

Issue 27, Winter 21/22

MECHANICAL MUSIC WORLD



A VERY rare musical box
See article inside

An Association of Musical Box Collectors Publication



From the Editors' Desk

The longest day has passed and spring is on the way - January is a month to reckon with. The Roman God Janus, after whom January is named, has two faces - one looking back and the other looking forward - so after the year we have had it is a relief to start looking ahead, even if we cannot start planning yet.

One of our founding members was Joe Berman. He was an active supporter and contributor to the work of AMBC. It is with deep regret that we report of his sudden death as a result of an accident. To music box collectors Joe was Chair of the Museum Committee for the Music Box Society International. To his Ham radio buddies, he was W9AON. To antiquarian and used bookstore friends he was a collector with eclectic interests and deep knowledge of the history of magic, the history of early telegraphy, the history of broadcasting, photography, Egyptology, pocket watches, mechanical music and, surprisingly, pop-up books. His Radio and TV students called him Dr. Joe. To the Honors Tutorial College students he was Dean Berman. To early students in the J. Warren McClure School of Emerging Communication Technologies he was Founding Director and was at the cutting edge of 1980's technology books.

The passing of any member is a sad occasion and to the AMBC committee he was a very special person. It was impossible to ignore the revolver box that came up at auction last year. Fortunately the auc-

tioners had done wonderful photographs of the movement which has enabled Paul Bellamy to record technical details for our journal.

Repairing a toy automaton was an interesting project - detailed here in the hope of encouraging you to 'have a go' as well as giving you some useful pointers. Useful too to remember that Ted and Paul are always willing to help if you are stuck for either advice or spare parts.

Graham Webb's shop is a fond memory for many of us and for those of us who were unable to attend the auction of his musical boxes it is good to have an account of the sale, thanks to Chris Fynes.

We found 'A Trip through Musical Box Time' when spring cleaning our archive of articles waiting to be published and this seemed a good issue to publish it in - while you are still semi-locked down and have time to 'read, mark, learn and inwardly digest'!

Who was J Thomas Rhamstine? Well, on pages 22 - 24 we can tell you and on YouTube we can show you one of his amazing inventions actually working.

Our thanks go out to all our contributors, especially for the wonderful illustrations and montages Chris Fynes provides.

In the next issue - by popular request - there will be another contribution from David Soulsby - on Geert Hautekiet's magnificent Automata Carousel. I thought I would give you a 'heads up' for something to look forward to.

CONTENTS

Chairman's Report, Officers of AMBC, AMBC Meeting Dates	2
A Rare Revolver box - Paul Bellamy reports on an unique item	3
Repairing a Toy Automaton - Ted Brown and Paul Bellamy demonstrate their expertise	8
SAS Auction report - Chris Fynes examines the Graham Webb Collection.....	10
A Trip Through Musical Box Time - Paul Bellamy muses over musical box history.....	16
The Rhamstine Needlephone - David Evans learns how to play a radio through a gramophone	22
AMBC Announcement and <i>Special Offers</i> on items for sale	25
Display advertisements	27
Classified Advertisements	28

Chairman's Report

I was getting quite excited about this New Year, with the expectation of greater freedom, however the new Covid variant has other ideas. Apparently having milder symptoms it is nevertheless more easily transmissible and giving extra work to our hospitals. So sadly we still have to remain very cautious about social gatherings. We must learn to live with it so we can but hope it will soon have passed the peak and we can once again think about meeting.

At the end of December I was sad to learn that one of our early members and benefactors, Joe Berman, had died after a fall at home. We had only just received his Christmas card full of news and projects he and his wife, Lynda, had achieved throughout the year. It was designed and written in a beautiful italic script by Lynda. We send our love and sincere thoughts at this difficult time to her and the family.

Please let me know if you would like to attend our first Chanctonbury Ring meeting whenever it feels safe to do so. I will contact everyone who is interested when the time comes.

Remember mechanical instruments sound better when they are regularly played, so I am off to play a few more Orchestrelle rolls.

IMPORTANT NOTICE.

The AMBC subscription year starts 1st March. Payment by PayPal preferred. We appreciate those who choose to cover that deduction so that AMBC receives the full subscription payment, so please add £1.50 (overseas and European members) and £0.65 (UK members). Payments to: amcbmembership@gmail.com.

Subscription rates: UK £15 (£17 family membership), Europe £24 (£26 family membership), USA and rest of world £30 (£32 family membership).

Contact Treasurer Paul Bellamy (bellamypaul@btinternet.com) for assistance on other means of payment.

I wish you all a very Happy New Year.

Ted Brown

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Publication Dates for "Mechanical Music World"

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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 MEETINGS

Cancelled until further notice

It is with great regret that your committee have had to abandon all thoughts of a meeting for the time being.

Having had to cancel meetings last year due to the coronavirus restrictions we had hoped, with the levels of infection falling, that we might be able to hold our New Year meeting even if some adjustments had to be made.

Sadly with infections now rising again and government guidelines changing almost daily it is impossible to go ahead with our plans.

We will let you know how things pan out as soon as we have any information.

An Unusual Revolver Musical Box

Paul Bellamy

In 2021, Gorrings's auction house of Lewes, England, listed a musical box described as a revolver. Nothing to do with firearms but a term used for a type of musical box that had interchangeable cylinders. It was very different to all other types ever recorded and maybe the only surviving example. So unique, in fact that the types and styles of music that it was programmed to play is largely unknown.

'Revolvers' had a carousel that carried three or more cylinders. Cylinders could be rotated into and out of the bedplate by means of the carousel. Most interchangeable musical boxes kept spare cylinders in a cabinet. This carousel carried not just the cylinder but also its comb, each mounted on a separate mini-bedplate.

I had hoped to go to the pre-auction viewing to see and hear the instrument but was scheduled for a Covid-19 test followed by three days self isolation with a cataract operation on the auction day. All very frustrating.

After the auction, our AMBC editors David and Lesley Evans came to my rescue. David alerted me to the fact that the web-site auction catalogue had fine detailed photographs and he observed that each revolver had a different comb arrangement.

Weeks went by as I struggled to get my surviving short sighted eye and my new long sighted eye with its plastic lens to work in unison. With some difficulty I could see that David was right. All comb layouts were designed to produce a different type of musical arrangement. But why and what style of musical arrangement?

Some of the earliest examples of standard musical boxes with fixed cylinders had combs made to produce loud and soft music called *Forte-Piano*. The first of these had a single comb with cylinder pins set to different heights to give the loud and soft effect. Expensive and difficult to make, they were soon superseded by the two comb *Forte-Piano* arrangement, one comb playing *Forte* and the other comb, with teeth set to give less tooth lift for *Piano*. The *Forte-Piano* types appeared about the early to mid 1840s.

Although combs were soon accompanied by other accoutrements such as reed organs, bells, cymbals, castanets, etc., there were still further comb developments. The most significant was the *Sublime Harmonie* arrangement of two identical combs that played in unison. One comb had teeth tuned with slightly different pitch frequency. Played in unison, the combined frequencies produced a pleasant vibrato sound, hence *Sublime Harmonie*.

A further advancement was the addition of an extra treble comb tuned at an even higher pitch than its companions. This added a 'descant' soprano voice to the musical arrangement in the same way that the piccolo flute could be used in orchestral arrangements. The word *Piccolo* was often added to tune sheet, meaning flute.

The sound of a comb could be modified by an attachment called a zither. It comprised a roll of tissue paper covered in silk. When in light contact with a comb or one of the combs of a multi-comb movement, the sound had a soft buzzing effect, said to replicate that of a zither. In fact it was more akin to that of the harpsichord where strings are plucked with a plectrum. The tune sheet term was usually *Zither* but sometimes the word *Harpe* meant that the instrument was fitted with a zither attachment.

Revolver and other interchangeable cylinder types of musical box made use of multi-comb plus zither arrangements. The Gorrings's example was no exception. Even with a close inspection it remains a degree of guess work to determine the type of musical sound intended by each of its four comb-and-cylinder arrangements.

The first revolver patent was by Amédée Paillard in 1870. The various comb combinations and their exotic names such as *Harpe Eoliene* spanned about 1870 to 1890. The term *Eoliene* conveys the sense of the *Aeolian Harpe*. Makers such as Conchon, Brémond, Paillard and others produced this effect by means of the zither attachment. The *Sublime Harmonie* movement was a Paillard patent in 1874. The term *Harpe Harmomique* came into vogue about 1880. They were usually made using a large comb with a scale range of about four octaves plus a shorter comb with a slightly shorter scale.

Few buyers would have understood the exact nature of the complex musical sounds other than perhaps Forte-Piano, Sublime Harmonie and Mandoline. These are some further examples: *Harpe Harmonique*, *Harpe Harmonique Piccolo*, *Harpe Harmonique Piccolo Zither*, *Contralto Piccolo*, *Excelsior piccolo*, *Mandoline Piccolo*, *Forte-Piccolo*, *Sublime Harmonie Piccolo*, *Harmonical Harp Piccolo*, *Piccolo-Zither*, *Piccolo*, *Mandoline Basse Piccolo*.

The desire to make an instrument that could play more than one type of musical style was probably the reason for the unique design and layout of the Gorringe musical box. However, it had been attempted before by means of standard types of interchangeable musical movements called Quatuor, Polytype and Polyphone (nothing to do with the Polyphon). These also had multi comb arrangements and it is sometimes easy to confuse them with standard Sublime Harmonie comb layouts. Each cylinder was pinned in a different musical style to exploit the musical potential of the combs and the zither.

An analogy is to compare how a musical arranger would write the score for each instrument of an orchestra or, perhaps, a string quartet with harpsichord accompaniment. A knowledge of each instrument is required plus its tonal quality and range. The arranger will have a mental sound picture as the score for each instrument is written. No doubt there would be an exchange between maker and arranger to determine beforehand the exact number of combs, their scales and range. The arranger then had the task of fitting the music to this complex comb layout at one tune per turn with a knowledge of how long it took between the beginning and end of the cylinder's unpinned tune gap. The person pricking and drilling each cylinder would need a very high level of experience, patience and skill to transcribe the scores, particularly if reed organs, bells and other accoutrements were added. Scores were usually written by hand and on a single set of five ledger lines with codes to indicate octaves, where teeth had to be tuned in pairs for the 'strong' beats or in groups for the trills and Mandoline effects.

The problem for these modern times is that few restorers and most collectors or potential buyers may not appreciate these finer details. For example, the zither attachments were not meant to last more

than a hundred years. Silk deteriorates and tissue paper can become hygroscopic and damaged by damp. Rusty comb teeth may be concealed under the zither holder. The roll of tissue, its paper thickness, number of turns and overall diameter must be carefully considered and the degree of contact pressure with the comb carefully managed.

