The Music Box

an international magazine of mechanical music

THE JOURNAL OF THE MUSICAL BOX SOCIETY OF GREAT BRITAIN

Volume 8 Number 7 Autumn 1978

WORLD'S BIGGEST NEW MUSICAL BOX - the Etches Jubilee, reproducing pianos played by tape cassette, the Tanzbar automatic concertina, and the discovery of a Roman pipe organ

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SALES OF MECHANICAL MUSIC

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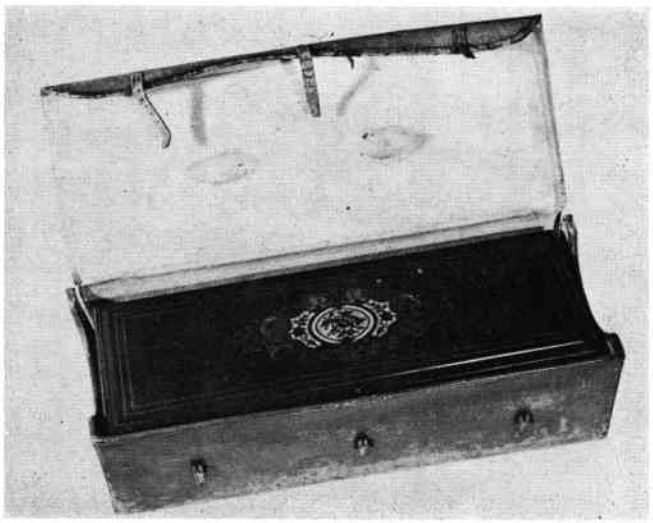

Among early entries for our November 8th sale at the time of going to press (August) is this musical box in a leather carrying-case

If you are thinking of selling a **Musical Box, Barrel Organ, Phonograph, Gramophone, Player Piano, early Radio** or even an old **Typewriter,** please contact Christopher Proudfoot at the address given above.

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The Editor writes. . .

AFTER a monumentally successful Summer meeting of the society at which no fewer than three brand new disc musical boxes were present — the American *Porter* from John Cowderoy, the *Jubilee Polyphon* from Keith Harding and the outstanding twin-disc *Jubilee* table machine created by Brian Etches — it came as a bitter blow to learn of Keith Harding's loss through theft of his entire stock at his shop.

Keith acted swiftly and produced a detailed descriptive list of the missing items and we distributed copies to all members within a few days with the mailing of the previous issue of the Journal.

The circumstances of the theft are described on page 320. There is little doubt that the boxes were stolen by an expert gang of men who knew just what they were about. And there seems little doubt that the spoil left the country pretty soon afterwards — probably even before Keith was able to alert the police.

The importance of listing serial numbers, gamme numbers and other more general characteristics cannot be too strongly emphasised. Thanks to Keith's efficiency, the police, the customs authorities, Interpol and leading dealers world wide have a description of the missing items. These pieces are now "too hot to handle." Unless they were acquired for a particularly eccentric collector-recluse, they are bound to turn up on the market in due course.

If you are offered a musical box — even if it is through a reputable dealer — check the serial number against Keith's list. Many a reputable trader has found himself unwittingly stocking stolen goods, so if you do find a "hot" box this way, first advise the dealer, then ask the dealer to advise the police. If you are offered such a box privately, then unless you know the vendor, act with caution and use any pretext to delay transaction without alerting suspicion while you call the police.

How boxes leave the country is, it seems, all too easy. The thieves alert a conspirator in the packing business and deliver their goods straight to him. The packages are then loaded into the back of bulk furniture containers — and the front loaded up with old furniture. The customs do not, indeed cannot, search such containers thoroughly. And so out of the country goes property.

There are two aspect of this. First is the need to document your collection in such a way that non-experts can identify a specific item. Sticking a visiting card under the bedplate is one way, acurate recording of numbers and markings another. And second, take particular care of the items in your collection. Pay close attention to obvious security precautions such as door and window locks, consider a burglar alarm, even if it is only a do-it-yourself kit one which will at least make a noise and probably scare away the nervous thief.

To Keith Harding, who worked so very hard to get the new musical boxes to the Kensington Close Hotel, we extend our sympathy and hope that the insurance — a poor replacement for musical boxes — allows him to re-stock and retain his important business position.

As we close for press comes news that Jan-Jaap Haspels' home was burgled while he was on holiday and his fine collection of clocks and watches stolen or vandalised.

ARTHUR W J G ORD-HUME

Contents *Page*

Cover picture: **This modern *vorsetzer* is made by Superscope-Marantz and is a variant of the company's Pianocorder, a reproducing piano played by digitally-encoded magnetic tape. The music, in the form of a special signal, is recorded from an orginal perforated paper artist's piano roll via a computer onto a standard compact cassette. This is played using a special cassette deck which forms part of the installation. See Professor Heath's article on page 290.**

Hon Editor: Arthur W J G Ord-Hume

Editorial offices:
14 Elmwood Road, London, W.4
Telephone: (01-) 994 3292

Advertisement manager: Arthur Heap

Advertisement enquires:
Riversway, Victoria Crescent, Queen's Park, Chester CH4 7AX
Telephone: (0244) 26181

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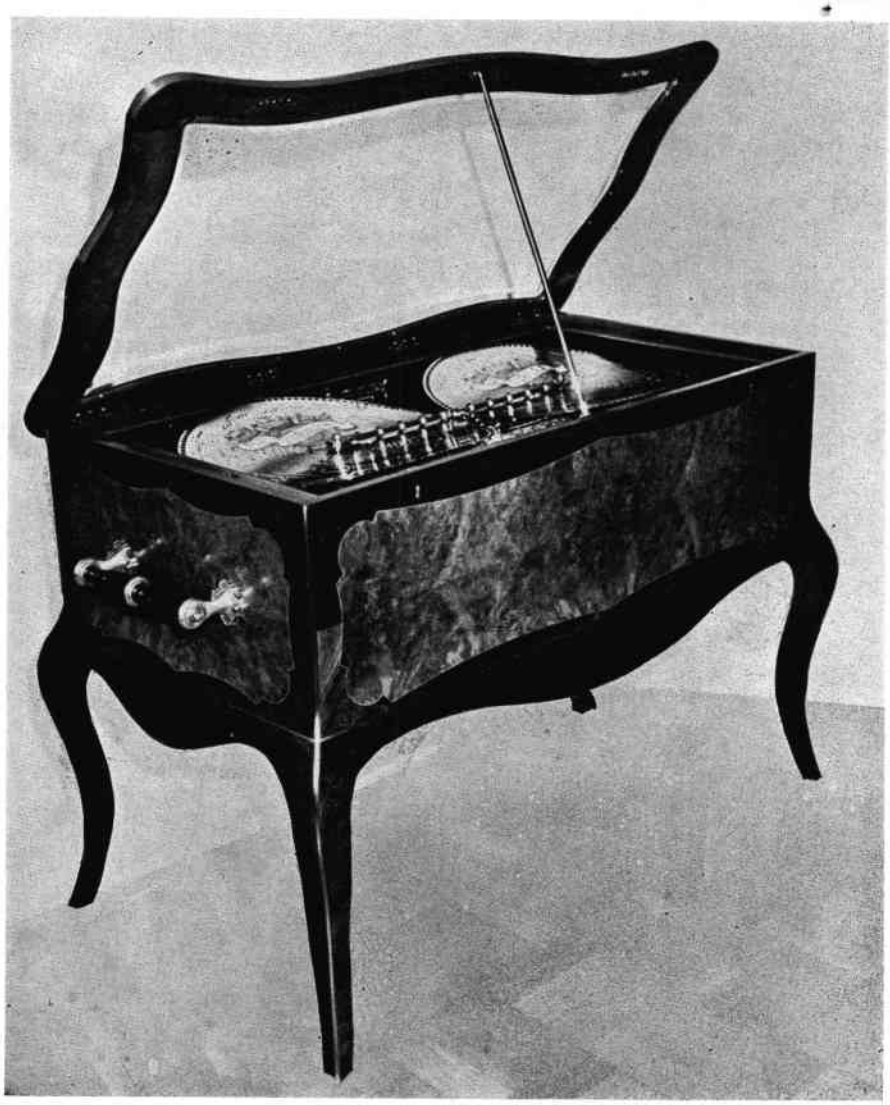
It's new, it's big, it's beautiful – and it plays two discs at once

WHAT is undoubtedly the world's largest new musical box was unveiled to members and guests at the Summer Meeting of the Society (see page 320). The work of member Brian Etches of Arne, near Wareham in Dorset, this new machine plays not just one disc, but two in synchronisation.

Named the Etches Jubilee and with the date 1977 forming part of the decorative casting within the box, the box measures 51ins (1.295m) long by 26ins (0.66m) wide and stands 35ins (0.889m) high. Its approximate weight is 150lbs (68kg), and it is complete with ten pairs of Polyphon - type 19⅝ins (50cm) discs contained in plastic wallets and housed in a separate cabinet.

The twin-disc machine was conceived as the centrepiece of Brian Etches' musical museum which he had planned to operate at his home on the secluded Arne peninsula which forms one arm of Poole harbour. Unfortunately, after protracted litigation, the museum proposition was finally turned down by Dorset County Council under the Town & Country Planning Act (1971) in response to pressure from conservationalists who considered that a private musical museum would be detrimental to an area of outstanding natural beauty already being worked for ball-clay production and popular with holidaymakers, caravanners and campers.



THE ETCHES TWIN-DISC

It was some two years ago that Keith Harding, for whom Brian Etches was making Polyphon combs for the *Silver Jubilee* musical box, said that he would like to produce a two-disc machine. At the Society meeting last year, when the *Silver Jubilee* was premiered, Brian suggested that he wished to proceed with the new project. However, Keith said that there were still some problems to be sorted out with the *Silver Jubilee* and he wanted to concentrate on these prior to production and before starting something new.

"It was at this point that I decided to go ahead myself" says Brian, "particularly as I then had my projected museum firmly in mind."

Brian, whose main business is in marine fittings and who has a factory on the Nuffield Trading Estate at Poole, was originally apprenticed as a machine tool maker, so he was technically well-equipped to tackle the task. Fourteen years in his present business and prior to that in the motor trade, Brian's project was essentially a spare-time occupation—at least that is the way it was intended to be.

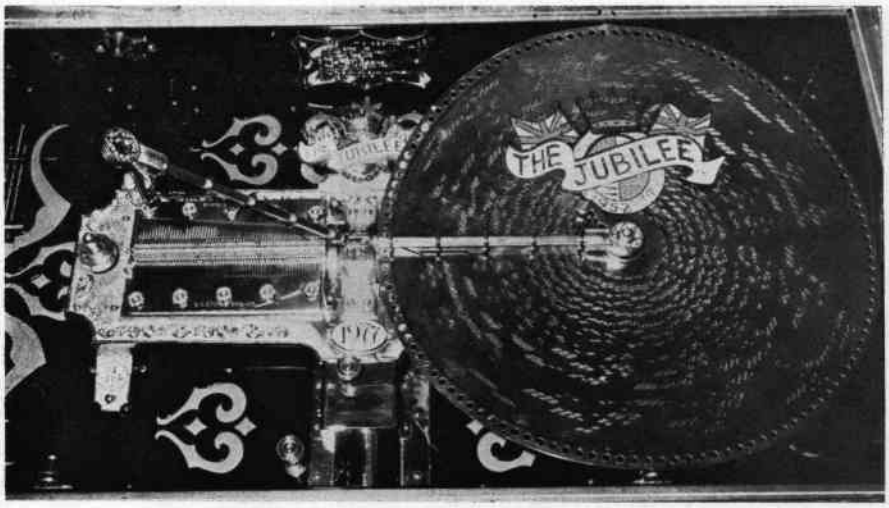
Team work

"In terms of hard cash, it cost me over £2,500 plus nine solid months in the workshop and three on the drawing board," he says.

In the end, it became a team project with Keith Harding's team playing an important part in the setting-up and regulation. The delicate task of aligning the combs and dampers was entrusted to Bob Trender who with Keith Harding worked several nights through on the final adjustment. The discs were made in bright nickel-plated steel sheet by Brian Clegg — and the two special discs (an A and B pair) were arranged and made by "Patch" Pearce. It was, of course, Keith Harding who was responsible for getting the instrument to the meeting in June.

But there were others in the project, too. Craftsman artist Christopher Burnett of Shirley, Southampton, designed and made the decorative castings to Brian's rough sketches using plaster-of-paris moulds. "All the castings then had to be hand-chased," comments Brian. "And that took three weeks at the end of which I had a very sore left thumb!"

The exquisite cabinet, modelled on a Louis XVI bombé - fronted commode, was the work of a Bournemouth master cabinetmaker,



The mechanism with one of the discs in position. The brass plaque at the back lists the pairs of tunes so far prepared by Brian Etches.

C S Ricketts, who worked closely to Brian's specification.

The machine was started last summer with the making of the casting pattern for the aluminium-bronze bedplate. Some $\frac{5}{8}$in (16mm) thick at its deepest point, this bedplate assembly has four detachable feet—each, incidentally, carrying one of the four emblems of the British Isles—and is arranged horizontally within the cabinet. Rigidly fixed beneath this yet isolated from the case itself by strip plastic foam is the soundboard which is made of $\frac{1}{4}$in (6mm) spruce. This is barred and united with the bedplate by two soundposts.

The comb assemblies differ from standard Polyphon items in that the overall thickness is somewhat greater, this giving the box a deeper sound through strengthening the lower-end harmonics of the normally-tuned Polyphon teeth. The starwheels and dampers were supplied by Keith Harding: these have been cadmium plated and the whole machine, including starwheel gantries and combs, is nickel plated.

A " revolutionary " feature is the mounting of all moving parts on ball or needle races. The disc pressure bar rollers are actually small ballraces fitted with neoprene tyres and the disc dishing guide rollers are mounted on adjustable needle bearings to allow adjustment of the amount of dishing. All shafting is of the highest-quality stainless steel and the combs are made of gauge plate.

Of particular interest is the method of drive and transmission. Originally Brian Etches had wanted to use clockwork for the power source but, in conversation with the editor, he was reminded that in the later years of the disc musical box, makers looked fairly favourably on the electric motor (as, for example, in the Stella 26in Concert Grand) and that he should not dismiss the opportunity to use electricity to drive this new mechine.

Electrically driven

Accordingly at the editor's suggestion, Brian approached the well-known British makers of special-purpose fractional horsepower motors, Parvalux of Bournemouth. The company offered a standard motor from its specialist range which, complete with thyristor-controlled speed adjustment, produced an output shaft speed of 55 revolutions per minute with a speed adjustment in the order of 25 : 1.

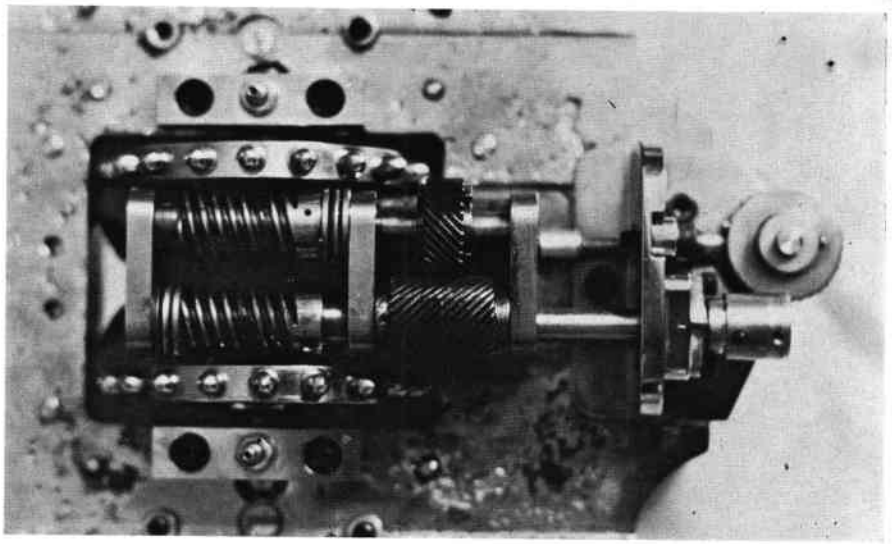
Unfortunately this motor proved slightly noisey in operation and the speed control was insufficiently sensitive. Parvalux then began to take a closer interest in the application and the result was a special hand-built motor with a speed control employing two rheostats in series. Each of these offered a 10 : 1 sensitivity and in Brian Etches' application, one of these is preset to an optimum setting and the other is user-controllable via a knob to provide a variation from fast playing down to very slow indeed.

The question of disc-synchronisation was originally thought to be a major problem and hence a somewhat complex gearbox was designed and built using two long helical gears, one on a keywayed shaft and slidable by means of a pivoted fork, and two meshing gears. With this it is possible to inch the discs relative to one another through the equivalent of one drive-hole space. " Having made this complex system, " says Brian, " I realised that there was a far simpler way of doing it, but anyway it works very well indeed."

The electric motor is pivotally mounted on an arm and the final drive into the gearbox to transmit motion to the discs is via notched pulleys and a ribbed rubber belt. Belt tension is maintained by a tension spring holding the motor back in position. The advantage of this system is that the tension

The high standard of workmanship and the quality of the component finish can be seen in this view of the twin disc mechanism.

In this view, the mechanism is removed from its case displaying the synchronisation knob at the lower centre for inching the discs.



of the spring is only sufficient to allow normal power to drive both discs. If one should jam, then the toothed belt will slip, the motor being drawn forward against its spring. This means that the discs will stop without any damage being done, while the motor bounces up and down harmlessly.

The drive to the discs uses a pair of sprocket or peg wheels of the same form as the normal Polyphon ones, only much larger diameter: each has 19 teeth.

There are three user-controls: the on/off switch (which has yet to be incorporated as part of an automatic singles/double play system), disc synchronising rotary knob, and speed control by transformer using a similar rotary knob. One comb set is fitted with a zither attachment. This is made of brass and, according to Brian "is not awfully good at the present moment as it needs some rethinking."

The design and construction of a completely new type of instrument warranted a very special cabinet design and it was here that Brian's appreciation of quality antique furniture became a prime inspiration. The cabinet is actually in two pieces with a horizontal assembly joint separating the stand from the upper work. To facilitate the transport of the box, it was felt that this was a prime design consideration but splitting the case at that point would obviously lead to ultimate damage being sustained by the fine inlaid surfaces. Accordingly, a brass edging is provided to both the lower edge of the upper part and the upper edge of the stand so that the contact during mating of the two parts is metal to metal.

Marine plywood

The carcase of the cabinet is made of marine plywood which has good density and fine acoustic properties. The lid can be held open by piano-type "stick" and is glazed with thick bevelled-edge glass. The lid edge itself is finished off with radiussed brass. This was not available as a stock item so Brian had to machine it from 1 inch by $\frac{1}{4}$in (25mm × 6mm) solid brass and then anneal it and bend it round the edge of the lid, securing it with pins. The decoration of the legs is by brass quadrant.

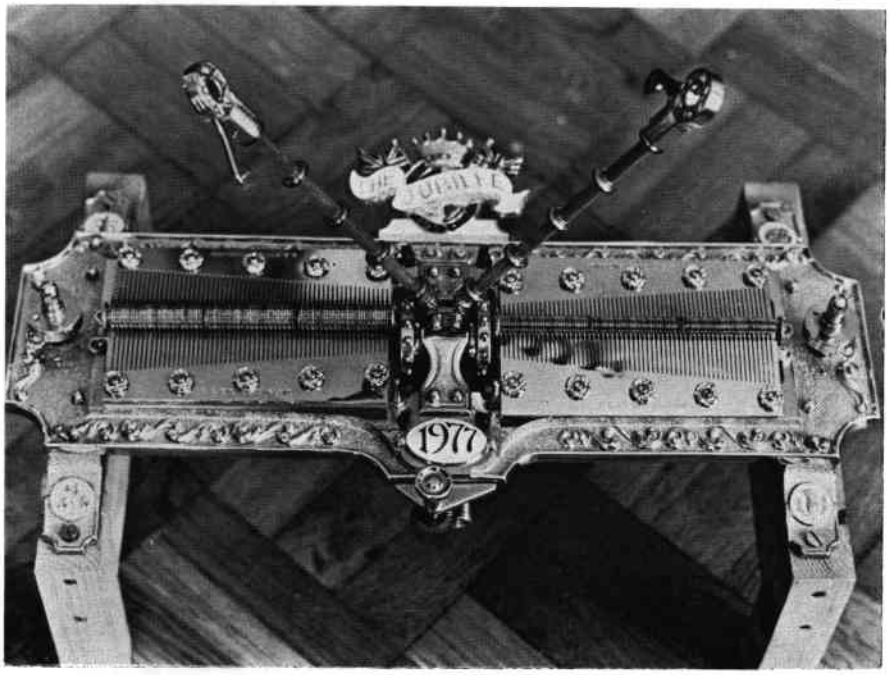
There are specially-designed carrying handles fitted: each is of eight castings with a turned mahogany handle between and, bearing in mind how useless are many so-called lifting handles on musical boxes, these are bolted on.

Asked if he has any plans to produce the Etches Jubilee, Brian told *The Music Box* that he had no intention of ever building another of these, although he understood that Keith Harding expected to produce a twin-disc machine in due course.

Inside the case at the back is a brass plaque on which are listed the titles of the ten pairs of discs which Brian has selected as the repertoire for his handiwork. The discs themselves are silkscreen printed in three colours by a company with premises right next door to his engineering works at Poole.

After such a mammoth undertaking, how does Brian look back on his task? "I don't mind telling you that it was bloody hard work and had I known at the start how big the task was, I don't think I would have even considered tackling it. I would like to emphasise my special thanks to Bob Trender for his hard work in setting up the combs, to Brian Clegg for the discs—not forgetting Patch Pearce and his arrangement of *The Entertainer* in two parts — as well as to Keith Harding for all his valuable assistance and advice."

The Musical Box Society of Great Britian takes this opportunity to place on record its congratulations to Brian Etches and to all associated with this commendable project. ●



In this view of the mechanism removed from its case can be seen the disc synchronisation knob at the lower centre with its gear.

Power-Locking Changeable

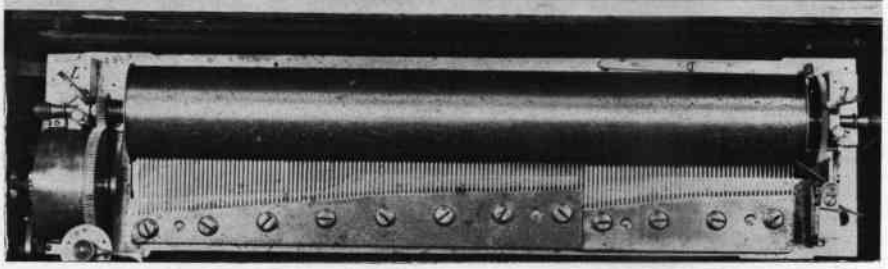
THE early changeable - cylinder musical boxes survive in only limited numbers. They were very few and far between since, unlike the later, developed interchangeable-cylinder box it had to be hand-made with its matching cylinders.

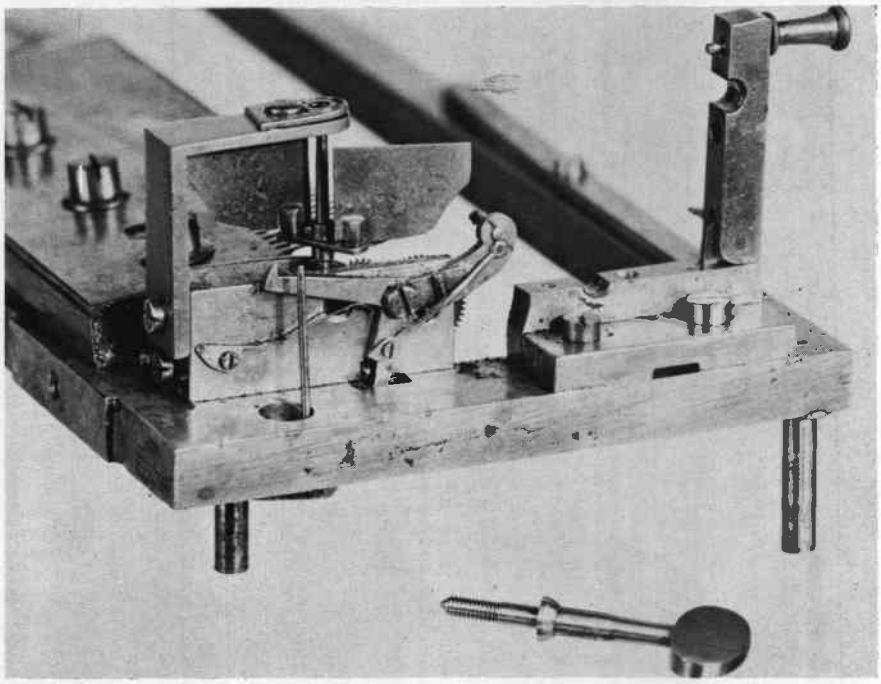
There is thus some strong evidence to suggest that they were very costly when new, differed in detail one from the other, and are thus themselves a rarity. The one shown here is also a forte-piano.

