Issue 19, Winter 2019/20

MECHANICAL MUSIC WORLD

A L'Épée Prototype Experiment

An Association of Musical Box Collectors Publication

From the Editors' Desk

I am sure you will be familiar with the old adage 'One man's junk is another man's treasure' (updated from the original 'One man's drink is another man's poison') and that is just what happened when David was coerced into accepting a tea-chest full of dirty and rusty gramophone parts. Stored long years in a garage, heavy and awkward to move, it was an unprepossessing beginning. When we finally got around to delving into the box a large variety of useful phonograph parts emerged before we discovered a musical box movement - no case, just very sad remains. It is the subject of a lengthy article later in the journal (and much discussion between members of the AMBC). How very nearly that movement came to being recycled as scrap and a stage in the evolution of rechange musical boxes lost forever.

L'Épée features in this issue as a most interesting and innovative manufacturer based in France, although working very close to the Swiss border. He was the maker of our prototype and coincidentally of Paul Bellamy's Big Little Musical Box. I hope you will enjoy Paul's walk down Memory Lane (or Portobello Road in this case) as much as I did.

Juliet Fynes has contributed another well-researched article on more modern musical artefacts, this time musical Teddy bears. Obviously worth keeping an eye out for. We once found one at a church jumble sale. Thanks to Juliet we now know a little more about the subject.

It is good to read of the 50th Anniversary of Siegfried Wendel's collection in Rüdesheim, As an association, over the years we have seen so many museums displaying self-playing instruments closing their doors. Douglas Berryman once told us that ten years was about as long as a museum would remain financially viable, so the Wendel Collection is to be congratulated. Of course, having the backing of the local City and tourism authority must be a considerable help.

Our thanks as always to our contributors and especially to Chris Fynes for the beautiful illustrations.

We hope it is not too late to wish you all a Happy New Year!

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Chairman's Report

I trust you all had a good Christmas. Thank you for all your cards.

I hope you can make use of the four mechanical music themed postcards included with the last edition, there are some spares available at 50p per sheet plus postage if you contact me.

We are just coming up to our 5th anniversary on 22nd February 2020. That day in 2015 a fairly small number of people convened at the Old School and agreed to launch our new Association. Since then the membership has risen dramatically, despite the sad loss of some of our founder members. We thought of printing an occasional newsletter but upped our aspirations and our first publication was a full colour 24 page magazine in the summer of 2015. Since then we have produced four magazines a year of 28 or 32 pages. We strive to keep the quality as high and the content as varied as possible, as it is the only benefit to much of our far-flung membership unable to get to meetings. We have also published two major hard back books, two small booklets and two CDs.

We held our first and very successful auction in September. It was greatly enjoyed and due to enthusiastic demand we intend to hold another auction in the not too distant future.

At the Old School we have just hosted our 12th annual group visit from a local boys' school who always come the week before Christmas. This year the theme was optical toys, praxinoscopes etc. and toys driven by gramophone. For good measure we also played cylinder and disc musical boxes and organettes. The hope is that a few of the boys, whose ages range from 9 to 16 years, may develop an interest in mechanical music.

Wishing you all a happy and healthy New Year.

Heartfelt Plea

This time last year we reminded members that **all** membership subscriptions fall due at the end of February regardless of date of joining.

The majority of members comply with this rule but there are still a few who pay at different times, and even the wrong amount, having failed to note the small increase since they joined.

This causes an additional administrative burden and impacts on our cash flow. So please, please, if you are one of the guilty, do try to comply to make life easier for the treasurer and membership secretary.

Current membership subscriptions:

UK single £13 (two members at the same address £15), Europe £22 (£24), The rest of the world £28 (£30).

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Feel free to contact any of us.

Publication Dates for "Mechanical Music World"

Winter issue 28th January; Spring issue 28th April; Summer issue 28th July; Autumn issue 28th October

We need articles and advertisements (unless repeats) to reach the Editors at least one month in advance of these dates. Please allow more time for involved articles with many illustrations.

AMBC Meeting Dates

Please contact the host to ensure a place is reserved and for needs to be catered for. Include any guests you may be thinking of bringing. Also please advise if a booking has to be cancelled so that places can be offered to others.

Saturday February 15th – Petworth - see Page 22.

Saturday May 23rd - BHI - see Page 5.

Chanctonbury Ring at the Old School

Sunday 26th April – AGM, lunch provided

Sunday 14th June – Organ Grind, bring your own lunch, puddings provided

Sunday 13th September – lunch provided

Sunday 29th November – lunch provided

Meetings start at 10.30 a.m. in the canteen.

Please let Ted know if you intend to come.

AMBC Meeting

Christmas meeting at the Old School

23rd November 2019

Once again, another year has quickly flown by. The day was overcast but mild and the meeting packed with both members and anticipation.

Fig.1: Ted (on right) with a musical novelty

The morning began with modern-day musical novelties Fig. 1. Most were Christmas themed, according to our tradition. No pre-Christmas meeting is complete without the battling santas, which never fail to amuse this adult audience, the military band and other seasonal novelties. The late Daphne Ladell had wide-ranging interests and it was a pleasure to remember how she always managed to produce a new Christmas novelty each year to entertain us.

There were just a few more serious items. One an exceptionally fine 11-inch disc playing Lochmann movement Fig. 2. It had been an orphan for some unknown reason and its case was missing. However, it has been refitted in another old case completely unrelated to that of a musical box, Fig. 3. The

Fig 2: 11" Lochmann in replacement case

movement has two combs, tuned to almost the same scale but slightly different pitch so that two notes played together give a sublime harmonie effect. The musical performance is exceptional. Re-homing an instrument is an important and overlooked factor in musical box preservation.

Next was a David Lecoultre movement that had previously been demonstrated in an unrestored condition. One of the airs had suffered a run so the cylinder had been completely re-pinned expertly by Max Plummer who also re-stepped the snail, replaced a tooth tip, renewed some dampers and reset the comb.

Fig 3: The case for the Lochmann

David Lecoultre movements usually have hooked teeth as did those of his brother Henri-Joseph Lecoultre. Fig. 4 shows one form of hooked tooth. The teeth on the movement were similarly hooked.

A word of caution about re-pinning movements with hooked teeth. Both David and Henri-Joseph made movements with long and short cylinder pins to give a 'loud' (but no louder than for a standard movement) and soft passages to the music. Both used hooked teeth for ordinary as well as these long-and-short-pin movements. Both sometimes even introduced crescendo and diminuendo by manually adjusting raked pins to different progressive effective heights.

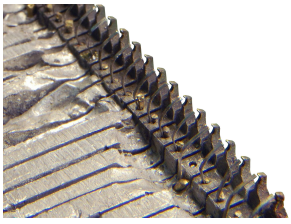


Fig 4: The hooked teeth of the David Lecoultre

These long-and-short-pin movements had the words crescendo and diminuendo or expression written on the tune sheet. If the tune sheet is missing, the cylinder must be carefully examined to see if it is a loud-and-soft type. Under no circumstances re-pin such a movement without expert advice because the musical quality will be destroyed forever. The example demonstrated was a standard movement with hooked teeth, confirmed by the tune sheet, which does not have anything written on it, Fig. 5.

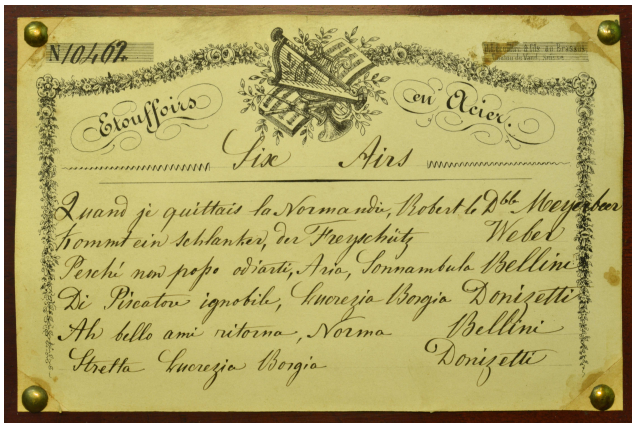


Fig 5: Tune sheet of the Lecoultre

This was followed by a 3-air overture movement by Martinet et Benoit. It was an orphan clock movement, which had subsequently been re-cased in a wooden, non-musical, period box. A significant number of dampers had failed and were now replaced.

The dampers were unusual in a number of respects. The cylinder and its fine fine-toothed comb were of dimensions usually associated with snuff boxes. Replacing the dampers was a problem. Standard damper wire was too wide so a substitute had to be found. The pins were wedged into the tooth damper anvils with the damper pin on top of and not below the wire, completely opposite to normal practice. This meant that the face of the pin was flush with the anvil so that the wire could be shaped correctly.

When the damper pin is under the wire, there is often enough protruding to pull the pin out, as shown in Fig. 6. Because it was above the pin it had been dressed flush to the face of the anvil so that the shape could be fully formed. This meant that the steel damper and pin had to be drilled out with a 0.3mm drill, a difficult risky job requiring great care. That is why the job was given to Alan Godier. He not only removed the pins but also used damper wire sourced from the spiral springs of watch balance

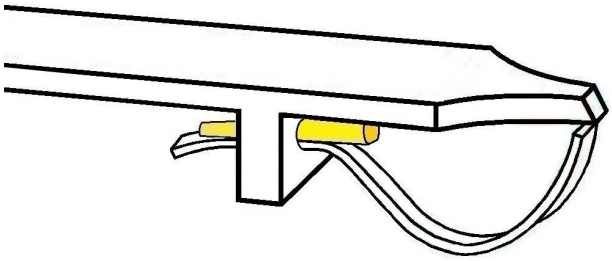


Fig 6: Conventional damper spring arrangement

wheels. This is exactly what Francois Nicole did when dampers were first invented over two hundred years ago. To hear the instrument play its full repertoire with the comb playing as on the day it was made was very satisfying.

Fig 7: 'Professor' Paul Bellamy

The morning passed and it was time for lunch in the canteen, followed by a lantern slide show. The Master of Ceremonies Fig. 7, in top-hat and cloak, introduced the display team of Chris, Juliet, Ted and Paul Baker, in Old Time Music Hall style:

"Now it is time for the most Sensational entertainment of Modern Times. Demonstrated by the Indefatigable, the Inimitable, the Indisputable Master of the Magic Lantern…. Mr. Christopher Fynes!!!"