The Gorringe example, with its four mini bedplate combinations of combs and cylinders, was almost certainly designed to replicate the types of musical arrangements found on the Quatuor, Polyphone and Polytype musical movements. Conchon used the name Polytype for movements made in Geneva about 1880 but the term may not be exclusive to this maker.

Competition for musical variety was becoming intense between about 1870 and 1890. By 1880 musical box production in Geneva was in serious decline as the factory system in Saint Croix was booming, soon to be overtaken by the development in Germany of the interchangeable disc-playing musical box.

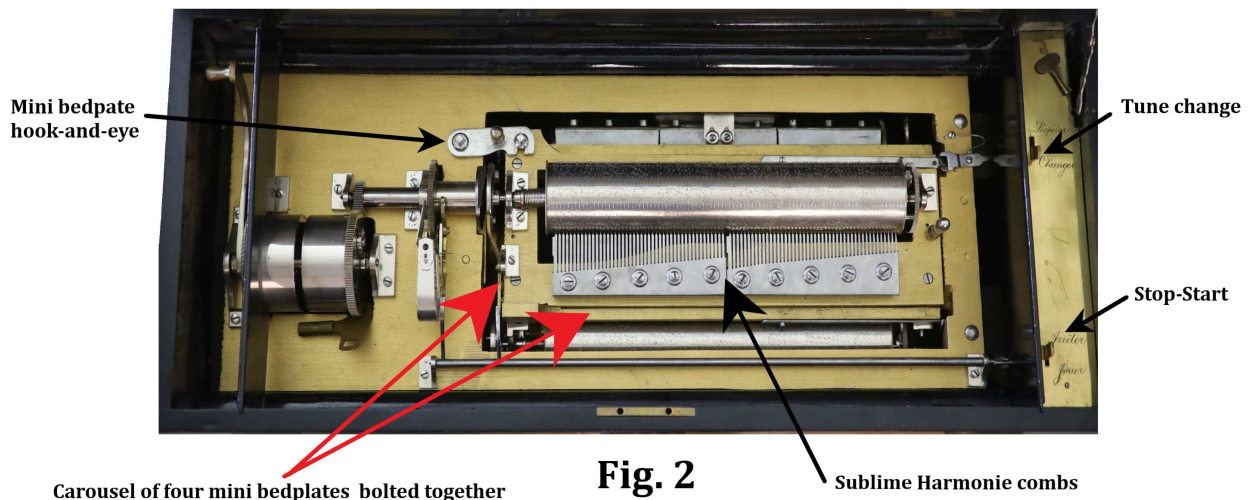
About this time Mermod developed an in line layout of motor and cylinder for standard fixed cylinder movements as well as for interchangeable ones. They were usually made with *Sublime Harmonie* combs. The Gorringe example, Fig. 1, was based on the more traditional layout where the spring motor and cylinder arbors are parallel to each other and connected by gears. Fig. 2 shows the main bedplate with motor and governor mounted on the left and with conventional control levers on the right.

The case, Fig. 1, is finely crafted with a window that



Fig. 1

One of 4 cylinder & comb mini bedplates with zither attachment



Carousel of four mini bedplates bolted together

Fig. 2

Sublime Harmonie combs

allows a view of one of the cylinders yet to be played. The mini bedplates had to be locked into position using a hook and eye, Fig. 2. Each comb has 46 teeth and is clearly a typical Sublime Harmonie type. The cylinder is pinned for six tunes.

Sublime Harmonie. The shorter comb, without the lowest bass and highest treble teeth, relies on the mid-scale range for the Sublime Harmonie effect; it is more economical and allows for a greater scalar range for the main part of the musical arrangement. Fig. 5. The left and right combs both appear to have



Fig. 3

Fixed zither attachment

Fig. 3 has a single comb with a fixed zither across the mid range of the comb, thus excluding its lower bass and higher treble teeth. There appears to be about 68 teeth and the cylinder is pinned for six airs. The hook, comprising a sturdy shanked bolt, is missing. The most appropriate musical style for this single comb and zither layout is *Harpe Harmonique*.

Fig. 4 is more difficult to define. The left comb has 59 teeth, the middle comb has 69. The treble comb has 30 and is probably a Piccolo comb. The first two combs probably have a similar scale range for

49 teeth and therefore probably Sublime Harmonie. The centre comb seems to have 62 teeth with a fixed Zither. The scale range of all three combs may be similar with just a few more bass and treble teeth on the centre comb. Harpe Harmonique is probably the closest description if we accept that the term Harmonique is for the two Sublime Harmonie combs as well as the central comb with its Zither for the main melody and Harpe function. The cylinder is pinned for six airs.

Fig. 6 is a close-up of the spring and governor. It



Fig. 4



Fig. 5

shows the extremely fine quality of design and finish to component parts. It shows the cylinder interlocked and at rest at the end of a tune. 'A' is the stop-start arm with its two 'fingers'.

The tip of the curved left 'finger' 'A' sits just above one end of a spring-loaded pivoted brass lever, (the left E), the other end of which has a small horizontal steel peg. The peg sits in an annular groove, B, in the face of a large gear called the Great Wheel. The groove has a depression called a drop slot in which the horizontal peg has engaged. When the lever is in the drop-slot position, it lifts a sprag that interrupts the rotation of the governor's vanes. The result is that the power of the spring motor is arrested at the cylinder's tune gap.

The right curved finger A also sits above the right spring loaded pivoted brass lever B, which has an integral protrusion that also sits in a drop slot cut into the periphery of a disc rigidly attached to the cylinder's arbor. Thus both the spring motor and the cylinder are held securely at the cylinder tune gap, a position at which the carousel can be rotated to another playing position.

Items marked C show the hook-and-eye mechanism and the key that secures it in place. The bolts have square heads; the left one acts as the hook's pivot and the right is the hook's eye; the key is used to screw the bolts down or to release them when the carousel is rotated to any one of its four positions.

F shows one of the bolts at each of the four corners of the four mini bedplates that lock then together to form the outer carriage of the hidden carousel. G is one of the bolts that secure the set of bed plates to the carousel, which rotates on a shaft and carriage located unseen below the main bedplate.

Fig. 7 shows the two conventional control levers, beautifully inscribed in French. The upper lever is for tune change; Répéter (repeat) and Changer (change), which is non-selective. Tunes change in sequence by means of a standard stepped snail cam that slides the cylinder along its arbor to one of the six tune positions. The stop/start lever is engraved Arêter (stop) and Jouer (play).

Summary

The above is a visual assessment of this remarkable and possibly unique survivor of the late 1800s, possibly made during the 1880s.

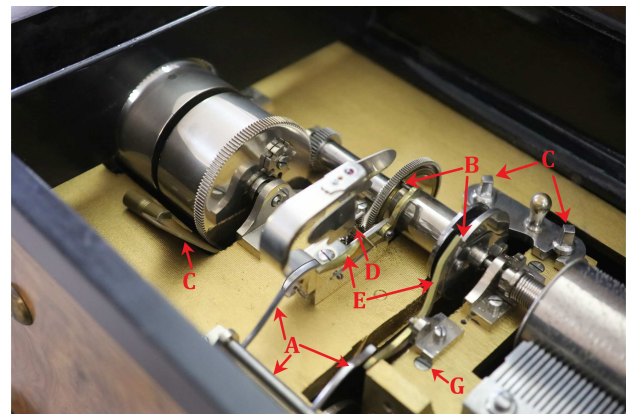


Fig. 6

The cylinder seems to be a standard length and diameter about 13 inches long and 1.25 inches diameter.

The maker is apparently unknown but it is almost certain to have been made in Saint Croix, Switzerland. There are a few possible makers such as Paillard and Mermod but a Geneva maker such as Conchon cannot be ruled out.

There appears to be no serial number, often stamped on the top left of a bedplate.

The various comb and zither arrangements, each of which was designed to produce a different harmonic style of music, often combined with the more common styles such as Forte-Piano, Sublime Harmonie and Mandoline, were applied to both standard and interchangeable movements of the period.



Fig. 7

Terms such as Quatuor, Polytype and Polyphone generally encompassed comb arrangements of the type used on the G o r r i n g e ' s example.

It is not known how the maker described the musical box but for the sake of modern understanding maybe it should be classed as a P o l y t y p e Revolver.

Repairing A simple toy automaton

Ted Brown and Paul Bellamy

Perhaps the title of this article should be: 'A rather shattering experience' because that is exactly what happened to a novelty child's toy that was a treasured childhood memory by its owner. That owner happened to contact an AMBC member and it duly arrived for inspection by Ted Brown with the hope of repair.

The Novelty shown assembled after restoration, Fig 1, was never intended to be taken apart. Even for avid collectors of antique musical boxes and automata, it was easy to understand how a grown up would yearn to see their childhood toy spring to life to play and dance again. The maker of the automaton is unknown but appears to be of Swiss or Tyrolean ancestry with musical movements provided by Gueissaz of Switzerland.



Fig 1

Taking the case apart meant prising away the main platform with its little band of players. It was later replaced using two roundhead brass screws so that it could be taken apart, if necessary, in the future. The dancing platform is a thin sheet of glass that was also glued in position. Fortunately, it was separated without breakage but some of its brown paint on the underside needed to be retouched. Most of the paints supplied in art shops match a pre-determined colour scale. This was the case with some brown Rowney oil paint, which was a perfect match.

The base of the movement was the cast alloy called pot metal. It is notoriously unstable but cheap; so many makers would use the material in the knowledge that it should outlast the expected life of any toy! Unfortunately, this toy had outlasted the maker's expectations and the bedplate now lay in ruins, Fig. 2.

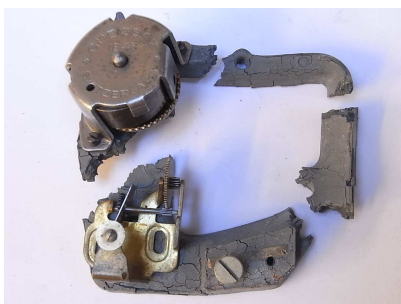


Fig 2

Ted has a plethora, a word he uses often, to describe his vast stock of musical bits and bobs, and amongst the plethora was another Gueissaz movement. It had an identical bedplate but this time the alloy seemed to be of a much better quality even though the casting was exactly the same proportions. Unfortunately, it did not play the same tune as the broken movement.

Ted exchanged the old cylinder for the replacement one in the hope that the replacement comb could be re-tuned to the same scale as the original one. Unfortunately, the two scales were totally incompatible. Amongst Ted's plethora were several similar combs that he thought might be fit for re-tuning but these were also unsuitable.