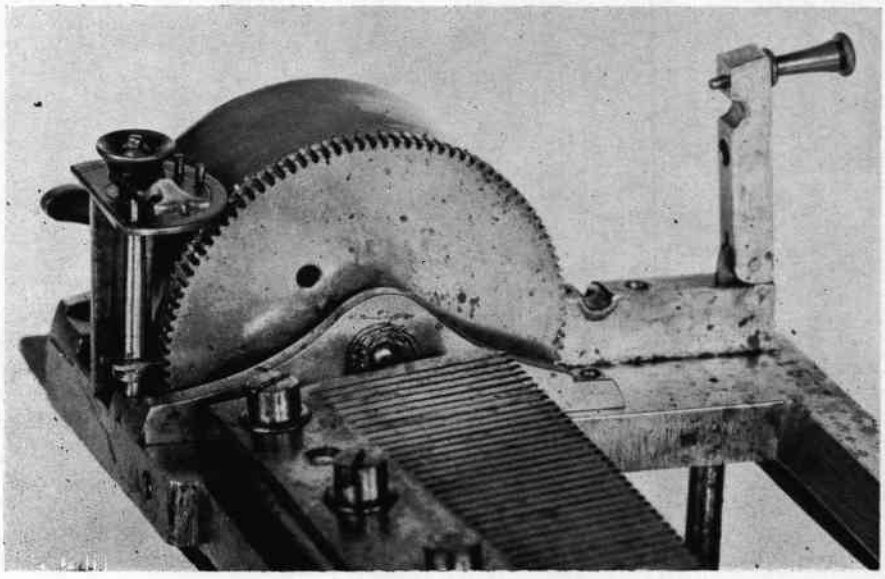
Such an instrument is pictured here. It bears a similarity to that illustrated on page 272 of Volume 7 of *The Music Box* in that certain features are common although differing in detail. Were both these to be attributable to the same maker, it would be hard to decide whether this pre-dated the other or vice-versa. Certainly the other instrument incorporated more safeguards than this.

The rosewood - veneered lid of the case is inlaid with brass and coloured enamel and is 22½in (57cm) wide. Each six-air cyclinder — there are six provided with a separate, non-matching but contemporary mahogany case — is 15¼in (38·5cm) long. The hinged cylinder arbor bearing blocks have steel retaining thumbscrews which have to be unscrewed and removed in order to open the clamp.

A feature is the semi-circular index with vertical shaft for power-locking on the spring barrel great wheel. Whereas the other instrument mentioned had a form of Billon-Haller-type lock using a number of partial teeth to engage the great wheel, this machine has just one lobe on the locking shaft to restrain the spring power. There







are no marks on the instrument besides a serial number 6157 in the bedplate. Recessed into the top edge of the rear of the case is the metal trade label of E & E Emanuel, Portsea.

An unusual detail is the provision of a hinge in the cylinder gully arm of the stop/start 'Y' arm. This allows the pin portion of the arm to be swung clear of the cylinder end during changing.

On page 71 of the present volume is illustrated and described a "glove hook" changeable sold at Sotheby's Belgravia. This also bore the Emanuel label.

All pictures specially taken for *The Music Box* by Ted Holmes of Christies, South Kensington. ●

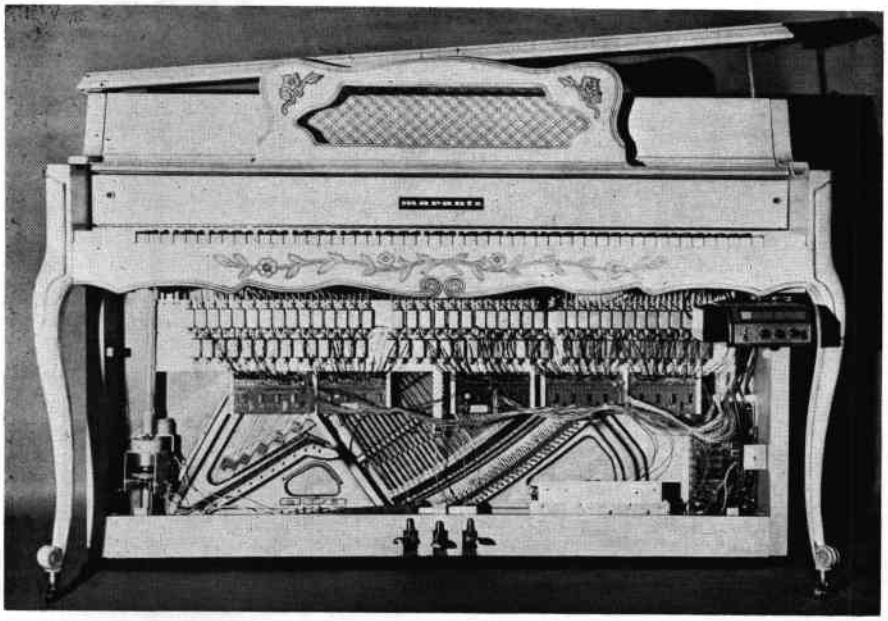
DIGITAL PLAYER PIANOS

by F G Heath

PLAYING a reproducing piano by means of a cassette of recording tape could prove as effective as using a music roll. Professor Heath of Edinburgh's Heriot - Watt University, seen right with his 1974 Mörs piano project, recently visited Marantz in California and here he comments on the Pianocorder and his own team's work

A COMPUTER engineer who examines the classic designs for player pianos in the early years of this century is immediately impressed by the similarity of approach to a binary digital computer with its input/output machinery. The piano roll is exactly like computer paper tape, and the pneumatic action copies the mechanism of a printer. If the Duo-Art expression mechanism is examined, one can see a 4-bit (binary digit) digital-to-analogue converter device, as is common in today's industrial automation equipment.

It is in fact true to say that player pianos represent a packaged maintainable automation system which has remained unequelled in terms of reliability until the recent advent of electronic equipment. During the last 25 years, however, the techniques of the computer have been developed with an ever-increasing speed until now it is within almost anybody's grasp to buy a home computer, the price being comparable to a colour television set. This means, of course, that the basic components of computer systems have become cheap, and the so-called "silicon chips" which may contain thousands of circuits only cost a few pounds as components. It is not surprising, therefore, that several people have already made experimental computer-driven player pianos and, in fact, this was done in Heriot-Watt University about four years ago. Now, however, a company which is a subsidary of the Superscope/ Marantz conglomerate called Pianocorder is marketing player piano equipment on a major scale which is based entirely on the latest digital computer techniques.



The Superscope Marantz Pianocorder action built into a new spinet-style piano. The tape player is under the keyboard on the right.

While I was in California recently, I telephoned Pianocorder and their general manager, Anthony Blazina, and chief of marketing, Harold B Lembke, were kind enough to invite me to the plant to witness a demonstration of the Pianocorder. Since the electronic techniques involved may not be familiar to the majority of readers, the first section of this article will describe the fundamental principles involved, followed by a technical description of the Pianocorder and an evaluation of its performance.

Currently the company has the product approved for sale in the USA and the first two months of production are already ordered. European sales will start after the general USA marketing, when all the European countries have approved the product through their various Boards of Trade.

Digital Player Piano Techniques

There is, of course, a difference between fitting digital drive to an existing player piano (which is perhaps what interests many readers) and providing standard equipment which can be fitted into a non-player or ordinary piano. The Pianocorder is aimed at the latter, but the general techniques are common.

First of all, there is no doubt that as John McTammany, one of the player piano's Founding Fathers, said: "if called upon to put my finger upon the weak spot in the player piano, I would place it upon the perforated music roll".

He is almost certainly correct and only the ingenuity of the early designers enables us to use 50-year-old piano rolls effectively. Apart from some type-setting machines, no computer paper tape has more

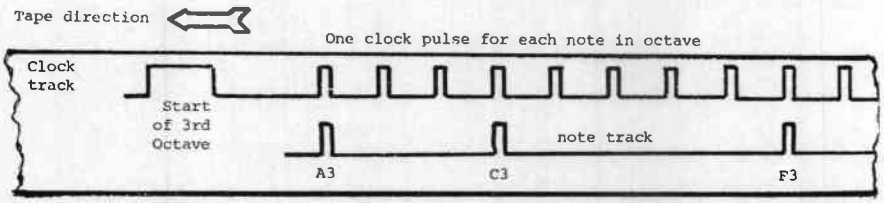
than nine holes across it, and the more modern form of digital storage for home computers — the magnetic cassette — is best used with a single track, although stereo-audio equipment uses two tracks. Consequently, we have to find a way of converting piano note signals from the serial form on a magnetic tape to the parallel form which is needed to drive a piano stack (ignoring for a moment the interface). The simplest way is shown diagramatically in Figure 1.

We use the two tracks of a stereo tape as follows: Track number 1 has a wide pulse to signal "start" for each octave, and eleven short pulses to indicate the time at which the signal for each note will be present on the second track if the note is to be played. We have to send as many pulses as there are notes on the key-board plus extra pulses for pedals and expression. In general 100 pulses are enough and a fairly cheap cassette recorder could send more than 1,000 pulses per second, i.e. 10 key-board images or lines on a piano roll per second. Because each key-board image can start at any moment in time after the previous one, the performance is similar to that of a piano roll.

In fact most magnetic tape systems on computers manage to mix the clock and data signals together on a single track, using special electronics to separate them at the output. This is fairly tricky to understand and in the end gives the same performance as a two-track system, but avoids possible difficulties with tape skewing (magnetic tape is a little more elastic than a piano roll). The single track method will be treated as equivalent to the two track method for the purpose of this article.

There are two major ways of converting the serial stream of signals from the cassette recorder, which are available as electronic signals on an output wire, into the instantaneous parallel form to feed to the key-board. The first method, which was used at Heriot-Watt University four years ago, and is the basis of the Pianocorder, uses what are called shift registers. These work as shown in Figure 2, and can operate in either direction. The pattern of digits shifts in from the left one at a time (only one octave being indicated) and when the register is full the parallel read-out signal is activated and electric signals can be taken to the stack interface.

For the reverse direction, if the



Magnetic tape (two-track), vertical position shows intensity of magnetic recording.

Fig 1. Diagrammatic representation of serial note storage on cassette tape. The strip represents the tape width.

keys are pressed it can be arranged that a one is read into the register for each pressed key position and then a suitable clock signal generated to move the digits out in series and put them onto magnetic tape. This system works very well but is, of course, quite inflexible. The circuits must be designed to suit exactly the format on the cassette tape.

The second method of conversion is to use the microcomputer. It is now possible to buy a complete microprocessor, i.e. the heart of a small computer system, for £10·20. These are now general-purpose devices and can do any task within their capability by

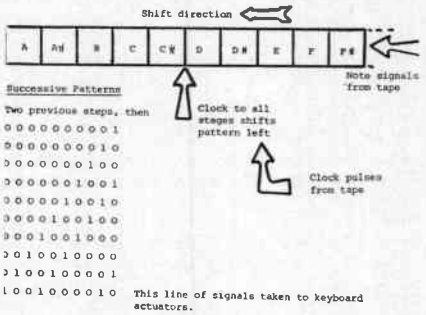


Fig 2. Operation of the simple shift-register.

using a suitable control programme. Consequently, the present design at Heriot-Watt University is based on a microcomputer since we can cope with our old cassette format or any other format just by re-programming. Looked at in old-fashioned terms, it ought to be possible to feed in signals derived directly from Duo-Art, Ampico or Welte-Mignon formats and, by suitable choice of programmes, produce signals for the Duo-Art mechanism. In fact what the old player piano designers lacked was a good pneumatic computer — if they had had it one can hardly imagine what might have occurred.

The techniques so far described can read key-board signals from a cassette tape and produce signals on a set of circuits which model exactly the holes in the piano roll. Now we come to the interface, either to the pneumatics of a standard player piano or the keys of a normal piano. The Pianocorder is for the mass market and therefore must interface with a normal piano. Readers of the literature will know that relays (or solenoids or actuators) which work by magnetism tend to have a rather soft "touch" for a piano key-board — they become more powerful as they close, whereas the human finger and the pneumatic bellows hit the key hard initially and then rapidly lose their force. The Pianocorder has solved this by driving the actuators with very high voltage pulses of very short duration. The pulse width is accurately controlled for expression. Consequently, this throws the inertia of the actuator upwards at the back underneath the key, providing an approximation of normal touch. In the case of an existing player piano one needs an electric relay which can open a pipe to the air, and these are common in organ construction — as shown in Figure 3.

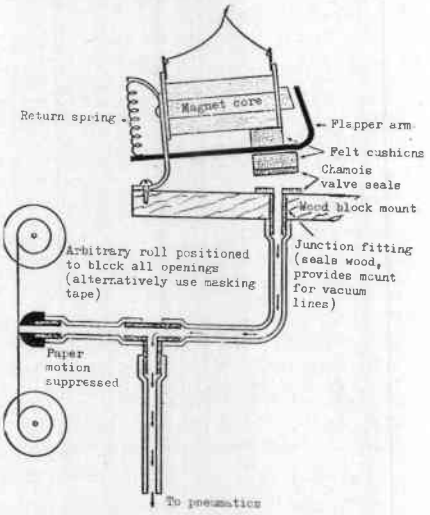
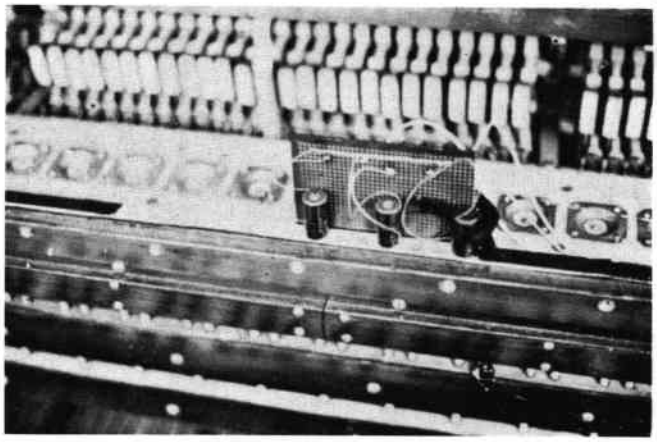


Fig 3. Organ chest action magnet.

We can now draw a complete digital system as shown in Figure 4 and the only remaining question is how to produce the cassettes. The straight - forward method, which I believe has been followed by Superscope, is to connect a modified tracker bar containing a photo-sensitive device behind each tracker hole position to a computer and then write programmes on that machine which will read any



Above left: The Mörs Berlin-made piano which Professor F G Heath rebuilt for computer-encoded magnetic tape playing. The vacuum chests have Perspex fronts to reveal detail of action. Above right: The aluminium rod machined to fit between the tracker bar and the pneumatic stack to take 88 coils and solenoids in the 1974 experiment. The system was not considered reliable and was discontinued. Latest developments involve the use of the system shown in Fig 3.

type of piano roll into the memory and process it into Pianocorder format. This is then recorded on cassettes and marketed. It is also possible to write a computer programme so that chords can be typed (with pedal and expression bits) on a computer key-board and then processed into cassette format.

Tony Norton, one of my colleagues, has produced *The Entertainer* in this way and it will also

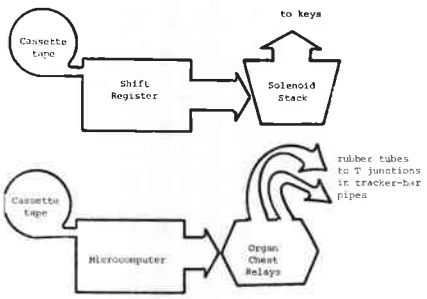


Fig 4. Digital system for playing piano music. Top: the Pianocorder; Bottom: player piano.

play through a simple electronic organ. Either of these methods indicates how, with the modern technology, one can make an equivalent of the paper roll which can be played on a piano with the highest quality. Improved recording pianos can also be made. One of the methods allegedly used in the 1920s was to have two needle points of slightly different lengths below every key. The time difference between these two points making electrical contact with a pool of mercury was used as a measure of key velocity and, therefore, finger impact. Personally I have the gravest doubts that this could ever work in the 1920s, and one suspects that there were several full-time musical editors at work. Today this problem has been completely solved because of the need for so many electronic keyboards for calculators and office machines. The latest cheap device is called a Hall-effect detector which can switch on a powerful electronic signal from the proximity of a small magnet.

A French student from Ecole Superieure d'Ingenieurs en Electrotechnique et Electronique, Francoise Clavel, has recently tested these devices for player piano recording at Heriot-Watt University, and they seem to be ideally suited to the task. However, as we shall see, the Pianocorder has a simpler method for the home student to listen to his mistakes.

The Pianocorder Visit

The Superscope / Marantz / Pianocorder building must be one of the most elaborate buildings in the San Fernando Valley, near Los Angeles. The front elevation is impressive, being an enormous expanse of concrete and dark glass and was completely deserted when I arrived with a friend of mine who is also a computer designer and keen pianist. We crept through a tiny entrance in the facade and found ourselves in a splendid foyer with a spiral staircase at the top of which was the company board room with a Mason-Hamlin ex-player grand piano and a more modern spinet piano. They were both fitted with a Pianocorder. We were told that the factory stretched for about $1\frac{1}{2}$ miles behind the front offices, and personnel used small buggies to travel around it.

The president of the company is Joseph Tushinsky, who has a collection of about 18,000 rare music rolls from the various types of expression system. These will be made available as cassettes to purchasers of the Pianocorder. The chief executive is Fred Tushinsky, who was not present, and we were shown around by Anthony Blazina, the general manager. We had a very interesting discussion and demonstration but in a fairly random order, so the following account is considerably edited compared to my original notes.

First of all, they make a special digital cassette deck so that the reliability, and accuracy, is better than that of a commercial cassette deck. The signals from this go into a shift register type circuit as described earlier and then generate signals which decide which

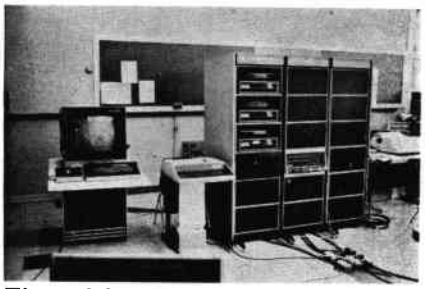


Fig. 5. The computer system by use of which the music is encoded from keyboard (or roll) onto tape.

solenoids must play. Since piano rolls only divide expressions into bass and treble, the Pianocorder is controlled the same way for simplicity, that is to say that all the bass solenoids are given a pulse width corresponding to the bass expression bits for the chord in question, similarly the treble.

The voltage on the solenoids is 160 DC which means there is a slight safety hazard when the piano front is opened or removed. The peak power consumption in extreme circumstances might be one

kilowatt (more than one horse power) which shows how well the pneumatic designers minimised losses in old systems.

A strong point in the advertising of this product is the fact that a learner can play the piano, record his performance and listen to it critically himself. I find it hard to believe that a system can be cheap if a method was used which was also capable of making commercial recordings, and this turned out to be so. The recording system for the home user is to record on tape all the keys which are depressed. There is a small microphone at each end inside the piano and the short period after a chord is struck indicates the sound level in the treble end and determines the treble expression. Similarly, the expression for the bass end is determined. As for the making of a recording piano for the use of a performer, the company is still debating whether to employ a system based on calibrating hammer velocity or key velocity since both are now technically possible.

The design of the system is very thorough indeed, in particular as during the last years of the 1920s the general quality of piano rolls dropped. Further, most of the widely available piano rolls were really made for the earlier player piano systems, and therefore the Pianocorder was designed as far as possible to match up to those systems. All the antique piano rolls are being converted to cassettes, the average running length of the cassettes being 45 minutes and quite a few are already in existence. We first of all heard the Chopin Polonaise which sounded absolutely splendid, as far as expression was concerned, on the Mason-Hamlin grand piano which had had an Ampico player. Both of us felt that perhaps the chords were not played as cleanly as by human fingers or piano roll but this was a very marginal observation indeed.

Weaknesses exaggerated

We then moved to the spinet and heard several ragtime rolls and I was immediately able to recognise the QRS roll by Scott Joplin of *Maple Leaf Rag*, i.e. the cassette had all the timing idiosyncrasies of the piano roll. They also sell a *vorsetzer* version of the Pianocorder although we did not see one.

I then asked to play the spinet and record a performance, since a year or two ago I played *East St Louis Blues* into a key-board recording computer at Robert Gordon's Institute in Aberdeen which produces sheet music directly from the playing, and I therefore knew my weaknesses in timing. The Pianocorder in fact not only detected the major timing weaknesses, it exaggerated them. Also it played two adjacent notes as a discord which had certainly not sounded in the original playing. Therefore, it would seem that the installation which I used was more sensitive than the piano action itself i.e. it records the slightest touch on any note. This may be just what the learner requires, but it can be very discouraging and it may be that experience will suggest that the touch sensitivity should be reduced.

History repeats itself, almost, with the latest Superscope - Marantz Pianocorder advertising literature. Only the modern American-style piano shows this isn't a vintage notice.

In my opinion, one of the joys of a reproducing piano is to switch it to manual and control the performance so as to give an individual interpretation of a favourite tune. It was sad for me therefore to find out that, although expression controls would be simple to fit, the Pianocorder only had tempo control. Marketing experience may show that manual expression controls should be fitted.

By now the reader probably wants to know how much this will cost. The company is a little vague, because they would prefer dealers to fit the device to new or second-hand pianos in their showrooms and then sell them for a total sum of money. A price of $1,800 plus fitting charge was mentioned. Fitting to an upright is easy, being inside the lower part of the instrument, a grand needs more cabinet work since it has to look respectable from underneath.

Marketing started in June and each instrument comes with 100 free 45 minute tapes, the music taken from Ampico, Duo-Art and Welte rolls, as a starter pack. There is a remote switch available to control tempo when used as an accompanying instrument.

My overall impression was that the company has done most things right and that areas where some adjustment may be needed in the light of experience can be treated without a re-design of the major structure. It will be very interesting to see whether at long last the general public can be taught to see that the player piano is not replaced by the gramophone, so that this new product can be marketed successfully. I shall be keeping in touch with developments as no doubt will our editor.

What can you do with your Player Piano?

I think that most player piano enthusiasts will feel cheated if they cannot play the Pianocorder cassettes through their systems, especially since there is a chance that the format of these cassettes will become an "industry standard". What is needed is the cassette-player, a small microcomputer unit and 100 electronic/pneumatic converters like the relay shown in Figure 5.

Currently at Heriot-Watt University we are well into the construction of such a device, and as soon as we know the Pianocorder format and can obtain a cassette we will do tests and submit a further article to *The Music Box*.

The system we are designing connects in parallel with the rubber tubing from the tracker bar to the stack of a Duo-Art, since this is probably the most common system. It will work without expression in any rubber tubed piano, and anyone with access to a computer can probably programme it for Ampico or Welte, although we have not yet thought about that. For such a composite system it will of course be possible to switch to manual control, since the output signals, in Duo-Art format, will play the notes correctly. ●

COLLECTING MUSICAL EPHEMERA

THERE are many collectors who, as an adjunct to collecting mechanical musical instruments also collect printed ephemera in the form of old catalogues, instruction manuals, tune lists, advertisements and contemporary (and more recent) newspaper cuttings.

This form of collecting is very important for it creates a record of history as recorded through printed material. The big problem is how should this often priceless material be stored and exhibited to the best advantage.

It goes without saying that paper is a naturally fragile substance and many early papers have discoloured and become very brittle over the years to the extent that some cannot even be folded without cracking into pieces.

Whatever means is decided upon for storage and filing material of this sort, it must be remembered that the collection will no doubt embrace all sorts of material which will not be of common size or thickness, appearance or quality. You will probably have postcards mixed with news clippings, catalogues with visiting cards and so on. Consistency in any shape or form will be the one quality to elude the collection.

Let's begin by listing the means at our disposal for presenting and keeping the material—and then discuss each one in detail.

Perhaps the easiest one to consider is the scrap book, so we will call this number one, followed by the photograph album, both loose-leaf and fixed. Next comes the filing cabinet, large, small or what-haveyou. And finally the box-file or shelvable storage box.

(1) **Scrap book.** This is fine so long as the pieces you have can be pasted down and is therefore best suited to newspaper clippings and the like. Avoid pasting down original material which will be spoiled by glueing. Never use adhesive transparent tape (such as Sellotape) as this dries out in time leaving behind the disfiguring stain of the adhesive. There are certain approved pastes for paper. Don't use brown glue or patent rubber or plastic-based glues, even though they may specify as "ideal for paper". Use an inert paste such as office Grip-Fix and use it sparingly.

Better still, use a flour paste which will neither stain nor disfigure the paper. Mix 4½ ounces of plain white wheat flour to one pint of water. Start by mixing the flour into a smooth paste using a little of the water. Boil the rest of the water and pour it into the flour paste stirring all the while. To thicken the mixture, heat it carefully stirring all the while or, as an alternative, heat it in a double saucepan. This can be applied with a soft brush and will keep for several days in a cool place.

Pasting down paper on the bound pages of a scrapbook is not an ideal method of conservation and is not really recommended. Better still is to obtain a large number of sheets of thick paper or thin card, all trimmed to the same size, and mount your paper artifacts on these using paste. The big advantage of this sort of loose-leaf system is that as the collection is added to, you can slip extra sheets in as, when and wherever you need to. Storage of the sheets should be in the box-file (see type 4 below).

(2) **Photograph album.** This has a very limited use and is only suitable for mounting photographs which you want to file. The sort of album which has sheets "printed" with a surface of closely-spaced lines of low-tack glue over which a clear plastic sheet is stuck is to be avoided for all but photographs. If you attempt to use this type for newspaper cutting or anything of that type you

No home should be without

Although electric lighting had been installed in the Grosvenor Gallery in London's Bond Street (later to become the Aeolian Hall) as early as 1883 — a mere three years after the first home in Britain was fitted with electric light—its uses for purposes other than lighting were still in their infancy. When the Electrical Exhibition took place at Wolverhampton's West Park in July, 1912, one stand featured the modern drawing room complete with Hopkinson Electrelle player piano. Invented by the American Piano Co, assembly of this short-lived device began in Manchester in 1909.

will find that it is impossible to remove them without causing damage. And, after a while, the lines of glue discolour the paper and become visible through it. So to recapitulate, use albums for photographs ONLY.

