

THE MUSIC BOX

a magazine of mechanical music

Volume 6



Number 3

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AUTOMATA

MUSICAL BOXES

CLOCKS



THE MUSIC BOX

a magazine of mechanical music

Journal of
The Musical Box Society of
Great Britain

Hon. Editor: Arthur W.J.G. Ord-Hume

Volume 6 Number 2

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The Editor writes:

IT IS but a few months since I made my suggestion — dare I say plea? — for some basic research into hitherto unfathomed areas of mechanical music. It would not be amiss to say that the past few issues of the Journal have contained much which has broken fresh ground in the technical sphere of clockwork music.

Within this issue, Member Robin Timms gives us the benefit of his musical expertise in evaluating and explaining just how the disc musical box, an 11 inch Polyphon in this case, solved the problems of interpreting music which was not originally written for it. He demonstrates his points using the familiar tune known on the Continent, as the Austrian National Hymn, God Save the King to the British and My Country 'Tis of Thee to the Americans.

Q. David Bowers, who has researched into the German orchestron organ makers and offered us material on Hupfeld and Popper in past issues, begins a detailed history of Gebrüder Weber, the famed makers of Unika, Grandezza and others.

Those who attended the London meeting in October had the rewarding experience of hearing a piece of music by Handel played as a duet for two on the recorder by Members Hill and Walker. This music came from the Charles Clay organ clock which turned up in a London saleroom last year and which will be described on later pages.

The first-ever Musical Box Society auction is to take place next month and, if the indications are anything to go by, it is going to be a well-attended and worthwhile exercise.

To my personal way of thinking, The Society enters its second decade with revitalised interest — and the combined brains and

Water Music

During an enforced session in a hospital bed back in the summer, I made good use of the spare time (between the seemingly endless rigmarole of jabs, dabs and grabs) to catch up on my leisure reading. I re-read my way through the diaries of Samuel Pepys and John Evelyn and saw again, through the eyes of the former, the Great Fire of London in 1666, and through the discerning eyes of the latter, the famed gardens of the Villa Aldobrandini and the Villa d'Este at Tivoli.

More recently, our former Editor, Graham Webb, showed me a fascinating volume on these gardens and this set my mind a-thinking on hydraulic organs during the Italian Renaissance. Both Aldobrandini and Este had automaton organs — Evelyn heard both — as part of the extensive and beautiful water works which these gardens featured. The organ at the former is no more, but the latter survives. Strange to say, in all the writings on these two instruments, nowhere is given the music which they played. The music played on the remaining organ should be easy to transcribe if not positively identify.

Has anyone any notions on this aspect? Would someone care to contribute an article enlarging on the so far limited published knowledge of these organs? Significantly, even Batigan Verne, in his writing on water-organs, stops well short of the fourteenth and fifteenth centuries.

Strange it is that when Joseph (later Sir Joseph) Paxton of Crystal Palace fame designed the great hydraulics at Chatsworth for the Sixth Duke of Devonshire, the Duke did not specify a water organ. The Duke was

fond of the Italianate influence and Paxton's brief was discharged with a strong leaning towards the great Italian garden architects, Giacomo della Porta, Giovanni Fontana and Pirro Ligorio, and the hydraulics of Orazio Oliveri. Perhaps it was that the 1830s and 1840s were considered too modern to justify such a hark-back, bearing in mind the relative proclivity of the domestic clockwork barrel organ with its greater repertoire and expressive capabilities.

Still, though, Aldobrandini and Este remain mysteries. I have thrown down the gauntlet...

Fortnum and Mason

In this issue we have some more pictures of items in this outstanding London city-centre display. It is worth pointing out the important part which Member Keith Harding played in the establishment of this collection. It was largely as a result of his efforts that Fortnum & Mason's chairman, the industrialist Garfield Weston, first gave the go-ahead for his company to invest in a collection. Member Keith Harding, whose well-equipped workshop is a sight for sore eyes, undertook the restoration of all the items and, indeed, acted as Member Jon Lanning's advisor in buying. Keith Harding, who tells me that the Fortnum collection is his finest achievement, has the distinction of being the man behind the scenes. Fortnums tell me how very much they value his assistance and confess that the whole realisation of the scheme would have been impossible had it not been for his enthusiastic co-operation. Once again it is a credit to our Society that one of our Members should have had a hand (and that is an under-statement) in the setting up of so worthwhile a project.

Bells and other matters

I was reminiscing with a colleague the other day about London churches and their past history. We lamented those which had disappeared as a result of the war and the subsequent equally vandalistic efforts of the

developers. I recalled once taking a very dear friend to see the famous church of St. Clements Dane in the Strand (now the Royal Air Force Church) and standing within the nave relating how in the blitz this Wren masterpiece had been converted into a grim blackened shell in the fire which so completely gutted this grand pile.

For St. Clements was the church which immortalised the old London street cry Oranges and Lemons played on a clockwork carillon of ten bells. I still have a photograph, taken on the morning of Sunday, May 11 1940, showing the smashed clockwork and bells lying in the ashes at the foot of the tower. All this sparked off the thought that, we have never published any serious paper on the bell in musicwork. Perhaps some of our Members who have experience of carillon work — how about our Dutch Members? — may choose to rectify this shortcoming with an article.

Advertising

Several Members have raised the question of advertising in the Journal, their argument being that they would rather have us carry no advertising and just have the editorial pages. Now in theory this is what we would all like to see. But there are two other aspects to be considered. First of all, the advertisements we carry are related to the subject in question, namely mechanical music. And second, the revenue from advertising helps to allow a bigger and better Journal. I do not think it out of turn to say that each page of advertising subsidises that particular sheet, so giving at least one more editorial page. By Committee agreement, all revenue from advertising is ploughed straight back into the Journal. If we carry £100-worth of advertising, then that particular issue can expand to the tune of that extra amount. Alternatively, the revenue can be set aside against another issue, a supplement or other publication which the Society may decide to produce for the benefit of Members. No, as with every publication, we need to

carry advertising and the more (within reason) the better it is for us all.

Whilst on the subject of commercial matters, it has never been the policy of The Music Box to 'review' trade literature. However, there is one publication which has for some little while been verging on more general interest that just that normally accorded to a sales list. I refer to the excellent illustrated catalogue published originally by Hathaway & Bowers and now continued by the Mechanisk Musik Museum in Copenhagen. David Bowers and Claes Friberg, both Members, are the authors and publishers. As well as listing all manner of instruments for sale (and such lists are useful as a sales and values barometer), this capital 80-pager contains all manner of articles and information of a non-commercial nature which will interest the average mechano-musicophile, whether he wants to buy or not. At four dollars a year it really is worthwhile reading.

Those recordings again — again . . .

Nothing dies a harder death than today's news. In years to come, names and events which everybody talks about today will mean nothing to the majority. Which is why I am loathe to discuss the Watgate affair. But I really could not resist 'doing something' when, on looking through some of the back numbers of our sister publication published by the Musical Box Society International, my eye caught sight of a marvellous story printed in the New York Times for 17 May, 1970 (see The Bulletin Vol. XVII, page 38).

It seems that during the redecoration of 10 Downing Street in London, workmen found a number of wax phonograph cylinder. Thinking, no doubt, that these might contain historically valuable information (was Number Ten bugged as long ago as that, I wonder?) a search was made for a machine upon which they could be played. Finally a 1920-vintage appliance was found and the tapes — er, I mean cylinders — played back. They'd all been erased. Now why didn't Nixon think of that rouse!

ARTHUR W.J.G. ORD-HUME

WEBER ORCHESTRIONS A HISTORY

by Q. David Bowers

Part 1 – The Significance of Weber Instruments Today

OPEN one of the musical trade magazines published during the early 20th century – an issue of *Zeitschrift für Instrumentenbau* or the *Music Trade Review*, for example – and you will see a bewildering array of advertisements for electric pianos, orchestrions, and related instruments. Just as is the case with automobiles today, the potential orchestrion buyer of years ago had literally dozens of different models to choose from. Amidst claims of ‘the finest’, ‘the most expressive’, ‘the best built’, and so on, the buyer was often at a loss to make a rational judgement. After all one could hardly be expected to visit different showrooms and try all of the instruments out. Chances are that purchase decisions were made for reasons other than quality – because of a salesman’s persistence, because an instrument had a pretty case, or perhaps because a showroom was close at hand.

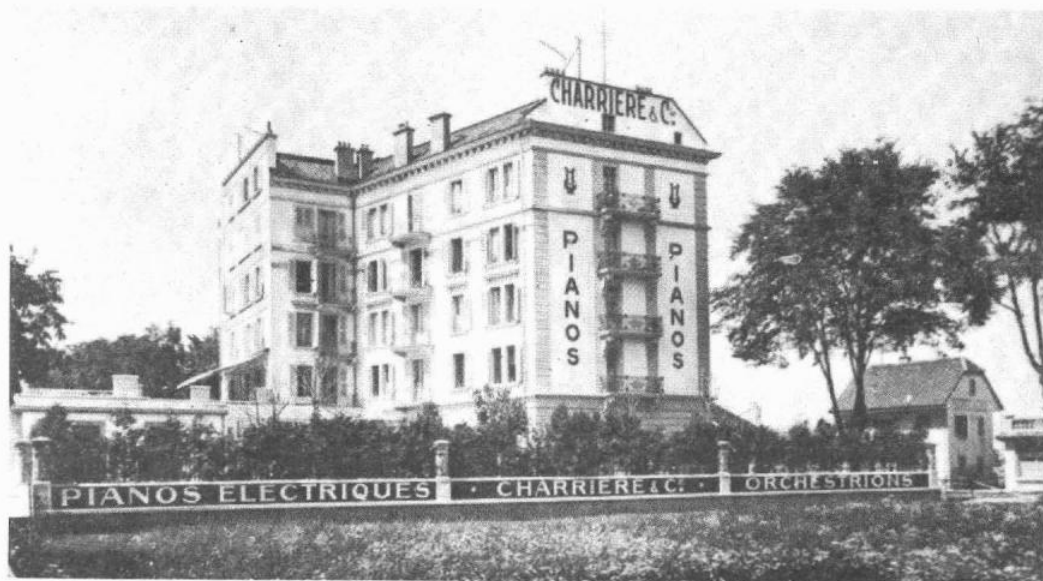
The American trade papers were full of full-page advertisements by the J.P. Seeburg Piano Company, the Marquette Piano Company, the Aeolian Company, the Rudolph Wurlitzer Company, and others. German papers were dominated by impressively illustrated presentations featuring the latest products of Ludwig Hupfeld, Popper & Company, J.D. Philipps, and others. These gigantic firms employed hundreds (in the case of Hupfeld, thousands) of people and shipped their products to all over the world.

Relatively unnoticed except to the reader who leafed through the back pages of *Zeitschrift für*

Instrumentenbau carefully, was the firm of Gebr. Weber (Weber Brothers) of Waldkirch, Germany. Unlike the competition, Weber usually did not illustrate its advertisements. Rather, the typical Weber notice was more like a business card. Also unlike the competition, Weber rarely issued news releases and did not have a publicity department. The goings and comings of Weber officials were not news for the ‘gossip columns’ of the trade papers, nor were new Weber orchestrion models necessarily rewarded with news stories. Indeed, Weber was almost anonymous.

Gebrüder Weber letterhead. This one bears the name and address of Franz Breite of Tetschen: he was a distributor in Austria.





Exterior view of the premises of Charriere & Company of Bulle, Switzerland. Charriere was the second largest distributor of Weber orchestrions during the 1920s.

Were it not for one fact Weber would be almost forgotten today. The fact is an important one: Through the doors of the Weber factory passed some of the most musical orchestrions known to mankind. Particularly outstanding in this regard were the 'top of the line' Weber instruments: The Solea, Maestro, and Elite orchestrions.

Of the Maestro, Harvey Roehl has recently written: (cf. Pages 242 and 266 of the new second edition of *Player Piano Treasury*) 'There is little doubt that the Weber Maestro orchestrion is the most lifelike of anything in its class of instrument ever perfected by man. This was, indeed, the aim of its German designers, and the fact that they succeeded in this effort can be attested by the many connoisseurs of automatic music machines who agree that there is simply nothing else that can equal it.

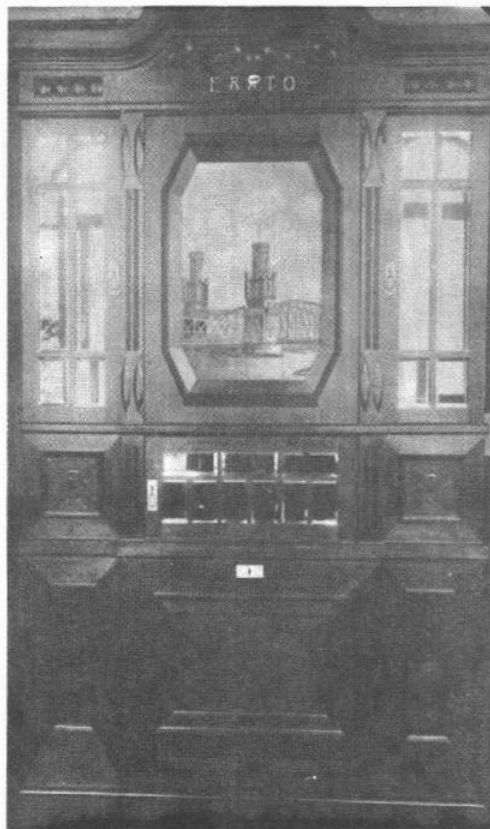
'Unlike the more typical orchestrion which turns various instruments and ranks of pipes off and on from time to time, the Maestro makes full use of the musical potential of doing this more frequently . . .

'The Weber Maestro is seldom found in collections today because of its size, and one should perhaps say seldom found, period — because of their extreme rarity today. This instrument is considered by many to be the outstanding example of

the work of the orchestrion builders of a bygone day, because it was built very late in the game and every known device was incorporated to insure that it would resemble as closely as possible a human orchestra. To say that they succeeded well would be a gross understatement! Nothing can compare with the artistic renderings of the Maestro.'

It is doubtful if Weber's publicity department, if they had but thought of having one, could have produced a better statement than this!

About ten years ago I was introduced to the Maestro for the first time. Leonard Grymonprez of Ghent, Belgium, had offered me two large orchestrions — a Hupfeld Helios and some obscure instrument called a 'Weber Maestro'. I became quite excited about the prospect of obtaining the Helios for I had earlier looked through Hupfeld's magnificent 'Art Orchestrions' catalog showing glorious model after glorious model from the 1910 era. The prospect of owning a real, 'live' Helios — an instrument which was evidently capable of being the center of attention in any location from a concert hall to a skating rink — was a very exciting one. It was with great eagerness that I wrote to Leonard and said that while the 'Weber Maestro', whatever that was, might be interesting, the Hupfeld Helios was very exciting to me — and I wanted to buy it!



The previously unpublished photograph, above, shows an early-style Weber Erato orchestrion and is from the family scrapbook of Otto Weber, as is the Euterpe picture, above right.

You can imagine my disappointment to learn that the Hupfeld Helios was sold — to a collector in England, by the way. I then rather reluctantly agreed to buy the Weber Maestro, not because I particularly wanted it but because the pictures of it looked rather impressive and because it 'had a lot of instruments in it'. I was rather naive at the time, and to me the more ranks of pipes, drums, etc. that an instrument had, the better the instrument had to be. It was the case of quantity, not quality. It later turned out that the Maestro offered both.

To be sure that the Maestro did not follow the lead of the earlier-offered Helios, I airmailed payment to Leonard right away. Some months later my travels took me to London. As I related in an



Early Euterpe orchestrion, possibly barrel-operated, with automaton figure of piano player in upper centre niche.

earlier article for this publication, I have spent more time in London than in any other large city in the world. During the early 1960's I would visit London for weeks at a time to buy individual rare coins and coin collections. Since the 1950's coins have been my main business. In a way this business has 'subsidized' the collecting of instruments and has made possible visiting many places which I might not have otherwise had the chance to see.

Anyway, during this particular trip to London I purchased a ticket on Sabena and hopped across the English Channel to Brussels. Arriving in that city I hired a taxi cab for the day and directed him to drive the Grymonprez address in Genbrugge, a suburb of Ghent. After several wrong turns I arrived at Leonard Grymonprez' workshop. On hand were Leonard, his father Oscar, and one or two helpers. I walked through the shop door and saw in front of me, against the far wall, what seemed to be the most beautiful sight on earth: A truly mammoth orchestrion in pristine condition. The Maestro was truly beautiful and I fell in love with it immediately! Leonard and his father, perhaps a bit apprehensive about my reaction to it,

Weber's Kino-Violano

Lehste Neuhelt — Dernière nouveauté



WEBER'S KINO-VIOLANO

Elektro-pneumatisches Kunstspiel-Piano mit Solo-Violine in Spezialbau für Kino, drei Theaterorgeln angepasst. Diese gleichzeitig für Aufnahme der Normalton. Ersatz für zwei vollständige Klaviers (Violine und Klavier).

WEBER-VIOLANO POUR CINÉMAS

Piano électro-pneumatique, avec registres de violons de haute valeur artistique, en construction spéciale pour cinémas, proportionnée pour salles de théâtre. Le meuble est construit pour garder les roulements. Remplace deux artistes de premier ordre (violin et piano). Jouable à la main.

Dimensions: 30" x 35" x 35" cm.

Weber's Kino-Violano designed to accompany silent pictures. This is the only Weber instrument known to be equipped with a duplex roll mechanism.

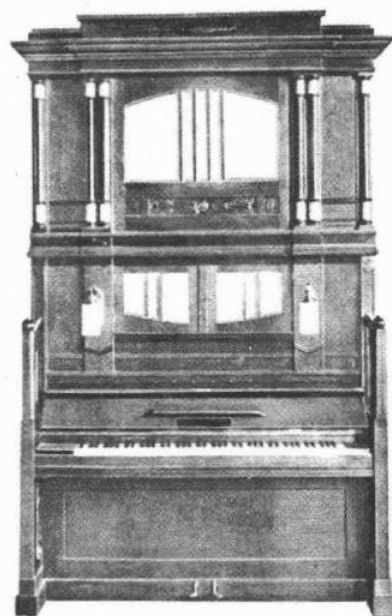
told me what a marvelous instrument it was and how they enjoyed listening to it. I wasn't paying much attention for I expected them to say something like this — for this was just 'good business' to please a customer. I was becoming rather impatient although I had only been there for a minute or two — I wanted to hear the orchestration!

Finally after what seemed to be an interminable time (actually probably less than 5 minutes!) Leonard put a roll on the instrument and pushed the 'on' switch. The strains of 'Charmaine' filled the air. No symphony orchestra could have played it better, in my opinion! Immediately I was delighted that the Hupfeld (also in the workshop, and looking rather small next to the Maestro) had been sold to someone else. What a mistake it would have been for me to have chosen it instead, I thought!

During the next hour I heard roll after roll — including Leonard's favourite, 'Tannhauser'. I was absolutely thrilled with my purchase and felt that I had made the best bargain of my life.

I returned to the United States a week or so later and brought with me a Maestro roll to

Violano Salon-Piano mit Violinspiel



WEBER'S VIOLANO

Elektro-pneumatisches Kunstspiel-Piano mit Solo-Violine von hohem künstler. Wert. Besonders empfohlen für Hotels, Cafés, Restaurants, Kinos u. s. w. „Zarte Musik“ — Reiches Repertoire in klassischer, moderner und Tanz-Musik. (Von Hand spielbar.)

WEBER-VIOLANO

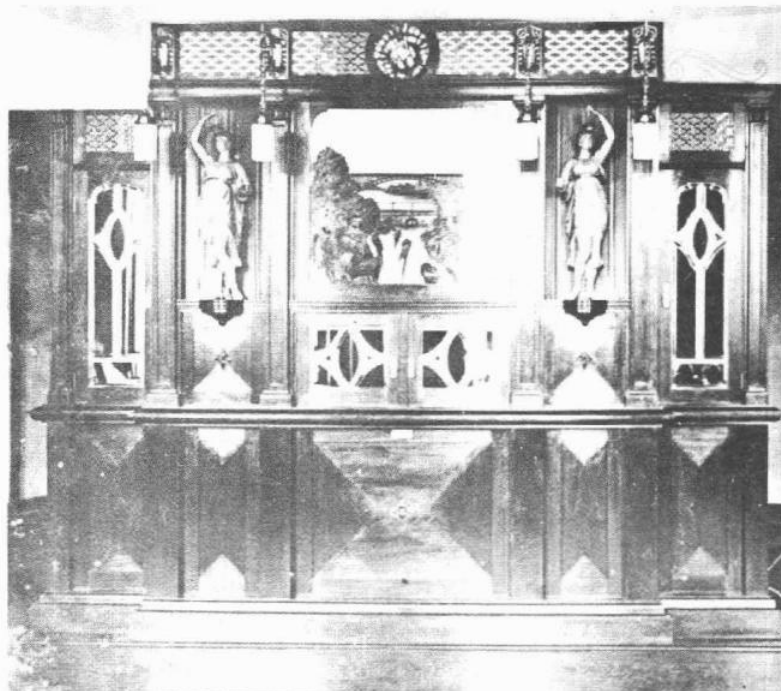
Piano électro-pneumatique, avec registres de violons de haute valeur artistique. Recommandé spécialement pour hôtels, café-restaurants, cinémas etc., de salon de la musique très douce. Répertoire de musique classique, moderne et de danse. (Jouable à main.)

Dimensions mit Aufsatz: 220 x 171 x 85 cm.
ohne „ 257

Weber Violano ("Salon Piano with Violin Playing") from a catalogue of the mid-1920s. This style was also made prior to World War I.

remind me of the instrument. A half year or so later the orchestration arrived, and shortly thereafter it was set up in my home. From the very beginning it attracted wide admiration. 'I just have to have one of those, that is all there is to it', said Larry Givens during a visit shortly after its arrival. 'I could be happy if I had something to eat, a place to sleep, and a Weber Maestro', he continued. Although I was never able to find another Maestro for Larry, I did acquire for him a Solea which uses the same type of music roll and has the same approximate specifications but this is another story.

During my life I have collected many things. The usual procedure is that I become fascinated



Weber's Maestro (Neuheit)

Konkurrenzloses Konzert-, Tanz- und Jazzband-Orchester



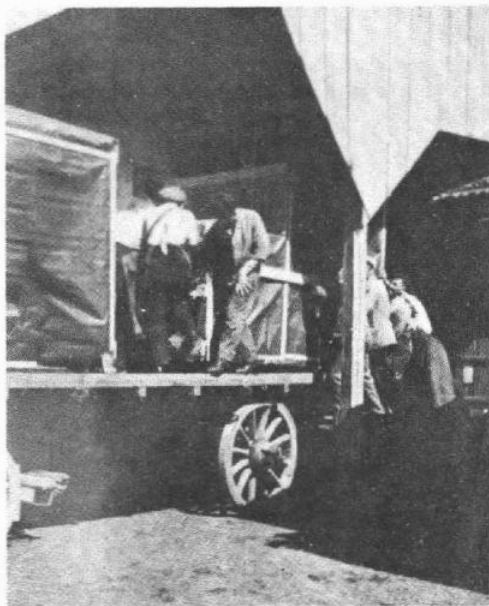
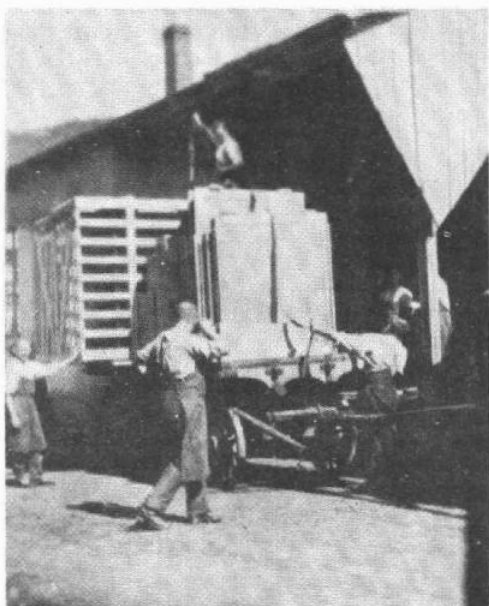
Maestro 1 1/2 m. hoch 1 m. breit 1 m. tief
2 1/2 m. hoch 1 m. breit 1 m. tief

Weber's Maestro (Neuheit)

Konkurrenzloses Konzert-, Tanz- und Jazzband-Orchester



Maestro 1 1/2 m. hoch 1 m. breit 1 m. tief
2 1/2 m. hoch 1 m. breit 1 m. tief

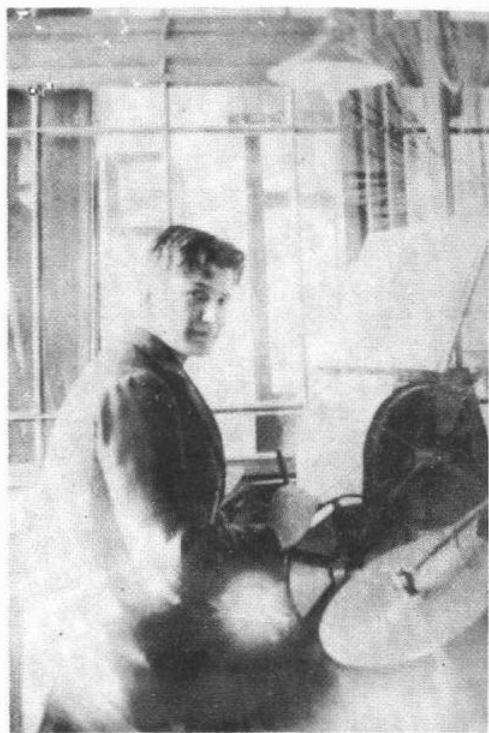


Facing page, left: Previously unknown (to collectors) case style variation of the Weber Elite orchestration. A central motion picture scene is flanked by two statues. At the top is a revolving "wonder light". Additional architectural ornamentation appears at the top of the case, but for some reason the photograph of this has certain portions blocked out, just a trace of the outline remaining. Again, this picture comes from the Otto Weber family album.

Left: Second style of Weber Maestro orchestration with pleated curtains on front. Directly behind these curtained openings are placed swell shutters to provide a "piano-forte" effect. Of the six known Weber Maestro orchestrations to survive, four are of the style with curtains, and two are of the style with mirrors. Both types are shown here.

The two top pictures show the last Weber Elite orchestration made. The instrument is packed in several crates and is being despatched to its destination in Amsterdam, Holland. The horse-drawn cart with its wooden wheels must have provided a testing journey for these delicate instruments.

Right: Otto Weber as a young man. In this picture he is seen marking a musical arrangement on a composing drum. Note the dividing index plate at the lower right. These pictures were copies from the Otto Weber family album.





The burial place of August Weber, founder of the Gebr. Weber firm (above). This picture of the grave was taken c.1920. Right: Photograph taken April 7, 1973 showing Q. David Bowers and Claes O. Friberg, with Mr. and Mrs. Otto Weber in the foreground. This picture, taken at the Weber home in Heidelberg, Germany, is the last taken of Mr. Weber. On the day following, he suffered a stroke, was admitted to hospital and shortly afterwards passed away.

with something upon acquiring it, and then my interest dwindles as years go by. Not so with the Weber Maestro. I have the same affection for it today that I had when I first obtained it years ago.

