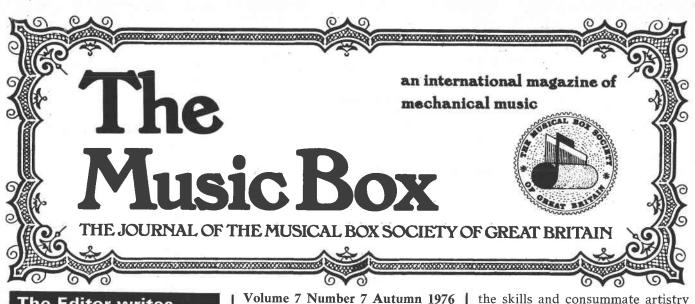


Making Musical Records.

A recording session taking place c. 1888-9 at Little Menlo, the house at Beulah Hill, Norwood, of Colonel Gouraud, who was Edison's European representative at that the that time when Improved (i.e. wax-cylinder) Phonograph first appeared. The original print is among several in a scrap-book relating to the activities of Gouraud's associate, C R C Steytler, in promoting the phonograph in Great Britain around This scrap-book 1889-91. one is item in the sale.



The Editor writes. . .

WITH members of the Musical Box Society of Great Britain scattered all around the world, we may tend to adopt the false belief that discoveries of things hitherto unknown to us might be akin to the sudden discovery that the Earth has not one but two moons.

The more logical approach, surely, is that with so many people now actively looking at musical boxes and seeking them out from their dusty hide-outs, the rarities are much more likely to be detected and, through the aegis of the society and The Music Box, details made available for all to read.

As if to bring home the truth of this latter argument, this issue of our journal contains details of not just one new marque of musical box, but two. Before our very eyes, so to speak, the limbo of the lost has released a pair of outstanding pieces of lost technology. Both are of German origin. One is resident in America; the other in England. One is a disc machine which shifts its centre Sirion-fashion to play two complete tunes from each disc. The other is an example of a type which I believe to be unique - its operational principle is both highly developed and, other than as a patent specification, is entirely new to us. It is best classified as a starwheel comb-plucking book player.

And lest there be a feeling that cylinder musical boxes can at least be depended upon to produce the predicatable, a singularly early specimen of an interchangeable cylinder movement has been found. Cautiously, it could be a prototype system.

Achievements from the past justly inspire in us a sense of awe as we marvel at the craftsmanship of artizans who themselves have long since turned to dust. Only their work survives to remind us of

Contents page Who and Why? by Dr Cyril de Vere Green 254 The Ariophon by Patrick McCrossan 258 Who Made the Komet? 262 A Visit to East Germany - Part 2 by Q David Bowers 263 Langdorff & Fils tunesheet and trade-mark 265 The Shifting-Disc Tannhauser 266 **A Toxophilitic Automaton** 269 Louis Auguste Grosclaude by Pierre Germain 271 A Prototype Changeable Box 272 Angelus Brinsmead 275 Barrel Organ Redivivus — Part 1 **Chelmsford's Black Chapel** 276 The Eroica 278 **Disc Musical Box Development** by Arthur W J G Ord-Hume 279 More Light on Limonaire 281 The Ingenious Vaucanson 284 **Record Reviews** 286 **Book Review** 287 Variations on a Theme 290 **Classified Advertisements** 290 List of Members 292 Cover picture : A very early changeablecylinder musical box by an unknown maker. See article on page 272.

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the skills and consummate artistry with which every piece was made.

Those who look too much to the past, often fail to see what is right in front of their faces. It is a case of the archaeologist who, pondering over a neolithic discovery wanders off the sidewalk, gets hit by a bus, and then tells the hospital nurses that he had been too busy to notice the traffic.

Well, those who attended the Summer meeting in June were treated to a fascinating demonstration by a brand new automaton, designed, devised and realised in the best tradition of the past. The quizzical little archer reaching arrows from his quiver, and firing them into the audience earned its creator considerable acclaim. It is thus with pleasure that this issue also contains details of this piece.

Society founder, first secretary and past president Dr Cyril de Vere Green also poses some challenging questions on miniature musical movements and once again draws attention to how little we really do know about some of these early pieces and their makers.

In conclusion, may I express my delight that during the past months so many of our overseas members have been able to come to Britain to attend our meetings. I know that, as far as American members are concerned, much of this is due to the efforts of our vice president, Hughes Ryder. Having seen the way in which he organised to tour which took in our Summer meeting, he has demonstrated the ability to roll into one the duties of travel agent, tour operator, courier and mechanical music Those planning to visit expert. the British Isles to take in our meetings should contact Hughes who knows all about group bookings, cheap travel times, airlines of the world, and virtually everything that you need to know.

ARTHUR W J G ORD-HUME



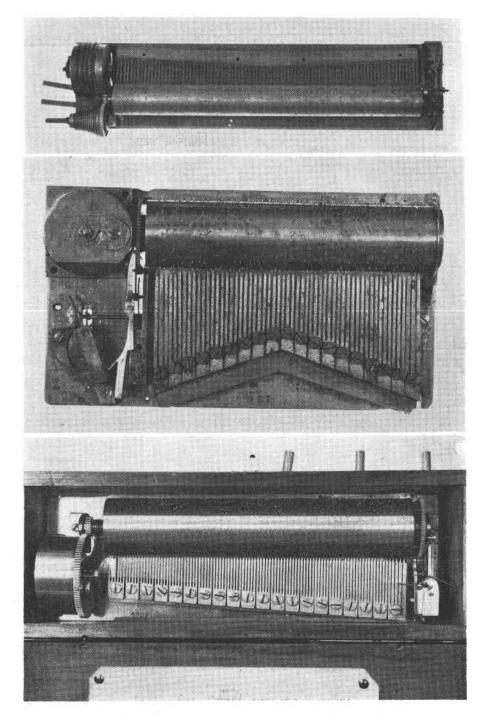
THE purpose of this short article is to seek information rather than to impart it. Either the editor of this Journal or I will be very pleased to receive helpful comments.

WHO AND WHY?

by Dr Cyril de Vere Green

SOCIETY founder, first secretary and past president Dr Cyril de Vere Green has collected together a large number of musical boxes over the very many years he has been pursuing his interest. Here he takes a look at some of the smaller musical movements and finds that they pose questions to which he can find no answer. Musical box making during its infancy was very much a cottage industry and produced many individual pieces — and anomalies

There is in my own collection a number of musical box movements which appear to me to have some unusual characteristics. Their



makers are, in some instances at least, unknown.

Fig I is an item which has been seen by many members and is from the base of the clock made by Frodsham of London. I have always thought that this musical movement was of French origin but I really do not know. Certainly it has features which I have seen on no other piece — and why did the maker choose to place the treble teeth in the centre of the comb?

Fig 2. This movement is from a snuff box and here again the questions are who made it and why the treble notes in the centre? The only markings it bears are 881 and IIN or if you turn it upside down it can read 188 and NII.

Fig 3. There is no mystery about the maker of this one for it bears the name of Lecoultre. I thought I would include a picture of this box since it has one or two unusual features. The teeth are in groups of five with the treble ones at the motor end, the control levers are at the front of the box and if the lid was hinged from the other side of the box it would have appeared more conventional.

Fig. 4. This is considered to be the more usual type of sectional snuff-box movement with the teeth in groups of five. Both the undersurface of the brass bedplate and the brass mounting for the comb have the number 170 and 180 scribed on them. Additionally the letters AGX have been punched in the comb mounting. Note the change mechanism, the cylinder is spring-tensioned from the drive end and is pressed against a flat change arm.

Fig. 1. Baseplate 43×10.2 cms; Cylinder 34×3.5 cms; Teeth 87; Airs 7.

Fig. 2. Baseplate 8.2×4.8 cms; Cylinder 6×1.2 cms; Teeth 57; Airs 2.

Fig. 3. Baseplate 26×8.5 cms; Cylinder 19×3.5 cms; Teeth 100; Airs 4.

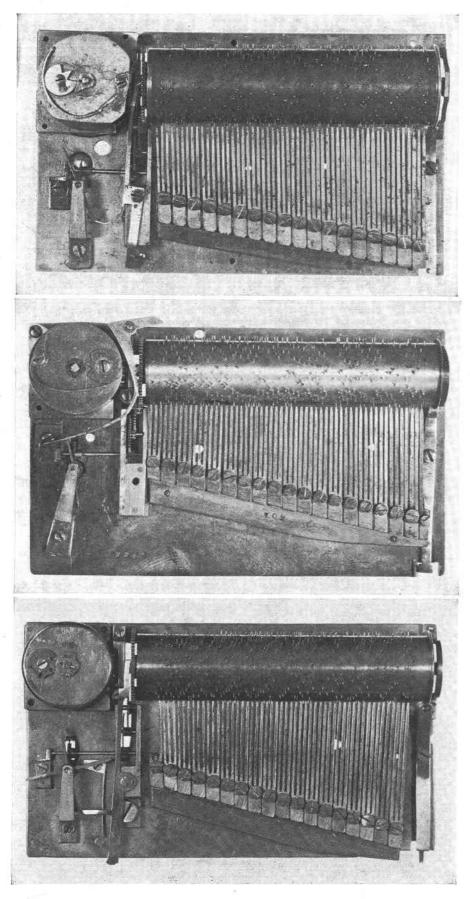
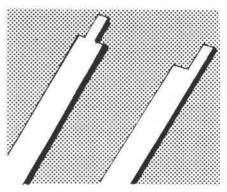


Fig. 8. A Olbrich Baseplate 7.8×5 cms; Cylinder 5.4×1.4 cms; Teeth 54; Airs 2.

Fig. 9. Baseplate 8×5 cms; Cylinder 5.4 \times 1.0 cms; Teeth 55; Airs 2. Fig. 10. Baseplate 7.8×4.6 cms; Cylinder 5.5×1.0 cms; Teeth 52; Airs 2.

The photographs accompanying Cyril de Vere Green's article were taken by him for The Music Box. Figs 8, 9 and 10 are of three good-quality snuff-box movements all with sectional combs in groups of three and each one with the treble teeth at the motor end of the combs. In each case the last few base teeth are slightly thickened at their tips so as to lower the pitch of the note.



Tooth form in (left) Slawik & Preiszler and (right) Olbrich.

The springs on the top of the motor casings in Fig 8 and 9 are to prevent the male part of the stop works from rotation due to vibration. The movement in Fig 8 has no numbers nor initials on any part. Fig 9 has numerals 702 stamped on the comb base and 2264 on its thin baseplate. It also has a very finely designed and made stopwork. Fig 10 bears the number 2503 on the baseplate and also has a four-bladed fan.

Please can any member help me?

Any comments which members may choose to make will be gratefully received and, if the response is sufficient, will be used to form the basis of a subsequent article.

The snuff-box collector may be interested in referring back to the following past references in *The Music Box* which concern interesting or unusual items. An item in the Liddell Collection in the Birmingham City Museum featuring a tin case and a comb with a cut-back lower right hand corner is shown in Vol 1, issue 7, page 17. Two other unusual Liddell items are shown on page 92 of Vol 2.

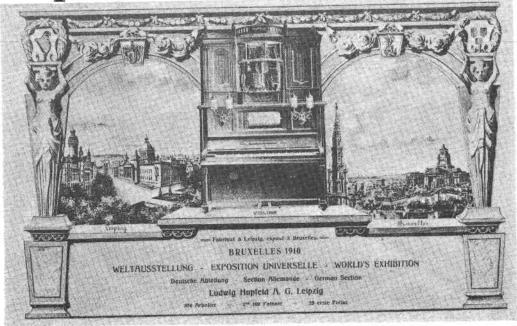
A Piguet et Meylan movement in a Samuel Pemberton silver case is shown on pp 114-115 of Vol 2. Another P & M movement is featured on pp 278-281 of Vol 6.

Many styles of musical snuff box are illustrated in Dr Robert Burnett's article on pp 19-25 of Vol 4, while Laurencekirk-pattern boxes are described and illustrated on pp 4-5 of Vol 5. A three-air snuff box by F Nicole in the de Vere Green collection is shown on pp 60-61 of that same volume.

contrante as 27 de la Arustle ask and quarter I the down - Theme the Manhahemit. Galippor 12 Mainter. thought and the i spranner. Loo ALL N

Another view of the Lecoultre musical box referred to by Cyril de Vere Green in his article and also shown as Figure 5. Compare this with the illustrations of the musical box by Chapuis on page 181. It will be noted that the two boxes share the uncommon feature of having the three control levers protruding from the front side of the case. Both boxes also have the cylinder at the front of the case with the comb behind. However, while the Chapuis has its fusee-wound clockwork motor on the left and the governor on the right, the Lecoultre above has its spring barrel on the right and the governor on the left. The Chapuis appears to be an earlier and less sophisticated box (and thereby rarer item) because of these features plus the comb style and layout. The Lecoultre above, with the exception of its control levers, appears like a normal musical movement inserted into its case the wrong way round. This does not in any way alter the fact that this is a rare and unusual item. The case has wire hinges and a simple lid catch : the Chapuis a hinged lid, a proper lock and, usually, a framed lid.

Hupfeld at the 1910 World Exhibition



The Hupfeld Phonoliszt-Violina was introduced somewhere during the early part of 1907 and was essentially a Phonoliszt expression piano with three violins. Unlike the Mills Violano-Virtuoso, the Hupfeld violin player was an all-pneumatic mechanism using 77note music rolls. Shown left is a postcard, full - size, reproduced issued by Hupfeld to mark its exhibition of the Phonoliszt-Violina at the Brussels Exhibition in 1910. The model shown is a Model B.

Original postcard loaned by Danny Dekyndt of Belgium. Fig. 4. Baseplate 8.5×5 cms; Cylinder 6×1.5 cms; Teeth 70; Airs 2.

Fig. 5. Baseplate 8.5×5 cms; Cylinder 6.2×1.4 cms; Teeth 70; Airs 2.

Fig 5. Another conventional type of movement with the teeth in groups of seven. There are no markings on either the baseplate or comb but scribed on the end of the cylinder is the number 737.

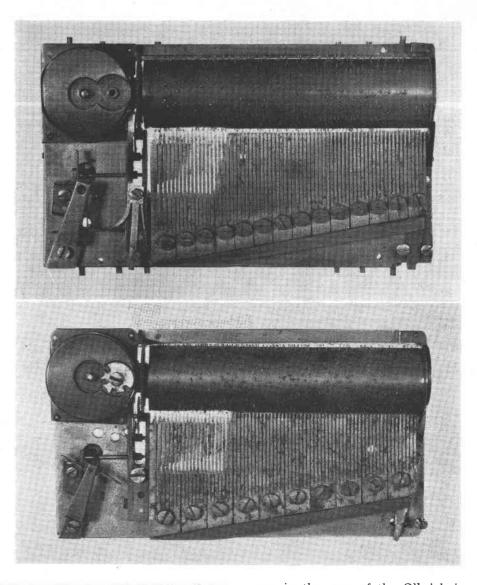
Fig 6. Two movements from musical clocks. The left hand one is marked "Slawik & Preiszler in Prag". Right hand one is marked "A Olbrich in Wien".

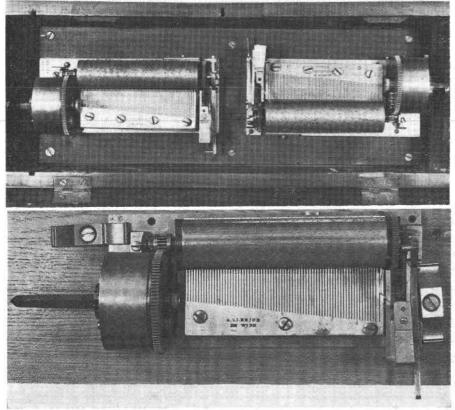
It will be seen that both these movements have the treble teeth of the comb adjacent to the spring motor.

These movements are so alike that I am wondering whether they were manufactured by the same firm ! One of the common factors is the stamping of the serial numbers. In both cases they are stamped along the short side of the bedplate at the motor end and at right-angles to the cylinder and in two lines. The former reads No. 270 2331

and the Olbrich No. 2116 15385

The only difference that I can detect between them is in the shape of the fan and that the drive pinion





gear in the case of the Olbrich is "caged". This is also shown in Fig 7. The serial number of this movement, again made by Olbrich is No 147

3482.

