

The Music Box

an international magazine of mechanical music

THE JOURNAL OF THE MUSICAL BOX SOCIETY OF GREAT BRITAIN

Volume 8 Number 6 Summer 1978



SPECIAL MAIN FEATURE on Automata. Other articles include Gavioli trumpet barrel organs, musical box identification marks, player piano overhaul. Colour pictures of fair organs and automata.

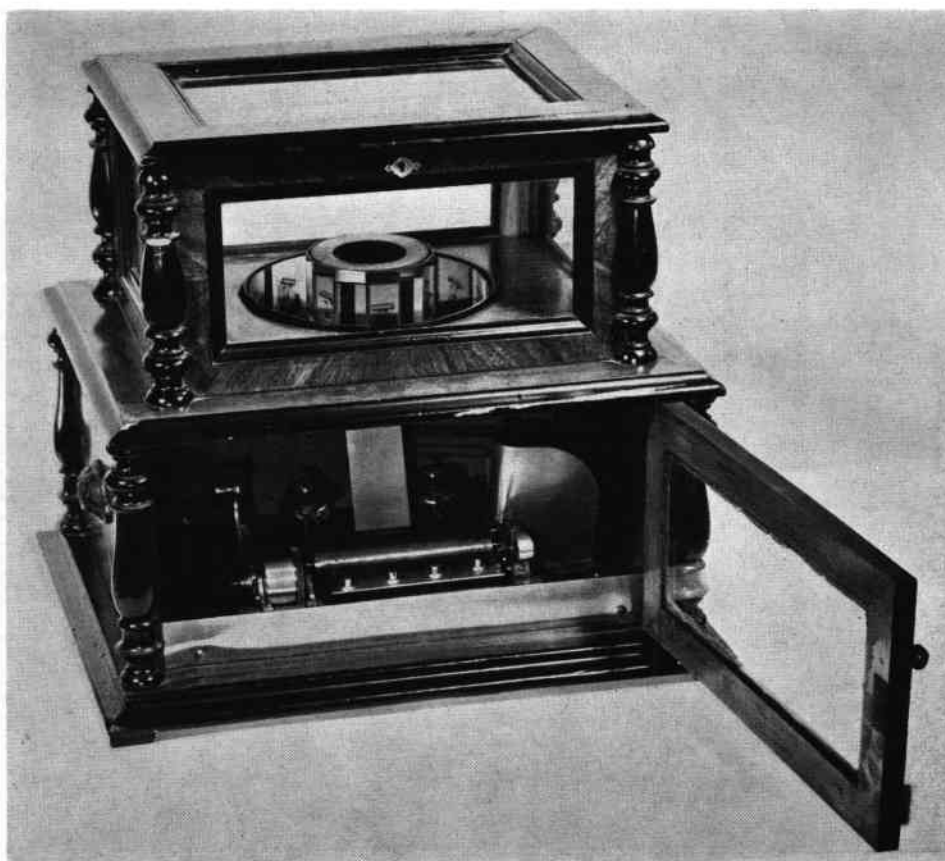


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The Music Box

an international magazine of
mechanical music



THE JOURNAL OF THE MUSICAL BOX SOCIETY OF GREAT BRITAIN

The Editor writes. . .

YEARS ago, when making a new endless screw and putting fresh teeth into a damaged comb were ample qualifications for admission to the clique of experts, we did not envisage a time when members would be creating their own admirable and commendable musical boxes.

At that time, a few of us made simple reproduction cases, fashioned missing inlays and I made a replica 29-key chamber barrel organ. But setting down to make a musical box from scratch, be it copy or original, was an improbable as Man ever getting to the Moon.

Since then, our concept of reality and probability has been reshaped in many ways. Man has walked Shelley's 'fair coquette of Heaven' and we have a new era of musical box makers in our midst.

One of the avowed intentions of *The Music Box* is to give acknowledgement to these craftsmen amongst our membership. As editor, I believe that their work is important, that their achievements are worth chronicling, and that they should not have to wait a century or more for a 21st century musical box society to "discover" them and award them recognition. It is, at the crude end of journalism, very newsworthy. At the other end, it is a praiseworthy exhibition of skill and learning justifying reporting.

I mention all this because I know that there are those in our midst who appear unhappy to report contemporary work of this type, fearing, no doubt, that their words might be misinterpreted as "free advertising". They would, no

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Cover picture: This very ornate and impressive Aeolian Orchestrelle Model XW comes from Douglas Berryman's World of Mechanical Music Museum in Cornwall. Although hand-played from a single keyboard, the double tracker bar permits two-manual automatic playing from 116-note rolls.

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doubt, prefer to justify the situation by saying that we should only report on antique events.

This policy, I maintain, is against the interests of the membership and must breed that introspection which inhibits growth. And I have written in this column on that matter on previous occasions.

One member said he thought that reproduction musical boxes were a waste of the serious collector's time. In one way, he could be right. On the other hand, the re-emergence of past technology, recorded as it happens, will ensure that future generations do not have to endure the problems we have had in trying to recapture that technology.

The editorial policy of *The Music Box* remains unaltered. Those who earn the respect of their fellow members by dint of skill will always have support for their ventures within these pages.

Back in March at our Regional Meeting in Devon, reported on page 270, the Porter musical box received its European premiere—a fine re-creation of a Regina by a maker who is not afraid to let his work stand by his name rather than that of the Regina which he copied.

We should all be proud that within our membership we have engineers of the calibre of Dwight Porter, Geoff Mayson, Keith Harding and team, David Secrett, Steve and Jere Ryder. There are others whose mark we will be looking at soon.

They, together with the specialist restorers and repairers, are the ones who will carry our society forward into future generations.

ARTHUR W J G ORD-HUME

A BOCAGE OF AUTOMATED BIRDS

by A J L Wright

A POPULAR Victorian mantel-shelf ornament was a large dome containing a mass of foliage sprinkled with flowers beautifully reproduced in cloths and silks, the whole being termed *bocage* which the Chambers Dictionary tells us is the same as *boscage* and is French for "thick foliage".

A variation on this theme which appealed to the mechanically minded was to make it in the form of a miniature tree with birds perched on the branches performing various movements as naturally as possible. With characteristic Victorian realism actual birds were always used, mainly of foreign extraction presumably because they were plentiful and came in many hues. Conservation was not much thought of at that time.

Although the layout varied to some extent, it usually included certain popular characters such as small birds of the humming-bird type which flitted from one branch to another, stopping long enough to make a pirouetting motion before hopping back again. Other birds would remain in one location but make pirouetting or pecking movements, while at the apex there might be a larger bird flapping its wings. One or two stationary birds and perhaps a butterfly or beetle would complete the family.

To enlarge the scene the tree would be growing on top of a rocky grotto containing a waterfall and pools in which ducks and swans drank and swam about. The scale of these birds bore no relation to the birds in the tree and sometimes the two scenes would overlap to the extent that a life-size bird would be drinking out of the same pool that a tenth-size swan was swimming in.

Sound effects

On larger bocages a clock was frequently incorporated either in the base or in the scenery around the grotto, though generally it was not connected to the working of the automata. Sound accompaniment was sometimes provided by a small musical box movement



or by bird noises of which more will be said later.

The example described here is unusual in that it has two separate motors wound up from opposite ends, one to drive the automata and one to drive a conventional full-sized singing bird which is perched in the bocage and provides the sound accompaniment. The two movements are controlled by a rather unpredictable penny-in-the-slot mechanism fitted in the front of the base and operating on the blades of the two governors.

The automata mechanism is shown in stylised form in Figure 1 and it should be noted that the individual items are not necessarily shown in their correct relative positions for the sake of clarity and to keep the diagram to reasonable proportions. Although complex at first sight, each bird movement is a simple exercise in the use of crank and lever and can easily be followed through the numbering system.

All the bird movements are operated by spring-loaded levers resting on suitably shaped cams mounted on a common shaft driven by a conventional clockwork motor which can be seen in the photograph. The cams and pulleys are made of a hard close-grained wood which, on working surfaces, has over the years developed a highly polished surface with little signs of wear. If the thing has been found full of the dust of ages an application of furniture polish will soon restore the smooth running of the cams.

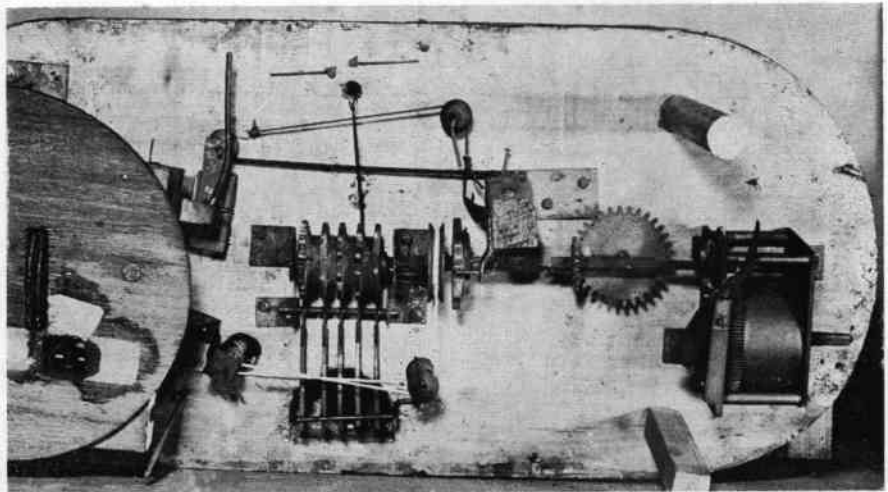
Cams 1 and 4 operate each of the two birds which flit from one branch to another in different parts of the bocage. The vertical reciprocating motion imparted by the cams is converted to a limited-arc rotary motion of two vertical rods carrying the arms supporting the birds, the arc of travel being just sufficient to take them between branches. The birds rest on pivoted cranks operated by Cams 2 and

3 respectively to give a pirouetting action by the birds at each end of the movements of 1 and 4. The pirouetting motion is, of course, also limited to a small arc in each direction. The bird with flapping wings is operated by a straight push-pull action from Cam 5 assisted by gravity on the down stroke of the wings.

An alternative method of giving the flitting movement, shown in Figure 2 has also been found on some bocages. The alternate recesses and protruberances on the two cams cause the double prongs to be thrown from side to side making the vertical rod rotate through a limited arc in either direction. This arrangement gives a more rapid flick than that described above and is perhaps rather more realistic. The pirouetting mechanism 2 and 3, is also sometimes used on its own for birds which stay on one branch, or fledglings fidgeting in a nest.

Waterfall and ducks

On peering into the grotto we see a waterfall simulated by a twisted glass rod (6), rotated by a string and pulley drive from the main shaft. The pool in front of the waterfall is a fixed piece of mirror containing one or two stationary ducks and a swimming duck (7), operated by a further



The mechanism of the bocage viewed from underneath showing the five cams wheels and their followers, the bevel gearing to the duck turntable, the drive to the twisted-glass waterfall and the drive motor. The somewhat ad hoc attachment of the pieces is characteristic of many of these pieces.

cam and string. It swims diligently but makes no forward progress. On the shore in front of the pool and presenting only its rear view to the observer, is another duck (9), which continually rocks forward to drink out of the pool. The motion is taken from a direct extension to the lever resting on Cam 3.

On the right of the grotto is a second pool which is a circular mirror rotated from the main

shaft by a pair of plate spur gears meshing at right-angles in the manner of early wooden peg gears. Near the periphery of the mirror the swan (8), is mounted on a rod which passes through a hole in the mirror and on its lower end carries a lever spring-loaded against a cam of irregular shape. The resultant effect as the mirror rotates is of the swan swimming round the pool occasionally seeking food in the vegetation on its

Automated Birds in a Bocage

1. First bird branch to branch.
2. First bird pirouetting.
3. Second bird branch to branch.
4. Second bird pirouetting.
5. Bird flapping wings.
6. Waterfall.
7. Duck swimming.
8. Swan swimming and turning.
9. Duck drinking.