Claes Friberg, my partner in Copenhagen's Mekanisk Musik Museum, is a rather sentimental person. In correspondence and conversations with me he heard quite a bit about the Maestro, and when I produced several high-fidelity records featuring this instrument he listened to them eagerly. It touched a spot in my own heart when he told me that following the birth of his son Thomas two years ago (in November, 1971) the first music infant Thomas heard in his life was 'I Can't Give You Anything But Love', played for him on a record of a Weber Maestro as he arrived home from the hospital!

So, you can see that the Maestro has played an important and sentimental part in my life.

What else did the Weber firm make? What is





Waldkirch in the Black Forest as it appears today on a picture postcard

its history? Where can I find out more about it? All of these questions and many others went through my mind. An untiring collector of literature I had amassed a large pile of Hupfeld, Aeolian, Regina, Wurlitzer, Seeburg, Polyphon, and other catalogs — but try as I might, I was not able to find even a scrap of paper relating to Gebr. Weber! So, I did what might be the logical thing: I went to Waldkirch, Germany, where the instruments were first manufactured. In the years since that time I have visited Waldkirch several other times and have written to and have visited several people once connected with the firm. Bit by bit I have been able to piece together a history of the Weber enterprise.

Part 2 — A Visit to Heidelberg

By 1972 I had amassed quite a bit of information about Gebr. Weber. I had in my possession originals or copies of several different Weber catalogs issued over the years, photographs of dozens of different Weber instruments of various

kinds still in existence, and quite a few Weber advertisements in sets of *Zeitschrift für Instrumentenbau* and other trade magazines in my library. Extensive correspondence with Gustav Bruder (who died in 1971) had filled me in on many of the technical details concerning the firm. Other information gathered here and there, including quite a bit from the late Eugene DeRoy of Belgium, helped complete the picture.

But the picture was not quite complete. Over the years I had written numerous letters to Otto Weber, who lived in Heidelberg, Germany. I wrote to him with numerous questions and to encourage him to answer I sent him a few recordings featuring Weber instruments. Still I never received a reply.

In 1972 Claes returned to Copenhagen from one of his many trips through continental Europe searching for instruments. On coming back to the museum he found a note saying that Mr. and Mrs. Otto Weber of Heidelberg, Germany, had visited the MMM and had enjoyed it. At last, a sign of interest! Still there was no reply to earlier inquiries made by mail to Otto Weber by Claes and



Early Weber orchestration with automaton figures. This instrument is now on display at "The Eagle", a guesthouse situated north of Waldkirch in Germany.

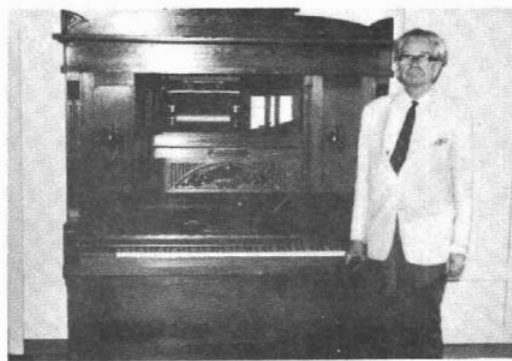
myself. The *Encyclopedia of Automatic Musical Instruments*, incorporating the information I already had on hand (which appears now on pages 625–631 of the book) went to press. The need to obtain more Weber information, if indeed there was more to be found out, became less urgent.

In March and April of this year I visited Claes and went on a tour with him. As is the case with most of our journeys around Europe we did not plan things in advance. It is impossible to determine

with accuracy whether a given stop in the search of a musical instrument or whether a visit with a collector will occupy just a few minutes of time or whether it will take several hours. Claes, who speaks French, German, English, Danish, and several other languages fluently, always seems to be at home wherever we go, so we have never felt the need to make reservations in advance or to travel on a formal basis.

On the afternoon of April 7, 1973, we were

Fritz Hartz, tour guide, shown with Walt Bellm in front of the Weber Maestro orchestration on display in the Mekanisk Musik Museum, Copenhagen (below left). Another visitor to the MMM, Frank Holland, who is founder of the British Piano Museum, is seen (below right) with a Weber Unika.



driving up the autobahn in Germany, heading north to Denmark from Karlsruhe, where we had spent the night. A sign along the autobahn gave notice that Heidelberg was ahead. Heidelberg! Something stirred within my mind. I suddenly remembered all of the letters I had written to Otto Weber. Why not stop and visit him? A good idea!

It was about 2 or 3 o'clock in the afternoon when we knocked on the door of Otto Weber's home. After some brief introductory remarks by Claes, who was speaking in German, Mr. and Mrs. Otto Weber and their attractive daughter, Dr. Ellen Weber, admitted us into their comfortable living room. The love for automatic musical instruments recognizes no international boundaries, so immediately we felt right at home.

Did they have any information on the Weber business from years earlier? They certainly did! It was all I could do to try to determine the order of importance between looking through family photograph albums (which showed pictures of spectacular Weber orchestrions!), poring through catalogs and other literature, and thinking of questions to ask. Unfortunately I speak only English, and German is a strange tongue for me. So I devised a plan whereby I gave Claes a quickly-written list of questions. He and the Weber family talked of the good old days in the Weber orchestrion business while I used my camera to take dozens of photographs from the family albums.

Later when my photography had been completed we sat down and conversed. Mrs. Otto Weber



Left: "Only a collector could love it" — a derelict Weber Grandezza piano with xylophone. Above: Exterior view of Weber Unika with mandolin and violin pipes. Below: Interior view of Unika with violin pipes.



and daughter Ellen spoke English with me, so I was able to hear through them many interesting stories and bits of information from Otto Weber.

At one time Waldkirch was one of the world's most famous centers for the building of automatic musical instruments. The well-known organ building firms of Bruder, Ruth, and branch firms of Limonaire and Gavioli were located there, as were several other businesses which supplied components to the factories. As is the case with most builders elsewhere in the world, the organ builders of Waldkirch ordered supplies from many different sources. Not so with Gebr. Weber, which was officially known as the Waldkircher Orchestrion-fabrik Gebrüder Weber (the 'Weber Brothers' Orchestrion Factory'). With a twinkle in his eye Otto Weber said it used to be a favourite story among the people in Waldkirch that the Weber people would go out in the forest to cut down trees and, magically a few days later, orchestrions would be built from them, ready to play!

Several years earlier I had conducted an extensive correspondence with Gustav Bruder, who was the main technical and musical mind behind the Weber business. From Gustav Bruder I obtained

much priceless information. Otto Weber, a director of the firm during the 1920's, was able to add a number of business details previously unknown to me. His wife, the daughter of G.I. Gerard, main Weber distributor located in Brussels, Belgium, was able to provide other helpful details. So, my visit to Heidelberg was extremely important. I looked forward to going home to assimilate all of the notes and to have my pictures developed. These would result in many more questions which Otto Weber indicated he would be happy to answer by mail.

Alas, this is not the way that fate willed things to happen. Shortly after my return to America I received a letter from Dr. Ellen Weber, Otto's daughter. Enclosed was an announcement of Otto Weber's death. She related that the very next day after my visit her father had been seized with a stroke and had been hospitalized. Shortly thereafter he died. As it turns out, April 7, 1973, was the last day in his life in which I could have interviewed him — and it is going to be forever amazing to me that this interview happened.

To be continued

UNCONSIDERED TRIFLES

Being a random selection of odd, unrelated items from the past collected and conducted by The Editor.

In May, 1903, J. Sinton Limited, formerly of Wardour Street, London, and then at 37, Dean Street, Soho, became sole agents for Paillard's musical boxes and Echophone phonographs which cost £1.17.6d to £7.10.0. A short while later, the business amalgamated with that of Alban Voigt, former Paillard agent, as Alban Voigt & Co. and James Sinton Ltd. Voigt was managing director.

The large Manchester-based musical instrument dealers which specialised in mechanical musical instruments, Guldman & Co. was at 7 Sugar Lane, Manchester. The business comprised Arthur Guldman, Julius Loewenheim and John White. The business became a Limited Liability Company in 1901-02 and as from 8 May 1902, Loewenheim resigned from the partnership.

Joseph Wallis, who moved 133 and 135 Euston Road, London, in 1893, was agent for several player reed organs. The first reed organs for which he secured the sole agency was the Packard made by the Fort Wayne Organ Co.

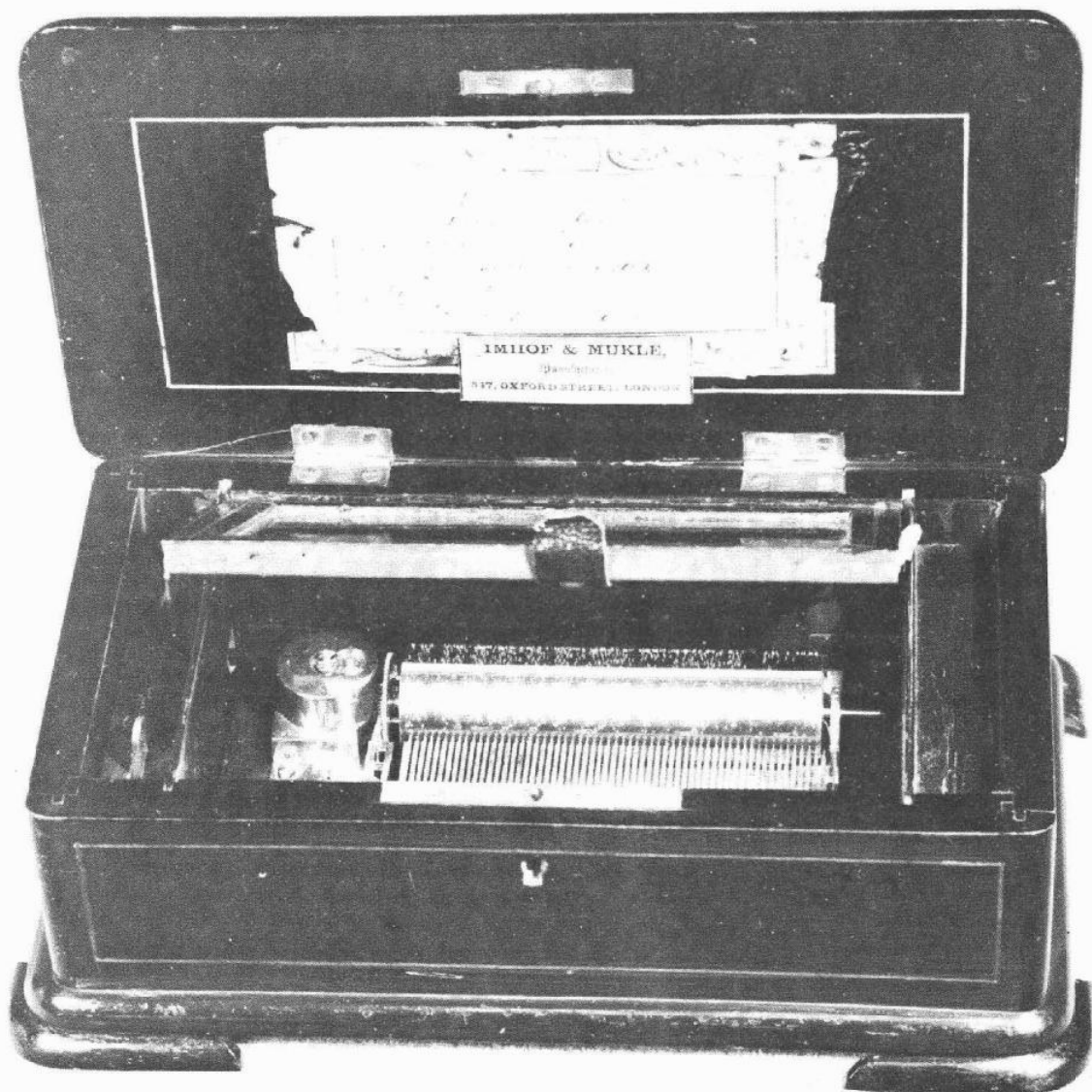
During 1904, the year in which Henry Klein & Co. moved to 142 Wardour Street, London, Nicole gramophone records (made by the Nicole Freres offshoot) cost 1/- for the 7", and 2/6d for the 10". Klein was one of the biggest stockists.

October 1st, 1904. 'The Humana is the name of a piano player introduced by Mr. J. Herbert Marshall. It is to retail at 30 gns.' (*Musical Opinion*).

Musical box dealer William Gerecke had as his manager Mr. Karl (known also as Carl) Krause who came from Berlin in 1894. In July 1903 after Gerecke's business collapsed and Gerecke fled the country, Krause opened up at 14 Howland Street. In September the same year he moved to his late employer's old premises, 8 and 9 Goring Street, E.C. He stocked the same lines of goods but the depression in the trade which was partly responsible for Gerecke's failure finished him in six months.

Musical Opinion, February 1904: 'Every Thursday (3.30) at 41 Wigmore Street, M. Joseph Bizet will perform on the Mustel organ. Cards can be obtained free on application at the organ saloons (above address).'

The Moutrie piano player was launched with a recital given at 50 Southampton Row, Holborn, on December 19th, 1903.



Small musical box in inlaid case with domed lid and marquetry inlay. Made in Germany by Karrer of Teufenthal and sold in London by Imhof & Mukle, this box plays six popular airs. The control lever platform is situated to the left of the movement. The 59-tooth comb plays from a 4.17in. long cylinder. The box, on exhibition at the Fortnum & Mason collection, bears the number 5692.

SUNDAY VISIT

6. THE NATIONAAL MUSEUM VAN SPEELDOOS TOT PIEREMENT

by Arthur W. J. G. Ord-Hume

For the sixth in our Sunday Visit Series, THE MUSIC BOX travelled rather further afield than most people may be prepared to go for one day. However, so many people now travel abroad for their holidays and business and such is the ease of travel today that the National Museum van Speeldoos tot Pierement in Utrecht can be reached from London in about two hours.

HOLLAND is an intensely friendly country which has a tremendous variety of attractions to offer which ranges from the world-famous bulb fields through countless windmills (and splendid ones they are, too) to canal buses. Holland is also rich in the arts and many forget that there were other notable artists, such as Cuyp, Steen and Van Ruisdael, whose works deserve admiration besides those of Rembrandt. Naturally, the Low Countries have succumbed to extensive development in post-war years (with a marvellous

motorway system) but much of the fine old architecture stands unspoiled as a salutary reminder to those plunderers for exploitation. But the Low Countries also occupy a unique position in the field of mechanical music since the street organ in Holland and the dance organ in Holland and Belgium underwent development and refinement to a degree not to be found elsewhere in the world.

Utrecht lies 22 miles south-south east of Amsterdam, 38 miles north-east from Rotterdam and is served by a direct Dutch Airlines bus from Amsterdam's Schipol airport. Whilst it lacks some of the bustle and polish of the capital city, it benefits from being at least apparently untainted by tourism. There are still junk shops in which antiques can be found as distinct from antique shops full of junk. The city is dominated by the great carillon tower of the Dom Cathedral. Within a few paces of this, at Achter den Dom 12, is a large house, the seven very large ground floor rooms of which are the home of the Nationaal Museum van Speeldoos tot Pierement. Many of us have read the book written by Mr. Roompke de Waard *Van Speeldoos tot Pierement* (probably in the English translation) and so the title, which means *From Musical Box to Barrel Organ*, is not unfamiliar to us.

Curator of the museum is Dr. J. J. L. Haspels whom many of us met at the Sheffield and London Autumn 1972 meetings of the Musical Box Society. Dr. Haspels, who recently acceded to the helm of this fascinating collection, is that all-too-rare person, for he is historian, musicologist, musician, technician and mentor all rolled into one. He leads a small but dedicated staff in tending what is Hollands national collection of automatic musical instruments.

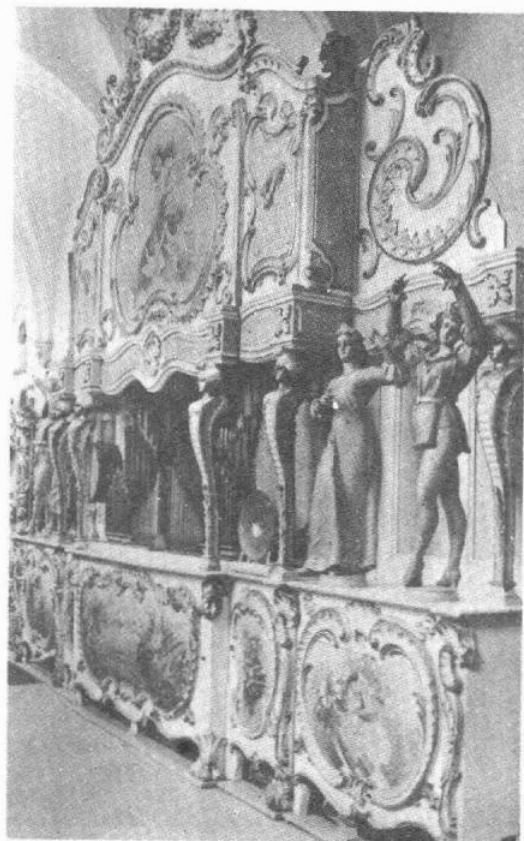
Founded in 1958 on money from the Utrecht city fathers, the 'museum rapidly grew to the point where its then premises, the courtyard



Right: Street barrel organ with automaton display of musicians, conjurors and dancers. The instrument is attributed to Italian manufacture, but it typifies the German style of 1860-1880.

Below: The Aalster Gavioli 65-key dance organ which dates from about 1900.

Below right: Barrel-operated piano orchestrion made by P. Vanroy of Aalst c. 1920.



precincts of an aged monastery-like building, were hopelessly too small. The State, mindful of what this collection was worth as a national heritage, supplemented the money which Utrecht itself could put up. The present city-centre building was acquired at a cost of £70,000 and the collection moved in. An indication of the feeling which the Dutch have for their musical box and barrel organ museum can be gained from the fact that last year some 45,000 visitors came.

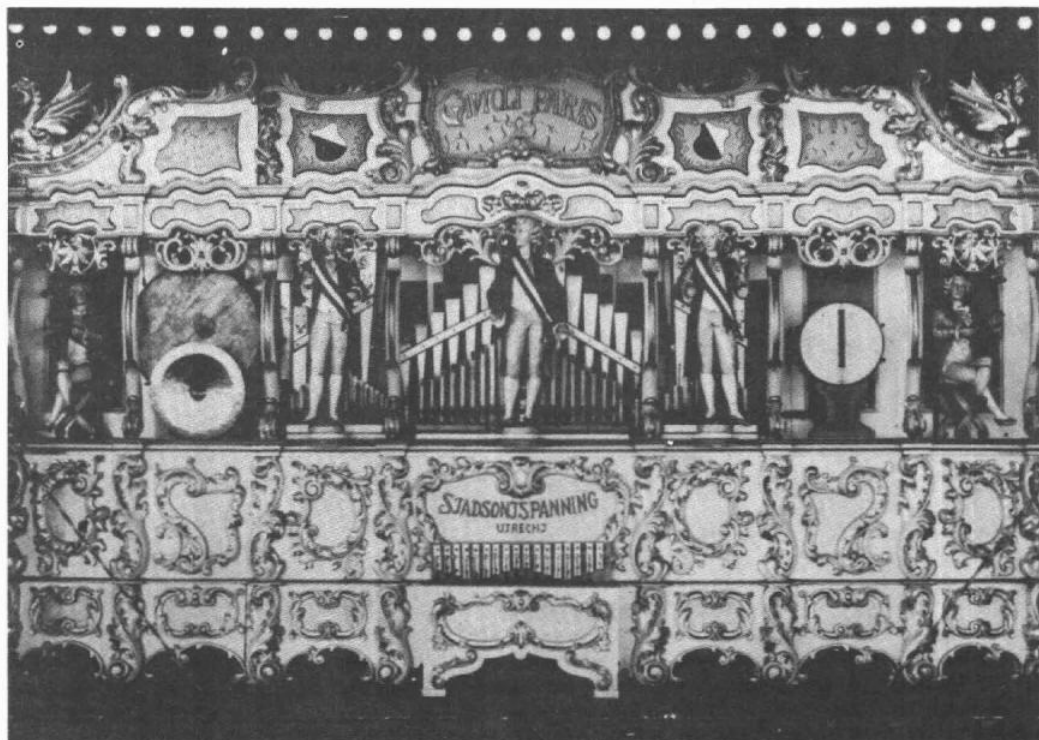
The Museum's collection is staggering in its splendour for here several of the rooms are given over to some of the largest dance organs ever built. In one huge room alone stand three of these monsters — a Hooghuys, a 101-key Mortier and a 65-key Gavioli. These are not just mute exhibits. All are maintained in the very finest condition and are played regularly. Another room is given over to what must be the finest organ ever built. This one, by the great Carl Frei, is a 110-key re-vamped Mortier which Frei claimed to be his masterpiece. At the time of its completion, he chose to match it with a masterpiece book of music and so transcribed the Maritana Overture by Wallace. The

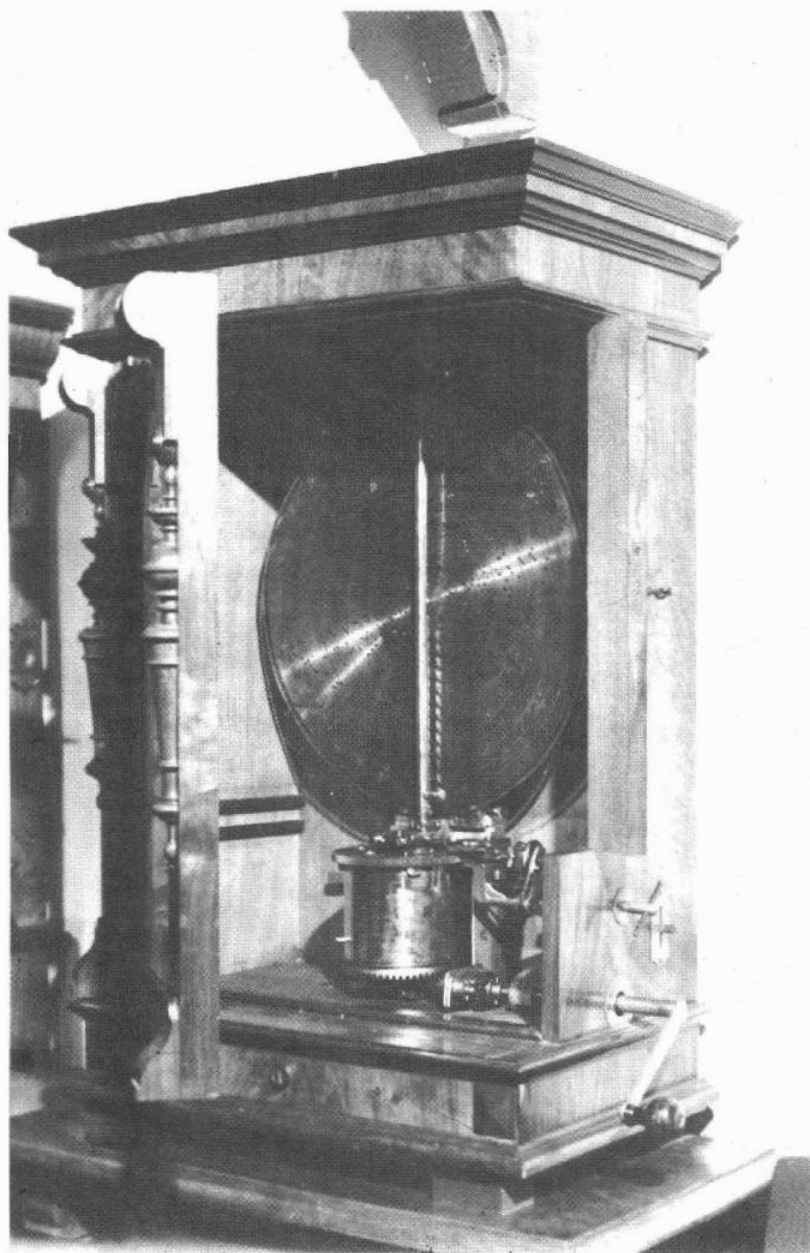
arrangement is remarkable and to hear it is an experience not to be missed.

Having decided that this must be the finest organ ever built, one finds in an adjoining room another organ which vies with the Frei for versatility and capability. This is the famed Ruth organ which was so extensively modified in order to produce an increased volume of sound that it is known as the Double-Ruth. The tonal colour of this organ is outstanding and the bass has an impressive timbre. Unfortunately, the room is just too small to do this monster justice.

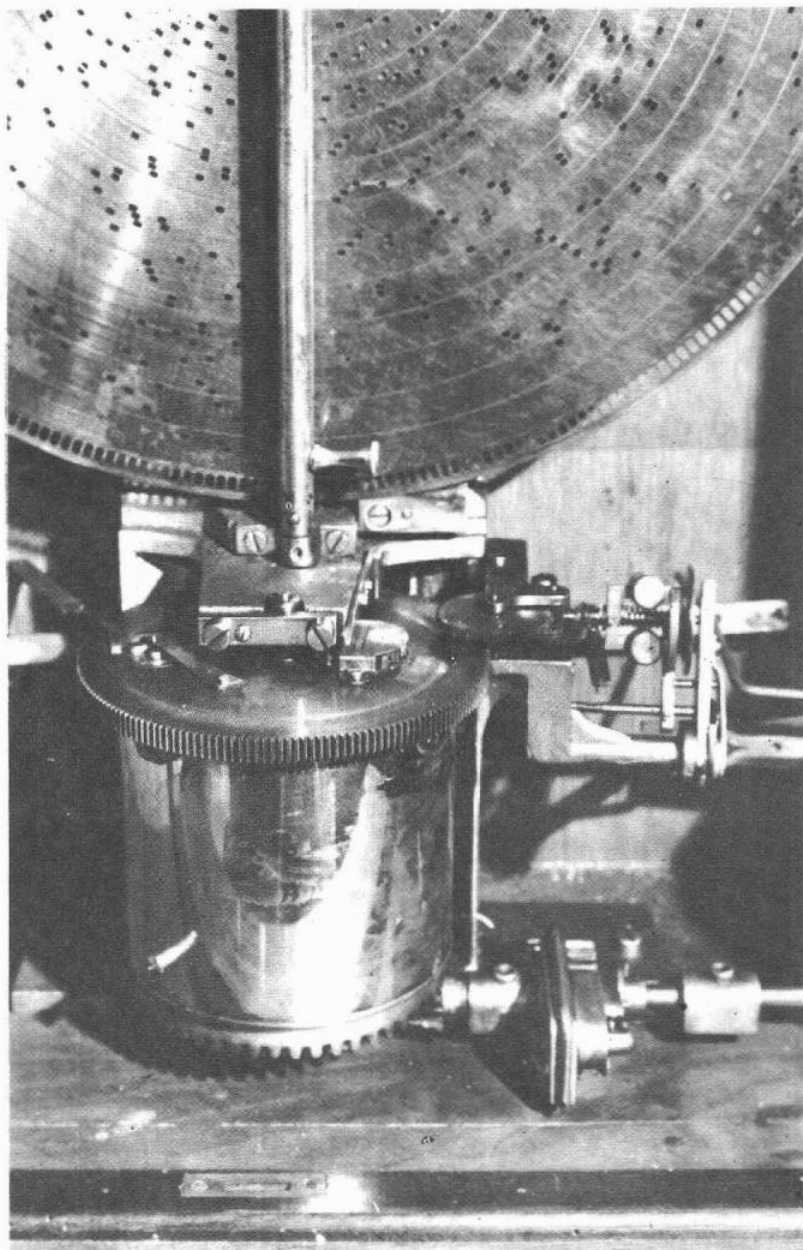
Other organs abound. Small street organs, portable barrel organs and barrel street pianos and clockwork cafe pianos abound. There is a Hupfeld Phonoliszt-Violino, a Philipps Paganini orchestrion, (with the Philipps-invented automatic roll-changer) and a handsome Heizmann barrel orchestrion with a

Below: The 89-key Gavioli in the museum. There are now fewer than four Gavioli dance organs (*kermisorgels* to the Dutch) on show and in play.