Fig 8: Magic lantern slide

Chris Fynes demonstrated a whole series of hand-coloured slides, such as this lovely example Fig. 8, it included a ship-wreck story of a forlorn maiden who had witnessed a shipwreck on the shore nearby. Two of the story lines were written by Chris and read out by Juliet. Another lantern slide show followed featuring Christie's Old Organ, also known as Home Sweet Home, written by Mrs. O F Walton. She was born Amy Catherine Deck, a vicar's wife, who is buried not far from the Old School at the village church of Leigh. Appropriate music was played by Ted on an organette and a singing bird box. Paul Baker gave a commanding piano performance, with either the soft tones of Home Sweet Home or the dramatic cacophony of sound required for the dramatic parts of the slide show.

British Horological Institute

Saturday 23rd May – Open Day of the South London Branch at Soper Hall, Caterham, Surrey, CR3 6HY. Free entry.

AMBC has been invited to exhibit, as we have done at their two previous Open Days. We hope to be able to participate again. It is a very interesting day out which we thoroughly recommend.

Auguste L'Épée Company's New Experiment in Changeable Cylinders

by David Evans

In Mechanical Music World Issue 15 we included details about the history of the L'Épée family and musical box manufacture in France. We now consider another item from the firm.

On 8th December 1886 James Yate Johnson of 47 Lincoln's Inn Fields in the County of Middlesex, a Gentleman (and most probably a lawyer, though some might say – a lawyer and most probably a Gentleman) applied on behalf of Auguste L'Épée of Sainte Suzanne, (Doubs[1]), a manufacturer of musical boxes *(who actually died in 1875 at the age of 77, though the business carried on in his name - Ed)* and Louis Emile Jérome Thibouville of 68 and 70 rue Réamur, Paris, both in the Republic of France, for a patent on a new way of making a cylinder box with interchangeable cylinders. The invention refers to an improved arrangement of interchangeable cylinders in which the disadvantages attending the use of such cylinders as ordinarily arranged are obviated.

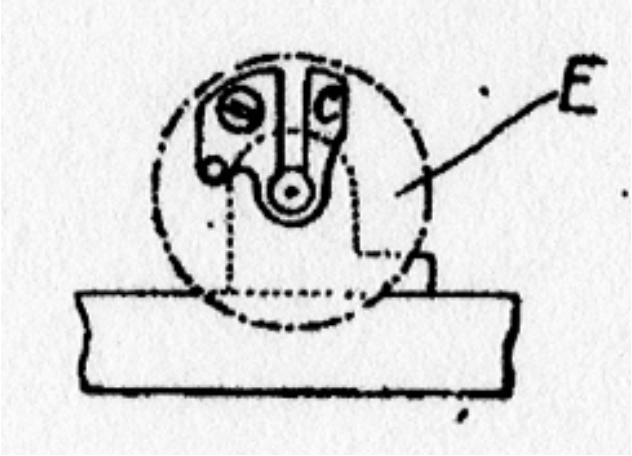


Fig 1: The driving wheel carries a yoke to drive the cylinder

The mainspring barrel drives a steel pinion attached to an arbor carried in a long sleeve bearing, the right hand end carrying a toothed wheel which drives the governor as usual and has a conventional stop groove actuating a normal stop lever. The toothed wheel also carries a yoke or slotted attachment into which the cylinder drive dog fits, (see Fig 1). The cylinder is provided with an arbor terminating at each end in a point or centre. The left end of the cylinder arbor also carries a knurled wheel carrying the drive dog in the form of a screwed-in stud which engages with the yoke on the drive wheel and thus receives motion from it. The pointed right end of the cylinder arbor is carried in a depression in a round bar which can slide in a housing such that the bearing can be released and the cylinder can be lifted out. The bearing when closed is prevented from moving by a lever-operated cam and spring (in the patent drawing and also on serial 280 and others) which maintains some pressure on the cylinder spindle, in much the same way as a bar can be turned between centres in a lathe (see Fig 2).

The application must have found favour with the authorities as Patent No. 16087 was granted on 14th October 1887.

The patent does state that "care must be taken to wait until the motion of the barrel (i.e. cylinder) has stopped" before releasing the cam lever, otherwise the barrel can be removed in the middle of a tune!

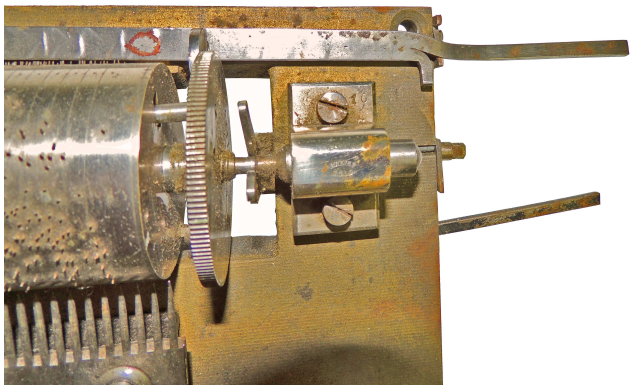


Fig 2: Showing the 'tailstock hollow centre' for the right hand end cylinder bearing

Anthony Bulleid describes the version actually manufactured in Oddments No. 90[2], calling it 'Rechange', as indeed does the patent specification, which implies that cylinders to fit could be ordered at a later date rather than being supplied at the time of purchase. I have not come across any evidence either way that such was the case, but operating between centres, it is quite feasible. Bulleid provided a picture of serial number 283, (see Fig 3) remarking that the number does not fit with the known L'Épée dating chart and suggests that the low serial numbers may have been kept for rechange or special boxes. He also illustrates the tune indicator of No. 280, which lies flat on the bedplate at the treble end.

As can be seen in Fig 3, the number 283 is stamped on the left and right cylinder bearing housing mounting flanges, the top of the bearings also stamped Brevet S.G.L.G. (the exact meaning of these initials is unknown, but furniture and luggage locks from around 1860 onward are often found bearing the inscription "Bte S.G.L.G. Patent, Louis Vuitton". I suggest that S.G.L.G. is related to S.G.D.G. - "Brevete **S**an **G**arantie **D**u **G**overnement", meaning "Patent without the Government guarantee".)

The box herein described[3] is numbered 10 in the same places that Bulleid's is numbered 283, so we must

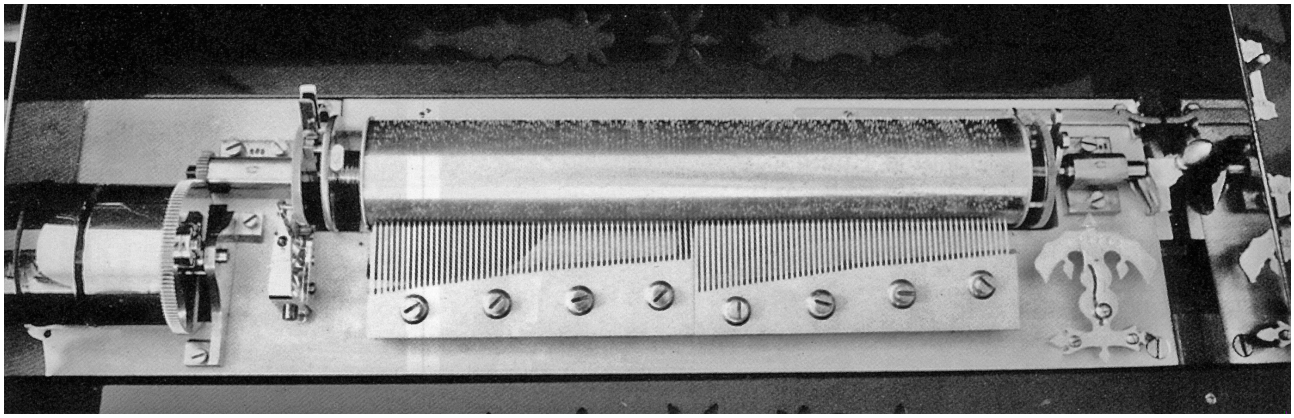


Fig 3: H A V Bulleid's picture of No. 283

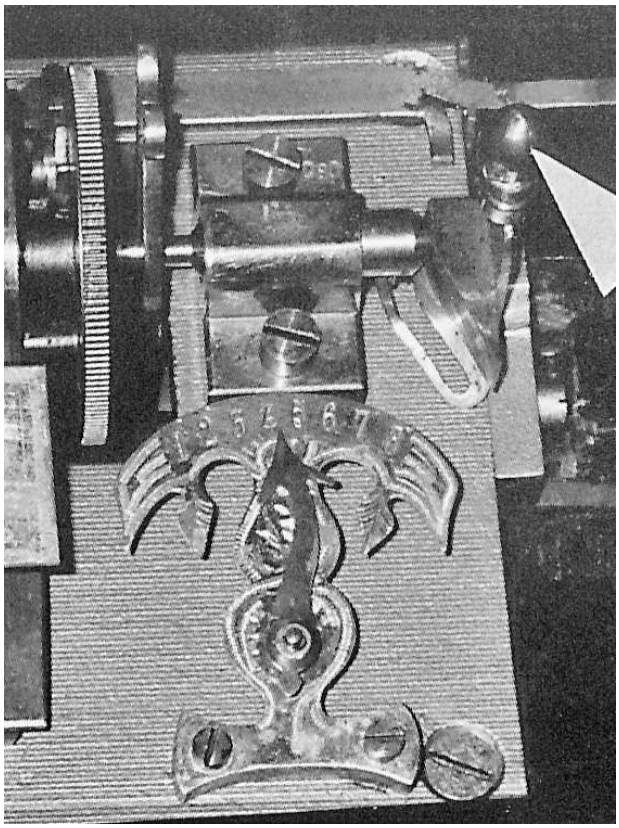


Fig 4: Bulleid's picture of the flat tune indicator on No. 280.

conclude that this one is serial no. 10, in other words, a prototype.

Compared with the patent specification, No. 10 has several differences, with more primitive and therefore presumably earlier features.