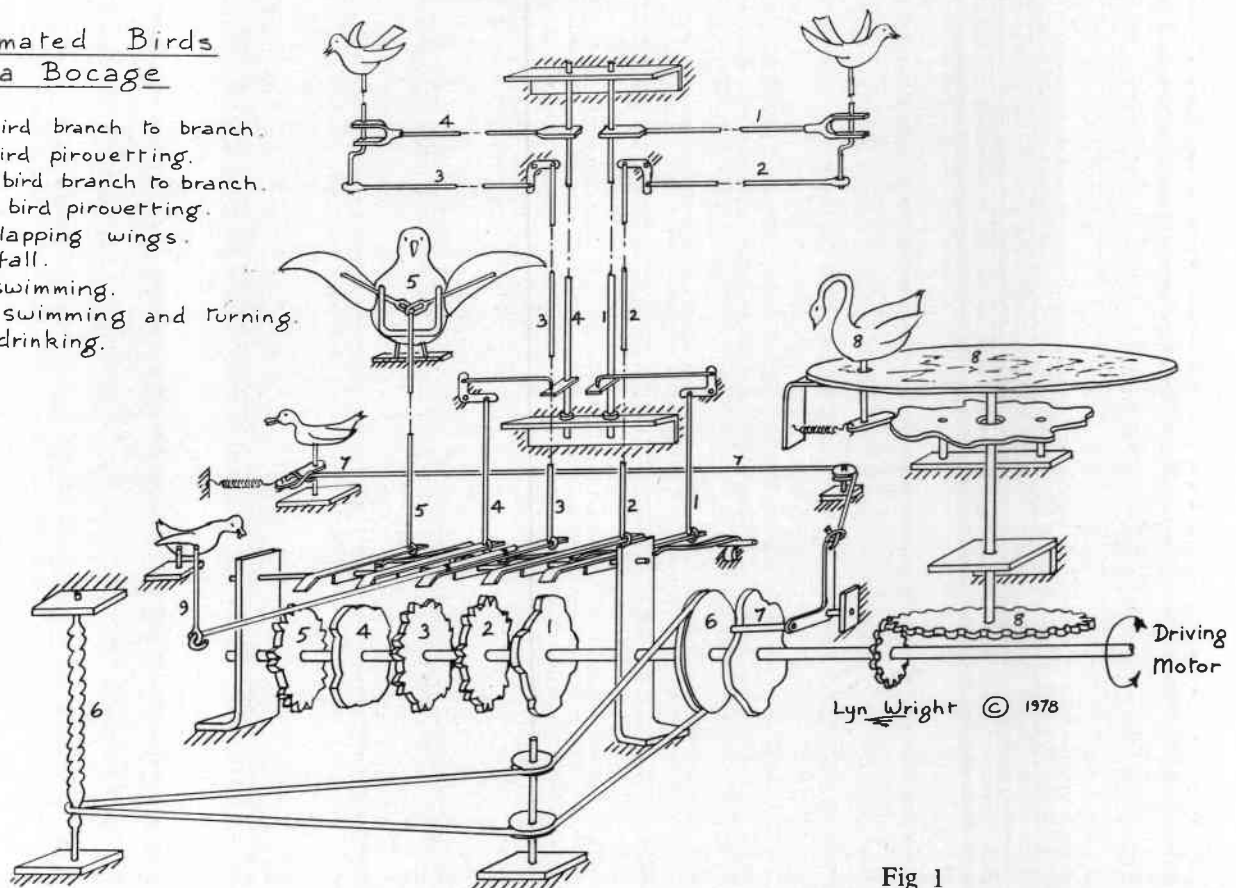


Fig 1

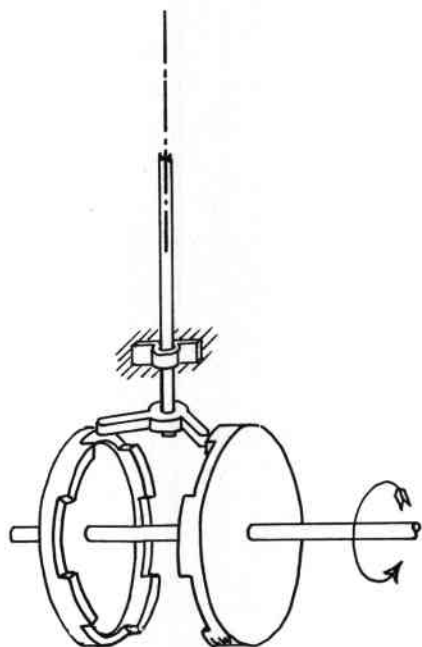


Fig 2. An alternative method of giving the flitting motion to the bird.

rocky shores.

As mentioned previously, the singing bird is not typical of most bocages and its mechanism will be described on another occasion. A more usual bird sound accompaniment is shown in Figure 3. The pinned wheel is mounted on the main drive shaft and continually lifts and drops the two arms connected to the bellows which are weighted to ensure a steady

closing force. The single air inlet and outlet in the bottom of each bellows is through a small two-way whistle similar to those we used to find in Christmas crackers. The use of two bellows and random spacing of pins is surprisingly effective in providing the twittering of numerous birds.

There are endless variations of arrangements and numbers of birds but, in general, they are made up from the basic elements described here. It would be interesting to hear from members who may have come across additional variations. ●

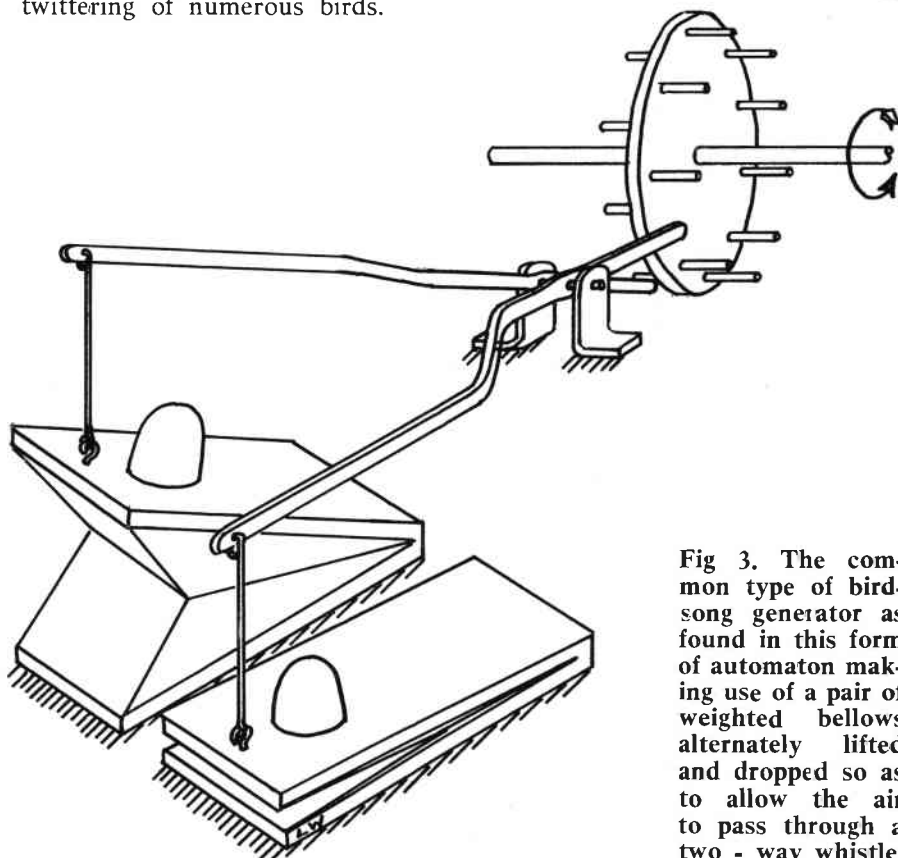


Fig 3. The common type of bird-song generator as found in this form of automaton making use of a pair of weighted bellows alternately lifted and dropped so as to allow the air to pass through a two-way whistle.



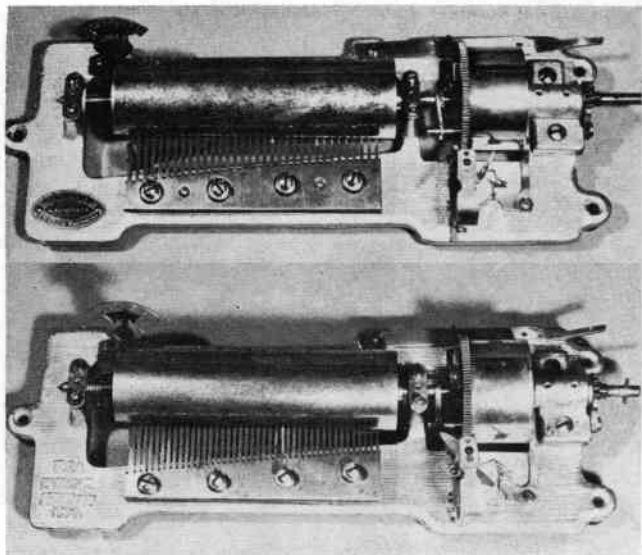
From Jim Colley comes this unusual tune-sheet from a six-air musical box by Ducommun Girod. Auber's *La Sirene* dates from 1844, but the box is later than that date. Note early form of harp trademark.

The Odd Couple

by A J L Wright

AMONGST the many fine boxes on display at the Stratford regional meeting last December was a modest pair whose interest lies mainly in their origin.

The first is a well-known product of the Paillard factory, the "Columbia" box, an attempt to reduce the cost of manufacture by using mass-produced parts and a minimum of close tolerances. To achieve this end, the motor spindle is located in a single cast bearing block of adequate length, which is dowelled to the cast iron bedplate. This is necessary as it effectively sets the register of the cylinder, whose spindle rests in two V-blocks cast integrally with the bedplate, and is spring-loaded against the tune-changing snail which is mounted directly on the face of the spring barrel. In order to maintain this register, the spring barrel cover is positively located in the barrel and bears against the main bearing block. The motor spindle extends on the other side of the bearing block so that the spring may be crank-wound through the end of the case.



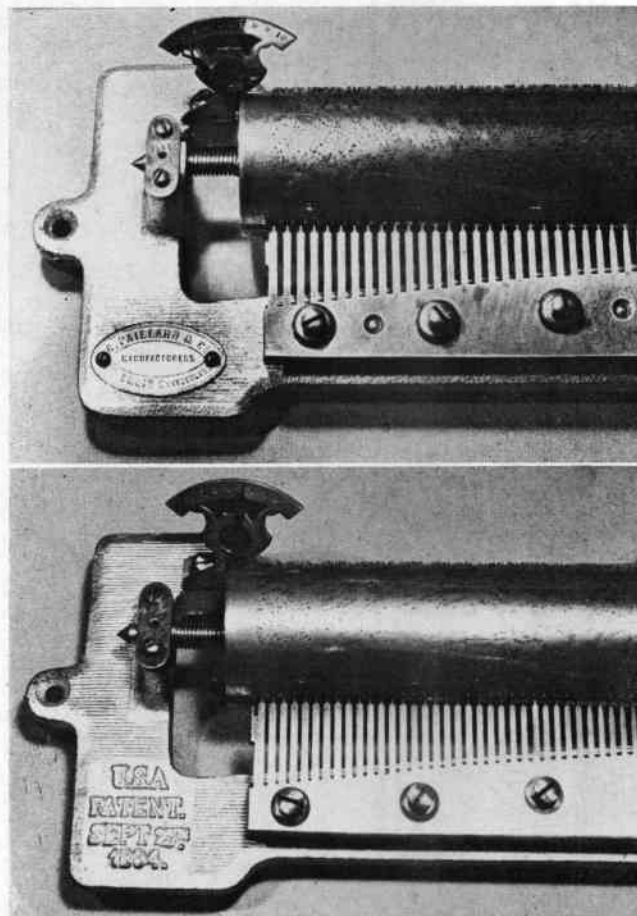
To complete this simple drive, a conventional governor is driven directly from the spring barrel. The stop detent is rather crude and locates in a hole in the spring barrel cover which must be replaced in the correct position if dismantled. Apart from the comb, the governor and bearing block are the only dowelled parts of the movement.

This drive from the spring barrel to the cylinder is by a peg screwed into the face of the barrel locating in a slotted arm on the cylinder spindle which makes it very easy to fit an alternative cylinder, since the cylinder spindle is held in the V-blocks by simple

brass plates with single screw fixing. The cylinder in this example is 165mm long and pinned for ten tunes. It is of conventional construction and the only plated item is the movement.

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The second box is virtually identical to the "Columbia" box apart from playing eight tunes, but instead of the usual Paillard nameplate it has the words "USA PATENT SEPT 25th 1894" cast in relief on the bedplate. There does not seem to be any record of whether these boxes were exported to America by Paillard or manufactured there under licence. The tune sheet might have given a clue but unfortunately this is missing. Perhaps some of our American members can throw some light on this. ●



Heitzmann's Barrel Organ

MENTION Black Forest organ and orchestration builders and names like Blessing, Imhof, Mukle and Bruder spring immediately to mind. Yet there was another equally important maker, Heitzmann. A contemporary of Hubert Blessing, Roman Zähringer and Michael Welte, Tobias Heitzmann was born in Vohrenbach in 1821 and died in Villingen in 1892. During his lifetime, the orchestration organ was developed into a quality concert instrument capable of producing a faithful interpretation of musical compositions in either the classical or the popular idiom. Heitzmann reputedly built a number of large instruments of highest quality, one of which is preserved today in the Heimatmuseum at Triberg.

Preserved in the Nationaal Museum van Speelgoed tot Pierelement, Utrecht, is this (right) instrument made by his son, Sigmund Heitzmann. Interestingly enough, it seems that Sigmund chose to drop the letter 't' from his family name — unless it was a signwriter's mistake. The instrument dates from around the middle of the nineteenth century and was handed over to the museum by Mr Erwin Stahl, the son-in-law of Sigmund's son, Gustav Heitzmann. This one is said to be the last which the family built and had remained in the possession of a Hei(t)zmann.

The keyframe has 60 keys of which six are used to change stops and operate the percussion (large and small drum), leaving 54 for the music. These are divided between a 13 note bass, 27 note melody and 14 note countermelody. Both these melody sections comprise four ranks.



Tips from the Experts

ON SOME of the late period Nicole Freres cylinder musical boxes the lead weights or loads are punch-marked with numbers, from these one can determine a scale, and can be useful if a tooth has to be replaced and tuned. I enclose the comb scale of Nicole Freres interchangeable cylinder musical box No 52778, Gamme 5298 80 teeth on comb, as an

example.

If reeds are required to replace missing or broken ones, from, an organette, the organ section of a musical box, or a fair organ, reeds from a French harmonium can sometimes be made to fit, if they are the screw on type, otherwise the reeds which are slotted into the cavity board of a American organ will suit. Some French harmonium reeds are marked Continental lettering:—

| | | |
|------|---|----|
| UT | = | C |
| UT# | = | C# |
| RE | = | D |
| RE# | = | D# |
| MI | = | E |
| FA | = | F |
| FA# | = | F# |
| SOL | = | G |
| SOL# | = | G# |
| LA | = | A |
| SI | = | B |
| LA# | = | A# |

Jim Hall

[illegible]

IDENTIFICATION MARKS

by Arthur W J G Ord-Hume

THE methods by which the manufacturers of musical boxes are many and varied. With the very early makers, provenance is often far more by intuition than by features that can be spelled out. And, as with so many similar crafts during their burgeoning period, no one feature should ever be considered as definitive evidence. The way the comb is attached, the shape of the governor cock, the positioning of the motor bridge attachment screws, the marks on the bedplate—all taken together may be considered as providing evidence necessary to enable the expert to weigh and determine.

As musical boxes became other than rare curios, so makers began to make their individual marks.

In their earliest form, these could be as unsophisticated as the profile of a cutter which left a recognisable mark on the metal which it worked. Much later it was to evolve into the name or other mark specifically identifiable with that particular maker.

After 1876, of course, the registration of trade marks opened up the whole field of makers' marks and made identification somewhat easier. However, the registration of trade marks in many ways served to confuse the casual observer since often these marks were applied by the importer or agent rather than the original artisan who made the piece.