(3) **Filing cabinet.** For fairly large items such as catalogues, music, leaflets and so on, a filing cabinet can be used to advantage, storing the material in clear plastic envelopes or folders so that the pieces can be handled safely. This system is fine if you have a large quantity of material to store.

(4) **Box-file.** This is by far the most useful method of storing a variety of ephemera ranging from news clippings to complete pamphlets and small books. The standard size will accommodate a sheet of A4-sized paper with space for access. Mount one item per file sheet (as described at the end of (1) above, and include plastic wallets for fragile items which cannot be glued or otherwise disfigured.

A collection of box files is not only a very neat way of storing material, but it keeps it clean, free from dust, is completely flexible in use and can readily be indexed.

Indexing

The essence of filing is retrieval. I once said that office filing was purely a means of losing documents alphabetically and this is just what so much filing really is. Whatever system you use, it is useless unless you can find a particular item that you want quickly, without fuss, bother or damage.

With the loose-leaf box-file system, the ideal numbering method is the decimal system. I will illustrate what I mean.

First select all the items which you want to put in one box-file and place them in whatever order may appear logical to you eg, musical boxes, orchestrions, player organs, player pianos, and so on, in an alphabetical arrangement. Now number the sheets from 1 upwards.

At some later date, you acquire another item on, say, orchestrions and so, with this pasted on to an identical sheet, you find where it should go. Suppose it is between 18 and 19, then you number it 18.1. A second sheet on the same subject becomes 18.2 and so on. Suppose you have a second item closely related to item 18.2 which needs to go between 18.2 and 18.3, then this becomes 18.21, and another would be 18.22 and so on.

The other big advantage about this is that the overflow from your box-file can automatically be continued in another box-file and so on, allowing you perfect freedom to advance the items all the while.

Now number the box-files A, B, C and so on.

Next make out a file card for each sheet in each file, cross-referenced if you think necessary —remember you are the one who will be using the system so you are the one who must make it work in a way you can follow! Each item on the file card carries a title and then the box-file number and its sheet number. If items are advanced through to another, later box-file, then you do not *have* to alter the file card, since if your reference is A.69.5 and you find that file A only goes up to 58.11, it will be obvious at once that you should move to file B.

Each file-card will read something like this:

MUSICAL BOX COMBS, MAKING A.17.3

or

AUTOMATA, VICHY, ARTICLE ABOUT C.87.1

or

PLAYER PIANO, ANGELUS, INSTRUCTIONAL MANUAL A.14

These index cards need only be small, 3 inches × 4 inches file cards which you can keep in a small desk-top filing box for rapid reference.

Once you begin to acquire a large library of this sort of material, a good filing system becomes essential and will save you time on retrieval.

Preserving paper artifacts like this is in many respects at least as important as preserving the instruments themselves since the printed word is the easiest thing to lose. Incidentally, never fold paper if it can be avoided and if you have a document which has been folded for a long time, open it out carefully, press it flat between two sheets of clean **blank** notepaper, and then store it in a transparent plastic file wallet.

Don't forget, you are the one who has to make use of the system, so make it the way you want it. And do remember—avoid pasting down, Sellotaping down, gumming, glueing or marking items other than as I have suggested. Your printed ephemera could be a valuable part of the mechanical music scene, so it is worth spending £5 or so on a good box-file or two to preserve it. ●

Davrainville table organ

When the fantastic house of treasures at Wateringbury Place, Maidstone, Kent, came under the auctioneer's hammer in June, one item in this sale (which was a second Mentmore in scope) was this 26-note Empire-style table organ said to be signed inside by J-H Davrainville who was born in 1777. Three barrels 14½in x 3¾in (360mm x 95mm) each play one tune spirally. The case, originally a clock base, is 27¼in (69·5cm) wide and is of mahogany with ormolu mounts. *Picture by courtesy of Christie's.*

THE DUMB ORGANIST

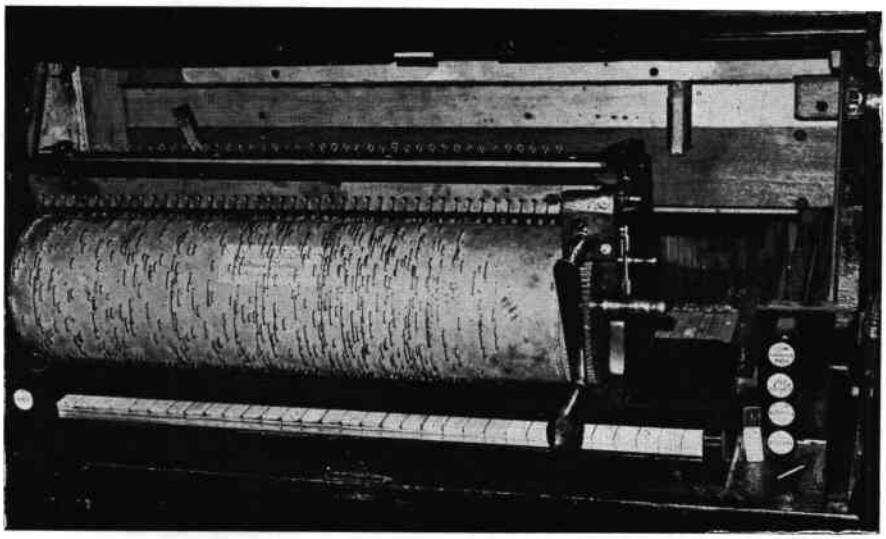
by Roger Booty

There were many churches which wanted the musical capabilities and freedom from barrel organ restraints which a fully-fledged church organ could offer. However, if they could not be certain of the regular services of a competent manual performer, they might still have music thanks to the so-called dumb organist—

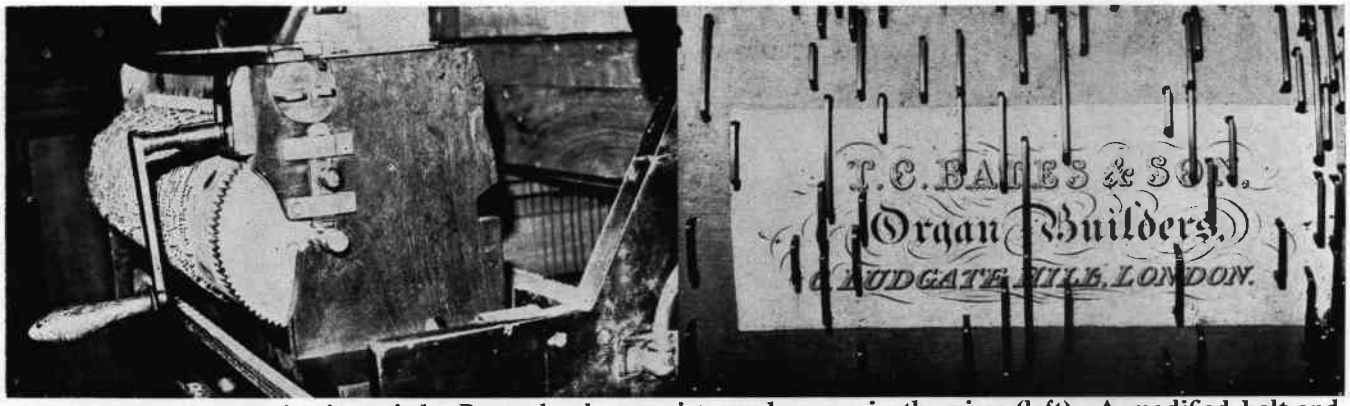
NO, it is not an insulting name for a ham-fisted organist! We all know what the original Pianola was, a piano player, and that is just what a dumb organist is except, of course, it operates on the keys of an organ, usually of the church variety. It is very simple in construction and consists basically of the non-organ parts of a barrel organ, that is just the barrel with its attendant gearing. However, the stickers, which in a barrel organ are connected to the keys of a keyframe to depress pallets in a windchest to sound the notes, press down on the actual keys of the organ keyboard and play the instrument in the absence of an organist. The whole device is fairly small and can easily be lifted on or off the organ manual as and when required.

I have had the opportunity to examine three dumb organists, two in churches in Essex and one in private ownership in Suffolk. The only one of these which is still with an organ it is capable of playing is in the parish church at Faulkbourne, (pronounced Forbo'n) near Witham. As is the case with churches nowadays, the door is normally kept locked and other than making an appointment the only possible way to see the church is to call when the neighbouring Faulkbourne Hall is open to the public, and that is only two or three times a year. I was given a demonstration on the instrument by the Rev Harwood Jones and it played well although it is not used for services, only the occasional open day. Freddy Hill restored it in 1963 and a description by him on the instrument is combined with this article. The tune list, given to me by the Rev Harwood Jones, is not the original, but is what, with the help of others, he has compiled after listening to all 30 tymns and two chants, naming them where possible.

Why were dumb organists built ? I am not sure but Freddy Hill told me the following: "At the time of the Commonwealth, in 17th Century England, organs were banned for use in church and most of them were ruthlessly destroyed by Cromwell and in country districts music-making and accompanying was re-introduced in the form of church bands which continued until the first half of the 19th century when there was a reform in the Liturgy, and with this reform came the need of an organ to replace the village church band. The rustics at that time would have been unfamiliar with organs and there would have been literally nobody to play a finger keyboard organ, so came into being the introduction of the church barrel organ, and they became popular in most country districts from c.1830 to 1860. I feel that the dumb organist player mechanisms would have been sup-



Faulkbourne church (top) and (above) the dumb organist in place on the keys showing four of the eight organ stops. Right: The beautiful case of the T C Bates organ with the barrel-player in place on the keys.



The tune-changing mechanism of the Bates dumb organist can be seen in the view (left). A modified bolt-and-knife system has an eccentric catch which lowers the keyframe, locking the knife into the barrel bolt. On the right is a close-up of the Bates barrel label.

plied with keyboard organs when they were installed new in the 1840s to 1850s and, to start with, the skilled barrel organist would have regularly played the dumb organist until about the 1860's when the trained organist, *Hymns Ancient and Modern* and the surpliced choir came on the scene" They also came to be used when an organist died or left the area, verification of this will be seen further on. Dumb organists were made about the same time as church barrel organs, but in nowhere near a comparable quantity."

Faulkbourne is a small, attractive, but lonely church without anything that could be called a village. Our next call, the church of St Anne and St Laurence at Elmstead near Colchester, is also lonely, being away from the village centre. If visiting on a sunny day, I would suggest parking in the village and walking up the "no through road" to the church. Here we find an interesting building with box pews, a west gallery, texts painted high on the walls and other items of interest all clearly labelled. As far as we are concerned though, there is one slight problem, the door to the gallery where the dumb organist is stored is kept locked. However a glimpse of it can be obtained standing next to the organ when you are standing in the nave. It has not been possible to use it now for over 100 years as it does not fit the present organ which was installed on July 6, 1872.

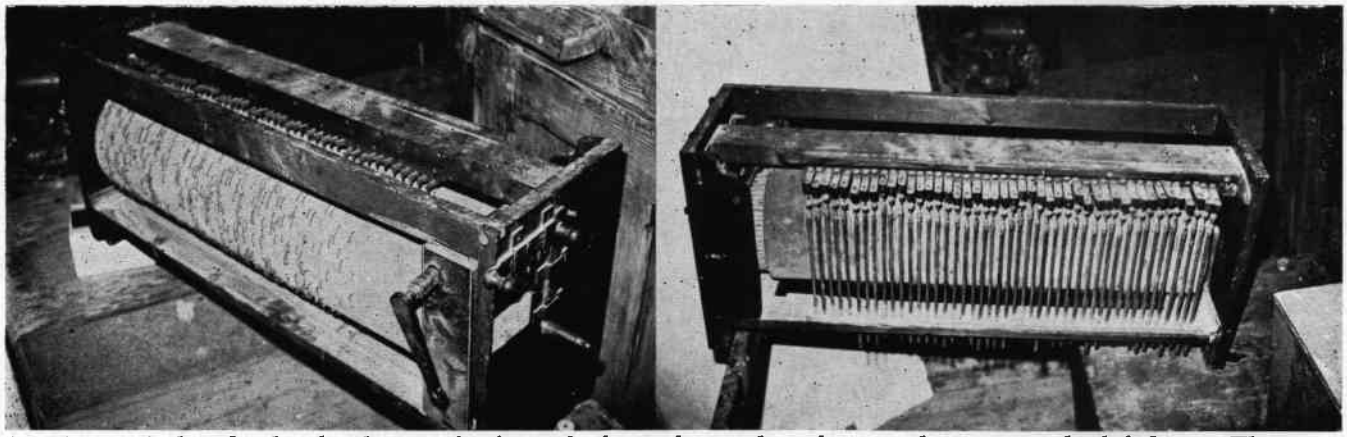
There is only one barrel which operates on 45 keys. It measures 29 inches long overall by 8 inches in diameter. The six tunes, listed next to the tune change mechanism are;

1	St Anne	CM
2	Belfast	CM
3	Doncaster	SM
5	100th Psalm	LM
6	Robinson Double	chant

The barrel is not removable so therefore the instrument survives with its entire repertoire intact, but unfortunately its builder remains anonymous. Having been out of use but on display for many years, it has sustained some slight damage but would take very little to restore to full order again. In 1931 a comprehensive history was written on Elmstead church and the following was taken from the text of that booklet a copy of which was loaned to me by Miss I Bareham, the church organist. Note again that the instrument is now in the gallery and not on general display.

"Now in the chancel, the better to be seen, but originally in the organ loft is a curious old barrel, which once fitted on to the keys of the organ. The organ then used has been replaced by the present instrument or we might use it for some service to see the straights our fathers sometimes passed through. They had an organ, but as in many other country parishes there were times when they had not an organist, and to meet this impasse they invested in the cylinder to place on the top so that any one might manipulate the instrument. The programme was not very varied, three tunes for common metre humns, *O God our help in ages past, Let saints on earth in concert sing,* and *O Help us Lord,* one tune for any long metre hymn in the *Old* Hundredth while if anyone was weak enough to want a short metre hymn it had to be sung to *Doncaster,* set in the new Ancient and Modern to *Put Thou thy trust in God,* and as for canticles — the psalms of course would be read — all canticles were chanted to Robinson's double chant. Elmstead people do not often grumble at the musical part of the services, perhaps because there has been much cause for congratulation and little for blame for some years past, but I like to think that the endless repetition of Robinson's chant for every canticle Sunday after Sunday, and the long deferred hope that the newcomer would prove to be a suitable organist, a hope that seemed always to end in disappointment, has made the Church Folk of Elmstead inclined to thank God for all his mercies, and to turn a deaf ear to some of the discords that will at times creep in."

For the last instrument we go



At Elmstead church, the dumb organist is made for only one barrel as can be seen on the left here. The tune-changing system is much more like a real barrel organ. On the right is a rear view showing the stickers.

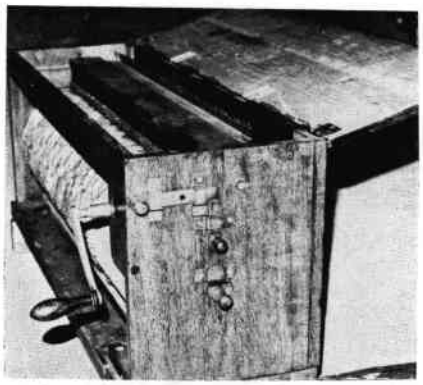
to the collection of Bob Finbow. The builder of his dumb organist is also not known but it is in good playing order although at the moment Bob has nothing suitable for it to play. Also there is no tune list so its six tunes remain nameless but the barrel is removable so perhaps originally there was more than one. This is the largest of the three organists, having 53 keys and a barrel 32¼ inches long overall, by 8 inches in diameter. It came from the Priests room over the porch of the church at St Margarets South Elmham, Norfolk. Langwill and Boston's book *Church and Barrel Organs* states that there were barrel organ relics at that church, it seems someone mistook the dumb organist for useless parts!

My thanks to all those under-mentioned above for their time and help in compiling this article. Another article on dumb organists will be found on p.44, vol 5 of *The Music Box*.

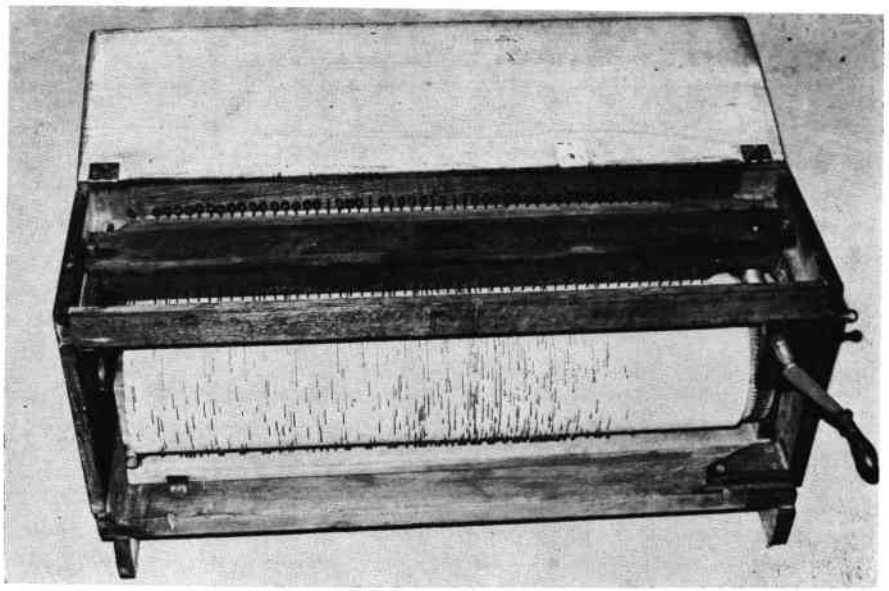
Faulkbourne dumb organist tune list.

Black Cylinder
1 Evening Hymn
2 Rockingham
3 (Unidentified)
4 Devizes
5 St Stephen
6 Sheldon or New York
7 St Michael
8 (Unidentified)

Red Cylinder
1 London New
2 Abridge
3 Wareham
4 (Unidentified)
5 (Unidentified)
6 (Unidentified)
7 Chant Earl of Monington (double chant)
8 Chant Battishall (single chant)



Bob Finbow's dumb organist, above, is an example of the "transportable" type for it is much more box-like and has a back to the case to protect the stickers. The lid at present fitted may not be the original. Note the conventional tune-change system.



Bob Finbow's organ player viewed from the front. The two small pieces of wood at each end support the device at the proper height on the keyboard by engaging with cheeks on the organ keyboard.

Green Cylinder
1 Truro
2 Irish
3 University
4 St Magnus
5 Shirland
6 Austria
7 Easter Hymn
8 Helmsley

Yellow Cylinder
1 St Anne
2 Bedford
3 St Mary
4 Tallis Canon
5 Old 100th
6 St Bride
7 St Helena
8 (Unidentified)

F F Hill describes restoring

Faulkbourne's Dumb Organist

Made by: T C Bates and Sons, Organ Builders, 6 Ludgate Hill, London

44 keys, 4 barrels, coloured Red, Yellow, Green, Black, each 2ft 1½ins long by 6¼ins diameter.

The barrel and keyframe are mounted on a solid ¾ inch mahogany frame, and the whole hinges back behind the organ music desk when not in use.

The keyboard of the Bates organ has a compass of 4⅜ octaves from CC to F^{111}. The stops:—

Fifteenth 2ft
Principal 4ft
Flute 4ft
Claribel 8ft
Stpd Diapson 8ft
Open Diapason 8ft
Bourdon (one octave) 16ft

T C Bates and Son were in business at 6 Ludgate Hill, London from 1847-1850, so this organ can be accurately placed between those dates.

I discovered this organ and dumb organist on April 9, 1962, and in 1963 was commissioned to restore this mechanism to good playing order. The four barrels and mechanism were delivered to my workshop at Shackleford and by the autumn of 1963 restoration work was complete.

The latter involved carefully taking the action to pieces and extracting many rusty screws, to fitting a new set of check buttons, screws and felts, to making one new wooden finger, to scraping the keys and burnishing the key lifting faces, polishing and lacquering the brasswork, to repairing and re-pinning the barrels where necessary, to cleaning down and treating the wooden parts.

When repairs were complete I set the dumb organist up on the small light action 1786 chamber organ in Aldro School Chapel at Shackleford, and it played very well and with a full compliment of bass notes impossible to play with the fingers!

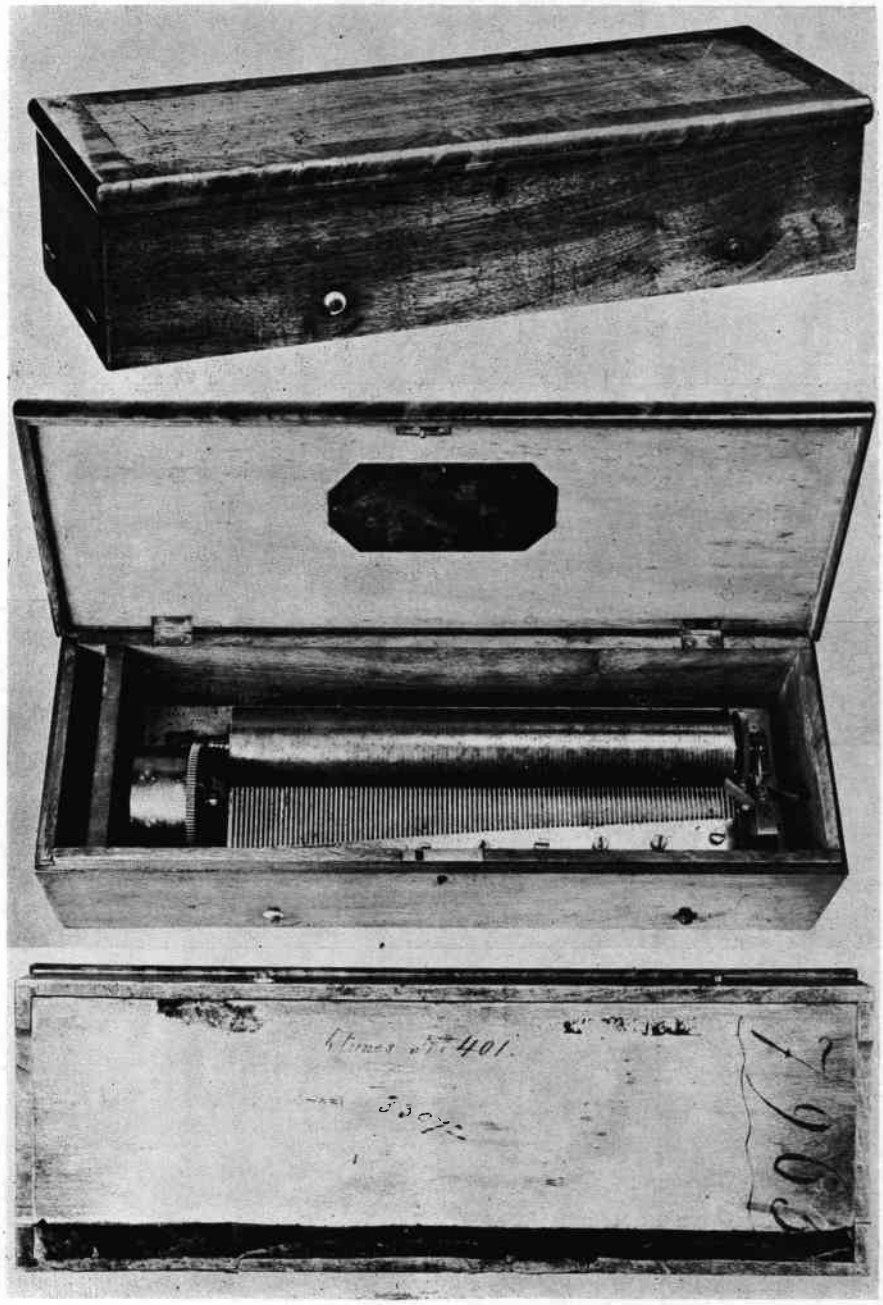
I was able to use the dumb organist successfully to play the hymns and voluntaries for four Chapel services for the school before returning the mechanism to Faulkbourne on November 29, 1963. ●

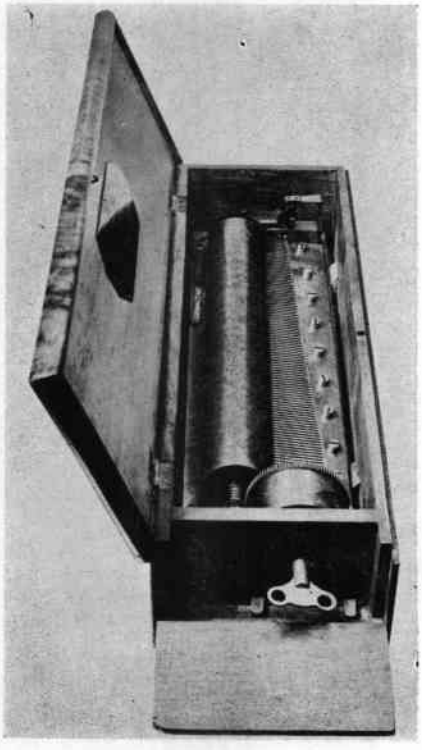
Lawater of Geneva

WHO was Lawater of Geneva? Whoever he was, his name, with the initial L, appears on the engraved brass tunesheet of this unusual cylinder box which was sold recently at Christie's South Kensington whose ace photographer Ted Holmes kindly took these shots specially for *The Music Box.*

The tunesheet lists six airs entitled : *Meet me by the moonlight above; Bid me discourse; Softly sleep my baby boy; Canadian boat song; The sun that lights the roses; The gypsie's* (sic) *song.* **There is also the gamme number 2048.**

The brass bedplate is numbered 7965 and on the bottom of the box is repeated the bedplate number plus the legend " 6 tunes No. 401." The case is in plain fruitwood with mahogany cross-banding and bead to the lid. A singular feature of the case is the creation of a cavity between the hinged case end and the left hand structural case end so as to provide a compartment for the key (the original is lost). The lid of the box has a projecting bead on front and both sides which fits into a rebate on the top end of the case itself. This bead secures the hinged flap in the closed position. Mechanically, the musicwork appears standard with slender comb base teeth, washerless comb screws and an endstone staked into the cap of the cock (this may be a repair). ●





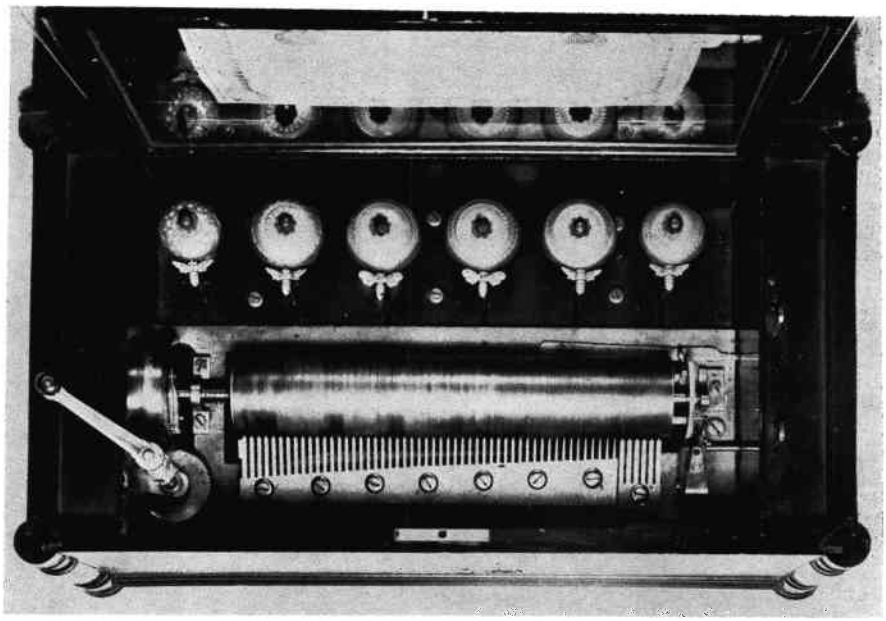
Rightangle Ratchet Winding

TAKING a long, cool look at the early key-wind musical box, however much they may be cherished as collectable items and how brilliant may their music be, one factor remains supremely apparent — they must have been monstrous things to wind, particularly for the aged and the arthritic !