One is that the drive wheel does not have a yoke mounted on it, just a bar to drive the cylinder wheel dog (Fig 5). The disadvantage of this is that the cylinder can be freely rotated forward by hand for about 300 or so degrees, and conversely of course, backward the same amount, to the detriment of cylinder pins and comb teeth! The use of the yoke would prevent this. Another oddity is that, where the 'tail' bearing is tensioned by a spring on the patent

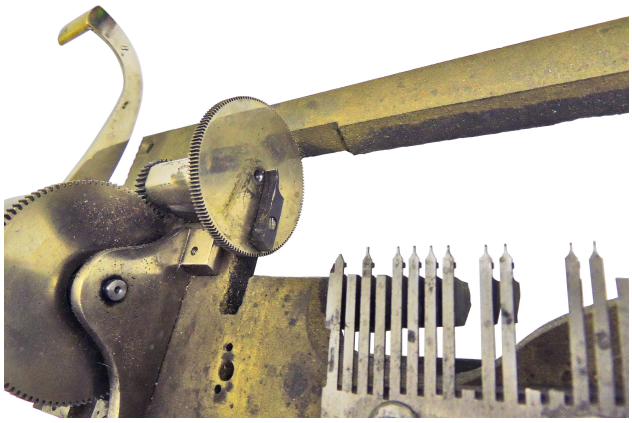


Fig 5: The simple drive bar on No. 10

drawing and on other extant examples, on No. 10 there is a simple pin, lying free in a slot in the bedplate, between the lever and the tail bearing. There is no cam to tighten it, just a rotating plate (see Fig 6) to locate the pin against the bearing. Whilst this works on a one-off basis, it would be unworkable if one had extra cylinders. We can conclude with reasonable safety that No. 10 never had another cylinder. No doubt experience gained from this prototype was incorporated into the patented design of 1886.

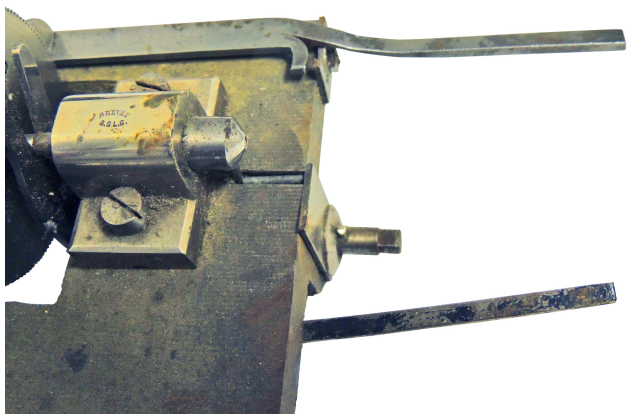


Fig 6: The rotating plate to hold the steel pin that locates the 'tailstock' bearing in its place

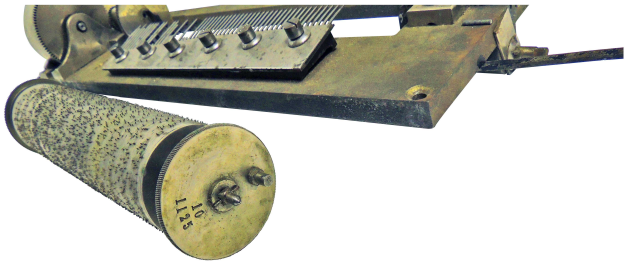


Fig 7: Cylinder left end wheel with drive dog

The 8" cylinder for No. 10 has this number together with 1125 stamped on the wheels at each end, the 1125 perhaps being a gamme number (Fig 7). It plays on a 55-tooth comb, as No. 280[2]. Bulleid mentions that the tune sheet for No. 283 is in the Tune Sheet book, No. 209. Our No. 10 may have had a similar tune sheet, if it ever had one at all. The tunes played are of light operatic genre, one at least being a Gilbert & Sullivan air. There is no sign that it ever had a tune indicator.

As can be seen in some of the earlier illustrations. the machine needed some work. Figure 8 shows it installed in its replacement case.

Figure 9 shows a clearer view of the 'tailstock' and the new lever fashioned to operate the cam plate that secures the locating pin seen in Figure 6.

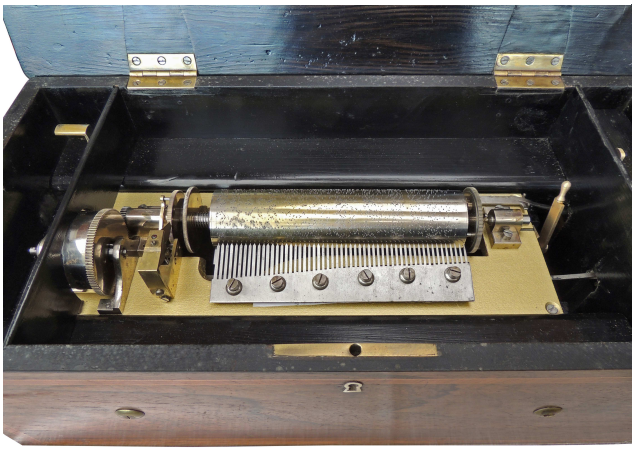


Fig 8: The restored movement of No. 10 in its 'new home'.

Figure 10 shows the replacement governor in place and the strange shaped auto-stop lever needed to stop the cylinder at the tune-change position.

Notes

1. **Sainte-Suzanne** is a commune in the Doubs department in the Bourgogne-Franche-Comté region in eastern France. The population today is only about 1500.
2. **The Music Box** Vol 20, March 1988. It would have been a bonus if the numbers, if any, on the cylinders of No. 280 had been recorded.

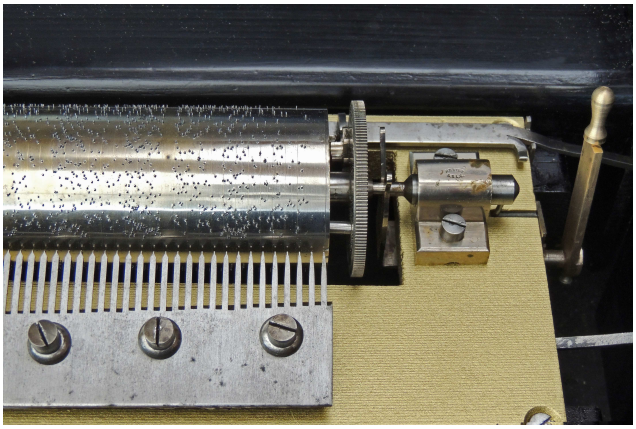


Fig 9: The right end bearing arrangement

3. **The movement** of No. 10 was acquired by us in Canada as part of a collection of gramophone spare parts. It was without a governor, had many broken comb teeth and other parts missing. It was without a case. It has now been fitted into a suitable period case to aid its conservation for the future.
4. To help conserve the movement, we have carried out the following procedures: a) drilled fixing holes in the front and back edges of the bedplate. Whilst not strictly necessary, it did mean that the holes in the front and back of the case for fixing screws could be utilised, b) made a lever to operate the retaining plate for cylinder removal, c) adapted a spare governor to 'left-hand drive' to mesh with the drive wheel, d) made new control levers to suit the replacement case.

As can be seen from the patent specification below, L'Épée and Johnson included arrangements for snuff-box type movements and a manivelle to use similar designs of cylinders with pointed ends.

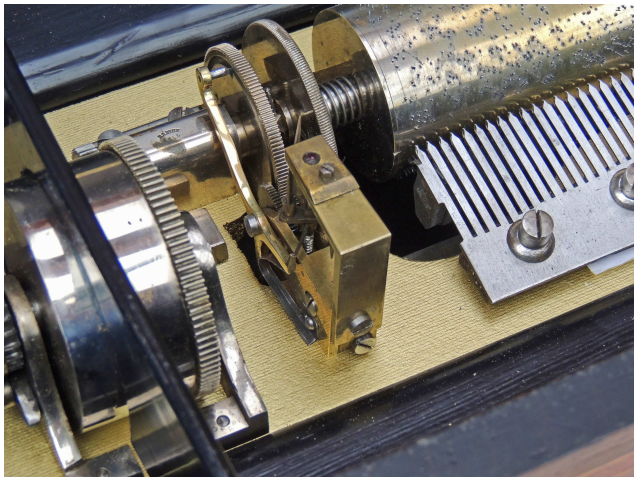


Fig 10: The 'new' governor, duly converted to 'left-hand drive'.

Date of Application, 8th Dec., 1886.
Complete Left, 8th Sept., 1887.
Complete Accepted, 14th Oct., 1887.

A.D. 1886, 8*th* DECEMBER. N° 16,087.

PROVISIONAL SPECIFICATION.

Improvements in Musical Boxes.

I JAMES YATE JOHNSON of 47 Lincoln's Inn Fields in the County of Middlesex, Gentleman do hereby declare the nature of the said Invention which has been communicated to me from abroad by Auguste L'Epée of Sainte Suzanne (Doubs) manufacturer of musical boxes and Louis Emile Jérome Thibouville of 68 and 70 Rue Réaumur, Paris, both in the Republic of France:—

This Invention relating to musical boxes in general refers more particularly to an improved arrangement of interchangeable barrels or cylinders hereinafter described whereby the disadvantages attending the use of interchangeable cylinders as ordinarily arranged are obviated.