There is one other curious difference shown in Figs 6 & 7. Apart from the usual shape of the last 10 or 12 treble teeth, the remaining comb teeth in the Slawik & Preiszler are shaped as shown on the left of the sketch overleaf, whereas in the Olbrich they are shaped as shown on the right.

In Fig 6, the Olbrich teeth are as those in the Slawik comb. Please can someone tell me why?

Fig. 6 (left). Jos Olbrich; Baseplate 15.2×6.2 cms; Cylinder 10×2.5 cms; Teeth 82; Airs 2.

Fig. 6 (right). Slawik & Preiszler; Baseplate 15×6.8 cms; Cylinder 10×2.5 cms; Teeth 82; Airs 2.

Fig. 7. A Olbrich; Baseplate 14.5×6.2 cms; Cylinder 9×2.5 cms; Teeth 72; Airs 2.



THE ARIOPHON

by Patrick McCrossan

JOHN COWDEROY and Patrick McCrossan jointly own a most unusual musical box of a type which has hitherto not been recorded. This article, with pictures by David Cowderoy, describes the piece and then the editor discusses the inventor

THE Ariophon is a comb plucking cardboard book music playing instrument similar in principle to the Unikon, Roepke, and Libellion, but with the radical difference that whereas these machines use a lever plucking system to sound a note, the Ariophon uses a development of the normal disc machine star wheel assembly.

In appearance the Ariophon closely follows normal German disc box practise, and is housed in a walnut veneered case approx 26" long x $22\frac{1}{2}$ " deep x 12" high, with carved corner pillars and a raised marquetry inlaid panel in the centre of the lid. Inside the lid, the Ariophon picture is printed in full colour on a grey ground with the lettering in green.

A compartment inside the case to the left side of the comb assembly houses the music to be played, which is transported through the mechanism to be refolded outside the right hand side of the case. A rebate in the top edge of the side allows the music to pass through the machine with the lid closed. There is also a rebate in the left hand side of the case presumably allowing the alternative of feeding in the music externally, in similar fashion to the table model Libellion.

The motor is of conventional type, with a large diameter spring barrel, and spring controlled fan blades to the endless. This powers two 19 tooth drive wheels mounted on a common shaft, and engaging perforations in both edges of the music. The music speed is $4\frac{1}{2}$ ft./min.

Unusual mechanism

From this point the mechanism starts to get really interesting. A gear train connects the drive shaft to the star wheel arbor, which constantly rotates as long as the motor is running. The star wheels are of small diameter and have four points. They are free themselves to rotate on the arbor, but each star wheel is sandwiched between two washers locked to the arbor by a projecting tag engaging in a groove that runs the length of the arbor. This gives a friction drive to the star wheel with a degree of "slip" in it.

The plucking action is best understood in conjunction with the accompanying diagram, and is as follows: The star wheel is held still by the music pressing on it, but when released by a perforation it rotates and plucks the tooth with some assistance from the music itself, and continues rotating under its own power to bring the next point of the star wheel into position pressing up against the underside of the music. Overall friction in sounding a note is very low, noticeably less than with the "star wheel power" disconnected. The cardboard music should not therefore be subject to excessive wear.

The steel wire dampers are mounted on bars screwed to the underside of the brass star wheel gantry, and project horizontally between the star wheels ending in a right angle bend coming up between the teeth. A kink in the horizontal part adjoining the star wheel provides for the neccessary movement. Simple, effective, and durable.

The pressure bar is of rectangular section with a series of fixed bell profile steel plates to hold down the music.

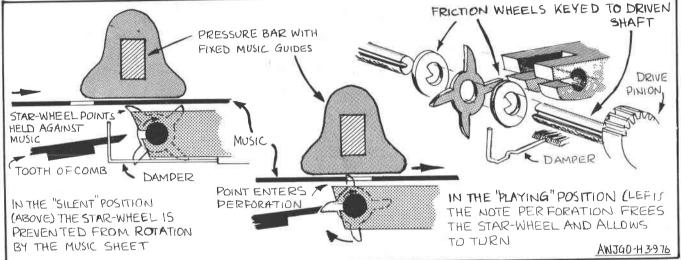
There are two combs of unequal length in a sublime harmony format. The longer left hand comb, of 57 teeth, covers an additional octave in the treble. The right hand comb has 47 teeth, 104 in all. Tooth spacing is ten per inch, with an overall music width of $11\frac{1}{2}$ ".

Tonal quality appears very fine, aided by a large thin sound board forming the bottom of the case. The range between the two combs is a little over five octaves, with up to five teeth of one note available on certain notes in the treble. The potential is there for a sophisticated performance, moreover the disadvantages of its lever plucking competitors are not present. (e.g. inability to repeat a note rapidly and background mechanical noises).

Sole example?

Who made the Ariophon? This is the sole example to have come to light to date, and is understood to have been extracted from behind the Iron Curtain. Production was probably very limited and examples may never have reached the British







market. General features of the case and mechanism point to German manufacture, and it is equally possible that the Ariophon was a product of a hitherto unknown maker, or of a name already familiar in the disc machine field.

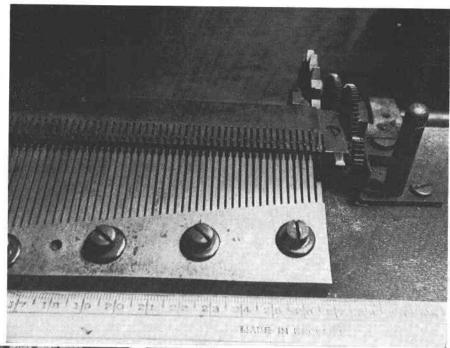
Swiss combs

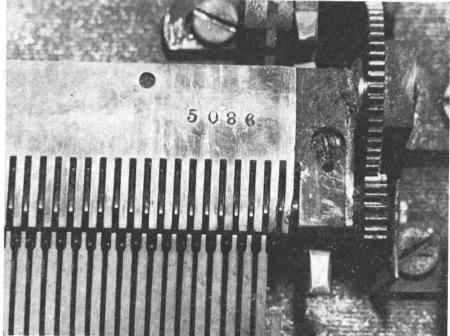
One point can be established with certainty. The combs were made by Mermod Freres. Direct comparison with a Mermod cylinder box comb and a Stella disc machine comb produced the common feature of the "MF" cast into the brass comb bases, and a three figure number stamped on the face of each comb around the nearest-tocentre comb screw hole, normally hidden by the comb screw washer. This was probably a batch number for the comb, and was not related to the serial number of any of the instruments examined. Mermod are known to have made parts for other manufacturers including German makers. The letter "K" is stamped on the bedplate, star wheel gantry, and base of the pressure bar locating pin.

Surely the unique power asisted star wheel mechanism ought to have been the subject of a patent? Further research on this matter is needed. Silent

Finally, I have not mentioned one sad fact. The instrument survives in basically good condition, apart from a few pieces of moulding being missing from the case, and one tooth broken. There is however no music for it. If anybody knows the whereabouts of some book music of unknown origin, $11\frac{1}{2}$ " (approx. 29cm) wide, with drive perforations along both edges, I would be very grateful for further information !

In the meantime, the tuning





scale has been established, some experimental pieces of card made up for test purposes, and the possibility of producing some new music is being investigated. A further report on this, I hope, later.

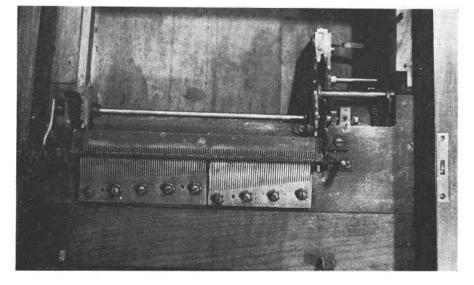
Who made it?

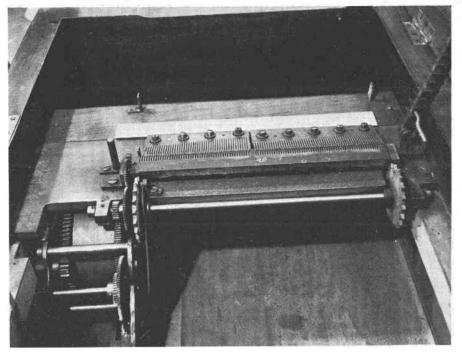
The discovery of the Ariophon by Patrick McCrossan and John Cowderoy inspired your editor to search through his library of musical box patents to try to identify the maker. His report is as follows:

THE concept of motion-assisted starwheels appears to have originated with Wilhelm Alfred Seifert, who was described as a merchant of 9 Post Strasse, Leipzig-Plagwitz, in the year 1893. On October 7th of that year he was granted British Patent number 14,666 for such a system and undoubtedly a German patent exists which pre-

Top right: Oblique view of the treble end of the shorter comb and showing, on the far right, the pressure bar locking spindle and one of the music drive cogs.

Above in close-up the star-wheel driving pinion. The serial number 5086 is stamped into the starwheel guide plate and appears on the bedplate. also Tust visible between the tips of the musical comb teeth are the ends of the wire dampers. The rectangular object to the right of the comb is an automatic stop operated by a cut-out in the edge of the music. Right: View looking down on the mechanism showing the disposition of the components. The stop/start lever (extreme top right) has paper labels marked "Offen" (or marked " Often ") and " Zu ".





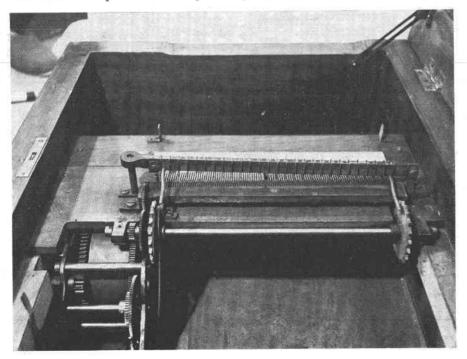
dates this possibly by as much as a year.

The introduction to his patent specification reads:

"This invention relates to an arrangement presenting this advantage or improvement over similar mechanisms heretofore known, that the spindle on which the plucking wheels are mounted is made to revolve, instead of being stationary, and the plucking wheels, instead of being set in motion by the tunesheet, are set in motion by the spindle. Furthermore, movement is imparted to the tune-sheets by toothed feed wheels, and not by rubber or cloth feed-rollers as heretofore, and for which purpose the tune-sheets are provided with perforations wherein the teeth of such feed wheels engage ".

Seifert's invention served to provide for lengthy music strips of cardboard folded rather like an organ book. This was used to play a normal type of musical box comb.

Because the slits in the musicsheet had to be narrow, the starwheel itself had to be even narrower so that it could without fail enter the tune-sheet slits. Tolerances were therfore very close and the advantage of his system was that the flank wheels keyed to the drive shaft between which the star-wheels were free to rotate, accurately aligned and adequately supported the star-wheels in the proper position relative to the



music-sheet on the upper portion, and to the musical box comb teeth on the lower portion.

Instead of motion being imparted to the star-wheel by the musicsheet with the consequent high rate of wear and tear on the trailing edge of the slits, the tune-sheet served only to restrain the starwheels from turning. When a slit appeared over the path of the starwheel, the star-wheel was freed of its restraint and would at once turn without, as in other cardboard music systems, having to wait for the end of the slit to engage with the wheel and drag it round. The end of the slit now served only to create once more a motion restraint on the wheel. In this way, Seifert solved (in theory at any rate) the one drawback to the use of cardboard music in a mechanical system which was to plague later inventors such as Richter with his Libellion. He virtually eliminated physical wear on the music.

Two years later, on September 7th, 1895, British Patent number 13,940 was granted to Hans von Pöllnitz and Franz Louis Bauer of the firm of Komet Musikwerke Pöllnitz & Bauer, manufacturers, of Friedrichstrasse 4, Leipzig-Plagwitz.

Less satisfactory

In this patent, a similar result was achieved in a different, and far lesIs satisfactory manner. The starwheels were mounted in a conventional way, i.e. loose on a shaft, and were guided by a top plate or comb through which the points could protrude and across which the music-sheet could pass.

A second shaft, running parallel to the star-wheel axis and immediately under it, carried friction wheels which were arranged in pairs so that the lower portion of each star-wheel passed between them. This second shaft was driven, so that the motion was imparted to the star-wheels through frictional contact.

As regards efficiency, this was in no way an improvement on Seifert's system and seems to have been conceived purely as a method of getting round the existing patent. Friction and consequent wear between star-wheel and motion mechanism must have been very high. Lubrication of any sort would obviously negate the principle of operation and as the assembly wore, it must undoubtedly have lost it efficiency to the point where instead of reducing tune-sheet wear, it would have shredded the cardboard with a sense of purpose denied to other related systems.

Who, then, invented the Ariophon? One is inclined, purely by the style of the case and from the foregoing, to consider Komet Musikwerke. Experience, though. tells us that case styles mean very little with some early styles being virtually identical for different makes of instrument. Mr McCrossan attributes the combs to Mermod Freres. There is no reason to question this since, in the early days of the German musical box industry, they had no expertise in comb-making and either bought in combs from Switzerland, or bought

in the Swiss technicians to make them for them. Mermod, then, quite probably did make the combs. The Swiss, even though aware of the rising German competition, accepted the need of commercial involvement wherever opportune.

Siefert the inventor

On patent grounds, and also from the style of presentation (which is early 1890s), Seifert seems to me the more likely. His patent drawings bear little resemblance to the instrument shown in the previous pages, but the salient detail is there. And very few patent drawings showed other than how an invention was intended to work.

Tentatively, pending further evidence of a more conclusive nature. the Ariophon was probably made by Seifert or by an as yet unidentified maker working to his design.

What remains something of an interesting coincidence is that both Seifert and Pöllnitz & Bauer came from the same district of Leipzig.

Our German members may care to undertake some further exporation on this matter, in particular with regard to tracing the German patents in case they should provide further information.

the Komet? e ma

ON page 26 there is a picture feature on the Komet disc-playing musical box. According to member Q David Bowers, the Komet was made by Weissbach & Company of Leipzig. An examination of Leipzig directories around the 1898-1900 period does indeed show up the fact that Kurt Weissbach was at work in that town repairing musical automata, but no other reference to the Komet has been found.

Recently, while searching through British patents for mechanical musical instruments, I was as ever pondering on the vast number of different names in the lists and the proliferation of ingenius music machines, and wondering if any of them ever made the market. Some names crop up time and time again so that one is inclined to accept the possibility at least that they were the work of men who worked

for companies who were actively engaged in producing instruments. The pervading sensation, during searches such as these, is that even now we know very little of the history of the instruments of mechanical music.

During this search, I discovered some patents for instruments playing projectionless music sheets using motion - assisted starwheels rather like the Ariophon described on page 258. One of these provided a clue to the Komet question.

British patent number 13,940, dated 22 July, 1895, was issued to Hans von Pöllnitz and Franz Louis



Schutzmerke.

firm based on Pöllnitz & Bauer. However, the name Pöllnitz & Bauer does not appear in the 1903 directory-nor does Komet Musikwerke. But there is a Louis Bauer listed at Lindenau, Hohestrasse 13. His business is described as having been established in 1899 as inventors and manufacturers of gramophones. Significantly (or just coincidentally?) Richter's phonograph was produced under the trade name Komet.

If anyone has access to other information, perhaps one of our German members, perhaps they would care to take the story a little further. A O-H

The two pictures, left, show a fine example of the $33\frac{3}{8}$ in (84.8 cm) Komet which plays on bells as well as combs (the mechanism is illustrated on page 45 of Vol 2). The box is the property of Klaus Pevler of Dortmund. Top: trade mark taken from a disc.