Even with the aid of the biggest key going, box-winding is no easy job and even today with the care and appreciation — nay, veneration — which we bestow on such things, it is not a task to relish.

This feature was not overlooked by the makers of musical boxes. The introduction of handle-winding for clocks had already impressed the benefits of the method over the key to many horologists by the 1840s. The only problem was that the spring barrel arbor of a musical box was too close to the box bottom to allow the use of a handle of sufficient size without knuckle-rapping of some inadmissible order of magnitude.

The progress of musical box-winding is well-understood today. From the interim stage of the ratchet lever which wound up the spring by being pumped backwards and forwards (see the illustration on page 301) it was but a small step to incorporating the winding mechanism as an integral part of the motor assmbly. The lever - winding method became established.



For some makers, though, the handle which could be rotated the full circle like a clock handle retained certain advantages.

The simple problem was where to put the handle, remembering that the arbor to case base distance was too short to be practical. The answer was to take the winding handle away from a linear concept and mount it at right-angles to the motor so that its shaft pointed upwards. On top of this could be mounted a handle of almost any size you wanted.

There was another consideration, though, and that was whether the spring barrel was considered to be a going barrel with stationary arbor (as in a normal musical box with single motor), or whether the arbor would drive the cylinder from a fixed barrel.

Three makers at least worked at this, the most important being Henri Capt who arranged bevel winding gears on the spring arbor, retaining the barrel as a going barrel. He brought his handle shaft up through a brass plate over the motor and fixed a folding handle, rather like that of a sewing-machine, on the top. After winding, the handle was folded back over itself and the grip inserted in a special hole.

Another maker who experimented with rightangle ratchet winding was Paillard but this seems to have been a short-lived exercise, as was the work of Mojon Manger. Only Capt persevered to make the system very much a trademark of his top-market boxes which featured serpentine-fronted cases and complex and costly inlays.

The appearance at Sotheby's Belgravia earlier this summer of another example of this genre created a measure of interest amongst collectors. The piece was a rather ordinary-looking bell box, but there the familiarity ceased. The case was of organette style with mitred corner pillars, the tune-sheet was that of Karrer, Teufenthal, and the mechanism sported an economy-version right-angle ratchet winding system. This consisted of a folding spelter handle driving a relatively large-diameter helical - toothed wheel engaged in the helically-cut teeth forming the great wheel of the motor barrel.

This system thus employs the spring barrel as the fixed portion, drive power being transmitted to the cyclinder from the arbor. Another uncommon feature is the use of Breguet-type stop-work on the spring barrel since the normal Maltese cross style was probably considered unsuitable for this application.

Dating from somewhere around the 1895-1900 period, this particularly interesting box shows several features which must have been the subject of patents which as yet have not been identified.

The box sold for £400. Our picture is reproduced by courtesy of Sotheby's Belgravia. ●

Novice's Corner

Ribbons

WHEN replacing an old ribbon on the inner glass lid of a musical box, cotton ribbon should be used rather than nylon, terylene or other man made fibres which were not invented when musical boxes were made in the last century.

A nice round headed pin should be used for fixing the ribbon, similar to the pins with which a tune sheet is fixed. These pins can be difficult to obtain. I get pins from a friend who is an undertaker and funeral director, they are used for fixing coffin plates. These pins come in boxes of 2,000, either nickel on steel or brassed, $\frac{1}{2}$in long with a $\frac{1}{4}$in domed head. — So if you have difficulty in obtaining pins, see your friendly funeral director ! !

Jim Hall

'Orchestrated' Music

Aeolian's special 58-note music rolls and how they were intended to be used

AFTER the invention of the Aeolian Grand, forerunner of the Orchestrelle and designed on the principle of the genus American Organ — i.e. it sucked its reeds — the Orchestrelle was a reversion to the blown reeds of the harmonium.

The superior performance, achieved thanks to acoustic chamber design based entirely on the teachings of Helmholtz the acoustician, made possible more than just the rendition of orchestral music: it became possible to orchestrate the music on the roll and to make use of the families of tone colours which made up to total tonal output of the instrument.

This capability was subsequently developed to the full with the so-called Solo Orchestrelle with its two rows of tracker-bar openings effectively allowing the instrument to perform as a two-manual organ when played from the music roll.

But the skilled performer who knew his instrument and who took trouble to master the relationships of the family tone colours could achieve some very fine effects with the ordinary 58-note Orchestrelle. He could, for example, produce counter-distinctions between orchestral parts which, both in solo and ensemble, were very pleasing to the ear. With practice, the expert player could take an orchestral score and "translate" it into an Orchestrelle performance.

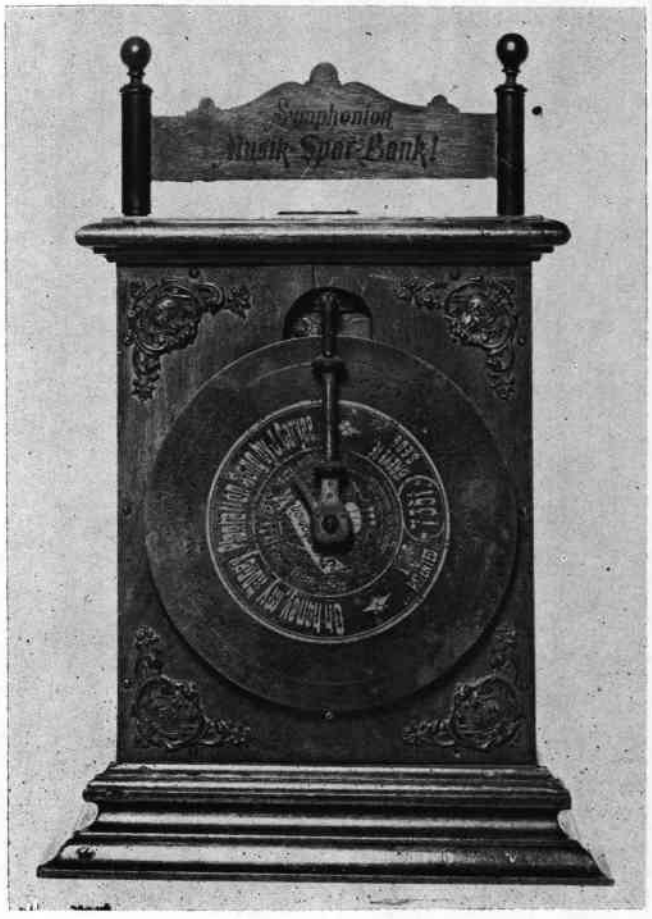
During 1904, Aeolian decided that this ability by the few should be made more readily available to the growing numbers of Orchestrelle owners. And so was introduced a new type of music roll. These were called *Orchestrated Music* and appear only to have been offered in America for a short while. There is no evidence that they were marketed in Britain.

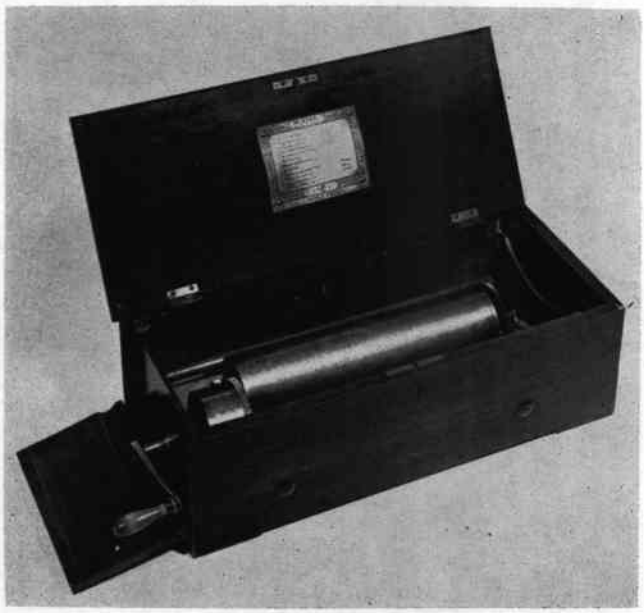
The only difference between the Orchestrated roll and the normal Aeolian and Aeolian Grand roll was the provision of printed instructions on the roll indicating where the dexterity of the player could be put to good use in changing stops to simulate tone families.

All Orchestrated rolls have six-figure numbers beginning 030. For how long they were produced is uncertain: much of their market was sapped by the growing popularity of the Solo Orchestrelle. On the following pages are reproduced four pages from *Harper's Magazine* of March 1905 which describe the system. These have been kindly loaned by Dr Paul Ottenheimer of New Jersey.

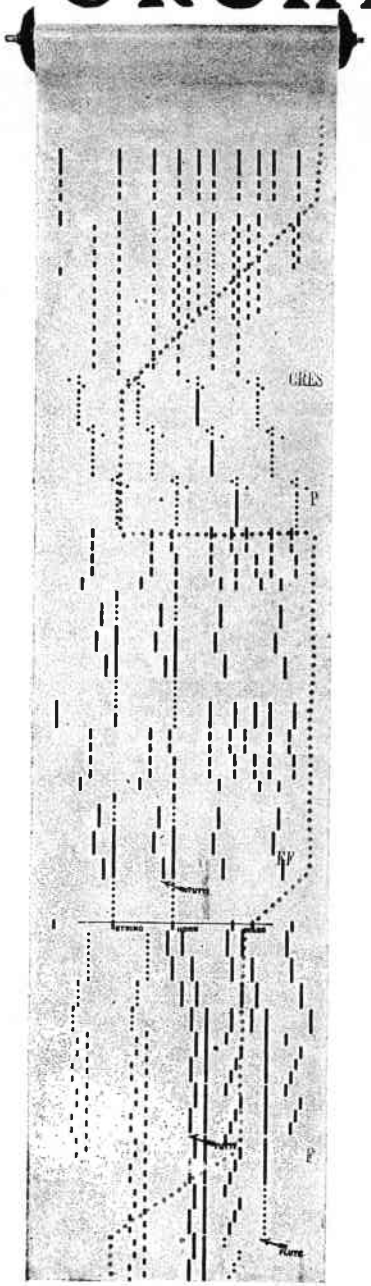
The Editor is preparing a book on the history and overhaul of the Orchestrelle and Solo Orchestrelle and would be grateful to hear from any reader who may have available Aeolian literature regarding these instruments (other than advertisements), particularly roll catalogues and illustrated catalogues of instruments. He would also like to receive comments on Aeolian rolls with particular reference to the numbering and the meaning of the small label numbers thought to indicate editions.

Highlights from the Sotheby salerooms





Two items from Sotheby's Belgravia sale of July 7, 1978, were the Symphonion musical savings bank, left, and the ratchet-wound Nicole, above. The Style 10s with 41-note comb and 7⅞in discs was first made in 1896 and sold for 26 marks (about £2) with discs at 26 pfennigs. This one, with 16 discs, made £1,600. The Nicole, number 33513, plays 12 airs, *gamme* number 1316, and is wound using a ratchet handle — an interim method between key and lever. This sold for £460. Pictures by courtesy of Sotheby's.



ORCHESTRATED MUSIC

A RECENT ADVANCE IN ORCHESTRELLE DEVELOPMENT

HOW THE SERIOUS STUDY OF GREAT COMPOSITIONS BY OWNERS OF THE ORCHESTRELLE LED TO THE PRODUCTION OF PERFORATED MUSIC-ROLLS THAT ENABLE ANY ONE TO REPRODUCE *THE ORCHESTRATION* OF THE *GREATEST COMPOSERS*

SEVERAL YEARS ago The Aeolian Company introduced the Orchestrelle, a musical instrument that carried out in the most ample manner the ideal suggested by the earlier Aeolian, namely, to bring to any home the full resources of the modern orchestra. The Orchestrelle played without previous practice, by perforated music-rolls, is an instrument that simulates the orchestra in all its intricate shadings, accents, and tone-combinations. Like the orchestra, its innumerable tone-effects are divided into the five "families" of Strings, Reeds, Brasses, Horns, and Flutes, all under the control of the player by means of simple stops.

One noteworthy characteristic of the Orchestrelle was developed soon after its introduction to the public. This instrument, it was found, appeals especially to persons who appreciate serious music—who are studious even in their musical recreations. It brought the greatest music into homes everywhere, and even those purchasers who preferred light music at the outset were led by the Orchestrelle to appreciate the best compositions of the masters. Their progress in appreciation was natural, sometimes imperceptible, but always sure. Instead of being dependent on occasional orchestral concerts, owners of the Orchestrelle had the means of producing at home the best music whenever desired, repeating compositions at pleasure.

Thus the great overtures, sonatas, symphonies, fugues, and chamber music became familiar as wholes (the point at which true musical appreciation really begins), and from that the player was led to analyze them bit by bit. This the Orchestrelle enables any one to do entirely at leisure, and with interest and thoroughness.

With such an intelligent body of music-lovers utilizing all the resources of the Orchestrelle for pleasure and instruction, a demand arose for further light on the problems of orchestration.

In the Pianola the means of playing with expression has been supplied by the Metrostyle, which indicates

HARPER'S MAGAZINE ADVERTISER.

Style "F" Orchestrelle Prices of Orchestrelles, from $600 to $1,500

the tempo in which a composition should be played for the best effect. Tempo, dynamics, phrasing, and a judicious use of the pedals constitute pretty nearly the whole art of piano-expression. But with the Orchestrelle containing the whole range of orchestral tones, expression was a different matter. Therefore a way was sought of indicating all the subtleties of orchestration direct upon the Orchestrelle-rolls. The result was *orchestrated music.*

What Orchestrated Music Is

A roll of orchestrated music, marked with directions such as "Horns," "Strings, Reeds," "Brass, Horns, Reeds," etc., and intersected at frequent intervals with red lines, usually looks complicated at first sight. In reality, however, it is simplicity itself. The five great *tone-families* of the modern symphony orchestra are classified as Strings, Brass, Horns, Reeds, and Flutes, and in the Orchestrelle these five tone-families are reproduced as grouped in the largest orchestras. In naming the stops of the Orchestrelle, which the player draws out, individually or in combination, to produce desired tone-effects, these five families have also been followed. In the string group of the Orchestrelle, for example, are Muted Strings, Violin, Viola, Contra Bass, and Eolian Harp; in the Brass group are Trumpet, Trombone, and Double Bass; in the Reed family are Clarionet, Bass Clarionet, and Oboe; in the Flute family, Flute, Orchestral Flute, and Piccolo; in the Horn family, the French Horn.

As the roll of orchestrated music passes before the player's eyes he

draws out the stops of the Orchestrelle in accordance with these tone-directions. A composition may begin with muted strings, then be reinforced by the flutes and reeds, then by the brasses. Horizontal red lines on orchestrated music indicate when a combination is to be withdrawn and a new tone begun. When all the tone-families are used together the word "Tutti" appears. Marginal directions indicate the degree of loudness and softness desirable, as well as the proper tempo or rapidity of execution.

The directions on orchestrated music-rolls are so simple that a person having no previous acquaintance with the instrument, or with orchestration, can produce music on the Orchestrelle correct in expression, tempo, shading, and tone-values. As the instrument and music become more familiar through repeated playing, the general idea of the composer is grasped as a whole, and the player is able to introduce variations according to his own ideas. In all cases the orchestration on the rolls is that of the composer, reproduced from his finished orchestra score. The rendition of orchestral music is not wholly a matter of personal taste, but often a question of right and wrong. While the directions on orchestrated music-rolls make it easy to follow the composer's meaning, however, they do not in any way affect the player's personal interpretation or individuality of expression.

Special Annotations

In addition to the markings on orchestrated music, each composition is accompanied by special annotations which give a general idea of the composer, the impulse under which the composition was written and its purpose, the story or mood that the piece was intended to convey, and other information that places the orchestrelle-player in sympathy with the composition, thereby finding greatly increased enjoyment in its interpretation.

Orchestrated music and the Orchestrelle have brought to the home a range of music that has heretofore been wholly within the province of the orchestra, only to be heard at recitals and chamber concerts. Where the piano gives but an adaptation or reminiscence of such a masterpiece as Wagner's "Parsifal," and then only to the satisfaction of listeners who have become familiar with it through repeated hearings at opera and recital, the Orchestrelle brings it to any home in all its wonderful tone-color, with all its orchestral character and grandeur. Moreover, any person is enabled, with the Orchestrelle, to play almost immediately a master-composition like "Parsifal" as Richard Wagner meant that it should be played, with all its orchestral splendor and devotional beauty.

In this ability to bring such music to the home the Orchestrelle, with orchestrated music-rolls, is entirely unique — without precedent in the history of music. There has never before been an instrument capable of doing this. The Orchestrelle is of so much importance in the strictest musical sense that even optimistic authorities hesitate to set any limitations to its effect upon the future development of musical enjoyment and appreciation. *It is an interpreter of music with a range as wide as the modern orchestra.*

All the developments of music during the past fifty years have been orchestral developments, and to the orchestra we must look for the musical developments of the next century, in the belief of critics. Yet, as

we know the orchestra to-day, it is capable of no improvement that may not be reproduced with the Orchestrelle and orchestrated music. This instrument is capable of playing with full orchestral effects everything that has been written since the times of Bach, Mozart, and Handel, from Beethoven's Fifth Symphony to light opera, dance music, and popular melodies.

Orchestrated music gives the great compositions a vitality and directness of appeal often missed even in orchestral recitals, for it reveals in an intimate way the real purpose of the best music—its tone-stories and pictures, its symbolism and emotions. The best orchestral recitals go far over the heads of ninety persons in any hundred selected at random from a miscellaneous company. But the Orchestrelle has repeatedly demonstrated that this apparent lack of appreciation is really a lack of comprehension. Time and again, in mixed gatherings, Orchestrelle-players have given recitals of classic music, explaining each by the special annotations that accompany the orchestrated music-rolls. Under these conditions the highest forms of music have vital interest for untrained listeners, and when such persons themselves become Orchestrelle-players they also attain true musical culture with almost absolute certainty. This instrument has a faculty of making music not a pastime, not an occasional source of amusement, but *a substantial element in daily life—as definite and beneficial a helper as literature.*

A Souvenir Book of Musical Annotations

To further explain the character of orchestrated music, The Aeolian Company has prepared a catalogue that describes one hundred orchestral compositions familiar to all concert-goers, giving the special annotations exactly as furnished with orchestrated music-rolls. This catalogue is of interest to every music-lover, and of sufficient literary merit to have a place in every private library. It will be sent to any one on request, accompanied by a pamphlet that deals with the tone-quality of each stop in the Orchestrelle, and gives a complete treatise on the method of playing the instrument.

THE AEOLIAN COMPANY

AEOLIAN HALL

362 Fifth Avenue, near Thirty-fourth Street, N. Y
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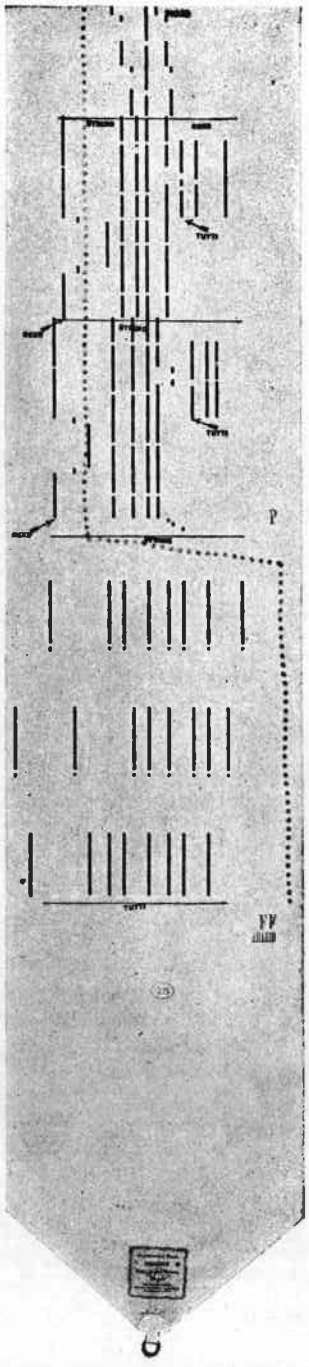
114 Monument Place, Indianapolis, Ind.

(The Fleming Press, New York)



HISTORY OF THE ORGAN

by Brian Oram

On page 196, the author began his article with the suggestion that the early organ may actually have been used as a weapon of war. In part two here he shows that the organ was well established more than 2,000 years ago and suggests that automatic instruments must have been prolific

THE empire founded by Alexander the Great split up into a number of workable units roughly corresponding to the ancient empires which fell before his Army. Not unlike the British Commonwealth, these states had a common cultural and religous foundation — at least in their rulers so the gods of ancient Egypt, Persia, and Anotilia became identified with those of Greece. The people worshiped their old gods with a Hellenistic overtone. Alexandria, that jewel of a city, part trading centre and part city of learning rather than a university, became the hub of human knowledge and international trade. It seems that even before the Romans, Egyptian ships sailed to Ceylon (and perhaps even further east,) and westwards as far as Britain.

The museum became almost deserted about 146 BC due to political upheavals, and Pergamus assumed the leadership of ancient learning and experiment with lesser cities of Greek origin and Rome so that knowledge became scattered in what was to be the autumn of Hellenistic enterprise. This period was to be in many respects the most brilliant. Huge and beautiful temples were built which were of such delicacy that even today in their ruin the columns look like gossamer on the landscape. The temple to Apollo at Didyma is but one yet is only the third largest built. Although the drums are solid marble, maybe up to 10 feet diameter, no modern architect would entertain building such a structure even with modern tools. Although it was never completed and was severely damaged by earthquake in the 15th century, it stood for almost 1600 years.

During the excavations of Delphi by the French at the end of the last century, the third and last temple to Apollo was cleared of debris. Delphi was more revered than Siwa or Didyma perhaps because of its superb intelligence service and double meaning of its prophecies. Set into the mountains on a savage slope it is overshadowed by the towering Mount Parnassus. Today's pilgrims go by 'bus with cameras from the ancient port of Itea or by similar transport on the newly constructed Italian road from Athens. Both the old roads appear to have been built by demented snakes so torturous and narrow are they as they wind up the steep mountainside to Delphi some 2,000 feet above the sea.

One must wonder at this stage, whether polyphonic music had come into being. A scene (Fig I) in pottery shows a Greek orchestra of the 5th century BC comprising a harp (presumably playing bass), a lyre, a tambourin, a lute, and two aulos.