The barrel is provided with a spindle terminating at each end in points or centres. On of these centres engages in a corresponding recess in the end of a spindle receiving rotary motion from a motor spring by means of toothed gearing. This spindle is provided with a toothed wheel driving the fly or regulator and which may be arranged to act as a stop wheel when acted on by a lever provided for that purpose. This wheel is provided with guides which enable the end or centre of the barrel spindle to be readily slipped into position and which also engage with a stud or driver on a disc on the end of the barrel spindle so as to produce the required rotation of the barrel. The other end of the barrel spindle rests in a stationary guide until a short spindle on which it turns is brought into position to receive it by means of a lever handle or releasing lever acting in combination with a spring. This spring tends to press the short spindle against the releasing lever which is provided with an inclined or cam surface bearing against the end of the said spindle in such a manner as to enable the spindle to be moved longitudinally by turning the lever on its centre. The barrel spindle imparts motion to the barrel by means of a disc fixed on this spindle and carrying a stud or driver engaging with the end of the barrel. This disc also carries a cam employed for changing the tune and acting upon a pin carried by a lever so as to cause the barrel to move longitudinally at each revolution and change the tune unless the lever be so manipulated as to move the said pin out of the path of the cam. A spring tends to maintain the barrel at one end of the spindle. In order to remove

[*Price* 11*d.*]

Johnson's Improvements in Musical Boxes.

the barrel for the purpose of introducing another the afore said pin has to be moved out of the way of the cam and this is accomplished automatically by causing the lever carrying the pin to be acted on by the lever operating the short spindle receiving the centre of the barrel spindle as hereinbefore described. The motion of the barrel being stopped and the releasing lever operated so as to draw back the short spindle and disengage the end of the barrel spindle the barrel can be readily lifted out of the case and another barrel introduced in its place. In order to further facilitate the introduction of the barrel stationary guides or supports may be provided which support it temporarily at both ends. When each barrel plays one tune only the devices hereinbefore described for changing the tune by shifting the barrel on its spindle are dispensed with and the operating spindles at each end are preferably arranged to engage directly with holes or recesses in the ends of the barrel. The motor spring is wound up by a key inside the box acting on the vertical spindle of the spring and the clockwork is released by means of a combination of springs and levers turning on axis in different planes. According to another arrangement the barrel is supported at one end by a short spindle connected to a blade spring in such a manner that by pressing the free extremity of this spring the short spindle can be displaced longitudinally to a sufficient extent to release the barrel. The spindle at the other or driven end of the barrel may be stationary being screwed into a support and the barrel being provided at one end with a worm wheel operated by a worm on an axis to which rotary motion is imparted by means of an external crank handle or otherwise. The case may be made with suitable recesses for the barrels which are not in use or these barrels may be kept in a drawer arranged underneath the mechanism.

Dated this 8th day of December 1886.

J. HENRY JOHNSON,
47, Lincoln's Inn Fields, London, W.C.

COMPLETE SPECIFICATION.

Improvements in Musical Boxes.

I, JAMES YATE JOHNSON of 47 Lincolns Inn Fields in the County of Middlesex Gentleman do hereby declare the nature of this Invention which has been communicated to me from abroad by Auguste L'Epée of Saint Suzanne (Doubs) Manufacturer of Musical Boxes and Louis Emile Jerome Thibouville of 68 and 70 Rue Réaumur Paris both in the Republic of France and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

This Invention relating to Musical Boxes in general refers more particularly to the improved arrangement of the interchangeable pin barrels or cylinders the employment of which as ordinarily arranged is costly, complicated and an impediment to the proper action of the mechanism. By means of these Improvements as hereinafter described, these disadvantages are removed and the barrels or cylinders being devoid of complication and easily managed, are enabled to work with precision.

And in order that the said Invention may be fully understood I shall now proceed more particularly to describe the same and for that purpose shall refer to the several figures on the annexed Sheet of Drawings, the same letters of reference indicating corresponding parts in all the figures.

Figure 1 of the accompanying Drawings represents a longitudinal section and Figure 2 a plan of a musical box constructed according to this Invention. Figures 3, 4 and 5 illustrate details of the mechanism and the remaining figures refer to modifications hereinafter described.

The pin barrel marked A in the drawing works on a spindle B provided at its extremities with points or centres *a b*. The centre *a* engages or works in a corresponding recess in the end of a spindle C carried in a support S^1 and receiving rotary motion from a motor spring in a barrel D by means of a toothed wheel R gearing with a pinion *r* figure 2. This spindle is provided with a toothed wheel E driving the flier or regulator and which may be arranged to act as a stop wheel when acted on by any ordinary or suitable mechanism not shewn in the drawing, controlled by a lever L, figure 2. This wheel is provided with a guide plate *c*, figures 1 and 3, which enables the end or centre *a* of the barrel spindle to be readily slipped into position and which also engages with a stud or driver *g* on a disc G fast on the end of the barrel spindle so as to produce the required rotation of the spindle B and barrel A. The centre point *b* at the other end of the barrel spindle B rests in a stationary guide F until a short spindle H, capable of moving longitudinally in a support S, is pushed up to it by means of a lever I. Figure 5 represents this part of the mechanism with the spindle H, retracted to allow of placing the cylinder in position. A spring *e* bears at one end against the support S and at the other against a head or shoulder *h* on the spindle H. This spring tends to press the spindle H against the releasing lever I and away from the point *b* until it is forced back into the position indicated in Figure 1, so as to engage with the point *b* and render the axis B free to rotate. The lever I is provided with an incline or cam surface *i* bearing

against the end of the spindle H in such a manner as to enable the said spindle to be moved longitudinally towards the point *b* by turning the lever I on its centre I¹ until it occupies the position indicated in full lines, figure 4. The barrel spindle B, imparts motion to the barrel A by means of a disc K fixed on this spindle and carrying a stud or driver *k* engaging with the end of the barrel (Figures 1 and 2). This disc also carries a cam *f* employed for changing the tune. This cam displaces the barrel longitudinally on its axis at each revolution and changes the tune unless it is thrown out of action by a projection *l* on a lever L¹ which causes it to turn on its pivot, in which case the same air is repeated. A spring *v* tends to maintain the barrel at one end of the spindle and returns it automatically to the position for playing the first tune. In order to remove the barrel for the purpose of introducing another, the projection *l* has to be moved out of the way of the cam *f*, and in order to prevent accidents arising from the neglect of this precaution, this is accomplished automatically by causing the lever L¹ carrying the pin *l* to be acted on by the lever I operating the short spindle H receiving the centre of the barrel spindle as hereinbefore described. For this purpose, the lever L¹ is provided with a projection *l*¹ Figure 2, facing the lever I, so that in moving the latter to release the barrel, it comes in contact with this projection and shifts the lever L¹ to the required extent. This enables the barrel to be removed without danger of straining any part of the mechanism. Care must be taken to wait until the motion of the barrel has stopped before the releasing lever I is operated so as to draw back the short spindle H and disengage the end of the barrel spindle or the barrel can be stopped by means of the lever L hereinbefore described. The barrel can then be readily lifted out of the case (preferably by taking hold of the discs G and K and moving it slightly to the right before lifting it vertically) after moving the lever I to the position indicated in dotted lines in figure 4, and another barrel introduced in its place, the point *a* and pin *g* being adjusted in the wheel E and the point *b* in the guide F. The lever I is then returned to it original position, thereby pushing the spindle H up to the point *b*, and the barrel being maintained between the points *b* and *c*, the mechanism is ready to act again. When each barrel plays one tune only, being fixed on its spindle, the action is the same except that the cam *f* and lever L¹ hereinbefore described for changing the tune, by shifting the barrel on its spindle, are dispensed with.

Figure 6 represents a plan and Figure 7, an end elevation, partly section, of a similar arrangement wherein a lever I (figures 6 and 8) provided with an incline *i*, is employed as in the preceding arrangement, being pivoted at *x* on a plate P, and acting on the head *h* of a spindle H when moved into the vertical position. When the lever is inclined the spindle is pushed back by a spring *e* placed between the support S and the head *h* or its equivalent. This spindle being pushed forward by the lever I supports the barrel in the proper position for receiving rotary motion from the driver or guide, *c*, which engages with a pin on the end of the barrel. Before being fixed in position the barrel being placed before the comb rests in two guides or supports F F¹ Figures 6 and 7; these guides support the barrel at both ends and facilitate its adjustment.

When the same barrel is arranged for playing a number of airs it is provided with a loose spindle B carrying points or centres *a* and *b* as in the arrangement hereinbefore described, but when it only plays one air it is more convenient and economical to make a central hole or depression in each end of the barrel for the reception of a point or centre on the supporting spindles (C and H). In this case also the barrel receives motion from a spring in a barrel D which may be wound up by a key X figures 6 and 7, placed on the part of the arbor projecting from the top of the spring barrel. This key is situated inside the case. This spring is put in or out of action by a spring detent L² figure 6, worked by a lever L, figure 9, pivoted at x^1 on the plate P, (figures 6 and 9,) and likewise contained within the case.

To still further simplify the fitting of single tune change barrels or cylinders in small boxes, the arrangement illustrated in figures 10, 11 and 12 may be employed. Figure 10 represents the box in section, Figure 11 in plan and Figure 12 is an end elevation of the mechanism.

Continued on Page 16...

The 50th Anniversary of the Rudesheim Kabinett.

We have featured an article about this famous Rudesheim museum, known as Siegfrieds Mechanisches Musik-kabinett, in a previous issue. This time our visit was for a very special occasion, the 50th anniversary of the museum. Although the anniversary weekend was on the 2nd and 3rd of November, there was bright sunshine for some of the time and the weather unseasonably mild.

Rudesheim is a lovely mediaeval town on the banks of the Rhein. The Kabinet is housed in an old building called the Bromserhof, which was originally a Noble Court that dates back to 1542. The museum is a must-see place and a venue on the regular Rhine boat and coach excursions, so has visitors from all over the world.

There are over 350 exhibits ranging from the 1700s to the 1900s, including a fine example of a Hupfeld Phonolist Violina. As members may know, Siegfried manufactured several of the violin playing tops for original Phonolist pianos.

The museum was the brainchild of Siegfried Wendel, who had a passion for collecting, saving and restoring old mechanical items. He was noted for his cloak and hat. He was an exceptional person and had an exceptional personality and dress code to match.

He started to collect clocks and then discovered self-playing musical instruments at a time when many were disregarded and sold as scrap. His first encounter was when a young couple paid him a visit carrying a Polyphon on the back seat of a Volkswagen. He gave up on the clocks and started to build a massive collection of automatic musical instruments. As the collection grew, he realised the need for a place to house them. He opened his first museum at Hoccheim near his home town of Gustavsburg. As the collection grew, he relocated in 1974 to Rudesheim but not at the Bromserhof.

He did not like the word ‘museum’ considering it to be boring. Instead he called it Siegfrieds Mechanical Music Salon. That same year Chancellor Helmut Schmidt held a garden party and invited him to take some of his instruments along. He also asked Siegfried to participate in the Berlin International Tourism Fair.

The Rudesheim Authorities realised the value of his Salon to tourism and offered him the present-day venue, the Bromserhof. He moved there and renamed the building as the Mechanical Music Cabinet, to give it its English title. Two of its vaulted rooms have original ceiling paintings from the 1500s.

Siegfried died in October 2016 but the museum, its restorations and expanding collection forges ahead under the baton of his son, Jens Wendel.