IN part one of this article, on page 238, David Bowers described his tour of the former musical box factories in East Germany. Here in part two he takes up where he left off his meeting with Mr Popper discussing Welte Mignon recording techniques, and then visits the famous Polyphon factory to look at what still stands today

THE original recording by artists for the Welte Mignon took place in the Popper and Company showrooms on Thomasstrasse in downtown Leipzig—on the second floor previously used to display phonographs. Another bit of information mentioned by Mr Popper was that the firm's chief inventor in the early years was a Mr Zollinger.

Until the year 1906 Popper manufactured no instruments of its own. Rather, it purchased instruments from Polyphon, Welte, Philipps and other manufacturers. In the year 1906 Popper began to make its own instruments, although sales for others were continued for some time afterwards. Over the years Popper manufactured a truly marvelous array of different electric pianos, orchestrion and other automatic musical instrument models.

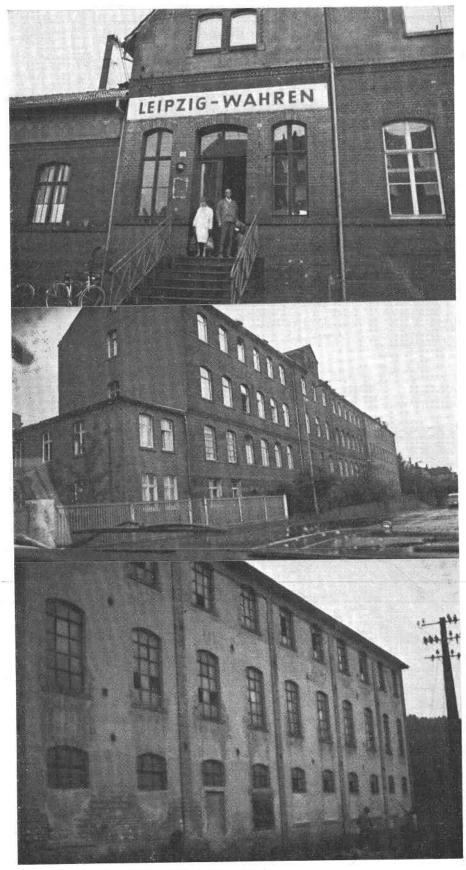
Polyphon revisited

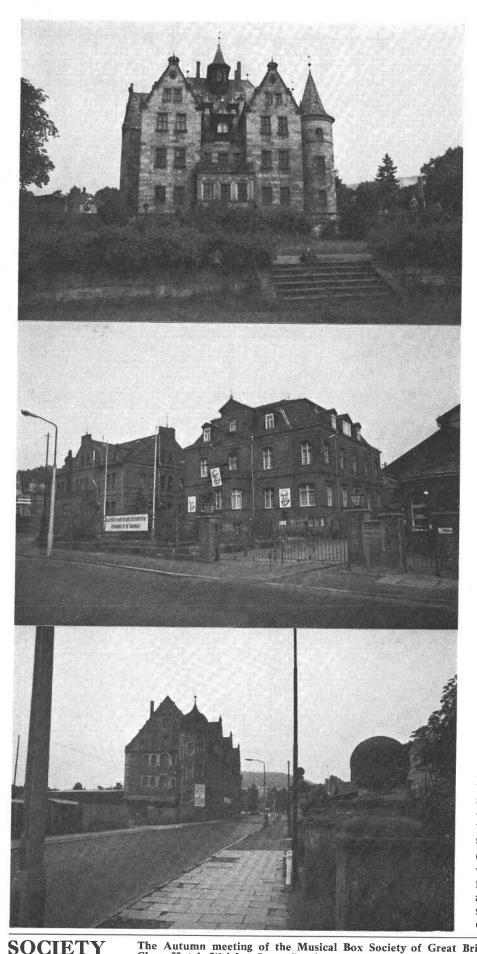
Last stop on our factory tour of Leipzig was the Polyphon factory at Bahnhofstrasse 61 in Wahren. The train station across the tracks from the factory must look just like it did in the 1890-1910 era when hundreds of thousands of Polyphons were crated, taken across the tracks, put on the platform and shipped from there to all parts of the world.

The Polyphon factory itself only partially exists today. Using early line drawings it is evident that large sections of the factory have been destroyed. Some were never replaced, and others were replaced

The Wahren railway station at Leipzig from which so many Polyphon musical boxes began their journeys ninety years ago (top). Centre : Only this, the front of the Polyphon plant still stands. Right : In Zeulenroda this Lochmann factory still has on its side, barely visible today, the words "Lochmann's Original Musikwerke."

A VISIT TO by Q David Bowers EAST GERMANY





with new annexes. Still, enough remains that the size and scope can be fully appreciated. Like most other East German factories, it is made of red brick interspersed with tiers of glass windows.

Lochmann's factory

Then a day or two later we drove to the town of Zeulenroda in the southern part of the Deutsche Demokratische Republik. There we found an impressive array of buildings at Am Bahnhof, once occupied by Paul Lochmann -the site of the Original Musikwerke. On the side of one of the buildings facing the railroad tracks is still visible, although much faded, the lettering: LOCHMANN O R I G I N A L MUSIKWERKE. Below the faded word "Original" is a large painted representation of a music box disc on which is lettered: "Lochmann's Original". Although the Original Musikwerke has long since disappeared, the reputation of it survives to this day. Apparently Mr Lochmann was quite an inventor, and his knowledge is well respected and admired even to the present time.

Home of Richter

After leaving Zeulenroda, we travelled to Rudolstadt where, at Schwaezburger Strasse 56 we came to the factories of F A Richter, where the Imperator and Libellion musical boxes were made. These factories are in nearly "mint" condition so far as their external appearance is today. The Richter manse, once the home of F A Richter himself, is now used as a kindergarten. Ornate stone statues still flank the driveway.

After a day or two in Rudolstadt we drove home having really enjoyed the opportunity to see some of these places which have probably not been visited by Western collectors since the 1930s.

Top: The fine mansion at Rudolstadt in which lived F A Richter. Although somewhat overgrown today, the house and its gardens still possess much of the majesty of their former times. It is now used as a kindergarten but ornate statues still flank the driveway. Centre and left: Fine buildings which once were the Richter factories. So far as their outward appearance is concerned, they have survived in nearly original condition.

SOCIETY MEETINGS The Autumn meeting of the Musical Box Society of Great Britain will take place at the Kensington Close Hotel, Wrights Lane, London, W8, on October 16, 1976. A regional meeting will be held on Saturday and Sunday, December 4 and 5, 1976, in Birmingham. Full details of this meeting, which will centre on the Liddell Collection of mechanical musical instruments in the Birmingham City Museum, will be circulated shortly.

FABRIQUE de GENÈVE Sullime Harmonie Concerto Diccolo Per Bettelstudent Harsel fullocke mhauser, Ouverlure ischiely Sagerchor LANGDORFF & FILS, FABRICANTS

Langdorff & Fils tunesheet and trade-mark

ON page 131 of Volume 5 of The Music Box was reproduced an early tune sheet from a musical box manufactured by Langdorff & Fils of Geneva. That item was from a Mandoline Basse Piccolo instrument, with the name Langdorff and the lithographer's name A Hass of Geneva. That particular tune-sheet resembled in every detail the tune-sheet reproduced on page 603 of Volume 3 with the one exception that this last-mentioned one did not bear any name. Facing the illustration of that tune-sheet in Volume 3, namely on page 602, is another tune-sheet. This one is similar in realisation but differs in detail. That, too, bears the litho-grapher's name A Hass, but this time rendered in block capitals instead of italic characters as on the two examples referred to earlier.

A principle characteristic of all three of these tune-sheets is that they were surmounted by the coat of arms of Geneva which bear the initials JHS above a shield and the words *Post Tenebras Lux* in a banner.

Recently, Keith Harding came across two identical three-comb sublime harmonie musical boxes, each with a harp trademark stamped into the brasswork. Concurrent with this he located a sixair Langdorff box bearing the tune-sheet reproduced here. This features the self-same harp trademark in two places — it is shown to a larger scale below.

Interesting features of this tunesheet are that basically the two figures and their surrounding decorations are similar to those which are to be found in the reproduced tune-sheets mentioned above. However, the lower centre



The Langdorff & Fils trademark. This would date the tune-sheet as being after 1885. The first tune, from Millocker's Der Bettelstudent, was first performed in 1882. portion is given over to a view of Lake Geneva. The city coat of arms has also been somewhat simplified. A further point : while the earlier tune-sheets were line lithographs by A Hass, this one is in line and wash and is lithographed by F Noverraz & Fils, Geneva.

According to researches by Pierre Germain, David Langdorff was born in 1804 and claimed that his musical box business had been founded in 1838. Langdorff was a partner with Isaac Henri Metert as Metert & Langdorff. This Metert was the grandfather of Henri Metert who worked for Nicole Freres in London and who died there in 1933. The Langdorff/ Metert partnership lasted from 1832 until dissolved in 1852.

By 1867, David Langdorff was located at 13, rue de Coutance, Saint Gervais, Geneva. He died in 1873 and the business was continued by his wife and son, John Baptists Langdorff, under the title Langdorff et Cie. In 1898, the name was changed to John Langdorff until 1902 when the business was absorbed into the Société anonyme des Fabriques reunies des Boites à Musique, anciennes maisons Rivenc, Langdorff et Billon.

THE SHIFTING-DISC TANNHAUSER

THIS unusual musical box was first discovered last year when an incomplete specimen was located. Now, thanks to Q David Bowers, the owner of a second example has been found. Milton Bave of Washington describes his rare acquisition and then the editor comments on the patentee

AS the photographs reveal, the Tannhauser musical box is in mint condition. The brass fittings are highly polished and the comb is mirror bright. This is just as I bought it about 10 years ago. I have no previous history of the instrument.

The box measurers 62.8cm wide x 50.7cm deep x 23cm high. The bedplate is 39.5cm long x 10cm wide. The music discs (of which I have 11) are 38.25cm in diameter. The cabinet is walnut, and the top of the lid has a lyre, horn, and castinet inlay.

The disc shifting mechanism,

visible in the close-up photograph, employs two interlocking dovetail slides at right angles to each other that are activated by a push pull knob visible on the overall photograph just below the lid locking key. This mechanism shifts the disc about 1.5mm. The shaft that actuates the transverse dovetail is visible in the foreground of the photograph coming up from underneath the bedplate. The vertical pin just ahead of this prevents the operator from shifting the disc in mid tune, as it would strike the outer edge of the disc centre rest. In the other shifting mode this



vertical pin slides just behind the outer edge of the disc centre rest where it engages a groove and is captivated there as the disc turns thereby preventing the operator from shifting the disc until the tune ends.

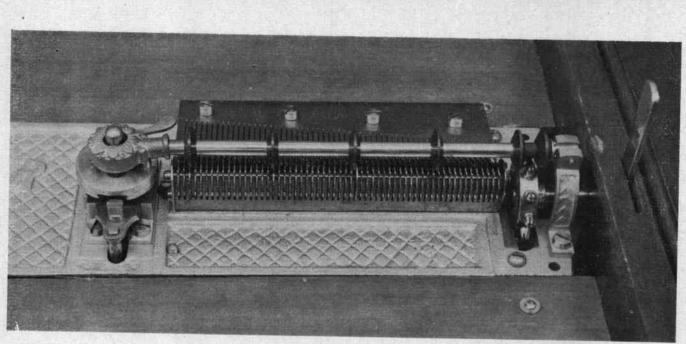
The discs are in some ways unique. They are all nickle plated, although I suspect this was done at a later date, as no titles appear on the discs. However some discs have a number hand scribed into the surface under the plating — such as 238, 560, 201, etc. showing that at one time they were num-bered and titled. The discs show no sign of rust pitting under the plating so they were not plated for that reason. The star wheel drive projections are "U" like Polyphon but are as narrow as Symphonion. Half their number have elongated round drive holes, the others have elongated holes with a pear-drop shape. Also 8 of the discs have 100 holes in the periphery and 3 have 104. 100 holes are correct as they work with the stop mech-anism, whereas the 104 holer's stop short of the tune. I don't know the reason for this. Must have been a factory error. In all other respects the discs are identical.

Conventional appearance

All other features of the box are customary to most other disc boxes. The stop-start lever is the vertical lever to the right of the drive wheel. Roman numeral *one* is written in pencil on the bottom of the cabinet as well as on the underside of the bed plate wood fillers and on the cover over the drive system. No marks appear on the spring barrel or the governor or the comb. Unlike the Sirion and the New Century this mechanism does not appear to be made by Mermod Freres.

One thing further—Number 300 is stamped on the bed plate just to the front left of the drive wheel. It is visible in one of the photographs. Number 242 is stamped on the centre spindle rest, part of which can be seen in the close-up photograph.

Left: General view showing the panelled motor cover to the right of the bedplate. The disc-shifting knob is visible centrally on the front below the lock key.



Who made it?

UNTIL about a year ago, collectors and historians of mechanical musical instruments knew of two types of shifting-disc musical box the Sirion (which was only made in the two-tunes-per-disc, shifting form), and the New Century, which was manufactured both as a singletune, non-shifter, and a two-tunes, disc centre shifter.

Both these instruments operated on similfar lines. A mechanism was incoporated whereby the centre spindle of the musical movement could be moved slightly in towards the comb, or out and away from it. In both cases, the amount of movement was very small. The shift had only to be about twice the thickness of a star-wheel so that another set of projections on the disc could be brought into play.

The discs themselves looked no different from a normal disc, ex-cept that close examination by somebody accustomed to "reading" the musical note projections, would find it impossible to follow. The disc would be punched for one tune in the usual way, except that the spacing between the concentric rings of projections was somewhat greater than normal. Then the disc would be moved slightly so that a second set of projections could be punched along concentric circles which passed between those already pressed. The result was a disc which could play two different tunes depending on the choice of centre selected, the difference probably being less than 3/32in (a little over two millimetres).

So much for the Sirion and the New Century. But, as with so many musical box inventions, there were more patents to be found than instruments to account for them. As regards the shifting disc, there was one patent unaccounted for.

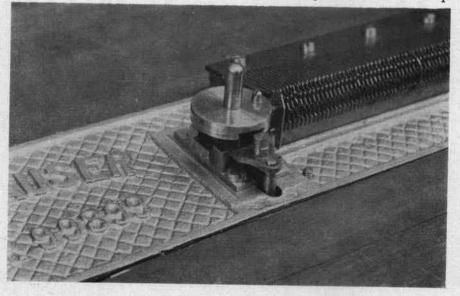
Just over a year ago, David Bowers and I were sitting in a Thames-side pub discussing musical boxes when he mentioned that he had found a thing called a Tannhauser. Sadly his model was incomplete and it was subsequently included in the catalogue of musical boxes advertised for sale by his company, American International Galleries.

The patent is found

However, when we got to my home that summer evening, I recalled the unattributed patent and soon turned it up in my files. David Bowers immediately recognised the salient features as corresponding to the box which he had. A comparison with the fine pictures of Mr Milton Bave's specimen — which David Bowers learned of a little later and put me in touch with the owner of — with the patent reproduced on page 268 shows that this is indeed the Tannhauser. Rather like an astronomer searching for the invisible which he suspects to exist, the Tannhauser has been suspected for some while and it is satisfying to be able to find the missing link.

British Patent number 5386 dated April, 16th 1898, was granted to Traugott Alwin Plessing, described as an engineer of Constantinstrasse 18, Leipzig-Reudnitz. The introduction to this patent reads as follows:

"This invention relates to a device for mechanical musical instruments by means of which it is possible to operate a music sheet or disc which is provided with the notes for two tunes in such a manner so that either tune of the sheet can be repeated as often as desired without it being necessary to hear the second piece and without stop-



ping the driving mechanism.

"The essential feature of the invention lies in the arrangement of the parts so as to allow the displacement of the music sheet or disc so that the notes of the different tunes which are usually arranged in a circular manner on the disc, can be brought into operation as required.

"It is thus possible by means of this invention to operate the tunes of a note sheet in any desired succession. A special securing arrangement is provided, by means of which the displacement of the note sheet is only rendered possible, when a tune has been completely finished".

A German patent?

This patent specification was drawn up in the early part of 1898 and it is likely that the German patent, whose number 99899 is prominantly displayed beneath the name cast into the top surface of the bedplate, is dated either late in 1897 or early in 1898. Another job for our German members to research !