This large Stella upright model, seen here with its motor cover removed, features a long narrow side door, seen on the right of the case and partly opened, to allow the disc to be slipped under the fixed bar which rotates axially to press the disc against the sprung star-wheels.



In this view of Stella at the Nationaal Museum van Speeldoos tot Pierement, the large size of the motor can be seen. Unlike Polyphon and Symphonion motors, this one has little in the way of a frame.

show of brass trumpets reminiscent of the best of Welte.

So much for the larger items. One whole room is given over to musical boxes. Here you will find an interchangeable orchestral cylinder box, a 26 in upright Stella, a 17½ in upright Stella, a selection of choice cylinder boxes and several Black Forest clocks with tiny barrel organs therein. Within a showcase are some smaller items: a musical necessaire, a modern box and a series of pieces showing the stages in the manufacture of a musical box comb.

There is one exhibit I have so far not mentioned and one which is rather remarkable. This is a small orchestral chamber barrel organ made by Dietrich Niclaus Winkel (inventor of the metronome and maker of the Componium) which was presented to the Museum by the family who owned it from new. The organ dates from 1919 and possesses certain remarkable features. The clockwork, for ex-

The Hupfeld Phonoliszt-Violina of c. 1914 which has a wider music roll than later models.



ample, has only one wheel and the driving weight is let down under the control of a huge fan fully eight inches wide by four inches deep. Thewind department is worked by elemental but highly efficient lifting pieces on the periphery of the one big wheel. The organ will be described in detail in a later article but another point is that among the barrels for it are several very interesting pieces of music, one being a hitherto unknown piece attributable to Wolfgang Amadeus Mozart.

Utrecht for the day? Well, perhaps not. Even so, an afternoon at the Nationaal Museum van Speeldoos tot Pierement (with attractive young English-speaking girls as guides) is something not to be missed. Make the effort to go – it will be an unforgettable experience.

Facts about the collection:

Owner: The museum is owned and operated by the State.

Address: Achter den Dom 12, Utrecht, Holland.
Telephone: 030-312789

Opening Times: Every afternoon between 2.0 and 5.0 except Mondays when closed all day, Viewing at other times and party rates on application.

Admission: 2 guilders (about 25p.) Children 75 cents.

Programme: Almost all the instruments are played and visitors are provided with an informed and informal commentary. English is spoken by the guides.

Quick-fix locations: London to Amsterdam (Schipol Airport) fare £32.45p, 50 minutes flying time. KLM bus to Utrecht direct takes about 35–40 minutes, fare 5 guilders. Alternatively from Amsterdam by train (very frequent service – book to Utrecht Central, fare 4 guilders). From the station, make for the Dom Tower (you can see it from almost anywhere) and walk under it, turn left round the cathedral and you will find the museum ahead of you.

The "Enigmarelle" of the London Hippodrome appears like a bulky man, six feet tall, weighing 198 lbs. Its feet are of iron, whilst the legs are of steel and wood, and the arms of steel and copper. The body is an insulated wire frame, cased with fibre and rawhide, and the head is of wax. Its movements are brought about by three spring and four electric motors, worked by fourteen storage cells. In its back is a switchboard, containing the rheostat, fifteen switches, three levers, and three automatic brakes. Although the motions are rather jerky, the machine very cleverly walks with long or short steps, nods its head, waves its arms, rides a cycle, and writes its name on a blackboard.

JULY 28, 1905. **Electricity.**

WINDING IT UP

by "Endless Screw"

IT is some years since last I contributed to the pages of THE MUSIC BOX and in that time we have seen come to pass much that we original enthusiasts for the metallic music had hoped for. We have unearthed a lot of the lost know-how and have now embarked on all manner of technical analysis of the musical box which, a decade and more ago, we neither understood nor recognised the need to understand.

All the while, our Society has grown and many a new member has found himself thrust in at the deep end, reading pages in THE MUSIC BOX on subjects completely foreign to him. It is for this reason that Mr. Ord-Hume wrote on page 62 of this volume that the grass-roots needs of members cannot be ignored. He went on to suggest that it was pointless to imbue with erudition if the reader didn't even know how to wind up his musical box.

So our Editor has suggested that I might like to contribute an occasional article on basic subjects, many of which, I might add, are not quite so basic as at first they may appear. Take winding a musical box as a good example. Any fool, you may say, can wind a box. True. Equally true is that any fool can ruin a box through improper winding. This, then is my first topic for the novice. I might add that I have seen some experienced collectors who don't really know how to wind up their boxes either, so here's hoping that the allegedly more expert collectors will pause a moment to read some of what I have to say.

What is a clockwork motor?

It may come as a surprise to know that a clockwork motor, as a piece of terminology, does not automatically mean a coiled-up spring to be wound up with a key. Clockwork means just about any mechanism where power is applied to one shaft (or axis) and is transmitted through gearing (usually a reduction gearing) to do a job. The job may be to operate the hands of a clock, the wheels of a toy, the pinned cylinder of a musical box or the cylinder of a phonograph. One thing, though, is common and that is that all the power fed into the clockwork is emitted in regulated form. This means that the clockwork mechanism includes some means for taming the force to produce either a more or less constant speed, or a regular movement in the way that a clock escapement is controlled by a pendulum. In the musical box, the

power is regulated by means of a little fan or air brake.

So much for the clockwork. The motor can be just about anything. It can be a falling weight, the energy of which is gradually released as the weight descends slowly, this energy being regulated in a manner such as already described. It can be water-driven, or can be driven by an electric motor. You will see that there is even wheelwork inside an electric clock although here the regularity is obtained by calibrating the cycles of the electric current.

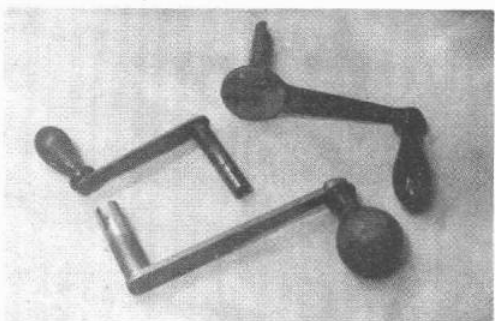
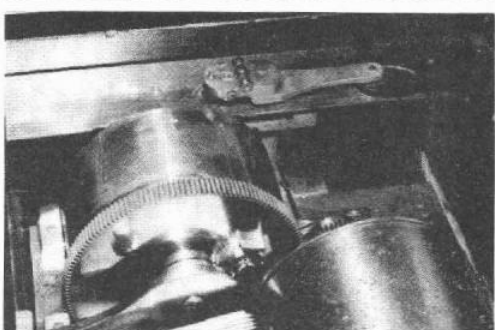
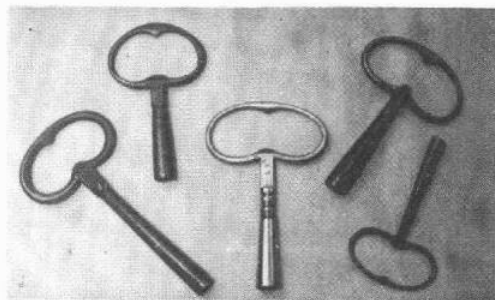
Or your clockwork motor can be spring-driven. So the proper description for a musical box motor is to refer to it as a spring-driven clockwork motor.

It is a rather strange motor, we must admit, for it is very long and far from compact. The spring part is at one end, feeding its power into a very long shaft (the one which passes right through the pinned cylinder and, in so doing, turns the cylinder) down to the regulating clockwork in a small governor assembly at the far end. You can now see how very important it is to see that the motor is quite run down before attempting to remove either the governor block or the cylinder. It would be a little like trying to take the gearbox or cylinder-head off your car with the engine still running. Or, as a better analogy, attempting to step out of a lift while it is still moving!

So the musical box is spring-motor driven. What does this spring motor look like? I'm sure you just what it looks like externally - a short, very fat brass drum mounted on a central shaft or axis and containing around the outer edge at one end a toothed gear which meshes with the small steel gear-wheel or pinion on the end of the pinned cylinder. If you have a disc musical box, then the arrangement is different, but the motor is still easily identified by its short, fat and cylindrical form.

The outer brass casing is quite thin. If you

look at the end opposite the solid gearwheel end you will see just how thin the case really is and how this open end is closed by a brass end-cover



which just fits snugly inside the casing. At one point around the edge of this end cover is a small hole, usually rectangular in shape, sometimes V-shaped. This is the hole through which the sping is oiled and it also serves as a way of hooking out the lid should it be necessary to look inside at the coiled-up spring.

The spring itself may be anything up to thirty feet long (usually less than half this length) and has a slot punched centrally in each end. If you turn a spring barrel round, you will see that at one point on its outer surface there is the flush head of a steel rivet showing. This is called the spring rivet and in small motors the outer end of the spring is actually riveted to the barrel at this point. On others, though, the rivet does not permanently hold the spring end, but affords a hook-like protrusion inside the barrel onto which the spring can be retained.

The centre of the spring assembly is the spring barrel arbor and this has a hooklike projection on one side. This holds the inside end of the spring securely in place. The illustration (**on page 162 overleaf**) shows what the complete assembly looks like. This is drawn for key-winding. Lever winding, shown in the second illustration, is only slightly different as regards the mechanical components.

Now I am sure that you know that if you wind a spring motor fully, two things can happen. First you might easily over-strain the spring. Second the motor will run very fast to begin with. What happens next you also know. After a period of stable speed and power output, the motor begins to slow down until finally, when the spring is quite exhausted of its stored-up energy, the thing will stop.

If you want to get the best service out of a clockwork motor, then, the section of the power output for which you must aim is that middle portion during which the power output is pretty constant. Again, if you let the spring run down too far, there is a good chance that the inside end of the spring will unhook itself from the hook on the

Different methods of winding. Top to bottom:
An assortment of forged steel keys. The familiar lever-wind musical box; on this one the handle of the lever is facing inwards towards the movement whereas most face outwards. Folding handle ninety-degree winding is uncommon but was used by Henri Capt and also by Paillard on some of the larger quality boxes. Handles for winding musical boxes included those with an ingenious friction clutch (Polyphon and Regina).

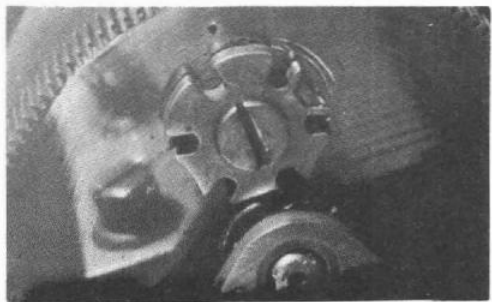
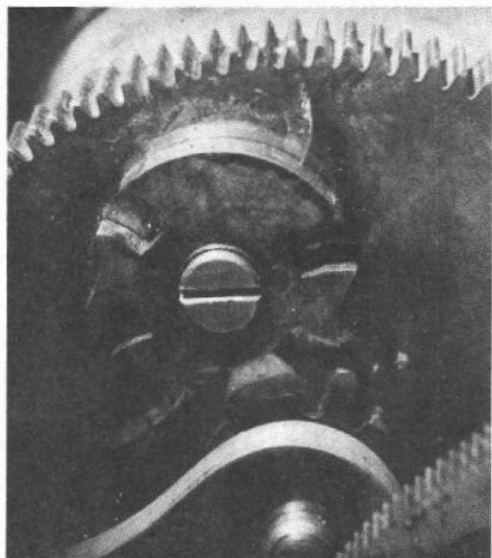
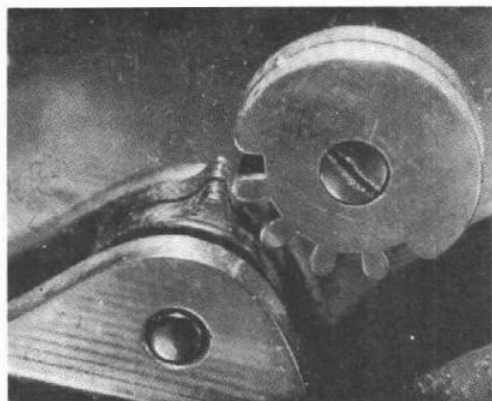
spring will unhook itself from the hook on the spring-barrel arbor. And then the effect will be the same as a broken spring: you will be able to "wind" and wind and wind, but nothing will happen and the spring will remain loose and incapable of being coiled.

We can be pretty careful not to over-wind our spring motor and thereby make reasonably sure of not over-straining the spring, but it is not so easy to see that we never let it run down too much. Happily, there is an easy way round this which has been known and used in clockmaking for many years before the musical box came along. The answer lies in two oddly-shaped pieces of metal which together are called 'stopwork' and which are individually referred to as 'male' and 'female'. These descriptions pre-date the permissive age so we can only assume that our musical-box manufacturers were sober types to whom a double entente was considered but a foreign name for part of a clock.

The male stopwork is a little bit like a thick washer which has a square hole in the middle. This is so that it can fit on a square-sectioned part of the spring barrel axis so as to ensure that it rotates with the axis. At one point on the outside edge of this part, which is always made of steel, is a projection. On early musical boxes, this was no more than an inverted V-like point sticking out. On later ones, this piece was formed into a slender, pear-shaped projection.

The female stopwork is always of brass and it is basically a circular disc having in its outer edge a number of indentations. On early mechanisms, these indentations may be closely spaced around one half of the disc. On later ones it is almost 'Maltese cross'-shaped. The female stopwork is fixed to the solid gearwheel end of the spring barrel in such a way that each time the central arbor is rotated during winding up, the male stopwork's point enters one of the female stopwork's openings and advances the female stopwork disc by one division. After a pre-arranged number of turns, the female stopwork advances to a position

where no opening is presented to the male next time round. This thus prevents the arbor from being turned, and stops the winding operation.



Top to bottom: The early type of stopwork consisted of a female part with openings not symmetrically arranged around the circumference driven by a small-pointed male. The Geneva stopwork developed into the shape in the centre picture. The penetration of the male is much greater, so turning the female through a larger arc. At the bottom is a broken male which has been forced against the female as shown by the scorings in the barrel.

In manufacture, the position of the female stopwork was set so that the centre portion of the slack-to-fully-wound span was used. With some early types of female, a little wear would mean that the female could rotate on its screw when it was not being driven by the male, so producing a false fully-wound warning, or allowing the spring to run down too far before locking. To prevent this, a narrow, shallow ring was machined out of the back into which was fitted a kinked wire spring which was just strong enough to resist unintentional movement by the female. Later on, the so-called Geneva stopwork was so shaped that this could not happen.

From this there are two things to bear in mind. If you have a musical box which runs down very quickly and needs frequent winding, it may be that it has been fitted with a new, shorter spring. Have a look at the spring barrel rivet – if it has been hammered, then this is a very good indication that it is a new spring. If the casing is distorted round the rivet, it could mean that the spring has broken at some time in the past, or that absence of stopwork (perhaps a deficiency subsequently corrected) has allowed previous over-winding of the spring in such a careless manner that the rivet has been strained.

If you have some doubt about things, half-wind the motor so as to release all the tension from the female stopwork and bring the female to such a position that you can unscrew it completely. Don't worry – this particular operation is not dangerous so long as you check that the female is not under tension. Now very carefully wind the motor (and I'll get round to telling you how to do that in a moment) until you feel that the spring is tight. Now let the box run and you will see whether in fact it is a 'duff' spring or just wrongly-positioned female stopwork. If this latter is the case, then all you have to do is wind the spring up to within about two turns of the fully-wound position, then replace the female stopwork in such a position that its last opening has been moved by the male. The movement should then run down until it is stopped by the first opening of the female locking with the male projection.

The other point to watch is that if the male stopwork is broken, and the later ones with slender projections do tend to bend or break, or the female is missing then you should either replace them to take extreme care in winding and playing the box in case you overwind the spring or run it down so much that it unhooks itself.

As a corollary to this, even when a musical

box has 'run down', there should still be some power in the spring. This power, although not transmitted to the cylinder, is retained by the stopwork and the female must then under no circumstances be removed. If you intend doing a complete strip-down, then remove the female, stopwork while the mechanism is still complete. Make it the next job to do after the removal of the musical box comb – and I'm sure you know that this is always the first part of a cylinder musical movement to be removed before anything else is touched.

Methods of winding

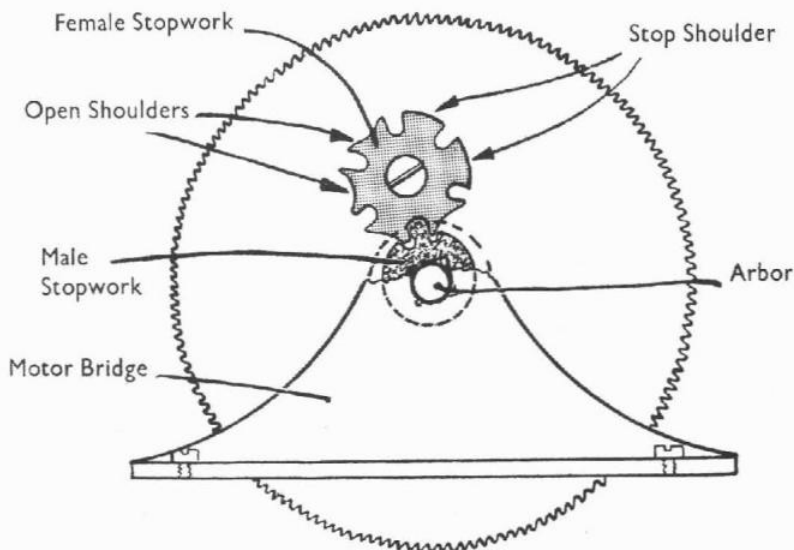
There are several methods of winding musical movements. Those movements which are contained in musical pictures and oil-paintings, for example, are often wound by a string which winds around a pulley wheel fixed to the winding shaft, (the spring barrel axis).

The most obvious method (and the style which we are all most anxious to find because of their comparative scarcity) is the key-wound cylinder box. Here the key is placed directly on to the squared-off protruding end of the spring barrel axis. It is worth mentioning that the majority of keys have female or socket ends. Some very early pieces such as musical watches, miniature automata and so-called musical *objets d'art*, are wound using male keys. These have a squared (occasionally triangular) projection which fits into a suitably-shaped opening in the spring motor.

Keys are all different sizes and are classified by numbers which are stamped on the top of the shaft by the shoulders of the handle. Modern clock keys made with flat steel or brass 'wings' conform to the same numerical classification, so if you are short of a key, your clock shop can help. The original keys were often things of great beauty, being forged or cast in steel and finished to a high polish.

Because musical box springs are often very large and certainly much more powerful than, for example, gramophone motor springs, they must be wound with a key having adequate leverage: too small a key means that winding will hurt the fingers and too large a key may mean that when the stopwork is engaged for maximum wound position, the force you can exert unintentionally is so great that before you know what has happened either the point of the male stopwork has snapped off or the female is forcibly distorted and the fixing screw pivot sheared off.

The number on the key gives the size of the key. It also refers to the size of the square end of the



The drawing (left) shows the parts of the motor stopwork. On the right are shown the parts of the lever-winding system. Both drawings are reproduced from "Collecting Musical Boxes & How to Repair Them" by Arthur Ord-Hume.

arbor which is selected by the musical box maker as being right for that particular box. If you use a proper key, the amount of leverage is always right.

During winding, the power which is put into the spring by coiling it up via the key must be held secure, otherwise when you let go of the key the spring would immediately uncoil. In fact, unless you were double-jointed, you would never even be able to wind it more than about half a turn. The power is held by a ratchet wheel and pawl, sometimes called a click, and the pawl is kept in contact with the ratchet wheel by a special flat or curved spring called a click-spring. This allows you to wind as much as you can with a twist of the wrist, then let go and re-position your fingers for the next turn.

If the ratchet wheel is worn (and many are), if the pawl is rounded with use instead of sharp at the end (and many are), and if the click spring is broken, missing or just weak (and many are), then there is a real danger that the pawl will not hold on the ratchet, but will slip out. If this happens when there is plenty of power on the spring (and this is when it is most likely to happen), then the key will be thrown round violently as the spring undoes. If the key stays on the end of the shaft, it will probably break your fingers. If

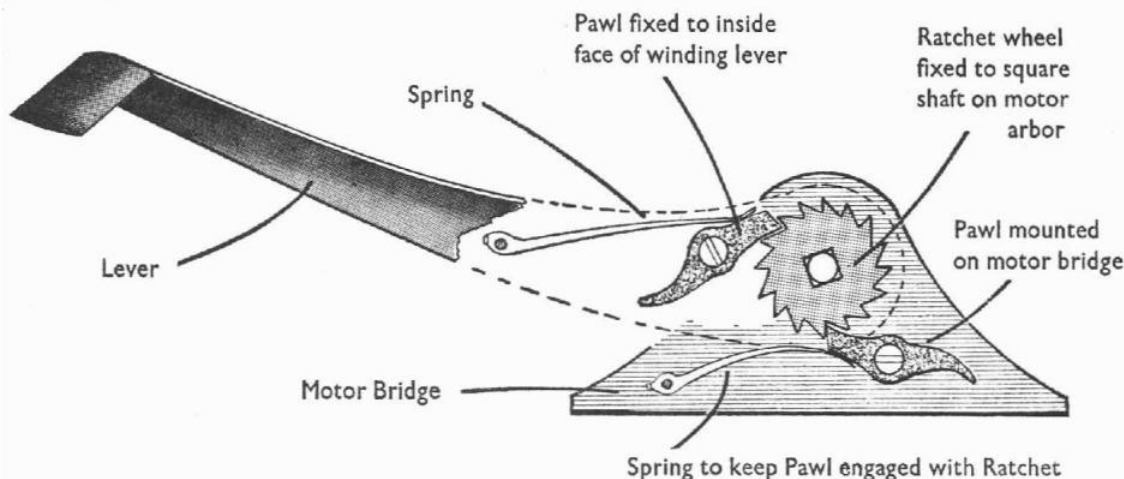
it doesn't stay on the shaft, then it could quite easily carve a neat key-shaped passage straight through the more solid parts of your anatomy. Stomachs and chests may not matter too much, but eyeballs are another thing.

The operative thing, then, is to keep a careful watch on the ratchet assembly. See that the teeth and the pawl are sharp and check that the click spring is doing its job. Always make this the first thing to check on a 'new' acquisition and make it part of your regular maintenance inspection.

Wear is accelerated by rapid, jerky winding. Always wind very carefully and reasonably slowly. At the end of each turn of the key, don't just let go, but gently feel the key back slightly until you hear and feel the pawl engage in the ratchet wheel. Musical boxes are scarce and valuable. Each time you wind one, you risk damaging it through one cause or another. Wind carefully.

Lever-wind boxes are later than key-winders, and the principles of operation are the same. However, here there are two sets of clicks, one exactly as before to hold the spring tension, and another on the lever so that you can move the lever backwards and forwards to wind.

In winding with a lever, it is very important not to jerk the lever. Move it evenly and again, at



the limit of each increment of wind, feel the pawl set into the ratchet before pushing the lever back. If the box is a small, light one, jerky winding may actually lift the box off the table so if there is a chance of this happening, steady the box with the other hand. Failure to do this could bend or even break off the lever. Try to make a definite rule of always using both hands when winding any type of box. One hand steadies the box as the other turns the key or moves the handle. It is, actually, a more practical and comfortable way to wind a box. If you are crouching on your haunches under a table to wind your Nicole, or standing up cranking a Paillard, a steadying hand makes the whole operation that much easier.

Winding up by handle is more usually the prerogative of the disc musical box. All the foregoing words apply, but some machines, particularly the Stella and also the handle-wound Paillard cylinder boxes, have what is called a 'silent ratchet'. This is a little cage which holds the pawl and when you are winding, the pawl is lifted quite clear of the ratchet wheel. As soon as you stop winding, the pawl is dropped into place. On some mechanisms this is completely controlled by gravity. Such movements **MUST NEVER** be wound whilst on end or side, otherwise the pawl may lift clear and not drop back into place. This means handle-shaped holes in the stomach again, and eyeballs on the carpet.

Springs suffer from indigestion. At their age, they are entitled to burp occasionally but unless you really know what is happening it can be both frightening and worrying. What happens is that old oil on the surface of the spring gradually dries

to a sticky consistency. As the spring runs down from fully-wound, several concentric coils of the spring stick together. Finally a point is reached when the coils start to peel apart and the result is that suddenly the gummed-up coils free themselves whereupon the redistribution of both the physical shape of the spring and the remaining spring tension produces a loud rumbling sound usually lasting no more than about half a second. It is most common with disc machines with vertically-arranged, exposed springs.

If the rumble is very marked, it could mean that the spring is quite dirty and gunged up. More than a few sticking coils could release sufficient energy to break the spring. The only real answer is to clean out the spring and then re-lubricate it. This is a subject which has already been described in these pages in times past, but I may turn to it afresh in due course if the demand is sufficient.

There isn't much more I can tell you about winding, although at some later date I may describe some of the interesting variants of winding methods introduced at various times. Do let me emphasize again the danger of messing about with springs. These musical box springs really are vicious. If you have a broken spring, unless you really do know what you are about, please do not try to meddle with it yourself. The late John E.T. Clark used to tell a story, a true one, about a Bradford tramdriver who disembowelled himself while trying to remove a mainspring. To tackle springs, you need a clear head, the right tools and the confidence which knowledge brings. It really isn't worth risking.

FRANCIS FRITH'S STREET MUSICIANS

ON PAGE 53 of this volume is reproduced one of the postcards produced by that astonishingly prolific early artist with the camera, Chesterfield-born Francis Frith. He was born in 1822 and finally set up in business in Reigate, Surrey.

Photographer, explorer, chronicler and artist as well as postcard printer, Francis Frith died in 1898, but the business which he began, Francis Frith & Co, continued until 1971 when closure came and the works were demolished. It will be remembered that the fantastic collection of more than 60,000 original glass plates and a quarter of a million original prints were due to be destroyed when, with but days left to oblivion, Rothmans of Pall Mall, London, stepped in and in a public-spirited gesture, purchased the entire collection for subsequent restoration and exhibition.