A main feature of the weekend is the mart. Held nearby to the Kabinet in a suite of three large rooms, it is crammed with stall holders selling all sorts of wares (see the centre pages). Radios, gramophones, phonographs, spare parts, musical memorabilia of all sorts filled the tables.

Our small party of four, Paul Baker, Paul Bellamy, Juliet and Chris Fynes, were in wonderland. Sadly, Ted and Kay had to withdraw because of other commitments. One item attracted both Chris and Paul, which will be the subject of both a little restoration as well as a future article. We both saw a lovely little 4-air movement mounted in a dilapidated clock-type base and were immediately attracted to its fine construction even though it needed re-housing and a good clean. Without revealing too much at this stage, it had some features of a L’Épée movement and a low serial number that was close to the Bulleid dating chart for L’Épée. No-one can ever be sure of a maker because the feature was not unique, apparently, to L’Épée. However, he was a prolific French maker and supplied many others, particularly Thibouville Lamy. The chances are that other early movements, with the as yet described feature, might actually have been supplied by him. Perhaps we will never know.

Some items of interest (see centre pages) are:

1 Bacigalupo organ

2 Critérion disc musical box

3 Phonograph with self-tracking combined horn and reproducer

4 Picture with clock and musical movement, mid 1800s

5 General Electric Company ‘Gecophone’ crystal set with BBC approval stamp

6 Reginaphone combined disc musical box and 78 rpm record gramophone

7 Small key-wind musical box in walnut case

8 An Ami Rivenc musical box, circa 1890

9 A Diamond Pathé portable gramophone

10 A hunting horn

11 A Pathé Menestrel phonograph, circa 1903

12 A rare Columbia Model HG Home Grand Graphophone with 5" 'Concert' mandrel

13 A musical automaton made and sold by Siegfried’s Kabinet, Rudesheim

14 A Monopol (Paul Erlich) organette

15 An early Ami Rivenc lever-wind musical box, circa 1867

16 An Original Raffin Oberlingen German street organ, circa 1960s.

In this arrangement, the spindle H, is connected by a pin and shoulder to a blade spring R which is provided with a handle or projection *r*, by which it can be pressed back to release the barrel, but springs forward to its original position when the pressure is removed.

The same arrangement can be combined with a musical box worked by hand, as indicated in figures 13, 14 and 15, instead of by a spring. In this case, the spindle C is fixed, being screwed into the support S^1 and the barrel A is not provided with the pin *g* (figure 1,) being driven directly by a wheel E, gearing with an endless screw *v*, fixed on its axis whereby it can be rotated from the exterior in the usual manner. In this case also, the change barrel A before engaging with the spindles or centres C and H rests in guides or supports F, F^1, which may be made in one with the supports S and S^1. The change barrels or cylinders may be kept in a drawer underneath the works or may be arranged in suitable recesses in the woodwork as indicated in figures 6, 7, 11 and 14.

Having now particularly described and ascertained the nature of the said Invention and in what manner the same is to be performed I declare that what I claim is :—

First, In musical boxes, providing the axis or spindle (B) of the pin barrels or cylinders (A,) with points or centres (*a* and *b*) acting in combination with guide-plates (*c*, and F) for enabling the change barrels or cylinders to be placed directly into the proper position substantially as hereinbefore described and illustrated in figures 1 to 5 of the accompanying Drawings.

Second, In musical boxes, providing the spindle (B) with points or centres, one of which (*a*,) fits into a supporting spindle (*c*,) whilst the other (*b*,) fits into a longitudinally moveable spindle (H,) the latter acting in combination with a spring (*e*,) and a lever (I) presenting an incline (*i*,) whereby the said spindle can be caused to alternately engage with and release the point or centre substantially as hereinbefore described and illustrated in figures 1 to 5 of the accompanying Drawings.

Third, In musical boxes, the employment of a lever (I) acting simultaneously on the moveable spindle H, and on a projection l^1 on the lever (L,) for changing the tune so as to disengage the cylinder A, and facilitate the removal thereof substantially as hereinbefore described, with reference to figures 1 to 5 of the accompanying Drawings.

Fourth, In musical boxes, the employment of the key X and the spring detent L^3 controlled by a lever L in the interior of the box or case for restraining and releasing the motor spring substantially as hereinbefore described and illustrated in figures 6 to 9 of the accompanying Drawings.

Fifth, In musical boxes, making the change barrels or cylinders with central holes or recesses in the ends and carrying them on two points or centres C and H, the latter acting in combination with the lever I and the spring *e* substantially as hereinbefore described and illustrated in figures 6 to 9 of the accompanying Drawings.

Sixth, In musical boxes, making the ends of the change barrels or cylinders with central holes or recesses, working on two points or centres C and H, one of such points (C,) being fixed, and the other (H) moveable and carried by a spring R, the barrels being arranged between supports S and S^1 provided with guides F and F^1 in the manner and for the purpose hereinbefore described with reference to figures 10, 11, 12, & 13, 14, 15 of the accompanying Drawings.

Dated this 7th day of September 1887.

J. HENRY JOHNSON,
Agent.

LONDON : Printed by DARLING AND SON.
For Her Majesty's Stationery Office.
1887.

A.D. 1886. Dec. 8. Nº 16,087.
JOHNSON'S Complete Specification.

(4 SHEETS)
SHEET 2.

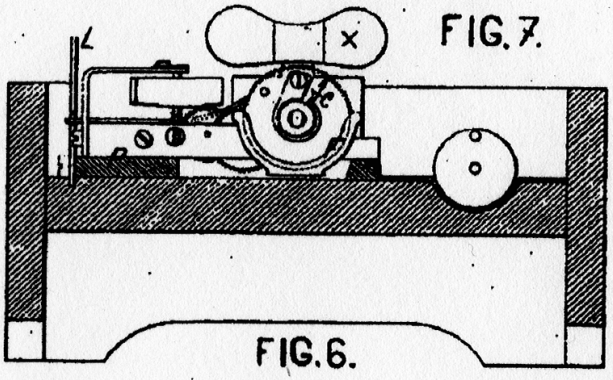


FIG. 6.

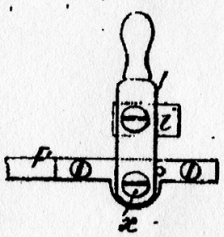
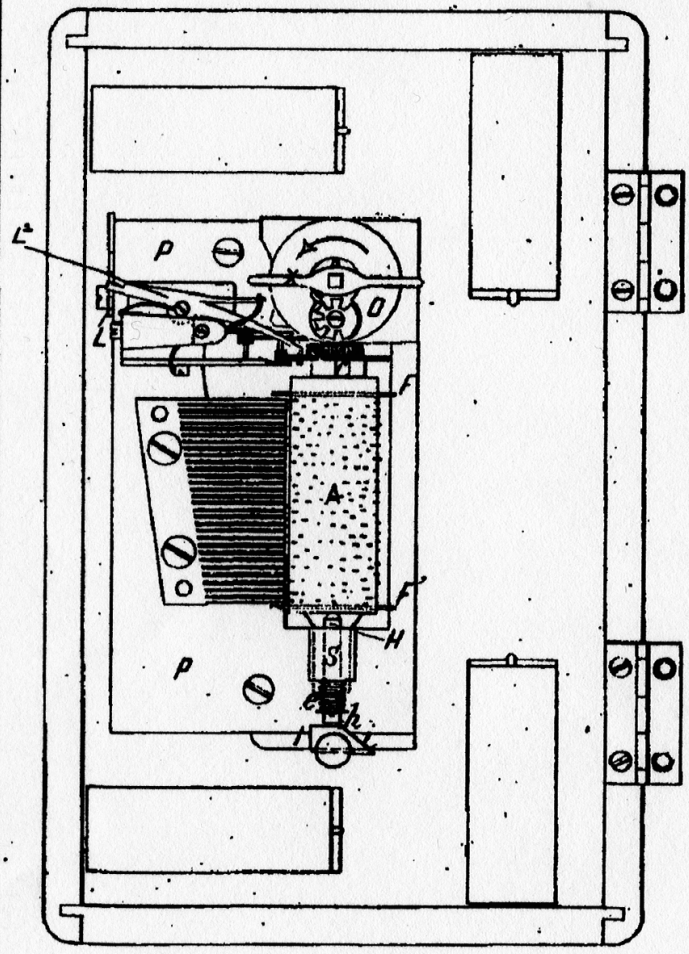


FIG. 8.