Having established who invented the Tannhauser, we are no nearer determining who actually made it. It is unlikely that Plessing was himself the manufacturer but it is

Roller Organ help needed

Al Witham writes from Montana:

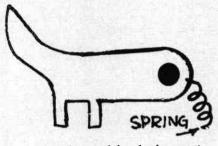
AFTER having my late grandfather's old "Roller Organ" handed down to me, I located the book, *Clockwork Music*, to get some background information on it. This music box is quite identical to the one pictured on page 225 of this book, with the exception of the printing on the cabinet.

I have plans for restoring the cabinet and would like to make it as original as possible, however, the printing has faded because of its age. The printing is located on the top of the cabinet instead of the front like the one pictured. The first nine letters are as follows: Chantanym?? The last two letters which follow "Roller Organ" are not legible.

Any information you could forward to me would be greatly appreciated as I would like to reprint the wording as it was originally.

more likely that he was in the employment of some company which produced the instrument to his design. What is interesting is that it follows the component arrangement style of the upright mechanism in that it has the motor contained in a separate compartment to the right of and quite clear of the bedplate (see page 279).

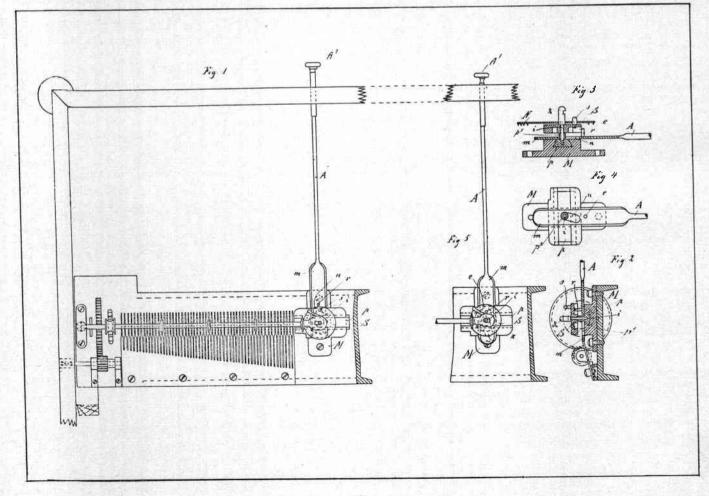
How many were made? Mr Bave's model appears to indicate a serial number as high as 300. I Another problem is a broken part in the linkage which holds the roller shaft in the playing position and when hit with a little cam returns it to the beginning again. It seems like it must be so simple, yet I can't seem to figure what it should look like. Can you help?



Above: the surviving broken part.

should imagine it unlikely that many examples have survived unnoticed all these years. If any do exist, naturally *The Music Box* would welcome details. Notwithstanding the arrival on the scene of one or more other specimens to the two already located, the Tannhauser must remain a most rare specimen.

Below: Plessing's patent illustration depicting the Tannhauser mechanism.



A TOXOPHILITIC AUTOMATON

THOSE who attended the Summer meeting of the society in London had the experience of seeing the very first open demonstration of an extraordinary new automaton. This diminutive piece, hand-carved from choice woods, is in the form of an archer who takes arrows one by one from his quiver, draws his bow, takes careful aim and then fires. The creator of this piece is a young man called David Secrett and, far from being an experimental prototype, he is making these for Keith Harding who has the exclusive rights for their sale

THE art and craft of the automaton-maker is one which is of considerable antiquity and is everpresent in all cultures and societies. In primitive times, simple articulated figures, crudely carved from basic materials, relied for their appreciation on a considerable amount of imagination.

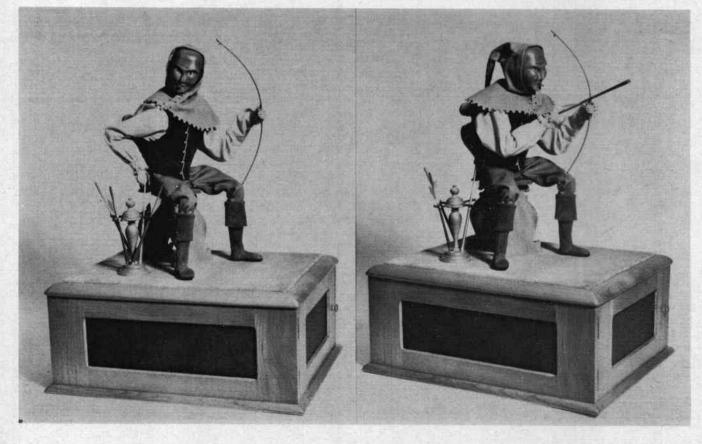
It was this quality of imagination which has forever formed a barometer of the eclectic appreciation of autamata. From articulated dolls dependent on considerable imagination in order to enjoy them, to the outstanding works of the 18th and 19th century where life-like realism of automata left little to the imagination, but surplanted it by wonderment, makers of automata have striven for their success on increasing realism. On page 284 there is an appreciation of the works of Vaucanson which concludes with some uncharitable comment on the sum total of his great work.

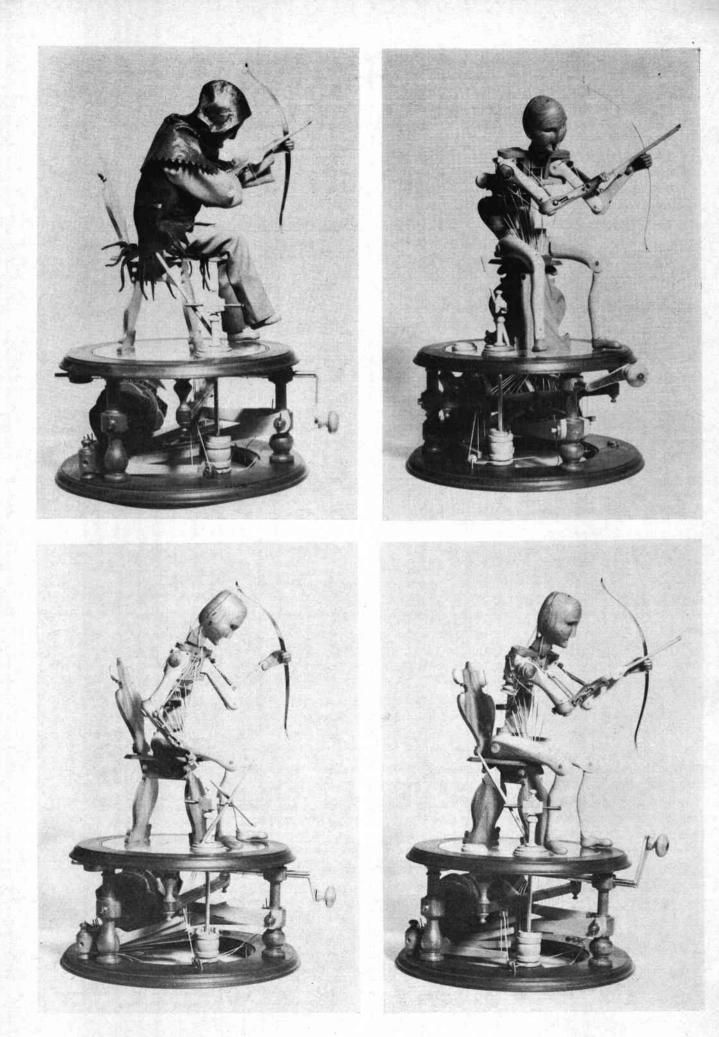
Precision engineering

It was masters such as Jaquet-Droz, Maillardet, Vaucanson, Leschot and others who created not just pretty novelties for the enjoyment of the wealthy, but the whole basis of precision engineering. Although automata has become something of a previous age, the capabilities of automata have been ever extended and the word survives in everyday useage (with albeit a somewhat sombre connotation) as *automation*. One has only to watch an automatic multi-head lathe producing intricate components quite automatically to appreciate on the one hand that automata are still with us, and on the other, the huge gulf which separates us from the automaton of the past.

In short, automata today no longer are made to amuse us, but to educate us, to do our work for us and, in some measure at least, to be an acceptable something between Frankenstein's monster and Coppelia the clockwork doll.

And so this brings us to the work of David Secrett who, fascinated by the masterpieces of automata of the past, has sought to recreate if not the actual pieces themselves, then at least to show that the skills and the patience have not been bred out of us by prolonged exposure to the decadence of the 20th century.



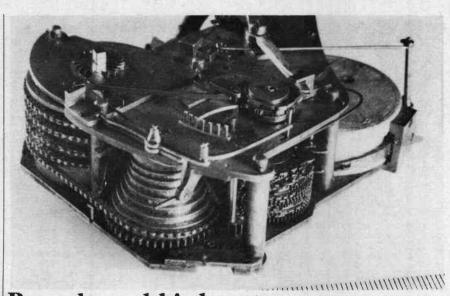


David Secrett has devised construction methods which he considers are possibly unique to produce complex pieces which are actually dismountable and can be taken to pieces and reassembled. Highly-finished yew wood figures incorporate the maximum possible articulation from carved wooden heads, limbs, hands in conjunction with fretted chairs of Italian baroque design, and turned and moulded details.

Secrett's modern automata are toxophilists and these he makes in two basic types, one clockwork and one hand-operated.

one hand-operated. A seated figure dressed as an English mediaeval archer in leather jerkin, hood and boots, with a fine fabric singlet and hose, picks up an arrow from a revolving four-stage " capstan " at his side. Gripping the arrow between his finger and thumb, he raises it to position in the bow which he holds in his left hand. A notch in the flighted arrow engages with the bow string as the left arm, which is cranked, extends and pulls the bow to the point of maximum tension, whereupon it is released to be sent a distance of some six to eight feet (two to twoand-a-half metres).

As the arrow is discharged, the archer follows its progress with his head. This is achieved in a most realistic manner by the use of an unusual double-articulating neck movement. He stamps his foot at the moment of release. His tongue sticks out. This completes



Brass-bound birdsong

The mechanism of this singing bird (see also pages 51 and 127) comprises a compact assembly of fusee-wound clockwork and a stack of finelyexecuted brass cams, seen to the right of centre. Probably manufactured by Jaquet-Droz and Leschot in London, the piece belongs to Richmond Mason. It is very similar to one shown on pages 168-169 of Weiss-Stauffacher.

the sequence for firing one arrow, and the piece will continue in operation for a total of four arrows at the conclusion of which the mechanism is stopped.

The figure measures some $11\frac{1}{2}$ in (39cm) high as it sits on its chair. The front leg of the chair carries the controls to the body and the whole is on a velvet-covered baseboard upon a pleasantly-designed panelled box which houses the clockwork mechanism.

As an alternative, the headcranked *manivelle* model is similar in operation but has no clockwork motor. The mechanism, which includes a total of 16 cams, is turned by a worm gear and a crank. Every operation can be watched because this model stands on a transparent Perspex (plexiglass) disc and the figure is also made with removable clothes.

LOUIS AUGUSTE GROSCLAUDE

ON page 521 of Volume 6 of *The Music Box*, Pierre Germain related some of the history of L A Grosclaude, the Geneva musical box maker. Here he provides some additional information on this man whose portrait can be found on page 175 of the present volume.

THE Christian names of Grosclaude were Louis Auguste. He was born in 1841, presumably at Le Locle, and died in 1915. He was, therefore, not the Auguste Grosclaude who worked with Olivier Quartier c1825 (see introduction to the previous article), although he could be his son, but this has still to be checked.

He was associated with Auguste Perrelet from 1871 to mid-1874 under the trade name of A Perrelet et Cie. Grosclaude was a maker on his own, I believe, from 1874 to 1879/1880. From the end of 1879 to 1889, he was a professor of algebra, geometry, astronomy and technical drawing at the Ecole d'Horlogerie de Genève which was founded in 1824. I possess a picture of him (see page 175): he looks impressive. I have also a photocopy of his signature and a description done in 1877 /1878 of an important improvement he introduced in a voix céleste which was exhibited in Paris in 1878 and for which he received a silver medal. It is probably to this improvement that Grosclaude refers in the advertisement illustrating my previous article.

Dutch to ban organ exports?

THE Dutch government is considering introducing legislation to prevent the traffic in street organs.

Following publication of a book which highlighted the loss to the Netherlands heritage through the sales of organs abroad (see page 203) it is reported that moves are afoot to regulate the export of three categories of goods now classified as of national importance to Holland — and these include carillons and street organs.

So far sales have deprived the nation of many fine instruments, the latest and most controversial being the export of *De Klok* to Australia. Lack of skilled care and improper care usually means that once they leave Holland their lives are short.

Already the Kring van Draaiorgelvrienden is at work preparing an inventory of all organs.

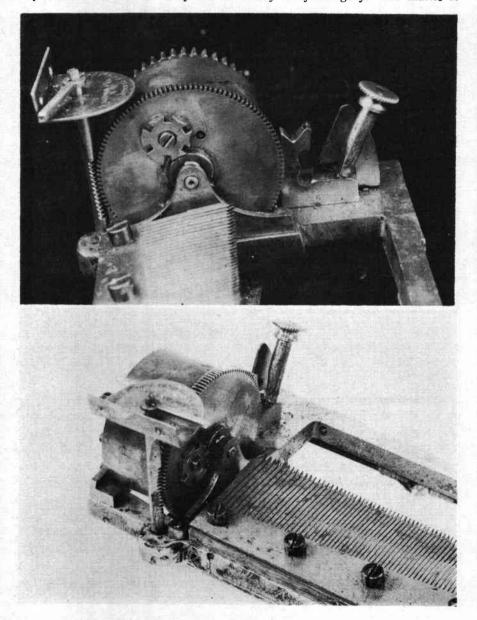
A PROTOTYPE CHANGEABLE BOX

Comments on a particularly interesting musical movement

ONCE in a while there comes to light a musical box which is of sufficient rarity to warrant much more than just passing attention or fleeting curiosity. The instrument illustrated on these pages is an example of such an item.

The invention of the interchangeable cylinder musical box dates from the period when key-winding was being superceded by lever winding, namely the early 1850's. While there are many lever-wound interchangables, the survival of key-wound models is very rare. The reasons for this are simple. The mechanisms were not in massproduction, each model was individually conceived and realised. Because techniques of design practised in later years had yet to be perfected, they were not as resistant to accidental damage as were later production models. Systems to prevent damage to the comb during cylinder-changing were rudimentary.

The musical box which is the subject of this article fits into this very early category. The maker is



unknown although there are some features which suggest that it could have come from Ducommun Girod or Langdorff. However, features of the comb are similar to those seen on early boxes by Metert. It was not until 1860 that Amadée Paillard produced the first practical interchangeable cylinder boxes. The piece we are looking at here could be up to ten years earlier.

Features of this box lead one to the conclusion that it is not only a very early model indeed, but that it could be a prototype. The reasons for this centre on the fact that the dial-plate or index which relates to the changing mechanism, described further on, is somewhat crudely impressed with separate letter-punch characters. A production model, one feels, would have had a neatly engraved instruction plate. Other features, undoubtedly original, are somewhat crudely executed suggesting more of an experimental mechanism than one to be offered for sale to a discerning public.

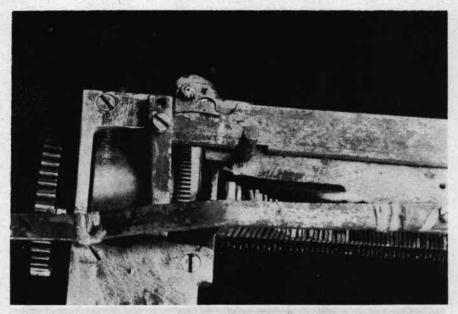
Unusual titling

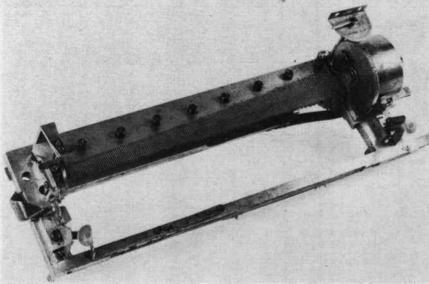
Another feature which is anomalous is the titling of the cylinders which accompany the box. These are stamped one below the other into the brass of the cylinder itself prior to the insertion of the pins. At first sight, the overall appear-

At first sight, the overall appearance of the box suggests a normal six or eight-air musical movement in a typical 1840-50 style case with drop left-end flap, inlaid lid with three equally-spaced lines of boxwood purfling. Inside the box, there is neither tunesheet nor inner lid, these having never been fitted.

