
89547623
36824795
49385672
68429735
72658349
49783652
52436789
97583624
68947253
24638597
Queen's. shortest known.

971

97285634
46938572
53426798
34526798
87392645
69857432
45629387
87493625
69857243
25639487
87294635
69857324
35649287
842375869
23475869
34275869
25346798
74285936
69728542
78694325
835729486
All the 75869's.

5039

7th in & out at 3		8th in 3
42356		45263
32654	8,9	25364
62453	8,9	35462
46253	9th in 3	43562
24653	9th in 3	54362
64352	8,9	34265
34256	8,9	24563
23456	9th in 3	52463
43652	8,9	42365
63254	8,9	32564
26354	9th in 3	53264
36452	8,9	23465
23654	9th in 2 and single	52364
63452	8,9	32465
43256	8,9	42563
24356	9th in 3	54263
32456	9th in 3	25463
42653	8,9	45362
62354	8,9	35264
36254	9th in 3	23564
26453	8,9	53462
46352	8,9	43265
34652	9th in 3	24365
64253	8,9	34562

This peal contains the whole of the 8,9's and 9,7,8's with the 5th and 6th behind the 9th.

The scale of calling common to both columns.

-96384752
-27958463
-34265879

Round at hand at six leads.

H. H.

1188	1439	1854
45326*	35264†	35264‡
52346 8th in 3	23564 9th in 3	25463 8,9
24356 8th in 3	52364 9th in 3	45362 8,9
32456 7th in 3	32465 8,9	34562 9th in 3
43256 7th in 3	42563 8,9	53462 9th in 3
35246 8th in 3	54263 9th in 3	43265 8.9
54236 8th in 3	25463 9th in 3	23564 8.9
25436 7th in 3	45362 8,9	52364 9th in 3
42536 7th in 3	34562 9th in 3	26354 9th in 3
23546 8th in 3	53462 9th in 3	36452 8,9
34526 8th in 3	43265 8,9	46253 8,9
58126 7th in 3	24365 9th in 3	62453 7.8
87592634 2	96284735 1	42356 8.9
46830275 2	57938462 2	23456 7,8
23456789 1	43527698 1	34256 7 8
	86492735 2	34256§
	79856342 1	23456‖
	35729486 1	

Round next lead. H. H.

* 9th in and out at two leads. † First 4 bobs at the 5th.
‡ 7th in and out at 2 twice.
§ 9th in and out at 3 with a double. ‖ 8th in & out at 3

The 1188, is what is termed the inverse tittum position, it has the twelve-course-ends with the sixth before the ninth; and the 1439, the twelve with the sixth behind the ninth; these with the 1854, will conclude touches in this method. Of the terms adopted for calling—the ninth in and out at two, means the ninth into the hunt and out at two leads; the eight in three, signifies a bob when she goes into the hunt and the two following leads: and by an 8, 9, should be

understood, a bob when eight-nine are together behind; the others in like manner as they occur.

The first of the following peals will be found very easy to call, from the great similarity of the parts. The last four are called alike, with the exception of the last course of the fourth part being omitted, in order to bring up a suitable course end to come round from. The second is by Mr. James Burman, which is given by bob changes.

5129

42356	7th in & out at 3	65324	8th in 2	42635	53462	25463
25346	8th in 3	52364	8th in 3	23645	36452	25463
54326	8th in 3	26354	8th in 3	34625	65432	62453
35426	9th in 3	32654	9th in 3	63425	46532	46253
43526	9th in 3	63254	9th in 3	46325	54632	24653
32546	8th in 3	35264	8th in 3	62345	43652	45623
24536	8th in 3	56234	8th in 3	23465	35642	52643
52436	9th in 3	25634	9th in 3	32465	63542	65243
45236	9th in 3	62534	9th in 3	43265	56342	26543
53246	8th in 3	23564	8th in 3	36245	64352	64523
34256	8th in 3	36524	8th in 3	64235		42563
23456	9th in 3					

H. H.

Brought round by calling the 9th into the hunt and out at two leads.

5004*

75293846 [1]	64257389 [7]	64523978 [7]
46738295 [3]	54632978 [6]	45623978 [6]
23456978 [1]	46532978 [6]	92485763 [1]
34256978 [6]	52467389 [5]	78932645 [1]
42356978 [6]	24567389 [6]	89732645 [6]
36427589 [5]	64235978 [7]	63859472 [1]
64327589 [6]	42635978 [6]	53648297 [7]
24653978 [7]	65427389 [5]	43526789 [7]
46253978 [6]	54627389 [6]	23475968 [7]
23467589 [5]	32594867 [1]	34275968 [6]
34267589 [6]	54326978 [5]	25346789 [5]
64352978 [2]	43526978 [6]	53246789 [6]
43652978 [6]	56437289 [5]	43572968 [7]
62437589 [5]	64537289 [6]	35472968 [6]
24637589 [6]	34625978 [7]	42356789 [5]
53294867 [1]	46325978 [6]	23456789 [6]
24536978 [5]	35467289 [5]	
45236978 [6]	54367289 [6]	
26457389 [5]		

The following peals are composed for the convenience of the bob-caller, each being in five regular parts, (with the exception of the bobs in the first course to put them in the tittums,) they being so arranged as to have the first course-end 65324. When the part is completed, if another bell is put behind the ninth, by calling the eighth in with a double, the same

* This peal was rung at Yarmouth, in 1843, it was conducted by its composer, Mr. James Burman,

effect is produced on the five bob bells as in the first course, hence the regularity of the parts.

5220

75293846 1
68749352 2
23659847 2
79285436 2
64738592 2
65324
36524 9th in 3
53624 9th in 3
63425 8,9
43526 8,9
54326 9th in 3
34625 8,9
64523 8,9
56423 9th in 3
45623 9th in 3
32546 8th in 2
53246 9th in 3
52346 9th in 3
35642 8,9
65243 8,9
26543 9th in 3
56342 8,9
36245 8,9
23645 9th in 3
62345 9th in 3

The last ten courses twice repeated produce 23456978 when the following bobs complete it.

95283746
46983285
23456897
85273946
46832975
23456789 H. H.

6120

75293846 1
68749352 2
23654987 2
79285436 2
64738592 2
65324
36524 9th in 3
53624 9th in 3
63425 8,9
43526 8,9
54326 9th in 3
35426 9th in 3
45623 8,9
64523 9th in 3
56423 9th in 3
46325 8,9
34625 9th in 3
52436 8th in 2
45236 9th in 3
24536 9th in 3
54632 8,9
64235 8,9
26435 9th in 3
42635 9th in 3
62534 8,9
56234 9th in 3
25634 9th in 3
65432 8,9
46532 9th in 3

The last twelve courses thrice repeated; brought round as the foregoing peal.

H. H.

In the 6120 are contained the sixty eight-nine's and the sixty nine-seven-eight's, and it may be observed, that by commencing with the following two courses,

$$\left\{\begin{array}{l} 65324789 \text{ ninth in two} \\ 42563789 \text{ ninth in two} \end{array}\right\}$$

and calling sixty courses as in the foregoing peal, the course-end 42563978 will be produced, whence by calling the ninth into the hunt and out at two leads, the number of 6245 will be obtained, having the extent of eight-nine's and nine-seven-eight's, with which this method concludes,

---

DOUBLE GRANDSIRE.