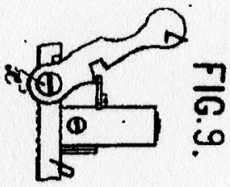
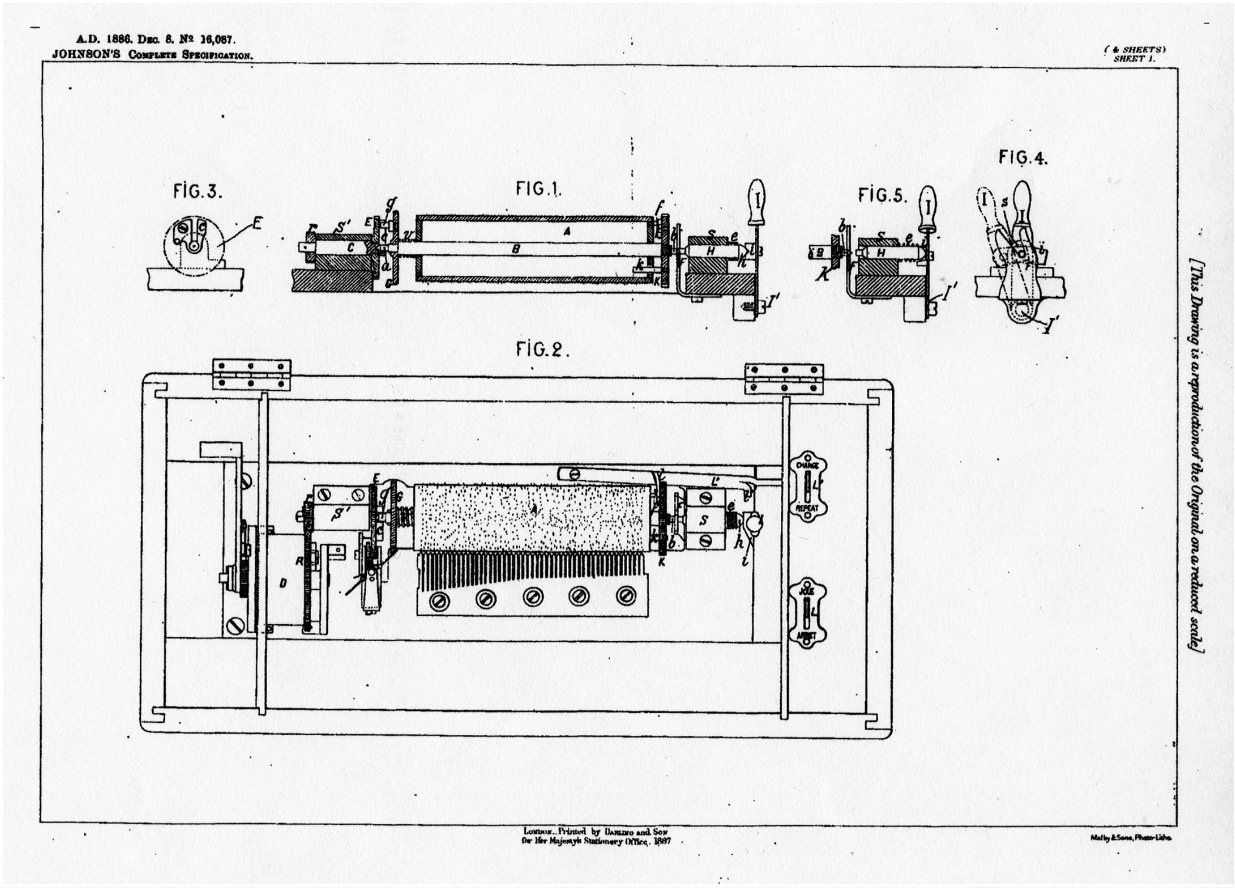


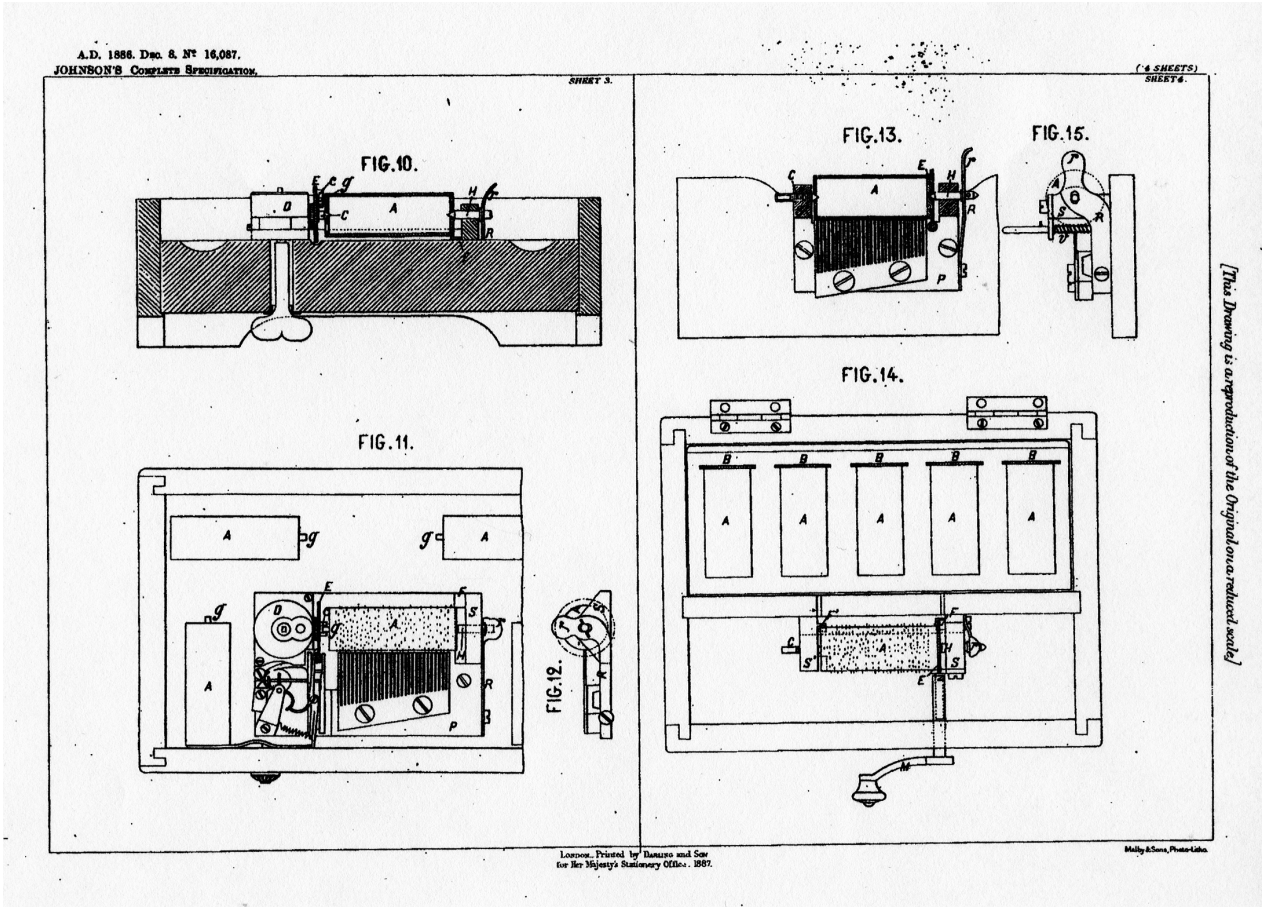
FIG. 9.

[This Drawing is a reproduction of the Original on a reduced scale.]

London: Printed by Darling and Son,
for Her Majesty's Stationery Office. 1887.

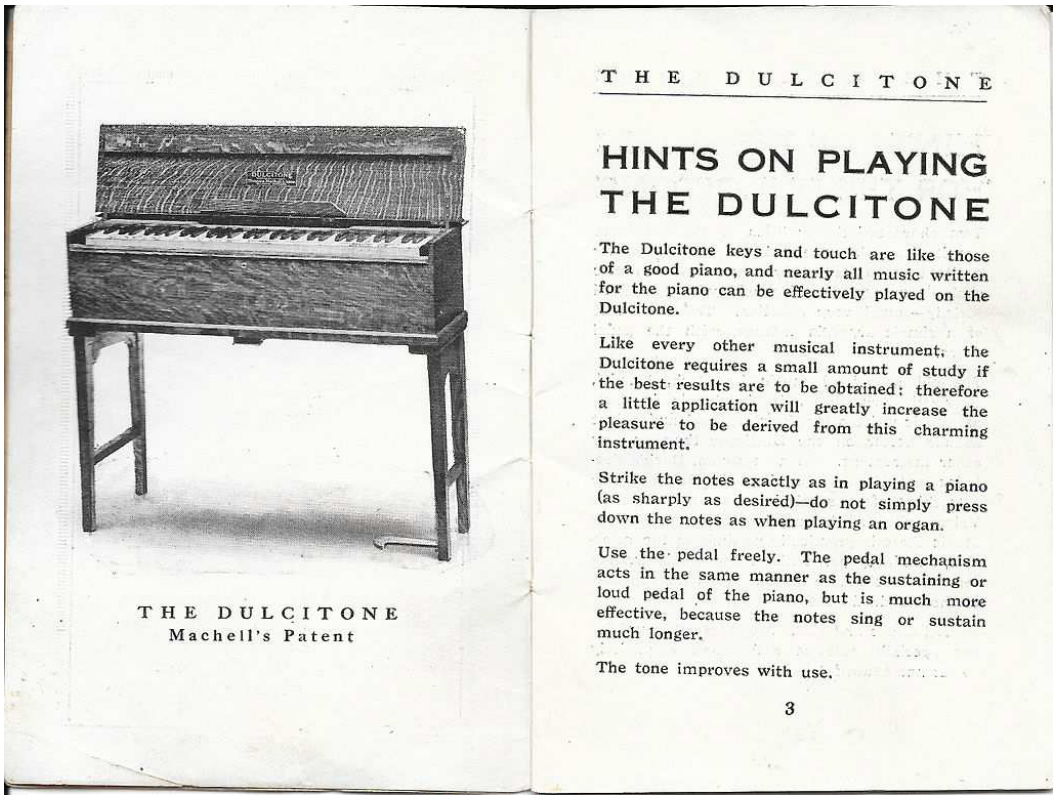
Malby & Sons, Photo-Litho.


A.D. 1886. Dec. 8. Nº 16,087.
JOHNSON'S Complete Specification.
(4 SHEETS)
SHEET 1.
FIG.3.
FIG.1.
FIG.5.
FIG.4.
FIG.2.
[This Drawing is a reproduction of the Original on a reduced scale]


A.D. 1886. Dec. 8. Nº 16,087.
JOHNSON'S Complete Specification.
SHEET 3.
(4 SHEETS)
SHEET 4.
FIG.10.
FIG.13.
FIG.15.
FIG.14.
FIG.11.
FIG.12.
[This Drawing is a reproduction of the Original on a reduced scale]

The Dulcitone

The Dulcitone plays on a series of 'tuning forks' hit by felt-covered hammers It was patented in the 1860s. ... it appears to have about six octaves, so a 65-note piano player might well fit it. Has anyone ever tried?



THE DULCITONE
Machell's Patent

THE DULCITONE

HINTS ON PLAYING THE DULCITONE

The Dulcitone keys and touch are like those of a good piano, and nearly all music written for the piano can be effectively played on the Dulcitone.

Like every other musical instrument, the Dulcitone requires a small amount of study if the best results are to be obtained: therefore a little application will greatly increase the pleasure to be derived from this charming instrument.

Strike the notes exactly as in playing a piano (as sharply as desired)—do not simply press down the notes as when playing an organ.

Use the pedal freely. The pedal mechanism acts in the same manner as the sustaining or loud pedal of the piano, but is much more effective, because the notes sing or sustain much longer.

The tone improves with use.

3

Bear With Me……

……all you collectors of serious musical boxes, whilst I make another foray into the realms of trivia. Though to bear collectors their passion is as serious as ours. The price of one of the rarer, and possible threadbare, examples might buy you a decent cylinder box.