Makers' marks can be broken

down into two main categories: those applied in the form of an actual name (such as NICOLE FRERES à GENEVE) and those applied as but initials, e.g. BAB for B A Bremond.

Agents and importers marks followed a similar pattern.

The introduction of the printed tune sheet did not always aid identification since many lithographers had stock sheets which were used by several makers. Where, however, the maker applied his mark to the tunesheet, a degree of certitude was admissible. Importers and agents also had a field day once the printed tune-sheet became used widely. They made, printed or marked their own, e.g. Thibouville-Lamy.

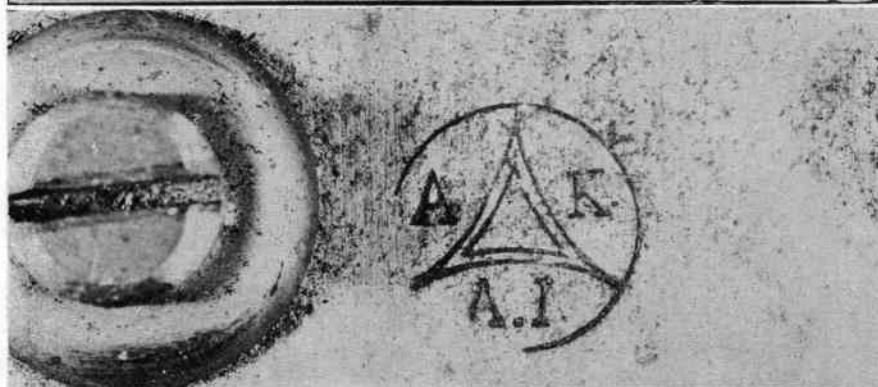
Any selection of "trade marks" must of necessity be arbitrary. I have listed no fewer than 376 different marks, but some of these are so slight that they must be considered in combination. There are marks in the form of letters and numerals, others in the form of characteristic tool stamps. There are tune-sheet symbols—the field is extensive.

What I have done here is to set out 56 symbols which encompass the gamut of musical boxes. There are bedplate marks, comb marks, cock marks, some disc marks and trade-marks, there are also disc machine trade-marks and agents' marks. The selection is a good cross-section of the marks which the average collector will stumble across in his travels. I have naturally omitted some of the more obvious ones, such as name stamps (with one exception), and many of the tune-sheet marks.






























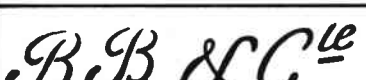








For each mark I give the type of application (stamped, acid-etched or printed) and its location (bedplate, cock bracket, comb tunesheet, accessories).

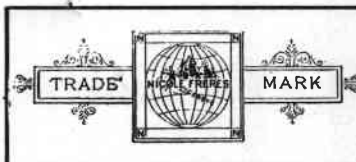
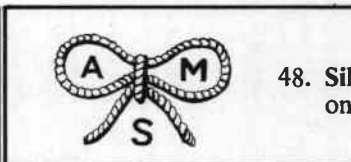

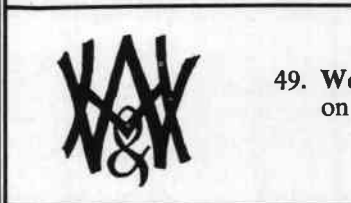

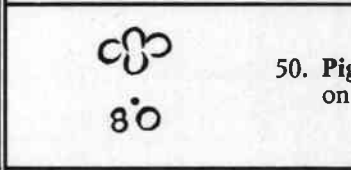


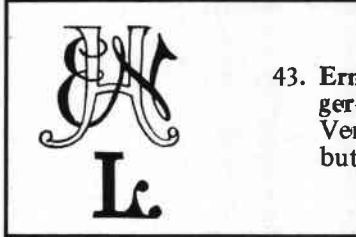









Where feasible, I have collected together the marks by shape, i.e. circular, oval, diamond, square, shield, inverse, and miscellaneous shapes. Each one has a number. The particular mark can thus be called up without confusion as "Ord-Hume 31", or "Ord-Hume 49". The chart, which follows on the next two pages, forms the basis of an extended investigation into makers which is to appear in a forthcoming book.

Comments on these and any additions will be welcomed.



Here is an unidentified mark seen on the comb of a rather ordinary 7½in cylinder eight-air musical box sold at Christie's on December 7, 1977. The 18in-wide box appeared to be by Paillard and, as can be seen by the tune-sheet, it was nothing spectacular. The mark, which reads A K A.I without a double triangle, is not stamped but acid-etched into the comb as can be clearly seen in the way that various portions have been thickened. Although I have seen this mark before, I have no idea to whom it belongs. Comments from members are invited. The pictures were taken specially for *The Music Box* by Ted Bowman of Christie's South Kensington.

| | | | |
|---|---|--|---|
|  | 1. B A Bremond —Stamped into top of cock |  | 20. Mermod Freres —Printed design on discs for Stella |
|  | 2. B A Bremond —Stamped into top of cock |  | 21. J Cuendet —Printed on tune-sheet |
|  | 3. B A Bremond —Stamped into top of cock |  | 22. Soc Junod —Stamped on accessories with patent numbers |
|  | 4. (<i>Unidentified</i>)—Etched into comb |  | 23. Charles Paillard —Stamped into top of cock |
|  | 5. Ch & J Ullmann —Stamped into comb, also top of cock |  | 24. G Baker-Troll —Stamped into top of cock and tooled into inner lid strap |
|  | 6. F Conchon —Printed on tune-sheet ("Star Works") |  | 25. Henri Metert —Repair work stamped into bedplate |
|  | 7. Richter & Co —Attached medalion (stamped) and bedplate, cast |  | 26. Paillard —Stamped into top of cock |
|  | 8. F Conchon —Printed on tune-sheet ("Star Works") |  | 27. Barnett Samuel & Co —Printed on tune-sheet |
|  | 9. Mermod Freres —Printed on tune-sheet |  | 28. Thorens —Cast into bedplate (Edelweiss disc machine) |
|  | 10. Bontems —Stamped into brass plates, $\frac{3}{4}$ in x $\frac{3}{4}$ in |  | 29. Jean Billon-Haller —Printed on tune-sheet |
|  | 11. Woog, Samuel — Stamped into top left of bedplate (early importer of L'Epee) |  | 30. Piguet et Meylan —Stamped into music disc (different numbers) |
|  | 12. Woog, Adolphe —Stamped into top left of bedplate (early importer of L'Epee) |  | 31. Paillard, Vaucher, Fils —Stamped into comb |
|  | 13. F Conchon —Stamped into top of cock, 5/16in wide |  | 32. Ami Rivenc —Stamped into top of cock and reversed image printed on tune-sheet |
|  | 14. Freres Rochat —Stamped into brasswork, also sometimes in a circle |  | 33. Junod (?) —Mark stamped into bedplate (variations) |
|  | 15. Ch & J Ullmann —Stamped into bedplate, 5/16in wide. Also found cast into underside of bedplate |  | 34. Berens, Blumberg & Co —Stamp top left bedplate. Lecoultré agent |
|  | 16. Berens, Blumberg —Stamped into comb. Lecoultré importer |  | 35. Francois-Charles Lecoultré —Very small mark stamped into bedplate in several places. About 5/16in long |
|  | 17. Lecoultré Freres —Stamped into comb |  | 36. Nicole Freres —Very small mark stamped into bedplates of some early specimens. About 5/16in long |
|  | 18. Mermod Freres —Stamped onto accessories |  | 37. Langdorff —Stamped into top of cock, also printed on tune-sheets |
|  | 19. Mermod Freres —Stamped onto accessories |  | 38. Ami Genoux —Stamped on brass components |

| | | | |
|--|--|--|---|
|  | <p>39. Nicole Freres—Mark registered, Chas Eugene Brun Aug 2, 1882, ref 28,834. Printed on tune-sheets</p> |  | <p>48. Silber & Fleming — Printed on tune-sheets</p> |
|  | <p>40. Ludwig & Wild — Printed on discs of Orpheus disc machine</p> |  | <p>49. Weill & Harburg — Printed on tune-sheets</p> |
|  | <p>41. Ch & J Ullmann—Printed on tune-sheet</p> |  | <p>50. Piguet et Meylan—Stamped on music disc</p> |
|  | <p>42. J Thibouville-Lamy—Printed on tune-sheets, mostly L' Epee boxes</p> |  | <p>51. Heinrich Hermann—Printed on discs for Celeste</p> |
|  | <p>43. Ernst Holzweissig Nachfolger—Printed on tune-sheets. Very large Leipzig distributor</p> |  | <p>52. Adolphe Woog — Mark registered on Dec 8, 1876, ref 10,100. Printed on tune-sheets</p> |
|  | <p>44. Ch F Pietschmann—Printed on discs of Celesta disc machine</p> |  | <p>53. Mojon, Manger & Co — Printed on tune-sheets</p> |
|  | <p>45. Allard & Sandoz — Printed on tune-sheets</p> |  | <p>54. (Unidentified) Stamped into brass on automaton, believed Leschot/Maillardet workshop</p> |
|  | <p>46. Polyphonmusikwerke — Printed on discs, stamped on medallions</p> |  | <p>55. Adolphe Woog—Printed on tune-sheets. Developed from (52)</p> |
|  | <p>47. J H Zimmermann — Printed on discs for Adler and Fortuna</p> |  | <p>56. Weissbach & Co — Printed on discs for Komet. Sometimes image reversed in cabinet door design</p> |

The Pneumatic Player

by Harry Drake

On page 323 of Volume 7, The Music Box began reprinting this classic repair manual originally published in 1921. In the last issue, Harry Drake began discussing action types. Here he concludes his work.

THE STRADOLA

THERE are easier vocations than that of pushing a new path through the Congo-like forests of Old Knowledge; and as each player, with its internal organs, arises in my mind, the beaten paths well known to many of us call me once again. This world of modern science and invention spins so rapidly on its axis that the marvels of ten years ago are sinking already beneath the horizon of our memory and will soon be out of date, if not as mystic as the cromlechs of my own dear moor of Devon.

With this apology, let me turn again to the valves and pneumatics, which at any rate have not altered to any great extent during the past decade. The subject of the present chapter, the Stradola, is notable amongst other characteristics for its compactness, being constructed to occupy so little space that a piano of ordinary depth will contain its mechanism; and as this of course means that the spool box action is close against the wrest pins there is no possibility of tuning the instrument without first withdrawing the player's upper work. This, however, presents no difficulties. The upper action is balanced on two metal dowels in the sides of the piano, and the usual stay attaches the spool box to the wrest plank. Before lifting out, we must disconnect a dozen thumb screws that attach the tracker tubes to a tube rail above the keys. Two thumb screws will be found, one at each end of the upper action. When these are disconnected and the tempo and re-roll rod slipped off, together with the motor and tracker shifting drawn forward and out and the tube, the upper action can be tuning carried on.

Everything up-to-date is found in the full compass Stradola, which is constructed to employ fully accentuated rolls. At each end of the tracker bar is a crescent shaped duct controlling the tracker shifting device. It is the same tracker shifter as that mentioned in connection with the Pianola, but without the delicate levers operated by the edges of the roll.

Instead of these levers air is admitted in the usual way when the roll deviates too far to the right or left; and this air, destroying the vacuum in one or two of the power pneumatics, the other being still under vacuum, pushes the roll into correct alignment again.

There is the usual sustaining pedal duct,—a large square orifice which, by means of a lever and switch (the latter just beneath the key bed), operates a triple valved pneumatic at the bass end of the piano. The advantage of the triple valve is that a very small pulse of air is sufficient to lift the primary, which instantly lifts the larger secondary, which again im-

mediately lifts the much larger tertiary and the pneumatic is collapsed. This sustaining pneumatic is also operated by a button, one of four, situated on the lockboard. The half throw hammer lifting device is operated by a similarly valved pneumatic. Both these pneumatics are screwed to the sides of the piano, beneath the key bed, from which they can be unscrewed and cleaned with the minimum of trouble.

On the floor of the piano, just against these pneumatics, are the expression boxes containing the accenting and re-roll valves; and between them is the main bellows, which can be taken out for repairs

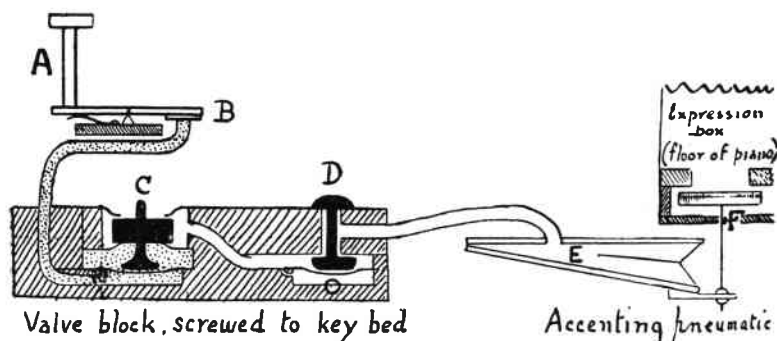


Fig. I. Normal Condition.

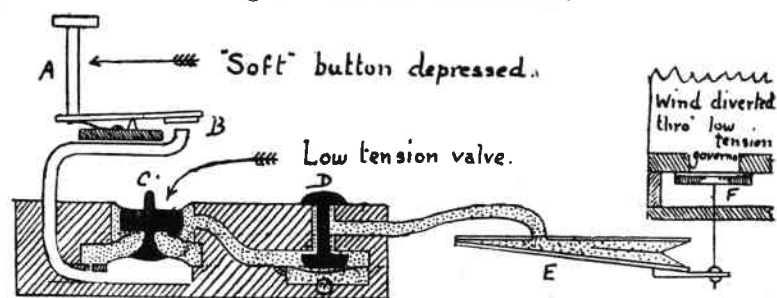


Fig. II.