At the time the novelty was made most makers such as Gueissaz, Thorens, Reuge and Cuendet used a fairly standard size of comb, although the screw holes that attached them were of different dimensions. One of these combs seemed to be capable of being re-tuned.

The first task was to find the tuning scale of what was left of the original comb. Most of the bottom half set of teeth was intact but the half towards the treble end, the shorter and stiffer teeth, had been broken or so badly bent as to be out of tune.

When the bedplate had disintegrated, it is suspected that the metal had become so brittle that the governor had become disengaged causing the power of the spring motor to be released almost instantaneously. The cylinder, rotating at high speed, was probably the cause of the wrecked comb, but the lower range of teeth, being more robust and flexible, had survived.

It did not take long to check the actual pitch of the surviving teeth. It left several options of choice for the original tuning scale. By comparing the remaining teeth with the positions of the cylinder pins, particularly pairs of teeth and teeth played as chords, to guess the scale of the missing teeth. The decision was to cut off the section of broken teeth and fit a replacement top set from a spare comb that was the closest match to the expected scale. The result is shown in Fig. 3.

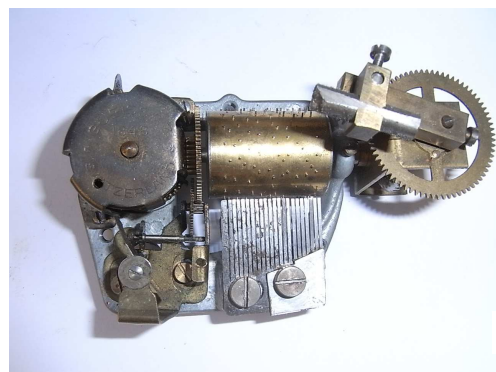


Fig 3

The comb had only 22 teeth of which there were seven damaged ones. Retuning the seven to the anticipated scale has an element of chance in getting it right first time. The pitch of any tooth can be raised by grinding metal away on its underside near the tip. Most tuned teeth have sufficient thickness to be raised at least a full tone before the metal becomes too thin. Teeth can also be lowered in pitch by adding extra weight at the tip; a small drop of solder is usually sufficient for small teeth but sometimes a thin segment of lead needs to be soldered near the tip. The amount of weight must be sufficient to lower the pitch beyond its target pitch and then to scrape away the solder (or lead) to raise the pitch to its correct value.

In the case of this comb, the expected scale was correct. Most small combs have an integral comb base soldered in place, as did this original. Others had separate comb bases, as did the replacement segment. Instead of soldering the replacement segment onto the original base, it was easier to screw the original comb in position so that it played correctly and then to screw the replacement segment and adjust its position separately.

Unfortunately, the section of replacement teeth did not have a hole for its screw, so a cover plate was soldered on top with a hole on the appropriate place, which made it much easier to set precisely in respect of the cylinder pins. Despite the small size of the comb, it is always gives a sense of pleasure when, wound for the first time, the movement once again played its original tune to perfection.

The movement is fitted with its original spring motor and governor. The spring motor case is brass coated pressed steel. The name Guiezzaz, Made in Switzerland and the founding date of 1848 are almost invisible due to corrosion. The cylinder arbor is adapted to drive the extended gear box as seen in Fig. 3.



Fig 4

Fig 4 shows a detail of the gears. The extended cylinder arbor passes through a robust brass bearing and U-shaped steel bracket that is locked in place by a screw. The arbor has a crown wheel which drives a vertical shaft. The shaft

passes through the U-shaped bracket and is fitted with a large gear above which is a brass arm attached to the shaft by a screw. At the free end of the bar is another vertical stub shaft rotated by a small gear that engages the large gear. At the upper end of the stub shaft is attached a smaller brass bar that carries a pound bar magnet.

As the musical movement rotates, the gear box rotates the magnet in a circular but random manner just under the surface of the glass. Two figures, a lad and a lass, are carved with an integral base in which is buried another magnet. As the lower magnet revolves, the two figures gyrate in a realistic but random way around the glass dance floor to the music of the band, Fig. 5. I wonder if the child owner was aware that the scene is a typical beer-fest, with the barrel of beer filling steins for the benefit of players and guests.



Fig 5

The model was adapted slightly so that glass dance floor could also be removed. Fig. 5 shows two small, pivoted, wooden lugs on one side of the glass. Opposite, the band platform has been fitted with a strip of blue-painted wood that overlaps the glass. Fig. 1 shows the stop/start lever protruding from the front of the case, which operates the movement in the conventional way to disengage its spring-loaded stop/start arm.

Pot metal is a low melting point used by the early automotive industry in the early 20th century. A mixture of various non-ferrous metal scrap was put into a melting pot to form cast products. A bad mix could result in excessive corrosion over time and the metal could also be quite brittle. The action of both corrosion and brittleness was the cause of the automaton's failure.

Alix Guiezzaz started his firm as an assembler of musical boxes in 1848 at Chez les Jaques, L'Auberson but was not in the trade register until 1st January 1852 as Gueissaz Fils & Cie, sometimes referred to as Gueissaz Frères. The family was one of the longest surviving clans in the musical box industry, some 130 years.

SAS Auction Highlights, Property of the late Graham Webb

by Christopher Fynes

SAS (Special Auction Services) is an auction house situated in large premises on a trading estate in Newbury, Berkshire. They hold several specialist auctions each month, including the occasional sale devoted to mechanical music.

The auction catalogue included a brief but helpful description of Graham Webb's life:

"Graham Webb (1930-2005) was born in Oxford but moved to London at the start of the War. By the end of the war, he was working for a roofing contractor, then, after serving in the Royal Navy, as a steward on an ocean liner. A job in the auction department of Whiteleys (many department stores held auctions at that time) led to working for an antiques dealer, selling fireplaces removed from bombed-out houses.

It was in 1963 that he opened his own shop in the Portobello Road, and there he discovered, by a chance purchase, a stack of musical boxes which he quickly sold at a useful profit, that this was a promising line, and he became the first specialist dealer in mechanical music. His shop was a hub for the early members of the Musical Box Society of Great Britain, and his Cylinder and Disc Musical Box Handbooks became standard works. He eventually left London for Yorkshire, but returned south a few years later to Brighton, where he opened another shop, which he retained until retirement."

It was no surprise that his collection was bound to engender a great deal of interest at auction. It consisted of fine early musical boxes, particularly those by François Nicole and also in the smaller early musical snuff boxes with decorative lids, all the sort of items extremely popular today!

Cartel Musical Boxes:

Lot 143 (Picture 1), was the main item, with 'a come and get me' estimate of £10,000 - £15,000. A rare key-wind musical box, by François Nicole, No. 4379, circa 1822-25. It had a 'squared grid' engraved on its cylinder (unique to François Nicole) which measured just 10 inches long by 2 ½ inches in diameter. It played the overture to *Gazza Ladra* in two revolutions and the *Andante &*

Allegro from *Adelaide di Borgogna* (all Rossini). The comb which had 203 teeth was in two main parts with an 8-tooth section at the treble end and five extra widely spaced teeth at the extreme bass end. It was housed in a worm-eaten plain fruitwood case with exposed controls, the interior lined in blue paper, with a hand-written tune-sheet. I had the privilege of hearing its full programme at the viewing and can honestly say I have never heard such a fine rendering of the 'Thieving Magpie Overture' on a cylinder musical box. When the lot came up on the screen and the bids started, they came in so fast it was like flicking through a pack of cards before the hammer came down at a staggering £52,000.

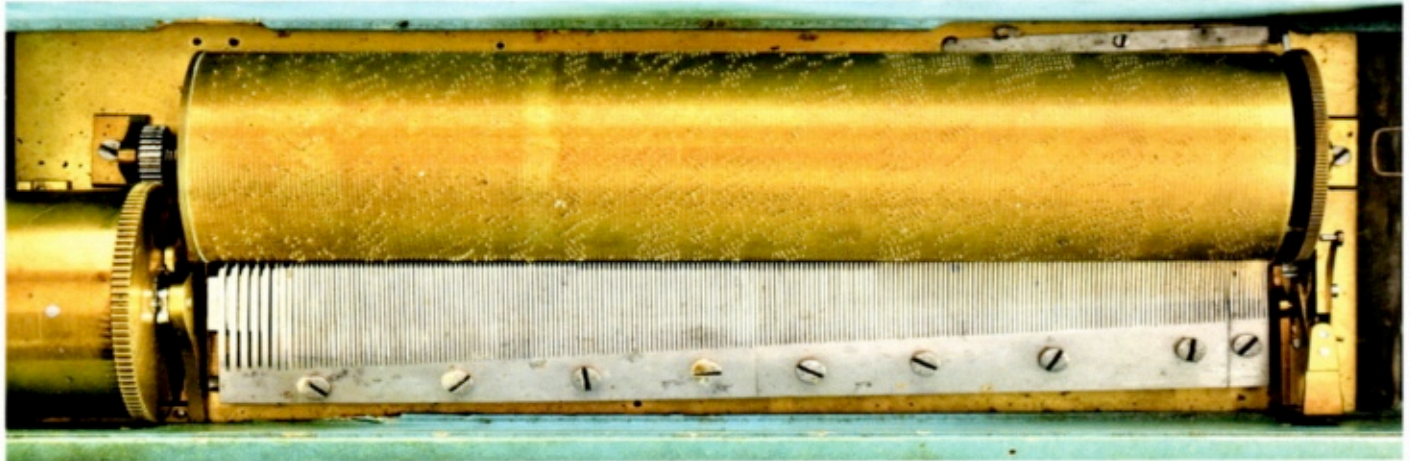
Lot 153 (Picture 2). As though one box by François Nicole was not enough, yet another, this time playing three airs with 196 teeth on four-piece comb, had the name 'F Nicole' stamped twice on its top surface. The cylinder, also with an engraved 'squared grid', measured 9¼ inches long by 2½ inches in diameter. Circa 1822-25. This too was in a badly worm-eaten fruitwood case with exposed controls. None-the-less this did not stop it reaching £36,000 on the hammer price.

Lot 141 (picture 3), another interesting musical box, a key-wind mandolin musical box, playing four airs by Bellini, Julien, Donizetti and Salas, had 206 teeth on a 15-inch cylinder with mandolin groups up to eight. The bedplate was stamped 'Bissen à Paris 9582', but surprisingly had a D Lecoultré tune sheet, with the same serial number 9582 written on it. The top of the lid was veneered with rosewood, it had moulded edges and was embellished with brass and red enamel Boule inlay, albeit requiring some restoration. Anyway, it all helped to push the bidding up to £5,500 on the hammer.