The mechanism has been modified at some time during later

Two pictures of the movement with the cylinder removed. In the upper view can be seen the engagement of the spring-barrel locking shaft teeth, the open bearing for the cylinder arbor and the upturned tips of the comb teeth. Left: A further view highlighting the juxtaposition of the parts. The comb screws have no washers.





years, not, as one might have expected in a period of moderisation, to render it from key to lever-wind (this is sometimes found), but to add another two wheels and two pinions, all heavily founded, into the winding system with the apparent aim of making winding easier. Did, one wonders, the previous owner suffer from arthritis? This cumbersome mechanism in no way interfers with the mechanism and the only damage to the case is an extra hole for the new position of the winding key which passes through the end flap. The interesting possibility exists that this modification may also date from the key-wind period, since by far the most practical alteration, had such an alteration been requested at a later date, would have been to modify the winding by the very simple addition of a winding lever. Ample space is available for this to have been carried out.

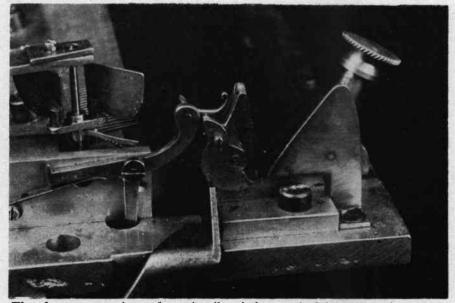
An important and interesting feature is that unlike the majority



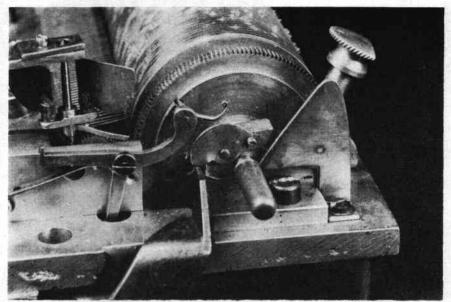
of production changeable cylinder boxes, the arrangement of salient parts remains as for a normal single - cylinder movement. The power from the spring is let down through the cylinder arbor to the governor which is in the conventional position at the opposite end to the spring. This calls for a means of locking the spring while it is under power so that the cylinder can be removed.

Practical solution

The problem has been solved in a simple, practical way. A shaft passes the barrel drive teeth, its lower end retained in a bearing cast integrally with the bedplate, and its upper end terminating at a sheet brass dial plate or index (referred to earlier). This has a bent up flange secured to the case front with two woodscrews.



The three upper views show details of the musical box controls and the positioning of the locking bar shown in the drawing overleaf. In the picture immediately above can be seen the open bearing for the right hand end of the cylinder arbor. Note the horn on the stop/start detent which is lifted by the action of opening the bearing so as to free the governor and allow it to turn as required.



Here the arbor bearing is closed with the cylinder in place. The nib of the locking bar, centre foreground, is engaged to prevent opening even if the locking screw is unlocked. For obvious reasons, the stop/start detent runs in an open flange rather than the usual annular channel. The drawing below shows the principles of operation.

This shaft has a flat formed on one side so that, when this flat side is aligned parallel with the crowns of the barrel drive teeth, there is clearance for the spring barrel to turn. In this position, the index pointer indicates that the mechanism may be played, the normal stop/start lever being used. However, if the index is turned, so turning the shaft, teeth cut into the shaft now engage in those of the motor drive cog, so preventing the mechanism from moving. As can be understood, the enormous pressure exerted on this shaft by the spring, which may be fully wound, has to be resisted and this is achieved by the large lug on the bedplate: the pressure here is, of course, exerted downwards.

That this is quite original there is no doubt, for the addition to the brass bedplate is cast in and the case furniture (the quarter-round beading pieces which locate the movement in the box), is shaped to clear this lug.

Secondary purposes

While the primary function of this shaft is to lock the spring power, it does serve a secondary purpose. At the bottom end of the shaft, after it has passed through the lug on the bedplate, it carries a small pinion engaging in a racked arm. The action of turning the index to lock the spring power also shifts the rack lever which in turn moves a locking arm which prevents the removal of the cylinders unless the index is pointing to the correct position. Small steel extension plates on the arbor bearing hinged upper parts prevent the hinged portions being unlocked until the index shaft has locked the spring.

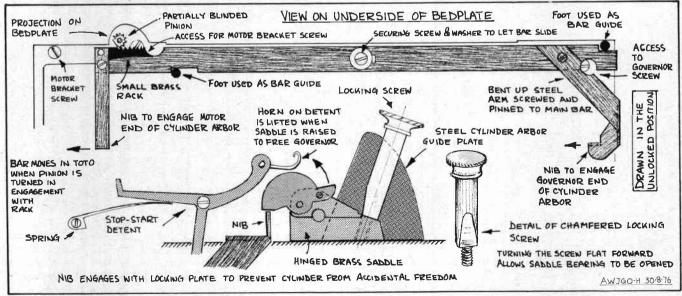
The sequence of cylinder-changing is to stop the box at the end of a tune (although the movement is basically of the three-lever type and the bedplate is pierced for an instant stop control, no instant stop is fitted and there is no indication that it ever was; the necessary hole in the inner half of the case end is present but plugged) and then to move the small pointer on the power-locking shaft to the "change" position as indicated on the index plate.

Next the two long shafts with their knurled knobs are turned to unlock the cylinder arbor bearing upper halves. These locking pieces are themselves half dog-shaped to effect the locking. The bearing caps can now be lifted.

The cylinders have slightly extended arbor ends and these are now taken hold of. The operation of changing cylinders demands more than the usual care and skill to prevent comb damage and it is perhaps significant that the comb has survived in perfect condition, indicating that, in spite of the revised winding system, perhaps it has not had too much use.

Comb characteristics

So far, little has been said about the comb, yet here we find something else quite extraordinary. The tips of approximately two-thirds of the comb teeth from the bass upwards are curved upwards. The reason for this is unknown although it has been suggested that this may have been a measure introduced to reduce chances of comb damage. This seems a little unlikely, but



obviously there must have been a reason. This type of comb characteristic has been seen before on boxes variously attributed either to Malignon or to Metert.

In the photograph shown here, the extraneous winding gearing has been removed, but it is in place in the picture on the cover.

The system of power-locking was subsequently re-vamped by Billon-Haller in 1890-91 when he granted two patents for improvements in the mechanisms of interchangeable cylinder musical boxes. In these, he used a continuouslyrotating worm gear engaged in the

Angelus Brinsmead

FOR the player piano enthusiast, an instrument which plays both 65 and 88 note rolls is covetted.

Among the very many types of piano made and player action produced, the instruments made in London by John Brinsmead are renowned for both tonal excellence and artistic appearance, and the Angelus action, with its unusual d i a p h r a g m pneumatics, is recognised as a durable and powerful player action.

This fine specimen, number 64637 which dates it as having been made around 1912, belongs to Simon Haskel in Putney. Seen (right) with the front panel removed, the unusual positioning of the drive motor indicates the multiple ability of the spoolbox. Fitted with spool drive chucks on both sides, it will play rolls of both standard and full-scale format and also rolls tracking from bottom spool to top by the simple reversal of the take-up spool.

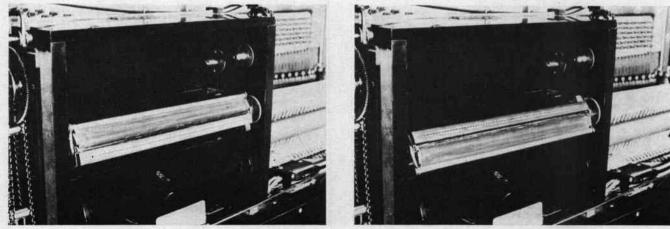
Roll tracking is by means of the large wheel just visible to the right of the tracker bar. Change from 65 to 88 note action is achieved by the raising or lowering of a blind over one of the two tracker bars. spring barrel gear and to lock the power, the depthing of this worm was varied. This was necessary because he maintained the normal relationship between motor, cylinder and governor assembly.

The music played by this mystery box includes extracts from Semiramis, Lucia de Lamamour, Nabucco, La Prophete and William Tell. There is nothing particularly outstanding in the arrangement of the music.

The box is included in the auction sale at Christie's South Kensington on October 20. Whilst it is not normally the policy of *The* Music Box to refer editorially to the items which may be in forthcoming sales, the importance of this one item was felt to warrant a departure from the rule.

The Music Box is grateful to committee member Christopher Proudfoot for permitting the detailed examination of this box, and for his observations following his close inspection of it. All photographs, including a number taken specially for The Music Box, are by Christie's South Kensington to whom the Editor expresses his sincere thanks.





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BARREL ORGAN REDIVIVUS

Part 1 Chelmsford's Black Chapel Introduction by Roger Booty

I HAVE found that it is not very often that local newspapers print anything to do with mechanical music and when they do it usually involves weird mis-spellings of Marenghi or Gavioli when they describe the fair organ at a traction engine rally or similar affair.

Last February however, one of my "locals", the Chelmsford Weekly News, came up with a photo of society member Freddie Hill with the barrele organ he had restored for the Black Chapel. Now, if you speak of the Black Chapel when in mid-Essex there is a fair chance that you will not be answered by blank stares, especially if the person you're speaking to travels occasionally on the A130 from Chelmsford to Great Dunmow, because it is by this road the chapel stands. Usually it is referred to as being in the one mile distant village of Ford End. but is actually in North End, although that hamlet is a half mile from the main road.

The chapel was built in the early 15th century and is a rare example of a timber framed medieval chapel with a priests house attached. It is a "peculiar" chapel, that is, outside the jurisdiction of the Bishop of the Diocese and of the





local vicar and has never been a parish church so has no burials or marriages. It is now managed by a group of trustees.

Services are held every Sunday and the barrel organ is often used. The caretaker, who gave me the historical information, lives in the adjoining priests house and will gladly open the chapel at any reasonable time. But please do not call on a Saturday afternoon as this is his one half day off and he likes watching sport on television.

Restoration by Freddie Hill

BLACK CHAPEL is a rare example of a surviving ecclesiastical building entirely timber framed and with a priest's house attached. It dates from the 14th century and features a charming simplicity of design both inside and out. The original box pews are still in situ as is a mediaeval screen as well as some older carved pews. It has a tiny West Gallery on which there stands the subject of this article, a fine barrel organ which, with its unusual twin towers of gilded pipes, presents a handsome appearance when viewed from ground level.

Black Chapel was severely damaged by enemy bombing during the last war and has recently been restored to excellent condition. It now looks very much as it did in the early 19th century when it was at the peak of its use.

I discovered the barrel organ in 1962 at which time I had it photographed and took particulars of the instrument. Twelve years later in 1974—I was commissioned to rebuild and restore the organ to good playing order.

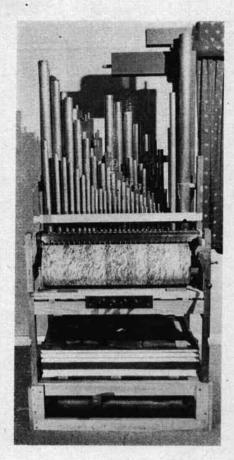
The organ had been silent for

about one hundred years and was in a deplorable state of disrepair. A great many of the pipes were missing.

After removing the organ to my workshop at Shackleford, I have completely rebuilt the instrument and it is playing well. The work involved was pretty extensive and I had to build a completely new frame, remake the bellows and do a considerable amount of work on the pipework which including fit-



Far left: Freddie Hill with the organ during re-erection at the Black Chapel, shown in the heading picture. Immediately above can be seen the organ after restoration showing its unusual and tasteful appearance.



ting a rank of 28 pipes adapted from a second hand pipes to form a 15th stop, and providing several new pipes to the Principal.

Action repair included a remake of the sticker action and other tasks involved making a new foot blower, new rack boards and so on.

The barrels required a lot of repinning work and some wrong notes and harmonies corrected. New barrel drive wheels had to be made and fitted.

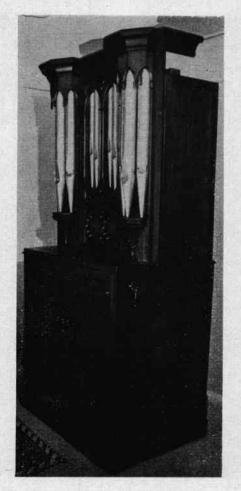
During repair and restoration work on the wood pipes, it was found that some of the treble pipes of the Stopped Diapason probably date from the 18th century. The metal pipes, incidentally, are conetuned.

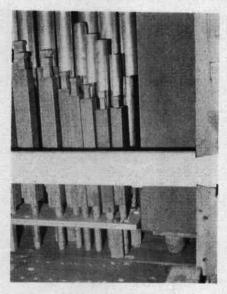
Rededicated

On Saturday, February 21 this year, I took the organ back to Black Chapel and set it up. The following day, being Sunday, I played the organ for a service of re-dedication and the congregation sang two hymns from the barrels successfully. The barrel organ is now once more in regular use.

For the technically-minded, the specifications of the organ is as follows: The maker is unknown. The organ stands on the West Gallery and has a fine mahogany case with two towers and gilded display pipes, and two central flats

If you look up Ford End under the county of Essex in Langwill & Boston's Church & Chamber Barrel Organs, you will find the cryptic comment: "In very poor state in West Gallery (1965)". It is therefore all the more reassuring for the preservationist to see these pictures of the organ which were taken during its restoration at the beginning of this year. On the left is a general view of the instrument without its casework in place. The mitred bass pipes of the stopped diapason — a measure taken by the builder to reduce the overall height - can clearly be seen. The detail picture on the right shows some of the early pipework which survived in the organ. The feet of these stopped wooden flues are cleaved to an octagonal section save where they are rounded off where they enter the soundboard. Lathe-turned feet for wooden pipes came somewhat later. The lightcoloured timber crossing in front of the pipes and dovetailed at the right is a cross piece in the building frame. Below is a view of the completed instrument showing its tasteful and unusual lines.





with carved trefoil decorations. Overall dimensions are: height 7ft 6in (2.29m); width 3ft 3in (0.99m); depth 2ft $4\frac{1}{2}$ in ((0.725m). Date of construction c1830-40.

There are 28 notes with compass as shown below. There are 100 pipes comprising Stopped Diapason 8ft, Principle 4ft, Open Diapason from G (8ft), and Fifteenth 2ft. The organ is foot-blown and speaks on $1\frac{3}{4}$ in (45mm) water gauge wind pressure. The single bellows feeder is in conjunction with a horizontal reservoir with double fold.

The organ has two barrels, each measuring $29\frac{1}{2}$ in (75cm) long. One has a diameter of $8\frac{1}{2}$ in (21.5cm), and the other $7\frac{1}{2}$ in (19cm).