Touches of this may be produced by employing the same bob changes as in the single method, though in some cases not with equal effect. The 575 of the single amounting to 917 on this; but as that method of calling double parts the large bells considerably, it will not for that reason be generally approved.

In touches where nine-seven-eight's and eight-nine's are called, the effect is different, that of 1151 of the single, becoming 1205 on double, keeping the large bells together; this and the following will serve as examples for calling.

629

35264 7th in a double twice
25463 8,9
54263 7,8
42563 7,8
96482753 4
37958264 1

Round at hand next lead.

791

35264
52364 7,8
23564 7,8
43265 two 8-9's
32465 7,8
45327689 6
96482753 1
37958264 1

1079

35264
52364 7,8
23564 7,8
43265 two 8,9's
32465 7,8
24365 7,8
54263 two 8,9's
42563 7,8

Round as the 629.

7380

65342 7th in 5
53624 7,8
36524 7,8
56423 8,9
64523 7,8
45623 7,8
35426 two 8,9's
54326 7,8
43526 7'8
63425 two 8,9's
34625 7,8
43625 7,8
46325789 8th & 9th before.

Four times repeated. H. H.

The above peal contains the sixty-course ends, but by calling two eight-nine's and a seven-eight from the third course-end of the fourth part, 42563 will be produced; whence by calling the ninth in with a double, the result will be 5093 changes.

STEDMAN'S PRINCIPLE.

This peal opens an extensive field of amusement to the lovers of the art of composition, affording as it does such a pleasing variety, not only by its coming round either at hand or back stroke, but, within given limits, at any desired number of changes; but to accomplish this, the going into changes must be altered from 213547698 to 214365879, which would be commencing the sixes from rounds instead of taking them from the second change; the latter method of going into changes affords greater facilities for composing various numbers, as the bells can be brought round true at any change of the six, which the former way does not admit of. Some touches on each plan will be inserted, when the experienced practitioner will have an opportunity of forming his opinion of the propriety of this alteration.

The plan usually adopted to call this into the tittums, is by a bob on seven, eight, nine, at the first six, and, doubtless, the first method that suggested itself of coming round from that position, was by two bobs on those bells after the course-end, 231456978, comes up. But there

are many ways of coming round which are not only more expeditious but also more harmonious; the following are therefore presented as examples.

315	381	423
231456789	231456789	412365 $^{5\ 16}$
342617589	342617589	214563 - -
34	34	213465 -
47	47	145726389
478932651	478932651	832574916
79	79	358429716
792543816	792543816	629871543
957328416	957328416	
95	95	Round at three sixes and one change.
58	589132764	
581697342	581297364	
86	82	First course as the 315.
867459123	827659143	
648971523	268971543	
412365 ^{5}	26	
215364 -	614325 ^{5}	
37	415326 -	
378912465	516324 -	
793284165	135467289	
79	-134752689	
584316927	371248596	
583649127	-372815496	
123456789	-783524196	
	785439261	
	-847952361	
	849276513	
	428691735	
	426183957	
	214365879	

First course as the 315.

412365 4 5 16
215364 -
512463 - -
612354 - - -
216453 -

610

142367589
-143725689
471538296
-475812396
784259163
782946531
-897625431
-896574231
958463712
-954387612
539741826
537192168
-315274968
312456789

615

142367589
143728695
471839256
-478912356
794285163
792541863
-957126438
951673284
-569312784
563298147
-625831947
628154379
-216483579
-214365879

466

346825197
894756312
987643512
963181725
126543978 4 15 16
34256 - -
53426 -
42356 - -
467812395
682941753
891564237
539741826
315274968

682

First course as the 466.

126543978 4 15 16
34256 - -
35426 -
42356 - -
45236 -
23456 - -
267813495
683921754
958413672
539741826
315274968

345	609	387
231456789	231456789	231456789
342618597	342618597	342618597
-346825197	-346825197	-346825197
483569271	483569271	483569271
485937612	485937612	485937612
-894756312	894751326	-894756312
-897643512	-897142563	-897643512
968371425	918275463	968371425
-963184725	912586734	963182754
619432857	159623847	619235847
614295378	-156394278	612594378
-1265439784 15	531462978 5 16	-1564239784 15 16
124653 - -	425361 - -	26543 -
165243 - -	415263 -	34562 - - -
162357489	435162 -	283975164
631728594	124365 - -	548169273
637819245	251736489	495716832
386974152	25	628194357
389465721	78	216483957
843592617	785439261	
-845236917	847952361	
428651379	84	
-426183579		
-214365879		

The following are specimens of the plan for obtaining any particular number of changes, such as dates, &c., to the production of which these Caters are peculiarly adapted, as both odd and even numbers can be produced by bobs only.

1841 Bob on 7,8,9

123456	4	5	16
321654		-	-
324156			-
326451			-
623154		-	-
624351			-
524163	-	-	-
523461			-
521364			-
125463		-	-
123564			-
124365			-
421563		-	-
423165			-
324561		-	-
321465			-
325164			-

1842 Bob on 7,8,9

123456	4	5	6	16
213654		-	-	-
312456		-		-
316254				-
613452		-		-
513264	-	-		-
514362				-
512463				-
215364		-		-
214563				-
213465				-
312564		-		-
314265				-
413562		-		-
412365				-
415263				-

The annexed bob sixes bring them round the change preceding the one last given.

178923465
791384265
581126937
581649327
213547698

H. H.

The following bobs bring them round twelve changes after the one last given.

278914365
386215947
579183462
745391862
428917653
317592846

H. H.

1844*	1848*	1854*
123456	231456	123456 4 5 16
326451 5	246351 15,16	126354 -
642153 5,15	634152 5,15	124653 -
214563 4,15	413562 415	421356 - -
251463 15	451362 15	426153 -
152364 5,16	154263 5,16	423651 -
135264 15	125363 15	523146 - - -
314265 15	142563 15	526341 -
123564 5,16	241365 5,16	625143 - -
342165 15	234165 15	623541 -
314265 15	213465 15	423165 - - -
413562 5,16	312564 5,16	425361 -
451362 15	351264 15	421563 -
435162 15	325164 15	124365 - -
534261 5,16	523461 5,16	125463 -
421356 4,15,16	542361 15	521364 - -
236154 6,15	534261 15	524163 -
314725689	273814596	213756489
175832496	278435196	172634589
781254396	189236457	748912653
849671235	182694357	561894372
468192735	864519273	317592846
624319857	658942173	
623948157	231456789	H. H.
298564371		
952483671	These two by Mr. Middleton.	
537192468		
315274968		
Round at two changes.		

* Bob on 7,8,9.

In the two preceding touches the bobs are indicated by the small numerals to the right of the course-ends; as there is not any place constantly called this method of representation is undoubtedly the simplest.

The following table of course-ends will assist the young practitioner to a variety of plain touches. By repeating in the manner shown in the third column, he will obtain the number of changes specified in the fourth column; thus, by a bob at the fourth six of the course, will be produced the course-end, 135426, the third, fourth, and sixth bells being undisturbed it will repeat twice, and consequently give three courses. or 324 changes; as this method is generally rung in the tittums, using seven, eight, nine, as described at page 113, each of the numbers will be augmented two courses, or 216 changes more than the tabular amount.

TABLE OF COURSE ENDS.