Among the many pictures in the collection is the original of the Frith postcard depicting the Italian organ-grinder and his monkey resting on Cookham Moor, Berkshire. This extremely subtly-composed picture, taken in or about 1891, records a piece of topography which is almost unaltered today, save that the dirt track is now a busy highway. It represents a picture taken at the height of Frith's

career and the original print shows slight fuzziness around the overhanging edge of the cloth over the barrel organ and also of the little girl's skirt, so showing that it was a time-exposure using slow film on a breezy day.

Taken about the same time was another picture of interest to us. It is thought doubtful that this one was ever issued as a postcard, but even so it shows a white-bearded old man cranking an Ariston card-disc organette mounted somewhat precariously on a perambulator of the late-Victorian *basinette* style. There appears neither reason nor practical solution for the angle at which the instrument is portrayed. The only explanation lies in Frith as an artist, for he knew that shape had to be conveyed in any pictorial representation. For this reason, Frith would have had the old man prop the organette up clear of the pram sides and tilted so as to show the disc.

For those who would know more about Francis Frith, Victorian Cameraman by Bill Jay (David & Charles) will make fascinating reading. My thanks to Member Richard Baines for lending me his copy.

ARTHUR W. J. G. ORD-HUME



A REGISTER OF MUSICAL BOXES

by Arthur Cunliffe

MEMBERS will no doubt remember that earlier this year a questionnaire form was circulated with a copy of The Music Box Magazine. Some members were kind enough to complete this form and may I now say thank you for your efforts.

To date, most of the information received has been transferred to a card index system and gradually some sort of order has begun to show in the case of most manufacturers. In the case of two makers I have received quite a lot of information, and I now list my findings about these two as an example of the type of research I hope to complete.

The firm of J.G.M. seem to have made many small two air movements, the majority of which have been fitted into photograph albums. The letters J.G.M. are to be found on the fly leaf of the album although the albums were printed in Germany. Most of the books on musical boxes date J.G.M. as circa 1890, but I have evidence that they could have been made in 1880. Maybe a year or two before that. I have seen a printers mark on an original J.G.M. tune card give the year 1884, and this date ties in with the Sullivan tunes listed on the card and played by the movement. Finally, there is evidence that the early serial numbers have no prefix letter. Later ones have prefix letters. Tied in with this is that the winding keys of the early and finely made movements have a heart shaped handle to the key. Later movements have winding keys which have a circular handle wound round in a 'barley sugar stick' design.

Much information has been given on Langdorff boxes of the early lever-wind period. I have noticed that several details seem to be common to all, but I must point out that from the limited number of returns I have had, I would not be prepared to present my findings as absolute fact. It is merely that the information received leads one towards these conclusions.

1. All the Langdorff boxes seem to have the special 'half cross' shaped case joints. (See Arthur W.G. Ord Hume's book, 'Collecting Musical Boxes and How to Repair Them' page 106).

2. Five of the Langdorff boxes that have their original tune cards have the same design of card. Other members report missing tune cards: This

design of card has also been seen on P.V.F. boxes and also two other makers.

3. All the boxes have writing in pencil on the underneath of the case. This writing includes the serial number of the movement, but the common factor seem to be the fact that the writing seems to be indistinct and looks as though it was rubbed out after final assembly of the box.

4. All the boxes have a brass ratchet wheel on the motor arbor and not the more usual steel ratchet.

These are indeed small points, but I am sure if members would be kind enough to complete their questionnaire forms and send me details of their boxes, in time much more valuable information would be discovered. I would like to continue my research. Please give me the chance'.

Editor's comment: Member Arthur Cunliffe has assigned to himself a vast task and one which can never be complete. However, as he has already demonstrated, a certain amount of data emerges from only incomplete records. It can only be to every Members' interest to try to help in the collection of these data. Remember that if it takes you an hour to detail your boxes, it is an hour well spent and the fruits of Mr. Cunliffe's work are likely to benefit us all.

Mr. Cunliffe's address is: c/o Dallas County Primary School, Dallas Road, Lancaster, Lancs.

UNCONSIDERED TRIFLES

'There is a good story told by Sir Frederick Bridge of the mechanical player' (reported *Musical Opinion* in May, 1904). 'He went into a room one day while he was staying at a country house, and saw some ladies listening to another lady performing on a pianola or something of that sort. He gathered from the expression on their faces that they were listening to a great classical piece. But he could not make out the music, which sounded very abstruse. He felt that he was hardly educated up to it, though occasionally he seemed to recognise it. He whispered to one of the ladies 'What is it?' and the answer was 'Bach's Fugue in D minor'. But he discovered that the fugue was being played backwards, for the perforated paper had been put in upside down!'

SOCIETY MEETING REPORT

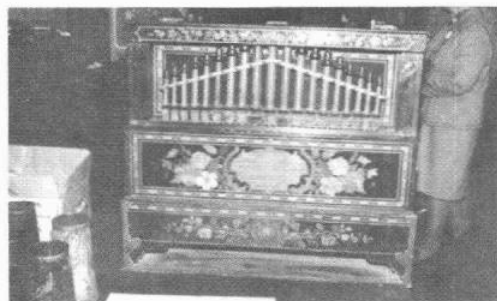
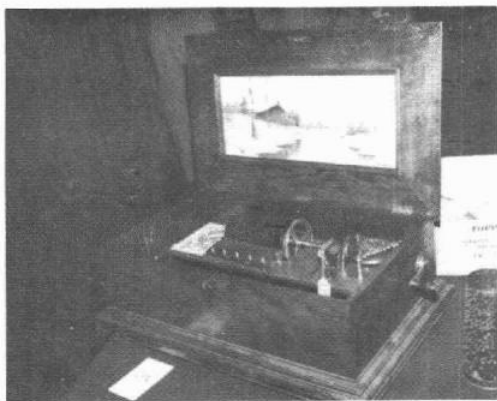
THE Winter meeting of the Musical Box Society of Great Britain was held at The Kensington Close Hotel, Wrights Lane, London W.8 on Saturday, October 13th 1973. Staged as part of this meeting was an Extraordinary General Meeting to discuss and vote on the proposed alterations for our Constitution and Bye-laws as set out on page 86.

The meeting began at 10.0 a.m. with registration and coffee. The first lecture of the day was by our Editor, Arthur Ord-Hume, on the organette and its development.

Mr. Ord-Hume began by outlining the musical component of the organette – the free reed – and the part which it played in musical instruments. His talk, illustrated by slides, traced the free reed from its use in primitive African instruments such as the *sanza*, through the ancient Chinese *sheng*, the Jew's Harp, the Mouth Organ, Concertina, Accordion and Harmonium up to the highly developed American Organ and instruments made by the Paris firm of Mustel. He showed how the reed was made to sound automatically under the control of perforated paper, metal discs or cardboard bands and illustrated his narrative with slides showing early organettes, their patents and drawings of their operation.

The second talk of the morning was presented by Member Chris Thompson on some of the musical boxes in his collection. Unfortunately, most of his colour slides prepared for the talk had not been processed due to the industrial dispute affecting the Kodak laboratories. However, he was able to proceed using some of his standard library of slides. Mr. Thompson's collection is notable for the extreme high quality of the pieces which include a Paillard *Plerodienique* (probably the only one in any Member's collection in the United Kingdom) and, even rarer, a *Duplex* twin-cylinder box. He also has a six-cylinder revolver box which, along with the Duplex, he had brought to the meeting. In his talk, he explained exactly how these connoisseurs' instruments operated and played tapes of some of the boxes which he did not have on show.

Immediately after the luncheon interval, the Committee gathered at the top table and the meeting was called to order for the Extraordinary



Top: Keith Harding's Capital "Cuff" box – the first many English members have seen. Centre: Chris Thompson's very rare Duplex cylinder box. Below: Also from the Thompson collection is this fine Gebruder Bruder street barrel organ



Another view of Member Chris Thompson's Duplex twin-cylinder, twin-motor musical box

General Meeting. In the absence of our President, Cyril de Vere Green, who was in North America in connection with his duties as President of the American Dental Association, the meeting was chaired by Vice President David Tallis.

The main business of the meeting, which was concluded within a very short space of time, was the amendment to our Constitution and Bye-Laws. All these were approved by majority show of hands. The agreed alterations are thus as follows:

Constitution:

Article 4 – Officers. Section 1 is amended to include Honorary Recording Secretary and Honorary Archivist.

Article 5 – Duties of Officers. Section 2 under duties of the secretary, delete the clause “keep Minutes of all Meetings”, and add Section 5 to state “The Honorary Recording Secretary shall

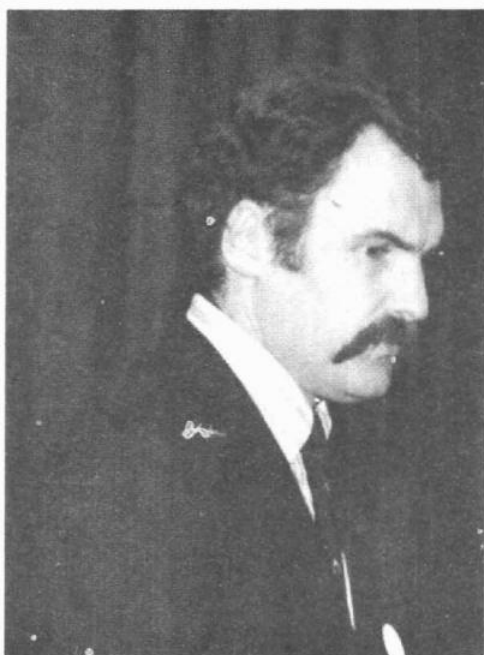
keep Minutes of all meetings”.

Bye-Laws:

Article 3 – Subscription. Section 1 to state that the Subscription shall be Four Pounds a year for active Members, payable annually on January 1st. Section 2 is to be re-numbered Section 3 and a new Section 2 added reading “For all new Members and Members rejoining after an absence of one year or more there shall be an entrance fee of One Pound”.

Secretary Reg Waylett reported that, following an article on the Society published in *The Sunday Telegraph*, he had received a number of letters from people who wished to have details of our activities. He had, he added, also enrolled the author of the article as a New Member!

The dates for our meetings next year, our Secretary announced, were to be June 8th and 9th



for our two-day meeting, A.G.M. and Society dinner, and October 26th for our Winter meeting, both to be held at the Kensington Close Hotel.

Immediately after the E.G.M. came one of the highlights of the day. This was a performance, on recorder, of some of the music from the Charles Clay organ clock. The recital was prefaced by a short introduction by Arthur Ord-Hume describing the Clay musical clock which was built in the second half of the eighteenth century and which travelled from Amsterdam to Portugal where it remained from 1771 until it was auctioned at Christies in London last November. Mr. Ord-Hume described the music and how it had been identified as being from part of an obscure Handel opera. The first piece on the repertoire of the clock was noted on the dial as Menuet and this he had reproduced in manuscript form in his recent book *Mechanical Music*. This had been possible because the organ had survived with its original manuscript book containing the musical repertoire of the instrument.

Member Freddy Hill of Shackleford, Surrey had taken the music as published in the book by Ord-Hume and arranged it for two recorders. Mr. Hill and Member Jocelyn Walker then performed the *Menuet* from the Clay organ clock. This was followed by their performance of several other short pieces of music published as having been written for other clocks made by this celebrated London musical clockmaker.

Then followed a practical demonstration of dismantling and cleaning a musical box staged by Cliff Burnett of Keith Harding Antiques together

The Society gratefully acknowledges the sum of £5.50 received from the sale of some musical box discs which were donated by Member Charles W. Alflat.

with two of the workshop assistants who performed their work to a detailed running commentary. This proved an extremely popular demonstration and Members and Guests gathered around the work tables watching closely to see just what was being done.

The raffle was then drawn. The Box for raffle was a large Reuge in a glass case and was donated to the Society by Member Jon Lanning on behalf of Fortnum & Mason, details of whose collection and exhibition were given on page 108. One of our American Members present, Mrs. Forbes from California, drew the winning ticket which proved to be Member J.R. Lees of London, N.8.

With more than 100 Members and their guests in attendance, this proved to be a successful meeting characterised by the extremely high quality of many of the musical boxes on show. Among these must stand out C.R. Thompson's boxes, already mentioned, and his Olympia disc box. Keith Harding exhibited his Capital 'cuff-box' which is most probably the only one in the British Isles, and which attracted a great deal of justified attention from the many who had never seen this product of the F.G. Otto company of New Jersey. Also on display, and belonging to Secretary Reg Waylett was a remarkably fine overture box made by Langdorff and playing the overture to *William Tell* by Rossini on four revolutions.

Left: Personalities at the meeting. top left: George Worswick who has modified his extensive clock and watch repairing workshop to include high-quality repairs to musical movements. Top right: Dick Baines, temporarily shorn of his familiar beard, was in charge of tape recorders, microphones and slide-projector, and manfully coped with a period when the said slide projector suddenly threw a fit and believed it was a pop-up toaster . . . Bottom: Jocelyn Walker and Freddie Hill producing an oral interpretation on recorders of some of the Haydn music for flute-playing clock as found on the Charles Clay instruments. One page 170, overleaf, is an instruction sheet which Chris Thompson acquired with his Olympia. Badly creased after years of neglect, it is just legible.

MEETINGS DURING 1974

Your Committee announces that the following dates and venues have been fixed for meetings in London during next year:

June 8th/9th 1974 Summer meeting, A.G.M., Society Dinner and Workshop

October 26th 1974 Winter meeting of the Society

Both meetings to be held at the Kensington Close Hotel, Wrights Lane, London, W.8.

· · ✧ DIRECTIONS ✧ · ·

FOR OPERATING THE No. 4 or 5

Olympia Music Boxes.



1st. Place the accompanying winding crank in the position shown in cut at No. 1 and wind the movement carefully with a steady motion by turning the crank from you until a certain resistance is met with. Do not attempt to force it any further, as it will cause damage to the gear-wheels or breakage of the spring. Should the movement commence to run during this operation, draw the starting lever (No. 3) towards you and wait until the movement stops.

2nd. Raise the note-holder (No. 2) to an upright position by pressing in the small catch lever, and at the same time lifting upward. Place the centre-hole in the tune sheet over the centre-pin of the instrument and see that the teeth of the driving-gear at the right hand side of the movement engage the teeth on the tune sheet properly. Be careful that the space bearing the name of the tune on the tune sheet lies directly underneath the note-holder, also that the side carrying the projections is turned downward or towards the movement.

3rd. Lower the note-holder over the center-pin, being careful that the small catch-lever snaps into the notch provided for it.

4th. To start the music, push the starting-lever (No. 3) towards the word "start" on the tag fastened to the side of the box. By drawing it back towards "stop" the movement will stop at the end of the tune. Lever No. 4 is used to regulate the speed, which becomes slower as the lever is moved toward the word "slow."

GENERAL DIRECTIONS.

To prevent the teeth in the comb from breaking or the damper from getting out of order, it is absolutely necessary not to remove the tune sheet before the end of the tune has been reached. For the same reason the box should always be stopped at the end of the tune when not in use.

Should the movement run slow or stop altogether in course of time, unscrew the front inside board and apply a little of the best watchmaker's oil to the flywheel-screw and to both its end pivots. A little applied to the wheel bearings is also beneficial.

The tune sheets should always be laid aside, by placing the side with the projections upon the smooth side of another. Never place two sides with projections upon one another.

If the instrument has been exposed to extreme cold, allow it to stand in a warm room for one or two hours before using, otherwise the comb-teeth or the spring may break.

NOTES ON A MUSICAL CLOCK

by Kenneth G. Parrott

MANY of the early turret clocks were of very primitive design and had the appearance of being the work of the local blacksmith as, in fact, they were in some cases. One such was in the Church at Willoughby near Rugby . . . The times at which the airs are played by a musical turret clock varies with the district. Generally it is at three, six, nine and twelve o'clock. The tunes at Willoughby, above mentioned, were played at twelve, four and eight. There were in this case six tunes, Cannon, Suffolk, New Court, Belle Isle March, Captain Thornton's March and a French Air. Only one tune, of course, was played at the time stated'. So wrote John E.T. Clark in his book *Musical Boxes – A History and an Appreciation* first published in 1948.

Earlier this year (1973), after having given a talk on mechanical musical instruments to the Willoughby Society, I mentioned the reference to their church clock in John Clark's book and as a result was invited to visit the church and have a look at it. Emerging from the spiral stairway through a little door halfway up the tower, I entered the clock chamber. High on the wall above was the modern mechanism which now indicates the time to all within sight or sound of the tower, but at floor level the chamber was filled with machinery. In one corner was the mechanism of a turret clock, in the opposite corner a wooden frame held another set of gears and between them stood a large wooden carillon barrel.

The weight driven turret clock movement is shown in Fig 1. The going side is on the right, the strike on the left. The hour was struck in conventional manner using one of the peal of six bells by William Chapman of London (1781) in the belfry above. This was the only way in which the clock indicated the time, there being no clock face for visible indication. In addition to the usual notches in the outer edge of the count wheel (Fig 1, centre) three pegs were set on one side of it – one can be seen in the bottom position, one a little above the horizontal on the near side, and the third at the top of the wheel. It was these three pegs which in turn triggered the tune-playing mechanism into action at the appropriate times. As the count wheel rotated, one of the pegs engaged with the far end of a lever pivoted on the wooden post seen just in front of the clock (Fig 1), slowly raising it. This in turn

forced down the near end of the lever to which was attached a wire running overhead to raise a weighted arm on the tune playing mechanism. With further rotation of the count wheel, the peg slipped past the end of the lever allowing it to return to its original position under the action of the weight pulling on the wire.

The weighted arm can be seen resting horizontally above the wooden frame in the upper part of the music 'barrel' and the rope drum. The rope rises vertically from the drum and then passes over pulleys to the adjacent corner of the tower where the heavy driving weight was originally hung.

The illustration shows the arm in its 'neutral' position, resting on a flat leaf spring on the top of the wooden frame. Having been lifted and released as described above, it overshot the neutral position and in doing so forced down a vertical rod (seen immediately to the right of the timber upright) which in turn acted on the horizontal stop lever extending to the left just above the barrel. The right-angled end of this lever normally engaged in a slot on the side of the star wheel, one arm of which can be seen on the extreme edge of the picture. The dropping of the weighted arm thus disengaged the stop lever from the star wheel, leaving it free to rotate under pressure of a peg set in one end of the wooden barrel which engaged in turn, once per revolution of the barrel, with each of the five arms of the star wheel.

Once the star wheel had been released, allowing the barrel to start to rotate, the speed of the barrel was controlled by a large fly, similar to those used in turret clocks, driven by the train of gears in

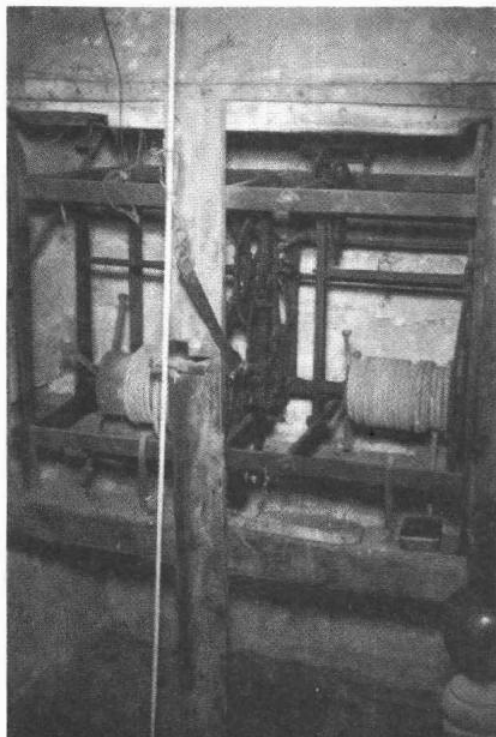


Fig. 1. The turret clock movement.

the centre of the picture. The barrel continued to rotate under the action of its driving weight for five revolutions, that is, for one full revolution of the star wheel, so playing the set tune five times. By this time the weighted arm had been returned to its neutral position by the pressure of its spring and so the out-of-balance stop lever was free to drop into the slot in the side of the star wheel once more, bringing the whole of the tune-playing mechanism to a halt.

The 32" diameter 38½" long barrel and the keys which it played are shown in Fig 3. As can be seen, the barrel is of robust wooden construction and the tunes are pinned using stout iron pegs. The keys are shown in their playing position, their disorderly positions being accounted for by broken and maladjusted wires to the bell hammers. Although there are only six bells, there are twelve keys – two per bell – presumably for the same reason that one may have two (or more) teeth tuned to the same note in a musical box, i.e. to

enable more rapid repetition of the same note. To prevent the bells from being sounded, the pivoted bar seen leaning against the wall in the background could be brought down over the rear (left hand) end of the keys to force them down and hence out of contact with the pegs in the barrel. To change from one tune to another the whole keyframe was moved sideways along the barrel.

At this point I must record a disagreement with John Clark, for he credits the Willoughby clock with playing six tunes whereas it appears to play only five. Furthermore the tunes he lists do not agree with those given on the card pinned up in the clock chamber, which reads:—

1. We love the place O God
2. Rousseau's Dream
3. Lead Kindly Light
4. Rock of Ages
5. Drink to me only

I can offer no explanation for this discrepancy, merely record the facts.

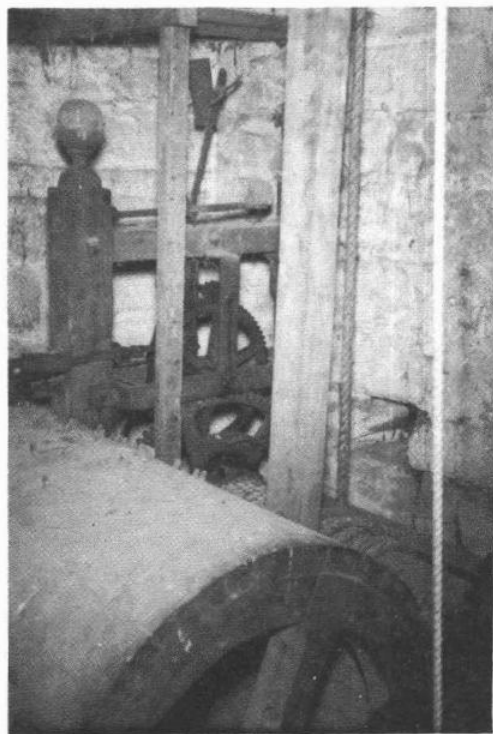
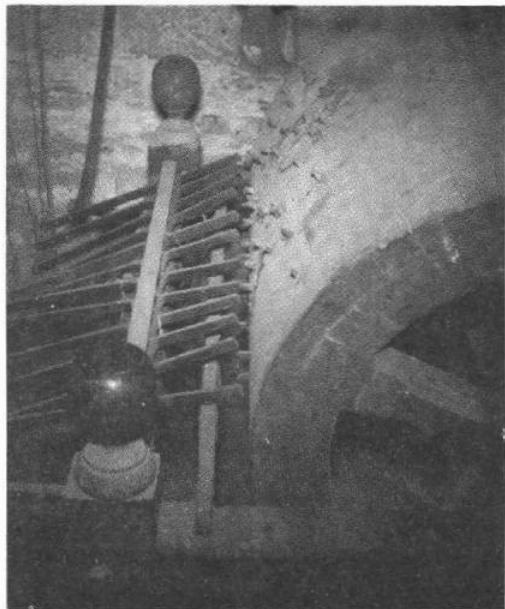


Fig. 2. Governor and stop mechanism.



I do agree that the tunes would be played at four, eight and twelve o'clock, though whether the villagers were treated to five verses of *Drink to me only* at midnight I do not know. Since the keys could only be raised or lowered in the clock chamber it would be necessary for someone to ascend the tower twice daily to silence the bells during the night and allow them to play during the day. In any case one daily visit was necessary to wind the mechanism.

One member of the society who heard my talk had tended the clock in years past but it has not been in use now for upwards of twenty years. At the present time some of the weights are missing – as are the pendulum, some of the bell hammers and one or two other small pieces – but otherwise it could be said to be in going order. Consideration has been given to restoration of the mechanism but as with all things of this nature it is largely a question of time and money. Whether or not it will ever play again remains to be seen but in any case it is an interesting relic of an earlier age of mechanical music.

Fig. 3. Music barrel and keys.

TUNE SHEET IDENTIFIED

Members will recall that on page 130 of Volume 4 we published a reproduction of a tune sheet bearing the initials A.S.:V with the legend 'Musiques de Paris, Fabrique au Chateau de Villetaneuse pres StDenis (Seine)'.

Your Editor recently spent a most interesting day with Members Howard and Helen Fitch, who are editorially responsible for the Bulletin of the Musical Box Society International, at their home in Summit, New Jersey. Howard Fitch possesses a box with this tune sheet, and it has the comb stamped ANDRE SOUALLE. An interesting characteristic is that the cast brass comb base also bears the initials A S cast in but, and here is the odd part, the letters are reversed in image, not in order. This means that the letter A has a heavy first stroke (instead of a thin one) and the S is backwards.

On page 382 of Volume 3, a large and unusual musical box was described and illustrated. This had the factor's name Wurtel on the tune sheet (see the musical picture elsewhere in this issue) and SOUALLE stamped faintly on the comb.

Helen and Howard Fitch have jointly done a fair amount of research into this maker, including paying a visit to the remains of the Chateau Villetaneuse. Their findings will be the subject of a paper to be published in the Bulletin of the MBSI in due course.

As a matter of interest, the box in question bears the number 4361 and the gamme number 781 on the tune sheet. That which we published (page 130, Volume 4) was numbered 4168 with the gamme number 662 (eight airs).

This is one further advantage of the pooling of knowledge which becomes possible with societies such as ours and the MBSI

Heil Dir Siegerin
God save the Queen
Heil Dir Siegerin
God save the Queen

Carey

2459



FROM PIANO SCORE TO DISC OR CYLINDER

by Robin Timms

AN important respect in which a musical box differs from some other forms of mechanical music is that it exists as an instrument in its own right. A mechanical organ or player piano for example attempts to reproduce what a human performer might play on a non-mechanical instrument. At best it does this very well; indeed its success is judged by the extent to which it creates an illusion, to its own self-effacement. The musical box however in its purest form does not pretend to imitate other instruments; it exists in its own right as a highly individual form of art, and needs no apology for that.

The purpose of this article is to show by means of a little detailed analysis of a few bars of music something of how the musical box comes to possess its highly individual character.

Taking the first three phrases of *God Save the Queen* (this tune will be familiar to most musical box collectors!) we will put ourselves in the place of one of the original music arrangers and set the music up for a medium sized box with 54 notes. The form of the music which we shall be working towards is the actual arrangement used for the 11" Polyphon.

First we take a hymn book from the shelf and turn up the *National Anthem*, where we find something like this:



The double bar lines indicate the ends of the phrases.