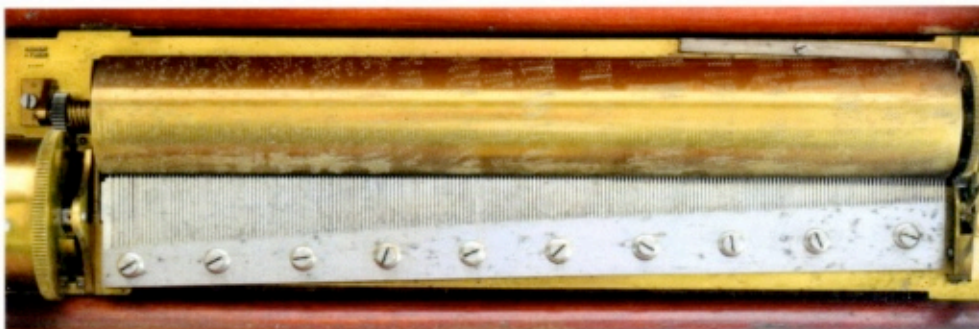
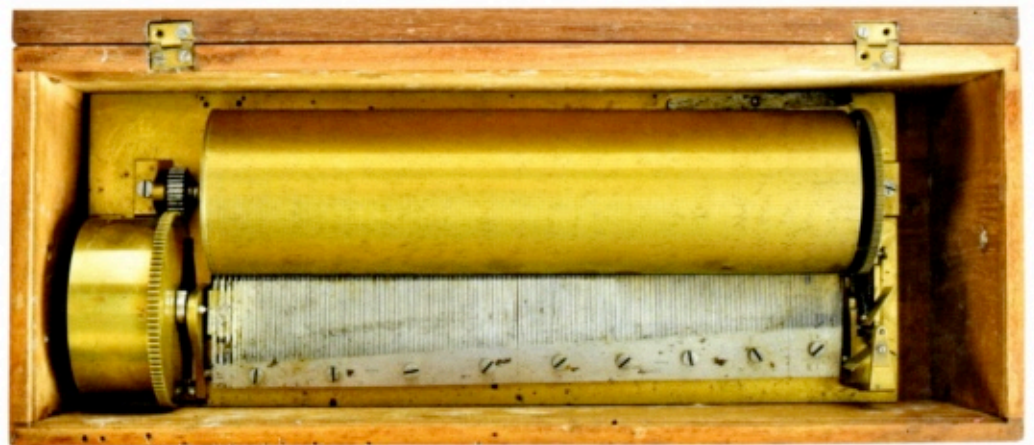
Graham Webb must have been quite interested in early musical snuff boxes with decorative lids as there was a number of these for sale. These would probably have been originally bought during the period of the Grand Tour and made nice souvenirs to take home.

SAS Auction Highlights

1 Lot 143, was the main item, with 'a come and get me' estimate of £10,000 - £15,000. A rare key-wind overtone box, by François Nicole, with a *squared grid* cylinder. It played the overture to *Gazza Ladra* in two revolutions and the *Andante & Allegro* from *Adelaide di Borgogna*. The hammer came down at a staggering £52,000.



2 Lot 153, another rare box, circa 1822-25, by François Nicole with a *squared grid* cylinder, playing three airs on a comb of 196 teeth, in a worm-eaten fruitwood case with exposed controls. Despite another low 'come and get me' estimate it did not stop it reaching £36,000.



3 Lot 141, a key-wind mandolin musical box, playing four airs by Bellini, Julien, Donizetti and Salas. The bedplate was stamped 'Bissen à Paris 9582', but with a D Lecoultre tune sheet. The top of the lid was veneered with rosewood embellished with brass and red enamel Boulle inlay. The bids went up to £5,500 on the hammer.



Musical snuff boxes:

Lot 145 (Picture 4), was an early two-air snuff-box by F. Lecoultre with 70 teeth, playing on a 2 ½ inch cylinder mounted in a tortoiseshell case. The unusual lid had a glazed miniature 3D scene of a woodland deer hunt chasing through a forest made up from two white-metal plates both realistically sculptured, the foreground plate heavily and meticulously pierced to reveal the other; a decoration known as a *découpage*. This interesting box exceeded its £400-£600 estimate, selling for £1900.

Lot 166 (Picture 5), another box to exceed its estimate, had the name F. Nicole stamped on both movement and comb. The serial number 3942, dated it to circa 1820. It was unusual in that it was designed to play a single tune on two turns of a heavily pinned 3¼ inch cylinder, with a total of 84 teeth. It was mounted in a black horn case with an integral hinge, the lid with an attractive floral design inlaid with engraved silver, mother-of-pearl and abalone. I was unable to play it at the viewing as it was fully wound with a sticky governor. Despite this, having examined it more closely, believed it to be in good order and a box by a maker I had been seeking for some time. The bidding pushed me up to £2300. However, I was not disappointed; with a little bit of oil on the fan, it took off nicely and played beautifully. I intend to add a recording of it to my next updated snuff box CD.

Lot 144 (Picture 6), an early 19th-century Laurencekirk musical snuffbox, in a typical burr-wood case with tortoiseshell edging and opening bar, playing two airs on a sectional comb of 57 teeth with the base notes on the right. Its movement was concealed beneath a tortoiseshell divider on the inside compartment instead of the usual see-through horn. The lid was embellished with an enamel view of a mountainous landscape (*Vallée de Chamonix*) most beautifully painted. This went for £650 slightly above its estimate of £400-£600.

Lot 148 (Picture 7), an early 19th-century small musical snuffbox, playing 'Ranz des Vaches' and the 'Prayer from William Tell' on a comb of 53 teeth, with a serial number on its bedplate of 6257, mounted in a black tortoiseshell case. Set in the lid was an oval glass picture of a mountainous landscape with people walking down a lane. The corners of the lid were surrounded by inlaid white metal spandrels. It went for £360, comfortably within its

estimate of £300-£500.

Lot 149 (Picture 8), an early 19th-century musical snuffbox, having a sectional comb consisting of 51 teeth with the bass teeth on the right, playing two popular airs of the period. It is mounted in a tortoiseshell case with a classical miniature, painted and mounted behind glass, of a Goddess and a Cupid holding bows and arrows. A bit of a mystery though, is the bedplate, stamped 'HC' with a serial number of '6459'. The obvious conclusion would be that the initials stood for 'Henry Capt', but with such a late serial number and not the type of box you would expect of him, I very much doubt that would be the case. I was lucky enough to acquire this lot for myself at £460, somewhat lower than the auction estimate of £500-£700.

Lot 151 (Picture 9). Finally, another early 19th-century musical snuffbox, playing two familiar airs on a comb of 63 teeth, screwed from below, mounted in a tortoiseshell case, with a most beautiful painted enamel view of Lake Geneva surrounded by mountains on the lid. This reached its lower estimate of £500 when the hammer fell, held back slightly by some cracks in the enamel.

Just some of the highlights from the late Graham Webb collection whose contribution to mechanical music will always be greatly appreciated.

To hear the second part of the 'Thieving Magpie Overture' from Lot 143, log in to:

<https://www.youtube.com/watch?v=36qZEWZs5Sc&t=24s>

With kind permission from Special Auction Services and Hugo Marsh the auction photographer.

For a closer look at other Painted Musical Snuff Boxes:

The centre pages have illustrations of another eight painted musical snuff boxes.

SAS Auction Highlights



- 4** Lot 145, a two-air snuffbox by F. Lecoultre, the lid with a *découpage* scene of a woodland deer hunt. This box exceeded its £400-£600 estimate, selling for £1900.



- 5** Lot 166, an F. Nicole snuffbox designed to play a single tune on two turns of the cylinder. This unusual box went well above its estimate finally reaching a realistic £2300.



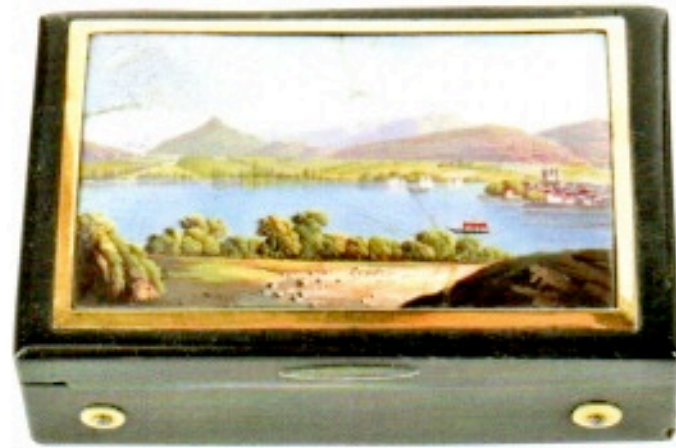
- 6** Lot 144, an early Laurencekirk musical snuffbox, in a typical burr-wood case. The lid with an enamel view of a mountainous landscape. This went for a reasonable £650.



- 7** Lot 148, an early 19th-century small musical snuffbox, playing two airs, the lid with an oval glass picture of a mountainous landscape. A good buy for £360.



- 8** Lot 149, an early musical snuffbox, with a sectional comb playing two popular airs, the lid painted with a Goddess and a Cupid holding bows and arrows. This sold for a low £460.



- 9** Lot 151, another early 19th-century musical snuffbox, playing two familiar airs, the lid with a painted enamel view of Lake Geneva. This reached its lower estimate of £500.

A closer look at other painted lids



A A two-air snuffbox by Aubert Fils. The lid with an exquisite painting signed by artist Charles Claude Delaye showing a lakeside scene with bridge and ruins applied to reverse of glass. Charles Claude Delaye was a landscape and genre painter, born in Paris 1793. He exhibited his work between 1827 to 1848. His works include: The Old Windmill in Beaumont, A Shack/Barn on fire, Hunting (Louis XIV), The Teacher, Village Feast and the Stagecoach. Circa 1830.



B A two-air snuffbox with a movement by F Gevril. The lid has an unsigned painting of a lake scene with a tree, people and building reverse-painted behind glass. F Gevril is a name so far not listed in any musical box publications. There are two other examples illustrated in pictures (E&F). His name is stamped on the bedplate in tiny letters 1/8" long on all three examples. Circa 1830.