231456 produced by	No of the sixes called.	No of courses.	No of changes.
135426	4	3 or	324
536421	4,5	2	216
365421	4.6	5	540
143526	4.15	5	540
136524	4,16	5	540
543621	4,5,15	4	432
346521	4,6,15	4	432
531624	4,5,16	2	216
361524	4,6,16	5	540
146325	4,15,16	4	432
541326	4,5,15,16	2	216
341625	4,6,15,16	5	540
136452	5	3	324
326451	5,6	2	215
143652	5,15	5	540
132654	5,16	2	216
342651	5,6,15	5	540
321654	5,6,16	2	216
142356	5,15,16	2	216
341256	5,6,15,16	3	324
361452	6	3	324
346152	6,15	5	540
362154	6,16	5	540
342651	6,15,16	5	540
243156	15	3	324
246351	15,16	2	216
236154	16	3	324

5074 Bob on 7,8,9

	4	5	6	16
231456				
362154			-	-
364251				-
361452				-
163254		-		-
164352				-
461253		-		-
463152				-
462351				-
264153		-		-
263451				-
361524	-			-
364125				-
463521		-		-
461325				-
465123				-
564321		-		-
561423				-
165324		-		-
161523				-

The nine-course part trice repeated produce 561342978 the following bobs complete the peal.

-376821594
-145273968
-264835197
-652983471
-537162948
315274689
-132547698
123456789

The 6th is bind the 9th throughout.

The following peal comprising the 120 course-ends is produced in 20 courses of 252 changes each, having the large bells in the musical positions of Tittums, Queen's, and home.

5040

231456789	
342617589	1
473861295	2
152674938	5
635842197	3
271436958	5
457861293	3
132654978	5
673842195	3
726984351	2
729463851	1
243576918	2
514863297	3
135986472	2
367215948	3
625431789	2

The above course of bobs four times repeated come round at 1260, or quarter peal.

Nine times repeated, with the addition of two bobs at the 5th and 6th sixes of the 5th course, and a single at the fifth six of the 10th course, thus: 764981352 produce the course-end of the first half: 251456789, which being repeated completes the peal.

H H.

The two following peals are upon a very easy plan; the first is in the regular tittum position the second is a specimen of the tittums inverted.

5001*

231456789
489961275
152684759
631759482
371865924
785236149
412396857
413625

4	5	16
415326		-
514623	-	-
513426		-
516324		-
615423	-	-
613524		-
316425	-	-
315624		-
514236	-	-
516432		-
615234	-	-
614532		-
612435		-
216534	-	-
214635		-
412536	-	-
416235		-

These last nine courses three times repeated with the addition of a bob at the fifth six in the first course of the last part produce the course-end. 214365 the following bobs complete the peal.

278913564
964572318
659247718
426183957 J. Cox.

5187

231456789
489732651
874296351
768529413
516423798

4	5	16
513624		-
315426	-	-
316524		-
216435	-	- -
215634		-
214536		-
412635	-	-
415236		-
416532		-
614235	-	-
615432		-
516234	-	-
514632		-
512436		-

These eleven courses thrice repeated produce the course-end, from which they come round with a bob.

214365798
-123456789

H. H.

* This peal was rung at St. Peter's Mancroft, Norwich. Feb. 25th, 1858, in 3 hours 39 minutes, conducted by J. Cox.

5074

231456 Bob on 789 4 5 6 16

362154 - -
364251 -
463152 - -
462351 -
461253 -
164352 - -
162453 -
163254 -
361452 - -
561234 - - -
564132 -
562431 -
265134 - -
264531 -
462135 - -
465231 -
461532 -
164235 - -

The last nine courses thrice repeated produce the course end 563124.

The following bobs complete the peal.

615439278
197865423
985216734
567891342
568173942
146238597
871592136 H.H.

5097*

231456 4 5 6 16

316425 - - -
613524 - -
614325 -
615423 -
516324 - -
514623 -
415326 - -
416523 -
416325 -
314526 - -
214635 - - -
215436 -
216534 -
612435 - -
615234 -
516432 - -
512634 -
514236 -
415632 - -

The last nine courses thrice repeated produce 213465. The following bobs complete it.

145726389
832574916
358429716
629871543

H. HALEY.

5184

31456789 1 3 13 15

342156879s s -
342156987-
342156798-
342156978s
342156897-
342156789-

314256879s -
314256987-
314256798-
314256978s
314256897-
314256789-

213456879s s s -
213456987-
213456798-
213456978s
213456897-
213456789-

241356879s -
241356987-
241356798-
241356978s
241356897-
241356789-

Repeated.

J. LATES.

* This peal was rung at All Saint's, Fulham, by St. James Society, in 1842, conducted by its composer.

6564

231456789	4 16	4 16
316825197	25346 -	25634 -
894756312	65243 -	43265 - -
897643512	34625 - -	56423 - -
963184725	52364 - -	32546 - -
126543978	46532 - -	64352 -
4 16		
36245 -	23456 - -	24653 -
54326 - -	63254 -	34256 -
62534 - -	45623 - -	65324 - -
43652 - -	32465 - -	42635 - -
	56342 - -	53462 - -
25463 - -		
35264 -	24536 - -	23564 -
46325 - -	64235 -	46253 - -
52436 - -	53624 - -	35426 - -
63542 - -	42563 - -	62345 - -
	36452 - -	54632 - -
23645 -		
53246 -	26354 -	521763489
64523 - -	45236 - -	527314689
32654 - -	63425 - -	382947561
45362 - -	52643 - -	389725461
	34562 - -	875632914
		529783146
26435 - -	24365 -	527391846
56234 -	54263 -	
43526 - -	36524 - -	Round at ten changes.
62453 - -	42356 - -	
35642 - -	65432 - -	H. H.

This contains the sixty 9,7,8's and the sixty 8,9's with the treble before.

6701*

231456789			4	16		4	15	16
		612354	-	-	614325	-		-
342617589		214563	-	-	415263	-		-
473861295		413625	-	-	513642	-		
719543826		315246	-	-	314652	-		
526817349		514236	-		412536	-		-
285763149		416352	-	-	216345	-		-
832476591		612543	-	-	615423	-		-
369182457		213465	-	-	513264	-		-
613294857		316425	-		316254	-		
612435		615234	-	-	624135	-	-	-
	4 16							
215364	- -	514362	-	-	216549378			
514623	- -	412653	-	-	192754683			
413256	- -	213546	-	-	197426583			
316542	- -	314526	-		489367152			
614532	-	416235	-	-	483791652			
412365	- -	615342	-	-	597921834			
215643	- -	512463	-	-	569178234			
513426	- -	213654	-	-	134265879			
312456	-	315624	-					
215436	-	512634	-		Round at three changes.			
516324	- -	214356	-	-				
614253	- -	416523	-	-				
413562	- -	613245	-	-				
312645	- -	314265	-					
214635	-	415632	-	-				
415326	- -	512346	-	-				
516243	- -	216453	-	-				
613452	- -	613524	-	-				
315462	-	312564	-				M	2
516432	-	216534	-					

* This peal contains the greatest number of changes possible with the treble & 7,8,9 in the same relative position. It was rung at Bermondsey, in 1846, composed and conducted by Mr. J. Cox.