The music as it stands can be played on piano or organ, though it is primarily intended for singing in four part harmony. It was usual for musical box arrangers to work from the piano score – but this is only the beginning of the exercise, because the piano and the musical box are poles apart and an arrangement which suits the one is useless for the other.

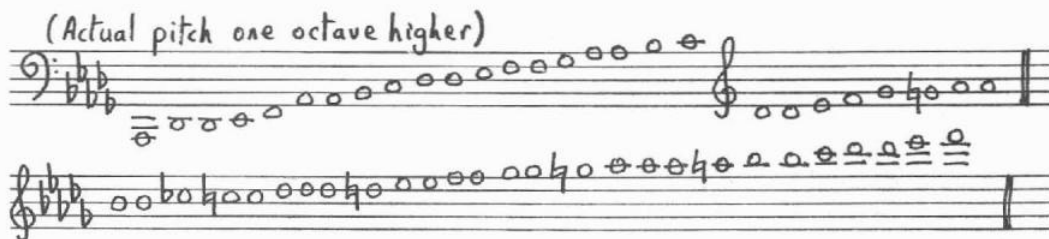
Consider some of the differences between the two instruments. The piano has 88 notes; our

musical box only 36 different notes. The piano uses all the notes of the chromatic scale throughout its 7½ octaves; our musical box which spans 4¾ octaves uses in general only the notes of the diatonic scale, with an occasional accidental inserted in certain octaves. One note of the chromatic scale, the sharpened supertonic, does not appear at all; while in the bass octave only four notes are used – dominant, tonic, supertonic and mediant. The piano can be played with equal facility in any key: our musical box can use only one basic key, with occasional excursions into the relative minor and the key of the dominant. With the piano it is possible to control the duration of a single note or chord and, very important, to

accentuate a single note, chord or melodic line thereby giving shape and meaning to the music as a whole. With the musical box each tooth is plucked in the same way on each occasion, and therefore the note always has the same volume and duration. With the piano it is possible to repeat a single note rapidly: to achieve this on a musical box, it is necessary to have two, three or four teeth tuned to the same note.

But the music arranger is not daunted by the apparent limitations of his instrument; on the contrary, he is going to make virtues of necessities.

Having before us the score of *God Save the Queen*, we now need to work out the tuning scale of the musical comb. It proves to be as follows:



We compare the score with the tuning scale only to find that hardly any of the notes in the score are available. We must transpose the music into the key in which our comb is tuned.



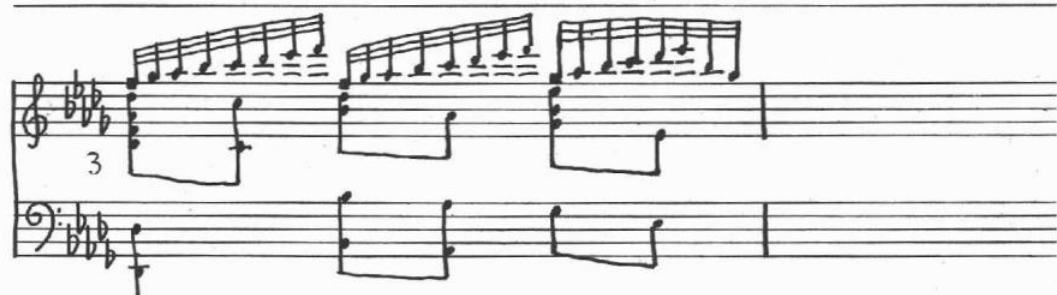
Still we have barely started; for to transcribe this on to disc or cylinder, even though many of the notes are now available, would be to fail to recognize the character and spirit of the instrument with which we are dealing: it would sound very thin and dull.

We will consider the melody first. It is usual to place the melody in the highest available octave, so that it is prominent, and sings out above the rest of the music. In the first phrase this works out very conveniently, but in the second phrase the highest note, G flat, takes us beyond the highest note on the comb, so that it is necessary to jump down an octave. To do this just for one note would sound strange, so we bring the whole phrase down an octave. The third phrase can go back into the higher octave.



We shall now consider in more detail the treatment of the melody in a bar-by-bar analysis, but first, to avoid superfluous musical examples, here for reference is what our musical box will

finally play. Square note heads indicate that two teeth tuned to the same note are plucked simultaneously. It should also be noted that the music sounds an octave higher than written.



Bar 1

The melody can often be made more prominent by being duplicated in the octave below, and even in the octave below that. The melody in the top octave reads D flat, D flat, E flat. It so happens that there are two D flats on the comb in this octave so that one can be used for the first melodic note and the other for the second, without fear of using the same tooth in too rapid succession — that is to say, in the case of a disc box, before the star wheel is again in the correct position. In the octave below there are three D flats and two E flats. We therefore use two of the D flats in the first chord, being on the strong beat of the bar, and the other on the second. On the third beat of the bar we make use of both the E flats. To strengthen the melodic line further we have D flat, D flat, E flat two octaves below the top note also. Thus, corresponding to three notes in the piano score, we have eleven projections on the disc.

Because the melody is fairly slow moving, the notes of the top octave of each chord are spread to give an *arpeggiando* effect, so that the sound is kept alive and we do not just have a series of chunky chords which quickly die away.

Bar 2

The first melodic note has to last a beat and a half. As the sound of a single plucking of the tooth will not last that long, we repeat the note, again in the highest octave, on the second beat of the bar. It is not also repeated in the lower octaves, because we do not want to make it too prominent here, merely to give a sustaining effect. The harmonies will move with the following note of the tune, as in the piano score. Returning to the long first note of the bar, we fill up the first beat, having struck the melodic C, with a run of demisemiquavers which lead naturally to the repetition of the C at the beginning of the second beat. The melodic D flat, lasting but half a beat, needs no ornamentation. The E flat on the third beat however does call for some simple elaboration. In the highest octave there is only one E flat, so that no trill is possible here. In the octave below however there are two E flats and two Fs so that a rapid trill is possible to keep the sound alive using the melodic note, E flat, and the note above. However, having played each of these four teeth, F, E flat, F, E flat, in rapid succession, we cannot use them again till the next beat. Hence the rest at the end of the bar in this part of the music.

Bar 3

Because of the absence of a very high G flat, the melody has to be brought down an octave. To cover up the change and make use of the higher notes on the comb where possible we shall make use of upward runs in demisemiquavers. In the case of the two melodic Fs we can conveniently run up the scale to the higher F, the top note of the comb, using the eight notes of the scale in sequence to give us the needed eight demisemiquavers. As the final note of the run is also F, this will further serve to bring out the melody. On the third beat we cannot run upwards to a higher G flat, but we can go up as far as E flat and then fall back using the notes of the E flat minor chord indicated by the harmony to the G flat on which we started. All three melodic notes in this bar are emphasised by making use of both adjacent teeth which are tuned to them. Corresponding to the three melodic notes in this bar of the music, there are no fewer than 27 projections on the disc — a real field day for the arranger! It is in ways like this that he not only overcomes apparent limitations, but goes beyond this to create a new and subtle form of art.

Bar 4

We start on F again, but this time the note is to last a beat and a half. As with the C in bar 2, we repeat the F on the second beat of the bar, but this time we can run up to it with eight demisemiquavers and then remain in the higher octave. Whereas the upward runs from F in the previous bar finished on F, in this case we want F to come at the beginning of the second beat, not at the end of the first. This can be achieved by inserting an extra note, G natural, in the run of eight so that the last of the demisemiquavers is E flat, not F. On the last beat of this bar the melodic D flat is kept alive by being played in rapid succession with the D flats an octave below. (There are two D flats available in the highest octave).

Bars 5 & 6

As in bar 1, the melody appears in three octaves, the top octave being played *arpeggiando* and two teeth being plucked simultaneously in the second octave.

Scarcely less important than a carefully considered melodic line is a sound bass. In the case of a disc, bass teeth can be plucked a second time less rapidly than teeth near the top of the comb. However, the bass is slower moving, and presum-

ably this is why the bass notes are nearest the centre of a disc. It needs to be remembered too that the duration of sound of the bass notes is greater than that of the treble.

Bar 1

Just as we placed the melody in the highest available octave, so we place the bass as low as possible. Thus we get off to a good start with a low D flat on the first beat of the bar. Next we use the lowest available B flat; but on the third beat we used a low E flat in place of the G flat in the transposed piano score. This is because there is no really low G flat available. This produces a super-tonic chord in the root position instead of in the first inversion, which is preferable to a first inversion chord lacking a really low bass note.

Bars 2 & 3

The bass line is kept alive matching the busy treble by moving in quavers instead of crotchets. The low A flat is repeated at the octave on the second beat of bar 2, and the quaver movement is maintained in bar 3 with a descending figure which starts in the middle register and is taken over by the bass.

Bar 4

The quaver movement is continued in the tenor register during the one and a half beats of the low A flat. This should be followed by an A natural, but no such note is available in the bass, and even if it were, it might not sound effective, but rather smudgy, as the A flat would need to be dampened when the A natural sounded, and the A natural would need to be dampened when the B flat followed it at the distance of half a beat. Since this could not easily be achieved it is perhaps just as well that there are not too many bass notes available which might conflict with one another if sounded in too quick succession. Perhaps this is why a low G flat is omitted from the comb: it would create a dissonant semitonal clash if sounded close to the F. Instead of A natural, then, A flat is used again giving a simple dominant chord instead of a diminished seventh — which some might regard in dubious taste anyway!*

Bars 5 & 6

At the beginning of bar 5, E flat replaces G flat as at the end of bar 1; and in bar 6 the single chord is kept alive by quaver movement on the tonic chord which will lead back to a low D flat at the beginning of the next bar. Notice that the final

octave lacks a low F. This is because there is only one tooth for this note, and that has been plucked only a moment ago.

Having established good melodic and bass lines, the rest falls into place without too much difficulty. We need well spaced chords using the notes indicated in the transposed piano score, but modified sometimes where the bass line has been changed. The top octave of certain chords has been marked *arpeggiando*, but there is a slight tendency for all chords to be played in this way, the *arpeggiando* however being so rapid that the ear is scarcely aware of it, except that sometimes a tendency for the lowest note of a chord to anticipate the rest by the slightest fraction is noticeable.

Whereas the piano score contains 64 notes — 16 notes of melody supported by four part harmony — the corresponding bars on the musical box use 203 notes. Trills, runs, arpeggios, ornamental figures, spread chords, repeated notes — a determination to use the full range of the musical comb — these are the ways in which the music arranger not only triumphs over the limitations of his instrument, but creates a distinctive form of musical expression of great subtlety and charm.

** The diminished seventh came into its own with those pianists whose job it was to accompany silent films. In this instance it formed a musical rouse not entirely unsuited to its medium — Editor.*

The item below comes from a 1909 music trades directory. Starting on the next page is an article written by Member F.G. Buck which appeared in *The Model Engineer* for January 31, 1952. Reproduced with acknowledgement to *The Model Engineer*.

GENERAL MUSIC SUPPLY CO.

MANUFACTURERS OF PERFORATED
MUSIC ROLLS FOR ALL STANDARD
PLAYER PIANOS

524—528 WEST 57TH STREET

New York City U. S. A.

Are You a Musical Boxer ?

F. G. Buck gives some good advice on the approach to Musical Boxes

(Photographs by F. A. Buck)

BEING the culprit responsible for inveigling the Editor into extending the scope of THE MODEL ENGINEER to include an occasional treatise on the subject of Musical Boxes, I was only half surprised when the worthy gentleman in question proceeded to get his "own back" with a vengeance, by suggesting I submit a contribution on the subject myself! Actually, I had been half afraid he might think of this from the beginning, but was fervently hoping he *wouldn't*! Alas, the chopper fell, so to speak, and I must now do my best to vindicate myself.

Following the traditional practices of officialdom in general, I endeavour to shift the blame to someone else, but as the someone else in question happens to be my wife, who may read this, I must needs be very careful indeed! 'Twas she, in fact, who really started me off on yet another phase of interest, by returning from a shopping expedition armed with, amongst other things, a small hand-operated musical box of Swiss origin, a few of which had apparently been allowed to be imported into the country. This proved to be of good quality and though ostensibly a present for my small daughter, it was discreetly transferred to the confines of my workshop by dint of much guile.

After the hue and cry had abated somewhat, what more natural than an investigation into the innermost workings of this *objet d'art*, and arising from the subsequent spot of "surgery" came realisation that here indeed was a very high standard of craftsmanship.

Lurking at the back of my somewhat "wonky" memories, I had a vague recollection of having seen a much larger musical box in my younger days, and became determined to try and track

down such an instrument—little knowing what I was letting myself in for!

Following many weeks of enquiries, to which came the usual reply of "What, *those* old things? My mother had one and gave it away years ago," I eventually ran one to earth in the local pawn-

broker's shop, and not only had this one the normal comb, but an array of bells as well; just the job!

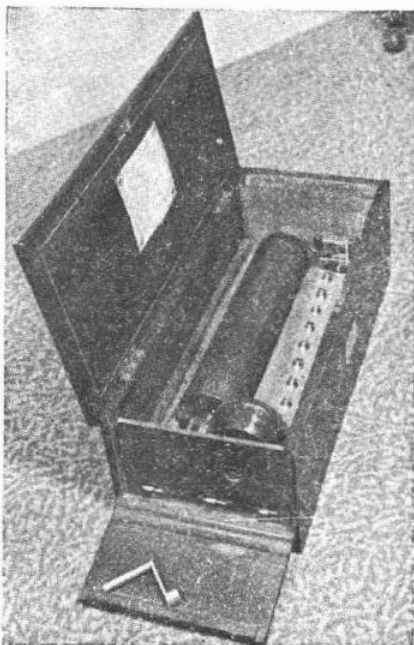
Having revived a little from the shock of hearing the price, and after indulging in a spot of mental fortification by bringing to mind how much a year folk inform me I save by not smoking, bang went the equivalent of what I imagine must surely be a whole van load of cigarettes, and I triumphantly carried, or rather staggered, away with my find.

Having bored my family—but *not* my young daughter—almost to tears with assorted and rather imperfect renderings of Gilbert & Sullivan's melodies, etc., it was decided to submit the works to a dose of "tuning up," in more ways than one, and for a while the household lived in peace.

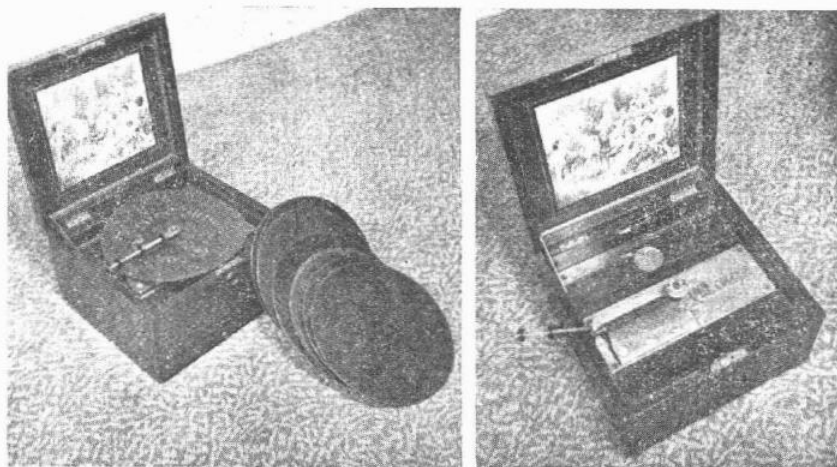
The first step was to remove the entire movement from the box itself, which can

invariably be done by the removal of a few screws. The next step was to remove the comb, being extremely careful to avoid damaging it in any way in the process, and I would mention that it is a "golden rule" that the comb should always be removed first of all prior to any work being done on the rest of the movement, for should anything get out of hand and the cylinder spin round, the result will invariably be disaster and a shower of broken teeth with which the National Health Service is entirely unable to deal!

The next stage is to allow the mainspring to run right down until the stopwork, which is



High-class box by Nicole Freres playing twelve airs by Mozart, two airs to one revolution of cylinder. Comb 12 in. long—128 teeth. Made 1858



A table Polyphone, playing metal discs $9\frac{1}{4}$ in. dia.

fitted to most good movements, is in engagement and all power taken from the cylinder, after which general dismantling for cleaning or repairs can safely be accomplished.

I generally make a start on cylinder pins at this stage and prepare myself for a good many hours' work if they are obviously rather knocked about, as, regrettably, they often are.

Frankly, I have not as yet attempted the repairing of those found broken off, having more than enough of other activities making demands on my time, but unless there are a good number broken, it is surprising how little the playing is affected. Those pins bent can often be straightened with the aid of a pair of fine flat-nosed pliers of which I have made a pair specially for the job, having a slight radius stoned at the extreme end. I have found this a help in avoiding cracking off, but, of course, very badly bent pins are rarely capable of being straightened without breaking. This pin-straightening business, although very tedious, is well worth while, and I have found a great improvement in the playing of a box after "treatment."

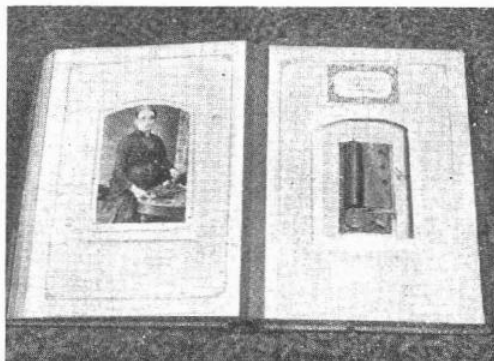
If the instrument plays more than one tune, see that the cylinder moves freely on its shaft and that the spring thereon is of sufficient tension to ensure it is

held in position—otherwise "The Soldiers of the Queen" are liable to be found wandering amongst "The Roses of Picardy" or joining their contemporaries in a rousing chorus from Faust!

Most of the rest of the overhauling job is straightforward model(?) engineering work, apart from repairs to the comb itself. It is quite possible to replace broken teeth, but the main snag is to ascertain the correct pitch to which to tune them for they do *not* run straight up the scale, as is the case with a piano. The fitting of the spring dampers which prevent a tooth making a "rasping" noise if touched by a pin while still vibrating, is also a tricky job, and details are not within the scope of this article. Suffice to say that while it is much better if they are correctly fitted, the box will still play without them, but not so "cleanly."

One or two broken teeth in the mainspring barrel can be repaired by dovetailing and "sweating in" a brass blank and filing up new teeth, or, more crudely, by screwing in a row of two or three studs and forming teeth from these, again, by careful filing.

The speed governor is a straightforward piece of mechanism and should be cleaned, oiled and correctly set



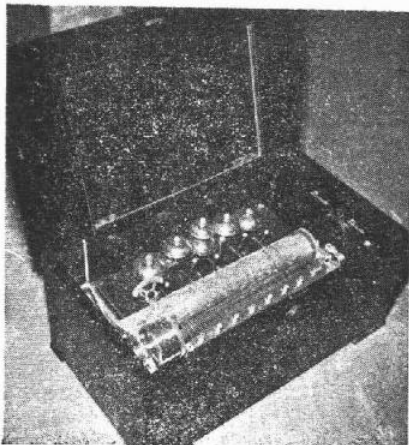
Family photograph album beautifully bound in leather, with three-air movement on 64-tooth comb



One of the best-toned disc machines ever made. A "Regina" made in New Jersey, U.S.A. 15 $\frac{1}{4}$ in. discs

by the aid of that most valuable commodity—common sense! Should the end thrust-piece—usually a stone—be missing, a substitute can be made from silver-steel rendered "glass hard" by heat treatment and having the working face subsequently lapped and polished.

When refitting the complete cylinder and shaft,



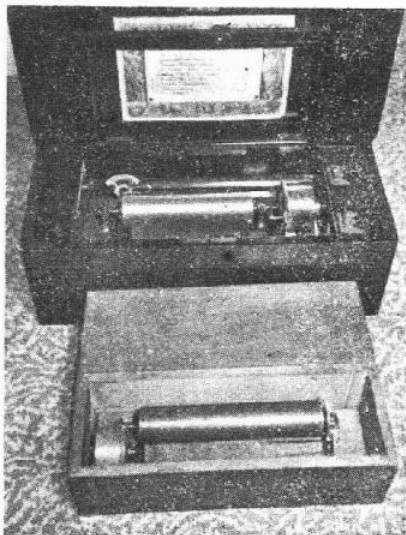
My first real music box. Ten airs, 56 teeth, plus six for bells

see that it runs freely but with the absolute minimum of end shake.

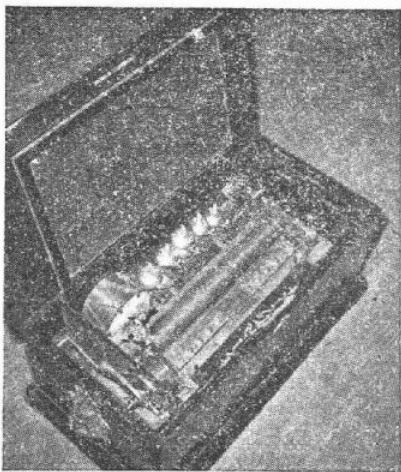
Although the comb is almost always dowelled to the frame, it can nevertheless often be moved a shade to some advantage by the very judicious use of light taps from a hammer. It is usually much better to "set" a comb so that it is no "deeper" than necessary to enable the pins to just lift the teeth a fraction. This will result in a sweeter tone, less "plonking" and less "rasping"—all terms which are self-explanatory.

As often as not, speed can be regulated by retarding the ignition—oops, sorry—by adjusting the two-bladed fan or air brake, though some reduction of speed usually takes place towards the end of the mainspring's "run."

I make no apologies for having brought musical boxes to the notice of THE MODEL ENGINEER, for although they are obviously not models, the craftsmanship that was put into them and the reasonably high standard of skill required to put a damaged movement into good order, makes them worthy objects for the attention of the model engineering "type." It is a great pity that a good many boxes have, in fact, been damaged, and of the community as a whole I can think of none more likely or



Top box was made by Paillard and features spring drum direct on shaft—no gears. Eight airs, 43 teeth. Lower one very sweet indeed and quite old. About 1840. Fours airs, 110 teeth



*My latest and greatest. Drum, bell, castanet and organ. Organ keys are in the centre. Weighs over 1 cwt
Ten airs*

capable of repairing them than model engineers.

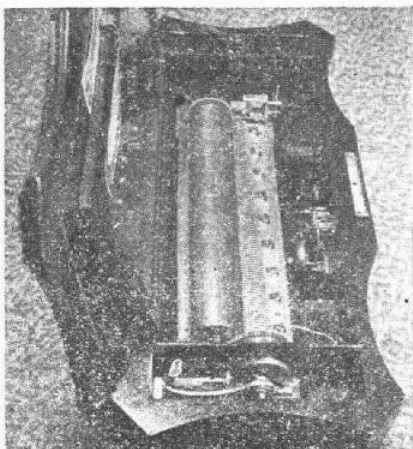
There is a great variety of different types of musical boxes, but until those employing suitably indented discs came into being, and which, with the great advantage of being able to play as many tunes as there were discs, as with a modern gramophone, virtually "killed" the original "cylinder" pattern, the majority were based on the latter style in all sizes from those fitted into watches to massive mechanisms weighing a hundredweight or more!

I have one fitted into a family photograph album, and a recent acquisition has not only

drum, bells and castanet accompaniment, but an organ as well—complete with a nifty little double-acting air-pump working direct off the governor. All the fun of the fair!

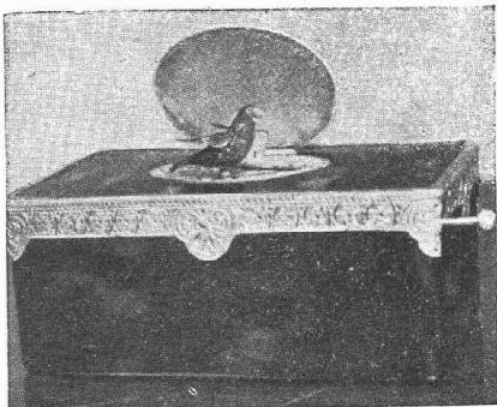
Needless to say, I should always be glad to hear of any boxes damaged or otherwise to add to my growing collection or of showing any of the ones I already have to anyone genuinely interested.

I sincerely hope that this enterprise of THE MODEL ENGINEER will result in the "rescue" of many examples of craftsmanship in this particular branch, and particularly that we may



Super alarm clock. Eight airs. Tune plays each hour if set. Eight-day clock

Possibly the gem of my collection so far. Although not a musical box, it belongs to the same family. This has to be seen to be appreciated. Bird is feathered, flaps wings, opens beak, bobs tail and turns from side to side while a most realistic bird song is produced. All done by a mass of cams, levers, go to's and come from's, pump bellows and a crafty whistle, etc. Bird is less than 1 in. long and disappears into box at conclusion of performance



hear more from the "connoisseurs" who have been collecting these instruments for many years, and from anyone who has undertaken the

construction of a musical box in his workshop. For myself, I intend having a go at a "singing bird box"—but that's another story.

OBITUARY— DR. WILLIAM SUMNER

Dr. William Leslie Sumner died suddenly during August. Born in Yorkshire in 1904, Dr. Sumner was a world-wide authority on the church organ and after several appointments in London including at London University, he moved to Nottingham University where he joined the Department of Education and became a professor.

In addition to his being recognised as a great exponent of organ technology and everything to do with organ lore, he had a practical knowledge of every detail of organ building and was, needless to say, a studied performer.

A widely-travelled man who had visited most of the famous organs in Europe, Dr. Sumner was last autumn appointed consultant to the Dean and Chapter of Ely Cathedral in the matter of the rebuilding of the magnificent Harrison organ.

His published works include *The Organ: Its Evolution, Principles of Construction & Use* (Macdonald) and *The Pianoforte*. He was also a regular contributor to *Musical Opinion* and *The Organ*. He was intensely interested in the possibilities of using the barrel organ as a means to discover how styles of musical interpretation had differed over the ages and had frequently discussed this in correspondence with the writer. His name is not unknown to Members of the Musical Box Society and an article from him on the Apollonicon organ was reprinted on page 377 of Volume 4. Dr. Sumner leaves a widow, two sons and two daughters.

VALUABLE HISTORICAL DOCUMENTS IN THE GUINNESS COLLECTION

Recently your Editor visited Member Murtogh Guinness at his New York home and there found two most interesting documents. Mr. Guinness very kindly agreed to these being borrowed for copying and they are reproduced on the following three pages.

The first, on the facing page, is a letter dated 25th June, 1906 from Metert & Co. This establishes the date on which Metert took over the old Nicole Freres premises at 22, Ely Place, London, and also provides the name of the former manager of Nicole Freres' disc musical box section — Mr. Meitzner.

A significant item is the listing of disc musical boxes to the left of the letter — Polyphons, Symphonions, Reginas and Harmonias.

The second item, reproduced overleaf, is a two-page letter from F. Conchon of Geneva and addressed to a musical box owner in Kensington, London, on 27th November 1891. As well as containing operating instructions for the use of one of the Conchon musical boxes, it names Charles E. Brun of 21, Ely Place as a competent repairer.

Brun became head of the Nicole Freres business in London in 1880 (see Volume 4, page 234).