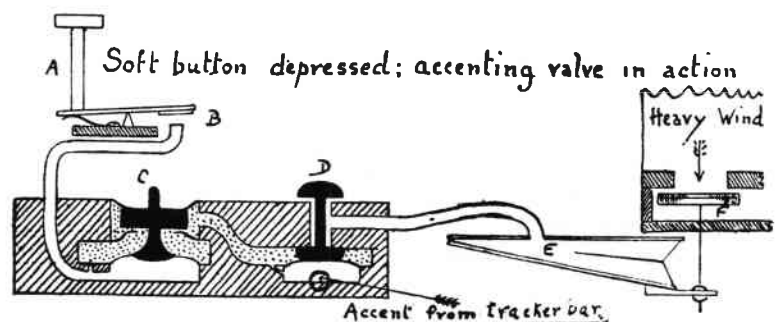


Fig. III.

after withdrawing four screws and slipping off the two large exhaust tubes.

The Stradola possesses a peculiarity which I have endeavoured to portray in the accompanying sketches by indicating those portions under exhaust as dotted regions. The peculiarity is this: That we have a pouch which is not under perpetual exhaust during the playing period, but only when its chamber is exhausted by a quite independent valve.

In Fig. 1, it will be noticed that only the chamber beneath the valve (C) is, with its tube, under exhaust. (The expression box hardly concerns us now; it must be understood that it is always exhausted when playing.) Open air passing down over the valve (C), over the lower cap of D to the pneumatic (E), leaves the valve (F) open to the normal wind. A wire, entering the expression box, connects the valve (F) to the pneumatic (E).

When the button (A) is pressed, the pallet (B) is opened. Air rushes to the pouch, lifting C. The small valve chest beneath D is now under vacuum and E is collapsed, as in Fig. 2, closing F; and all the striking pneumatics are now influenced by the low tension, giving the piano effect. The pouch beneath D is connected to the tracker bar and the accentuated roll (when A is depressed) lifts D, as in Fig. 3, allowing open air to rush down to E and instantly opening F to heavy wind.

The re-roll lever, in addition to controlling the motor gear (which, by the way, is chainless and employs cogged wheel gearing), opens a pallet beneath the key bed. The pallet admits air to a primary down in the expression box, which primary operates a small exterior pneumatic, the heel end of which closes a valve and port connecting the striking pneumatics to the reservoir and power. This pneumatic is further provided with a small spring to ensure its closing the port effectually.

When one has taken out the bottom board from the piano, it will be noticed that in many models the valve chest extends beyond the pilasters; but the trusses pull forward and out, when one has unscrewed the metal plates securing the same to the key bed. The valve chest is dowelled at each end. Withdraw the two block screws at each end, disconnect the exhaust tubes and it is free. Unscrew the tube rails, disconnect pouch and valve blocks, also the

buttons and wads from the pneumatic wires and the player is stripped.

The motor is of the four double rocker principle in that there is a central slide block with the power pneumatics front and back. The pneumatics being attached each to its opposite unit, a steady and powerful thrust is obtained.

Instead of a key stop being employed to prevent the movement of the keys when one is using the player, there are three or four pneumatics beneath the key bed, which being under exhaust the moment one pedals lift rods against the keys and so overcome any movement. The control consists of the four buttons,—loud, soft bass, soft treble and piano; the auto-sustaining lever; the tempo lever and the re-roll lever; and there is nothing to present any difficulty in the way of repairing and regulating when one has grasped that little knowledge of the pilasters and truss.

THE PISTONOLA

HOLDING an eminent position among the player pianos of the day, the Pistonola possesses features which carry with them the hall mark of a great amount of careful thought. As its name implies, the principle of the collapsing bellows in obtaining the necessary energy is entirely dispensed with; and from the main power, obtained by the usual pedal operation to the units engaging the action of the piano, the piston is employed throughout.

Quite recently, a writer in an American trade paper said: "It is plain that the bellows type of exhauster and equaliser has many disadvantages inherent in itself. It is leaky, it is hard to move and it is incapable of sustaining great pressure. Its one and only advantage is that it does not need an elaborately thought-out new design. Now, it is plain that, for instance, a steel cylinder fitted with an accurately ground piston would be a much better vacuum device than the ordinary bellows. Such a piston in such a cylinder could be moved by the foot quite as readily as the bellows; it would not be so leaky and it could be moved both rapidly and silently. It would also have the very great advantage of taking up much less space. Moreover, since the thrust would be vertical and not horizontal there would not be the present strain on the fastenings, with inevitable loosening sooner or

later." The writer then goes on to state that the pistons necessary for such work could be constructed of hardened graphite.

Now, this is exactly what we find in the Pistonola; and when we remember that the aim of inventors in the player piano industry is to occupy as little space with the completed article as possible, compatible with efficiency, the manufacturers of the Pistonola have every reason for pride in their production.

The Pistonola is an all-metal British player, adapted to accommodate standard and fully accented rolls. It is capable of being fitted inside any underdamper piano; and as it occupies very little space it does not interfere with or choke the tonal qualities of the piano to any appreciable extent.

When we contemplate the ordinary bellows pneumatic, and realise that under exhaust the outer atmosphere is pressing not only against the moveable leaf but also against the collapsing sides, and then compare it with the effect on one end only of a piston, it is not difficult to believe that the cylinder and piston develop an energy twenty-five times greater than that obtained from the bellows pneumatic.

As before mentioned, the pistons are made of hardened graphite with a glass-like surface, and possess the great advantages of being self-lubricating, impervious to damp or heat, and have given proof that after several years' use they have in no way worn or deteriorated. The primary and secondary valves are of brass, fitting freely into their cylindrical recesses; and situated just beneath the primaries are dust-proof sieves to prevent any foreign matter affecting the movements of the valves. In the accompanying sketches I have had to enlarge greatly and distort the channels, etc., as in the Pistonola, itself some of the channels are very little larger than a pin-hole.

As an instance of the extraordinary responsiveness of the Pistonola, I punctured a roll with the mere point of a needle, and yet this was sufficient to obtain an immediate and decisive blow.

And now let us examine the instrument from the source of power to that point where player ends and piano begins.

The pedals are connected by tapes passing over eccentric rollers (which ensure the maximum stroke) to two heavily weighted pistons which resemble an inverted bicycle pump, employing similar

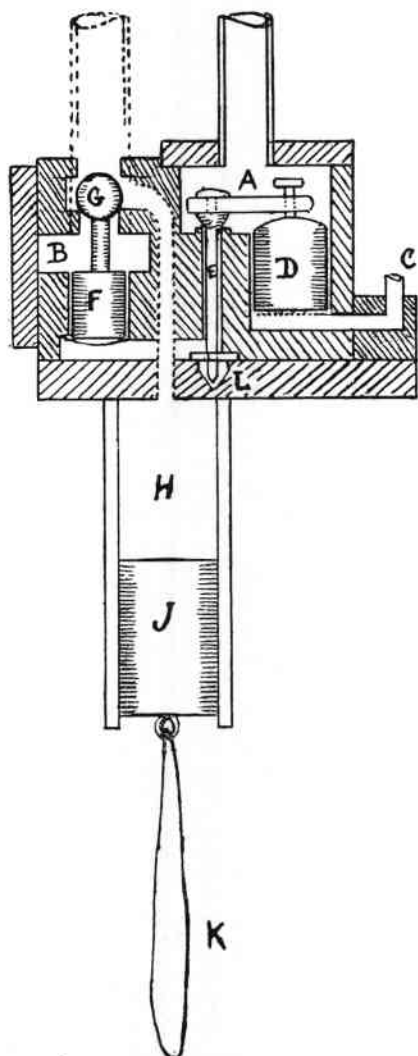


Fig 1. Pistonola Valves (Enlarged). A state of vacuum of light tension is produced in the chamber A; of heavier tension in the chamber B. The roll admits air into the tube C, and the primary valve D is drawn up, lifting the coned pin E, destroying the vacuum in the air channel beneath the cone. The secondary valve F is then drawn up by the heavier vacuum, thrusting up the ball valve G. This ball shuts off open air and brings the cylinder H under powerful vacuum, drawing up the piston J, which lifts the piano lever by means of the loop K.

When the roll covers the tracker duct, the air pulse beneath the primary D is immediately absorbed round the sides of the valve, which drops into the original position, closing the air channel to the secondary.

The countersunk holes L, beneath each pinpoint, are connected one with another by grooves, and also to the heavy vacuum chamber B, and on the conclusion of a note they absorb any air in the channels, thereby ensuring a most effective repetition.

leather washers. In the centre is the equalising piston, which owes its tension to a powerful spiral spring. The equaliser, as in other players, carries on the work as one pedal relieves the other and its duty is to prevent a spasmodic result. Just beneath these cylinders are the main exhaust tubes, about $\frac{1}{2}$ in in diameter, instead of $1\frac{1}{4}$ in, as usually employed. One of these tubes leads to a shallow drum-like cylinder, just to the right of the treble pedal piston. This is the motor governor, and the piston is held up by a spiral spring, adjustable by means of a locknut to the desired tension (that of 7ft a minute, with the roll and indicator at 70). Extra pressure on the pedals draws down the piston against the spring and reduces the amount of power from the motor tube. This tube leads up to the motor situated on the right of the spool box. This dainty piece of mechanism is about 6 in wide and $1\frac{1}{2}$ in in depth. It consists of four pistons, $1\frac{1}{4}$ in in diameter, and two slide valves. The pistons are brought under exhaust, or release by open air, through four ports of about $\frac{1}{4}$ in diameter. The throw of the crank is about $\frac{5}{8}$ in.

When we consider the usual motor port of approximately 1 in by $\frac{3}{8}$ in, and the vast amount of air being swallowed during its operation, the advantage of a $\frac{1}{4}$ in port is too obvious for further comment.

The motor engages the spindle and spool by direct cog and mesh gearing, obviating the employment of chains.

Reverting to the pedal cylinders, we will follow the exhaust tube that leads up to the low tension governor.

Attached to the right hand side of the piano, above the wrest pins, is a diaphragm governor connected to a slide valve, which is regulated by an adjustable blade spring. It is extremely sensitive and under heavy pedalling cuts down the amount of power; but under light pedalling permits the spring to open the slide valve, thus maintaining an absolute regularity of vacuum. Its duty is to operate the primary valves, and it is connected by a tube to the front metal tube running the whole length of the player. From this metal tube, connections are made with each section of valves — nine in number — and it exhausts the air from the chamber (A, Fig. 1).

Another main exhaust tube leads from the pedal pistons up to the tube marked Main Exhaust (Fig. 2). From this accenting device, the heavy tension is the rear metal tube, and by similar connections in each piston section exhausts the air from B (Fig. 1).

There are two of these accentors, one at each end of the player, and in their operation they differ completely from those accenting devices I have already described. The Pistonola accentor emphasizes the melody notes *without cutting down the tension*. The treble and bass buttons, also, do not reduce but increase the power. If you glance at Fig. 2, I will endeavour to make it clear. The ball governor is there at normal wind, ample power being obtained through the

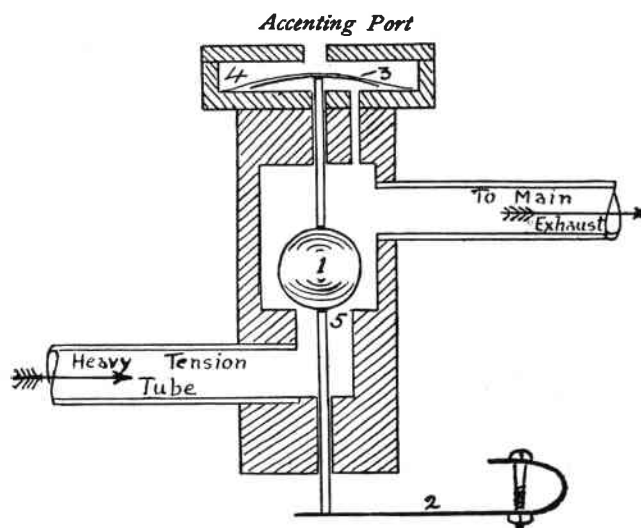


Fig 2. Pistonola Accentor.

The ball governor 1 is held in equilibrium by the spring 2 and the diaphragm 3, the latter being drawn down against the spring by the vacuum. A primary and secondary (similar to Fig 1, without the piston) exhausts the air chamber 4, and permits the spring to thrust up the ball, increasing the power through the port 5.

port 5, but on pressing the treble or bass button air rushes to the primary and secondary (not shown in the sketch), exhausts the accenting port, and allows the spring (2) to push up the ball governor and obtain a greatly increased air power through the port (5). Similarly the marginal perforations in the accented music roll carry out the same scheme. The tension spring (2) can be adjusted by its screw, to increase or reduce the normal power.

Look beneath the key bed again, and on the extreme right and left will be seen two drum-shaped cylinders with primary and secondary valves precisely similar to the accentor, only containing a piston instead of the ball governor. These pistons operate the sustaining pedal and the hammer half blow; both being operated either by buttons at the key-board or perforations in the fully accented roll.

The control is effectively simple and consists of the sustaining button, the piano or half-blow button, loud bass button and loud treble. A phrasing lever, beautifully responsive, increases or diminishes speed from presto to the halt, and the tempo lever. In the spool box is the "play" or "re-wind" lever and also the automatic sustaining lever.

The whole player mechanism is wonderfully responsive and noiseless, and in my humble opinion marks a decided advance on those with which I have come in contact hitherto. For tuning purposes, it is only necessary to release two large locknuts above the spool box and two screws (one at each end of the piano) holding the angle iron, and the player action swings forward, giving

access to the wrest pins and piano action.

THE MALCOLM

MY FIRST thought on removing the top door from a Malcolm player, Style 22, was one almost of regret that so much highly-finished work, a real pleasure to the eye, should be only observed of us player-men and tuners. I suppose an artist would hardly agree; but the fact remains that finely polished rosewood or mahogany, or similar rich coloured woods, embellished with plated metal work, as found in this model seem too good to "blush unseen", even if they don't "waste their sweetness on pneumatic air."

Style 22 is a full compass pneumatic player, adapted for 88 and fully accentuated standard rolls. The control, from left to right, consists of first, the expression lever, which in its central position produces a nicely modified power. This is obtained by two slides in the low tension valve chest half closing the normal air ports. Pushed to the right (marked "solo") to synchronise with the marking on the roll, it cuts out the normal air power, and the exhaust has now to operate through the low tension governor. The governor spring is regulated to greater or less tension as desired by a butterfly nut. The expression-box is situated just beneath the key bed on the left-hand side. The motor governor, with a similar spring and adjusting nut, is also beneath the key bed on the right.