7025*

231456789
312617589
473861295
478132695
827569413
259186734
516324

4 5 16

214653 s -
514326 - - -
416253 - -
413652 -
412356 -
216543 - -
612345 - -
615243 -
613542 -
316245 - -
315642 -
312546 -
213645 - -
215346 -
516423 - -
613254 - -
614352 -
612453 -
213564 - -
214365 -
412563 - -
413265 -
415362 -

4 5 16

514263 - -
513462 -
512364 -
215463 - -
513624 - -
315426 - -
316524 -
314625 -
413526 - -
416325 -
415623 -
513246 - -
316452 - -
312654 -
314256 -
514632 - - -
512436 -
516234 -
615432 - -
612534 -
614235 -
416532 - -
412635 -
415236 -
546342 - -
512643 -
213456 - -
216354 -
614523 - -
613425 -

4 5 16

315264 - -
314562 -
312465 -
215634 - -
214536 -
216435 -
615324 - -
214563 s -
213465 -
215364 -
13472658 9
783964152
789431652
841573926
458319726

Round at nine sixes and three changes.

H. HALEY.

* In this peal the sixty courses are comprehended between the singles. Rung at All Saint's, Poplar, in 1846, conducted by Mr. Haley.

ROYAL,

OR COMPOSITIONS ON TEN-BELL METHODS.

PLAIN BOB.

For touches of this method the student has only to refer to the table of course-ends, given in page 69; and if he prefers ringing it in the tittums the following 1000 will serve as an example.

1000

90867452 3
23574869 0
90648572 3
90456283 7
90524367 8
90235748 6
90372856 4
90783624 5
45236789 0

Repeated.

The following peals, one in the tittum position and the others with the large bells in plain course will be sufficient of this method.

5000*

	1	8	9
52436	-		
45623	-	-	
62453	-		-
46253			-
24653			-
36245	-	-	-
23645			-
62345			-

This six-course part three times repeated produce 234567089, then six bobs with nine-ten before completes the peal.

* Bob on 8,9,0 in first course.

H. H.

5040

	W	M	H
64235	-	-	-
26435			-
42635			-
56234		-	-
25463	-	-	
45362		-	
23564		-	-
53462		-	
24365		-	-
34562		-	

The six-course part thrice repeated completes the peal.

H. H.

DOUBLE BOB.

5400

	M	W	H
54632	-	-	
35642		-	
43652		-	
25634	-	-	-
32654		-	
45623	-	-	-

5400

	M	W	H
65432	-	-	-
46532			-
54632			-
63542	-	-	
56342			-
34562	-	-	

6300

	M	W	H
54632	-	-	
63542		-	-
46532		-	
53462		-	-
65432		-	
36452		-	
45362		-	-

H. H. T. HURRY.

DOUBLE NORWICH COURT BOB.

The touches in this method are in the tittums, which are presented by the bob changes, the peals are by the course-ends, as the large bells are at home; but if it is preferred to ring them in the tittums, it may be done by calling two bobs on eight-nine-ten in the first and second courses, when a bob at the coming round completes the peal.

1000*	1360†
426385790	908674235
648273590	782950643
867452390	908473652
785634290	897064352
573826490	897064523
352748690	897064235
908674235	786920435
897026435	908375426
897026354	784960352
897026543	908572364
908674352	897035264
908674523	783920564
234567890	908674523
	234567890

* Omitting the three eight nine's braced reduce it to 40 changes. † The first six bobs as the 1000

5400		6300		7200	
1 3 8		1 3 8		1 3 8	
45362	- - -	64352	- -	64352	- -
53462	-	43652	-	43652	-
34562	-	65432	- -	65432	- -
25463	- -	54632	-	54632	-
54263	-	63542	- -	63542	- -
42563	-	35642	-	35642	-
		56342	-	56342	-
				34562	- -

Each four times repeated.

H. H

7200		8100		9000	
1 3 8		1 3 8		1 3 8	
45362	- - -	45362	- - -	45362	- - -
25463	-	53462	-	53462	-
34562	- -	46532	- -	24365	- -
24365	-	65432	-	43265	-
54263	-	54632	-	52364	- -
32465	- -	63542	- -	23564	-
52364	-	35642	-	35264	-
42563	-	56342	-	42563	- -
		34562	- -	25463	-
				54263	-
T. HURRY.		H. H.		T. HURRY.	

The above peals will also answer for the single method, the same bob changes occurring at a different number of the leads.

Th two following peals, by Mr. Thomas Hurry, are composed with fourth's place bobs, where it will be observed that each bob has the effect of augmenting the course forty changes or two treble leads, by which means the exact numbers of five and six thousands are obtained.

5000				6000			
	M	W	H		M	W	H
54632	-	-		43526		2	-
36245	-	-		46325	2		-
52643	-		-	43265		-	2
45623		-		42635		-	2

Each four times repeated.

TREBLE BOB,

OXFORD AND KENT.

5000

	M	W	H
25634	2	1	1
54632	1		2

Four times repeated.

5200

	M	W	H
32654	2		2
56234		2	2

Four times repeated

5040*

	M	W	H
52364	2	2	2
65243	2	2	2
53246	1		2

Twice repeated.

T. HURRY. J. REEVES.

Each of the following peals are in two equal parts. having the sixth its extent wrong and right.

5200

	M	W	H
52364	2	2	2
25463	2		2
64523		2	2
43526	1		2
45236		1	2

5200

	M	W	H
52364	2	2	2
24365	1		2
23645		1	2
32546	2		2
45236		1	2

6000

	M	W	H
24536		1	2
46532	1		2
24365	2	1	2
45362	1		2
63542		2	2
32546	1		2

Each of these three to be repeated.

H. H. H. H. C. Middleton.

* This peal was rung at St. Peter's Mancroft, in 1827, in 3 hours and 52 minutes, called by Mr. S. Thurston. The tenor was rung by Mr. T. Hurry.

6320

	M	W	H
52364	2	2	2
24365	1		2
52643	2	1	2
23645	1		2
52436	2	1	2
54326		1	2

7200

	M	W	H
52364	2	2	2
24365	1		2
65432	1	2	2
64352		1	2
63542		1	2
52436	1	1	2
54326		1	2

7440

	M	W	H
52364	2	2	2
24365	1		2
62453	2	2	2
26354	2		2
64352	1		2
52436	1	2	2
54326		1	2

T. HURRY. H. H.

7440

	M	W	H
52364	2	2	2
24365	1		2
52643	2	1	2
56423		1	2
24653		2	2
52136	2	2	2
54326		1	2

8000

	M	W	H
36452	1		2
63254	2		2
52364		2	2
64523	2	1	
46325	2		2
23645		2	2
26435		1	2
24365		1	2

Each to be repeated.

H. H.

The last peal contains the extent with the fifth and sixth bells, namely, each of them twenty-four times wrong and twenty-four times right.

7040

	M	W	H
24536		1	2
62345	2	1	2
63425		1	2
24365		2	2
45362	1		2
63542		2	2
32546	1		2

7120

	W	M	H
62534	2	1	2
35264		2	2
54263	1		2
52643		1	2
23645	1		2
32546	2		2
45236		2	2

H. HALEY.

The three following peals are by Mr. Henry Johnson. of Birmingham, each having the fifth and sixth twenty-four times wrong and twenty-four times right.