The Conchon emblem, shown at the top of the letterhead, is reproduced to a larger scale at the end of the letter. Place des Alpes was also where Bremond was in business.

METERT & CO.

26 YEARS WITH
NICOLE FRÈRES.

22, ELY PLACE, HOLBORN CIRCUS,

LONDON, E.C.

25th June, 1906—

Dear Sirs,

We beg to inform you that we have this day transferred our business as Repairers of all kinds of Musical Boxes and Talking Machines to 22, ELY PLACE, (the old premises of Nicole Freres Ltd.)

Our Mr. Metert has been associated with Messrs. Nicole Freres as manager of their Swiss Musical Box Repair Department for the past twenty years, and our Mr. Meitzner has also been many years in the said firm's employ in charge of the Polyphon and other Disc Musical Boxes and Talking Machine Repairs Department.

All orders entrusted to us will have our most careful and prompt personal attention.

Soliciting your kind support,

We remain, Dear Sirs,

Yours faithfully,

METERT & CO.

Repairers

.. OF ..

SWISS MUSICAL BOXES.

POLYPHONS.

SYMPHONIONS.

REGINAS.

HARMONIAS.

PHONOGRAPHS

and

DISC TALKING MACHINES.

AUTOMATIC

and

MECHANICAL MACHINES.

ORGANETTES.

SINGING BIRDS.

ESTIMATES FREE.



MARIF. DE PIÈCES A MUSIQUE

PLACE DES ALPES

F. Conchon.

Genève, le 27 Nov. ^{bre} 1891.

Monsieur T. Secombe

163 Holland Road, Kensington

Londres W

Cher Monsieur

Il est évident que le mécanisme que vous avez demandé pour pouvoir repéter ou changer l'air à volonté a été une complication que nous aurons dû refuser de faire, étant donné le prix exorbitant que cela m'a coûté. Mais j'espère que cela vous donnera la mesure des sacrifices que je fais tant pour mes clients que pour la réputation de ma maison.

Maintenant en raison même de cette complication il n'y a rien d'étonnant que vous rencontriez quelque difficulté, et ce n'est qu'après que vous l'aurez fait manœuvrer pendant une 15^{me} de jours que vous serez réellement maître de votre pièce.

Un point capital est que les détenteurs 1, 2, et F et T soient toujours bien dans leurs places respectives entièrement à fond c.à.d. qu'elles ne soient pas à mi-chemin car alors le cylindre ne viendrait pas fonctionner à sa vraie place contre les leviers F ou T et la pièce risquerait.

de jouer entre deux airs, ce qui ne serait plus
de la musique subien s'arrêterait.

C'est probablement là la cause de ce qui
vous est arrivé et peut être pourriez vous vous
en rendre compte vous-même.

Mais ne forcez rien agissez prudemment
et si réellement vous ne pouvez arriver à
comprendre la raison de cet arrêt le plus simple
alors serait de vous adresser, en fait de personne
compétente, à M^r Ch. E. Brien 21 Elly Place
London

qui, quoique la pièce soit brevetée et lui soit
reconnue, pourra certainement vous expliquer
la cause de cet arrêt irrégulier.

J'espère cependant que vous ne serez pas
obligé d'en arriver là, et vous présente avec
mes remerciements pour v^{re} bonne lettre, mes
bien sincères salutations.

L. H. H. H.



MANUF. DE PIÈCES A MUSIQUE
PLACE DES ALPES

MEETING REPORT

THE Regional Meeting of the Society was held at Aintree, Liverpool, on Saturday, September 8th, 1973. The venue was Jacob's Athletic & Social Club in Long Lane and the meeting was organised by Member L.N. Wilson of Formby, Lancashire.

England's hottest summer for many a year provided a fine cloudless summers' day for the occasion and the Social Club, situated in the pleasant greenery of one of the City of Liverpool's more rural suburbs, proved a spacious, bright and airy meeting place.

Some 65 or more Members and their guests gathered from all over the country with, not unnaturally, the Midlands-domiciled members greatly outnumbering the rest. It provided a fine opportunity to meet some new faces — those Members who are not always able to travel down to London for our main gatherings.

The London delegation, President Cyril de Vere Green, and Mrs. Bertha de Vere Green, Treasurer Keith Harding, Archivist Alan Frost and Editor Arthur Ord-Hume, had travelled up the previous night and had passed a rather uncomfortable night in the palatial down-town Adelphi Hotel. The heat of an unexpectedly torrid Liverpool, plus the non-stop traffic noise, induced in one the belief that we had arrived on the night of the Great Liverpoolian centre-city Formula 1 Grand Prix! To add to things, your Editor's room had the central heating system turned full on without a means of turning off!

Meeting organiser Leslie Wilson and his charming wife Catherine, had gone to great lengths to provide a full and interesting programme with the help of the Society Committee, and had recruited much local help to produce a most welcome (and reasonable) luncheon.

The meeting began at 10.0 in the morning with coffee and registration.

This was followed by an illustrated talk by Member the Rev. Jonathan White which he called 'Pot Pourri'. This proved to be a tour through the instruments of mechanical music with copious quality slides. His excellent pictures coupled with informed commentary formed a highlight of the day.

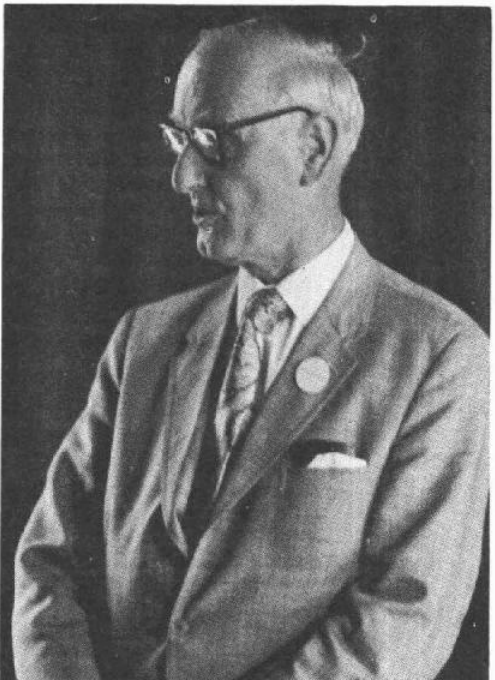
Your Editor was scheduled to be the second speaker but he had contrived to bring along a tape

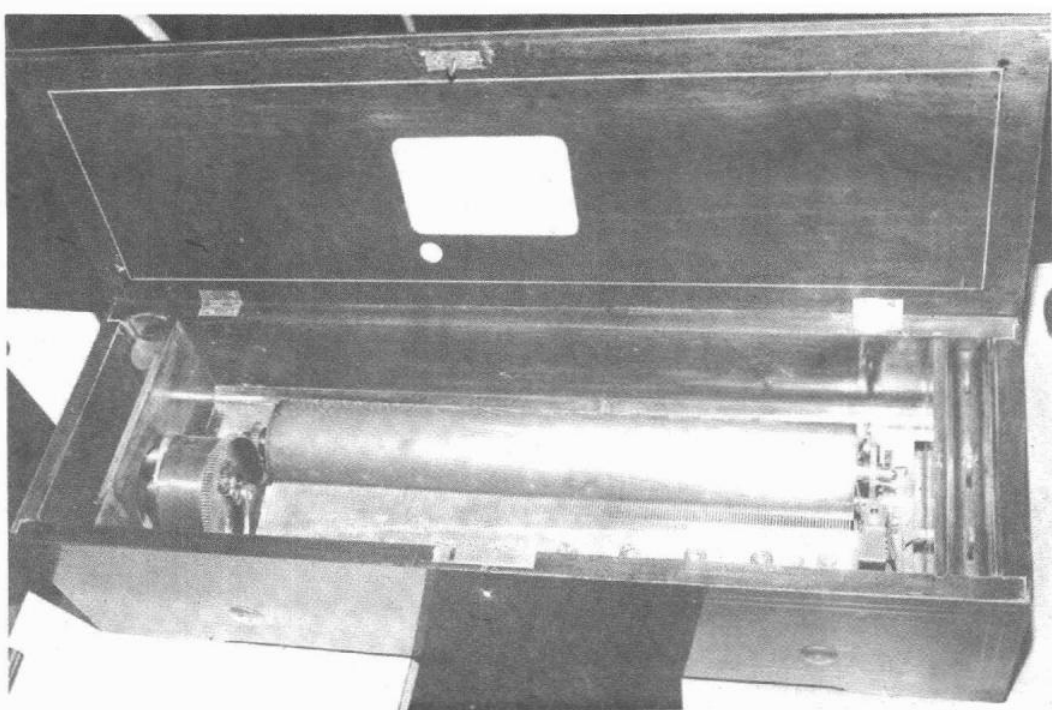


Mrs. Bertha de Vere Green looks on as Archivist Alan Frost discovers something of interest. Below: Dr. Robert Burnett presents his talk on quality in boxes.

of the wrong speed which necessitated Mrs. Wilson scouring town during the luncheon-break to seek out a means of making good his lack of adequate attention to the detail requirements which he himself had helped to draw up.

Second place was therefore altered and President Cyril de Vere Green advanced his talk on some of the exquisite and unusual musical snuff boxes in his collection. His talk replaced Member Alfred Thompson whose talk, 'Collecting for Variety' had to be postponed due to his being called abroad at short notice.





One of Dr. Burnett's boxes on show was this unusual high-quality lever-wound box bearing the name A. Golay-Leresche of Geneva on the hand-written tune sheet. The instrument, a four-air mandoline, is wound by a lever with a shield-shaped top. An enlarged view of the tune sheet is given on page 203.

An astounding feature of our President's lecture was the superb quality of his slides which, he later revealed in answer to a question from the floor, were prepared for him by one of his medical photographers at University College Hospital where he is Dean of the Dental School. Teeth, one might construe, of a different sort! His talk, combining tape with slides, was very well received and all must have experienced those pangs of jealousy as they saw and listened to some of his outstanding specimens.

Following the luncheon intermission and an examination of the display of Members' boxes, Editor Arthur Ord-Hume presented his talk 'Street Pianos' which he subtitled 'Music by the Handle'. This was illustrated by slides and tape recordings which included a description of how music is set on the barrel given by the late Canon A.O. Wintle, and the sound of some of the exquisitely restored pianos in the Marino Marini collection, Ravenna, Italy.

This was followed by a talk by one of our past Presidents, Dr. Robert Burnett, entitled 'Quality in Musical Boxes'. This contained much interesting comment on the quality of musical

boxes from early to late periods. All early musical boxes, propounded Bob Burnett, and this includes all key-winders, were of good quality. He also suggested that from the musical standpoint, German-made boxes were of better standing since the Germans were better musicians. A further point he made was that no key-wound bell boxes are known, all being lever wind and this also applying to hidden drum-and-bell boxes. It is certainly true, as far as your Editor has been able to adjudge, that the highest quality drum-and-bell boxes do not go back further than the beginning of the lever-wind era and that the very best, softest-sounding drums, are those with thin metal drum-skins beaten by short-stroke hammers more as a patter.

Dr. Burnett's talk, ably illustrated by specimens from his collection, did much to bring home to many of those present that quality, far from being an intangible aspect, is a characteristic which is both definable and discernible.

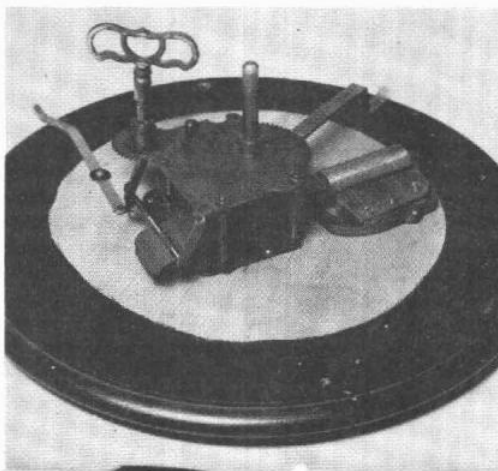
The formal meeting concluded just before 4.0 p.m. One characteristic of this meeting was the extremely high quality of the musical boxes on display from Members' collections.

A. O-H.

TREE MUSIC

by Jocelyn Walker

MANY readers will have examined with interest the Tenth Anniversary Supplement to The Music Box. This took the form of a reproduction of a catalogue issued by O.C.F. Miether of Brunswick in about 1905. Item No. 1780, near the end of this catalogue, is a *Christbaum-Untersatze mit Music und Drehwerk* which simply implies 'Musical Christmas-tree Stand



with revolving top' – for that is what it is.

I have one of these curiosities in my collection. It differs from the one illustrated in the catalogue, the base of which looks like a jelly which has been left in the sun whereas mine is a papier-mache hillock coloured to look like grass and earth. This mound is secured to a wooden platform – like a breadboard – 15" across and having three small bun feet. The under-side is stamped 'Made in Germany', so it would seem to have been intended for an English speaking, rather than a domestic, market.

The tree itself can be quite large, family size in fact, and is secured by three pointed screws, with wing nuts, in the heavy cast-iron urn which surmounts the piece.

Removal of the urn from its spindle and the stage earthworks from the breadboard reveals the mechanism. This consists of a simple but strongly constructed clockwork motor; the centre arbor of the spring providing the rotating spindle for the urn with its tree. There is an endless screw with an air break. The stop-start lever simply rests a spring-supported felt pad against the endless. This is sufficient to arrest its very weak motion and hold the motor in check. A second lever introduces a pivoted, continuously rotating cog-wheel to the great wheel of the automatically alternating two air musical movement. This has a fat cylinder which moves rather fast but at a low power, playing a comb of 52 teeth. The music may be stopped without interrupting the rotation of the tree. One tune is *Silent Night* the other is a mystery at present.

We have used this device in the family circle for the two past Christmases when it provided much pleasure revolving and playing while small gifts were cut from the tree. What must have been the delight of the children of seventy years ago when it was first introduced?

Two views of the Christmas tree stand, the upper one showing the 'jelly-mould' cover and the lower one details of the musical mechanism.

On the facing page is a small keywind box from the Fortnum & Mason collection. The bedplate bears the initials J.M. and it plays four operatic airs. The case is fruitwood, the comb is 7.7 ins long and the tunesheet is not original.



MASKELYNE AND COOKE'S AUTOMATA AT THE EGYPTIAN HALL.

John Nevil Maskelyne was a famed illusionist, magician and mechanician who staged ingenious shows at the Egyptian Hall in Piccadilly for many years. Maskelyne's writings on automata, first published in "Leisure Hour" during 1879, remain a valuable summary of the subject. These articles, given to the Editor by Member George Speaight, are prefaced, left, by an engraving from "The Illustrated London News" of October 19th, 1878, showing Maskelyne & Cooke's automata. The first set of articles is presented here.

AUTOMATA

by John Nevil Maskelyne

AUTOMATA, or self-acting machines, might be taken to include clocks and other devices which, by means of weights, levers, pulleys, and strings, move for a considerable time; but the word will here be used in its technical sense, as indicating mechanical figures made to cause wonder and amusement. Chief among these are what are called "androides," or man-resembling figures, capable of performing the motions of human beings, apparently the result of will and intelligence.

There are those who conceive talent to be thrown away upon such toys, but the fact is, the ingenuity of their authors has led to the construction of mechanisms of greatest use to mankind. Thus Sir David Brewster observes: "The same combination of the mechanical powers which made the spider crawl, or wove the tiny rod of the magician, contributed in future years to purposes of higher import. Those wheels and pinions, which almost eluded our senses by their minuteness, reappeared in the stupendous mechanism of our spinning-machines and our steam-engines. The elements of the tumbling puppet were revived in the chronometer, which now conducts our navy through the ocean, and the shapeless wheel which directed the hand of the drawing automaton* has served in the present age to guide the movements of the tambouring engine."

But these grand "possible results" have seldom been in the minds of the makers of automata. They have generally sought their own advantage in catering for the amusement of their kind. This is a fair and laudable purpose, especially if science is called to assist the illusion. Many great men have thought it worthy of their energies to devote some attention to automata. Archimedes, the most famed mechanist of antiquity, found time for, and pleasure in, the making of such "inconsiderate trifles." Many scientific men since his time, as Roger Bacon, Albertus Magnus, Regiomontanus, the Marquis of Worcester, Dr. Hooke, Vaucanson, and others, have striven in the same direction.

All automata have not been useless, even in their own time. Witness that equine wonder mentioned by Isaac D'Israeli. It seems that a philosopher, annoyed by having horses led to drink beneath the window of his study, "made a magical horse of wood, according to one of the books of Hermes, which perfectly answered his purpose by frightening away the horses, or, rather, the grooms. The wooden horse, no doubt, gave some palpable kick!"

In many cases automatic machines have not been of such value to their makers; frequently they have brought them into serious trouble as sorcerers; and ignorance has, in some instances, led to the destruction of the figures, as when Descartes's "wooden daughter" was being conveyed by sea, and the prying ancient mariner, fixing his "glassy eye" at a cranny in the packing-case, was frightened by the wooden lady speaking to him, and induced by his superstitious fears to throw the box and its contents overboard.

It is as well to say at once that the accounts of early automata must be received with caution, as unquestionably exaggerated, while possibly, in some cases, the stories are wholesale fabrications. The mechanisms of the Middle Ages, too, were terribly be-puffed by contemporary writers. Some of these were, doubtless, marvels of delicate workmanship when mechanical, but clock-work simply. The nearest approach to the supernatural in such creations were those dependent upon trickery, pre-eminent amongst which were some apparently endowed with human speech, where the conjurers called in science to their aid. Amongst the earliest recorded self-moving engines are those mentioned by Homer (to whom we must accord poetic licence), tripods constructed by Vulcan for the Temple of Olympus. These, by their own volition, took their stations in the banquet-hall of the gods. Archytas of Tarentum, a Pythagorean philosopher, who had been Plato's tutor, 400 a.c., made a wooden dove, or pigeon, that would fly, but when once it settled could not renew its flight. Aulus Gellius says that it flew by mechanical means, being suspended by balancing, and animated by a secretly-enclosed *aura* of spirit, a definition of motive-power sufficiently indefinite and abstruse for a modern spiritualist. Bishop Wilkins more sagely attributes such motion, if it did exist, to the presence of rarefied air within the body of the machine.

Artificial puppets that ran, actuated by internal springs, are said to have been a favourite amusement of the Greeks, and the Romans imitated these in their *neurospasta*. Dædalus was most prolific of automata; he had female dancers and a wooden cow. The latter sounds somewhat prosaic, though we have long been accustomed to the mechanical "cow with the iron tail"—a great source of lactal riches for London! He made some statues so active and vigorous that it became necessary to tie them down to prevent them running away! This is a doubtful legend. It is all very well to see a figure bound with ropes and to be told that if once released it would "run like a lamplighter," but there is not much

* This probably refers to the figure of M. Le Dros the younger, mentioned hereafter.

proof about it. It reminds one of the story told of Joe Smith, the Mormon prophet: he took his followers to a deep stream, that they might see him walk dry-shod over it. By the waterside he stopped and faced the eager crowd: "Have you faith," said Joseph—"have you faith that I can walk across without wetting my feet?" "We have—we have!" cried his enthusiastic people. "Then," said the prophet, "that is as good as if I were to do it fifty times—the end is gained!" and he walked away with his patriarchal umbrella under his arm—for, like other Mormon leaders, Joseph had ever an eye to the main chance, and provided for a rainy day.

Aristotle mentions a wooden Venus, constructed by Dædalus, the secret of whose motion depended upon quicksilver; but Sir David Brewster points out that its movements could not be due to such agency, "unless the automaton moved on a descending plane, like the Chinese toy called a tumbling mandarin, which by means of mercury included in the cavity of its body is made to tumble down a series of steps like a stair."

Amongst the automatic achievements of the ancients, Bishop Wilkins mentions an image holding in its hand a golden apple, "beautified," he says, "with many costly jewels; if any man offered to take it, the statue presently shot him to death; the touching of this apple serving to discharge several short bows, or other the like instruments, that were secretly couched within the body of the image."

Automatons apparently possessed of human speech were long a source of marvel. The speaking head of Orpheus was an awe-inspiring enigma to the Greeks; but it is more than probable that the wonder was to be accounted for on the same principle as the vocal powers of the colossal statue of the Indian god, Siva (the Destroyer), where a seat was provided for the priest under the head-gear of the figure, and from this came the voice of the supposed god. Tubes were often used to convey the sounds. The Scandinavian Odin had a speaking head of *Mirae*, constructed after the death of that mythical hero, and the monk Gerbert (afterwards Pope Sylvester II) is credited by William of Malmesbury with making a brazen head gifted with speech.

The celebrated talking head of the Franciscan friar, Roger Bacon, of Ilchester, has often been referred to, but the records are so mixed up with stupid legends that no useful information can be gathered from them.

A contemporary of Roger Bacon, the friar Albert Groot, called "Albertus Magnus," from the Latinising of his name of Groot, or Great, sometime Bishop of Ratisbon, is stated to have designed a speaking head of earthenware, and a man of brass, who politely answered the visitor's tap at the distinguished chemist's door. We may fairly put Albert Groot's man of brass down as fable, or perhaps it was only an allegorical way of describing his not very modest nor popular servant.

This brazen man is said to have been worked at for thirty years under various constellations and according to the laws of perspective, whatever that has to do with

such movements; and one story runs that when the androide was raised to the dignity of Groot's attendant it became inflated, and when once the machinery of its tongue was set in motion, like the "cork leg" of a famous ballad, there was no stopping it! It is also said that Thomas Aquinas smashed the figure to be rid of its ceaseless loquacity; while another legend is that Aquinas knocked it over with his staff because he imagined it to be the work of the devil. If this be true, Thomas, whose dull face had led his schoolfellows to call him "The Ox," must have been as dull as that amiable animal; albeit Groot is reported to have said that Thomas was an ox who would one day make his lowings heard throughout Christendom. Albertus took his misfortune very mildly, it seems, merely exclaiming, "Periit opus triginta annorum."

Porta, in his "Natural Magick," says, "I read in many men of great authority that Albertus Magnus made a head that speak; yet, to speak the truth, I give little credit to that man, because all I made trial of from him I found to be false, but what he took from other men." We are in duty bound to note that one person has been found ingenious enough to advance a most original theory. This is, that the interior of the body should be charged with words—as a cannon with powder and shot—beforehand, to be rattled out, like the frozen-up tunes in Baron Munchausen's trumpet when a thaw came. Bishop Wilkins says some have thought it possible to preserve the voice, or any words spoken, in a hollow trunk or pipe, and that this pipe, being rightly opened, the words will come out of it in the same order wherein they were spoken—a rough anticipation of the phonograph!

Many attempts at speaking-machines have been made nearer our own time. In my article upon acoustics (see "Leisure Hour," 1878, p. 204) some were named that owed their wonderful power to tubes such as are now so familiar to the public for the like purpose of carrying the voice for long distances.

Evelyn's "Memoirs" state that when he was in Italy, in 1644, he visited the Villa Borghese, at Rome, and there saw the figure of a satyr that "artfully expressed a human voice;" but we receive no further particulars. In his diary of the 13th July, 1654, however, he writes, "We all dined at that most obliging and universally curious Dr. Wilkins, at Wadham College (Oxford). He had contrived a hollow statue, which gave a voice, and uttered words by a long concealed pipe that went to its mouth, whilst one speaks through it at a good distance."

About 1774 the Abbé Mical (who made some musical automatons) exhibited two speaking heads at the Academy of Sciences, at Paris; and at London Cucchiani, an Italian conjurer, in 1825, admitted the public to view a bust of Napoleon which was said to speak in any language. Possibly the Abbé's attempts were genuine efforts at imitating the human voice by reed sounds; undoubtedly Cucchiani's bust was on the principle of "The Invisible Girl" (see the paper previously alluded to) which was brought out in Paris in the same year.

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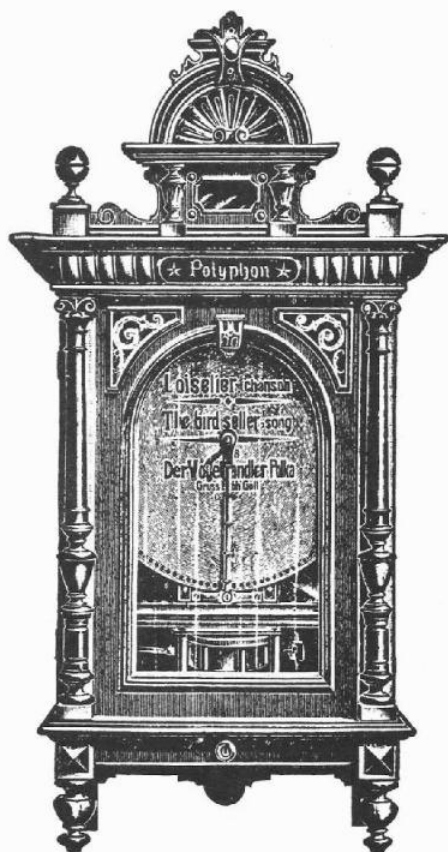
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MECHANICAL MUSIC BOUGHT, SOLD, EXCHANGED

This was the best and most successful *trick* in the so-called "speaking-machine" business, and was worked upon the lines laid down by Baptista Porta nearly two hundred years previously.

From the foregoing it will be noticed that such creations are to be divided into two classes, the first and larger one being that in which trickery is employed to deceive the senses, and where the voice of a concealed person is conveyed by reflection, or through tubes, to the machine; the second is the smaller but more meritorious class, where the makers have made earnest efforts to reproduce by machinery and tubes or pipes the sounds of the voice of man.

De Kempelen, the inventor of the famous chess-player, gave his attention to the subject, and is said to have shown a machine to his friends which spoke a great number of words and sentences. But with one so accomplished in the arts of deception as De Kempelen there will always remain a doubt whether these effects were not produced by an accomplice concealed in that "rectangular box about three feet long." Sir David Brewster thought that "perhaps the chess-playing dwarf" (referred to hereafter) "was not altogether unconcerned in the performance." De Kempelen's attempt was in 1783, after the introduction of M. Kratzenstein's ingenious "vowel-pipes" before the Imperial Academy of Sciences, St. Petersburg, in 1779. These were reeds, and by blowing into them the vowel sounds were produced. Mr. Willis, of Cambridge, improved upon these by adapting cylindrical tubes to the reeds, whose length was capable of variation by sliding joints. Neither of these arrangements surmounted the difficulties of successfully imitating "the human voice divine."

Notwithstanding all the failures, Sir Charles Wheatstone exhibited the result of his labours at a meeting of the British Association at Dublin. This machine spoke only a few words, and those very indistinctly.

Herr Faber, of Vienna, brought out a talking figure of a woman in the Boulevard Magenta, Paris, 1862, and subsequently in London. Some unpleasant sibilant sounds were obtained from this machine by the professor, who played upon keys of a piano.

Thus, though several loyal efforts have been made, the human voice still baffles correct imitation; our speaking dolls, who say "papa" and "mamma" so much alike that it takes a quick ear to distinguish one from the other, are almost on a par with all that is known of real talking-machines. I do not look upon the reproduction of vocal sounds as an absolute impossibility. There are ample means now to work upon, so as to surpass any of the contrivances of this kind yet published to the world.