Certainly music was part of life of even the ordinary uneducated Greek from the earliest times so that everyone was in a position to accurately judge a performance. The fact that the Greek *modes* were mathematically calulated and would be discordant to our ears is no proof that polyphony was unacceptable. D# is not Eb and this is clearly shown by Greek music as it is now understood. The nearest modern concept is the Gregorian scale but even this is not correct.

Apropos the aulos, some had 15 holes with a metal sleeve to alter the modes. By this means, one aulos could cover a number of modes and presumably make a quick change if necessary.

It has been suggested that modern Arab and Indian music is similar to ancient Greek music, but the apparent similarities appear casual in thought and structure.

The Greek orchestra indicates that polyphony was being visually shown at least by inference. Note the position of the fingers and hands on the aulos. Would it be too outrageous to suggest that polyphonic music was developed in Crete and recovered when the organ again became a workable instrument sometimes before the Robertsbridge Codex (circa 1316 AD) and the Syon organ (circa 1390 AD). An organist having two hands would not be content to play consecutive intervals and what ancient music we have seems to substantiate this view.

By 90 BC the hydraulikon had been developed. It was apparently, a versatile instrument, appreciated by the judges (and the Gods) at contests of international reputation —a completely new musical instrument which was not rigid in its total qualities, and one which was a delight to listen for all as, indeed, it remains to this day. Few instruments have had such a long history. Not for nothing has it been called the king of musical instruments.

But the instrument was to fall on hard times. Rome was in its ascendency, the legions fought through Greece, through Anatolia, through Palestine, irradicating Carthage and savaging Spain. They divided Gaul into three parts, and made Egypt a private estate of the emperor. No wonder that it has been suggested that the Romans were a band of thugs who accumulated an empire by brigandry. They even took an Island called Britain because Julius Ceasar, one of their head men, disapproved of the druid priests burning captives alive in wicker baskets. Not many — just

Fig. 1. Plaque dating from the fifth century before Christ showing the Greek orchestra. The original is in the National Archaeological Museum at Athens and measures approximately 9¾ins by 6¼ins (247mm × 158mm).

a few now and again to propitiate Andrasta.

In Etruria, gladiatorial combats were held to honour the death of a warrior. In 264 BC three pairs fought at the funeral games of D Brutus Pera at Rome. Thus from small beginnings a truly Roman industry started. Amphitheatres were built, the Amphitheatrum Flavian at Rome was dedicated in June 79 AD (now known as the Colosseum and perhaps the largest traffic roundabout in the world). This was but one of many; Nimes in France and el Djem in Tunisia are but two of many equally impressive structures. Some built of timber were portable and one would deduce not unlike the temporary bull rings of Spain where one need only substitute lions for bulls. It seems this form of entertainment was not so popular in the old Hellenistic World.

Although these vast places seem to have catered for the whole population not everyone enjoyed the spectacle. L Annaeus Senecca born in southern Spain about 3 BC in *Epistulae Morrales* complains bitterly of the human slaughter particularly at the lunch intervals. He was tutor and general factotum to Nero.

It seems certain that some of the sensibilities of the wealthy became slightly jaundiced by the scenes of the dying judging by the number of mosaics found of the gladiatorial shows, some depicting the hydraulikon.

Bass pipes on right

At Nennig in the Saar a mosaic has nine medallions showing scenes from the amphitheatre. The entrance medallion is of a Hydraulikon and a horn player. It shows perhaps the only view of the bass pipes being to the right of the organist. Even today the bass pipes are placed on the left.

The most famous mosaic now in the Tripoli museum was found near Zliten close by Lepcis Magna and has a frieze depicting a gladiatorial show complete with two orchestras, wild animals, tethered human beings, coffins and gladiators in various stages of death. Both orchestras show a hydraulikon, trumpet militaire and horns similar to the French hunting horn. Age has not faded its pristine brightness or macabre message. Modern visitors have been known to feel physically and mentally ill when first seeing it.

A beautiful gemstone in the British Museum (Fig 2) provides perhaps the most accurate representation of the hydraulikon. In

Fig. 2. The British Museum gemstone in orange coloured sardonyx, finely and accurately engraved. Actual size less than 5/16ins (8mm) wide.

the first centuries AD, the hydraulikon is featured on coins: lamps have been found at Copenhagen, in Egypt, Cathage (Roman) Bulgaria, and on a sarcophagus besides other divers materials including glass.

Certainly the hydraulikon excited the populous and the power and diversity of its music is well documented. The one at the Colosseum is stated to have been heard 60 miles (Roman) which is about as far as Tarquinia. These instruments were large, powerful and probably capable of raising 30 inches of wind. The action would be slow and, from the gladiatorial mosaics, the players of dubious position in society.

However, the small Greek instrument was also very popular. Suetonius in Nero (para 22) is somewhat scathing of his Emperor's musical and theatrical performances, besides falling out of his chariot on one occassion. In para 43 we are told that after he returned from Greece the governor of Gaul, Vindex Julius, was organising a revolt. His intention was to address the Senate but instead he went to the palace where, after a brief discussion with the leading Roman citizens, he devoted the remainder of the session " to demonstrating a completely new type of hydraulikon ", and explaining the mechanical complexities of several different models. He even remarked that he would have them installed in the theatre " if Vindex did not mind." Towards the end of this book, in para 54, Suetonius writes: " Just before the end, Nero took a public oath that if he managed to keep his throne he would celebrate the victory with a music festival performing successively on hydraulikon, flute, and bagpipes; and when the last day came would dance the role of Turnus in Virgil's Aeneid. He was supposed to have killed the actor Paris because he considered him a serious professional rival." From some half-forgotten reading, I recollect that Paris was butchered by an enraged lion when the Colosseum was flooded.

During excavations at Pompei at a time when archaeology was not so circumspect, were recovered two items now labelled in the Naples museum as syrinx although they are too large to put to the month. The more complete one measures 39cm long by 32cm high and 2.5cm thick and is made of bronze. The longest pipe is 25.3cm and the shortest 11cm in length. Both are soldered to the base which has temple designs upon it showing that the pipes are uppermost when played. Both were found in houses, one inside and the other outside the city. Maybe another will be found sometime which will give found which will give more information. Vesuvius erupted in 79 AD.

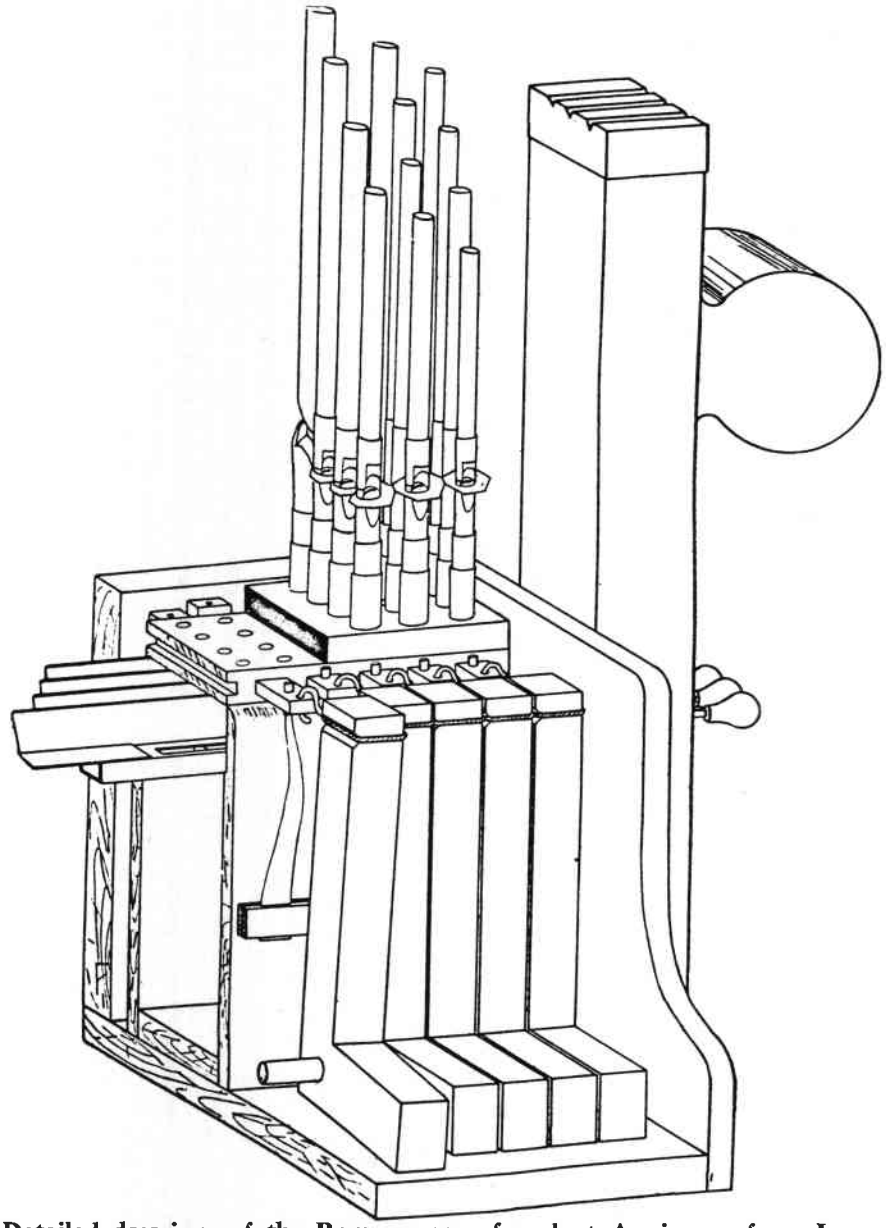
Roman organ uncovered

Far away on the borders of the Empire was found a small third century organ, and I am greatly indebted to Herr Werner Walcker-Mayer of E F Walcker & Cie organ builders of West Germany for permission to quote from his book "The Roman Organ of Aquincum".

At the time when the organ was being played Aquincum (now a suberb of Budapest) had the category of Colonia Splendidissima and later, in 375, Valentinian II was proclaimed Emperor there when the population would be about 50,000 inhabitants (presumably less slaves). A considerable city as it is today at the end of a long land route for trade along the Danube to outlets in the Black Sea.

In 1881 a sarcophagus was found in a graveyard at Obuda, part of the old civilian city, on which was inscription which I translate as follows:

Within these stones lies my pious, beloved wife Sabina.
Educated in the Arts she only excelled her husband.
Her voice was lovely; carefully she plucked the strings;
But quickly she was snatched away, and now is silent,
Thrice ten years she lived,
Less five alas; plus three months more,
And twice seven days. Whilst alive,
She played superbly upon the organ in public,
Take note, you who read this; may the Gods preserve you,
And sing melodiously " Aelia Sabina, Farewell! "
Titus Aelius Justus, Official organist to the Second,
Reserve Legion had this made for his wife.



Detailed drawings of the Roman organ found at Aquincum from Lagos Nagy's book together with sectional drawings of the open and stopped pipes from Walcker's monograph on the organ appear on these two pages.

Few women could have such a tribute from a loving husband, nor does English do the Latin justice, however translated.

Excavations in the quarters of the fire brigade during 1931 uncovered a small organ of the Third Century. The building had been destroyed by fire sometime about 250 AD. The importance of the find is that it is the only ancient organ so far found. The fact that it so closely resembles the present tracker organs may not be coincidence nor the fact that the lower notes are to the left and higher ones played to the right of the instrument.

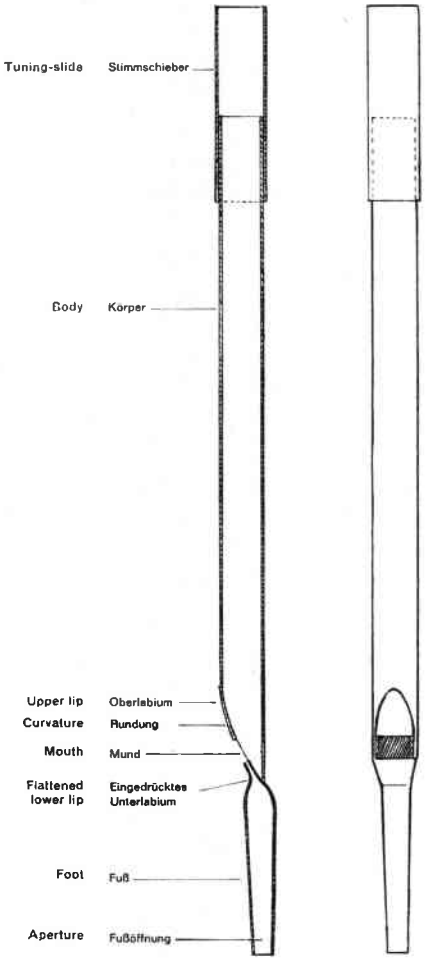
The organ had fallen through the floor and was found upside down in the cellar which had not been cleared after the fiire. No wind-raising mechanism was found which probably is not unreasonable. A bellows operated organ would most likely have been totally consumed, but if it had been of the Ktesibios double pump and *pnigeus* system then it would have been worth the effort of salvage with perhaps as much as a hundredweight of bronze, and maybe the pumps put to good use on a fire engine. One slight clue survived to give the impression that it was driven by water. A broken ring about nine inches diameter which could have been the top end of a pnigeus was found. This had fractured in its fall possibly due to faulty casting. This would be a large diameter for a small organ even allowing for air leakage, but it could have hardly been worse than some present day organs. One might suggest that the organ was sold separately from the wind raising mechanism.

It would seem that in the early part of the Third Century AD there were at least four organs at Aquincum. They belonged to the fire brigade, the 2nd reserve legion, the family of Aelia Sabina or the theatre, and no doubt the amphitheatre. On this basis there must have been literally hundreds of these instruments scattered throughout the Roman Empire, and perhaps further for a terra cotto lamp found in a tomb in Denmark shows at least knowledge of the instrument in that far flung part of Europe. Perrot describes 37 representations which do not include the Aelia Sabina epitaph and lamp in the British Museum, and there are probably others. The dates are roughly from the 1st to 4th centuries AD. Nor does this include documentary evidence.

The Aquincum organ has been fully investigated and Herr Walcker-Mayer has constructed a full size replica. Unfortunately the original organ has been reassembled in the vain hope that it would work.

One of the first items to come to light was an inscription which reads as follows:

G(aius) JUL(ius) VIATORINUS
DEC(urio) COL (oniae) AQ-(uinci) AEDI(-)
LICIUS PRAEF(ectus COLL-(egii)



CENT(onariorum) HYDRAM COLL(egio)
S(upra) S(cripto) DE SUO D-(onum)
D(edit) MODESTO ET PROBO CO(n)S(ulibus)

which translates as:

Gaius Julius Viatorinus, member of the Senate of Aquincum, one time Aedile and Superintentant of the Fire Brigade gave this Hydra to the said college at his own expense during the consulate of Modestus and Probus. This occurred in 228AD.

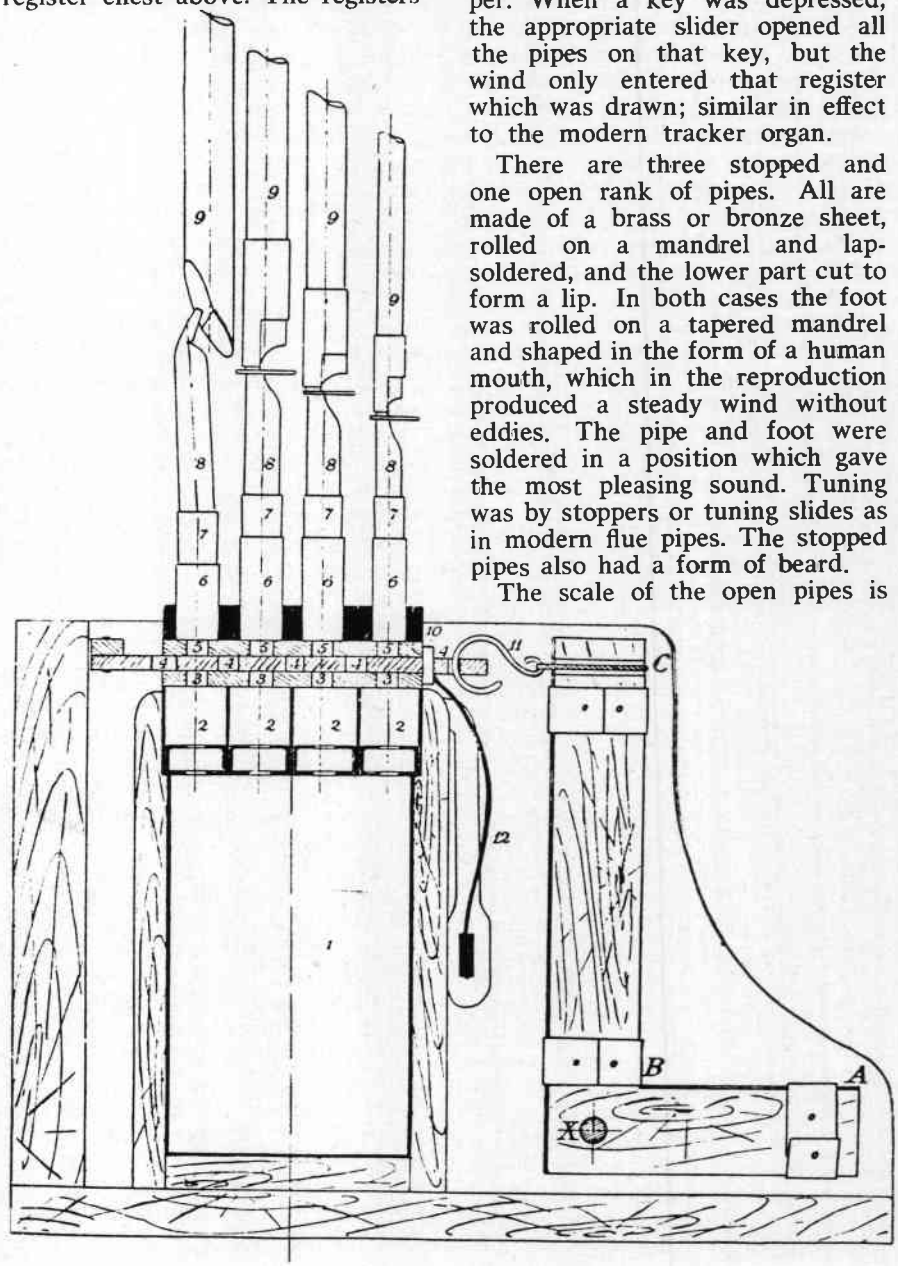
The organ consists of main wind chest, registers, keyboard, tracker and pipework. The chest is zinc lined indicating a hydraulikon. Other metal parts also indicate water was used for raising wind.

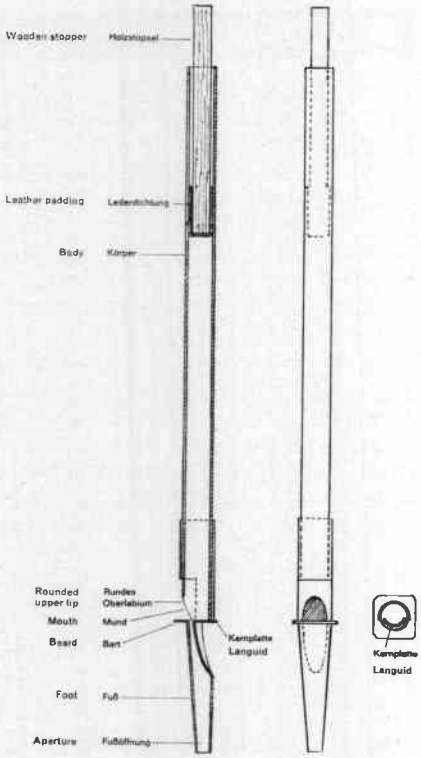
The registers are bronze as also are the sliders. A single hole allows wind from the main chest to the register chest above. The registers have a long wide part soldered to a long thin flat rod which protrudes outside the chest. When opened, the wide part is stopped by the end of the chest allowing free flow of air through a rectangular hole in a bronze plate fixed to the underside of the register chest.

The action was by sliders under the soundboard with a rivetted stop away from the organist, pierced with five holes four of which registered with the holes on the soundboard on the underside of which were dividers for 13 notes. Thus there were originally 52 pipes in four ranks, all made of bronze. Thirteen iron leaf springs on an iron bar fixed to the chest held the note slider in the closed position whilst an iron hook was connected to the slider on the fifth hole and the key which was set up in the shape of a letter "L". The keys were covered with copper. When a key was depressed, the appropriate slider opened all the pipes on that key, but the wind only entered that register which was drawn; similar in effect to the modern tracker organ.

There are three stopped and one open rank of pipes. All are made of a brass or bronze sheet, rolled on a mandrel and lap-soldered, and the lower part cut to form a lip. In both cases the foot was rolled on a tapered mandrel and shaped in the form of a human mouth, which in the reproduction produced a steady wind without eddies. The pipe and foot were soldered in a position which gave the most pleasing sound. Tuning was by stoppers or tuning slides as in modern flue pipes. The stopped pipes also had a form of beard.

The scale of the open pipes is





from 18·5 mm to 14 mm and pitched at c d e b f a b a a b c' d' e' b' f' g'

Those of the stopped registers being:

Open Register	c'
Stopped 1	a
Stopped 2	g
Stopped 3	f

The length of the pipes correspond to the Pythagorian scale deduced by the mathematical division of a taught string. Each rank contains one mode plus one additional note for modulation.

The Walcker - Mayer replica organ built from examination of the original parts and observations from Lagos Nagy's book (now out of print) appears to have a somewhat ethereal sound. The open pipes are bright, dry, and somewhat sharp in tone, whilst the stopped pipes are also dry "slightly veiled in quality and a little rattling".

The speaking time is long allowing only a moderate tempo whilst the action is slow due to friction. Thus it can be said that both pipework and action are compatable.

The instrument is small and weighs about 44 lbs (20 kilos) and appears to be about 14 inches width overall. Three reconstructions were made the last being in accordance with the original Aquincum instrument and now in the Romano-German Museum at Mainz.

To be continued

Book Reviews

THE BOOK OF KNOWLEDGE OF INGENIOUS MECHANICAL DEVICES *by Ibn al-Razzaz al-Jazari, translated and annotated by Donald R Hill. D Reidel Publishing Company, Dordrecht and Boston. xxv + 285pp, 342mm (13½ins) by 252mm (10ins), illustrated (frontispiece in colour). £50.*

In April of this year, Sotheby's auctioned what was rightly described as "one of the world's rarest manuscripts". The price it fetched—£160,000—was considerably above expectations, particularly as it was neither the earliest copy nor was it even complete. The work? It was a version of al-Jazari's thirteenth century treatise on the science and art of mechanism and as such was one of the most significant works of its genre in existence.

In the words of al-Jahiz, who died in AD 869, "Wisdom has descended upon these three: the brain of the Byzantine, the hands of the Chinese, and the tongue of the Arab". As we have learned more of the ancient Arabs and the culture of Islam, the wealth of wisdom and knowledge possessed by these people has become more and more apparent. The texts of al-Khazini and of the Banu Musa —this latter describing the manufacture of a mechanical organ— served really to do little more than reveal more of a greater technological paradox than they solved. There was one great and hitherto neglected work which might offer the answers — and that was al-Jazari's machine book. Professor Lynn White of the University of California once said that the engineering relations between Islam and the West could never be understood until al-Jazari was edited. The problem was to find somebody who knew enough of both technology and Arabic to tackle the task. That somebody turned out to be Dr Hill.

This magnificent book, very expensive and in a numbered, limited edition, is a thoroughly scholarly attempt at producing in readable English the complete al-Jazari and to this end the translator has studied all surviving manuscripts and has worked, in several cases, from more than one manuscript to produce his complete work.

The Arab author, whose real name translates as "Prodigy of the Age", finished his book in about 1204 or 1206. There are four known copies (in different hands) in various states of completion, plus seven other fragments. The work is full of surprises. Leonardo was thought to have been the first to illustrate conical valves: al-Jazari shows them. Giovanni d' Dondi's astronomical clock finished in 1364 was thought to be the first demonstrations of segmental gears: they are drawn in al-Jazari. Casting metal in mould-boxes using green sand was a method not used in the West until the fifteenth century: al-Jazari describes how it is done.

For the historian of mechanical music and, in particular, automata, there is much of interest. A marvellously detailed section on the construction of clocks includes a treatise headed: "On the means of imparting movement to the hands of the drummers and the cymbalist, and sound for the trumpeters". There is a measure of the sensational approach in sections with inviting headings such as "On what is fitted inside the elephant, and its method of operation". There is a description of an automaton peacock which displays himself every half hour, two chicks which appear to quarrel, and doors which open to reveal a scribe indicating the hour.