7120

	M	W	H
54326		2	2
53246		1	2
36245	1		2
25463	1	1	2
45652	1	1	2
52364	1	2	2
24365	1		2

7120

	M	W	H
24536		1	2
62345	2	1	2
35426	1	1	2
46253	1	1	2
42563		1	2
25364	1		2
32465	2		2

10000

	M	W	H
36452	1		2
54632		2	2
56342		1	2
53462		1	2
35264	2		2
62534		2	2
26435	2		2
34625		2	2
36245		1	2
32465		1	2

In the first of the following peals the large bells are in the tittum caters position, with the fifth and sixth behind the ninth. The second is a novel production, by Mr. John Lates, of Birmingham; the sixth being home at twelve course-ends out of the fourteen courses of which it is composed. Each of these peals present new features in these methods.

6000*

764325 one middle, one 7th's, & two at home
324576 one middle, two 7th's, & two at home
542376 two the wrong and two at home
523476 one the wrong and two at home
345276 one the wrong and one at home
234657 in, one 5th's, one 7th's, & one wrong.

Repeated. H. H.

6160

35426 one middle, in, and one in fifth's
54326 one sixth's, out, and one in seventh's
43526 one sixth's, out, and one in seventh's
32654 one the middle and two the wrong
25346 in, and one in fifth's
53246 one sixth's, out, and one in seventh's
32546 one sixth's, out, and one in seventh's.

Repeated.

* This peal was rung at St. Peter's church, Bradford, in 1857, called by Josiah Barraclough.

The next peals are in one continued course of bobs, the first and second respectively having the sixth its extent wrong and right; the third is also of the same quality, and is in the tittum position; and in the fourth peal, the fifth and sixth are their extent wrong and right.

5000

	M	W	H
36452	1		2
23564	2	1	2
34562	1		2
42563	1		2
24365	2		2
63425		2	2
35426	1		2
24536		2	2
25346		1	2
23456		1	2

H. H.

5040*

	M	W	H
52364	2	2	2
24365	1		2
45362	1		2
54263	2		2
52643		1	2
63425	1	1	2
35426	1		2
24536		2	2
35346		1	2
23456		1	2

J. REEVES.

6000

	M	B	W	H
56234	2	-	1	
34562	2		1	
43265	2			2
45362	2			1
52364	1			2
25463	2			2
64523			2	2
43526	1			2
25346			2	2
34256			1	1
52436			2	2
234564th's & in.			2	

H. H.

7320

	M	W	H
52364	2	2	2
24365	1		2
62453	2	2	2
26354	2		2
64352	1		2
52436	1	2	2
54326		1	2
25463	2	2	2
53462	1		2
62345	1	2	2
63425		1	2
64235		1	2
25346	1	1	2
23456		1	2

H. H.

* This peal was rung in the Kent method, at St. Andrew's by ten of the Society of St. Peter's Mancroft, in 3 hours and 27 minutes, in the year 1842, conducted by the author.

In the next peal the large bells are in the tittum caters position, and consist of the least possible number of changes in which the fifth and sixth bells can be retained their extent behind the ninth. The following are the course-ends, and the plan by which they are produced.

5960

764325 one middle, one 7th's, & two at home
324576 one middle, two 7th's, & two at home
542376 two wrong and two at home
235476 one wrong and one at home
453276 two wrong and two at home
523476 two wrong

632175 one middle, in, 5th's, 7th's, & 2 at home
423675 two wrong and two at home
364275 one wrong and one at home
246375 two wrong and two at home
436275 two wrong
234567 in, 5th's, 7th's, and one wrong. H. H.

As this is so near an approximation to 6000 instead of allowing the bells to come round the additional four bobs beneath will complete the number of 6480, thus :— W H
1 1
1 1

CINQUES,

OR COMPOSITIONS ON ELEVEN-BELL METHODS.

PLAIN BOB.

As these Cinques are but little practised it would be useless to insert a great variety; the first and second touches given under the head of Bob Caters, in page 102, may be applied to this, where the numbers become 836 and 1320; these, with a peal in the tittums, will serve as examples.

5016

	1	9	10
7-64235	-	-	-
52643	-	-	-
36524	-	-	-
45362	-	-	-
34562			-
25436	-	-	-
34256	-		-

The bobs at the right of the course-ends twice repeated produce 2345679x80, then a bob on 90x, thus: x098765432, completes the peal.

H. H.

GRANDSIRE.

In Grandsire ringing a multiplicity of bobs is an improvement to its music, inasmuch as a bob causes double dodging, which is a quality much admired by the best judges of the art; the touches and peals are therefore constructed upon that plan The odd numbers are obtained by eight-nine lying still on going off, which is not only the simplest way of going into the tittums but also the one which has the best effect, as the large bells can be retained in that musical position till within a few changes of coming round.

264		396	
75293x4068	1	75293x4068	1
x970582634	1	x970582634	1
68x4039275	2	80x6947352	1
346285x709	1	468302x597	1
32456		42356	
Repeated.		Twice repeated.	

615

65324 8th in 3
42563 8th in 3
76482Y5039 4
2574360980Y 6
64285Y7039 1
Y860492357 4
39Y7058264 2

Round at three leads.

616

972Y503846 2
8096Y47325 2
9Y80762453 7
469305Y287 1
534267890Y 1

Repeated.

660

35426*
52436 11th in 4
23456 11th in 4
752Y304968
0Y79582634 1
680493Y275 2
346285079Y 1
52374Y6980 1
Y759203846 1
80Y6947352 2
468302Y597 1
234567890Y 1

* 9th in and out at 3 with a double.

1056

35426
43526 7th in 4
32546 11th in 4
53246 7th in 4
34256 11th in 4
23456 7th in 4

First and last courses as the 660.

1056

972Y503846
8096Y47325
9Y08762453
469305Y287
45326
52346 8th in 4
35246 7th in 4
54236 8th in 4
875Y304926 2
9086Y27453 2
8Y90765234 7
268403Y597 2

Round at two leads

1275

65324 8th in 3
52364 8th in 4
46253 8th in 3
65243 8th in 4
54263 8th in 4
25463 7th in 4
42563 7th in 4

Round as the 615.

The two following peals, the first with the seventh behind the eleventh and round at back stroke; the other by eight-nine lying still at going off, and brought round at hand, will conclude Grandsire Cinques.

5104

65324 9th in & out at 3
36524 7th in 4
53624 7th in 4
32654 11th in 4
25634 11th in 4
62534 7th in 4
56234 7th in 4

43652 11th in 3
64352 7th in 4
36452 7th in 4
65432 11th in 4
53462 11th in 4
45362 7th in 4
34562 7th in 3

The latter seven courses thrice repeated produce the course end 2345678x90. The two following bobs, which are termed the tenth and eleventh before, complete the peal.

902Sx67453
2x907856Sl

Round at five leads.

H. H.

5147

65324 8th in 3
52364 8th in 4
26354 8th in 4
32654 7th in 4
63254 7th in 4
35264 8th in 4
56234 8th in 4
25634 7th in 4
62534 7th in 4
23564 8th in 4
36524 8th in 4

This part twice repeated produce the course-end.

45362

26543 8th in 3
64523 8th in 4
42563 8th in 4
76182x5039 1
2574369Sx 6
64285x7039 1
x860492357 1
39x7058264 2

Round at three leads.

H. H.

DOUBLE GRANDSIRE.

836

972Y503846	1
689403Y572	6
346582970Y	5
25374Y6089	5
9028Y67453	6
2Y90785634	8
	7

Round at seven leads.