Who doesn't love a teddy bear? The first and most cherished toy of generations of small children.

The story of how the teddy got his name is well known. In 1902 on a bear hunt, President Theodore (Teddy) Roosevelt declined to shoot a tethered bear. This incident was the subject of a political cartoon, which was seen by an enterprising American toy maker. He made some toy bears, sending one to the President, asking permission to call them Teddy's bears. The idea "went viral", in today's parlance, and in no time toy manufacturers in the USA and Europe were turning them out in their thousands to satisfy an apparently insatiable demand that continues to this day.

On the face of it a dangerous wild animal seems an unlikely candidate for a cuddly comforting childhood friend. They were humanised, so they looked more like dolls with friendly faces and usually had articulated limbs so they could be made to sit. The earliest examples had more pointed bear-like faces and longer arms than more modern examples. They were initially made of mohair stuffed with wood shavings or kapok and with boot-button or glass eyes.

Over the years they have been manufactured in many different materials, shapes and sizes, including spin-offs from children's stories, such as Rupert, Pooh and Paddington. From the earliest time some bears have been fitted with growlers that work when the bear is tilted. Inserting a musical movement came somewhat later, though it is difficult to discover much information, as, although it does affect the price, it doesn't appear to be one of the most important criteria to an arctophile. Do they really call themselves that? I ask because I know that bellringers do not call themselves campanologists. What about philatelists etc? But I digress.

Certainly, some time during the inter-war period some bears were fitted with bellows type musical boxes operated by squeezing the bear's tummy. These are quite rare and in good working and cosmetic condition command very high prices. Perhaps one of the best known and most prolific makers of English musical bears is Chiltern, who made them with bellows and also wind up movements. After the war toy factories, which had been engaged in the war effort, reverted to their normal production and in place of the mohair and wood shavings construction of earlier bears softer man-made materials began to be used.

The Farnell company, founded in London in 1840 (closed in 1970), began to make bears in 1906 and is thought to be the first British teddy bear maker. It appears that very few were musical. The Deans Rag Book Company were hard on their heels producing teddy bears. In the 1950s and 60s they, and other famous English soft toy makers, such as Chad Valley, Pedigree, and Merrythought, all established before the war, began adding musical movements to some of their bears, particularly Pedigree.

There were many lesser known English makers. Lefray Toys were established in London in 1948, and after a few moves seems to have gone into receivership in the mid-1990s. Be Be dolls, manufacturers of Blue Ribbon teddy bears, had quite an eventful history. It belonged to a Jewish family who fled Nazi controlled Prague and set up their toy factory in London. When this was bombed, they relocated to Ringstead in Northamptonshire where the business grew and prospered until it was sold in the 1980s

Unsurprisingly quantities of bears, musical and otherwise, have been manufactured in America. The Knickerbocker Toy Company was founded around 1850 in New York and made some beautiful musical bears with keywind and bellows movements. The first bears ascribed to them are from around 1925. The Knickerbocker bears were by far the best American bears from that period. They closed down in the 1980s. Gund Manufacturing company, founded by a German immigrant in the late nineteenth century, is still in existence today. The fancy goods distributors Enesco and Schmid also sell bears made in Germany, and more recently China.


Musical Teddy Bears
Pull Cord by M&S & Mamas & Papas
Modern Steiff
1960s Knickerbocker
1950s Pedigree
1950s Chad Valley
Unknown Make 1950s
1970s Blue Ribbon and Lefray
1990s Enesco and Gund

No article on bears would be complete without mention of the German Steiff company. Still in business today they were founded in 1880 and produced their first bears in 1902 as the popularity of the 'Teddy' took off. Wind-up movements were introduced during the 1950s. These are all highly collectible and command good prices. Hermann is the second most famous of German bear makers. It began a few years later than Steiff and it is thought they made their first bear in 1913. The company was badly affected by the Great Depression and World War II but their fortunes improved when they managed to relocate from East Germany to the West. Their first musical bears were produced from 1959 until 1962. Another well-known German company, Schuco, also made musical bears, which sometimes incorporated other features such as the Yes/No mechanism.

Nowadays the simple toys of yesteryear, such as dolls and teddy bears, have been somewhat eclipsed by the myriad electric and electronic toys on offer. So musical bears have largely become the preserve of babies and adult collectors. From about the 1980s manufacturers have produced soft toys for infants with musical movements operated by a pull cord. They are also very ready to cater for the nostalgia market, manufacturing bears for collectors. Antiques are theoretically objects at least a hundred years old, but in the case of bears, any from pre World War II seem to qualify. The useful term 'vintage' covers everything from then until the day before yesterday. Steiff is especially active in this field and since the 1990s have been reproducing their traditional early musical bears, making limited editions and producing special commemorative designs.

If you feel inspired to buy a musical bear the oldest tend to be the most expensive and often the most worn. Bears in good condition, from the 1950s and 60s can be very reasonably priced, especially the lesser known makes or those of unknown make that have lost their label, which was usually stitched into a seam. As they were sold as toys, cutting off the label improved the appearance. Collectors would never do this. In particular Steiff bears, which are always comparatively expensive, are greatly devalued by the loss of the conspicuous button and label in the ear, which in fact is quite unsightly. More modern examples, especially those targeted at babies, are very appealing and usually cost very little.

No one buys a musical bear for the quality of the movement, so if you fancy owning one just go for something you like the look of that fits the budget.

From Juliet Fynes

Show and Tell Meeting in Petworth

Saturday February 15th

from 11 a.m. to 4 p.m.

United Reformed Church Function Room

Damers Bridge

Petworth

GU28 0AW

The access is in Damers Bridge though a side door of the building. It is a short distance from the central car park (£1.80 all day) or about 300 yards from the free car park.

Own arrangements for lunch. If you don't want to bring something the church is next door to a Co-Op convenience store and just round the corner from the fish and chip shop.

Please bring something from your collection if you can, the success of this meeting will depend on input from members.

Cost £5 per head towards room hire: tea/coffee and cake included.

Please let Juliet know if you can come Tel: 01798 342353 email: julietfynes@hotmail.com

A Big Little Musical Box!

by Paul Bellamy

I tried some time ago to curb my addiction for collecting all sorts of odd things but the visit to London's Portobello Road market was not the best way to do it. As a young boy, a genuine cockney born in the East End of the city, we had the Wednesday market in 'the Lane.' On the corner was The Empire Memorial Sailors' Hostel, known as the Sailors Mission, now a Grade II listed block of luxury flats.

Fig 1: The Big Little Musical Box

That young boy had no toys. We could not afford them in Salmon Lane, just across the way from the London docks. Hence the later addiction of filling the house with gramophones, puzzles, toys, games, slide projectors, automata and, much later in life, musical boxes. Oh yes, and moneyboxes, postcards, musical jugs and whistle mugs, musical nécessaires, and …..?

My father (well not at the time because he was only 14) had to be taken away from school where he had gained a privileged place. It was a fee paying Guild School, set up by the craft Guilds to educate the working classes. His father was in ill health and so my father could not go on to higher education because the money was not available. He left school to help run the family business. It was a Post Office and Haberdashers, a posh word for a clothing shop, which served the local populace, mainly dock workers and their families..

There was little or no money for luxuries, such as toys and holidays but we never considered ourselves to be poor. In fact we were blessed in so many ways within a tightly knit East End community that made its own entertainment and helped each other. Housekeeping was a huge 17 shillings and 6 pence a week. A visit to the local Doctor was sixpence but he could take your tonsils out on the kitchen table, unbelievable in this day and age.

Toys? No chance, except hand-me-downs if one was lucky. But there were compensations. Old shoeboxes, dusty shelves to explore, shoe stretchers, celluloid collars, detachable starched collars and cuffs (they saved on washing!). There were carbon arc lamps that dad would 'strike' when it was dusk that lit the shop doors and windows still open for the late Dockers' shift. Shoe stretchers? Yes, carbuncles and swollen Edgar Allen Poe's (toes) never allowed for the purchase of a new pair of 'ones & twos' (shoes) but real leather could be stretched time and time again for a 'copper' (penny) or two.

At the bottom of the road lived dad's friend who owned a Dickensian furniture shop with a back parlour full of wonderful things. There was the Duke, a mysterious fiddle with a carved head that hung from a hook on the wall. Old chairs that sunk into a comforting hollow of horse-hair stuffed leather. An aunt had a player piano that wheezed out of tune and was very rarely played. I had to stand so that one foot could reach one of the pumping peddles. Enough, one would think, to put anyone off these contraptions for life but instead it created in me the want for one that actually worked.

I was evacuated, aged 4, not in the medical sense although a weekly dose of Syrup of Figs or ExLax was routine, as was the flea comb. Father stayed during the whole of the blitz and the rest of the war as an ARP Warden (Air Raid Protection).The Duke amazingly survived the Blitz although the shop and Post office succumbed to a V2 along with other nearby premises; these were the rocket bombs that fell silently from the sky without warning.

There were many London markets, the life-blood of the small city traders and their customers. The Costers (Costermongers: fruit and veg barrow boys and girls) plied their trade with rhyming slang that only they could understand. Grandmother went one better; she could speak back-slang, another Coster tongue that said everything back-to-front in a gibberish sort of way.

Where was I? Oh yes, Portobello Road market, now an international market with visitors from all over the world and traders whose origins are equally colourful. To go there now is for the years to slip away except that the High Speed Train propels you to the City at an unimaginable speed. And there it was, tucked away in a little corner booth amongst watches, timepieces and other bric-a-brac, the Big Little Musical Box!

The old gentleman seemed quite disinterested in my interest, waiting for the moment to let me know how

cheap it was. “Know what is?” he said in a distinctly Cockney accent. “A musical box,” I replied. “Want to see it then? It plays!” “Not much good if it doesn’t,” was my response. “Know anything about them,” he asked? “Not this one,” I replied with some truth for I had not seen such a Big Little Musical Box before.