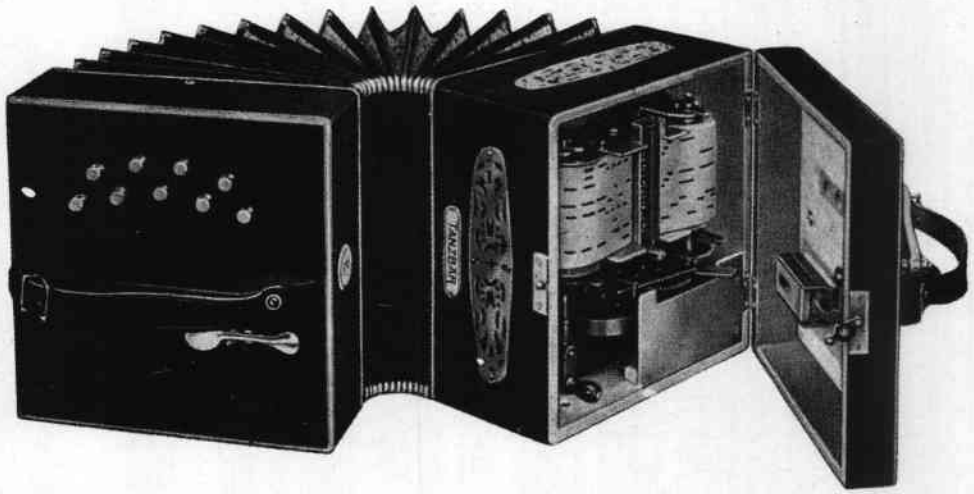
Flute-players are repeating features as are heralds, scribes and slaves, powered by water (some by wine!) or air. A perpetual motion machine is described in several forms, finally being coupled as the force behind a perpetual flute. On a less fanciful note, there are some interesting schemes for raising water by mule power, particularly one in which the Arab scribe who copied the original mistakenly drew the animal upside down. . . .

The original drawings, finely reproduced, are sometimes a little vague to follow since they are prepared with that freedom from the constraints of perspective which characterises the period. However, Dr Hill has not only clarified the Arabic originals in many cases with an explanatory sketch but has also provided a conventional engineering drawing to explain the more abstruse originals. These, aided by copious notes in regular English (as distinct from the colourful language of the original with its allusions and its allegory) renders this ancient Arabic manuscript into a tool for the present-day enquirer. Dr Hill

Continued on page 326

My goodness – so it is!

When Christie's South Kensington opened their new showrooms, Christopher Proudfoot invited our editor to the opening party. While investigating the inevitable tangle of goodies which all quality auction rooms display prior to a sale, the two discovered a Marshall & Wendell Ampico Model A number 103900 plus rolls. Meanwhile the other side of the room somebody else had found a large and powerful juke box loaded with "78s" and a mains plug. The musical war continued far into the night . . .



TANZBÄR

Die automatisch spielbare Konzertina
The automatic playing Concertina
La Concertina automática

Recently Werner Baus went to Leipzig in search of relics of Tanzbär manufacturer A Zulegar whose business, founded in 1872, was at Königsplatz 4. He found an old lady who used to work with the company years ago and from her he was able to purchase a brand new Tanzbär complete with its wooden transit case. Of equal importance, she gave him a coloured brochure on the various styles of instrument Zuleger made. This is in several languages but it is considered to be of such interest and rarity that it is reprinted here in toto. The panel in which this text is printed would have been used for the rubber stamp of the shop which sold the machines. On this brochure, never circulated, it was left blank. Our thanks to Werner Baus, new president of the GDFMM (see page 326) for loaning the original

Was ist der „Tanzbär“?

„Tanzbär“ ist der Name für die einzig existierende automatisch spielbare Konzertina mit einlegbaren Notenrollen.

a) Spielweise des „Tanzbär“

Es ist jedermann möglich, sofort und ohne die geringsten Notenkenntnisse die schönsten Musikstücke auf diesem Instrumente zu spielen. Die Spielweise ist sehr einfach und in der Gebrauchsanweisung genau beschrieben. Ein großer Vorteil besteht noch darin, daß jedermann nach seinem Gefühl spielen kann. Es ist möglich, das Tempo zu regulieren, man kann also schnell oder langsam spielen, man kann ferner durch starkes oder schwaches Drücken des Balges piano und forte hervorbringen. Bei guter Vorführung glaubt jedermann, einen geübten Künstler zu hören. Viele Artisten benutzen die „Tanzbär“-Konzertina zu ihren Vorführungen.

b) Zweck des „Tanzbär“

Das Instrument soll zunächst der Unterhaltung dienen. Nach des Tages Last und Mühen soll sich jedermann durch Spielen auf dem „Tanzbär“ eine vergnügte Stunde bereiten. Bei voller Beherrschung des Instrumentes ist man imstande, eine ganze Gesellschaft damit zu unterhalten, und man ist des Beifalls seiner Zuhörer sicher.

Infolge seines kräftigen Tones kann das Instrument ferner zur Tanzmusik verwendet werden. Walzer, Märsche, Quadrillen, Foxtrots, Tangos und alle sonstigen Tänze können gespielt werden, und es tanzt sich wunderbar nach dieser Musik. Das Instrument ist zu jeder Zeit gebrauchsfertig.

c) Garantie des „Tanzbär“

Das Instrument ist peinlich gewissenhaft gearbeitet, die Konstruktion ist so einfach, daß Reparaturen zu den Seltenheiten gehören.

What is „Dancing Bear“?

“Dancing Bear” is the appelation of the only automatically playing Concertina with inserting music rolls.

a) Method of playing the “Dancing Bear”

Everybody is able to play on this instrument at once and without the least knowledge of music the finest pieces of music to perfection. The method of playing is very simple and is fully described in the instructions for use. A further important advantage is this, that everybody is in the position to play this instrument according to his feeling and modulate the expression at will. It is also possible to regulate the time, i. e. playing may be done in slow or quick time, and through more or less pressing the bellows piano or forte playing may be produced. If the instrument is properly played, everybody will be under the impression, that a highly trained artist is playing. Many music hall artists are using the “Dancing Bear” concertina in the stage work with full success.

b) Object of the “Dancing Bear”

In the first line the instrument is to serve as an entertainment. After the days work, anybody should be able to enjoy an hour or so by playing the “Dancing Bear”. The full command of the instrument will enable the player to entertain any company by means of this instrument and to make sure of the approval and satisfaction of his audience.

In view of its full powered tones, the instrument may also be played at dances. It is possible to play on the “Dancing Bear” waltzes, marchmusic, quadrilles, foxtrotts, tangos and all other dance music, and dancing goes on wonderfully with this music. The instrument is ready for use at any time.

c) Guaranty of the “Dancing Bear”

The instrument has been made with the greatest care and precision, the construction is quite simple, so that repairs are of very rare occurrence.

Qué es el «Tanzbär»?

«Tanzbär» es el nombre de la única concertina de rollos de músicas introducibles que existe en el mundo.

a) Modo de tocar el «Tanzbär»

Qualquier persona en el acto y sin conocer la menor nota puede tocar las piezas de música más hermosas con este magnífico instrumento. El modo de servirse de la concertina es muy sencillo y se describe detalladamente en el «Modo de empleo» que acompaña cada instrumento. Una de las mayores ventajas es que puede tocarse esta concertina según el sentimiento propio. Asimismo existe la posibilidad de regular el compás, de suerte que pueda tocarse lenta o rápidamente, mientras también se reproducirán tonos fuertes o débiles actuando sobre el fuelle con más o menos fuerza. Ejecutando las músicas con habilidad, se creería estar en presencia de un verdadero artista. Muchos artistas emplean la concertina «Tanzbär» para sus exhibiciones.

b) Objeto del «Tanzbär»

El instrumento ha de servir, por de pronto, de pasatiempo. Después de los quehaceres del día cualquier persona sin conocer las notas ha de poder ofrecerse una hora alegre y distraida. Dominando completamente el instrumento se llega a entretener a toda una sociedad, asegurándose el aplauso de todos los oyentes.

Los tonos fuertes del instrumento lo apropian también para ejecutar cualquier música de baile. Pueden tocarse con suma facilidad: balses, marchas, cuadrillas, foxtrots, tangos y todos los demás bailes; se baila magníficamente al compás de esta música. El instrumento se encuentra en el acto en estado de empleo.

c) Garantía que ofrece el «Tanzbär»

El instrumento está construído con minuciosidad científica; la construcción es tan sencilla que verdaderamente raras son las reparaciones.

O que significa o nome de «Urso dansante»?

«Urso dansante» é o nome do unico typo de Concertina que se toca automaticamente e com rôlos de musica installados no instrumento.

a) O modo de se tocar o «Urso dansante»

Cada pessoa está em condições de tocar immediatamente e sem conhecer as notas as mais bellas peças de musica neste instrumento. A forma de practical-o é facillima e se encontra descripta no folhêto de indicação, referente. Grande vantagem consiste no facto que cada pessoa pode tocar, segundo o seu proprio sentimento. É possivel regular o tempo, isto é, pode-se tocar devagar ou depressa; pode-se, alem d'isto, tocar forte ou piano, conforme a força que se exercer. Executanto bem as peças de musica, ter-se-á a impressão de ouvir um artista. Muitos artistas de varieté empregam a concertina «Urso dansante» para as suas exhibições.

b) Fim do «Urso dansante»

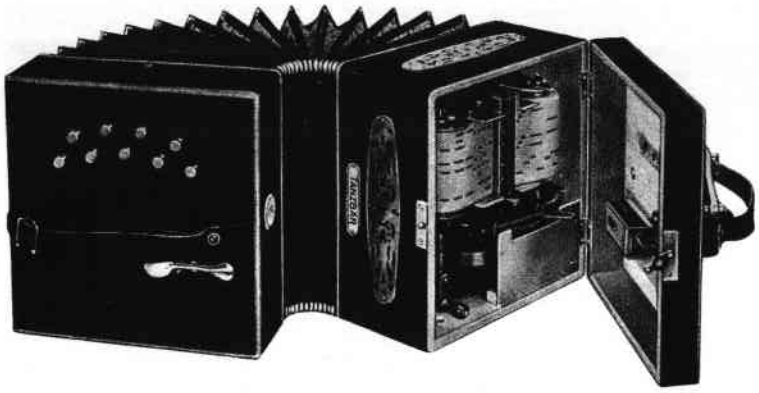
Em primeiro logar, o instrumente tende a servir ao divertimento. Para esquecer as penas e o trabalho do dia, cada pessoa pode-se preparar uma hora de alegria, tocando o «Urso dansante». Tratando bem o instrumento, pode-se divertir uma sociedade inteira por este meio. O auditorio ha de applaudir então sempre com enthusiasmo.

Devido ao seu tom muito forte, o instrumento pode ser empregado tambem para musica de dansa. É possivel tocar nelle valsas, marchas, quadrilhas, fox-trotts, tangos e outras dansas. O effeito é estupendo. A cada instante, pode-se tocar o instrumento sem difficuldade qualquer.

c) Garantia em favor do «Urso dansante»

A construcção do instrumento é mais que conscienciosa e de simplicidade perfeita, de modo que se exclue quasi por completo a necessidade de reparos.

„Tanzbär"-Concertina No.1



Schönes Bandonion-Gehäuse, palisanderartig poliert, guter Balg mit Schutzecken. 32 Töne, Stahlzungen.

Größe . . . . . 35×22×22 cm
Gewicht ohne Karton . . . 3¼ kg
Gewicht mit Karton . . . 3¾ kg

Fine Bandonion casing, palisander polished, good quality bellows with corners protected, 32 tones, steel reeds.

Size . . . . . 35×22×22 cm
Weight less cardboard box 3¼ kg
Weight with box . . . . . 3¾ kg

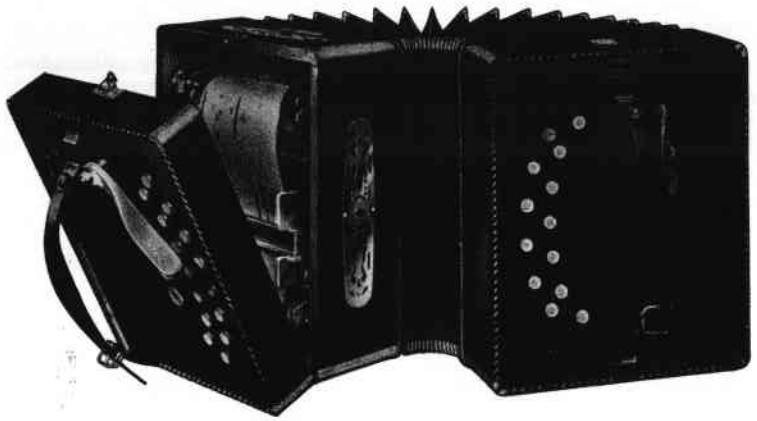
Hermosa caja de bandoneón, pulida imitación palisandro, fuelle bueno con esquinas de protección, 32 tonos, lengüetas de acero.

Tamaño . . . . . 35×22×22 cm
Peso sin cartón . . . . . 3¼ kg
Peso con cartón . . . . . 3¾ kg

Caixa bonita para bandoneo, polida como acajú; folle de boa qualidade com cantos de protecção. 32 tons, linguetas de aço.

Tamanho . . . . 35×22×22 cm
Peso sem cartão . . . . 3¼ kilos
Peso com cartão . . . . 3¾ kilos

„Tanzbär"-Concertina No.2



Elegantes Bandoneon-Gehäuse, schwarz oder palisanderfarbig poliert, weiße Beintasten, Stradella-Ecken, starker Balg mit Schutzecken. 112 Töne, Stahlzungen auf Aluminiumplatten, Oktavstimmung, schöner voller, kräftiger Ton.

Größe: 36×27×23 cm; Gewicht ohne Karton: 4½ kg; Gewicht mit Karton: 5 kg.

Elegant Bandoneon casing, polished black or palisander, white bone keys, Stradella corners, substantial bellows with corners protected. 112 tones, steel reeds on aluminium plates, octavo tuned, beautiful, strong tone of good compass.

Size: 36×27×23 cm; Weight less cardboard box: 4½ kg; Weight with box: 5 kg.

Caja de bandoneón elegante, pulida de negro o imitación palisandro, teclas blancas de hueso, esquinas «Stradella», fuelle fuerte y resistente con esquinas de protección. 112 tonos, lengüetas de acero sobre planchas de aluminio, afinación de octava, voces hermosas, llenas y fuertes.

Tamaño: 36×27×23 cm; Peso sin cartón: 4½ kg; Peso con cartón: 5 kg.

Caixa elegante para bandoneo, polida como madeira escura ou acajú; teclado de osso branco; cantos, typo Stradella; folle forte com cantos de protecção. 112 tons, linguetas de aço sobre chapas de aliminio; afinação em octavas, tom forte, sonoro e agradavel.

Tamanho: 36×27×23 cm; Peso sem cartão: 4½ kilos; Peso com cartão: 5 kilos.

„Tanzbär"-Concertina No. 3

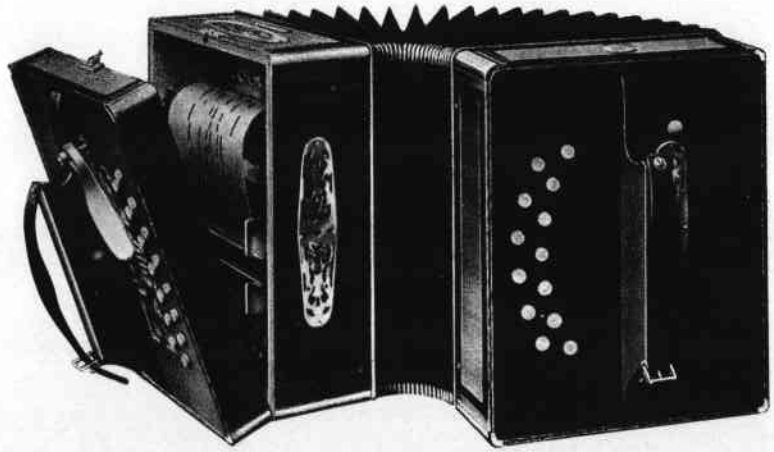
Feinstes, echt furniertes Gehäuse mit Mosaikeinlage, Neusilber-Stradella-Ecken, Beintasten, Wiener Format, prima starker Balg mit Neusilberecken, 112 Töne, Stahlzungen auf Aluminiumplatten, Oktavstimmung.
Feines Konzert-Instrument!
Ganz hervorragender Ton!
Größe: 40 × 30 × 23 cm; Gewicht ohne Karton: 5 kg; Gewicht mit Karton: 5 3/4 kg.

High quality genuine veneered casing, inlaid work, German silver Stradella corners, bone keys, Vienna style, extra heavy bellows with German silver corners, 112 tones, steel reeds on aluminium plates, octavo tuned.
Grand concert instrument!
Beautiful tone of excellent quality and volume!
Size: 40 × 30 × 23 cm; Weight less cardboard box: 5 kg; Weight with box: 5 3/4 kg.

Caja de bandoneones elegantísima de hojas de madera superpuestas y coladas, adornadas con mosaico, esquinas «Stradella» de plata alemana, teclas de hueso, tamaño vienés, fuelle particularmenta resistente con esquinas de protección de plata alemana, 112 tonos, lengüetas de acero encima de planchas de alumino, afinación de octava. ¡Finísimo Instrumento para conciertos! ¡Tonos sobresalientes!
Tamaño: 40 × 30 × 23 cm; Peso sin cartón: 5 kg; Peso con cartón: 5 3/4 kg.

Caixa de finissima madeira enchapada com embutido de mosaico e argentão; cantos, typo Stradella, teclado de osso, forma de Vienna, folle forte e de qualidade superior com cantos de argentão, 112 tons, linguetas de aço sobre chapas de aluminio, afinação em octavas.
Finissimo instrumento de concerto!
Tom admiravel em todos os sentidos!
Tamanho: 40 × 30 × 23 cm; Peso sem cartão: 5 kilos; Peso com cartão: 5 3/4 kilos.

„Tanzbär"-Concertina No. 4



Feinstes Luxusinstrument. Soeben erschienen!
Gehäuse echt Mahagoni in feinster Ausführung, Beintasten, Neusilber-Stradella-Ecken, starker Balg mit Schutzecken. 160 Töne, Stahlzungen auf Aluminium-Platten, Skala 40 Töne. Großes Konzert-Instrument!
Größe: 40 × 36 × 24 cm; Gewicht: ohne Karton 6 kg; mit Karton 6 1/2 kg.

High class luxury instrument. Just brought out!
Casing real mahogany in most elegant finish, bone keys, German silver Stradella corners, strongly made bellows with corners protected. 160 steel reeds on aluminium plates, Scale 40 tones. Grand concert instrument of great compass!
Size: 40 × 36 × 24 cm; Weight: less cardboard box 6 kg; with box 6 1/2 kg.

Finísimo instrumento de lujo. ¡Acaba de aparecer!
Caja de caoba de finísima ejecución, teclas de hueso, esquinas Estradella de plata alemana, fuelle resistente con esquinas de protección. 160 tonos, lengüetas de acero encima de planchas de aluminio, escala de 40 tonos. ¡Instrumento de conciertos grande!
Tamaño: 40 × 36 × 24 cm; Peso: sin cartón 6 kg; con cartón 6 1/2 kg.

Finissimo instrumento de luxo. Ultima novidade!
Caixa de madeira de acajú natural em construcção acabadissima. Teclado de osso. Cantos de argentão, em forma Stradella. Folle forte com cantos de protecção. 160 tons. Linguetas de aço sobre chapas de aluminio. Escala de 40 tons.
Grande instrumento de concerto!
Tamanho: 40 × 36 × 24 cm; Peso: sem cartão 6 kilos; com cartão 6 1/2 kilos.

Gebrauchsanweisung für die „Tanzbär"-Konzertina

Das Auflegen der Notenrolle

Nachdem man den Deckel an der rechten Seite geöffnet hat, wird der Notenhebel, der über der Klaviatur liegt, in die Höhe gehoben. Die Notenrolle wird in die beiden Haken, die sich zur linken Seite befinden, eingesetzt, und zwar so, daß der an der Rolle befindliche umgebogene Metallstift in den rechten Haken zu liegen kommt, dann wird fest zugehakt, damit die Notenrolle nicht herausfallen kann. Die Note wird nun an der gegenüberliegenden Rolle in der Weise festgemacht, daß man das umgebogene Ende des Papiers gerade in den Schlitz der Rolle bringt, dann schließt man den Notenhalter fest zu, ebenso den Hebel rechts an der Antriebsrolle.

Das Spielen auf dem „Tanzbär"

Ist die Notenrolle ordnungsgemäß eingelegt, so wird der Deckel zugeklappt, und man spielt, indem man den an der rechten Seite befindlichen Hebel taktmäßig drückt und dabei den Balg langsam aufzieht und wieder zudrückt. Das Ziehen des Balges erfordert eine kleine Übung. Man ziehe am besten nur mit der linken Hand, da die rechte Hand die Bewegung des Hebels zu machen hat. Man ziehe nie mit Kraftanwendung, sondern nur langsam, mehr wie eine Führung des Balges. Beim Aufzug kann die Luftklappe an der linken Seite kurz gedrückt werden. Drückt man den Hebel an der rechten Seite schnell auf und nieder, so geht das Tempo schneller, drückt man langsamer, so spielt das Stück auch langsamer, man kann also das Tempo sehr gut regulieren. Piano und Forte wird durch starkes oder schwaches Ziehen des Balges erzielt.

Das Zurückrollen der Notenrollen

Ist das Stück zu Ende gespielt und will man eine neue Notenrolle einlegen, so wird zunächst der Hebel an der Antriebsrolle geöffnet, dann der Notenhalter in die Höhe gehoben, und erst dann kann man mittels des kleinen Drehlings die Notenrolle zurückdrehen.

Instructions for using the "Dancing Bear" Concertina

Laying-on the Music Roll

After opening the lid at the right hand side, the music lever arranged on the key board is pushed upwards. The music roll is inserted into the two hooks provided at the left hand side so, that the bent metal pin fixed to the roll is placed into the right hand side hook; now the hook is well fixed so that the music roll can not drop out. The music strip is now fixed to the opposite roll so that the bent-over end of the music strip is just inserted into the slit of the roll, now the music holder is tightly closed as well as also the lever to the right of the driving roller.

Playing on the "Dancing Bear"

If the music roll has been correctly inserted, the lid is closed and playing commences by pressing the lever at the right hand side in time and at the same time opening out the bellows and compressing them again. A little exercise is required for drawing out the bellows. It is best to pull with the left hand, as the right hand has to actuate the lever. Never use any special force in pulling, but pull slowly, just to guide the bellows on. If the lever at the right hand side is pressed quickly, the time will become quicker, if the pressure is reduced, the playing also goes on slower, it is, therefore, well possible to regulate the time to a nicety. Piano and forte playing are produced by strong or slow pulling of the bellows.

Rolling Back the Music Roll

If the music piece has been finished and if a new music roll is to be inserted, the lever at the driving roller is first opened, the music roll holder is lifted and only now it is possible to run back the music roll by means of the small turning device.

Modo de empleo de la Concertina «Tanzbär»

Colocación del rollo de música

Después de haber abierto la tapa del extremo derecho, se levanta la palanca de notas colocada encima del teclado. El rollo de música se coloca encima de los dos ganchos del lado izquierdo, de suerte que la punta metálica doblado junto al rollo venga a adaptarse al gancho derecho; entonces, se cierra el gancho para que el rollo de música no pueda caerse. El rollo se fija luego en el rodillo de en frente, introduciendo con rectitud en su hendidura el extremo del papel; se termina cerrando convenientemente el portarollo así como la palanca de la derecha que se encuentra junto al rodillo de impulsión.

Modo de tocar el «Tanzbär»

En cuanto el rollo de música está colocado debidamente, se cierra la tapa y se toca empujando al compás la palanca que se halla a mano derecha así como estirando o comprimiendo lentamente el fuelle. Se estira convenientemente el fuelle después de un poco de ejercicio. Es muy aconsejable tirar del fuelle solamente con la mano izquierda, puesto que la derecha debe actuar sobre la palanca. No se tire nunca del fuelle ejerciendo un esfuerzo, sino con lentitud, transformando la tracción en una verdadera conducción del fuelle. Al empujar rápidamente la palanca del lado derecho, se acelera el compás, pero al comprimirla lentamente, la pieza de música se ejecuta con la lentitud deseada. El compás puede regularse, por tanto, muy bien entre amplios límites. El piano y el forte se obtienen tirando del fuelle con más o menos fuerza.

Enrollo de los rollos de música

Si quierre introducirse un nuevo rollo después de haber terminado una pieza de música, no hay más que abrir la palanca junto al rodillo de impulsión, levantar el porta-rollo y, retrocediendo el papel, enrollar el rollo de música por medio del pequeño manubrio.

O modo de se tocar a Concertina «Urso dansante»

A installação dos rôlos de musica

Depois de se abrir o lado direito da caixa, ergue-se um pouco para cima a alavanca, disposta sobre o teclado. Applica-se o rôlo de musica nos dous ganchos que se encontram no lado esquerdo, de modo que a ponta de metal encurvada, existente no rôlo, encaixe o gancho á direita. Em seguida, deve-se apertar bem os ganchos para evitar que se solte o rôlo de musica. Agora, se tem de fixar a musica no rôlo opposto, installando o canto dobrado do papel exactamente na fenda do rôlo. Em seguida, é necessario fechar bem o supporte da musica e ajustar convenientemente a alavanca á direita do rôlo de accionamento.

O modo de se tocar o «Urso dansante»

Tendo-se installado na forma descripta o rôlo de musica, se tem de fechar a caixa do instrumento. Querendo tocal-o, se aperta a alavanca á direita de accordo com a medida da musica, extendendo e comprimindo devagar, ao mesmo tempo, o folle da concertina. Isto se faz do melhor modo com a mão esquerda, porque a mão direita tem de executar o movimento da alavanca. Nunca deve-se extender o folle com muita força; ao contrario, deve-se conduzil-o somente vagarosamente em sentido de vae-vem. Durante a extensão, pode-se dar uma leve pressão sobre a valvula no lado esquerdo. Apertando-se depressa a alavanca no lado direito, se acceléra o tempo da musica, movendo-o mais devagar, torna-se mais vagaroso o tempo da peça de musica. Como se vê, é possivel regular bem a medida musical. Os tons fracos e fortes se obtêm pela extensão mais ou menos forte do folle do instrumento.