1122

972Y503846	1
689403Y572	6
25673Y4089	6
6325478Y90	8
246385970Y	8
9028Y67453	7
2Y90785634	8
	7

1386

972Y503846	1
689403Y572	6
25673Y4089	6
342685970Y	3
6435278Y90	9
326485970Y	8
4235678Y90	9
2345678Y90	4
9028Y67453	2
2Y90785634	8

5060

972Y503846	1
689403Y572	6
5362478Y90	1
3652478Y90	4
543682970Y	8
6452378Y90	9
9068Y37524	2
6Y90782345	8
64523 at	7

Four times repeated.

H. H.

STEDMAN'S PRINCIPLE.

As the bobs at the 5th, 6th, 7th, 18th, and 19th sixes on Cinques produce similar course-ends to bobs applied at the 4th, 5th, 6th, 15th, and 16th on Caters, the practitioner has only to refer to the table of course-ends for calling plain touches on this; the only difference being an augmentation of the number of changes, in the ratio of twenty-two to eighteen, or, in lowest terms, as eleven to nine. As an example of this, let the 5076 of Caters be transferred to Cinques, and we shall have

$$\frac{11\times5076}{9}=6204 \text{ changes.}$$

The first of the following peals, which consists of 5014 changes, was rung upon handbells (retained in hand)* by six members of St. James's Society, London, on the 10th of Feb., 1851. This extraordinary performance occupied 3 hours and 28 minutes. The truth of it was attested by several scientific persons: it was conducted by Mr. H. Haley, and rung as follows:—

H. Haley, treble and 2nd	M. A. Wood, 7th & 8th.
J. Cox, 3rd and 4th	W. Cooter, 9th & 10th
G. E. Ferris, 5th and 6th	J. Dwight, 11th & tenor.

* This will be understood in future, as no unscientific mode of ringing will be noticed.

5014

231456 — Bob on 9,0,ɤ — 5 6 7 19-

315624 - - - -
314526 -
316425 -
613524 - -
614325 -
416523 - -
413625 -
415326 -
516243 - -
513642 -
315246 - -
316542 -
613245 - -
615342 -
612543 -

This seven-course part thrice repeated, with the addition of a course called at 6 & 19 brings 315274ɤ6089 from which the three bobs beneath bring them round.

31245670ɤ89
14362057789
31245678 90ɤ

8050

231456 — Bob on 9,0,ɤ — 5 6 7 19

315624 - - - -
314526 -
316425 -
613524 - -
614325 -
615423 -
516324 - -
216453 - - -
213654 -
214356 -
412653 - -
413256 -
416352 -
614253 - -

The last seven courses thrice repeated produce

215436
216534 -
214635 -
415326 - -
416523 -
413625 -
315246 - -
316542 -
612435 - -
615234 -
614532 -

The last five courses thrice repeated. Round as the preceding peal.

H. HALEY.

The following are upon the plan of the tittums inverted, with the 8th before the 11th, which position continues throughout. They are brought round at hand from the course-end beneath, by a bob-single thus :—

214365789ᴛ0
1234567890ᴛ

The first course of each as the 531.

531

2314567890ᴛ
3426185970ᴛ
48903ᴛ61275
804ᴛ9132675
17052684ᴛ39
1756042ᴛ839
92ᴛ08567314
259701ᴛ6843
516423 5 6 19
615324 - -
614523 -
214365 - - -

795

516423
615324 - -
614523 -
613425 -
213564 - - -
214365 -

927

5 6 19
516423
216354 - - -
612453 - -
512364 - - -
215463 - -
213564 -
214365 -

6339

516423
513624 -
315426 - -
316524 -
216435 - - -
215634 -
214536 -
412635 - -
415236 -
416532 -
614235 - - -
615432 -
516234 - -
514632 -
512436 -

The 11-course part thrice repeated produce 214365. H H. Omitting 1, 3, or 5 braces the Nos. become 6075, 5283, & 5019.

In the following the large bells are in the same position as the preceding, but brought round at back stroke.

790	922	1054
— — 5 6 19	— — 5 6 19	— — 5 6 19
516423	516423	516423
513624 -	216354 - - -	513624 -
213456 - - -	214653 -	514326 -
312654 - -	213456 -	214653 - - -
314256 -	312654 - -	213456 -
The 4 bobs beneath bring them round.	314256 -	312654 - -
123648597x0		314256 -
74x35682019		
7436x250819		
95x30781624		
Round at 3 sixes and 2 changes.		

The full effect of the tittum position in this method is attained simply by eight-nine lying still at going off, when the five large bells are immediately in the tittums, with the 8th behind the 11th, in which position they remain till the course-end 416523 comes up, from which they are readily brought round at hand by the following bobs:—

154369287 0x
59801x36472
905x8614372
67024395x18
6723054x918
8402x691357
428601x3957

Round at two sixes and one change.

393

146325	5, 18, 19
416523	6, 7, 19

912

516324	4, 5, 17, 19
615423	6, 19
215364	5, 6, 19
214563	19
614325	5, 6, 19
416523	6, 19

6333

231456	
516324	4, 5, 17, 19
216453	5, 6, 19
213654	19
214356	19
412653	6, 19
413256	19
416352	19
614253	6, 19
613152	19
316254	6, 19
314652	19
312456	19

The eleven courses thrice repeated produce

214563	H. H.
614325	5, 6, 19
416523	6, 19

Omitting one 1, 3, or 5 braces the numbers will be respectively 6069, 5277, and 5013.

In the two following touches the four large bells are in the same position as the preceding by bobs only, consequently they come round at back stroke.

528

480x3961275	
56301127x98	
49306728 5x1	
9x180732615	
531426 part end.	

Repeated.

1056

	7	18	19
315621	-	-	-
463125	-	-	-
614523	-	-	-
156321	-	-	-
531426	-	-	-

The first and last four bobs as the 528.

The two following peals are with the eighth behind the 11th and round at back stroke.

5014

2314567890Y
480Y3961275
56301427Y98
07986Y43521
49106Y38572

	5	6	19
215634	-	-	-
214536			-
216435			-
612534		-	-
614235			-
615432			-
516234		-	-
514632			-
415236		-	-
416532			-
412635			-

This course of bobs from the line across twice repeated produce the course-end.

514263

614352 - - -
612453 -

The following bobs bring them round.

490Y1832675
Y2978541063
56302417Y89
0789 Y43512
790Y8365412
48106Y39275 H. H.

Round at 18 sixes & 2 changes.

5148

2314567890Y
480Y3961275
56301427Y98
07986Y43521
49106Y38572

	5	18	19
546132	-	-	
514632		-	
461352	-	-	
136542	-	-	
653412	-	-	
345162	-	-	
314562		-	
351462		-	
142536	-	-	-

This course of bobs from the line across thrice repeated, produce 234156. The following bobs complete the peal.

190y3864275
9y841706352
62304157y89
79y50481236
9574y102836
38106y59274
8y390715642
95y20783614

Round at three sixes and four changes.