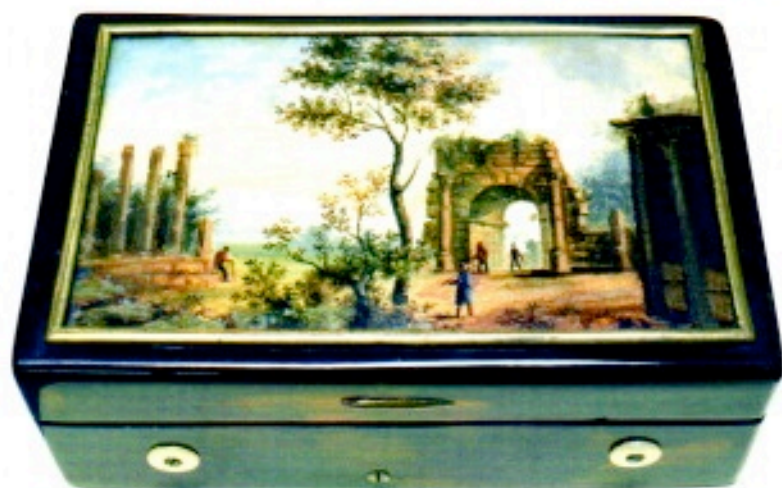


C A two-air sectional comb snuffbox by an unknown maker. It has a Laurencekirk amboyna case lined with tortoiseshell, its lid with a view of a lake scene, a fisherman and an island in the background reverse-painted on glass. The case has a tortoiseshell interior and hidden wooden hinge invented by James Sandy. In 1738 he licensed carpenter Charles Stiven to take over production of his factory in Laurencekirk in Aberdeenshire, and soon Laurencekirk boxes, as they came to be known, rapidly became popular. Circa 1825.



D Another two-air sectional comb snuffbox by an unknown maker which has a Laurencekirk amboyna case lined with tortoiseshell. On the lid it has a watercolour painted on parchment of a field with cows, buildings and trees overlooking a lake scene with vineyards and mountains in the background mounted behind glass. This too has a tortoiseshell interior like the one in picture (C) that completely cover their musical movements. Circa 1825.

On early musical snuff boxes



E

The second two-air snuffbox by F Gevril has a lid painted with a people enjoying a landscape of ruins with a large tree in the foreground reverse-painted behind glass. This box and the one illustrated in picture (F) both play exactly the same tunes. The second tune is titled 'Au Clair de la lune'. All three boxes have combs screwed in from the base and early stopwork on their spring barrels to prevent over winding. Circa 1830.



F

The third box by F Gevril has a lid painted with maids looking after their animals. Gevril was from a family of watch-makers begun in 1758 by Jacques Gevril, a gifted watch and clockmaker who accompanied his colleague Pierre Jaquet-Droz on a trip to Madrid, where the men presented a selection of complex musical automata to King Ferdinand VI. Gevril was then appointed Royal Watchmaker and produced watches for the Crown. Their well-known art-deco style watches are still sold to the present day. Circa 1830.



G

A three-air snuffbox by an unknown maker. The lid features a painting of a town scene with a boy to the left loading his ass with a sack of merchandise and what looks like a rent collector in the middle and a milkmaid to the right selling her milk with a naughty boy standing close behind her about to help himself. The painting is mounted behind glass. Circa 1835.



H

A four-air musical snuffbox by an unknown maker that has a domed painted porcelain lid of St. Martin in the canton of Graubünden, Switzerland. It is surrounded by an idyllic rural landscape with fields and trees, a river and mountains in the background. The first air is from the overture 'L'Italiana in Algeri'. Circa 1840.

A Trip Through Musical Box Time

Paul Bellamy

The cylinder musical box was a masterpiece of technical innovation but was it ever invented? If so, by whom? There has been much past debate, claiming and disclaiming that Antoine Favre-Salomon was the inventor. My opinion, amongst many others, is that his ‘invention’, which was to pluck a tuned comb by means of steel pins on a rotating brass cylinder was an adaptation of existing practice, not an invention.

Rotating pinned cylinders were common in musical clocks but the pins tripped small hammers that struck tuned bells. Favre-Salomon, a clock/watchmaker, would have been fully aware of this.

There is no evidence that Favre-Salomon made cartel or snuffbox type movements but he did make very small musical movements using a pinned cylinder called a *barillet* that plucked an array of steel tuned teeth. These miniature musical movements were fitted inside watches and other items such as signet rings. They were really musical novelties although some had quite sophisticated musical arrangements.

There were two different types of larger cylinder movements than the *barillet*. One was the snuffbox-type and the other the *cartel*.

The snuffbox type, often called *tabatiere* because the movements were at first fitted into snuffboxes called *tabatieres*, had a vertical-axis spring motor that engaged at right angles with the axis of the pinned cylinder; the *cartel* type had a horizontal axis spring motor that engaged in parallel with the cylinder axis.

There is no doubt that Antoine Favre-Salomon of Geneva wrote an account that others interpreted the he was the inventor. This is just one account of many: “Antoine Favre-Salomon, a clock maker from Genève, Switzerland, patented the first cylinder musical box that utilizes a metal comb with tuned teeth to produce the music. 1800: Isaac Daniel Piguet in Geneva

produced repeating musical watches with a pinned horizontal disc plucking radially arranged tuned steel teeth.”

Patent law was not established in Switzerland at the time but Favre was probably the first to use a small cylinder, called a *barillet*, to pluck instead of to strike a linear array of tuned steel teeth. They mostly played one tune with limited musical range. Only the very rich could afford such novelties. Instead of just striking the hours and quarters, the tunes were also a way of alerting the owner to when the next hour was due. The Houses of Parliament with its Elizabeth Tower and giant bell called Big Ben is a ‘striking’ and world renowned example of a musical preamble to alert one to the striking of hours and quarters. Time was a major factor in regulating human life ranging from Church bells, public chiming clocks, houses with their Grandfather clocks to regulate servants and domestic life, watches with chimes; all used music for purposes other than entertainment. Favre and Piguet provided the first steps in developing the musical box as a form of entertainment.

Piguet, a compatriot of Favre, also used a small pinned rotating disc called *sur plateau* that plucked an array of teeth. Being thin, it was better suited for use in fob watches but was also used in snuffboxes and other novelties. Whereas the *barillet* can be considered as the forerunner to both the snuff box and *cartel* type movements, the *sur plateau* was not.

The *barilets* and *sur plateaus* were an extension of the clock and watch trade but those who departed to concentrate on the larger musical movements, the snuffboxes and *cartels*, were the founders of a separate industry, the true musical box makers.

There were other examples of technology that were adapted to meet the needs of the true musical box. Pinned brass cylinders were used long before the beginning of the 1800s. Instead

of a tuned steel comb they played bells by tripping hammers that struck the bells. There were, of course, far fewer pins and even fewer bells. A spring motor drove the cylinder at slow surface speed through a set of gears that rotated an air vane at very high speed. These cylinders had diameters and length almost the same size and design that were later used for the cartel movements.

Long before the brass cylinder, wooden pinned cylinders were used to play bells, organ pipes and stringed instruments. Pinned barrels were also used for domestic and portable street organs and pianos. Barrels could be exchanged so that different tunes could be played. Cartel cylinder musical did not have interchangeable cylinders until some time in the 1840s. The snuffbox layout was not adapted for interchangeable use until much later and is still used today by the last remaining Swiss musical box maker, Reuge,

Grand buildings and churches had peals of bells played by pinned cylinders. The cylinders were not always made of wood. Some were a mesh of cylindrical cast iron where pegs, instead of pins, could be placed in accordance with a desired musical programme. It was a long time before cartel cylinder musical boxes had bells, organs and other accoutrements such as castanets and drums.

In the eighteenth century, repeating fob watches with a single bell struck by small hammers was an audible way of telling the time, particularly useful for blind people and during night time when the watch face could not be seen. Later, in the nineteenth century, repeating watches had two tuned steel spiral gongs and could strike the hours, quarters and sometimes minutes as well.

Thus, all the basic elements of the musical box were already in place before Favre's 'invention'. Also, although Daniel Piguet is credited for using a *sur plateau*, the idea of using a disc to play and pluck a musical comb was years away; when it came, it was the death

knell of the cylinder musical box, because the next step was to make the disc interchangeable. Before that, interchangeable cylinder cartel movements were in vogue but they were rather cumbersome and cylinders needed careful storage. Discs were less bulky, easier to make, easier to store and could provide a much cheaper supply of new music after initial purchase of the instrument.

The snuffbox type was easy to adapt for other uses such as souvenirs, photograph albums, novelty ink stands and much more. Their production paralleled that of the cartel type well into and beyond the 1900s but the cartel, being larger and louder, soon dominated the sophisticated musical box scene. Up to about 1860, the late HAV Bulleid described the era as the Golden Years of the cartel when most musical boxes continued with the remnants of the clock-making era by using key-wind spring motors. Within a few years the ratchet operated lever-wind method was adopted. Even key wind movements could be upgraded by purchasing a winding handle but the only disadvantage was that the end of the case had to overhang a table; thus the winding handle had to be cranked. Just after 1860 the key-wind versions became obsolete except for the snuffbox movements.

The person who should be credited with making cartel movements musical instruments in their own right has to be François Nicole, a close contemporary to both Favre and Piguet but he could not do it alone. His friend, François-Louis Lecoultre, was the alleged inventor of the lead weight and steel spring damper fitted to the comb teeth. Both their families lived at the same address. Nicole's daughter married Lecoultre's son.

The weight was easy to solder and easy to trim when tuning its tooth. Being heavy it took up less space. Combs could be made to cover over four octaves. The spring damper not only allowed a vibrating tooth to be silently stopped but also enabled it to be plucked in quite quick succession. If two or more teeth were tuned to

the same pitch and played in sequence. musical trills and a mandolin effect could be produced. Pairs of teeth tuned to the same pitch enabled 'strong' beats to the musical bar. The combs now had potential for a wider range of musical expression.

By about 1812 François Nicole exploited the advances made by Favre. The late Olin Tillotson, a Canadian, went to England and worked for Dolmetsch, known mostly for popularising the recorder for British schoolchildren. Olin was convinced that François Nicole must have had an extensive musical knowledge and appreciation. His cartel movements, identified with his personal 'trade mark' of a grid pattern scribed over the cartel cylinder surface, not used by any other maker and not found on his snuffbox type movements, had musical arrangements that were of supreme musical sophistication. He must have used and motivated the musical arrangers of the day with his musical knowledge and foresight in transforming the tuned steel comb into a quality musical instrument with a range and power comparable with some conventional keyboard instruments. Other makers soon followed his lead. But few matched it until more years had passed. In fact, other than Ducommun-Girod, circa 1820, the Nicoles and Lecoulre dominated the Geneva musical box scene.

Trills were an essential part of conventional musical arrangements. A popular style was called *ranze des vaches*. These were based on Swiss melodies traditionally played on the Alpenhorn or sung in yodelling style. Both were a means of long distance communication in mountainous country pastures but the vocal ones, mainly used for calling cows down from high pastures, were pitched high. These melodies had regional differences extending into Austria and Germany but were characterised by the reiteration of highly pitched short phrases. They simulated the yodel effect at the treble end of the comb where teeth did not have dampers.