I have thus, for the convenience of comparison, grouped all speaking-machines together, but shall now return to the chronological order of the automata first pursued, and departed from after Albert Groot's brazen man. To the maker of this very doubtful monster succeeded another automatic mechanician, whose wonders are equally open to suspicion. This was the German astronomer Johann Müller, called "Regiomontanus," from *Mons Regius*, or Königsberg. He constructed an iron fly that left his hand at a

banquet and returned after making a circuit of the hall. He is also credited with making a wooden eagle that flew forth from the city of Nuremberg upon June 7th, 1470, to meet the Emperor Maximilian. It perched upon the city gates, and stretched out its legs as if to salute the monarch! The story is somewhat apocryphal, and some authorities hint that it was a tame dove decked with some nobler feathers.

Beckman, author of the "History of Inventions," thinks all the wonders ascribed to Regiomontanus were stories invented by Peter Ramus, on whose authority they mainly rest, or accepted by him on hearsay, as he never visited Nuremberg until 1571, more than a hundred years after the supposed marvels were accomplished.

Jean de Mont-Royal is said to have presented the Emperor Charles V with an iron fly that hovered round the inventor's head, and then rested on his arm—a suspicious *replica* this of the fly of Johann Müller.

Charles V, after his abdication, studied mechanism under Janellus Turrianus, of Cremona, at the monastery of St. Justin. He is said to have introduced puppets upon the table after dinner, beating drums, blowing horns, or charging each other in fight; also iron mills, self-moving, and so small that a monk could carry one in his sleeve, yet sufficiently powerful to grind enough corn in a day to last eight men for a like term. This seems about as easy of belief as are the stories of fairy mills that grind one young again; but then we must remember what capacious sleeves those monks wore. About this time, also, Hans Bullman, padlock-maker, of Nuremberg, made many liliputian figures of men and women. These beat drums and played upon lutes by clock-work, and probably some found their way into the ex-monarch's museum. About the year 1679 Dr. Robert Hooke, when secretary of the Royal Society, seems to have been smitten with a desire to emulate the feats of the ancients in the construction of a machine by which men could fly in any direction. He, however, gained little in reputation by his flying chariot, or chair, and his fame rests upon a lower but more solid basis in his observations on the quadrant, telescope, and microscope. Hooke merely followed in the wake of many clever men, who deemed it possible to make some kind of machine to make men fly, though all such attempts have hitherto failed.

II.

IN the year 1688 the French General De Gennes, who fought against the English at St. Christopher, made a mechanical peacock that strutted about as is the habit of that vain bird. The tail, which opened, was of the most exquisite workmanship, and the colours were all wonderfully true to nature. It is also said to have picked up its food from the ground and digested it! I shall speak again on the subject of automatic digestion when mentioning a later example of phenomenal birds.

When Louis XIV was a child, many pieces of mechanism were made for him. In the "Mémoires de l'Académie des Sciences" for 1729, there is an account of one by Père Trouchet, which took the form



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of a pantomimic opera in five acts. There was a change of scene for each act, and a great number of characters conveyed some idea of the action of the piece. The figures were extremely small, the whole machine being only 16½ inches broad, 13½ high, and 1½ thick. The diminutive and ingenious work of Father Trouchet was probably nothing more than a moving picture, such as we see at the Crystal Palace, set going by dropping a coin into the box.

Another clock-work toy, invented for the budding monarch by M. Camus, was a small chariot with two horses attached. A coachman sat in front, a lady within, and a footman and page stood behind. When this machine was set in motion, Jehu cracked his whip, the "tits" pranced, galloped, and wheeled round at the end of the table, drawing up opposite the boy-king's chair; here "Jeames" and "Buttons" alighted, the latter opening the carriage-door for Madame, who stepped out with a petition, which she presented to the youth. Then, curtsying lowly, my lady returned to the vehicle. The "tiger" mounted behind, the coachman smacked his whip once more, and off went the thoroughbreds at a trot; while Monsieur Pluche, after running by the coach for a few paces, resumed his place at the back! Such is the elaborate description of a very simple toy; but it omits one important particular—that the chariot moved upon a specially-constructed mechanical table. Similar effects have since been introduced into the "shows" at English country fairs; and were we to view the original specimen of M. Camus's invention now, we might find it below the level of the Lowther Arcade by many degrees.

A great stride in advance of all this was made by Jacques de Vaucanson, of Grenoble, inventor of the endless chain still bearing his name. He was of a noble family, and member of the Royal Academy of Sciences. His mechanical genius was great, and its application varied. Some of his inventions brought him into trouble—as similar ingenuity did our own Arkwright—for Vaucanson was pelted with stones by the ignorant silk-weavers of Lyons for an improvement which he made upon a loom. For Marmontel's "Cleopatra" Vaucanson made an asp that created a thrilling effect upon the audience by fixing itself with a hiss (the sudden release of a spring, doubtless) upon the bosom of the actress who sustained the rôle of the Queen. The tragedy itself can scarcely be said to have scored a success, for upon the first night of its production a critic joined in the sibilant noise of the mechanical reptile, being, he said, "entirely of the asp's opinion." A greater achievement than the asp was Vaucanson's automaton duck, which was an advance upon De Gennes's peacock. The duck was of the life-size; it swam, dived, ruffled its feathers (which were those of a real duck placed upon wire ribs), quacked, drank, muddled the water with its bill, ate, and went through a process of digestion, it was said, "upon the principle of solution." Even Vaucanson himself spread the report that such was the case; and in a letter to the Abbé D. F.—— he described the interesting phenomenon: "In this duck," he says, "will be noticed the mechanism of the viscera, intended to perform the functions of eating, drinking, and digesting. The action

of all parts is exactly imitated." Vaucanson, despite his ability, was thus unable to resist the temptation to exaggerate his triumph; for Robert Houdin, who subsequently repaired the duck, reported very simple contrivances as having given plausibility to the digesting part of the mystery.

Vaucanson's other noted performances were a flute-player, constructed in 1730—suggested to him by the celebrated statue in the Tuileries—and an android that manipulated a shepherd's pipe with the left hand and beat a tabor with the right. These, with the duck, were shown at Paris in 1738. In the same year their author published a pamphlet, describing what he considered his *chef d'œuvre*, entitled, "Le Mécanisme du Flûteur Automate," and in this again we notice similar exaggeration to that in his letter just quoted. Thus he intimates that the figure actually produced the flute-like sounds by air passing between its lips, whereas this was only an illusion, the music proceeding from reeds placed within the body. Part of Vaucanson's description is absolutely correct, but there is much of fiction in it. He describes the flute-player as capable of performing twelve airs upon the German flute. It was five and a-half feet high, and seated upon a rock set on a square pedestal four and a-half feet from the base and three and a-half feet broad. Air entered the body by three pipes, conveyed into them by nine pairs of bellows, three above and six below, which were worked by a steel axis turned by clock-work. The tubes passed into three reservoirs in the trunk of the figure, where they united and ascended to the throat. In the mouth was a moveable tongue, which regulated the quantity of air to be admitted to the lips. The fingers, lips, and tongue derived their movements from a steel cylinder, turned by clock-work. It was divided into fifteen equal parts, and by pegs pressing upon the ends of fifteen separate levers the other extremities ascended. Seven levers worked the fingers, having chains fixed to their extremities, which caused them to ascend or descend as their opposite ends were pressed down, and so opened or stopped the holes in the flute. Three levers regulated the ingress of air, opening and shutting by means of valves, and producing *piano* and *forte* passages. Four levers governed the mechanism of the lips, one opening them to give the air a free passage, one contracted them, one drew them backward, and the other pushed them forward. The lips were projected upon that part of the flute which receives the air, and the fifteenth lever directed the movements of the tongue so as to open or shut this aperture. The due succession of motions by the machine was secured by the extremity of the axis of the cylinder terminating on the right side by an endless screw of twelve threads about one-eighth of an inch apart. Above this screw was a piece of copper, and in it a steel pivot, which, falling in between the threads of the screw, obliged the cylinder to follow the threads, and so it was continually pushed to one side. Hence, if a lever was moved by a peg placed on the cylinder in any one revolution, it could not be moved by the same peg in the succeeding revolution, for it had then been moved one-eighth of an inch beyond it by the lateral motion of the cylinder. So, by an artificial disposition of these pegs upon the cylinder, and the

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successive elevation and depression of the levers, the figure exhibited the motions of a flute-player. This automatic flautist and the flageolet-player subsequently came into the possession of Professor Bayreuss, of Helmsstadt. In 1752 Du Moulin, a silversmith, travelled in Germany with similar musical figures; he eventually found his way with them into Russia, and died at Moscow in 1765.

M. Le Droz, of La Chaux de Fonds, in the province of Neuchâtel, made a clock which he presented to the King of Spain. In this a sheep bleated, and a dog, watching a basket of fruit, snarled and barked if any one attempted to touch that which it guarded. The bleating of the sheep would be at regular intervals; but the barking must have been managed so that the weight of the person who advanced towards the dog pressed upon a spring which would set the machinery in motion, and it would only cease when the intruder retired. Le Droz, senior, also made a variety of androids with very natural motions. One of these was the figure of a child which dipped its pen in ink and wrote a word in French. It has been said that the automaton wrote anything dictated to it, but this is scarcely credible, as the son of Le Droz, whom I shall have occasion to name hereafter, produced a writing figure (presumably an improvement upon the elder artist's work) which was capable of performing certain set movements and none other. It is improbable that he should have gone back from his father's point of excellence, especially as the son appears to have been a more remarkable mechanical genius than was the elder Le Droz.

III.

IN the last paper I had occasion to name much that was purely legendary in the way of automata. We now approach a period when the accounts of their performances are not so liable to be overlaid byrodomontade, though the epoch we enter makes a fair start in that direction with the "puff" of a conjurer, Penetti, who exhibited a life-size rope-dancer in England about 1785. We know nothing of this figure beyond the modest man's own account of it in his advertisement, which out-Barnums Barnum. It runs:—

"The new, truly most superb, majestic, amazing, and also seemingly incredible grand spectacle of the

VENETIAN BEAUTIFUL FAIR,

which mechanical figure being attired in character, and holding the balance in hands, dances and exhibits upon the tight-rope with unparalleled dexterity and agility, and in a manner far superior to any exhibited by the most capital professors, all the most difficult and prodigious feats of activity, leaps, attitudes, equilibriums, antics, etc., etc."

Even without the etceteras here was surely enough to render Penetti's *Venetian Beautiful Fair* celebrated through all time, but, strange to say, only the professor's wondrous wealth of adjectives remains to tell the story of his handiwork.

Of M. Le Droz, the elder, I have already written. The younger of that name, born at Geneva in 1752, was the inventor of the piping bullfinch, which he exhibited at the Vatican, before the pope and the cardinals. It was contained in an oval, gold snuff-

box, four and a half inches long by three broad, and one and a half inches thick. The box had a horizontal partition; in the lower compartment was the snuff, in the upper the bird, three-quarters of an inch long from its beak to the extremity of the tail. When the lid was raised (just as "when the pie was opened," in the nursery rhyme), "the bird began to sing," and, with the sheen of its green enamelled gold, its bill of white enamelled ditto, the sly waggery of its tail, and its clear and ringing melody, it was surely a snuff-box to set before a king, and one he might not despise—at a pinch.

Le Droz also made a figure which played upon a harpsichord. This he introduced to the Parisian public in 1774, but it was not a success, though it seems to have been a more genuine effort to obtain the music by mechanical means than was that of M. Raisin, an organist of Troyes, who, about the year 1700, exhibited an "Automaton Harpsichord" before the French court. The king, being endowed with the passion that proved so fatal to some of Blue Beard's wives, insisted upon a strict examination of the mechanism, when a clever little musician of some six years of age was found concealed within the instrument.

M. Le Droz, junior, as I have mentioned in my first paper, constructed a clever drawing and writing automaton. This was the life-size figure of a man holding a metal style in his right hand, beneath which a piece of Dutch vellum was placed. Mr. Collinson's well-known description of this ingenious creation runs: "Mr. Droz happening once to be sent for in a great hurry to wait upon some considerable personage at the west-end of the town, left me in possession of the keys which opened the recesses of all his machinery. He opened the drawing-master himself, wound it up, explained its leading parts, and taught me how to make it obey my requirements as it obeyed his own. Mr. Droz then went away. After the first card was finished the figure rested. I put a second, and so on, to five cards, all different subjects, but five or six was the extent of its delineating powers. The first card contained, I may truly say, elegant portraits and likenesses of the king and queen, facing each other, and it was curious to observe with what precision the figure lifted up his pencil, in the transition of it from one point of the draft to another, without making the least slur whatever; for instance, in passing from the forehead to the eye, nose, and chin; or from the waving curls of the hair to the ear, etc."

Early in the present century M. Maillardet, a Swiss mechanic, introduced several automata to the English public in Spring Gardens. One was a female figure, seated at a pianoforte, which played eighteen airs, and gave itself numerous additional ones. Its "bosom heaved with many a sigh;" it "made eyes" at the spectators, and at the conclusion of each piece gently inclined its head in recognition of their applause. Imitations of this mechanical figure are by no means rare now; their interior economy is similar to that of ordinary street organs, projections on the barrel coming in contact with levers attached to the fingers, which in turn press

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the keys of the instrument.

Maillardet's most beautiful achievement was his famous humming-bird, enclosed in an oval box three inches long. When a spring was released the lid flew open, and a tiny warbler rose, fluttered its wings, and sang for some four minutes; then it darted back to its nest, and the lid closed. In this minute piece of mechanism only one tube was used, and the musical sounds were varied by the shortening or lengthening of a piston. Maillardet also made an automaton tumbler, a few inches high only, but progenitor of all mechanical *Leotards* ever since. The apparatus to which the figure was attached was fixed to the top of a musical-box, and within the rod grasped by the tumbler levers were brought to bear upon the figure, and set in motion by the action of the barrel. But a much more ambitious and elaborate effort of this copyist of Le Droz, the younger, was Maillardet's drawing boy. This was a kneeling figure; and when a pen, dipped in ink, was placed in its hand and drawing-paper stretched over a brass tablet in front, it wrote four sentences in French and English, and drew three sketches—always the same, occupying about one hour in their execution. This machine, like its counterpart, the drawing-master of Le Droz, was actuated by clockwork, and the outlines effected by combinations of levers and ellipses traversing the circumference of metal plates.

The only original creation of Maillardet's was his ingenious magician. This was a figure, seated by a wall, with a wand in one hand and a book in the other. Upon a number of brass elliptical medallions questions were engraved, and any one of these being placed in a drawer, the soothsayer rose, raised his wand, and struck the folding doors above his head, which straightway flew open and displayed an answer. Thus, to the interrogation, "What is it that last deserts mankind?" the reply was, "Hope;" and to "What is the most universal passion?" the obvious answer "Love" was received. This curious effect was obtained by aid of the medallions, which, though apparently alike, differed from each other in a minute particular. There were indentations round the medallions, but one of these, filled up, pressed upon a pin, which caused clock-work to raise the pre-arranged answer.

Mr. W. Snoxell, of Charterhouse Square, whose collection of mechanical curiosities is quite unique, has a clock upon a similar principle. In this the magician rises from his chair when the visitor places a tablet with a question upon it in a drawer at the base of the clock. The wise man shakes his head sagely, consults his book, and waves his tiny wand; whereupon two cherubs rise, disclosing an appropriate answer. After the lapse of a moment or two they fall back into the original position, and are ready to give a reply to the next question. These answers are quite as pithy as Maillardet's, and the ideas a little more advanced. When we ask, "What is the real balance of power?" we do not receive a solution of the old-standing Eastern difficulty, but a reply pregnant with meaning, in "A balance at your banker's." The answers also become amusing and cynical in turns, as in reply to "How to print, and not publish," we receive the hint,

"Kiss, and don't tell;" and to "What is half the world doing?" the shocking rejoinder, "Cheating the other half." Such a clock may well beguile the hours it records of tediousness. In Mr. Snoxell's collection there are also two female figures, somewhat after the model of Maillardet's pianoforte-player. One, life-size, in Spanish costume, plays upon an organ, the fingers pressing the keyboard of the instrument, and the head and eyes moving; the other, of smaller stature, but alike in all respects save height and attire. Mr. Snoxell's museum is also adorned by his own original automatic organ-grinder, which plays a number of airs. This figure is as much above its living Italian compeer in the matter of dress as of music, and, sniffing a nosegay, is surely the *crème-de-la-crème* of itinerant musicians.

In the year 1845 Mr. John Clark, of Bridgewater, constructed a machine which puts Babbage's calculator quite in the shade. This was "A Latin Versifier," and is thus described by the ingenious and ingenious Mr. Clark himself: "The machine contains letters in alphabetical arrangement. Out of these, through the medium of numbers, rendered tangible by being expressed by indentures on wheel-work, the instrument selects such as are requisite to form the verse conceived, the components of words suited to form hexameters being alone previously calculated, the harmonious combination of which will be found to be practically interminable." Can this be the origin of all the machine-made verse we too often have inflicted upon us?

About the same year that this novel attempt at versification dawned upon mankind, a French conjurer of Alais, near Nîmes, named Philippe Talon, came to London with a miniature harlequin, which jumped out of a box, whistled in time with the orchestra, smoked a pipe, and blew out a candle, besides going through a variety of amusing antics. Philippe—the "professional name" adopted by the wizard—had also two dolls, which brought from a toy confectioner's cakes, wines, etc., as requested by the audience.

Jean Eugène Robert, better known as Robert Houdin, a contemporary of Talon, was a versatile genius, and can still be remembered by many who are not yet exactly of the old school. Remarkably successful as a conjurer, he also displayed talent in mechanical invention. In his autobiography, he mentions that his attention was first called to the subject of automata by a clever bit of work, by some unknown artist, which was brought to his father (a watchmaker at Blois) to repair. This, he says, was "a snuff-box, on the top of which a small piece of mechanism attracted my entire attention. The top of the box represented a landscape. On pressing a spring a hare made its appearance, and went towards a tuft of grass, which it began to crop; soon after a sportsman emerged from a thicket, accompanied by a pointer. The miniature Nimrod stopped at the sight of the game, shouldered his gun, and fired; a noise indicative of the explosion of the firearm was heard, and the hare, apparently wounded, disappeared in the thicket, pursued by the dog." There is, doubtless a vein of romance in all this, as there is in everything Houdin

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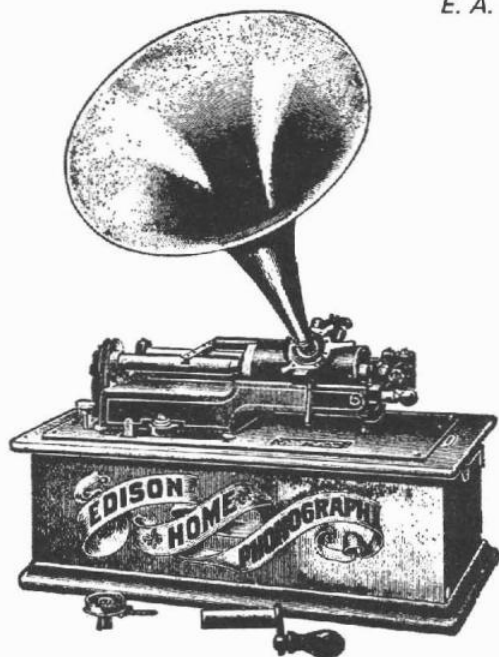
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'FEVVER DAMPERS'

by W. S. Wayman

illustrated by Bruce Angrave



HAVING rashly made an offer of thirty shillings for an old pre-war pin-pallet musical alarm clock (which was readily accepted by the seller), I realised that I was 'in for it' Happily, however, the clock bit went, but the alarm 'music' was awful. Nevermind, I thought. It will be good practise for when I start on the Nicole Freres overture boxes. I took the thing to pieces once more.

The clock movement was reasonable after a good clean and a pivot-polish. The musical movement cylinder and pins were reasonably good after bearing adjustments, so off came the comb. 'Ha, Ha! It wants dampers!' So, sidling amongst the 'elite' at the Musical Box Meeting, I got a few murmurings from the 'higher-ups'. Chicken feathers, goose feathers, turkey feathers, swan feathers, vellum, and so on. Home I went and out with Mosoriak, Clark, Webb and Ord-Hume to study the problem, little realising till later that I'd need to be a Chris Barnard to do it.

However, 'the fevvers'. Down to the local egg farm where, after promising to put his long-case clock in beat, I was allowed to look around. I had not realised that poor old battery hens hardly have a feather on them and what they do have ain't no good.

So a Sunday afternoon trip to the local turkey farm. 'Wot do ee want, lad?' 'Turkey feathers' I said looking down the muzzle of a 12-bore. (It was getting near Christmas I suppose) 'Wot ee want 'em for, lad?' 'A musical box' I said, and the 12-bore nearly went off. 'Ee they do let 'em out of Runwell early these days, don'ey!', so I made a hurried departure before he got cramp in his trigger finger. 'Nevermind', I said to the wife. 'We'll have a day on the Thames and get some swan feathers'.

So off to Teddington, hired a boat and net, and sculled off. The swans were very elusive and mighty dangerous and my efforts must have attracted some attention for a chap dressed like



The swans were very elusive. .

Bruce Angrave

Robin Hood pulled up in a skiff. 'What are you doing, sir?' 'Just want some swan feathers' I said. He nearly fell off his skiff and I nearly landed up in the Tower of London little realising that swans and their feathers were Her Majesty's personal property. Oh well, never mind. Home again.

'Get some vellum instead' I said. So up to Charing Cross Road to get a bit of parchment. Well, after two strip shows, two solicits and a lot of money I acquired an old parchment. After about two hours on my workbench with razors, scalpels, scissors and Mosoriak's vivisectional diagram, I soon realised that I was no Chris Barnard and all I landed up with was thin strips off my fingers.

Sitting down next day ruminating on the problem whilst watching the good lady dusting

round the rooms I spotted – lo and behold! – a feather duster! 'My problems are solved at last', I thought, descending upon the object with scalpel scissors and gusto. Whatever feather dusters are made of, though, I'm afraid that they're useless for anything but dusting. They no doubt come from somewhere rather rude.

'Ah well, that's it', I thought. 'I'll just have to wait till I've got the skill of a biology laboratory technician, Onassis's money and the patience of Job before I can wake up in the morning with a sweet melody ringing in my ears'. Unless, that is, some kind Member cares to send me 24 cut, trimmed, cleaned 'fevver dampers'. But no sacks of feathers, PLEASE!

Alfred Thompson, whose article The Geometry of Comb and Cylinder appeared on page 26 of this Volume, has made the following comments:

BOTH my wife, Grace, and Keith Harding are extremely practical souls with a great dislike and distrust of inaccurate or inadequate attention to detail. So they both jumped down my throat after reading my article in the last number of the magazine because they objected to my remark about hammering a comb against its locating pins: and they are of course quite right that the word "hammering" was not very happily chosen. However, my object was to write a rather abstract theoretical article about the geometry one should aim for, and not a set of practical instructions. All the adjustments I was discussing are extremely small ones, no more than a matter of a few thousandths of an inch this way or that, and I hope that no Member will have been misled into thinking I had a sledgehammer in mind. Of course I should have used the word "tap", and of course the practical person will naturally use something resilient like a wooden block to protect the comb: and I would still counsel less practical Members like me to stick to shims rather than risk doing damage.

As a footnote, may I point out that the same geometrical principles apply to a comb and a star-wheel block. In a well set-up Polyphon, if the star wheels are moved just to bear against the teeth, then they line up not parallel to the starwheel block axis, but at a slight angle with it. Cal-

culatation from my graph shows that the extreme bass wheel should lead the extreme treble wheel by two or three degrees. I have a Poly that sounded dreadful only because of mistiming between the combs and from end to end of the combs.

Editor's comment: Unfortunately, Member Alfred Thompson's revised terminology is still not accurate enough. What may pass for a tap administered by a frail female with a watchmaker's hammer may be totally different from that given by, say, a plumber to whom a tap is either a faucet or a damned great thump euphemistically afforded the more delicate description to avoid upsetting the owner of the bit he is 'tapping'. No, I'm afraid the only unquestionable description must be offered in foot-pounds or pounds inches.

Which is, of course, impossible. Sufficient to say that all adjustments require the most delicate handling of tools and anyone slightly uncertain of his capabilities or the results of them should leave well alone.

The point about Polyphon combs is indeed an important one and many an instrument has failed to live up to expectations after dismantling for cleaning due just to this. It is interesting to note that the Symphonion has a special adjustment for regulating the position of the starwheel axis. The picture (page 244) of an 11.7/8in model from the Fortnum & Mason collection illustrates the small screws by means of which this can be effected. Generally speaking, the Symphonion being the progenitor of the disc musical box, it is a much better engineered machine than the Polyphon.

Record Review by Arthur Ord-Hume

DAVID PIZARRO PLAYS THE
ORGAN OF THE CATHEDRAL
CHURCH OF ST. PETER'S,
BRADFORD Grosvenor Records,
GRS 1017 (stereo)

American-born David Pizarro studied the organ under Norman Coke-Jephcott, Master of the Choristers of the Cathedral of St. John the Divine, New York, and gave his first recital in 1946. His programme of music recorded from the great William Hill organ in Bradford's St. Peter's cathedral church, is an interesting mixture of the modern (Richard Felciano's *God of the Expanding Universe* for organ and electronic generator is the sort of modern work which improves by repeated hearing) and the classic, with a modicum of Bach and Buxtehude and the lesser-known but evocative Krebs and Kuhnau.

The piece which interests us is Cherubini's Sonata in F Major for mechanical organ. Wolfgang Stockmeier discovered the manuscript of this in the Deutschen Staatsbibliothek, Berlin as Item 137, 2 in the Cherubini autographs. He prepared an edition of this which was published by Kistner and Siegel, Cologne, in 1968 and it is this score which Pizarro plays.

The original is inscribed: 'Sonata/per l'Organo a cilindro/Situato nel Tempio della Notte/del Giardino di Schonau/presso Vienna./Composta da L. Cherubini/L'anno 1805'

This was not Cherubini's only composition for mechanical organ for he also

composed for Maelzel's Panharmonicon. However, the little Sonata in F Major has remained outside the mechanical music discography until now, and Grosvenor is to be congratulated in bringing this piece of music, albeit on a finger organ, before a discerning modern audience.

David Pizarro's performance of this work leaves much to be desired. Although Stockmeier chose to slow down the music, declaring it *andantino* (the barrel organ must have played *allegretto*), Pizarro's tempi vary between *adagio* and *largetto*. Again, Stockmeier intended his version for the finger

organ but it would have been nice if Pizarro had attempted to simulate the attack and precision of the mechanical organ. The sleeve notes advise of the music: 'When played on the flute stops of the modern organ, the piece approximates to the composer's intentions.' This, broadly speaking may be so, but it is quite unforgivable for the tremulant to be used in the penultimate and closing sequences. Whilst Stockmeier gives no indications as to registration, it is incumbent upon the performer, usually, to familiarise himself with the mode and mood of the music he is to play.