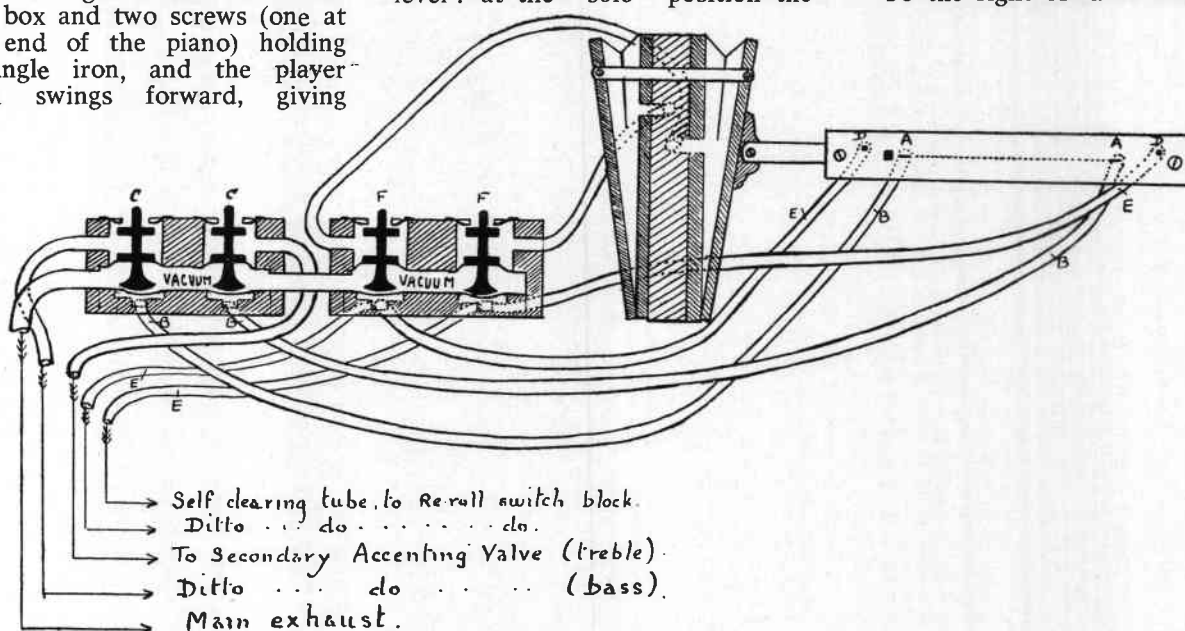
To return to the expression lever: at the "solo" position the

striking pneumatics, with the exception of the accented, or melody, notes, are operated with a soft but perfectly distinct blow, and the marginal perforations on the roll uncovering the accenting ducts A (see diagram), air destroys the vacuum in the tubes B; the pouch lifts the primary valves C; and instantly exhausts a large pouch in the expression-box just mentioned. This pouch, inflated under normal conditions, permits the large secondary or accenting valve to fall, which opens a port under heavy air tension, and the note is thereby accented. To ensure a perfect accent a small flap valve communicating with the low tension is snapped up over the low wind port at the moment of accent.

By pushing the lever to the left the normal heavy power is obtained. The controlling movements are sweet and definite, there being no spongy feeling of indecision on pushing a lever or button to position. You feel it is there; and it does its work without any inclination to slide back out of gear again.

Next to the expression lever are the two softening buttons, bass and treble. On being pressed they admit air to pouches controlling valves and pneumatics, one at each side of the piano. These pneumatics, when collapsed, thrust back the hammers to the half blow. The movement is well known, but the method employed in the Malcolm is such that the piano action can be withdrawn without disconnecting any trace or button connecting these two pneumatics.

To the right of these buttons is



MALCOLM AUTOMATIC ROLL GUIDE,
with its Valves; and Primary Accenting Valves. (Tubing purposely misplaced.)

the damper, or sustaining pedal, lever, a clean light movement of rod and levers.

Next comes the phrasing lever. I have already pointed out the advantages of this slide, but I think it will bear repeating. Should it be desired to retard, or accelerate, the speed of the roll and to return immediately to a previous tempo, it is only necessary to set the tempo lever (the next lever to the right) at the original tempo and leave it there. The phrasing lever will vary the time as desired from presto even to the pause, and on being released falls back to its neutral condition. The tempo lever operates in the usual manner by admitting greater or less exhaust to the five motor pneumatics.

The re-roll and play is the next lever again and in its re-rolling possesses a very distinctive feature. When re-rolling, the tracker guiding ducts D are connected direct to the main exhaust, so that after each roll any paper fibre or dust that would in other cases tend to obstruct these important holes is drawn clear away by the main exhaust. This excellent idea will, I am sure, be greatly appreciated by all who have experienced the effect of paper fibre—from new rolls especially—on the automatic tracker guides, with which so many of us are familiar. This desideratum is obtained by a switch block beneath the key bed, and is simplicity itself. The re-roll lever moves a wooden leaf to the right and links up two tubes E, leading from the tracker bar to the pouches controlling the valves F with the main exhaust. At the same time this leaf admits air through the switch-block to large pouches, one in the motor control box obtaining a speedy motor for the re-rolling, and the other lifting a valve which shuts off all power from the striking pneumatics and expression valves. These tubes and valves are easily accessible when the bottom door is removed.

Next to the re-roll and play is the deleter button. On being pressed, air is admitted precisely as in the re-roll to the rapid motor valve and the silencing valve. Its utility in skipping unpopular or hackneyed passages is well known.

In the spool-box are two switch buttons; one is for the sustaining pedal to be controlled by the roll; and the other is the melodist. It is considered by many an advantage to be able to employ the accentor at will, and not leave the expression for ever to the roll. There are many players without this switch, but in those models,

when the low tension levers or buttons are in operation, the accentor is busy, whether the operator desires its services or not, hence the advantage of the switch.

The pedalling of this model strikes me as remarkably fine. The pedal crank is connected to pumper and pedal by passing into two solid and simple wooden blocks. There are no washers or bolts to wear loose and wobble, losing thereby half the pedal power, but a straight centre push that gets in its work at once. The whole bellows set is held in two large wooden shoes by a couple of butterfly bolts. Four large

exhaust tubes slip off, two small ditto, and two leading to the re-roll switch block, when the set lifts out.

The pumper flap valves are worthy of notice. With a thin covering of rubber material to obviate damp and give elasticity to the flap, they are attached to a screwed panel. If it is necessary—and often it is—to get at the interior flap valves, which in time are apt to harden and leak, causing the pumpers to rob each other instead of the reservoir, one only has to unscrew these two panels and the interior flap valves are exposed. Hitherto it has been

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necessary to cut away the pumpers, and of course re-cover them, for this operation alone.

The piano can be tuned by a crank hammer without removing the player mechanism; but if, for any reason, it is necessary to take out the player remove two screws at treble end, two at bass end, two in bass tube block, and disconnect the re-roll and tempo rods. Unscrewing the tube blocks does away with the necessity of slipping off the six rubber tubes from their nipples; a proceeding which, too often repeated, tends to loosen the tubes and risks a leakage.

The Malcolm patented piano lever is a distinct improvement. In the older-fashioned square-ended levers, there was always a risk of the pneumatics catching and tearing something away unless great care was taken to push all hammers back to the strings when pushing the player action into position. The Malcolm lever is spoon-shaped and rounded, so that where the pneumatic plunger engages it there is a rolling motion, which reduces friction to a minimum. It is only necessary to glance at the black-leaded plungers of a player employing the flat lever to see by

the naked white surface the amount of friction that exists at this point.

TRACKING DEVICES

WHEN the full compass player piano arrived on the scene and relegated the sixty-five note instrument to the glories of the past, it was found necessary to devise some method to ensure correct tracking, as eighty-five or eighty-eight tracker ducts have considerably narrower partitions than those employed in the sixty-five. The rolls being exactly the same width, this compression was unavoidable.

In many players, accurate tracking is obtained by hand power, a milled thumbscrew, or a lever, in the spool box, moving the roll to right or left as desired. But this constant supervision considerably detracting from the pleasure of the operator, the automatic device was not long in making its appearance.

If we examine the perforations of a full compass roll and compare them with the tracker ducts, it will be noticed that the latter are unmistakably wider than the former. This allows a slight deviation of the roll before two ducts are uncovered by the one perforation, producing that deplorable discord so well known to owners of dusty and neglected instruments. Even before a discord is produced, however, the deviation of the roll cuts down the amount of air power to the pouches and greatly affects the response, so that the adoption of an automatic shifter greatly enhanced the reliability and charm of the pneumatic player.

I have endeavoured to sketch, in Fig. I, a well known and popular device; but for the benefit of those of my readers who have not yet had occasion to dismantle or strip it, an account of its interior economy may not be out of place.

This tracker shifter is not always found in the position shown: it frequently consists of horizontal pneumatics in the place of vertical. But the result obtained is in each case the same, and the valves and pouches are identical. It operates in this manner. At each end of the tracker bar are two air ducts, the outer overlapping the inner. The inner ducts come into action in the event of a shrunken roll, the outer being those principally concerned. On pedalling, we exhaust the air from the chamber (A) through the tube (B). Should the roll deviate to the right, and uncover the outer hole on the left of the tracker bar, air rushes in and lifts the valve (C). Now,

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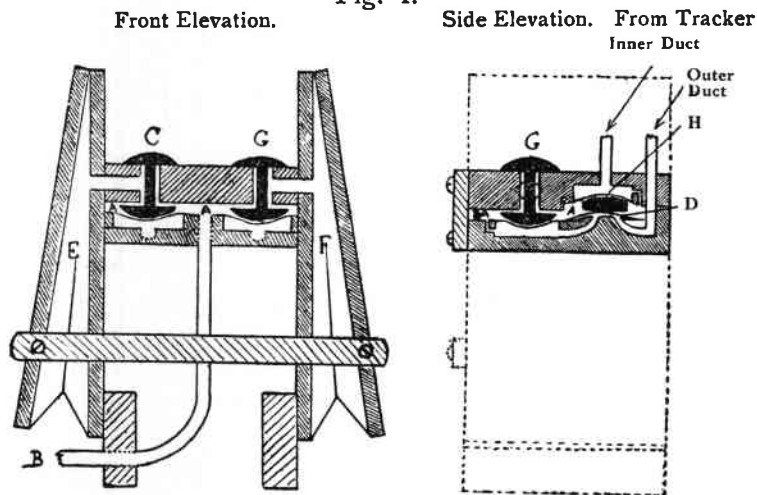
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Fig. I.



observe that this pulse of air, before it lifts the pouch beneath (C), passes beneath the cut-off pouch (D). This cut-off pouch is fed by the inner hole on the right hand side of the tracker bar. The valve (C), being raised, admits open air to the power pneumatic (E), shutting off the vacuum therefrom and leaving all the power to the other pneumatic (F), which promptly takes advantage of the inertia of its opponent to push the roll into alignment again. If, in its zeal, it oversteps the mark and the roll uncovers the outside right (which sounds like a soccer match!), it falls a victim itself to its utter disregard of ca'canny principles, and the balance of power changes once more by the lifting of the valve (G) and the falling of the valve (C), which takes place when the left outer duct is covered by the roll.

We find, in the case of a shrunken roll uncovering both outer holes, the valves (C and G) are raised together, and the pneumatic powers are dormant. But our shrunken roll is still assertive and swinging, let us say, to the left uncovers the inner right hole. It rushes the air and inflates the cut-off pouch (H). This pouch presses a disc and pouch (D) over the channel holes which are lifting (C). Down drops that valve, and the pneumatic (E), coming into vacuum, pushes the roll to the right. The exposing of the left inner hole operates the pneumatic (F) in a similar manner.

These power pneumatics are coupled together, and are connected by a rod to the cam, which alternately pushes the roll to the left, or permits the spiral spring in the left hand roll spindle to push the roll to the right. It is a very effective automatic tracker; but, like every other device connected

with the player piano, it needs the attention pretty frequently of someone who is thoroughly conversant with its requirements. The accumulation of dust impedes its response, and occasionally the paper fibre from new rolls packs itself in such a manner beneath the cut-off pouches that the only remedy is to replace them with new pouches, after cleaning out thoroughly the air channels beneath. This is a very simple operation for a man who knows *which of the six pouches are at fault*. They are those two which cover the double channels and are *without bleed holes*. If the wooden cap into which the four tubes pass is unscrewed, and the dust is blown from the tracker and from the sieves then exposed each time the instrument is tuned, there will be very little fear of this obstruction arising beneath the pouches.

An ingenious, if simple, tracking device is depicted in Fig. II. Valves and pouches are dispensed with; and, although this shifter employs only one power pneumatic, it is constructed in many models with the double power as well.

As the principles concerned are precisely the same, a description

of the one-power pneumatic will doubtless enable anyone to understand the operation of the two.

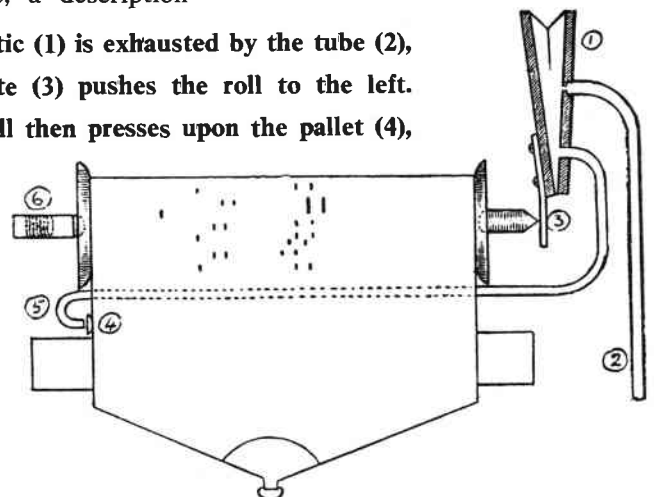
Let us remember, in the first place, that the spiral spring in the left hand roll spindle is pushing the roll to the right. The right hand spindle is resting against a metal plate attached to the heel end of a power pneumatic's moveable side. When we begin to pedal, we exhaust the air from the pneumatic, which exerting more power than the above mentioned spiral spring, pushes the roll to the left. Beautifully adjusted at the correct position, on the left of the tracker bar, is a small projecting lever very delicately sprung. When the edge of the roll presses the lever, the rear end opens a tube; air rushes through into the power pneumatic (no pouch or valve, you will remember) and destroys its vacuum. The spiral spindle spring takes advantage immediately of the temporary weakness of the pneumatic and pushes back the roll to the right. At first glance, one would imagine that a great amount of hissing would result from this operation, but the air is only exhausted from the power pneumatic through a hole punched in a disc little larger than the normal bleed hole: yet this is sufficient to obtain a vacuum power greater than that exerted by the spindle spring.