Trills required selections of teeth to be tuned to the same pitch or closely pitched and played by cylinder pins in quick succession. They were used in the middle range of the comb, the melody section, to produce *glissando*; this was a smooth gliding effect from one note to another similar to running a finger cross the white keys of a piano or the strings of a harp. In fact, many musical arrangements for Geneva were Harp like.

Geneva did not have a conservatoire or academy of music until 1835 but the harp was popular at that time and may have been dominant in the Swiss musical scene. Unfortunately nothing is known about the musical box arrangers and not a single name has survived but they are the unknown geniuses of the cylinder musical box.

Some makers used similar combinations of tuned teeth at the bass end of the comb where the interference beat created the more sonorous effect of a single organ pipe. This type of musical movement was called the *Organoceleide* but it had nothing to do with cylinder musical boxes that plucked combs and played small reed organs. These were called organ boxes. Those that had reed organs as well as other accoutrements such as bells, drums and castanets were called orchestral boxes. All of these combinations were musical steps that were exploited to provide a much wider range, type and style of music.

There was always a demand for more tunes per musical box and for extended playing time long before the interchangeable cylinder was made. Comb teeth were always, with very rare exceptions, at the bass end of the comb, spaced at uniform tip-to-tip distances. This space allowed the cylinder to be pinned with more than one tune. Thus, one tune would be pinned on a series of evenly-spaced track lines scored on the cylinder surface and other tunes could be pinned in the space between the tooth tips. All it needed was a way of sliding the cylinder along its arbor so as to engage the 'in-between

tunes' with the comb teeth. There were manual as well as automatic tune-change mechanisms such as the stepped snail cam. This required a longitudinal unpinned space on the cylinder so that it could be moved without damaging cylinder pins, tooth tips and tooth dampers.

Larger diameter and longer cylinders with wider tooth tip spacing allowed for more tunes and longer playing time per single fixed cylinder. Some makers even cropped the alternate tips of comb teeth to create space for more tunes but at the cost of either a smaller scale range or, the number of teeth tuned to the same pitch. These were known as Alternate Tip movements. This caused much written debate about the purpose of the in between tipless teeth. Some argued that they were tuned to resonate with its companion. Teeth, or any object such as a loose screw, can be force to vibrate. Often a nuisance when a musical box is playing but these 'alternate' teeth were definitely not designed as resonators of their companion tipped tooth. The physics of sympathetic vibration is difficult to explain in lay terms but the diminishing energy of the vibrating source is insufficient to make its tip-less partner resonate with sufficient sound to create musical sympathy. Quite simple, tips were removed just to get more tunes out of an otherwise standard comb.

Large diameter cylinders, often referred to as Grand Format, could be pinned with several tunes per turn. Despite all these technical and musical developments the demand for more music per cylinder musical box was relentless, giving rise to the interchangeable types.

Before this occurred the next major step in musical development was to produce a comb that could play both loud and soft music, called at the time *Forte-Piano*. (This was the early name for the key-board instrument called the *piano* or more fully the *pianoforte*.) The development has been credited to Henri-Joseph Lecoultré.

There is little doubt that both he and his brother

David Lecoultré were the first to attempt this formidable task some time in the 1840s, both at the same time and both using different manufacturing techniques. These will have to be the subject of a future article. Whatever the result, their single comb version, which could also be used to create crescendo and diminuendo passages, did not last long and was replaced with the two-comb Fort-Piano movements by many makers such as the Nicoles. Both combs had the same scale range but the forte one (no louder than a standard comb) had more teeth, usually at both the bass and treble ends, than the shorter piano comb. The piano comb was set so that cylinder pins did not lift the teeth as high as the forte comb, in order to produce a softer sound. Unlike the single comb versions the two combs could not reproduce a crescendo and diminuendo effect.

The forte-piano movements were soon almost completely superseded in popularity by another type called *Sublime Harmonie*. It used two identical combs but the pitch of one comb was slightly different. When teeth of the same pitch on each of the combs were played in unison, the combined frequencies created a slight vibrato effect. What was needed were interchangeable cylinders. That took place somewhere in the middle of the 1800s but the multi-tune single cylinder movements continued to be made right up to the end of the 1800s.

The first person to make an interchangeable musical box movement was probably Henri-Joseph Lecoultré but this has not been confirmed. Early interchangeable movements were called 'rechange', which meant 'replacement'. They were made with the same order of mechanical accuracy as standard movements. Clearances between cylinder pins and comb teeth and distances between the tips of teeth were the same as for standard models. Each interchangeable, (i.e. rechange) cylinder had to be made to exactly the same dimensional tolerances as the others and each had to be fitted and adjusted at the time of manufacture. It

was not possible to order more cylinders at a later date.

The rechange type, which required very accurate and consistent manufacturing tolerances, was superseded by the interchangeable type, which allowed more cylinders to be bought after initial purchase. Bulleid was of the opinion that the opportunity to do so was rarely exercised. However, the demand for large numbers of interchangeable cylinders and hence a greater number of tunes, increased over time. They were produced by a number of makers, all of whom had to use coarser tolerances to allow for inevitable manufacturing errors. This resulted in tune track, tooth tip spacing and tooth tip width being slightly wider than for non-interchangeable movements.

Towards the end of the 1800s the idea of using exchangeable pinned discs was introduced in Germany. The two forms of exchangeable musical programmes, disc and cylinder, were in competition for a number of years but the interchangeable disc (no longer called *sur plateau*) soon became established making the cylinder movements almost redundant. Cylinder movements are still made today but most, except for Reuge, were and still are used for toys and novelties. Reuge of Saint Croix is the last of the Swiss musical box makers and still makes delightful cylinder musical boxes, including interchangeable ones. Their cylinder spring motor configuration is the same as the snuffbox type.

A major factor in musical box development was the establishment of patents. Most Swiss manufacturers had strong feelings against patents because many thought that they constrained others from competing in the market place. Whereas other countries such as America established patent laws in the late 1700s, Switzerland did not introduce its first laws until 1884. At first they were poorly designed and limited in scope. Those working for Paillard, Mermod and others were quick to patent ideas that were already established practice.

Patents, and Intellectual property rights, were an

advantage to some who invested in truly original ideas from which they could take a commercial advantage. Patents can also be an obstacle to competition and the cause of litigation but they also had some unintended consequences that stimulated competition in some extraordinary ways to overcome them. As far as the interchangeable cylinders were concerned, early attempts were not constrained by patents.

The late Arthur Cunliffe produced a musical box register. The most extensive listings were for Nicole. The earliest Nicole listing for an interchangeable musical movement was about 1838. Initially few other makers followed the trend because of the technical difficulties. This does not make Nicole the 'inventor' but gives an idea of the date, which fits well with the possibility that Henri Lecoultre could have been the first to do so. As remarked above, the Lecoultre(s) and the Nicoles of that time were closely associated by marriage and by technological innovation.

By 1890, the basic design of cartel movements had been simplified with movements having in-line cylinders and spring motors. They were cheaper to produce and adaptable to interchangeable cylinders. Mermod, Arthur Junod, when in partnership with Aubert as Junod, Aubert & Cie, known as JAC, produced an interchangeable model called the Helvetia. Paillard's version was based on their Columbia standard in-line model.

The major technical difficulty in developing the rechange and later interchangeable movements was to find a way to remove a cylinder and replace it with another without risking damage to cylinder pins, comb teeth and comb dampers. The action had to take place at the cylinder tune gap. This required some form of interlocking mechanism to stop the spring motor so that the cylinder was arrested at the tune gap.

Initially these cylinder changes were carried out by hand, sometimes using a pair of hand-held hooks, one at each end of the cylinder. There were many different examples, some of which

survived to the present day. It took quite a long time before makers were confident enough to produce effective models. The precise date when the rechange type was replaced by the interchangeable type remains unclear but

thought to be in the 1870s. Once that happened, a new method of exchanging cylinders was devised which effectively did away with replacement by hand. These were called 'Revolver' musical boxes.

IV. THEIL.

Musikwerke mit auswechselbaren Notenblättern zum Drehen und selbstspielend.

Musical Boxes with crank movement or self-acting and interchangeable tunes.

Boîtes à musique à manivelle ou jouant toutes seules avec feuilles de musique échangeables.

Cajas musicales con hojas alternandas. Se las vuelve y tocan tambien en-si-mismas.

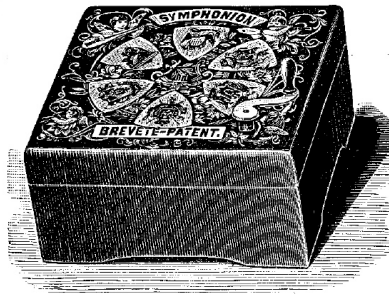
Strumenti musicali con foglie per cambiare. — Muziekinstrumenten met verwisselbare notenbladen.

Musikinstrumenter med noterplåtar att utvexla. — Musikinstrumenter med noterblade att udvexle.

Symphonion „Manivelle“ No. 28.

Note No. 28. Durchm. 14 1/2 cm.

Werk 40 Töne, zum Drehen. Gehäuse imitirter Palisander mit buntem, internationalem Deckelbild. Auf Verlangen ohne Deckelbild, dafür mit Cuivre poli-Beschlägen.



Symphonion „Manivelle“ No. 28.

Disc No. 28.

Music Box with forty steel tongues, crank movement. Fine polished case (imitation of palisander) with ornamental cover (international design). On demand, brass ornament instead of cover-painting.

Symphonion „Manivelle“ No 28.

Feuille à musique No 28.

Instrument à 40 lames, à Manivelle. Boîte en imitation de palissandre, avec couvercle peint en couleurs (dessins divers). Nous remplaçons, sur demande, le dessin par une garniture en cuivre poli sans augmentation de prix.

Symphonion „Manivelle“ No. 28.

Hojas de música No. 28.

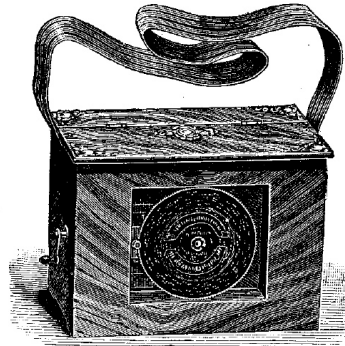
Caja de palisandro imitado, 40 voces, tapadera pintada. Hay tambien la tapadera con forro de cobre bruñido al mismo precio.

Grösse size — dimensions — tamaño:	Gewicht weight — poids — peso:
16 1/2 × 16 1/2 × 8 1/2 cm.	netto 1,270 kg, brutto 1,900 kg.
6 1/2 × 6 1/4 × 3 1/2 inches.	net abt. 3 lb, gross abt. 4 lb.