At present, this is the only performance on record, and, even if only on those grounds, it is to find a place in the music library of the serious collector.

DE ORGEL
Reihe II Nr. 22

Sonata

Luigi Cherubini (1760-1842)
Herausgegeben von Wolfgang Stockmeier

Andantino

Printed in Germany

The opening bars of Luigi Cherubini's Sonata in F Major of Mechanical Organ reproduced with grateful acknowledgement to Fr. Kistner & C.F.W. Siegel & Co, Koln, Germany, publishers of the Wolfgang Stockmeier edition, copyright 1968.

"I'm backing musical boxes" — Garfield Weston

At a ceremony held on the evening of November 6th, the musical box gallery at Fortnum & Mason, Piccadilly, was formerly declared open.

The F+M collection, described on page 108, has been extended in recent weeks and, even as the champagne flowed, a fine 19th century Empire style organ clock arrived in a large cardboard box.

In opening the gallery, Mr. Garfield Weston, Canadian-born owner of the store, told *The Music Box* something of his keen interest in musical boxes.

"I love collecting things and I think that there is nothing finer to collect than these delightful things. The quality ones will never be made again and it is our duty to keep and restore the ones we have".

Questioned about the start of his love of musical boxes, Mr. Weston replied "I had maybe a dozen boxes about 40 years ago, and then my children (I had nine) all got married and all wanted to carry a box away and, well, you can't refuse!"

"Musical boxes all over the world are becoming more and more sought after and they are not just an ordinary investment, they are beautiful things to have". Mr. Weston added "I want to say how

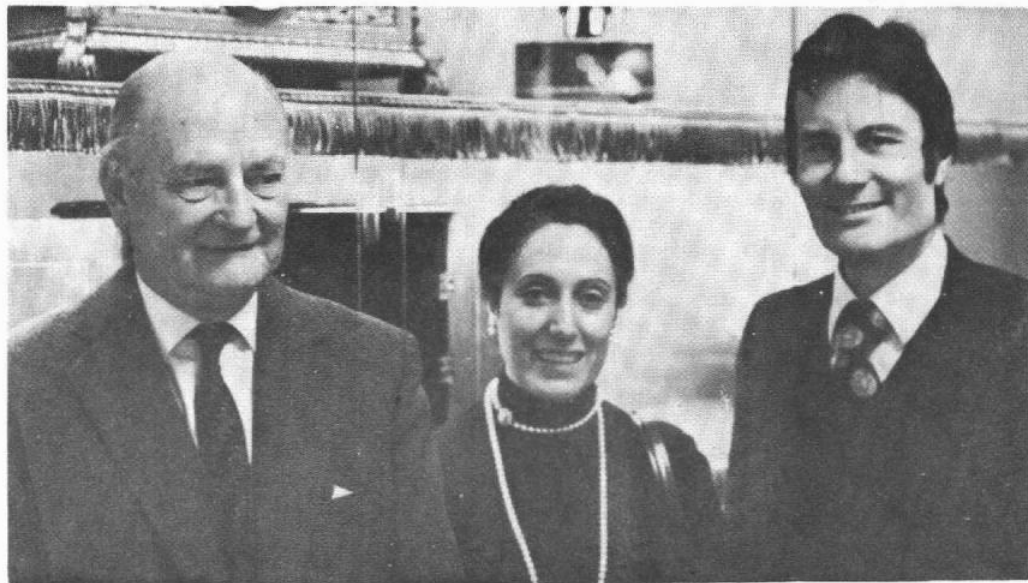
very much I enjoy reading *The Music Box*. I think it's just great and you fellows are doing such wonderful things. I have all the copies at my bedside".

When asked if he would pose for a photograph with some of the collection, he smiled and declined. "I never allow myself to be photographed. I was in Parliament for a long while and the pictures just lost me votes! I have appointed Jon Lanning to represent the firm on musical boxes. You see I can't be considered a specialist on them for I am trying to be a specialist on many things".

Mr. Weston, who was MP for Macclesfield during the war years, paid tribute to our Treasurer, Mr. Keith Harding, for the important part he had played in restoring the items in the collection.

As regards the Musical Box Society, Mr. Weston assured that he would do all he possibly could to further its interests and activities. Already our Society is well publicised in the Gallery, with membership application forms freely available to visitors.

As Secretary Reg Waylett enrolled Mr. Weston and his attractive Spanish-born wife, Margaret, as full Members of the Society, Mr. Weston retorted "I'm backing musical boxes!"



Secretary Reg Waylett (left) with Mrs. Margaret Weston and Treasurer Keith Harding (right)

Letters to the Editor

Member Arthur Heap of Cheshire writes:—

As it may perhaps throw a little more light on past connections between Musical Box Manufacturers I give you the following information for publication in the Music Box if you think it of interest.

I recently bought a very delapidated leather covered jewel type of box with a Swiss scene painted on the lid. It contained a 2 air brass cylinder movement size $33/8'' \times 21/8''$ with key wind from below the box. The comb is $23/8''$ long with 60 very fine teeth and it plays very sweetly. Beneath the brass bedplate is the impressed number E18393 and also the impressed mark as shown in attached sketch. Impressed into the brass bedplate beneath the comb is Paillard & Cie 934. Also beneath the comb is impressed LIC 503. The number E18393 is also scratched on the end of the cylinder.

The interesting point is that the tune sheet which does not appear to indicate the Manufacturers name, is printed in sepia with '2 Airs' in a panel embodied in the border at the top with the Swiss flag on the left side and another indistinct insignia to balance on the right. The numbers 1 and 2 are printed in the border on the left side and against these are hand written the two airs, namely:—

*Linda di Chamourix Duo'Donizetti
Sorgenbrecher. Waltz No. 1. Strauss.*

But slightly overlapping this tune sheet and by its condition applied when the box was new is an oval label with a black background and a serrated edge which reads:—

*Fque. de Pieces a musique
B. A. BREMOND.
Place des (A)pes.
GENEVE.*

Musical Box Manufacturer.

I have not read at any time any reference to there being any connection between Paillard & Cie and B.A. Bremond, but this does rather indicate that Bremond either bought movements from Paillard or acted as Agent, perhaps for the U.K. as his label was partly in English. Have you heard of any connection?

I like the new design for the Music Box, and also the great improvement in the printing and especially the clarity of the photos and illustrations congratulations.



The unusual mark, left, stamped into the bedplate of Member Arthur Heap's musical movement. This is illustrated right. The top right picture shows the Bremond label; that beneath shows the Paillard stamp.

POLYPHONOMALY

ALMOST six years ago, I was playing through a new batch of discs on Cyril de Vere Green's $24\frac{1}{2}$ -inch Polyphon (which is an early model with inside winding) when I found a disc which sounded "out of tune". It sounded so bad that I was inclined towards improbable lines of thought. However, time, opportunity and discs did not admit of more than this one excursion into the unknown until a few months ago.

Our President, anxious to have on record some of his collection of musical boxes, had asked me to produce a master tape of some Polyphon music. Naturally, the choice of musical selection was governed in part by the perfection of the disc as I did not want to spoil the tape recording with sporadic pistol-shots and sundry clanks. I played several discs. Two in particular looked like fine discs — yet these two played discordantly.

It is far too early to determine the cause of this, and there is a programme of comparisons to be undertaken, playing discs of varying dates on both types of $24\frac{1}{2}$ -inch Polyphon — the narrow-cased,

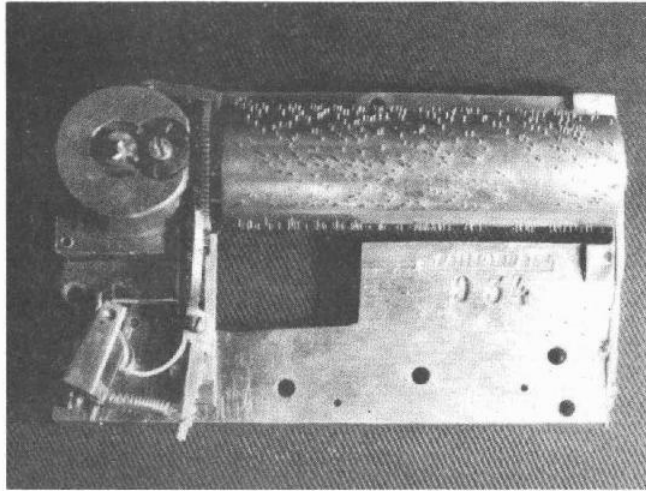
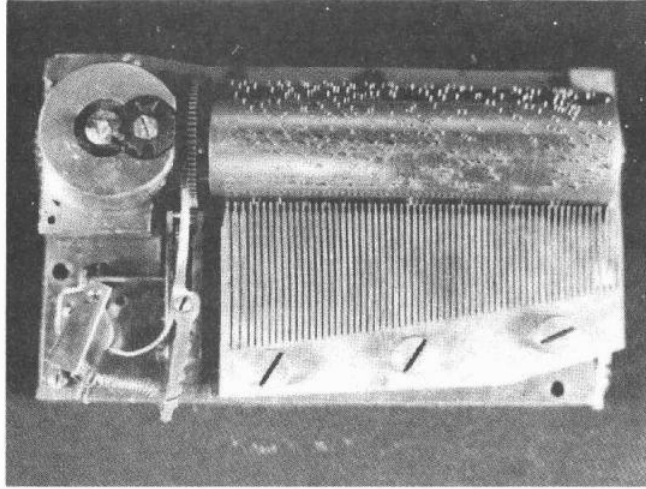
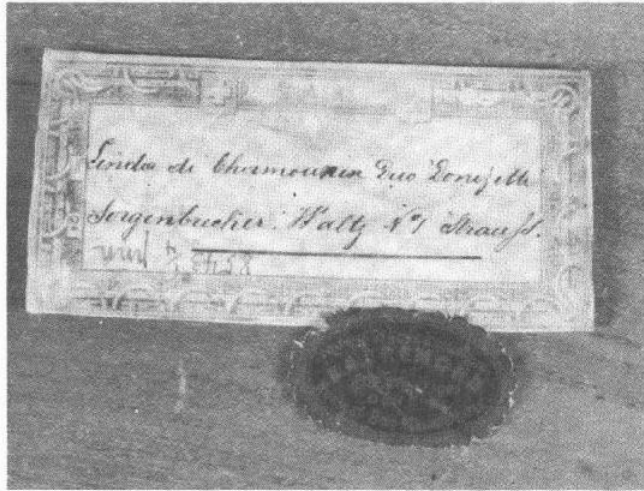
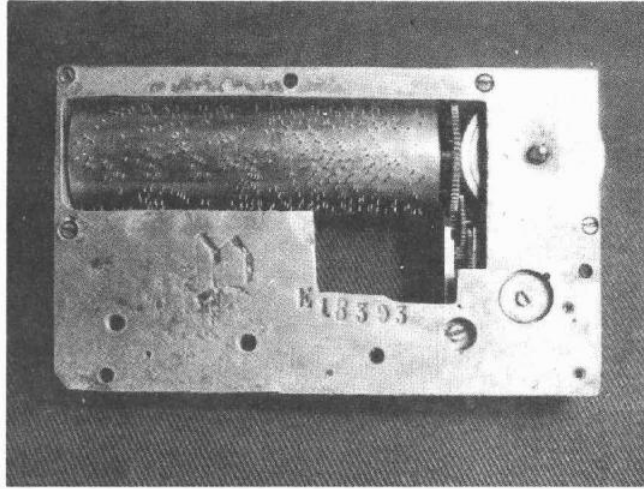
externally-wound style and the early, deep-cased style.

However, the preliminary findings are that on Cyril de Vere Green's instrument (which, I might add, is otherwise in perfect condition as regards playing and tuning), produces a markedly discordant rendering of at least two discs. These two, the only ones so far found and not necessarily the only ones in his collection, are disc number 4315 *Serenade — Schubert*, and 4022 *Cloister Bells*. These two discs are printed in the early style of lettering and several similarly-decorated discs with numbers which bracket these were found to play normally.

The anomaly appears to concern no more than one or two notes in the treble register.

This is by way of an interim report. The playing performance of both the instrument and these discs were demonstrated by courtesy of our President before Members of the Executive Committee at the instigation of The Editor.

Has anyone any comments to offer?



A letter from the Editor:

Whilst re-reading through the issues forming the last Volume of THE MUSIC BOX in connection with the preparation of the Index, I came across the letter from Member A.J.L. Wright on page 311. In that letter, he commented that the Swiss writer of the tunes listed on the tune-sheet of his hymn box had evidently thought the ignorant English would be unable to understand the name of the last tune in French and so had just written down the word "French".

I suspect that Mr. Wright was joking, unless he chose to take an unnecessarily self-effacing attitude to our forebears and their standard of education. "French" is, of course, the title of a well-known and once popular hymn-tune which first appeared in the Scottish Psalter of 1615 under the title *Dundee*. In 1621, the tune appeared in Ravenscroft's *Psalmes* with the title *Dundy Tune*. The melody, apart from some interesting key variations and the long notes at the end of each line, has remained unaltered since 1615, but there appears to be no French connection which I can

trace. It was also sometimes called *Norwich*. In Novello's *Bristol Tune Book*, the hymn is number 30 and it is called *Dundee*. It appears here in the key of F Major with a change into B flat. In Novello's *Leeds Tune Book* (published in 1868) it is hymn number 27 and it is called *French*. Here it is in the key of F Major.

Monk's 1875 edition of *Hymns Ancient & Modern* presents the tune no fewer than three times with the name *Dundee* – as hymn number 41 in E Major; number 80 in F Major; and number 221 in E Minor. In the Historical Edition of *Hymns Ancient & Modern* (1909), the tune appears once as *Dundee* or *French Tune* and is number 83 in the key of B.

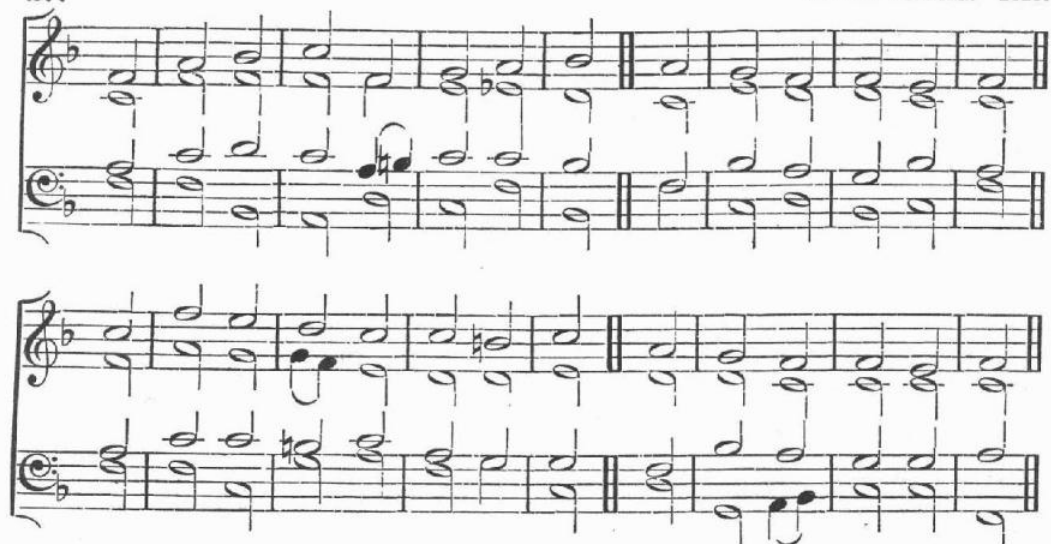
This tune turns up occasionally on church and chamber barrel organs, but I confess I have not come across it before on the cylinder of a musical box.

For the benefit of Mr. Wright and those who may not be familiar with this simple and charming melody, here it is in facsimile from the *Leeds Tune Book* in my collection of early hymnals:

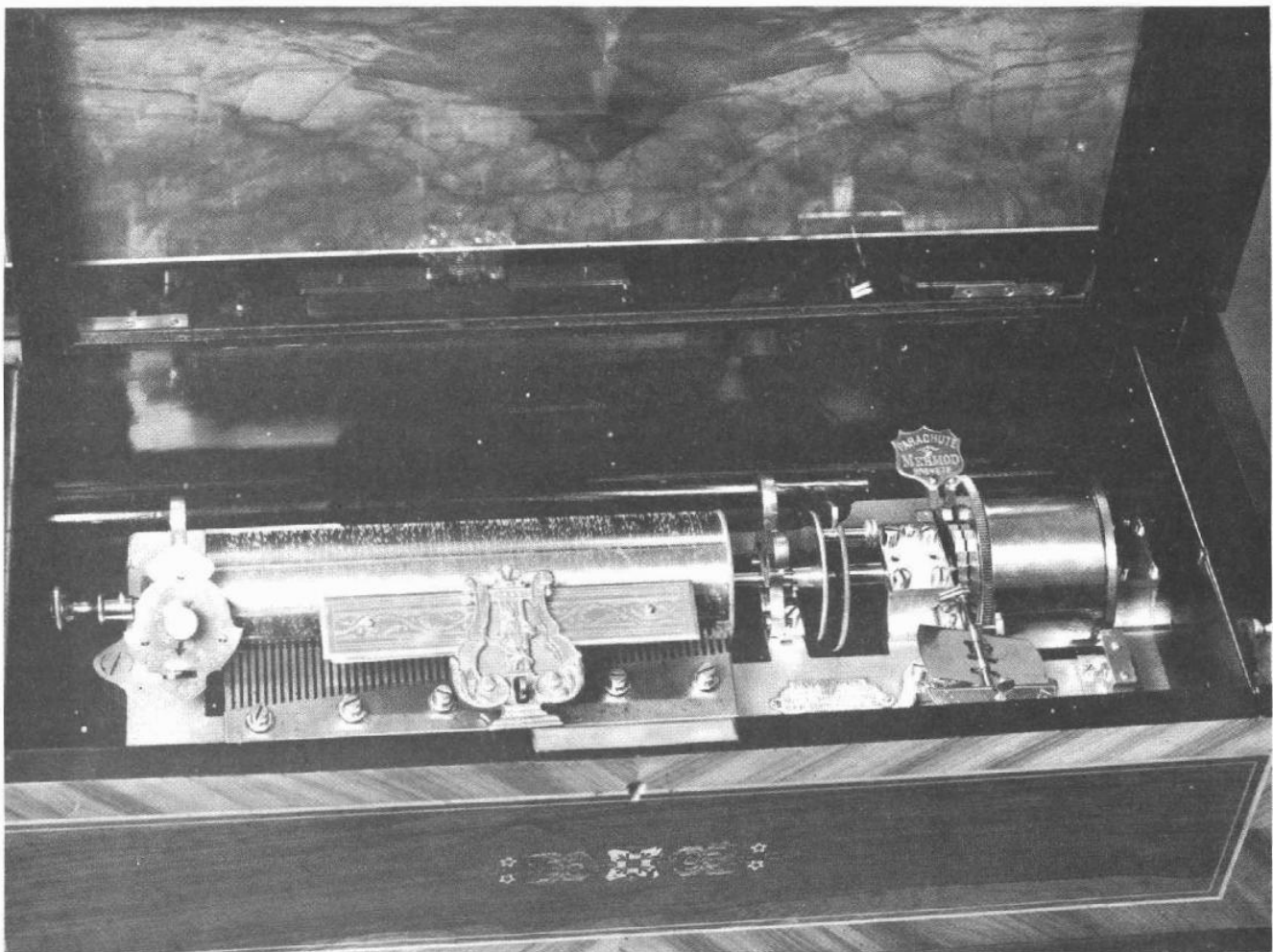
French. C.M.

SCOTCH PSALTER. 1615.

27.



From the Fortnum & Mason collection comes this Memrod Freres interchangeable box fitted with 'parachute' check and zither. Note the characteristic horizontal fly placed by the motor, itself at the right of the cylinder, and the ornate tune-indicator.





Bells in Due.

- 1 Bobong di, di
- 2 Louisiana Zen
- 3 Brown of Colorado
- 4 The gay Tom-Tit
- 5 Washington post
- 6 Sweet Marie
- 7 Baby
- 8 I ain't all lavender
- 9 She was one of the early birds
- 10 Old Trinity Church
- 11 The Soldier of the Queen
- 12 A single little string

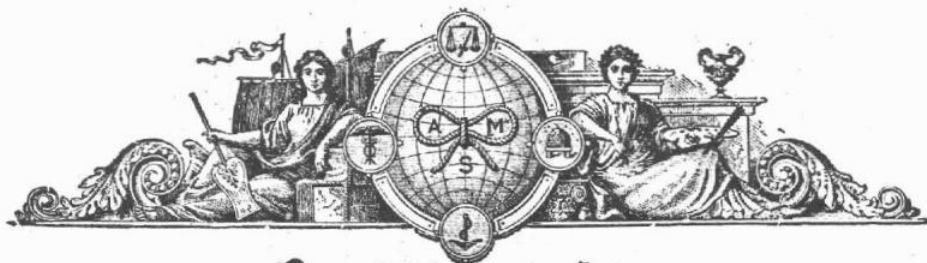
Bault
Lara
Monkton
Jones
Lissa
More
Rogers
Lubran
Lannon
Gilbert
Stuart
Monkton



The tune sheet, left, has been sent to the Editor for identification by Member R.H. Todd of Exeter. Mr. Todd advises that the musical box is 20in long, 11in high and 11in deep. The case is veneered on the front and the lid and the whole has four black feet. He believes the 'inlay' on the lid (a line of music entwined in leaves, a stringed instrument and a flute or recorder) to be a transfer. The mechanism has a cylinder 9¼in long and approximately 2in in diameter. The comb has 40 teeth plus four for the operation of the bells of which there are five, two being linked together. The bell hammers are in the form of coloured butterflies and the threaded sucuring tops for the bells are matchingly coloured. The bells, Mr. Todd suggests, all play the same note. A zither attachment is provided which acts on 25 teeth in the centre of the comb. The only number that appears anywhere is on the left hand cylinder bridge which is stamped 4182. Twelve airs are played and the box is in excellent condition.

The tune sheet from the box is very large, measuring 11¼in by 8in and is lithographed in light blue-green and dark blue-green. The tunes are listed in black and the two vertical lines are in red. As can be seen from the enlargement at the head of this page, the only clues are the initials 'A M S' and four symbols which could make up trademarks. The initials are in a rope loop. At the top is a set of scales and a sword. At the bottom is an anchor with rope entwined. To the left is a caduceus and to the right a beehive.

Your Editor has been unable to trace this tune sheet but feels that it could well be the product of one of the very late musical box manufacturing consortiums which flourished in the early years of this century. The description of the box would lend credence to this supposition. However, A M S must certainly stand for something and perhaps one of our Members may be able to shed a little light on this unusual tune sheet.



Bells in Tune.

PICTORIALLY VIEWED

For the latest in our practical, illustrated feature articles by Arthur Ord-Hume, we present a practical view of restoring metal pipework in small organs.

So often pipework is found which is broken, crushed or otherwise damaged. With care and patience, even pipes which are squashed flat can be eased back to life. The pictures describe step-by-step moves in making good defective metal pipework. A later installment will deal with the basics of pipe voicing.



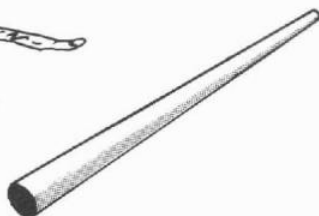
Pipes are not uncommonly found like this one which is buckled and squashed, compressed as the languid and fractured where it has passed through the rack board



Cut pipe at the languid using a sharp modelling knife. Remove languid very carefully and set aside for re-use. Insert a length of round dowel rod, tapered at one end if necessary, and roll the body on a smooth, perfectly flat surface. Press down hard on the dowel ends and continue until all dents and kinks are removed from the thin metal.



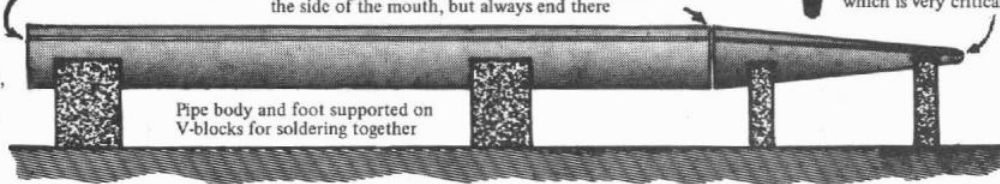
To straighten the foot, use either a small round steel rod or, ideally, a tapered hardwood mandrel. Ease out kinked or flattened sections gently with a strip of thin wood. Cracks and splits can be soldered up later



Roll the foot on a flat board in the same manner as the body

Soldered seam down back of pipe

Align seams and solder on seams at the back first. Then rotate the pipe and solder round to the front on one side. Go back to the seam and solder from there round to the front on the other side. Never start at the side of the mouth, but always end there



Pipe body and foot supported on V-blocks for soldering together



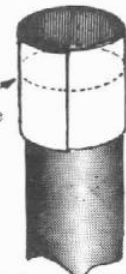
Height of languid above lower lip, width of mouth, height of mouth (known as cut-up) and position of both lips are all important to proper voicing.



'Dub' in the lower lip to the right depth and width, then replace the languid having first made certain that it is flat. Examine other pipes to get correct position, then solder as shown



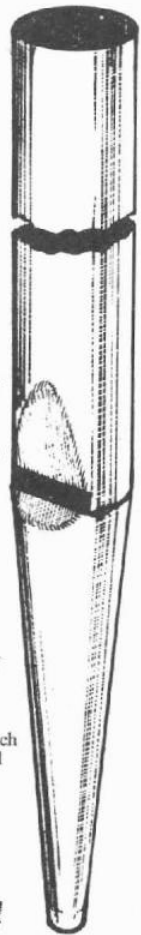
Cut off damaged top of pipe and fit metal tuning slides



Carefully close in upper lip, supporting it on the inside with an artists' palette knife blade



Close up the foot of the finished pipe but watch the diameter of foot hole, the size of which which is very critical



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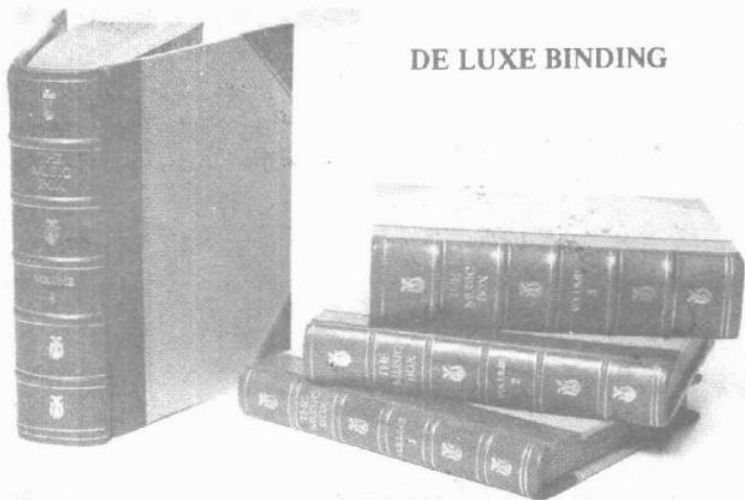
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