H. H.

5014

231456	
513426	1, 4, 5, 17
315624	6, 19
314526	19
413625	6, 19
415326	19
416523	19
614325	6, 19
615423	19
215364	5, 6, 19
214563	19
213465	19
312564	6, 19
314265	19
413562	6, 19
412365	19

These seven courses twice repeated produce

514236	
316254	5, 6
614253	6
416352	6, 19
612354	6
216453	6, 19
613452	6
312456	6
312456	1
312456	1

C. MIDDLETON.

7392*

231456	
136524	1, 5, 19
346521	7
416523	7
134625	7, 19
463215	5, 18
326145	5, 18
312645	18
361245	18
126435	5, 18
642315	5, 18
234165	5, 18
213465	18
312564	6, 19
351264	18
325164	18
523461	6, 19
542361	18
534261	18
435162	6, 19
413562	18
451362	18
154263	6, 19
125463	18
142563	18
241365	6, 19
234165	1, 18
213465	1, 18
241365	18

Repeated.

H. JOHNSON.

* This peal was rung at St Martin's, Birmingham, in four hours and fifty-five minutes, in the year 1848: it was conducted by its composer.

7126*

231456	5	6	7	19
315624	-	-	-	-
513426		-		-
516324				-
514623				-
415326		-		-
416523				-
413625				-
314526		-		-
316425				-
613524		-		-
614325				-
615423				-
215364	-	-		-
214563				-
213465				-
312564		-		-
314265				-
315462				-
513264		-		-
514362				-
415263		-		-
413562				-
412365				-

The second part twice repeated produces the course-end.

514236

	5	6	19
314652	-	-	-
412653		-	
214356		-	-
416352		-	
612354		-	
216453		-	-
613425		-	
-31245670y89	-		
-1436205y789	1		
-3124567890y	21		

G. GROSS.

Late of the Society of Cumberlands.

* Rung by the Society of Norwich Scholars, at St Peter's Mancroft, in 1844; the performance occupied 5 hours and 17 minutes, conducted by Mr. J. Truman

7524*

231456	Bob on 5	6	9,0,y 7	19
315624	-	-	-	-
314526				-
316425				-
613524			-	-
614325				-
416523			-	-
413625				-
415326				-
514623			-	-
513426				-
516324				-
615423			-	-
513264	-			-
514362			-	-
415263				-
413562				-
314265			-	-
315162				-
312564				-
213465			-	-
215364				-
211563				-
412365			-	-

The second part twice repeated produces the course-end,

514236	5	6	18	19
314652	-	-		-
412653		-		
213654		-		
312456		-		-
216453		-		
613452		-		
316254		-		-
614253		-		
416352		-		-
612354		-		
-23145670y89	-	-		
-3426105y789	1			
-2314567890y	21			

J. COX.

* Rung by the Society of College Youths at St. Giles Cripplegate, London, in 1851: it was accomplished in 5 hours and 24 minutes, conducted by Mr. J. Cox.

8376

2314567890y

480y3961275 [4]

8y914706352 [2]

621350y8749 [5]

04972y83651 [5]

47y30598216 [2]

735841y9062 [2]

3819765y420 [2]

896y3215704 [2]

5471y302968 [6]

413256

	5	19
316542	-	-
612435	-	-
215364	-	-
514623	-	-
412653	-	
213546	-	-
316425	-	-
615234	-	-
513264	-	
316254	-	

	5	19
614532	-	-
412365	-	-
215643	-	-
513426	-	-
312456	-	
216534	-	-
614325	-	-
415263	-	-
516243	-	
614253	-	
413562	-	-
312645	-	-
215436	-	-
516324	-	-
612354	-	
214563	-	-
413625	-	-
315246	-	-
514236	-	
416352	-	-
612543	-	-
213465	-	-
315624	-	-
512634	-	
214356	-	-
416523	-	-
613245	-	-
315462	-	-
516432	-	
613452	-	

	5	19
312564	-	-
214635	-	-
415326	-	-
512346	-	
216453	-	-
613524	-	-
314265	-	-
415632	-	-
513642	-	
314652	-	
412536	-	-
216345	-	-
615423	-	-
512463	-	
213654	-	-
314526	-	-
416235	-	-
615342	-	-
514362	-	
431652	5	18 22
132654	6	
231456	1 6	19 22

J. COX.

MAXIMUS,

OR COMPOSITIONS ON TWELVE-BELL METHODS.

PLAIN BOB.

It would be superfluous to insert touches of this Maximus, as any required number of courses of the corresponding methods on eight or ten bells can be applied to it, the course-ends of each being similar. The same observation holds with respect to the succeeding methods. Peals of 5000 and upwards, will therefore be proceeded with.

5016

W	M	H
45236	-	-
62534	-	-
56234		-
42563	-	- -
54263		-
25363		-
34562	-	-

The last four courses three times repeated.

5280

W	M	H
64235	-	- -
26435		-
42635		-
56234	-	-

Four times repeated.

H. H.

DOUBLE BOB.

5280				6600			
	M	W	H		M	W	H
54632	-	-		65432	-	-	-
35642		-		45236	-		
64352		-	-	25364	-		
56342		-		46532	-		-
				56234	-		

Each four times repeated. H. H.

If the three bobs braced are omitted, the number of changes will be reduced to 6072, and if omitted in any three parts the result will be 5016.

SINGLE AND DOUBLE COURT,

WITH

SINGLE AND DOUBLE NORWICH COURT.

Either of the two following peals will serve for the first and fourth methods, the bob changes being the same in each, notwithstanding they occur at a different number of the lead. And the third peal will answer for either the second or third methods of Court.

5016

4	5	6
25634	-	-	-
56234		-	
65432	-	-	
54632		-	
24536	-		
23645	-	-	-
36245		-	
63542	-	-	
35642		-	
25346	-		
24653	-	-	-
46253		-	
64352	-	-	
43652		-	
34256	-	-	
42356		-	
35426		-	-
52436			-
23456			-

T. HURRY.

5016

1	4	7
35264	-		-
56342	-		-
64523	-		-
42635	-		-
43526	-	-	-
32465	-		-
26354	-		-
65243	-		-
54632	-		-
53246	-	-	-
34562	-		-
46325	-		-
62453	-		-
25634	-		-
52436	-	-	
53624	-	-	-
35426	-	-	
42356		-	-
23456		-	

H. H.

6000

2	3	8	
52364	-	-	-	)
23564			-	)
35264			-	)
53462	-		-	
34562			-	

Four times repeated. T. HURRY.

By omitting the three bobs braced, the number will be reduced to 6072 changes, and omitting them in any of the parts it will be 5016.

TREBLE BOB, OXFORD & KENT.

5184*

	M	W	H
34256			2
53462	2	2	2
65324	2	2	2
65243	2	2	1
43526	1	1	2
45236		1	2
63254	1	1	1
23456	1		

J. COX.

5376†

	M	W	H
36452	1		2
62453	1		2
64523		1	2
43526	1		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

H. HALEY.

5040

	M	W	H
52364	2	2	2
24365	1		2
42563	2		2
45623		1	2
24536	2	2	2
25346		1	2
23456		1	2

H. H.

5136

	M	W	H
52364	2	2	2
25463	2		2
53462	1		2
65324	2	2	2
24536	1	2	2
25346		1	2
23456		1	2

H. H.

The two following peals are in the tittums, each having the 6th twenty-four times at home.

5040

	M	B	W	H
36452	1	–		2
34562			1	2
63425	2		2	2
35426	1			2
24536			1	2
25346			2	2
23456 4th's & in.			1	2

H. H.

5088

	M	B	W	H
25364	2	–	2	2
34625	1		1	2
43526	2			2
25346			2	2
34256			1	1
52436			2	2
23456 4th's & in.			2	

C. Middleton.

* Rung by the Society of College Youth's at St. Saviour's, Southwark, in 1849. conducted by its composer.