Symphonion-Lieferkasten No. 28L.

Note No. 28. Durchm. 14 1/2 cm.

Werk 40 Töne zum Drehen. Polirtes Gehäuse, Cuivre poli-Beschläge. In dem Kasten selbst befindet sich ein Behälter für die Notenscheiben.



Symphonion Box-Organ, portable, No. 28L

forty tongues, crank movement.

Disc No. 28.

Polished case with brass fitting. The box contains a shelf for the keeping of the tune-sheets.

Symphonion-Orgue de Barbarie portatif No 28L

à 40 lames, à Manivelle.

Feuille à musique No 28.

Boîte polie, garniture en cuivre poli. Dans la boîte même, se trouve une séparation pour les disques échangeables.

Organillo portátil Symphonion No. 28L.

40 voces.

Notas de música No. 28.

Caja bruñida, ornamentada con cobre pulido. Al dentro depósito para las hojas.

Grösse size — dimensions — tamaño:
31 1/2 × 24 × 20 cm. 12 1/2 × 7 3/4 × 9 3/4 inches.

Gewicht weight — poids — peso:
netto 2,450 kg, brutto 4,100 kg. net abt. 5 lb, gross abt. 9 lb.

Netto-Preise Prix nets	
M.	ƒ
5	85
9	—
—	19

No. 28. Symphonion zum Drehen	5	85
„ 28 L. do.	9	—
Musiknoten — tunes — feuilles de musique — notas	—	19

Ohne Kistchen in Papp gepackt (für Export) 10 Pfennig billiger.

Packing for exportation in paste-board (without case) costs M. —.10 for less. — Emballage pour l'exportation dans carton (sans caisse) coûte M. —.10 de moins. — Embalaje para exportation en carton (sin caja de madera) M. —.10 ménos.

Preis ohne Noten mit Kiste.

Price without tunes but with case. — Prix sans feuilles avec caisse. — Precio sin notas con cajon.

Bei Baarzahlung innerhalb 30 Tagen 2 %.

2 % discount for cash within 30 days. — Escompto de 2 % pour les paiements au comptant dans le délai de 30 jours. — 2 % al contado dentro de 30 dias.

J Thomas Rhamstine – Who? Invented What?

David Evans



Fig 1: The Rhamstine Needlephone

In the 1920s radio receivers consisted of a box – mahogany, walnut or just plain pine or deal – using external batteries to power it - and a separate loudspeaker. This could be a horn type up to about mid-1925, when speakers in wood cabinets started to appear. The quality of reproduction was likened to a “headphone in a bucket” at the time, and it was some years before anything resembling ‘Hi-Fi’ appeared. One device, however, was advertised from July 1924 which allowed reproduction through your gramophone, using its horn to reproduce the radio signal. By that time some of the more adventurous gramophone manufacturers were producing machines that sounded quite reasonable. In 1919 Henry Seymour had written a book called ‘The Reproduction of Sound’, giving information about the experiments he had been conducting on improvements in the gramophone as it then existed. By 1923 Seymour had been selling components of his own design to private individuals and small-scale manufacturers such as Vesper and machines using his system had greatly improved sound. His counter-balanced tone arms, sound boxes and Ebonite horns became popular with gramophiles.

Then in July 1924 along came J Thomas Rhamstine with a new type of radio reproducer. It basically consisted of a diaphragm in a small metal box that you could place upon your (stationary) gramophone turntable and place

the needle of your soundbox in a slot on the top, thus using the acoustic properties of the gramophone to enhance the performance of your radio. Whether or not the device was ever used with a Seymour machine is not known!

Give Your Loud Speaker To the Ash Man



The Rhamstine* Needlephone has made the conventional loud speaker as out of date as a single circuit blooper. It sets a new standard, which no radio loud speaker has been able to meet. It eliminates mechanical noises by removing the cause. It has no diaphragm, so cannot produce metallic sounds. Its limitations are only those of your receiving set.

Utilizes Phonograph Perfection

Everyone recognizes the perfection of the present day phonograph as an amplifier. The correctly proportioned tone-arm, the wood tone chamber* contribute to this; but the greatest single factor is the mica reproducer. Only the Rhamstine* Needlephone can bring the clarity, mellowness and cello-like beauty of tone of the phonograph to the radio, because it alone uses the phonograph reproducer.

It is not an attachment—not an adapter. There is nothing to change on your phonograph. The illustration shows how it operates. For any phonograph except Edison without Victor attachment.

Money-Back Guarantee

Don't take anyone's word for it. Try it out. Test it beside the loud speaker you think best. Compare tone volume, convenience, with any loud speaker at any price. See for yourself how much noise the diaphragm is to blame for.

You take no risk. If it isn't all—and more—than claimed, return it. Your money will be cheerfully refunded. Don't be content with less than Needlephone perfection. Send the coupon today.

\$10 Complete with Cord
RHAMSTINE* Needlephone

Transfers the electrical energy of your radio into vibrations which, through the phonograph needle, are transmitted to the reproducer of your phonograph. It makes your phonograph the world's finest loud speaker. The same high quality as Rhamstine* Transformers, Victophone and Electric Soldering Iron.

If your dealer hasn't Rhamstine* Products, send for details and prices.

J. THOS. RHAMSTINE*
504 E. Woodbridge, Detroit, Michigan


Send me the Needlephone. I'll pay the postman \$10 upon its arrival. It is distinctly understood I may return it if I desire, within 5 days and receive a refund in full.

Name

Address

*Radio and Electrical Products.

Fig 2: Wireless Age July 1924.



The Rhamstine Needlephone phonograph loud speaker is a new device for utilizing the sound chamber of any standard phonograph except the Edison as a radio reproducer. The phonograph needle is merely rested on it without removing the reproducer. No external battery or special hook-up is required. The cord is attached to the radio set in the same manner as any loud speaker. Perfect sound reproduction is claimed for this device.

Fig 3: 'Radio' magazine, July 1924.

John Thomas Rhamstine was born about 1891 in Tennessee. His first contribution to entertainment of the public appeared in *The Sphinx* (Vol 7, March 1908), *the Western organ of the Society of American Magicians*.

SIMPLE SLEIGHT, By J. THOMAS RHAMSTINE.

A neat little pass after a trick adds greatly to the amazement of your spectators, besides it gives to the main feat a finishing touch. Take a ball and visibly

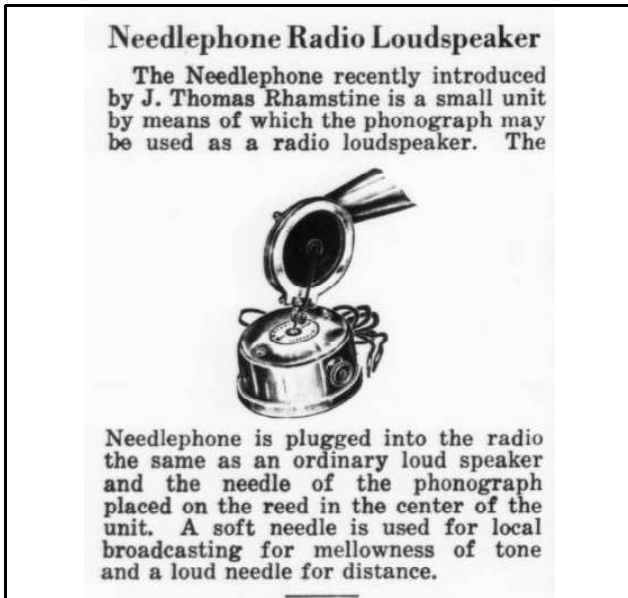


Fig 4: Hardware Age Home Improvement magazine, 2nd April 1926.

place it in the right hand, after which lower it to the right trousers' pocket. In the meantime bring the left hand under the coat and over to the right hand, from which you take the ball, before apparently placing it in the pocket; produce same, or place in profonde, as desired. The pass should be executed as one movement.

He was aged 17 at the time!

Rhamstine set up in business as a trade supplier of a wide range of products by the early 1920s. His trade catalogues included:

Cameras, Candles, Electric apparatus and appliances, Hardware, Lamps, Lighting, Locks and Keys, items for the Photographic industry, Safes, Security systems and Tools.

His Needlephone was first advertised in The Wireless Age magazine for July 1924 (Figure 2) and reported upon in Radio magazine in the same month. Figure 3.

It was still being reviewed in *Hardware Age Home Improvement* magazine in February 1926, when it was pointed out that a 'soft' needle should be used for local broadcasting (for 'mellowness') and a 'loud' needle for distance. (Figure 4)

Movie Makers magazine of October 1931 describes a 'radically new' type of exposure meter which was about to be available from J. Thos. Rhamstine of 501, East Woodbridge Street, Detroit. The Rhamstine Electrophot was 'entirely automatic' in operation and required no visual judgement whatever on the part of the user.

The Star newspaper (Christchurch, New Zealand) reported on 3rd February 1935 that a small electric motor that worked by the sun had been invented by J Thomas

Rhamstine (Fig 5) and he also apparently invented the car cigarette lighter, which he sold to the Packard Car Company.



Fig 5: Report from The Star newspaper

In 1940 Thomas Rhamstine was living at 3 Port Drive, Detroit, Wayne, Michigan with his wife Elma E Rhamstine. He was aged 49 and she was 32.

P.S. In September 1946 the Select Committee of the American House of Representatives held a meeting regarding disposal of war assets. The J. Thomas Rhamstine Co was mentioned as having sales in that year of \$51 and expenses of \$3,009. The Chief of the Agency Assignment Section, Electronics section, Mr. John L Alheim, reported that 'I thought I might have brought a paper which had that (the details of the company). It does not seem to be here. This particular agent was cancelled out quite some time ago, and how the cancellation came about was that Mr. Rhamstine retired from the business. He retired to Arizona, as I recall it. They requested that the agency contract be transferred to an outfit called the Dairen Rhamstine Co., which included a nephew of J. Thomas and another man who had been with the company for some time. We asked them to submit pertinent information. In fact, I think we secured it through the regional office of RFC at that time. And we found in reading over those papers that Rhamstine had not transferred any of the assets of his company; that he retained all title to the assets, but he just turned over the running of the company to these two individuals, and they had put up no money, and the only equity would be that if any profits were realized they would participate in the profits. My personal recollection is that it was along about July of

1945, July or August of 1945.'

If you log on to YouTube at <https://www.youtube.com/watch?v=ww9wPlvR1zQ> you can see and hear a Needlephone in operation.