Como se enrole o rôlo de musica tocado

Tendo-se terminado a peça de musica e querendo installar um novo rôlo, fica necessario levantar bem a alavanca no rôlo de impulsão e tambem o supporte da musica, para que se possa enrolar de novo convenientemente por meio de uma pequena manivela o rôlo de musica tocado.

GRAPHISCHE KUNSTANSTALTEN J.J. Weber Leipzig C1

MUSICAL BOX ODDMENTS

by H A V Bulleid

SEVERAL musical box makers used tune sheets decorated with two garlanded columns around which were entwined scrolls carrying the names of famous composers. Spaces were left for the number of airs, and for headings such as *Jeu de Timbres,* and for a serial number, and sometimes a maker's name such as J H HELLER of Berne, and occasionally a technical claim such as *Volant Compensé* (balanced governor); and often the common though long obsolete announcement *Etouffoirs en Acier—Soit à Spiraux* (spiral steel dampers) . . . by 1865 this was analogous to writing "four wheel brakes" on a modern car.

An interesting anomaly with these composer-embellished tune sheets is that many of the tunes played were not by the named composers. And a tantalizing feature of all tune sheets (in addition to their sometimes fugitive nature) is their casual approach to tune listing. They seemed to set out with the best intention of listing the three relevant items, namely the source work, the individual tune, and the composer; but it is rare to find that they persevered to the end. A famous air from a Bellini opera may be listed as *Norma* or as *Casta Diva* or, correctly, as *NORMA—Casta Diva.* The composer may only be named for some of the airs—and this with a nonchalant disregard for his degree of eminence. There are also some frightful spelling mistakes, though admittedly these are very few when you consider that the source material was a mixture of Italian, French, English and German, and that the writer was usually a French-speaking Swiss.

Different tune sheets listed different composers: one typical 1865 list comprised, in this order and spelling: Bellini, Mozart, Rossini, Weber, Meyerbeer, Flotow, Verdi, Donizetti, Strauss, Labitzki, Gung'l, Schuloff. A clean dozen.

Composers

The dozen above were presumably chosen for their prestige, notoriety and drawing-power in 1865. Now, well over 100 years later, it is interesting that the first nine remain well-known with the possible exception of F von Flotow whose 1847 opera *Martha* had the hit tune *The Last Rose of Summer.* But how about the last three? Are they perhaps now forgotten? Well, here they are. . . .

Labitzky

Josef Labitzky was born in Germany in 1802 and died in 1881. After a period as first violin in bands at Marienbad and Carlsbad he formed his own orchestra and with it toured Southern Germany. Then he took a course in composing at Munich; and he published his first waltzes in 1827. In 1835 he settled in Carlsbad as director of the town's band, taking it on tour as far afield as London and St Petersburg and growing in fame both as composer and performer of light music.

Labitzky's dances were acclaimed for their rhythm and spirit. His best waltzes included *Sirenen,*

Hammond's Electric Player Organ

In 1934, Laurens Hammond invented the electric organ in Chicago. Its popularity grew until, in 1938, Hammond decided to produce a self-playing model. The outcome was the Aeolian-Hammond Home Model B-A. The pneumatic player action was made by Aeolian-Skinner Co of Boston and used special 120-note music rolls spaced at 12 holes to the inch. Fifty-eight holes were devoted to the swell organ, 48 for the great, the arrangement being all in one line rather than in two rows as with the Aeolian pipe organ rolls. Twelve holes were ascribed to the pedal organ, one for re-roll and one spare. Full playing instructions are printed on the rolls with the organ stops numbered to show precise registration.

With a selling price of $2,000, the Aeolian-Hammond was introduced during the depression years and Q David Bowers has found that only 211 were produced. This instrument is now a rare mutation of the very end of the mechanical music era. The instrument pictured here is in the music salon of Vestal Press owner Harvey Roehl.

Aurora and *Carlsbader,* and his galops were said to rival those of Strauss.

Gungl

Joseph Gungl was born in Hungary in 1810 and died in Germany in 1889. The apostrophe often inserted in his name is a long-standing and much-copied error. He started work as a schoolmaster, then enlisted in the Hungarian army and became a military bandmaster. He toured the Regimental band and later his own band around Europe, and in 1849 over to America, playing mainly his own compositions including his Hungarian March, opus 1. He was appointed *Musikdirektor* to the King of Prussia in 1849 and Bandmaster to the Emperor of Austria in 1858. By 1873 he had composed about three hundred dances and marches, mostly " distinguished by charming melody and marked rhythm ". They included the *Eisenbahn-Dampf* (railway-steam) galop and sets of polkas, mazurkas and quadrilles entitled *Katharinen* and *Die Elfe* or, plural, *Die Elfen,* which scarcely need translating.

Note, however, that the title does not fix the composer. Different composers in the same country, and even more so in other countries, seemed to have no inhibitions about using identical titles—though probably most often in simple ignorance. So for example both *Katharinen* and *Die Elfen* are commonly found titles. Another of the *Katharinen* is a waltz by Labitzky.

Schulhoff

Julius Schulhoff was born in Prague in 1825 and died in Berlin, 1898. He made his local debut as a pianist at the age of fourteen and his first public performance in Paris, helped by Chopin, in 1845. Paris was then the artistic Mecca for pianists. Schulhoff started composing his light but brilliant piano pieces in 1849, and between that year and 1853 made extensive playing tours throughout Europe, including London. His serious compositions included a sonata in F minor, but his tunes most commonly found on musical boxes include the *Grande Valse Brillante,* opus 6; his arrangement of *Le Carnaval de Venise,* opus 22; *Souvenir de Venise,* opus 28; and *Ballade,* opus 41.

'IDEAL' TUNES ●

THERE are some tunes which almost everyone would vote ideal for musical boxes, and prominent among them is the *Carnival of Venice.* Nobody knows who originally composed it, but it was first set down by the famous violinist Paganini (1782 - 1840). He heard it as a popular local air in Venice in the 1790s and he further popularised it and spread it by including it in his repertoire. Both Herz and Schulhoff made popular piano arrangements of it, and it was used as a song in an 1856 opera by Massé, *La Reine Topaze.* Then in 1857 it was used in the overture of an opera by A Thomas entitled, yes, *Le Carnaval de Venise.* So you see it was well like, and those excellent arrangers of tunes for musical boxes had plenty of ideas to draw on. Perhaps its most ambitious airing (appropriate term) was by Nicole on Gamme 1818 which was first pinned around 1865 and on which the tune ran for over three minutes.

COMB TEETH ●

A GENERALLY reliable measure of musical box quality is the number of comb teeth. Yet this number is seldom quoted, perhaps because counting is a chore and the considerable danger of losing count is a further deterrent. Not that it matters to one or two teeth, particularly as the numbers are seldom " neat ". The common run-of-the-mill 13-inch Nicole has 97 teeth, notable solely because it is a prime number.

If the comb length is C inches and the number of tunes is T, then the number of comb teeth is approximately 60 times C/T. So for example with the Nicole's 13-inch comb playing eight airs, the number of teeth is $60 \times 13/8 = 97$.

A six-inch comb playing eight airs with three bells will have $60 \times 6/8 - 3 = 42$ music teeth.

A 12-inch comb playing ten airs with eight-striker drum and six bells will have $60 \times 12/10 - 14 = 58$ music teeth.

A nine-inch comb playing eight airs two-per turn is of course like a four-air box and will have $60 \times 9/4 = 135$ teeth.

I hope I haven't annoyed anyone with all these inches. If little c is the comb length in centimetres, the formula becomes: Number of teeth $= 24 \times c/T$.

CASE CARE ●

CYLINDER musical box lids were normally designed to remain open at a sufficient angle to support the glass lid without danger of it slamming shut. This was easily achieved by so placing the hinges that the back overhang of the lid rested appropriately against the back of the case. A problem posed by this design feature was how to guard against the ham-fisted operator who would pick up the box by the open lid, and roughly at that. The answer was to use small screws so that they would loosen or pull out rather than split the wood. Accordingly, well-fitted countersunk steel wood-screws three-eighths of an inch long and size number 3 or 4 are normally ideal. Yet I have seen inch long screws into the case, and screw points actually penetrating the lid veneer. We have all seen resulting splintered lids and case backs. One also sees hinge screws at a drunken angle, forced in anyhow over the broken-off stub of an earlier screw.

If oversize screws have been used, or if the holes are otherwise damaged, they should be plugged with wood carefully whittled to a nice fit and then pressed firmly in after coating thinly with a wood adhesive.

To remove the remnant of a broken screw,

(1) drill a ring of holes all round it, about half an inch deep, with a $^3/_{64}$ inch (no 56) drill.
(2) pick out the remnant.
(3) drill $\frac{1}{4}$ inch diameter by $\frac{5}{8}$ inch deep to clean out.
(4) procure or whittle a piece of $\frac{1}{4}$ inch dowel, make sure it is a good fit in the hole, and press gently in after cutting to length and coating with wood adhesive.
(5) leave to dry for a couple of hours before drilling to take new screw.

With the passage of time, even the best seasoned wood shrinks slightly across but not along the grain. This is why the front beading is often pushed awry at the corners of early type lids. It is also the reason why lids often fail to shut properly, the striker plate having become perhaps a sixteenth of an inch short of the hole in the lock plate. I have known misguided people seek to remedy this by altering the hinge position on the lid, thereby causing the lid to open too far and greatly increasing the stress on the hinges. Others ruthlessly remove the striker plate peg, often in a manner frightfully reminiscent of those Wild West dentists. The correct cure is to move the striker plate forward and fill in the resulting narrow gap in the lid behind it with a matching strip of veneer. ●

Society Affairs

Annual General Meeting

THE Summer meeting and Annual General Meeting of the Musical Box Society of Great Britain was held on Saturday, June 3, 1978, at the Kensington Close Hotel, Wrights Lane, London. In order to keep costs down, particularly in view of the forthcoming meeting in Holland and bearing in mind that due to the present economic pressure on the American dollar this year's European visit by our American members had been cancelled, the event was a one-day occasion rather than our usual two-day gathering.

An innovation this year was the transfer of the business meeting, normally held after lunch, to the opening event of the morning. Accordingly, the AGM began at 10.00 following registration and coffee.

The Secretary's report advised that more new members had been enrolled in the past year than had been lost through non-renewal and that the society had, on the date of the meeting, 915 paid-up members of which 47 per cent are in the British Isles, 39 per cent in the United States, 10 per cent in Europe and four per cent in the rest of the world. He reported a successful year and one of steady progress.

The Treasurer's report emphasised that there was at present no need to raise subscriptions and that our accumulated fund stood at £3,969.

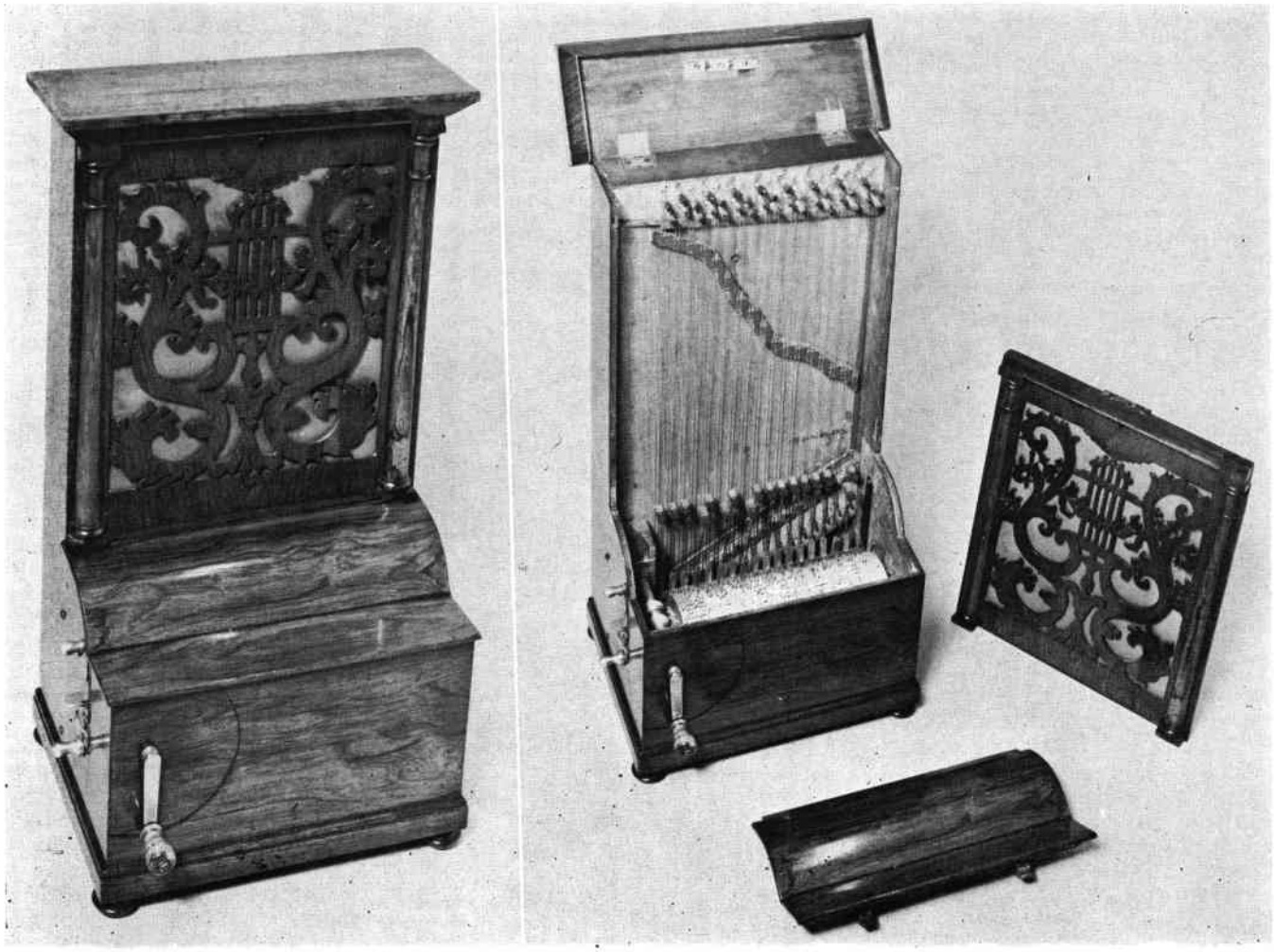
The Editor's report, presented on this occasion by Dr Cyril de Vere Green, founder and committee member, highlighted the great strides which our journal had made during the previous year. The editor paid tribute to Mr Arthur Heap for his hard work in securing advertisements and Mr Heap, who was present, responded explaining that he was increasing certain of the advertising rates with the next issue to keep in line with rising costs.

The Archivist lamented that so few members had contributed material to the society archive and, in response to a question from the floor, confirmed that an inventory of the items so far held would shortly be prepared and published in the journal.

Certain amendments to the Constitution and Bye-Laws, taking in the proposed additional officers to the committee and itemising their duties were then proposed and accepted unanimously. These will be included in the next revision of the Constitution and Bye-Laws to be published with the next Directory of Members early next year.

The election of officers was next on the agenda and the chairman of the meeting, society president, expressed his regret on behalf of the committee at the news that Alex Duman wished to resign his office (see separate news report). In the absence of any nominations for officers for the ensuing year from members, the committee nominated the undermentioned officers to serve for the coming year: **President,** A W J G Ord-Hume; **Vice-President,** H Ryder; **Secretary,** A R Waylett; **Treasurer,** S Cockburn; **Editor,** A W J G Ord-Hume; **Recording Secretary,** A K Clark; **Archivist,** W K Harding; **Meetings Organising Secretary,** B Clegg; **Auction Organiser,** A J

Miniature Street Barrel Piano



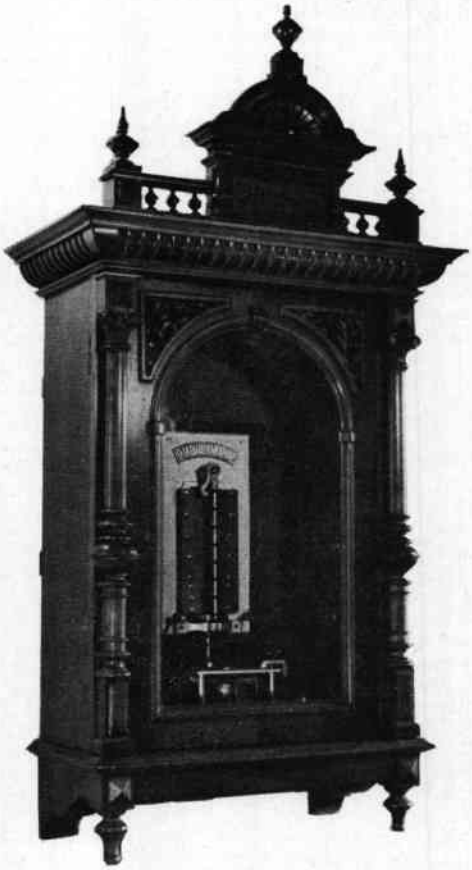
Street barrel pianos generally come in two styles. First there is the portable type usually equipped with a single leg at the back (always long since lost but displaying the screw holes where its socket fitted on), and the larger type intended for use on a wheeled cart. Recently Paul Ziff came across a very small example of the former style and showed it at a London meeting. His pictures here, taken expressly for *The Music Box,* reveal the fine proportions of this 17-key piano which stands a mere 60cm high, 33cm wide and 23cm deep (23½ins x 13ins x 9ins). Eight tunes are played and the piano has a pleasant light tone. There is no maker's name.

NORFOLK POLYPHON CENTRE

(Norman and June Vince)

We specialise in the Sale and Purchase of all forms of

MECHANICAL MUSIC and CLOCKS



24½in. EUPHONION

This unusual disc machine bears a close likeness to the larger Polyphon, but there are wide differences in detail in both the musical movement and the motor. The start is by turn button.

The impressive walnut case is topped by an ornate pediment bearing the Euphonion motif. The musical tone is brilliant, aided no doubt by the panelled sound-board.

We shall be mounting an exhibition of mechanical pipe and reed Organs and large Disc Machines later in the Autumn to mark the opening of enlarged Showrooms and Workshop

Members and Customers are welcome to visit and browse

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Colley; **Committee Members,** C de Vere Green, C Proudfoot, W R Nevard, J F Gresham; **Co-opted Committee Member,** P Dobbs.

W R (Bill) Nevard served on the committee for several years following his co-option to replace Bruce Angrave back in 1966.

Under "any other business", Arthur Heap raised the question of registration fees at meetings and suggested that these should be abolished and the meetings charged to society funds. The Chairman explained that not only would this seriously deplete society funds which were at the moment needed to finance the magazine, but that in effect members in attendance would be being subsidised by those many members who could not attend meetings. There was considerable discussion on this matter with a further proposal that registration fees should be allowed to remain in reduced form with tea and coffee charged for extra. Secretary Reg Waylett highlighted that this would cause considerably more work for himself and the Treasurer. Finally Dr Cyril de Vere Green effectively closed the matter by proposing that there be no change in the present system, his proposal being carried by a majority vote.

The business meeting concluded, the first speaker of the day was Dr David Gall of Lymington in Hampshire whose talk was entitled "Beginners Please—Airs on a Shoestring". Dr Gall's words, light-hearted in tone, contained much wisdom and good advice on the problems of collecting. He referred with a classical whimsey to the *Codex Hornseyensis* on restoration, and made a plea for more work to be done by knowledgeable members on the arrangement of music for automatic instruments.

Second talk of the morning was by Graham Webb whose presence at the meeting was noted by the President as being most welcome after several years of absence due to his sojourn in Yorkshire, now concluded. Graham Webb talked on Musical and Automaton Watches, illustrating his points with sketches and photographs projected by epidiascope.

During the luncheon interval, Christopher Proudfoot and Jim Colley, with the able assistance of volunteers, were assembling the items for the society auction which this year comprised some 150-odd lots, but the first event after lunch was a surprise extra item.

The President announced that at the last Summer meeting he had been privileged to arrange the unveiling of the reproduction 19⅝in Polyphon made by Keith Harding and his team. At Stratford-upon-Avon last autumn he had introduced Geoff Mayson's new cylinder box. And at the meeting in Moretonhampstead in March this year he had introduced the reproduction Regina in the form of the 15½in Porter musical box (see the announcement on page 271). Now he had the great pleasure in introducing not another reproduction musical box, but a brand new creation by Brian Etches in the shape of his twin-disc table model (see article on page 286). Keith Harding and Bob Trender had been at work all night for the previous several nights making the final adjustments and setting-up the mechanism of Etches' creation and the box had been completed only hours before.

The latest contender for the world's biggest new musical box was accordingly unveiled and played two 19⅝in discs, specially made for the occasion, in melodic unison. At this point, Keith announced that he had an extra surprise up his corporate sleeve in the shape of a special pair of discs created by "Patch" Pearce—an "A" and "B" arrangement of Scott Joplin's rag *The Entertainer*. This was duly set up and the full capabilities of the new twin-disc Jubilee were demonstrated with the comb sets playing singly and in conjunction. The event, recorded by the BBC for transmission on Radio London the following Wednesday, was greeted by a well-deserved burst of applause for Brian Etches and for Keith and his team who made the premiere possible.

Next on the programme was a special showing by popular request of Jack Donovan's classic film *Automata*, made by BBC television and featuring his outstanding collection of pieces. This was most warmly received and Jack announced that he was about to start filming for a further feature programme within the next few days.

Christopher Proudfoot, who is responsible for the collectors' sales at Christie's South Kensington, then took charge of the proceedings for the society auction. Items sold ranged from musical boxes of all shapes and sizes, to back numbers of *The Music Box* and even a copy of that old classic *Christie's Old Organ* (which Christopher claimed was how his employers described him). All told, the auction turned over £10,050 of which 10 per cent went to society funds.

The meeting concluded just after 6.00 p.m. More than 177 members registered although it seemed possible, from the number of legs on the ground divided by two, that a few less responsible people had entered without paying their registration fee — a somewhat selfish act against the vast majority of honest and respectable members and guests.

So ended a most satisfactory (if short) Summer meeting at which a large number of new members put in a welcome appearance. Overseas members included Dr Schwarz from New Zealand, several individual American members and two from Holland. ●

KEITH HARDING BURGLED

£40,000 haul through hole in wall

THIEVES stole musical boxes valued in excess of £40,000 from the shop premises of Keith Harding on the night of the Annual General Meeting. In spite of intensive enquiries by the police and Interpol, no trace has been found of the missing items.

The raid is believed to have taken place between the afternoon of June 3rd and the morning of June 4th and police say that the break-in was the work of experienced thieves.

Entry to the shop in London's Hornsey Road was gained from the adjacent empty house. A hole was cut in the brick wall giving access into Keith Harding's office and a complex burglar alarm circumvented. Through this hole the gang systematically stripped the shop virtually bare, leaving only several very large instruments, among them the Brian Etches twin-disc Jubilee which had been returned to the shop for adjustments following its unveilling at the AGM.

"Of course we are insured," said Keith shortly after he discovered the theft at tea-time on Sunday. "But this cannot replace the boxes which we had on show. Many of them had been bought at sales and subsequently fully overhauled so they represented considerable capital outlay. Sadly they also took several customers' boxes which had been left with us for repair."

Thanks to the meticulous way in which Keith and his staff detail every musical box which passes through their hands, Keith was able to issue a fully detailed and illustrated inventory of the missing boxes within hours of the discovery. This was circulated to all members with the last issue of *The Music Box* which happened to be ready for mailing at the time of the robbery.

Dealers have been alerted throughout Europe and America, there is a good chance that ultimately some or all of the pieces will be offered back on the market. ●

ALEX DUMAN STEPS DOWN

ONE of the Society's most popular and enthusiastic committee members, **Alex Duman** from Glasgow, has retired from the committee after three years of valued service. He was co-editor of the society newsletter which ran or 12 issues.

Alex has not missed more than one of the regular committee meetings staged in London or at our Hayes office, and has flown down or travelled overnight by train some 16 times in the interests of the Society.

In stepping down, Alex told members and guests at the Annual General Meeting that he hoped very much that one day the society would be able to afford to open its own national museum for mechanical instruments.

Popular for his outspoken views, his subtle way of being able to get members to spend more money than they should on tickets at society raffles, respected for his many generous donations to the society funds and excellent prizes to the raffles as well as being renowned for his sportsman's whistle, we all thank Alex for his support for so long. Happily he remains a member and promises to continue attending meetings. ●

New Directory

THE new Directory of Members incorporating the Society Constitution and Bye-Laws will be published early next year. This is to appear in a revised form which it is hoped members will find easier to use as well as being cheaper to produce. ●

Letters to the Editor

Organised interest

Herb Brabandt writes from Louisville in Kentucky :

I AM very impressed with the quality of your publication, particularly since you went to color on very selected subjects with the last issue. It is unfortunate that 35mm positive slides cannot be used for your process as I'm sure this somewhat limits publishing some pretty readily available material. You may want to reconsider, but on the other hand it may be best as a matter of keeping the quality up.

I am primarily interested in fair organs and other large organs and was thinking how nice it would have been to have the cover photo of the Taj Mahal in color — not a criticism— just wishful thinking. Anyhow, for what it's worth I would like to see as much material as possible on fair organs, street organs, etc. I realize there are many other members who have other interests and in order for a publication to continue to grow, there must be something for everyone.

Anyhow, keep up the good work. I hope that I may be able to make some small contribution in the future.