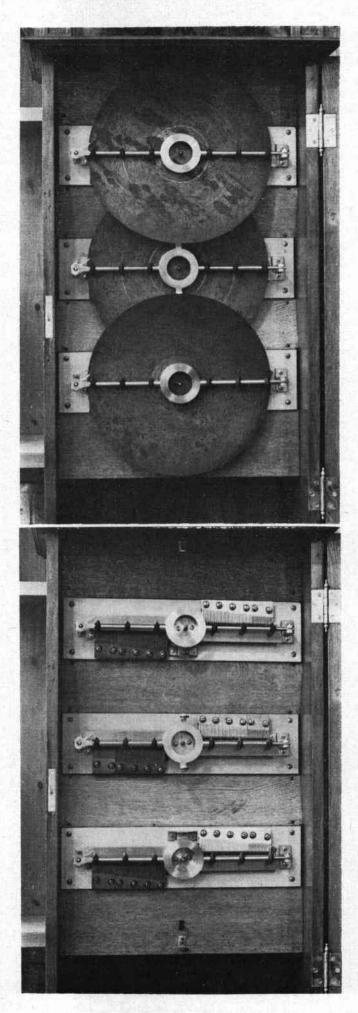
Music performed

The tunes played are as follows —there are 10 tunes on each barrel:

Barr	el I		
No.	Title	Meter	Key
1.	St Anne	CM	Ď
	St James	CM	Ā
	Bedford	CM	D
4.	(unidentified)	CM	D
5.	New York	СМ	D
	Darwalls	6.6.6.8.8	D
7.	Montgomery	10,10,11,11,	D
8.	Manchester	СМ	D
9.	Double Chant		D
10.	Abridge	СМ	D
Barr	el II		
No.	Title	Meter	Key
1.		LM	A
2.		10,10,11,11.	A
	St Stephen	CM	A
4.	Evening Hymn	LM	A
5.	Mount Ephraim	SM	D
	Adeste Fidelis	Irregular	Ā
	Abingdon	ČM	A
8.		PM	D
9.		87,87,47	Ď
10.		8,7,8,7,8,8,7	Ã
CDI	DITE		

CREDITS

The picture of the organ with Freddie Hill, page 276, lower left, is reproduced with grateful acknowledgement to The Chelmsford Weekly News, The heading picture of the Black Chapel is by Roger Booty. The remainder are by Freddie Hill.

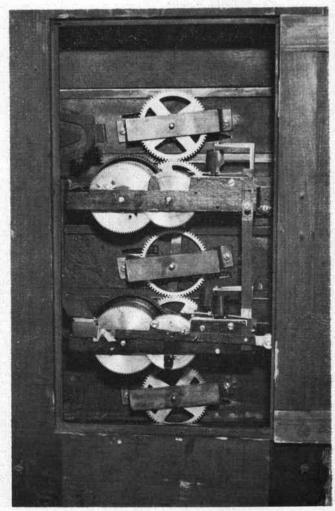


THE EROICA

AMONG the multiple-disc musical boxes, the example which survives in the greatest numbers is the Symphonion Eroica, described on page 279. The mechanism of this 300-toothed instrument is extremely interesting. While it would operate pefectly well with three copies of the same disc, the full beautiful effect was only apparent when a set of the three special discs, marked A, B and C, were used. The comb mechanism was described as *Sublime Harmonie Piccolo and Piano*. The descriptive literature reads : "The unexcelled capacity of modulating produced by this instrument, produces musical effects which never have been heard before in any mechanical Music Box."

The disposition of the 12 combs, the two large spring motors and the coin-freed operation are clearly shown in these pictures of a specimen belonging to Keith Harding.

At least half a dozen different styles of Eroica were produced. The basic Style No 38 featured a discstorage base built integrally with the case. This base was sometimes hinged as a storage bin, or was only accessible by opening the main, glazed and gilded door. The whole was surmounted by a gallery top. Style 38a was similar but featured a carved wooden door and a Lenzkirch clock on top. Style 38b featured a slightly shorter, but infinitely more orante, fully-carved case, also with a clock on top. Just 99 sets of disc titles were available in the catalogue.



DISC MUSICAL BOX DEVELOPMENT

by Arthur W J G Ord-Hume

THE disc musical box developed along some particularly interesting lines, certainly as regards what we generally call the table model which plays its disc horizontally.

The first production Symphonion featured a diagonal iron bedplate in a small square wooden case. This was soon altered to a rectangular bedplate arranged centrally across the broader width of the rectangular case. This allowed small soundboards to be screwed either side of the bedplate. The first Polyphon, — the smallest — had a square case with a full-sized, square bedplate which deflected the sound down through the bottom of the box.

Just as cylinder boxes very rapidly acquired feet to allow the sound to pass via the bottom to the open air, disc machines also acquired feet of one form or another—some being attractively turned, others being rudimentary extensions to the case sides.

In all instances, the clockwork motor of the early disc machine was underneath the bedplate. When the first upright machine was made with the clockwork placed below the musicwork bedplate rather than interposed between it and the case back (or back in this instance), the improvement in tone was marked and it did not take manufacturers long to appreciate the tonal advantages to be gained from leaving clear space between bedplate and case.

Acoustic case

Probably the first to put theory into practice was Bruno Ruckert with the Orphenion wherein, although the motor remained below the bedplate, the bedplate was now extended to bring motor and governor to one side of the case. This same style of extended bedplate was to become a feature of the Swiss Stella and Mira as well as the larger Regina and Polyphon machines.

While some manufacturers were experimenting with soundposts to provide a direct acoustic connection between bedplate and case, the Adler (significantly built in Bruno Ruckert's old factory after his business had closed) was the

first to develop the proper acoustic case wherein a deep, well-finished box was equipped with a musical movement screwed firmly to a soundboard bottom, and the spring driving motor was separated in a compartment to one side, usually the right. What virtually had been created was a horizontal upright musical box and, if you stand an instrument on its side, with the motor compartment downwards, you will see that the machine is nothing more that a horizontal arrangement of a vertical model as distinct from the former arrangement where in the one you had a horizontal juxtaposition of components which was quite different that used in the vertical to machines.

Superb tone

The increase in volume which this arrangement produced led other makers to adopt the acoustic cabinet and after Adler (and with it Zimmermann's other box, the Fortuna), came the superb tone of the Lochmann Original and the larger sizes of Kalliope.

The a c o u s t i c cabinet also featured in Regina with the 15[‡]in short bed-plate model being best known to collectors today. Even so, it would seem that Symphonion continued to rely on the silvery tones of their normally-arranged table models, enhanced by the *sublime harmonie* arrangement of their combs. Similarly, Polyphon seldom went in for acoustic design, preserving in production the mid-1880 construction and design styles up to the piano ochestrion period.

In Switzerland, the large upright Britannia was made in one style with a double back piano-type sounding board and a small, long narrow door at the back of each side could be opened to increase the apparent volume of sound.

Wall reflection

Polyphon among others always advised users of upright models to stand them against a wall and tip them slightly so that the back was pressed against the wall and the weight was taken on the front case feet. A wooden cross member was provided to this end near the top of the case back. This way, the wall could be used to reflect the sound and improve the volume and frequency response.

Aside from these considerations, the disc musical box also passed through two other important development phases. These centred on methods whereby a machine was able to play two or more discs at once, and on machines which could change their own disc automatically. A third and final phase is represented by a breed of instrument which was hardly a development of the disc musical box, but more an attempt to bridge the gap between musical box and phonograph. These were the dual-purpose machines which could play musical box discs or gramophone records. Dealing with these mutations in chronological order, then, we have:

Multiple disc musical boxes

The most renowned multi-disc machine is without question the Symphonion Eroica which played no fewer than three discs at once. This instrument was patented by Oskar Paul Lochmann and his British patent is number 18,356 dated September 30, 1893. It was introduced to the British market by London agent Henry Klein at Christmas, 1895. This spectacular upright musical box with its three hundred comb teeth arranged in six combs, two per disc, was expensive at 65 guineas (£68.25). Three 14in (35.5cm) discs were used and these could either be three copies of the same disc or specially-made sets marked A, B and C. Large numbers were made and the type is not uncommon throughout Europe. American-made models survive but are not so prolific.

In America, the Symphonion Manufacturing Company also produced a triple disc machine, only this played its three discs side-byside in a piano-style cabinet. This used three 17[§]in (44.8cm) in diameter and again discs were produced in sets of three. These are unknown in Europe and very rare in America (see page 89).

As well as triples, Symphonion in both Leipzig and Asbury Park made twin-disc models. The Leipzig product was a table machine which used 117 in (30cm) discs mounted horizontally side by side. This was also made in America for a time, but the philosophy which produced Imperial's vertical sideby-side triple was used to create a similar-styled twin disc version which also used $17\frac{5}{8}$ in (44.8cm) discs. Due to the short-lived production of the Imperial Symphonion, these models are very rare in America and are unknown in Europe. The Leipzig-style table twin survives in small numbers in Europe while the Asbury Parkbuilt model of the same style survives in very small quantities in America.

Polyphon made a twin vertical side-by-side version of the $24\frac{1}{2}''$ (62.5cm) but none is known to survive. The same can be said of the Fortuna Orchestrion, a twin version of the 26" (66.5cm) model. This was produced under both Adler and Fortuna names. This appeared in London in 1900, stood six feet high, five feet wide and cost a staggering £90. Few can have been sold at that price.

Lochmann's "Original" was produced as a double which played two $24\frac{3}{8}$ in (62cm) discs. This was in 1903. However, of all the multiples made, one was radically different from all others. This was the Monopol Gloria, only one example of which is known and this is in the collection of J B Nethercutt. The instrument plays two $26\frac{3}{8}$ in (70cm) discs vertically, one above the other, from a common drive wheel with contrate teeth so that the discs rotate in opposite directions (see page 176).

Self-changers

The first patent for a musical box which changed its own discs came relatively early on in the history of the disc machine. British Patent number 17,113 of September 24, 1892 was taken out by E and C Stransky for a coin-operated disc musical box which changed its tunes. Nothing then happened until 1896 when E P Riessner of Polyphon received British Patent number 11,469 dated May 26, 1896 for a tune-changing device for a coin-operated disc musical box.

Next came E Breslauer with British Patent number 9308 dated April 22, 1898 for a similar device upon which he improved with another patent granted on October 4, 1898 — number 20,913. Gustave A Brachhausen was granted British Patent number 5569 dated March 14, 1899 for a self-changer which was obviously the Polyphon. British Patent number 9688 of May 8, 1899, was granted to the agent of Hermann Thorens for a discchanger, and number 16,883 was granted to W A Drysdale for a changer and tune counter on August 19, 1899.

E P Riessner's British Patent number 23,200 of November 21, 1899, was unusual in that it covered a changeable-disc mechanism whose discs had radial slots from centre to periphery so that the disc could be taken off and put on without moving the pressure bar. British Patent number 24,877 of December 14, 1899, went to Fabrik Lochmann'scher Musikwerk for a selfchanging Symphonion. On May 29. 1900, G Varrelman was awarded Patent number 9913 for a selfchanger as was Gustave Brachhausen for an improved system on September 20, 1900 with British Patent number 16,794. Barnett Henry Abrahams of St. Croix received a similar patent (number 21.215) on November 23, 1900 and the following year, on July 12, Fabrik Lochmann'scher Musikwerke was granted British Patent number 14,249 for an improved self-changing Symphonion. The company received another patent, number 2583 dated January 31, 1902, for a horizontal self-changer.

A number of these patented inventions never seem to have seen the light of day. For example, no self-changing Britannia is known, nor is there a self-changing Edelweiss. Models which do survive, however, comprise Regina (large numbers), Polyphon (scarce) and Symphonion (only two known).

Regina changers were styled Corona, the smallest being the $15\frac{1}{2}$ in (39.8cm) Regina Corona. Next was the $20\frac{3}{4}$ in (52.4cm) Sublima Corona and then the 27in (68.6cm) Orchestral Corona. The 32in (81.3cm) piano orchestrion was also a self-changer using the same disc-change system.

Polyphon changers began with several models of the $15\frac{1}{2}$ in (39.8cm) which are today very rare, the $19\frac{1}{5}$ in (50cm) model which is rare; the $22\frac{1}{2}$ in (56cm) model several of which are known; the $24\frac{1}{2}$ in (62.5cm) model, several of which are known.

Symphonion listed two different types of disc changing 14in (35.5cm) instrument. Both were horizontal machines. The first style played through 25 discs, discarding each

one after playing, allowing them to pass through a slot in the back of the case on to the table (or floor) behind. The second operated along more conventional principles al-though this, too, was a table machine. This stored eight discs in a horizontal rack. The lid of this model had a clear glass panel in it so that the mechanism could be watched. None of either model is known to survive. Several styles of the 214 in (54cm) upright selfchanger were made, each containing basically the same changing mechanism similar to that used by Regina and Polyphon. Only two of these are known to survive.

Phonopectines

Disc-playing musical boxes incorporating a means of adjusting the mechanism so that gramophone or phonograph recordings could be played I have styled phonopectines.* The best known of the breed and the one which survives in largest quantities is the Reginaphone. Regina musical boxes which could be fitted with attachments for playing discs comprised the $12\frac{1}{4}$ in (31.2cm) which came as either a table or a console model and the extra items totalled \$25: 15¹/₂in (39.8cm) available in several styles of table model and consoles: 20³/_ain (52.4cm) table models in different style cases; 27in (68.6cm) one style in massive console-style cabinet, of which, according to Bowers† only ten were made.

The Swiss-made Mira also produced as a phonopectine and, apparently, sold well in America. None is known, though. Lochmann made provision for optional attachments to his "Original" Concerto Piano disc machine.

Two models of the Polyphon were also so-provided. In Germany these were known as Polygraphons but in English-speaking areas they were named Gramo-Polyphon. Both $15\frac{1}{2}$ in (39.8cm) and $24\frac{1}{2}$ in (62.5cm) models were available but none is known today.

The principle of operation varied. Some of these were belt-and-pulleydriven turntables which were carried on fixed pivots fitted to the bedplate, others used spigotted turntables which engaged with a dogged spindle which formed an extension to a suitable wheel arbor in the gear train. At all times,

†Encylopedia of Automatic Musical Instruments, p.202.

^{*}Should anyone question the etymology of a word that is half Greek (phonos sound) and half Latin (pectin — comb), then he should consider the word television!

though, the spindle for playing the record on was not the same as that used for the comb-playing disc for the simple reason that the latter was too large in diameter. A tonearm and diaphragm sound-box was provided which engaged with a suitable opening in the case. With the early, smaller instruments, the entire sound-producing part was very much an add-on affair, tonearm, sound-box and large wood or metal horn being carried on a special bar which had to be clamped to the side of the musical box case. The Reginaphone used the space under the music-box bedplate as an acoustic box or amplifier which

served equally well for gramophone record and musical box disc and, certainly as a musical box, these sounded extremely good as all American collectors know.

Nevertheless, an instrument modified to serve two fundamentally different functions can seldom be expected to perform either function perfectly. At best the phonopectine must have made either a poor gramophone or a poor musical box. Maybe Reginaphones came closest to a common perfection, but the need to proceed with the perfection of the mechanism died almost immediately with the disc musical box era.

MORE LIGHT ON LIMONAIRE

CONCURRENT with the publication on page 213 of our article on the paradoxical Limonaire Freres, the journal of the Kring van Draaiorgelvrienden, *Het Pierement*, published a series of articles on researches by KVD members into Limonaire. This strange coincidence becomes all the more interesting when we find that Het Pierement's material concerns the other Limonaire daughter and her recollections. Here, in a translation by Saskia Fry and with permission of Jan van Dinteren, KVD's editor, we present a collage of these articles

IT took a lot of time and trouble to gather enough information to compose an acceptable article about one of the organ manufacturers that has influenced the organ scene today, e.g. the firm Limonaire Frères in Paris.

It is remarkable that, when inquiring among the real organ-fans, nobody knew who or what Limonaire Frères were. Apparently nobody has ever bothered to find out more about the identity of the many beautiful Limonaire organs. A1though we were wished a lot of success with our inquiries by foreign owners of Limonaire organs, they seemed afraid that documentation material would be obtained from the only surviving member of the family: Madame Flament-Limonaire.

The one who was not secretive and let me even copy an original letter from Madame Flament, was Marcel Colau in France, owner of several French organs of which one is a 60-key Limonaire. This letter meant the start of this article.

The letter is dated in 1972 and comes from one of the daughters (or the only daughter): Madame M Flament-Limonaire, 37 Rue Borghese, Neully-sur-Seine. It must be noted that she has died since then. She writes to Marcel Colau:

"The Limonaire family originates from the French Basque country and traded in and with pianos. Through marriages with Parisians, several members of the family settled in Paris. My grandfather Antoine Limonaire lived in 20 Rue des Petits Champs, if I remember rightly. It was a big house, which still exists. After the 1870 war a perfumery moved in. After the death of my grandfather, my father, Camille Limonaire, who was very musical, ran the business with his brother who supervised the workers¹.