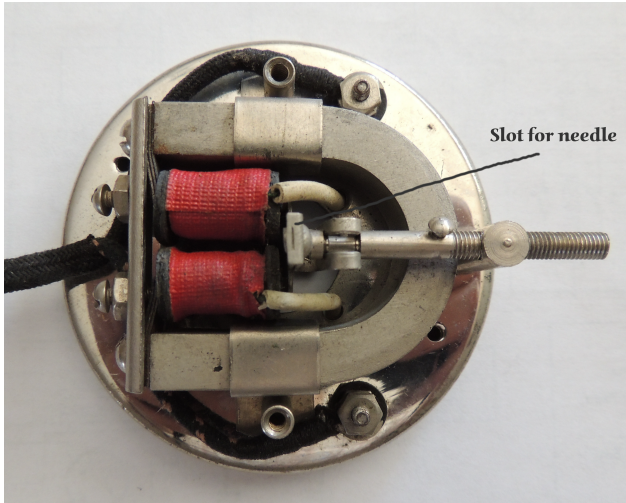


Fig 6: Interior of the Needlephone.



Fig 7: The Needlephone in use on a gramophone.

RADIO BROADCAST ADVERTISER

A Loudspeaker That Cost A Million Dollars

\$10
complete with cord

Never heard of one? You've got it now, except for one thing—the Rhamstine* Needlephone. That's a conservative estimate of what the phonograph makers spent in perfecting sound reproduction without distortion; and the Needlephone gives you all this advantage without even removing the needle from the reproducer.

The phonograph makers abandoned the metal diaphragm and perfected the mica reproducer, to improve bass, not distort them.

Since it alone uses the phonograph reproducer as well as the tone arm and wooden tone chamber of the phonograph, only the

RHAMSTINE* Needlephone

can give you all the advantages of the phonograph. It is as big a step ahead of the phonograph loudspeaker which replaces the phonograph reproducer as that unit was over the old loudspeaker with a tin horn. It alone takes full advantage of phonograph perfection.

Take No Risk—Send No Money

Rhamstine* backs up these claims and wants you to prove them at his risk. Send the coupon, pay on delivery, and try it with your own set and your own phonograph. Try it with a soft needle on local broadcasting and see what real mellowness is. Try it with a load needle and get a new standard of perfect amplification with volume and without metallic noises. Then if it is not better than your former best, we'll gladly refund your money.

Send to-day—you need the best for summer reception.

J. THOS. RHAMSTINE *

*Radio and Electrical Products

RHAMSTINE* Products

Known throughout the trade for their moderate price as well as their quality.

Audio Transformers in three sizes and all ratios, priced at \$3.50, \$4.00 and \$4.50.

Victophone with Horn. For those not having phonograph desiring easily portable loud speaker, \$12.00.

Electric Soldering Iron, specially designed for radio and experimental work, complete outfit, \$2.50.

If your dealer hasn't Rhamstine* Products, send for details and prices.

Mail This Coupon To-Day

Name _____

Address _____

* Tested and approved by RADIO BROADCAST *



Magnified Reproduction for Your Radio

\$10
Complete With Cord

Music as clear and melodious as the tinkle of silvered temple bells of Mandalay. That's what you'll get on your radio when you use the Rhamstine* Needlephone with your phonograph.

It is the principle of "magnified reproduction," an exclusive feature of the Rhamstine* Needlephone, that gives such mellow notes, such discrimination of tone values, such perfect reproduction. No other loudspeaker takes advantage of this "magnified reproduction" principle and the principles of acoustics (the laws of sound) as embodied in the phonograph.

RHAMSTINE* NEEDLEPHONE

picks up the delicate impulses of high pitched notes and through the vibrations of the reed enlarges and transmits them through the needle of the phonograph to the mica diaphragm where they are transformed into sound, giving fuller, sweeter music and better tone reproduction. It can be attached more easily and does away with metallic noises.

Pay No Money Take No Risk

Rhamstine* will prove these claims, at his own risk. Send the coupon today, pay on delivery, and try the Needlephone with your own set and your own phonograph. Try it with a soft needle on local broadcasting for real mellowness of tone. Try it with a load needle for greater volume. Then if you're not entirely satisfied, if you do not get greater volume, fuller and sweeter music and better reproduction, return it and we'll gladly refund your money in full.

J. Thos. RHAMSTINE*

Mail This Coupon To-day

Name _____

Address _____

Mail This Coupon To-day

Name _____

Address _____

*Radio and Electrical Products.

The Association of Musical Box Collectors (AMBC) Stock Sale

For orders email: bellamypaul@btinternet.com for P&P and method of payment.

Income from sales together with donations and bequests will fund our next major work by Paul Bellamy entitled:

The Cylinder Musical Box, Tune Sheets, Makers and Agents.

This major work revises and expands Bulleid's Tune Sheet Book, its dating charts and supplements. A4, colour, 30 chapters, 28 dating charts. To be advertised and available for sale soon.

The following stock items are priced ex P&P

1. **The Music Makers of Switzerland.** See inside front cover. This award winning limited edition book by Paul Bellamy is now only **£35 plus P&P.**
2. **A Collector's & Restorer's Handbook.** (Bellamy, A4, colour, 120 pages). **£28.**
3. **Collecting Musical Box Novelties & its companion An Introduction to Mechanical Music.** (C & J Fynes, 9x4 inches, full colour booklets). **£3 each.**
4. **CDs & DVDs £4 each.**

Sounds of the Past. 2 CDs playing the instruments at Ted Brown's Victorian Music Room.

Music of Joe Berman's collection.

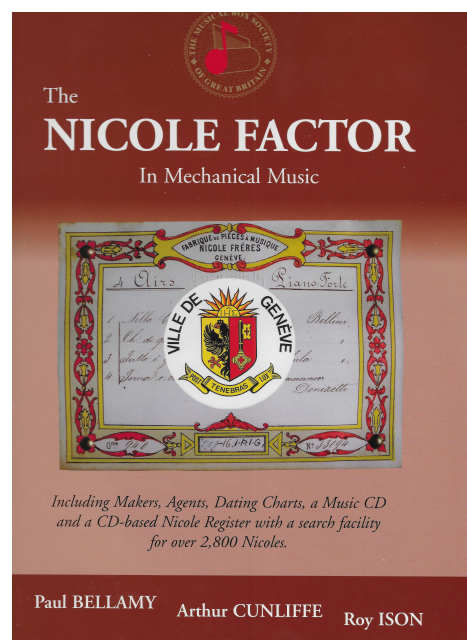
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Lecoultre & Falconnet overtures and variations. (A fully restored instrument with 272 comb teeth).

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The Nicole Factor in Mechanical Music. (Bellamy & Co., A4, colour, 248 ps). **£15**

Street Musicians on Postcards (Bellamy, 9x 6 inches, colour, 107 pages). **£6**

Musical box Tune Sheet Book (Bulleid). **£12.**

Supplements 1-3, **£4 each.** 4th supplement **£10.**

Cylinder Musical Box Technology (Bulleid, 9x6 inches, 290 pages). **£15**

Organette Book (McElhone, 10x7.5 inches, 416. Pages). **£15**



Sweetest in Tone. | **STELLA** | Best in Quality.

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Playing any number of tunes, with smooth metallic tune sheets. No pins or projections to break off. Also a splendid line of Cylinder Music Boxes playing any number of tunes. Write for catalogue.

JACOT & SON,
39 UNION SQUARE,
NEW YORK.
DEPARTMENT A

From 'The Jeweller's Circular', New York, October 13th 1897.

An advertisement for 'The Criterion American Music Box'. At the top, the text 'The CRITERION AMERICAN MUSIC BOX' is written in a stylized font. Below the text is an illustration of a woman in a dark, elegant dress sitting on a bench and playing a music box. The music box is on a small table. The background of the illustration is dark with some decorative elements. Below the illustration, the text reads: 'furnishes the Sweetest Music Ever Heard'. This is followed by a paragraph of text describing the music box's features and price. At the bottom, the name 'M. J. PAILLARD & CO., 680 Broadway, N. Y.' is printed, along with 'Factories: Switzerland and Jersey City.' and 'JOBBER AND WHOLESALE DEALERS SUPPLIED.'

M J Paillard Advertisement 1898

Association of Musical Box Collectors

Aims and Objectives:

- To promote the enjoyment of mechanical music in all its forms.
- To provide opportunities of social interaction to members through meetings and outings of musical and other historical interest.
- To establish formal links and working relationships with other national and international organisations in the field of mechanical music.
- To encourage research and publication of articles and books on the subject.
- To reach out to the public and foster a wider interest in mechanical music.

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Contact P. Bellamy or Ted Brown for P&P details: bellamypaul@btinternet.com or 01403823533.

A Passion for Barrel Pianos by Milly & Colin Williams. (See illustration)

This delightful and informative limited edition has over 60 illustrations and charts, most in colour. There are 12 sections dealing with aspects of casework, barrels, gearing, musical arrangement, marking and pinning.

The booklet is A4, ring-backed binding for easy use, with 40 pages of information between the covers.

UK price: £10 + P&P with comparable European and overseas costs to be negotiated.

Cylinder Musical Box Design & Repair by HAV Bulleid. £10 + P&P.

Cylinder Musical Box Technology by HAV Bulleid. £10 + P&P.

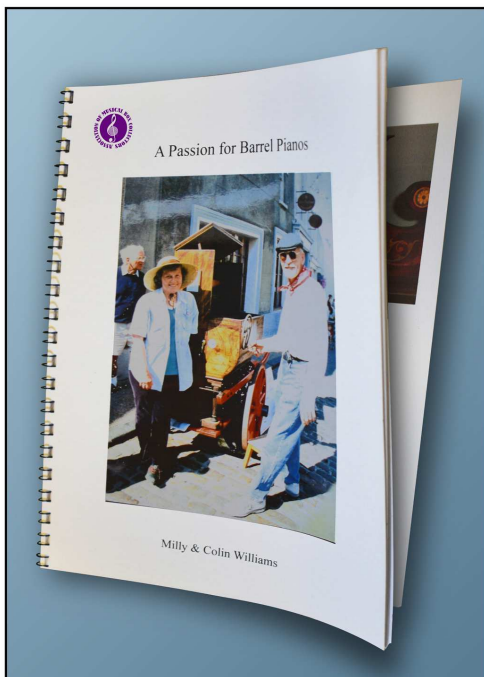
***Disc Musical Box Book** by K. McElhone. £50 + P&P.

***The Nicole Factor in Mechanical Music** by Paul Bellamy and contributing authors Cunliffe and Ison. £35 + P&P.

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***The Organette Book** by K. McElhone. £35 + P&P.

***Street musicians on Postcards** by Paul Bellamy. £8 + P&P.



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