Editor's Comment : *Had I had a suitable colour transparency of David Bowers'* Taj Mahal *I would certainly have used it in colour. Perhaps when restoration is finished this may be possible As you rightly say, members have wide interests and I try to keep the contents of the magazine as broad as possible to cater for all. However, material on your subject will be published at regular intervals. Incidentally, would someone like to contribute an article on the history and the development of the band organ in the United States ?*

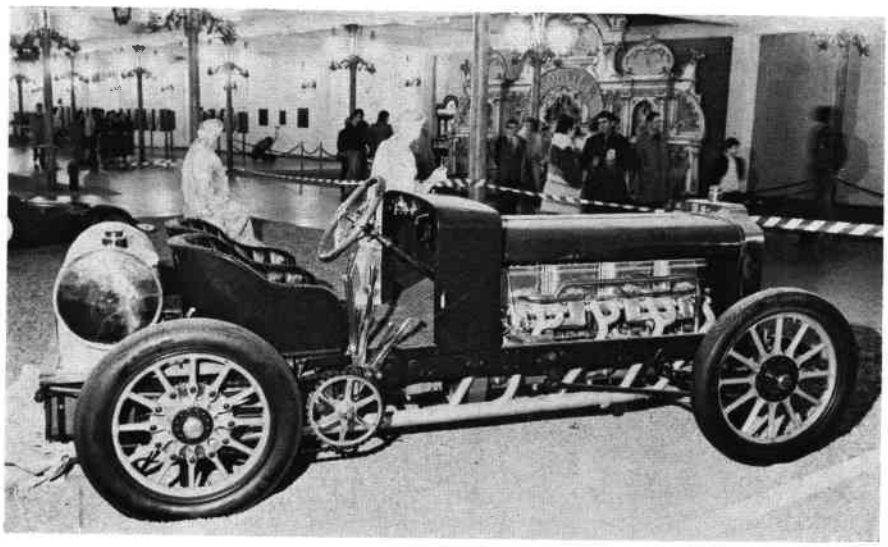
'Glove hook' help

David Beck writes from D B Musical Restorations, 230 Lakeview Avenue NE, Atlanta, Georgia 30305 :

I AM writing in reference to the article in the Volume 8 Number 2 issue of *The Music Box "Glove Hook" Changeable Box. We also acquired one* of these machines at about the same time the article came out. Our case is shaped the same but does not have the bottom portion for storing cylinders — instead we have an original pine-wood storing case for the six cylinders. Most important we do have a tune card with ours. Also, we have made our own set of "glove hooks" which work fairly well. Most every other characteristic appears to be the same except that ours has a 15-note, reed organ. Also stamped on the winding handle is the maker's name Ducommon Girod.

We would be most interested in contacting the person who had this box or now has this box to discuss the similarities further and also thought our tune card might help them. Could you please forward this letter on to the owner if known, or let us have the name of the owner of the box described in the article.

Editor's Comment : *I do not know where this item has gone but perhaps the owners would care to contact Mr Beck. Perhaps Mr Beck would like to send in a good, clear picture of his tune-sheet.*



See Brian Fyfield-Shaylor's letter below right.

The Schlumpfs have a Mortier as well !

Shane Seagrave writes from Weymouth in Dorset :

I HAVE just received and hungrily read the latest edition of *The Music Box* and may I take this opportunity to express my appreciation of not only the usual high standard of content and printing, but also the breathtaking colour illustrations published in the last two editions.

I should like to heartily reiterate Miss Howard's comments on the draaiorgel "De Klok" I, too, have recordings of this fine organ, made in Australia and its condition is definitely on a downward slide.

It is sad that such a beloved instrument should fall into such a state through the albeit well-intentioned but mis-directed efforts of The Netherlands Society in South Australia.

In reply to Mr Davidge's letter on the "Schlumpforgue", I can confirm that the instrument is a Mortier of some 92 keys built c.1923. A photo of the organ appears in Q David Bower's *Encyclopedia of Automatic Instruments* on page 900, picture number 31.

The Mortier was restored in Belgium before being installed by the Schlumpf brothers in their capacious car collection, and I was pleased to see it had retained the original feeders to supply the air instead of the ubiquitous electric blowers.

From information supplied by an un-organised (excuse the terrible pun!) friend, who had visited the museum in the company of the evasive brothers, I understand the organ thundered out the National Anthem of the country of origin of the vehicle the pair had chosen as their "car-of-the-day."

It also played favourite works of their late and adored mother whose "shrine" is at one end of the enormous hall used to house the seemingly unending rows of automobiles.

Part of the shrine is what Mr Davidge mistook for an ornate cafe piano and I must admit that at first I did, too.

The entire collection is now in the hands of the Schlumpf Mill workers who were paid the lowest legally permitted wages in France to enable the brothers to collect motor cars as one might collect stamps ! For a small admission fee, this unparalleled gathering may be viewed. Meanwhile the French authorities do their best to extradite the Schlumpfs from the Swiss hotel they have been hiding in since the gaff was blown in 1977

The future of the collection and that of the magnificent Mortier organ, however, is uncertain.

More Schlumpf

Brian Fyfield-Shayler writes from Reading, Berkshire :

I DOUBT if many members share my own minor interest in typewriters, though at least two musical box manufacturers produced them — with varying degrees of commercial success.

The Polygraph typewriter made by Polyphon Musikwerke is mentioned in your own books and in David Bowers' *Encyclopedia.* I was encouraged to ask Wilfred A Beeching of the British Typewriter Museum at Bournemouth what he knew about these machines. He told me all he knew about the Polygraph and confirmed that the first model (1903) had a two-row curved keyboard. The illustration reproduced by Bowers (page 169) is therefore of the later straight three-row keyboard models produced 1905-1909. The cessation of production in 1909 would explain why the Polygraph typewriter does not figure in that excerpt from the 1910 annual report quoted by Bowers on the same page. The abortive post-war attempt to re-introduce the machine is intriguing, but I have been able to find out nothing more about it.

I also have gathered notes on Hermes machines by Paillard. You state on page 309 of *Clockwork Music* that you typed the book on one of these machines and if it is an office machine (i.e. one of the models 1 - 6 produced between 1923 and 1953) you should be able to identify it from the serial numbers listed. The early portable machines are rather more confusing, but I have lists and illustrations for most models.

Although I have little interest in automobiles myself, my company in Tavistock does produce a rather grotty little journal *Transport History* through which I have access to car enthusiasts and experts around the world.

I intend to get them to fish me out information on the Polymobil and Dux which I will pass on to you in due course for what it is worth.

With apologies for cluttering up your files with non-musical-box irrelevancies! With regard to Mr Davidge's enquiry from New South Wales about the organ at the Schlumpf Automobile Museum in Mulhouse (page 280), you suggest it was a Mortier or may be a Hooghuys and I am glad to be able to confirm that it is, in fact, a Mortier. This is shown in detail in the enclosed print supplied by Maggie Renshaw of Heron House Associates. Heron House are the publishers of the book on the collection by Peter Verstappen and Denis Jenkinson which you and Mr Davidge saw.

The article on the Schlumpf collection will appear in *Transport History*, Volume 8 No 3, written by my colleague Mr C T M Beamish, though of course it centres on the automobiles with not even a mention of this organ. You did however, comment that an organ by Mortier or Hoogbuys was "rather unlikely in a French museum", but Mr Beamish points out that the Schlumpf brothers were born near Milan, their father was Swiss and their mother Alsatian. Fritz Schlumpf spent much of the 1920s in Germany. Moreover Mulhouse is only about 25 km from the Swiss border at Basle and it has had a chequered history. Before 1870 it was French, taken by the Germans in the 1870-71 war, returned to France after the 1914-18 war, retaken by the Germans in 1940 and returned to France after the 1939-45 war The brothers had dual nationality, being at various times either German and Swiss or French and Swiss. Furthermore, as far as cars were concerned, the brothers bought from all over the world. Their first biggest purchase, for example, was the Shakespears collection bought from the United States in 1962 and a good number of motor cycles in the collection are known to have come vie Ireland.

Cheap at £10 a year

A member, who wishes to remain anonymous, writes:

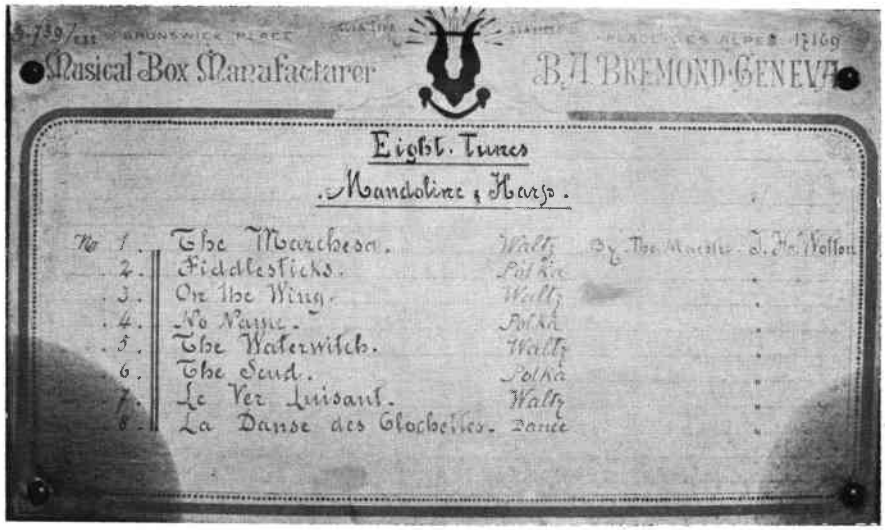
SINCE joining this esteemed society in 1977 I have had the pleasure of seeing two friends join our throng. They would never have discovered the Musical Box Society of Great Britain at all I dare say unless I had told them, and I only discovered you through Leslie Brown of Stockton-on-Tees. During a lengthy conversation at a steam rally, I was bemoaning the fact that whereas the steam enthusiast is well catered for when it comes to reprints of engine catalogues, the poor old organ nut is left in the cold. He thereupon produced the issue of *The Music Box* (Christmas 1976) which featured the Marenghi reprint. Not only was I thrilled to see the fine display of organs, but on reading the rest of the magazine I realised that here was a society that would be a "giveaway" at £10 per year, let alone £5!

I think it is a great pity we do not advertise our organisation a bit more and during the coming year I shall be telling many more of my organ-loving chums of the existence of the premier exponent of automatic music.

A great help would be a society lapel badge, tie and/or tie clip. Perhaps this would be worth considering.

Editor's Comment: *It is always nice to receive an encouraging letter such as this and to find that our chosen direction is approved of. We do not advertise for two reasons: the cost is quite high and the sort of impulse members that advertising might generate invariably do not last for more than a year. Thus membership becomes uneconomic. I am happy to advise our member that lapel badges are available, price £1·25 post free from the secretary. We do not produce a Society tie or tie-clip and, judging from the changes in fashion, probably wouldn't sell many even if we did!!*

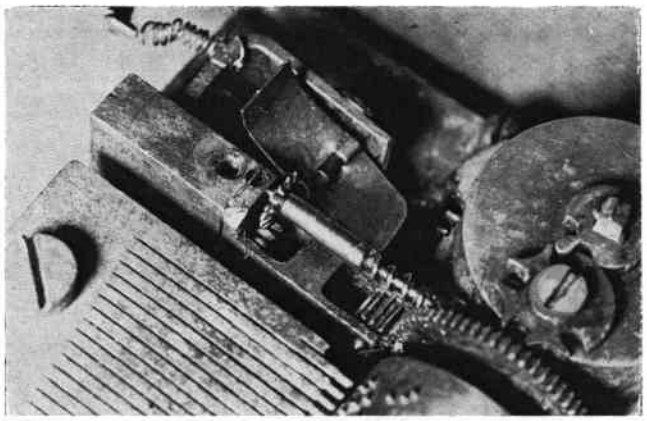
(More letters on page 326)

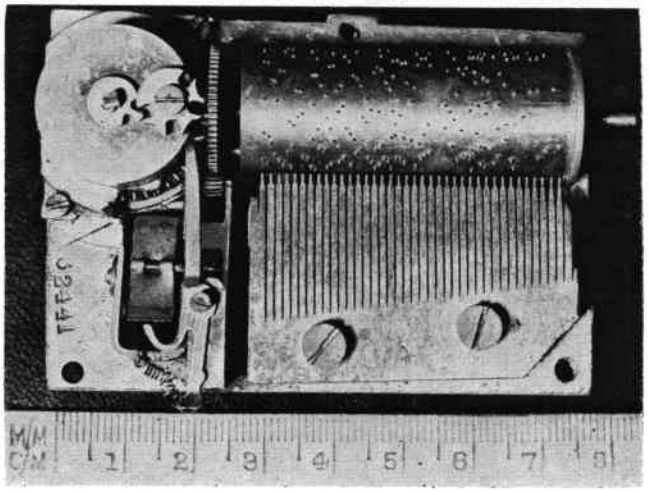


See Patrick McCrossan's letter below

Who could ever forget J H Wolton . . .

Patrick McCrossan writes from Hailsham in East Sussex and sends in three odd pictures, each of which should start a detective hunt!





MY FIRST picture shows a tune sheet with mystery programme. It is from a large and fairly late Bremond with a 17¾in large-diameter cylinder. The tune sheet shows the numerals "9.739/232" at the top left, and "17169" at the top right. The programme consists entirely of dance music by J H Wolton, a composer I have not come across before. Also curious is the use of the phrase "By the Maestro". The box was perhaps made to special order, but no idea of the performance is yet possible since major restoration is needed. What is known about J H Wolton? (*Absolutely nothing! — Editor*).

My second and third pictures show a small cheap mass-produced two-air movement from a photograph album dating from around the turn of the century. The point of interest is the governor which uses *two* endless screws! Note the first endless bears against a steel plate set into the thickness of the brass block, and is complete with oil hole. The comb has a star mark, and the bedplate is stamped with the letter "M", possibly indicating Mermod manufacture.

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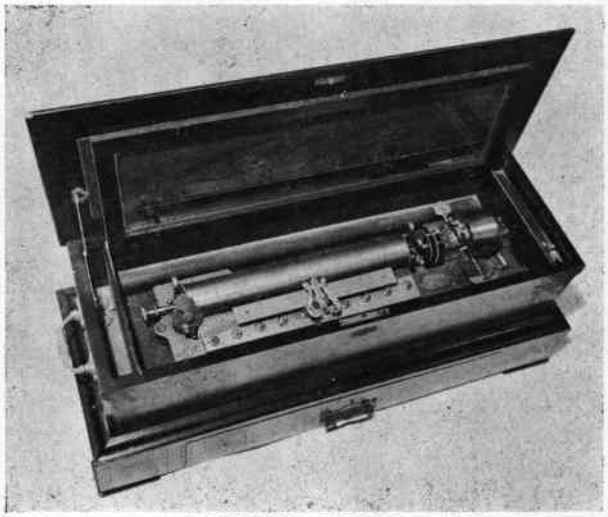

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Continued from page 308
adds his own comments and interpretations as and where necessary.

It is all-to-easy to under-rate the importance of a work purely on the grounds of its being primitive in concept. Where this work stands as a veritable bastion of knowledge is that it comes from a period during which barely a handful of written documentations has survived. Not only that, this work is well illustrated and offers a clear state-of-the-art insight into contemporary engineering skills, credibilities and potentials. That so much is closely associated with automata is not surprising when we recall that automata were very much a feature of that era which, for some non-universal reason, we prefer to dub " the Dark Ages ".

What is so surprising about this whole work is, as Dr Hill points out in his conclusions, that although there was obvious interest in al-Jazari's work (as witnessed by the number of manuscript copies extant), the interest was not seminal for no one appeared inspired sufficiently to take up the ideas and convert them into " useful " machines. At this point in time, then, we may sadly review al-Jazari's work as probably being so advanced for most of its readers that it was considered but a curiosity of interest only to the learned. For the artizan who might have made something of it, it was several hundred years too early.

Here is a book which will provide the serious historian and interested general reader with much food for thought. The availability of this great work to the world at large must of necessity result in a reappraisal of certain aspects of our knowledge of Man's endeavours. AO-H

Ernie Bayly, editor of *The Talking Machine Review,* has sent me a copy of the book **THE EMI COLLECTION** which he produced for EMI Records Ltd. First pub- for EMI Records Ltd. Measuring 244mm (9½ins) × 182mm (7⅛ins), it comprises some 200-odd pages and is copiously illustrated. EMI's collection is renowned for its comprehensiveness and its quality and it is significant that our member Ernie Bayly, a world authority on gramophones and phonographs, should have been invited to produce this definitive catalogue. Copies of this book, which has paper covers, are available from The Talking Machine Review, 19 Glendale Road, Bournemouth, BH6 4JA, price £2 plus postage. A O-H

Letters to the Editor

Organ projects

Philip Jamison III of 104 Price Street, West Chester, Pennsylvania 19380, USA, writes:

I READ your editorial in Spring 1978 MBSGB Journal and would be happy to help in any way I can with the book punching or organ projects. I know of several people who are building book organs. Jack Hewes of Kent, Washington has a street organ in the works and Ken Smith, 3766 Mann Road, Blacklick, Ohio 43004, has built not only a large keyless fairground organ but a nice book punching machine. He built the puncher in a large machine shop and it would require a few design changes to construct one in a basement. For new organs, the keyless style seems the most practical with roll operated a close second. The rolls are of course cheaper to buy but book music is not too expensive if you punch it yourself. It might be a good idea to select several " basic " scales to start and find some way of tracing original books and making these tracings available to members. Perhaps they could be reduced in size and blueprinted or the like. As you know, the real skill in book making is the arranging.

Anyway, I obtained from Mr Hewes a list of paper suppliers who sell cardboard suitable for book music. One is not too far from me so if anyone is interested, I would be happy to get samples and later avail our members to any quantity discount. Also, I could get together with the two aforementioned fellows and write up and illustrate an article on their book making method (which I have seen and is very well conceived). It is for keyless music, but could be adapted to keyed style.

It would be nice if one of the boys from the Netherlands could make a measured drawing of an original book puncher. This could be published and then all our engineering members could have a chance to submit their suggestions.

Let me know if I can be of any help and good luck to you.

Editor's Comment : *Mr Jamison's offer is most welcome. Anyone who would like to become involved with these projects should contact him at his address direct or, if they wish, through the editorial office. I have already taken up Mr Jamison's kind offer to prepare an article for us.*

Whatever next !

Bdr J Olsen writes from his post at the Royal Artillery Range on the Isle of Benbecula in the Outer Hebrides :

PLEASE supply one " Easi-Binder " for *The Music Box* which I am delighted with. If ever there was a magazine with a deceptive name, this is it!

A couple of months ago my only interest was in organs, but now I have been introduced to so many different related subjects I will have to have the information in my Army dossier concerning my interests changed to " Musical Automata " or something. That should excuse me Church Parades!

German Society re-organises

THE operation of the Gesellschaft der Freunde Mechanischer Musikinstrumente E.V.—the German equivalent of the Musical Box Society—has experienced some difficulties during the past year. It is understood that these have been internal problems best described as " party politics ".

At a general meeting held during the summer at Triberg in the Black Forest, founder and first president Jan Brauers resigned his office and a completely new committee took over the running of the society.

The new officers are: **President,** Werner Baus of Fuldatal; **Vice-Chairman (joint),** Klaus Peuler of Bochum and Siegfried Wendel of Rüdesheim; **Treasurer,** Klaus Fischer of Gross Gerau; **Secretary,** Hans Schmitz of Stuttgart. Advisors to the society comprise Peter Glaser of Eppstein; Gustav Mathor of Braine le Chateau; Otto Fichtinger of Salzburg; Heinrich Brechbühl of Steffisburg; Claes Friberg of Copenhagen.

It is interesting to see so many members of the MBSOGB in active office in the re-formed society whose headquarters are now at the museum of Werner Baus, Kasseler Strasse 76 A, 3501 Fuldatal 2, in West Germany.

Mechanical music students all over the world unite in expressing their debt of gratitude to the society founder, **Jan Brauers** of Baden-Baden, not just for his hard work in getting the society organised but for his masterful handling of the journal *Das Mechanische Musikinstrument* which, under his guidance, has become one of the most important periodical publications in the world of mechanical music today. We fervently trust that the high standards of content and presentation established by Jan Brauers and his team will be sustained under the new regime. For those visiting the Schwarzwald, Jan Brauers' museum at Baden-Baden must be a prime attraction.

CALENDAR 1978

September 8th, 9th, 10th
Musical Box Society of Great Britain Overseas meeting at the Nationaal Museum van Speeldoos tot Pieremement, Uttrecht, Netherlands.

September 21st, 22nd 23rd
Musical Box Society Int Annual Convention, Sarasota Hyatt House Hotel, Watergate Centre, Sarasota, Florida, USA.

October 14th
Musical Box Society of Great Britain Winter Meeting, London, England.

October 28th
MBSI East Coast Chapter meeting Randolph, Vermont.

November 18th
Musical Box Society of Great Britain. Regional Meeting, Nottingham (Dr. R. Burnett).

December 2nd
Musical Box Society of Great Britain. Regional meeting, Eastbourne (John Cowderoy).

Convention and Event Organisers are invited to send in dates for regular publication to aid members throughout the world in planning their participation.

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WANTED. A few odd governors for cylinder musical boxes, either complete or broken. Please state whether top or bottom fixing and price required. J. P. Hall, "Romney Bank", Park Street, Kendal, Cumbria. LA9 5QP.

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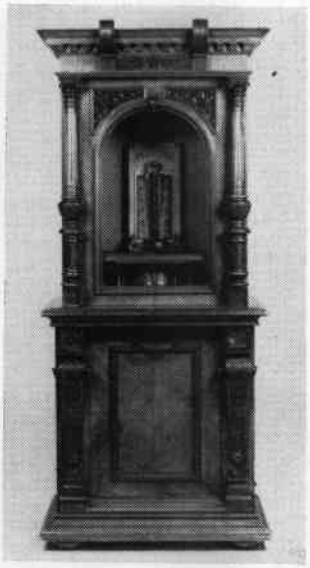
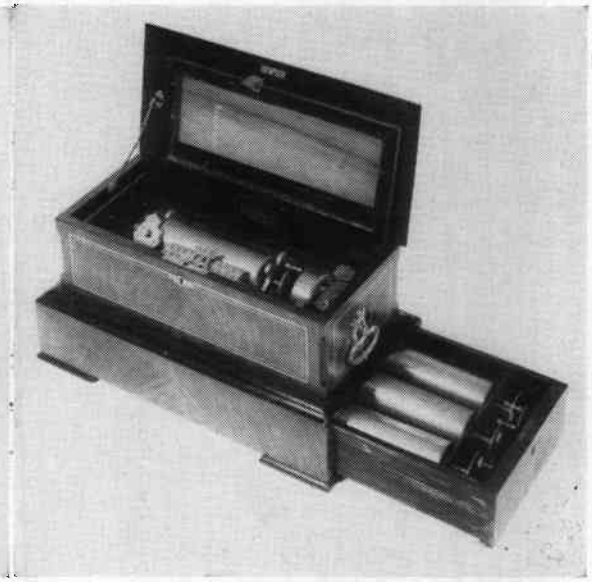


A 25¼ inch polyphon disc musical box on stand

A Nicole Frere Overture cylinder musical box no. 46561



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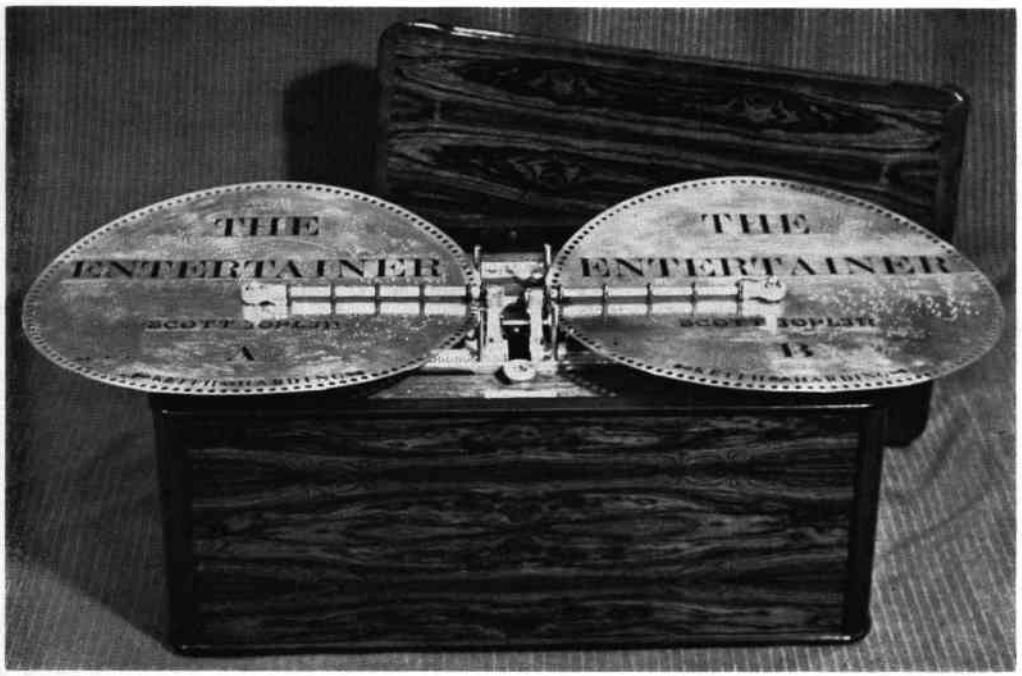

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