In some models, the outer sides of two pneumatics are rigid, and the central portion is attached by a rod to a moveable tracker bar, which of course has, in such cases, to employ rubber tubes in place of metal.

Such are three of the best known automatic tracker guides found in the player piano of today; and, simple as they appear to a man with a continuous acquaintance with them, there is something very admirable in the brains that conceived them and the hands that set them to their work. ●

Fig 2. The pneumatic (1) is exhausted by the tube (2), and the metal plate (3) pushes the roll to the left.

The edge of the roll then presses upon the pallet (4), admitting air to the tube (5), destroying vacuum in (1), which permits the spring (6) to push the roll back into correct alignment.



'A Curious Clock'

Jack Tempest recounts a meeting with a masterpiece

EARLY in the nineteenth century, Robert Sutcliffe, a Sheffield businessman, made several visits to the United States of America. He recorded his observations in diary form without any thought of their being published and it was a friend who suggested that the narrative would provide interesting reading for a wider circle of readers. In these days of Jumbo and Concorde it is a sobering thought to read of Robert Sutcliffe's journey to the USA from Yorkshire; how the family travelled by horse-drawn coach through the Derbyshire Peak District with time to spare to visit Peak's Cavern at Castleton and have refreshments before tackling the climb of the Winnats Pass. They reached Manchester in the evening to stay overnight with friends who then, next day, drove them in their sociable to the water-side for an 18 mile sail along the Bridgewater Canal to Warrington.

From Warrington by carriage to Liverpool where they were accommodated by a relation for a week or so whilst final preparations for the Atlantic crossing were made including an interview with the Captain of the *Laura* and his agent where he concluded to take a passage to New York and agreed to pay 35 guineas. The next day he boarded, after taking leave of his family, but there was no wind. After spending the night on board and there being no improvement in the weather Robert had to return ashore and to his family. Three days later the ship was able to embark on its Atlantic journey, a voyage far from "plain sailing" and quite an adventure in itself before the safety of New York harbour was reached.

The book makes very interesting reading of early American life and business and the author meets many characters, businessmen, Indians, and takes the opportunity whenever it occurs of attending Meetings of the Society of Friends of which he was a devotee. Naturally, he comments quite often on the slavery question and is saddened by the cruelty still to be witnessed at that time.

There you have a brief introduction to an interesting account from which I have taken the following excerpt about an ingenious clock Robert Sutcliffe came across whilst on a journey which took

him into Canada in December, 1804:—

"... At night I came to Batavia, and took up my quarters in the house of Joseph Ellicot and his brother, where I was kindly and generously entertained. We had part of a fine haunch of venison for supper, which they told me they had bought of the Indians at 1½d per lb and which was the regular sum paid for the best parts of the fattest deer.

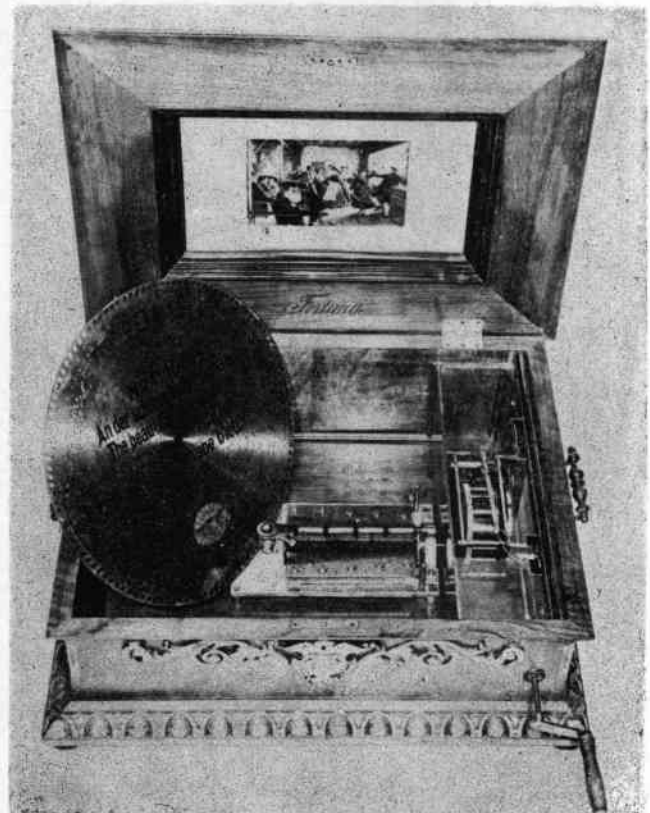
"In the centre of a good room, in which I slept, was fixed one of the most beautiful and curious clocks I have ever seen. It was in the form of an elegant mahogany pillar, on the capital of which were four faces. On one of them was an orrery, showing the motions of the earth and planets around the sun. On another face were marked the hours and the minutes; and on the third face were marked the names of 24 musical tunes, with a pointer in the centre, which being placed against any name, repeated that tune every quarter, until the pointer was moved to another. On the fourth face was seen through

the glass, the curious machinery of the clock. The value set upon this ingenious piece of mechanism was 1,000 dollars or 225l. The cabinet work of the case, as well as the engravings and paintings about it, and also the movements, although done in a beautiful and workman-like manner, had all been executed by men, none of whom had served an apprenticeship to their respective lines of business. The mechanism was executed by the grandfather of the kind friend in whose house it stands. This family are remarkable for ingenuity, and have rendered essential services to this country, by the improvements they have made in the machinery of flour mills. One of their progenitors had been clock-maker to a King of England, and was considered a first-rate mechanic in his day. Thus propensities and talents sometimes run in families from one generation to another."

It would be interesting to discover if this clock is still in existence — perhaps it is a "known" clock already cared for in a museum? ●

Table model upright style

Many disc musical boxes of the horizontal or table form employed mechanisms developed from the upright layout. This 18½in Fortuna, size O disc, is basically an upright-format mechanism in a table case. Lochmann Original, Adler and Fortuna models can be found in this form. This fine specimen in walnut case with carved ornament was sold last year at Christie's. With ten discs it fetched £1,300. A similar model is in the Utrecht museum (see page 159 Vol. 7).



GAVIOLI TRUMPET BARREL ORGANS

by Roger Booty

THE larger fairground organs still with us today are invariably operated by folding cardboard books, a principle which was introduced in 1892 by the fairground organ builders, Gavioli et Cie of Paris. Before the use of books, the music was produced from pinned, hollow wooden barrels—the true barrel organ in fact, with pipes, not one of those peculiar “barrel organs” or “piano-organs” with strings and hammers in place of pipes!

Surely the best-known type of barrel organ that was made for fairground use must be that with the array of brass resonators—the trumpet barrel organ. And in Great Britain its breed is invariably associated with Gavioli. On the continent, many other firms were producing trumpet organs besides Gavioli. In Berlin in 1892, for example, Bacigalupo built 2,000 small trumpet organs for street use plus larger instruments for

fairground use. Frati, Imhof & Mukle, Ruth, Limonaire and Bruder were also building, but it appears that the chief exporter to this country was Gavioli. A list of British builders (or agents) of trumpet organs would probably have had at, or near, the top the firm that is now the only one remaining in fair organ work, Chiappa of London.

Expressly for showmen

The trumpet barrel organ is thought to have been the first type made expressly for the use of showmen, being loud and capable of sounding above competing sirens, barkers and bells. Old photographs exist of fairground ghost shows and similar attractions, with a trumpet barrel organ taking a prominent position, usually on the left of the small stage at the front. With conversion of many of these shows to the new cinematograph



Bob Finbow's 62-key Gavioli trumpet barrel organ resplendent in all its glory.



A trumpet barrel organ, make unknown, on John Collins' Razzle Dazzle at Basford Wakes in 1910. This particular machine is thought to have been among the first electrically-driven rides on the fairgrounds and to the right of the organ there is visible what appears to be a belt drive coming from a small box which most likely contained an electric motor. It is most probable that the organ had an automatic tune-change mechanism. At its very first opening, in Manchester during 1906, this ride had the misfortune to turn over. Also known as Whirligig, Whirling the Wheel, Aerial Novelty, and here as Great Racing Aeroplanes, the ride never became very popular although the fare shown here would now be attractive — 1d. The only remaining Razzle can be seen working at the Hollycombe House Steam Fair in Hampshire on summer Sundays. Photograph from the fairground collection of R A Taylor.

after 1896, it was not long before some of the largest mechanical organs ever made came along to replace the diminutive trumpet organ.

At present the number of trumpet barrel organs surviving in working order is small, possibly being no more than half a dozen, and none are thought to be in “as built” condition. One is owned by society member Bob Finbow and is a 62-key Gavioli. He bought it in the 'sixties from Mr Tyler, an engineer from Nottingham. Unfortunately nothing is known of its earlier life, who travelled it, or on what rides it served, etc. Mr Tyler had restored most of the mechanism but had not fully restored the case front. The centre section is veneered but the drum wings, which were not fitted originally but added at a later date, have only mock painted veneering. The veneer and paint work is good but the overall effect seems just a little too much for an instrument hardly eight feet long and only seven feet high. The two central spiral pillars revolve when the instrument plays and no doubt the outside pair also revolved originally as they are not fixed.



Not a barrel organ, but the 65-key book-playing Gavioli in the Nationaal Museum van Speeldoos tot Pierement in Utrecht by whose permission this picture is reproduced. Below is a detail from the 87-key organ at Arnhem, described on page 283.

There are 125 pipes, 14 trumpets and three bass trombones. As Bob Minney has done some work on them, I can do little better than to quote him here:

"The mixture is composed of piccolos, clarinets, trumpets and trombones, plus violin pipes and open and stopped flute pipes. Referring to the keyframe chart, the piccolos play on their own with a hand-operated register as do the trumpets and trombones whilst the clarinets double with the melody. The violin pipes are with the melody also; and, until the organ was overhauled by me, was fitted with a rank of harmonic flutes in their place, Gavioli not patenting the violin pipe (with harmonic brake) until 1876. On converting these harmonic flutes to violins the tone of the organ was much improved."

The note on harmonic flutes therefore dates the organ as pre-1876 although Bob believes that dated newspaper in the bellows suggests an even earlier date, prior to 1868. He also had to make a new top centre trombone as the original was missing: a disused brass band instrument came in handy! Percussion consists of a snare drum, bass drum and cymbal, these last operated from one key.

The single barrel measures

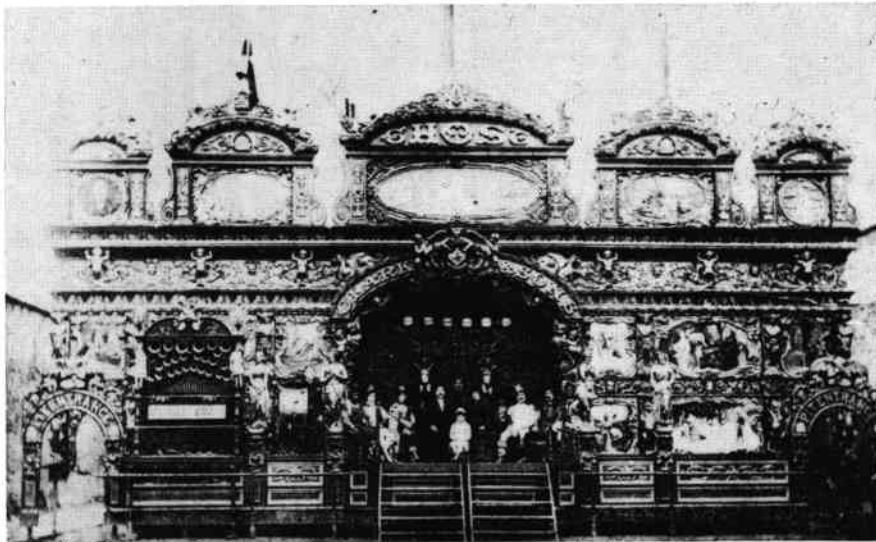
40½ins long by 9¾ins diameter. There are eight tunes dating from the 1920's but unfortunately they have been overpinned in the

accompaniment. This would cause the reservoir to collapse when a heavy chord played, so to overcome it Bob Minney fitted an extra feeder in the top of the case, therefore allowing sufficient wind to be supplied when the barrel was turned at its correct speed. The only tunes I can name are as follows: 1, Swanee; 3, When the Harvest Moon is Shining; 4, Let the rest of the World go by; 8, Wyoming Lullaby.

Many fairground barrel organs were fitted with an automatic tune change mechanism in the early part of this century so they could be left to their own devices for the run of the fair. Bob Finbow's instrument was not altered and retains the standard barrel organ tune change method of knife and groove. This suggests it was perhaps used on the front of a show where it would probably have been hand-turned and more selection could be made as to the tunes played.

A barrel organ has many failings when compared with a book organ but a hot dry summer, like 1976, soon has the pneumatic jobs gasping while the simple mechanical action of the older instrument keeps playing merrily. Disconcertingly, some people do not seem to appreciate the barrel organ with its small number of short sharp tunes





Clarks' Ghost Show, the front covered with paintings and carved work, about 1890, with a Gavioli trumpet barrel organ without drum wings. The big drum to the right of the organ would be used to help "drum up" an audience and no doubt a short dance act would be performed on the small stage on the right. A Ghost Show was formed by a stage with a glass screen suspended at an angle downwards between it and the audience and a magic lantern projector below the stage shining onto a figure dressed as the traditional ghost, in white sheet, also below stage. The effect was of the lit figure of the ghost being reflected on the angled glass sheet above and therefore giving the audience the impression of a ghost appearing in the scene on the stage above. After successful moving pictures were shown in 1896 this style of show soon gave way to the Bioscope.