† Rung by the Society of Cumberland's at St. Giles' Cripplegate. in 1848, conducted by its composer.

6000

	M	W	H
64352	1		1
56243		1	

Four times repeated.

H. H.

6240*

432567890YZ
4257396Y8Z0
3542678 90YZ
34358207Z9Y
45623 part end.

Four times repeated.

6144

	M	W	H
52364	2	2	2
26354		2	
52643	2	2	2
45263	2	2	2

Repeated.

H. H.

8256

	M	W	H
26354	2		1
23564		1	2
32465	2		2
34625		1	2
43526	2		2
45236		1	2

Repeated.

H. H.

Three of the foregoing peals are on the most simple construction; the other has the sixth twenty-four times wrong and twenty-four times right.

* Rung by the Society of Norwich Scholars, at St. Peter's Mancroft, in 1778, in five hours and twenty-two minutes, called by Mr. T. Barton.

GRANDSIRE CINQUES.

1868 lay 8-9 still at going off.

The treble goes no further than 10th place the first treble lead thus :—

9604x382715
906x4837215
62354 8th in 3
25364 8th in 4
32564 7th in 4
53264 7th in 4
23465 wrong
36425 8th in 4
43625 7th in 4
64325 7th in 4
34526 wrong
42536 8th in 4
54236 7th in 4

875x304926
9086x27453
8x90765234
268403x597

Round at 2 leads

1869 lay 8-9 still at going off.

65324 8th in 3
52364 8th in 4
35264 7th in 4
23564 7th in 4
53462 wrong
36452 8th in 4
46253 wrong
24653 7th in 4
62453 7th in 4
25463 8th in 4
42563 7th in 4

76482x5039
2574369 80x
64285x7039
x8604923 57
39x7058264

Round at 3 leads.

These came too late for insertion under their proper heads.

Having inserted a copious variety in the most practical systems, I shall in conclusion, endeavour to show the young practitioner the method of ascertaining whether a course-end is in or out of course, simply by a knowledge of the three following, with five-six at home:

42356
34256
23456

Adopting the hypothesis in page 43, it will appear, if the assumed course-end comes to one of those, by bringing five-six home, it is in course; if not, it must be out of course. Let any course-end be assumed:—

46532

transposed 42356 this coinciding with those above given, shows 46532 to be in course. Now let any other be assumed:— 63524

transposed 43256 this being contrary to the given course-ends, shows 63524 to be out of course. If five-six cannot be brought home the first transposition the process must be repeated.

These course-ends which are now found by trial, will soon become familiar at sight. This principle extends further,—it frequently happens in Stedman ringing, that the treble is involved in the course-end; in that case, if it falls into an odd bell's place, the other figures read as in the preceding: but if it falls into an even bell's place, the course-end must be considered contrary; this will be evident by the following example:

123456 in
213156 out
231456 in
234156 out
234516 in
234561 out

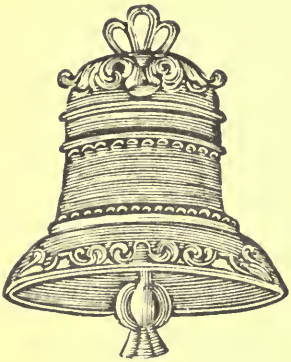
Hence it appears that a knowledge of the 720 course-ends is as easily attainable as that of the 120, which is a matter of considerable importance in the business of composing and conducting peals. In the same manner it may be proved whether any given change is in or out of course, simply by transposing by four, or any multiple thereof.

LINES

BY S. NOBBS,

Late of the Society of Norwich Scholars.

How oft mankind exert their utmost powers
To find amusement for their leisure hours;
While some in bowls or cricket will unite,
And in such healthful exercise delight,
Others on chess or music fix their mind,
Requiring practice of no trifling kind:
Those who are gifted with a tuneful voice,
In singing glees or such like strains rejoice:
While some to far less noble arts descend—
Their time thus wasted oft in ruin end.
Then why should ringing be set down as naught
By those who never gave the science thought?
Its exercise amusement doth impart
To those who are proficient in the art:
In it our energies are all required—
Mental and physical, and zeal untired.
Its compositions intricate are found;
While in its changes harmony abound.
Then let despisers who the art condemn,
Leave us to follow it—we grant their choice to them.



BELL-FOUNDRY, WHITECHAPEL,

ESTABLISHED 1738.

MEARS AND STAINBANK,

PRIZE MEDALISTS

AT THE

GREAT EXHIBITION,

MANUFACTURERS OF

CHURCH CLOCK, HEMISPHERICAL, & EVERY OTHER DESCRIPTION OF BELLS,

GENERAL BRASS FOUNDERS,

Maker of the Bells at Osborne House,

SANDRINGHAM, AND MARLBOROUGH HOUSE,

Great Bell Westminster,

Weight 13 Tons, 10 cwt., 3 qrs., 15 lbs.

GREAT BELL OF MONTREAL,

Weight, 11 Tons 11 cwt.;

GREAT PETER OF YORK,

Weight, 10 Tons 15 cwt.;

GREAT TOM OF LINCOLN,

Weight, 5 Tons 8 cwt.;

ST. DUNSTAN OF CANTERBURY,

Weight, 3 Tons 10 cwt.;

One peal of 15 bells, Eight peals of 12 bells, Two peals of 13 bells, Thirty-seven peals of 10 bells, 200 peals of 8 bells. 279 peals of 6 bells, 85 peals of 5 bells; with numerous other peals of smaller number, and single bells of various sizes.

List of peals, weight and price of bells, with estimates of cost of frame, hanging, re-casting, &c., forwarded on application.

Musical Hand-bells in Sets, from One to Seven and a half Octaves.

Extract from the GLOCKEN RUNDE, 1858, by H. OTTE.

"Messrs. Mears, Bellfounders, Whitechapel, London, successors to Messrs. Rudhall of Gloucester, have surpassed, in the ability they have displayed all the Bellfounders ever known. The celebrated Messrs. Rudhall themselves had founded from 1684 to 1774 no less than 3695 bells, but Messrs. Mears & Co. are carrying on their business on a larger scale at their Establishment, where hundreds of bells are founded every year, and where it is not unusual to see as much as 15 to 20 tons of metal in the furnace."

JOHN WARNER & SONS,

Bell Founders

To Her Majesty

BY SPECIAL APPOINTMENT.

8, Crescent, Cripplegate, London.

INTERNATIONAL EXHIBITION, HYDE PARK, 1851.

A Prize Medal awarded for Bells.

INTERNATIONAL EXHIBITION, SOUTH KENSINGTON, 1862.

A Prize Medal awarded "for excellent workmanship and ingenuity applied in Chiming Bells by machinery." SEE JURORS' REPORT.

A List of some of the Bells cast by John Warner & Sons, including

BIG BEN,

The LARGEST BELL ever cast in England.

And numerous Testimonials will be forwarded on application.

☞ An experienced Bell-hanger sent to inspect, report, and advise on the state of Peals out of repair; and Estimates furnished for New Oak Frames and Fittings, for the repair of old ones, and re-casting cracked bells.

MUSICAL HAND BELLS.

Warners' Chiming Apparatus.