"Antoine came in contact with an Italian playing a barrel-organ on the streets. This instrument was practically finished but it was his sole means of support. Grandfather told the Italian that he had some knowledge of pianos and that he would see what he could do with the barrel-organ. He was lucky to get it going again. That was the start of the Limonaires in organs, continued my father, who later became famous. I have been in contact with Raymond Bovy in Belgium. He owns a Limonaire which stayed hidden during three Franco-German wars.² He will probably be able to give more information³.

"Camille Limonaire has given a recital for the E L Francaise⁴ and has been called "grand-constructor No. 1 of the world".

"Sir, this is what I want to tell you. I am old and very busy at the moment and very tired. If I happen to remember anything else that might be of interest to you I will let you know. I honoured my father, a hard worker and a very good and simple man.

"With my best wishes — 37 Rue Borghese, Neuilly-sur-Seine, in the "Home du Pharmacien", Seine Port, dated 12th November. M G Flament-Limonaire".

According to information given by Leon Honorez, an old employee of Limonaire, father Antoine Limonaire had two sons, Camille and Eugène, who would later found the firm Limonaire Frères.

As Madame Flament wrote, father Limonaire was dealing with pianos, the brothers Limonaire manufactured fair - attractions. It is not clear how they started. They had about 40 employees.

Jaap Stuy, a well-known fairworker from Sliedrecht in Holland, writes in a letter dated 22nd April, 1975, the following.

"The machines the firm Limonaire built were mainly the so called "velodrômes" — bicycle mills an original English design by Savage of Kings Lynn. In 1865 Savage gave the licensing rights for the continent to Limonaire in Paris. In England this contraption was called "velocipede" and was in the open air. Later a steam engine was added and it was put under cover in a tent.

Jaap Stuy owns the only remaining velodrôme in Holland. An advertisement from 1927 of Ed Rodrigus from Gent, Belgium offering for sale "a bicycle mill of a 10 metre diameter, with 10 chairs for 2 persons, and 20 bicycles making a total of 40 seats and with a 54key Limonaire organ".

This is the machine that still exists and owned by Jaap Stuy. The velodrôme has mirrors in the pillars, outer edge and wings, and a remarkable feature is that instead of a cog-wheel it has a rubber-belt drive. This was attached to the inside of the bicycles and caused far less noise than a cog-wheel drive would. The 10 metre diameter machine was the most popular, although Limonaire sold 2 or 3 pieces of a 9 metre and just one of a 12 metre diameter. In total probably 100 were made, of which maybe only

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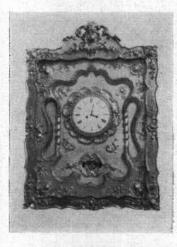
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one is still in existance. Mr Stuy also writes that in the pedals of the bicycles the name Limonaire-Paris has been moulded. On the front of the bicycles are the initials E R, which means that Ed Rodrigus ordered the velodrôme from Limonaire.

According to Leon Honorez, and contrary to what Madame Flament wrote about the start of the building of organs, the organ activities started really seriously when Charles Anciaume, an Italian who used to work for Gavioli, joined the firm. He was nicknamed "le père Anciaume", and came originally from Geraardsbergen, Belgium, where he either made or repaired cylinder organs.

Only one generation of Limonaires was involved in building organs. Camille and Eugène had no children who could continue the business. If Madame Flament was the only child of Camille is not known. Eugène was mainly concerned with manufacturing velodrômes, Camille with manufacturing organs. According to Mr Honorez, Camille could tune organs.

Organ construction

Now we are coming to the manufacture of the organs. The bigger pieces were built in the Rue Claude Decamp, the finishing touches were done in the Avenue Daumesnil. Limonaire had, after Gavioli finished trading, for some time a factory in Waldkirch, Germany, which was probably managed first by Richard, then by Alfred Bruder. Here Limonaire organs were built with German influences. They differ from the French. It is still possible to find examples of these in England. They had also premises in the Rue Plantin in Brussels, where organs could be repaired, and there were agencies in Lyon, London and Spain.

One of the music arrangers — a "noteur" — at Limonaire's was a certain Blanche, who was friendly with Carl Frei Senior during his French period.

With the separation of Church and State in France, many organ builders were out of work and a number turned to manufacturing mechanical organs. There was a family Drijvers, originally Dutch. Father Drijvers found work as organ-builder with the firm Anneesens in Menen, Belgium. His sons were Urbain, Denis and Ernest. Denis Drijvers found work with Limonaire and to him must be contributed the remarkable fast mechanism for note repetition so characteristic of the Limonaire organs. Ernest did repair work for fairorgans in Liège, Belgium, while the brothers Urbain and Denis, before World War I, made mechanisms for player pianos in Paris.

Société Limonaire

Designer and draughtsman of the fronts of the Limonaire organs was Zotocornella, an Italian by origin. His studio was in Avenue Taillebourg, across from the firm Marenghi. Zotocornella also worked for them. The organ statues came from southern Tyrol, probably from one of the firms of Demetz, who worked for so many organ manu-facturers. After the death of Camille and Eugène Limonaire, the firm carried on for a while under the name Société Limonaire, with a certain Toutain as director. At an exhibition in Brussels in 1935. Leon Honorez heard talk about this society. They were represented with a roundabout with big boxes in which the public could sit. The lids of these boxes could be opened or closed like a changed version of a "caterpillar", in French called "chenille". Around 1912 the Société Limonaire bought the trademark of Gavioli.

A friendly relationship existed between Limonaire and Marenghi. When one had an organ finished, the other was invited to celebrate.

Gaudin

Gaudin, who had worked for the church organ builders De Bieres of Nantes,* France, was designer and draughtsman with Charles Marenghi. After the latter's death, he took over the firm and worked partly under the name Marenghi.

Gasparini

Together with details on Limonaire, Leon Honorez also gave information about other organ manufacturers.

Alexandre Gasparini arrived in Paris after the war of 1870 with his friend Scapini from Lombardy in Northern Italy. Gasparini first worked for Gavioli and later started on his own. Scapini was the

NOTES:

- 1. No further details known.
- 2. Seems impossible, because this organ was probably built around 1900. Most surely is meant 2 wars.
- This information was never received by the author nor by the editors.

 It is not clear what is meant here, may be a music academy.

*Here the author probably means the organ builder Louis Debierre of 35 rue St André and 30 rue St Clément who was in business from c.1903. A O-H founder of a firm that produced pastas, such as macaroni. The French minister Scapini belonged to this family.

Foucher was the son-in-law of Gasparini. After the death of Gasparini, the firm Foucher-Gasparini run by H Foucher existed until 1914 when it was taken over by Butel. Leon Honorez has seen Gavioli organs modernised by Butel. With the 52nd Gasparini on exhibition in the Nationaal Museum Van Speeldoos tot Pierement in Utrecht, Holland, are a few organ-books with the name Butel.

Dussaux-Lemoine

This firm was around 1905 situated in the Rue de Lille in St. Andrè/Lille, France. Dussaux was a representative of the businessman Albert Lemoine. Most of the staff came from Limonaire. In about 1910 Dussaux & Co. constructed an organ with 4 real clarions and 60 brass trumpets, which needed a separate blowing mechanism. The resulting blaring sound could be regulated, necessary because on fairs this organ was inclined to drown the others present. In 1907 the business was styled Dusseaux. Lemoine & Cie at 22/24 rue d'Alsace-Lorraine in St. Andrè and was described as organ and street piano builders.

Honorez

Leon Honorez, born in 1889, has been living in Brussels the last years. When he was 13, he started as an apprentice with Gavioli. His sister married Fassano who was a foreman at Gavioli's specialising in tuning organs. In a general way will be explained about his life, to show how richly varied it must have been. Dates are approximations.

He worked from 1902-1904 at Gavioli's, until 1910 at Marenghi's and then a few months at Mortier's. During the period 1910-1912 he was with Fassano, then till 1914 with Dussaux-Lemoine in Lille in Northern France. From 1919 to 1921 he was an associate of his bother-inlaw Fassano and after that period he started on his own.

Conclusion

In this collection of data we have shown some information about the company Limonaire and other French organ builders. We do not pretend to have been complete in all the facts and events, but a lot of interesting news about important houses and their influence on the Dutch organ development has been lost. But more details might still come to light. We are very much indebted to the organ builder Leon Honorez and KVD member Jos Roelandt, who both live in Brussels. Jos Roelandt has had quite a few interviews with Leon Honorez asking him many questions formulated by us.

We also like to acknowledge the cooperation of the following persons who have helped with the realisation of this article :

Marcel Colau (Beauvois-en-Cambresis, France) in connection with correspondence with Madame Flament - Limonaire, Piet Smeising (Made, Holland), and Jaap Stuy (Sliedrecht, Holland) for information about the Limonaire fair organs.

Jam L M van Dinteren

Jos Roelandt writes from Brussels in a letter dated May 20, 1976 :

WITH great regret and sadness I have to let you know that our friend Leon Honorez has died on Monday 10.

Thanks to the KVD, Leon Honorez will not be forgotten.

He came from a family that had suffered a lot during the war in 1870. He was born in 1889, started in 1902 as an apprentice with Gavioli in Paris. There he made friends with Carl Frei, who was sent to Paris to study with Ludovic Gavioli. Later he worked with Marenghi where he learned the draughting of organ designs, and he completed his education there from 1905-1910.

One day Marenghi sold an organ to a Russian, Chichliaoff. Honorez travelled three days and three nights to Odessa to install the organ. He had to present himself every day at the police headquarters, because of the bloody events of the "Potemkine" and the "Bloody Steps" had just taken place. In Odessa he noticed that practically all cinemas had very complicated German orchestrions with double roll players.

After 1910 he worked for a few months for Mortier; and on some occasions did some work for Limonaire. He tuned pipes there for 30 centimes a piece, but he quarrelled a lot with Camille Limonaire. They differed totally in character.

From 1910-1912 he was with his brother-in-law, Fassano, and till 1914 he worked for Dussaux-Lemoine. In 1919 he became partners with Fassano until 1921.

In 1919 he repaired a Limonaire 92 Key, which had been hidden during the 1914-1918 war. Fifty years later he discovered this same organ in Mr Staelens' possession. He repaired it in such a way that recordings could be made of it. After a few months back with Mortier, he started on his own in Brussels.

He also repaired for recording the organ Madeleine, a Mortier, and paid special attention to the accordion, although he did not have much liking for building an accordion in a pipe-organ.

He was also the only one courageous enough to try to repair the famous "Limonaire 1900". And he succeeded grandly. When Leon Honorez tuned an organ the original sound stayed the same: a Limonaire stayed a Limonaire.

So ends the letter of Jos Roelandt, which was written in Flemish.

Postscript

After reading this letter we must feel lucky that it was possible to obtain the information from Leon Honorez regarding the French organ builders, so it can be preserved for those interested. In this article, we have been able to quote a few interesting details about the Limonaire company. Without the help of Leon Honorez, this would not have been possible, and so also his name will not be lost in oblivion.

The ingenious Vaucanson

FROM the book *Heroes of the Laboratory* by C L Brightwell; published in 1859 by George Routledge & Sons, London, comes this chapter headed "*Vaucanson — Automata, Born* 1709 — Died 1782". Discovered and submitted by Jack Tempest _____

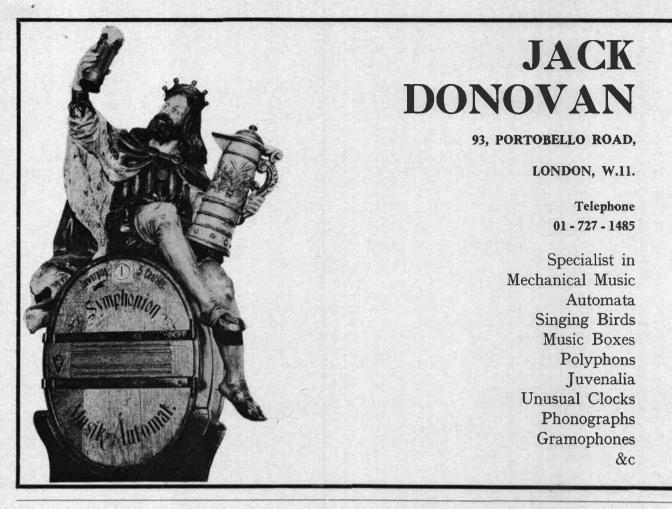
AMONG automata (or self-moving machines) are properly reckoned all mechanical engines which go by springs and weights, such as clocks, watches, etc. The term, however, is generally applied to mechanism of another description, in which ingenuity of machinists has performed such marvels as almost surpass the limit of belief.

Historians have, doubtless, exaggerated in their accounts of the wonders of certain of these artificial machines; yet, what we have seen effected in modern times of this description, tends to diminish our credulity. For example, King Theodric, when writing to one of these skilled constructors says, "By means of your art, metals emit sounds, birds sing, serpents hiss, and you can give to animals a harmony which they have not received from nature". How near an approach has been made to the accomplishment of all this, we shall perceive while speaking of Jaques Vaucanson and his wonderful automata.

This skillful artisan, when he was yet a boy, showed a surprising turn for mechanical invention. He was born at Grenoble in 1709. Of his father nothing is known; but his mother, who had the care of his education, made him her constant companion, and the boy accompanied her in the visits she paid to her female friends, especially on Sundays and *fete* days. On these

occasions little Jack was left to his own resources for amusement, while the good dames conversed together; and it so chanced that, in one house he was occasionally taken to, there was a crack in a partition wall, which the urchin espying, began to peep through. He found. as he did so, that he could see part of the mechanism of a clock, which hung on the adjoining wall. With curious eyes he watched its movements, of which a portion only was visible to him. It was the first time he had ever thought about the subject; but now his attention was attracted, and he resolved he would make himself a master of the whole contrivance and ordering of the clockwork. The next time he went there, he took with him a pencil, and occupied himself in drawing as much as he could see of the springs; and in this manner he succeeded in understanding their plan. At length, all at once, he caught the idea of the escapement movement, and before long he contrived, with some pieces of wood and some rough tools, to make a clock, which kept time pretty correctly. His natural genius had discovered itself, and he was thenceforward a mechanician, heart and soul devoted to the study of that which he resolved would be his calling in life.

His childish efforts were employed in constructing a baby-house chapel, for which he made little angels that flapped their wings, and



some figures dressed as priests, which moved slowly.

He was still but a youth when, chancing to go to Lyons, he heard that a meeting was to be held for the discussion of a plan for supplying the whole town with water by means of a hydraulic machine. The idea attracted his attention, and he instantly set to work to construct such a machine, and actually succeeded in his purpose, but timidity prevented him for presenting it for approval. Being at Paris some time after he was filled with sur-prise and delight to find that the plan of the machine called there the Samaritaine was precisely the same as that he had invented in Lyons. This convinced him of his powers, and inspired him with courage in which he was naturally deficient. He now gave himself up with great diligence to the study of anatomy, music, and mechanics, and for some years occupied himself in this manner.

The flute-player of the Tuileries gave him the idea of constructing a similar work; but he was prevented from undertaking it in consequence of the reproaches of his uncle, who thought it a waste of time; and it was not accomplished until, being laid aside by a long illness, he employed the weary hours of his convalescence in that manner. He succeeded to admiration, and made a small figure, which played the flute with astonishing precision. Some time after he exhibited a tambourine - player; two geese, which dabbled on the ground, looking for corn, and picking it out of a trough, swallowed it. Vaucanson also discovered a means of imitating the animal digestion in a remarkable manner.

In 1740 the King of Prussia, who endeavoured to attach remarkable men to his court, made offers to Vaucanson, who, however, preferred remaining in his own country.

Not long after, Cardinal Fleury engaged his services, intrusting him the inspection of silk manufactures. He now had a field for the useful employment of his skill in mechanics in this situation, which he had not sought, but which he owed entirely to the superiority of his talents, perfected by self-culture and long persevering study. His efforts in this department were crowned with success. He brought to perfection an improved method of preparing silk, and constructed various machines, remarkable for the uniformity and precision of their movements, and the consequent regularity of their operation. Of this machinery he gave, in the Record of the Academy of Sciences, of which he was a member, ample and excellent accounts. He possessed in a very rare degree the talent of describing machinery with clearness and precision. He had the gift of perspicacity, and could see with a glance, and describe with equal readiness.