Photograph from the fairground collection of R A Taylor.

and feel quite justified in removing the barrel mechanism and fitting a keyframe for book playing. This type of "rebuild" still happens.

Before 1892, the date of introduction of book music, many fairground rides and shows would have had a barrel organ. One ride that must have been among the earliest to have an organ is mentioned in *Savage of King's Lynn* by David Braithwaite (pub Patrick Stephens Ltd). It was a "Dobby" set belonging to Grandfather Wyatt. Its motive power was a pony and:

"suspended oil lamps provided the illumination and the hand-turned barrel organ, probably salvaged from a church, played mostly hymn tunes. It was not uncommon for the fair to open with a lively performance of *Christians Awake*."

The organ was not very large and the date would be around 1860. About 1865 a small organ engine was invented, its purpose being to drive only the organ, the ride still being operated by horse or man power. On this subject David Braithwaite says:

"An early application of the steam engine was to drive the barrel organs that accompanied many of the attractions. The manual operation of these son-

orous instruments had obvious disadvantages in terms of fatigue for the operator and a consequent unevenness of tempo. The harnessing of a small engine, fitted with suitable governors, overcame these difficulties."

When rides were later steam

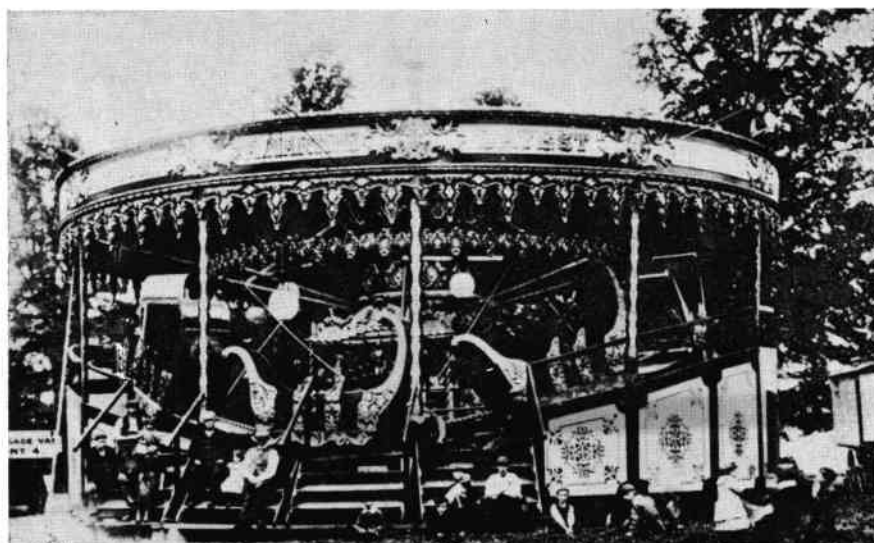
driven, power was taken from the driving engine.

Even after the introduction of book music it is likely that barrel organs were still made, especially for use on smaller rides.

Replacement barrels were available until at least the late 'twenties from Wright & Holmes of Manchester. There was until recently still a set of steam-operated three-abreast gallopers owned by Ashley's of Nottingham touring the fairgrounds with a Gavioli trumpet barrel organ. This was a 62-key with two barrels, but in 1973, when it was in need of restoration, it was converted to a 46-keyless. A further example of a 62-key, with auto-change, can be seen in the Somerset area and another Gavioli, this time an 84-key with auto-change but without trumpets, resides in Norfolk and occasionally attends steam rallies and shows.

150-key Gavioli

Fairground barrel organs were usually fairly small but Limonaire produced a 112-key model while an 1882 Gavioli catalogue shows very large organs of as many as 150-keys. A 70-key Gavioli has survived and it is to be restored by Andrew Pilmer of Yorkshire. I first came across Mr Pilmer when reading the letters page of *The World's Fair* where he was asking how the 70-key looked when in fairground use. By the time I contacted him he had also been asked to restore the 62-key Gavioli trumpet barrel organ owned by



Gondola Switchback ride owned by A Martin & Sons when new. This ride has a trumpet organ with drums but it is not known if it was barrel-operated. The switchback was a popular attraction from the 1880s into the 1920s but now only one remains and last year, 1977, was its last on tour before going into Cushings Steam Engine and Organ Museum at Thursford in Norfolk.

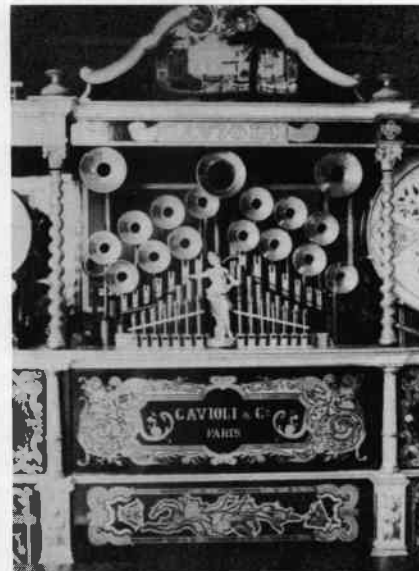
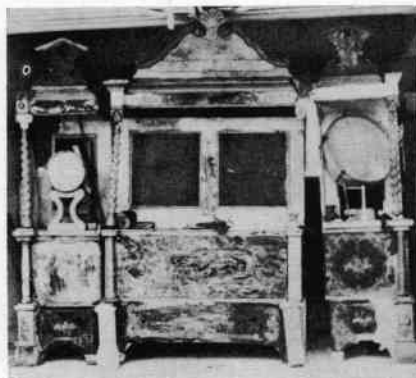
Photograph from the collection of Bob Finbow.



Bob Finbow's 62-key Gavioli trumpet barrel organ shown during restoration. The rear of the organ is seen here along with the feeders and reservoir, the barrel, some of the pipework, and at the top the extra feeder fitted by Bob Minney. At the top right is part of the drive via an electric motor. The cord running around the pulley at centre left turns one of the spiral columns at the front of the instrument. On the right is a view of the organ as purchased by Mr Tyler. The three sections of the organ are here clearly visible: the original ventral organ and the two later drum wing additions.



Above is a detail of some of the pipework and the barrel. To the right is the present drive to the crankshaft via electric motor and pulleys. To allow for the not uncommon distortion of the barrel the keyframes ride on the barrel by means of the two adjustable rollers clearly seen here. Note that the wooden pipework in the centre — the string-toned pipes — have the Gavioli *frein harmonique* fitted to the mouths. On the right is a close-up of the centre section of the organ. This is the total extent of the instrument when originally built.



E & P Clouston of Cheshire.

The best method of describing the 70-key would be to quote from Andrew Pilmer's letter to *The World's Fair*, both of whom I thank for its use.

"I have recently been commissioned with the full rebuilding of the rare 70-key Gavioli trumpet barrel organ, last travelled in showland use by the Gallagher family of Hull.

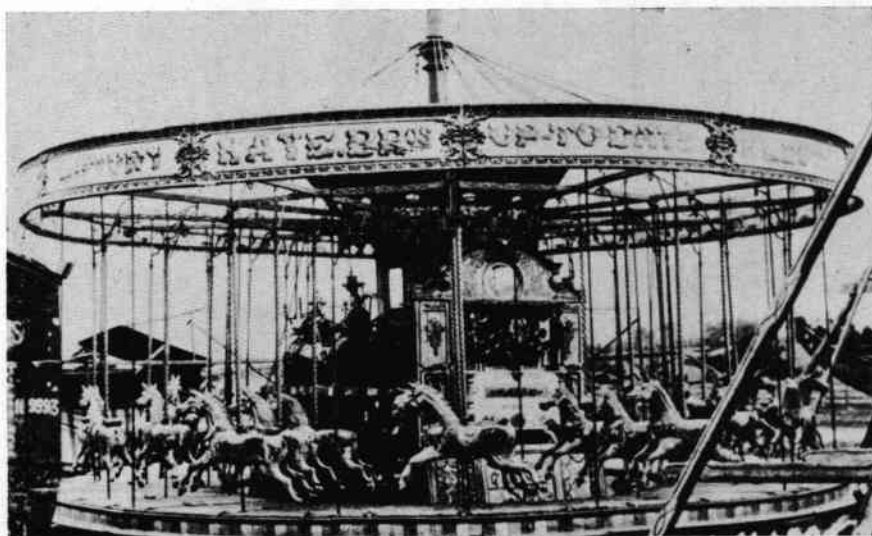
"The organ is at present in a bad state, having been totally dismantled since 1961. It is likely that it had not played for many years before that.

"It seems likely that it was originally built without the two drum wings, as the snare drum keys have been obtained by sacrificing the bottom two piccolos and the bass drum and cymbal are connected to the key originally for the conductor's arm only.

"It is possible that this work was carried out by Pietro Varetto of Manchester, as a printed sheet in the windchest informs us: 'Military band and show organ builders', to which has been added in pencil: 'Repaired May 3rd 1907'. We understand that *The Sheik of Araby* is amongst the ten-tune barrel's repertoire.

"The organ is very old, the absence among the pipework of any pipes with freins (harmonic brakes), which were patented in 1876, could suggest that it is earlier than this date.

"A pointer to a more exact date is the fact that the inside of the windchest is lined with a tax return sheet which is written in German. France was invaded by Germany in 1870 and the Germans occupied Alsace and Lorraine, an area into which Gavioli moved (states Romke de Waard in his book



Kaye Brothers, Three-abreast still-horse roundabout in North London in 1920. The small trumpet organ was possibly barrel operated but its maker is not known. The still-horse roundabout was made from the early 1870s and it is still popular in some European countries and in the United States. It lost favour in Great Britain to the more venturesome gallopers of which about 70 sets have survived in use. Of the four old photos reproduced here this is the most recent and is noticeably devoid of anyone "having their likeness registered!"

Photograph from the fairground collection of R A Taylor.

ANIMATED ANDROIDS

by Steve Ryder

with original-source material by Jere Ryder)

MUSICAL box collectors sometimes enter upon related fields of equal import. Such is our story of the wonderful world of animated figures which have amused and intrigued man since ancient times. Our intention is to describe briefly how these figures developed, and the various kinds which have been produced.

There are four terms, so far used interchangeably, by which we refer to these animated androids. "Automatons" and "automata" are the most popular and correct, the second term being the more proper and the accurate plural of the word *automaton*. "Automatae" is less-used, and (les) "automates" is obviously French . . . though we have seen and heard all four terms in English and American references.

What do they all mean? Our definition: "Well-crafted, automatic representations, which mechanically mimic the movements and/or sounds of men and animals".

Our definition is necessarily broad. These mechanical figures transcend many fields of interest, including dolls, musical boxes, and toys. They verge upon the art of puppetry, and the science of robotics. They are colourful and animated . . . and they often boast individual histories. Frequently their construction was inspired by poems or fairy tales, and they are usually most amusing. They appeal to the child in all of us.

The Seed of an Idea

Since time immemorial, man has felt the need to imitate his gods and himself — a need, perhaps, to make his gods vivid and his own life more rational.

Religious masks, puppets, way-angs¹ and marionettes², all have catered to this need. Elaborate rituals were often built around the use of these so-called playthings.

As the science of mechanics took root, Man reasoned that he could build and command supermen in his own human image. These he called robots. These theorists went the way of the alchemists, for machines are inherently limited by their number of

Self-moving automatic figures have a history which goes back to pre-Christian times and talking statues go back to Memnon. Speaking heads were understood by Pope Sylvester II who allegedly made one having inspected the heavens for guidance. In more recent times, infamy surrounded the Chess-Player, which wasn't even a true automaton. But it was the era of Jaquet-Droz, Vaucanson, Maillardet and others which heralded a flourishing of genius amongst an almost exclusively Franco-Swiss clique of makers. The Music Box is privileged to publish this extended paper by a leading present-day American authority who is also making and repairing automata.



Patent drawing for guitarist taken out by Alexandre Nicolas Theroude, Paris.

functions and degree of dexterity.

But as this idea drifted into the world of crafts and clockwork art, a new approach was found: to create amusing animated androids to entertain people of all ages. Thus, man learned there was one type of machine which he could only build to laugh at — the automaton!

False Automata

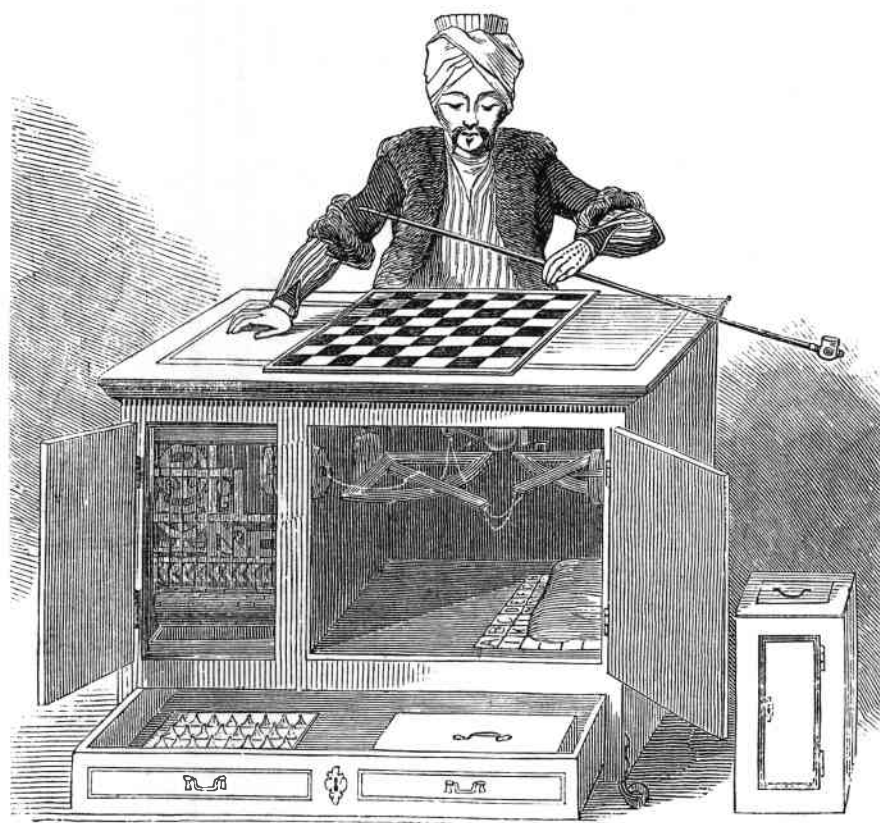
It is indeed ironic that the most renowned automata were purely deceptive, deriving their movements from sly human manipulation, much as does a puppet. The humans were often hidden in the machinery, operating at the behest of their stage-show accomplices.