He extricated it from the cupboard and laid it gently down on the glass display case. “Needs a key,” he said, rummaging from somewhere underneath the counter and producing a rather ugly modern one, which snugly fitted the square shaft. He wound it up. “Belongs to the wife,” he said convincingly, adding: “Very rare.” And no doubt very expensive, I thought. But it played. Four little Swiss airs, one sounding like a Ranz des Vaches amongst the cacophony of surrounding noise from other stall holders and customers. “Mate of mine knows all about them,” he said again with practised patter. “Expert restorer. Want to ’phone ’im?” Before I could answer out came the mobile. He dialled a number and handed the device to me. “I can’t hear a thing,” I said both to him and the voice emanating from the mobile phone. “Take it outside then,” he said, flushing me away.

So there I was, in the middle of Portobello Road, ’phone in hand, dodging the bustling and noisy crowd. “Hi,” I said giving my name. “What can you tell me about the musical box?” “Rare,” came back the expected reply. “How old then”, I retorted. “1850s” he replied and he was not far out in his estimate, so at least he knew something about the Big little Musical Box. “Who made it,” was my next question? “Lecoultre” said the expert. “Thanks,” I said in disbelief.

“Do you want it?” said my host, giving me a price. Being a one-time Cockney lad, I gave as good as I got. “A monkey’s too much,” I replied, (£500), looking uninterested but he knew I understood the market language. “It needs a lot of work. That costs money,” I continued. “You want it though,” he said.

Are they all psychoanalysts, these market traders of Portobello Road? “You’ve got one shot, mate,” I retorted. “Gi’ me yer lowest Anneka Rice,” the cockney slang for price. Anne Lucinda Hartley Rice is a Welsh actress and TV presenter, but that is the way the rhyming slang works. One price and one answer, which would be yes or no and the end of the dual. He looked at me with a smile on his face. He named his price and I said yes. “Where is the nearest cash-point,” I asked. “Got a cheque book,” he replied. “Yes,” I said. “Then write me a cheque.” “What if it bounces,” I replied. “It won’t,” was his retort. So that was it. A man’s word was still his bond in the true spirit of an age that we both knew had not quite disappeared.

Fig. 1 shows the Big Little Musical Box. The case is just 7 1/2" long and 3 1/2" wide with rosewood veneers, called that because it smells of roses when cut, on all faces and single boxwood stringing back, sides and front, and triple stringing to the lid. The corners have rounded rosewood beading. The internals are painted ox blood red. Fig. 2 shows the case open to expose the tight-fitting movement. The case has three small brass domed feet. They seem original and, with just three, it means that the case would always sit square on any surface.

Fig. 3 shows the movement removed from its case. The cylinder is 4 7/8" long by 1.6" diameter. The comb has 76 teeth. The bedplate is solid smooth polished brass. At half spring-wind power it plays for 45+ seconds, comparable with any 13-inch cylinder musical box, hence my chosen name, The Big Little Musical Box.

The speed setting is always a personal judgment and should be neither too fast nor too slow*, particularly when most of the spring power has been discharged. Some good advice for an old spring is not to overstress it; so I set mine at about half the wind of the spring motor with governor vanes set to give a pleasant speed of musical play and not too slow when the spring is unwound.

Fig 2: The interior.

There was no maker's name or mark anywhere to be seen. Dismantled, it revealed no more information except the number 501 scribed on the bass lead, Fig. 4. This is the *gamme* number, which denotes the exact tuning scale of the comb needed to accomodate every tune pinned on to the cylinder. The maker would have had a record of the names of the tunes associated with the tuning scale but alas, the tunes have yet to be fully identified because there is no tune sheet and no sign of there ever having been one.

So why Lecoultre and which one? Unless the seller or expert had information that was not readily evident it was not even good guesswork!

There had been a number of pricking errors on the

Fig 3: The movement

cylinder, not at all uncommon but no doubt quickly recognised and very neatly marked so that they were not drilled by mistake. A small angled scratch identified each one. The thick brass comb base was finely scratched with tuning marks, so small that an eyeglass was needed to interpret both the scale and its codes for the various intervals and 'sharpened' notes, Fig. 5.

Fig 4: The Gamme number on the bass lead

The bass leads were also stamped to indicate teeth tuned to the same pitch, Fig. 6. But there was yet another hidden secret, more valuable than the maker's name or those of the airs. There was just enough comb stock exposed for the jaws of a vernier calliper to engage – the answer was 0.0625 inches. The thickness of the comb body at its leading edge and at the bass lead was the same, 1/16 of an inch, thus English steel stock. The comb tooth thickness where the lowest bass tooth is soldered is often the original stock thickness of the comb.

Fig 5: Tuning marks on the comb base

The treble end had two sets of four teeth tuned to the same pitch; one set a tone below the other but with a single semi-tone tooth between. Pinning was arranged in places to produce a continuous two-note trill of eight teeth in succession. HAV Bulleid used the term *super mandoline* when a succession of 8 notes tuned to the same pitch produced a continuous single-note trill. Here, there was a warbling effect by creating the trill from the two notes a tone apart. although not a *mandoline* effect in the true sense of the word it used the same pinning principle. The effect is like a Yodel. Fig 3 shows the pinning at the right end of the cylinder.

Fig 6: Bass lead tuning marks

Many early musical arrangements used this yodelling effect, particularly on airs called Ranz des Vaches. These are Swiss folk tunes based on the mountain yodels used by herdsmen to call cattle down from high pastures. Swiss cows, like most others, knew exactly when to obey their master's call to food, warm and safe shelter at night. The German name for this was Kühreihen. The yodel had the same function as the alpine horn, the voice being high-pitched and the horn being in the lowest of registers, both effective means of communication in mountain climes. These ranz des vaches became distinctive folk airs from different valleys with words that often praised the beauty of an alpine scene and sometimes they reflected sombrely on the hard life of the folk.

The tunes were known from the fifteen hundreds and never written down. In 1794 Count Leopold zu Stolberg transcribed many whilst on his travels and by 1805 the first collection of eight appeared with the title "Acht Schweizer Kühreihen". It became very popular and further versions were added. In his 1768 *Dictionnaire de la musique* Jean Jacques Rousseau wrote that Swiss soldiers in foreign service were forbidden to sing the songs because they became homesick.

In 1921 Joseph Bovet, a young music teacher, arranged the Gruyère ranz des vaches for a male choir (yes, where the cheese comes from!). It became so famous that it was treated like a national anthem in the French-speaking part of Switzerland, particularly at Wine festivals, thus proving that wine and cheese do go well together! Even today in Vevey, in the Canton of Vaud where the musical box first came to light, it is celebrated every 25 years. Obviously the Swiss enjoyed their wine festivals so much that they needed that amount of time to recover – and no wonder one particular version, probably the Vevy one, appears so frequently on the cylinder musical box.

But to return to the Big Little Musical Box once more. The case with which the screws and washers were identified by punch marks was taken to extremes even though they were quite interchangeable. Typically, the heads were stamped in a progression of dots starting with one dot and ending with none, the 'none' being screw number 4 of the comb set, Fig. 4. Even the domed brass comb screw washers were so stamped.

The movement was also uniquely mounted with cheese-head screws, two through the front of the case, Fig. 1, and one through the centre of the back of the case, The cheese heads were set tight in rebated holes cut to the thickness of the heads. The bedplate could easily have been suspended above the soundboard but that had been carefully considered because 4 screws acted as adjustable feet under the bedplate. It is an important clue in determining a possible maker because few used this practice.

When fixed in its case, the movement sits firmly in contact with the soundboard and the three deep-seated cheese headed case screws hold it in contact. The whole assembly is of precision engineering standard. The movement is such a close fit in the case that the stop/start and tune-change controls had to be disconnected to release and insert the movement.

Why Big Little Musical Box? At first glance it looks just like a small version of its bigger cousins. It *sounded* like a bigger cousin. Tunes lasted just as long as its bigger cousins. The layout was a typical cartel, just like its bigger cousins except for one thing, its pearlized snuffbox-type stop start buttons, Fig. 1. These were located at the left end of the case, most *unlike* both its bigger cousins. Lecoultre? Definitely not.

The secret lies in some of the above description that can be expected in a movement made by L'Épée, particularly the contact between bedplate and soundboard that contributes to such excellent sound quality and transmission. But the conclusive piece of evidence is the Geneva stop work. Instead of the usual male disc, it comprises a peg inserted in the arbor of the spring motor.

In 1986 Bulleid wrote in one of his articles called 'Oddments' about another MBSI article by Dr. J. E. Roesch in their 1974 Silver Anniversary collection of the MBSI. Roesch described the details of eight L'Épée musical boxes, unfortunately without giving their serial numbers; all eight had the male Geneva peg as a steel pin fixed axially into the spring arbor. Bulleid also noted that L'Épée serial 1216, which is as late as 1880, had the same feature. Not known to be used by other makers, this detail is sufficient to confirm that the Big Little Musical Box was made by L'Épée! However, L'Épée was a supplier to other makers, particularly to Thibouville-Lamy, possibly to others too.

**Never adjust the vanes without ensuring that the spring is fully wound down. The cylinder must be at the tune-change position with the stop sprag in the drop slot (the indent cut into the annular groove on the main governor drive wheel, called the Great Wheel). Even then, damage can occur if the wings of the governor fly are tight. A really cautious person who has knowledge and skill might wish to make this adjustment with the comb removed as well, but more of this at some other time.*

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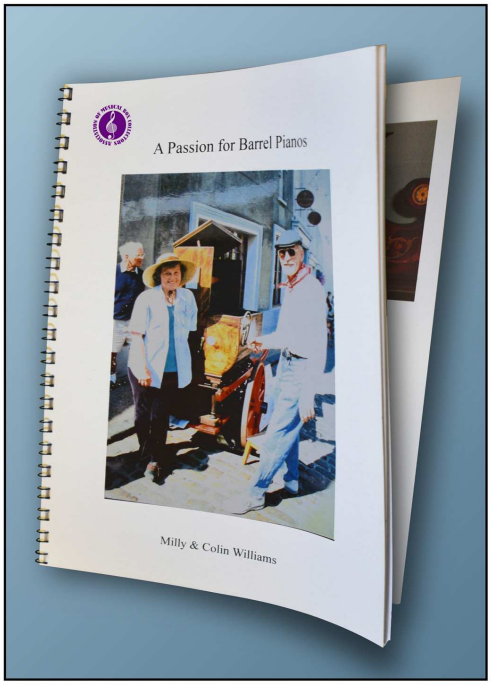

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