So much importance was attached to these labours, that the jealousy of the ignorant operatives was awakened; and on one occasion, during the journey to Lyons, Vaucanson was pursued and pelted with stones by an angry mob, who threatened to kill him for diminishing the value of their work by means of his machinery. He took a curious mode of revenge himself, in constructing a machine with which an ass executed a piece of flowered stuff !

Another of his remarkable productions was an asp which he made for the representation of Marmontel's Cleopatra. It imitated all the movements of the living reptile, and hissed to the lie. This gave rise to a *bon-mot*: someone, being asked his opinion of the merits of the tragedy, replied, "I am of the opinion of the asp"! Vaucanson also made a mechanism to imitate the circulation of the blood, in which Louis XV took much interest; but he abandoned it on account of the extreme slowness of the progress made by the royal workmen. Probably he was anxious to confine his attention to more profitable matters.

He had now justly obtained himself great renown; and the celebrated Voltaire, sharing in the general feelings of admiration entertained for this really remarkable man, wrote some lines in his honour, in which he was compared to Prometheus, who snatched fire from the heavens to animate the work of his hands.

In the latter years of Vaucanson's life, he was severly afflicted by long and painful disease; nevertheless, he preserved all his energy and spirit unimpaired. To the very last he employed himself diligently about the construction of a machine he had invented for making an interminable chain — "Lose no

Record Reviews

THERE are three records which I would like to comment on this month. Two at least feature something which is, in my opinion, outstanding and of interest to the real enthusiast for the sounds of mechanical instruments.

The first of my records is a 7in (107mm) LP of the instrument discussed in detail in the feature article on pages 222 to 224. The **Great Stalacpipe Organ** is published by Luray Manufacturing & Distributing Company, Inc, Luray, Virginia 22835 and features nine pieces of music played on this most unusual instrument formed from 64 acres of tuned stalactites.

Whatever sound I expected a stalactite to make when hit by a solenoid-operated hammer, I was not prepared in any way for the sheer etheral beauty of the sound on this record. There is nothing percussive about the tone at all. In fact, the sound is so similar to that of a bowed string instrument that many unsuspecting friends to whom I have played it thought it must be a form of viola. Incredibly, the sound of each note is not preceded by a "clang tone" as one might expect, but appears to start softly, quickly build up to a maximum intensity and then decay slowly. Part of the decay is, I have no doubt, echo, but I cannot explain the incipient part of the note.

The sleeve notes, in popular vein, wax lyrical about a "spellbinding" sound. I have to agree wholeheartedly. Side One includes time", he cried to his workmen; "perhaps I shall not live long enough to explain perfectly all my idea". He expired in November, 1782. His valuable collection of machines at the Hotel de Montague, he bequeathed to the sovereign. It was at first proposed that this gift should be presented to the Academy of Sciences; but other claims were urged, disputes and difficulties arose, and the result was that the collection was dispersed.

We cannot help regretting that the great skill displayed by Vaucanson was not more usefully directed; for, however curious and ingenious the construction of his automata, this species of labour turns to no serious account, and will never suffice to perpetuate a man's name in the grateful remembrance of his species; whereas, on the other hand, the inventor of a safety-lamp, or of a Jacquard-loom, will never be forgotten.

what must be the most beautiful arrangement of Stephen Foster's *Beautiful Dreamer* I have ever heard, while the old Irish air *If all those Endearing Young Charms* on Side Two is equally enthralling.

Sadly, the sleeve notes give no indication which tracks are played from the mechanical player and which by Leland W Sprinkle himself. Frankly, though, it doesn't really matter — this little gem of a record to listen to quietly and to be at peace with.

With a sleeve illustrated by Gustave Dore's The organ in the court (1872), Saydisc's latest record, volume 15 in its "Golden Age of Mechanical Music" series, is **Pipes**, Barrels and Pins (SDLB 271 Stereo) presenting more music from the West Cornwall Museum of Mech-The inclusion of anical Music. other forms of mechanical instrument might suggest a sub-title -Perforated Paper, Strings and Reeds for here are also organettes, player reed organs and reproducing pianos.

The record gets off to a good start with a Kuhl & Klatt mandoline and xylophone piano followed by a small 116-note Aeolian pipe organ. Also on Side One is a Poppers Clarabella playing *The London to Melbourne March* in a manner which recalls the best of those German bands which used to do the rounds of the seaside resorts between the wars. Oompah at its best !

A track of the Mills Violano-Virtuoso reminds those of us who have heard too many ill-adjusted Mills' just how nice the instrument can sound given a good choice of a not too-taxing roll. Here is very good sound with very little of the seemingly characteristic whistles, shrieks and scrapes which plague most violin players of this type.

The side ends with Tom Alter's Duo-Art roll of *Bye Bye Blackbird*, a good bit of what would orchestrally be termed "swing".

Side Two begins with the 52-key Ruth fairorgan. Mischa Levitzki then plays Ampico roll number 1411H, his arrangement of Annie Laurie on a Marshall & Wendall, a rather slow, ponderous rendition with some virtuoso cadences in the middle.

Other tracks include a salon piece for the Weber Unika and Edvard Grieg's Schmetterling played by the composer on a Bluthner "grand" via a Welte Vorsetzer. A somewhat breathy Orchestrelle plays Bedelia from The Jersey Lily. Last track—there are eight on the first and nine on the second side — is the Poppers Happy Jazz Band fighting its way through Ramona and distributing piano and forte ad libitum.

Concluding the records for this review is another American release, Musical Clocks (CE 31093) released on the Candide label by Vox Productions Inc, 211 E 43rd St, New York City, New York 10017. For reasons which will soon become apparent, I will deal with the second side first. Five instru-ments from the Vienna Clock Museum start this side. Poor and unhelpful sleeve notes along with strange lapses such as referring to a pavilion clock as a grandfather, make any serious attempt at matching sound with programme tedious. Also the number of pieces played on the individual items does not tally with the printed programme.

The main criticism is the really appalling quality of the recording with marked fluctuations in the level of recording between tracks, different ambience or bias between tracks, and, above all, massive distortion produced by recording instruments with bells as if they did not exist. Most of the tracks on this side are spoiled by the lack of recording technique. However, there is a good bonus, for there is a really top quality track of the Bidermann octave spinet of 1640 in the Nuremberg National Museum. The sleeve says one tune is played, describing the instru-ment as an "automatic octave virginal . . . an early barrel organ ". Happily three tunes are to be heard. Other good tracks include a

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Viennese musical box movement in a Biedermeier clock and two pieces described as on a "toy clock", whatever that is, which is most certainly not a toy. The side ends distressingly with a horribly discordant Hupfeld piano orchestrion followed by something called "an Orchestrion with metal plate, built by Eichmann in Klingenthal, Saxony, in 1880". After such explicit information it comes as a surprise to find that it is all totally inaccurate, for you hear a Symphonion with bells m a d e in Leipzig by Lochmann about 1895!

Having said so much about Side Two, one may be forgiven for assuming that the whole record is obviously a nonsense. Not so! Side One redeems all and at once elevates this disc to a position of supreme musicological importance for it is devoted entirely to 24 of the 30 pieces which Joseph Haydn wrote for musical clocks. The actual original clocks are here recorded very well indeed, although the first clock, which plays pieces 1 to 12, is suffering from its 184 years. Pieces 19 to 30 are performed on the third of Primitivus Niemecz's clocks, this one dating from 1793 and obviously preserved in excellent condition.

A manual performance of some

of the pieces heard here in their original form was included on the record *The Kajetaner Kirche*, *Salzburg (Oryx 1759)* reviewed on page 126 of Volume 6.

Listening to these clocks made by the ingenious organ-clockbuilding librarian of the Prince Esterhazy, one is able to hear now, today, the self-same sounds which

Book Reviews

THE MARVELOUS WORLD OF MUSIC MACHINES. Heinrich Weiss-Stauffacher and Rudolf Bruhin. Office du Livre, Fribourg, Switzerland. 244pp, 123 in (320mm) by 103 in (270mm), illustrated, mainly colour. UK edition by Zwemmer. Price to be advised.

This is a welcome English edition of the title Mechanische Musikinstrumente und Musikautomaton reviewed on page 252. Most of the comments made in that earlier review apply also to this version with the exception that a few of the errors have been removed. A number of unfortunate mistakes do still mar this important contribution to the history of the instruments of mechanical music, not the least of which is the adoption of American English in the spelling of Haydn himself created for the barrels of these remarkable pieces.

The Pulborough Salerooms

A sincere thanks, then, to Vox for publishing this historic side, and what a joy to hear the 17th century music of the crystal-clear Bidermann spinet on the reverse. As for the rest, well, I suppose you cannot win them all!

A O-H

the title — a strange choice for a European publication.

One may hesitate to accept Mr Weiss-Stauffacher's historical concept of mechanical music, in particular when, in writing of the introduction of the hand-cranked barrel organ, he says that the first such instrument was not "mentioned" before 1742, exactly 240 years after the hand-cranked barrel organ at Salzburg Castle was first used. He also implies that pneumatic action was introduced around 1840 whereas this was only the date of the earliest experiments; practical introduction came 40 years and more later.

Indeed this historical introduction, in a heavy and largely literal translation from the original German, would have been better had it been re-written in the light of current knowledge. This might

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also have served to present the line drawings, at present depicting a mirror image of the mechanics of the musical box, the correct way round, and also to have provided a better descriptive text.

It remains a pity that this magnificiently illustrated book has been so cursorily edited with so many strange instrument descriptions. And the bibliography lists a book called Rebuilding the Player Piano as being by one Tracy Given ! And I am intrigued at the description of the Bruder organ (on page 179) which "produces wind at a pressure of c.290 lb/in²! That, I venture to suggest, must be some organ ! Elsewhere a serinette is stated to play on a pressure of 43 lb/in². Maybe to educate a deaf eagle?

On the plus side, though, are the very many really fine pictures (including one printed sideways !) in superb colour. The author, where possible, has listed the numbers of the German patents relating to some of the Teutonic instruments.

Tuning scales are given for many of the more unusual instruments shown in the text and, indeed, there is a useful appendix in which is set out no fewer than 28 scales including some never before pub-lished in English. Apart from the consistently incorrect wind - pressures, the author is obviously strongest on organs and most of the organs are ably described.

Besides the appendix on scales, there is one describing the place of the Welte-Mignon in musical history. Here are many interesting anecdotes on some of the rolls and the artist(e)s who recorded them. A section on Welte testi-monials, somewhat differing in content from that included in the German edition and comprising some of the material now available in facsimile from the Werner Baus

CAVEAT

IT IS with regret that The Music Box should have to publish statements concerning the activities of members but in the circumstances it is felt that in the present instance, such action is justified in order that the best interest of the membership as a whole may be protected.

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> > reprint (reviewed on page 114) is followed by a reprint of the instructions for testing and regulating the Welte-built reproducing piano.

> > Then comes an article on Hupfeld followed by a reproduction of the Hupfeld player piano catalogue, first reproduced in facsimilie in The Music Box. volume 4, pp397-414. Finally comes a reprint of part of the Keith, Prowse & Com-pany catalogue of "rink orchestras". Still a fine coffee table book and

> > A O-H well worth owning.

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EMPTOR

While undoubtedly the greater majority of advertisers are in every respect honest, it has been drawn to my attention that a certain advertiser from Venice in Califor-nia, who has solicited work from members, and who has accepted monies in advance, has proved unable to honour or respect orders and has demonstrated unwillingness to recompense his clients.

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The President



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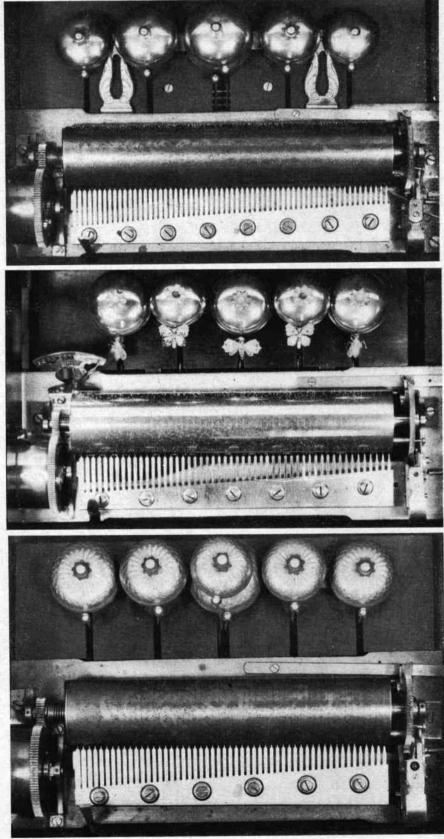
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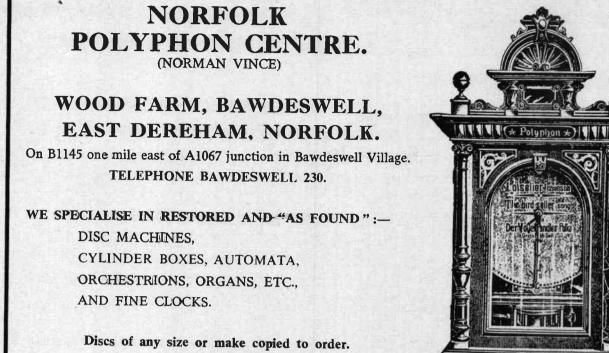
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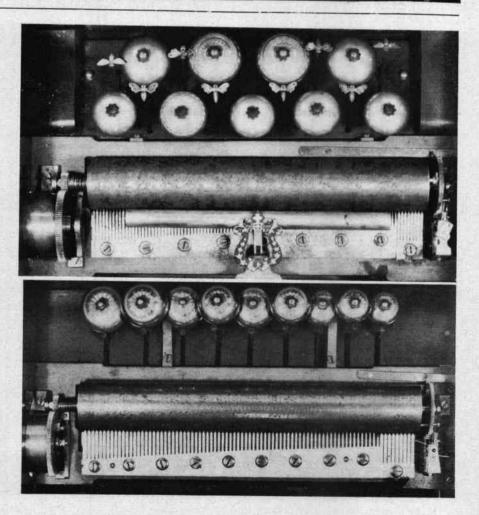




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On the left are three examples of late-period mass-produced bell boxes. On all three it will be seen that although the bells can be disconnected at will by means of a lever, the bells are not operated by a separate comb but their linkages are attached to the common comb teeth. The upper box, dating from 1880-85, has six bells, the centre comprising a nested pair, all with plain strikers. The middle picture shows a box dating from around 1895 with five bells struck by two bees, two butterflies and a stylised moth. The lower picture shows a slightly earlier box — probably 1870s, with seven bells, each nicely turned and made of German silver. The strikers are plain and again the centre two are nested. All are probably Paillard.

On the right are two good quality boxes. The upper one has nine bells with butterfly strikers, all operated by a disengageable bell comb. Fine-pitch musical comb, early cock and comb format suggests that this was made by Karrer or possibly Bremond and dates from 1870. At the bottom is a fine example of an early bell box, nine decorated German silver bells, well-tuned and struck by plain strikers from a separate bell comb.



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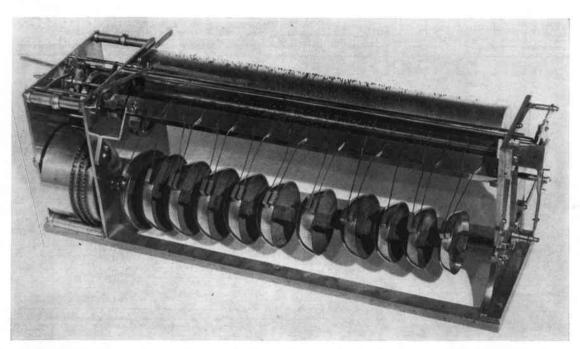
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