These "false" automata date from ancient times, when the temple statues of mythological gods would "speak" to the man who came to pray. This was achieved through a mouthpiece mounted in the statue's head, connected by tubing to a funnel, through which the priest would broadcast messages from a hidden anteroom. Sometimes the head would be arranged so as to move. This sort of "tin-can telephone" was crude but effective, given the superstitious ways of primitive peoples. And thus a new dimension of drama was lent to the "oracle!"

The Chess-Player

Perhaps the most celebrated of automata was the Chess-player built by Hungarian Baron Wolfgang von Kempelen in 1769-70. Dressed as a Turk in turban head-dress, and seated behind a large, box-like table, this android toured the royal courts and major cities of Europe, vanquishing contenders by the dozen. The Chess-player even glorified to claim "Echec" over the strategist Napoleon!

Prior to play, the machine was normally submitted for inspection by the audience. Doors front and rear would open to reveal an intricate and confusing mechanism. When the audience was sufficiently impressed, play would commence. After the game, which the Chess-player invariably won, he would answer questions from the audience by assembling "scrabble".



THE AUTOMATON CHESS PLAYER

type letter-tablets on the chess-board squares.

Edgar Allen Poe eloquently surmised that the Chess-player could not possibly be a machine, and he was right! The sham mechanism hid a dwarf human operator, who was required to change positions even as the doors were being opened and shut during the preliminary inspection! The entire device was a clever and demanding collaboration between the *genuine* mechanism — a series of levers which animated the figure and magnets which locked the pieces in place, and the operator, who had to possess a mastery of the game, a resistance to claustrophobia, and, from necessity, a crooked neck!

The legends and stories that surround this amazing piece, are too numerous to mention here. Suffice it to say that this automaton was the subject of numerous Court documents, two films and one play (for which replicas were built), and most recently a novel named *King Kill* by Thomas Gavin (1977, Random House, New York), and *The Great Chess Automatic* by Charles Michael Carroll (Dover Publications, New York, 1975). The showmen and operators who took it on tour, were as colorful as the Chess-player itself. After Baron von Kempelen, the piece passed through the hands of show-

men Anthon, Robert-Houdin, and Maelzel, and finally was destroyed by a fire in Philadelphia in 1854.³

The android Isis

Another example of this "false" automotry is the zither-playing android "Isis", now displayed at Harrah's Pony Express Museum in Reno, Nevada. This piece is described in detail in the Winter 1977 issue (Vol XXIII, No 1, pp 1-19) of the *Bulletin* of the Musical Box Society International. It can only be surmised from the description, and from personal inspection of the musical goddess, that her creator, Dr Nixon, had a human accomplice who made her perform.

Outstanding automata

By contrast, there are some truly "autonomous" automata, extant today, which represent the finest of the craftsman's art. These will be described in brief starting with:

The Jaquet-Droz trio

The best of the best were made by the famous watch- and clock-making family of Jaquet-Droz in the eighteenth century. Three pieces; the Writer, the Draughtsman, and the Clavecin-player, are preserved and displayed in the Musée d'Art et d'Histoire in Neuchâtel.

The android Writer, built by

Pierre Jaquet-Droz (1721-1790), sits at an open desk and forms his words very naturally. First, the machine is pre-set to write any message of up to 40 letters. The charming child dips his quill in the inkwell, shakes it twice, pauses, then proceeds to write his message.

He leaves spaces between his words and between his lines, and controls the weight and thickness of his strokes. All the while he writes, his head and eyes follow his tracings in a very human-like manner.

The secret of this android is the elaborate set of cams and pegs concealed within the body. Since the letters of a phrase can be pre-selected individually, the Writer had the ability to communicate in any of the Western languages!

The Writer's accomplice, the Draughtsman, is an expressive-looking child who can draw four different sketches, selected by the use of interchangeable cams. The pictures are of Louis XV; George III and Queen Charlotte of England; a cupid riding in a chariot drawn by a butterfly; and a dog complete with the caption "My bow-wow." It would be challenging to enlarge the android's repertoire by cutting new cams to draw new pictures, but to the best of our knowledge, nobody has tried this. The Draughtsman's head and eyes also move, and, in-between strokes of his pencil, he blows the dust from the paper with his mouth!

The Draughtsman's performance is accomplished through the use of two separate clockwork movements with fusees, cams (inevitably), and the insertion of bellows for the air. No mean feat!

The third piece, the Clavecin-player, is described briefly by Mary Hillier in her recent book, *Automata and Mechanical Toys*.

"The lady Musician was given an added note of realism by a mechanism which caused her to move her head and eyes, give a slight bow and breathe "naturally" by a rising and falling motion of her bosom. Her fingers really played the keys (unlike many later fake players whose hands merely moved up and down the keyboard) and were controlled by cams concealed within the stool on which she was seated".

This lady, though traditionally referred to as *The Clavecinplayer*, did not really play a stringed instrument. One this, Edmond Droz states, "the earliest documents mention an 'organized clavecin' which means 'an organ



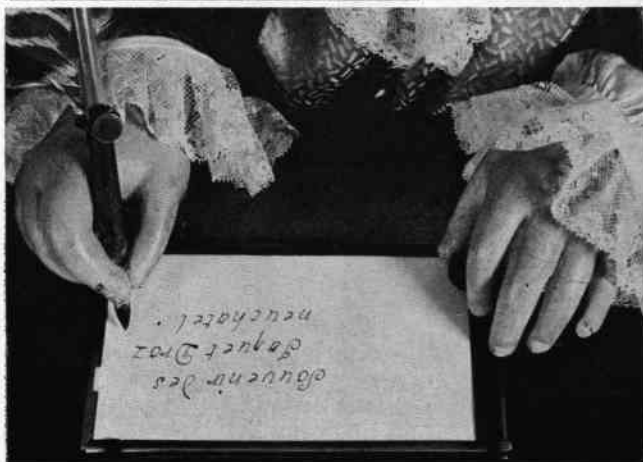
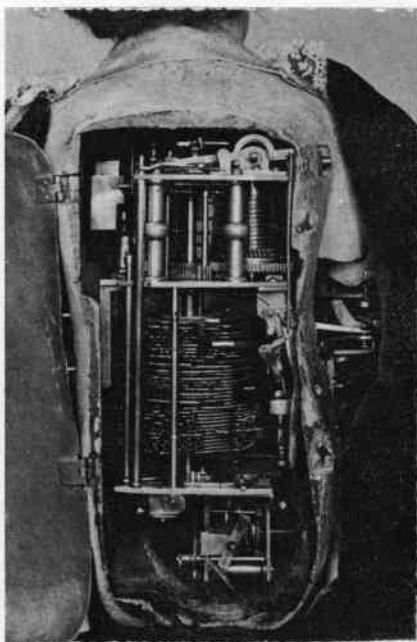
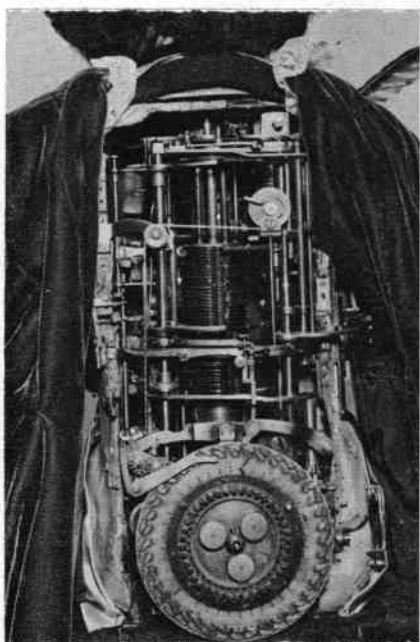
The Writer was largely the creation of Pierre Jaquet-Droz assisted by Jean-Frederic Leschot. The mechanism is seen below.



The Draughtsman was chiefly the creation of Henri Jaquet-Droz, again with the assistance of Leschot. The mechanism is seen below.



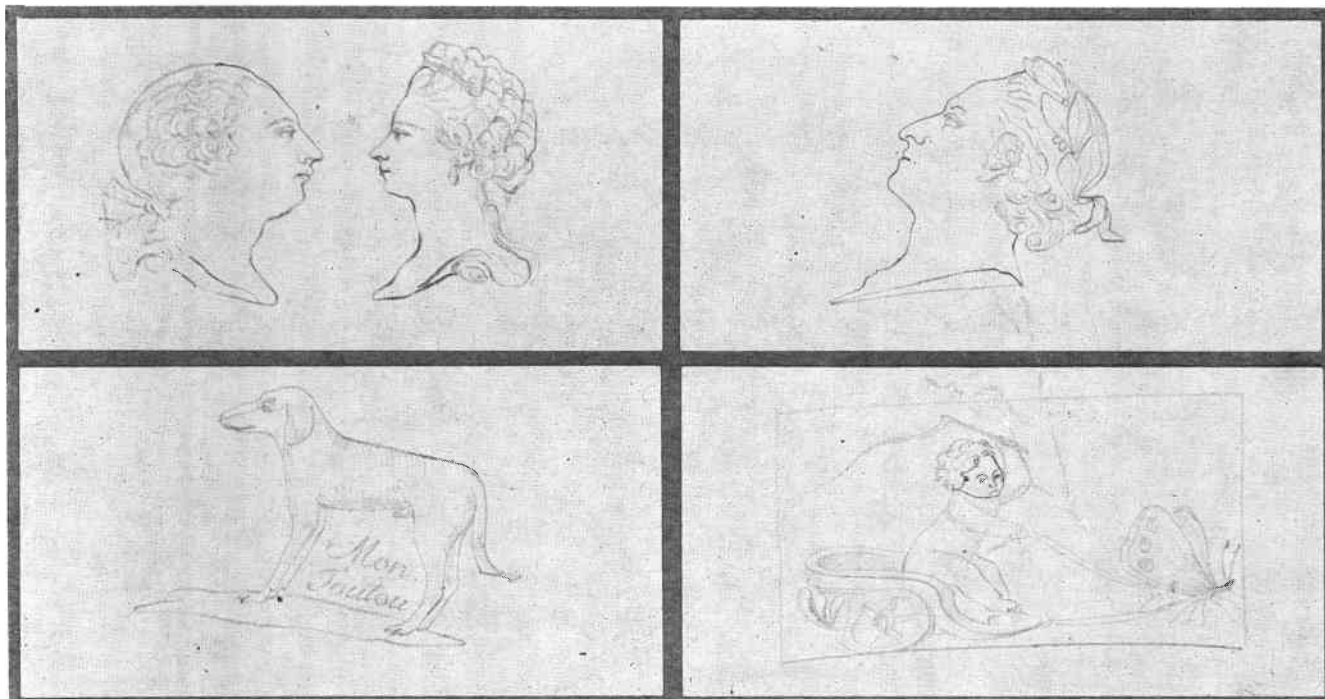
The Lady Musician or Clavecin-player actually plays upon the keys of her instrument with articulated fingers and moving arms. The five tunes which are played are probably the compositions of Henri-Louis Jaquet-Droz. Below is one of the 1977 creations of David Secrett.



The hands of The Writer at work. Proportional spacing, a feature of modern typewriters, was achieved by this mechanism which moved the paper along under the pen which moved to create each individual letter.



The hands of The Draughtsman. Since the art form was based on a complete cycle to produce a drawing. The paper remained stationary on the table.



Actual drawings by The Draughtsmen. Top : Britain's King George III and Queen Charlotte; the head of Louis XV. Bottom : dog; armour and the butterfly. Cam wear over the years shows in chariot wheel shape.

in the shape of a clavecin'. So we do know the instrument has remained authentic." Professor Droz also theorizes that the five melodies could have been composed by Henri-Louis Jaquet-Droz, who had studied music and used his knowledge in the programmes of their musical clocks⁴.

In a 1956 museum guide, printed by the City of Neuchatel, Professors Chapuis and Droz describe the mechanism: "The Musician's mechanism is equally complicated and is divided into four parts. The one placed inside the musical instrument operates two powerful bellows which pump air into the pipes. The other three parts, situated mainly inside the stool where she sits, are inter-connected. The first of these, propelled by two large twin cylinders, commands a big studded brass drum made in two halves: one on the right and one on the left, each bearing five rows of studs corresponding to the five fingers of each hand. The two halves of this drum are separated by a set of ten steel cams.

"The studs on the drum act on the fingers, making them move by means of a complicated set of levers and rods which, mounting through the inside of the body, pass through the elbows and the forearms, then through the wrists, to finally end in each of the ten fingers. The steel cams compel the arms to move sideways and so bring the fingers into position above the notes to be played.

"Another mechanism operates a

lever which makes the lady's breast rise and fall at regular intervals in a perfect imitation of breathing. Other levers make the eyes move in all directions and animate the head and upper part of the body. So that even when the Musician pauses in her playing she seems alive; she turns her head around and looks left and right, she casts her eyes down then looks up again, and she bends forward then straightens up. While she is actually playing these gestures are more accentuated; this is because the musical mechanism is directly in control whereas, during the pauses, the second mechanism takes over.

"Finally, the fourth mechanism is only set in action at the end of the last melody; its role is to make the Musician carry out her graceful curtsey."

We have seen the three Jaquet-Droz figures on several occasions, and we feel they represent a peak in the achievements of automaton-making. Imitations of each have been built, none of which surpass these three. Even more surprising is that they have survived so well since the early 1770's.

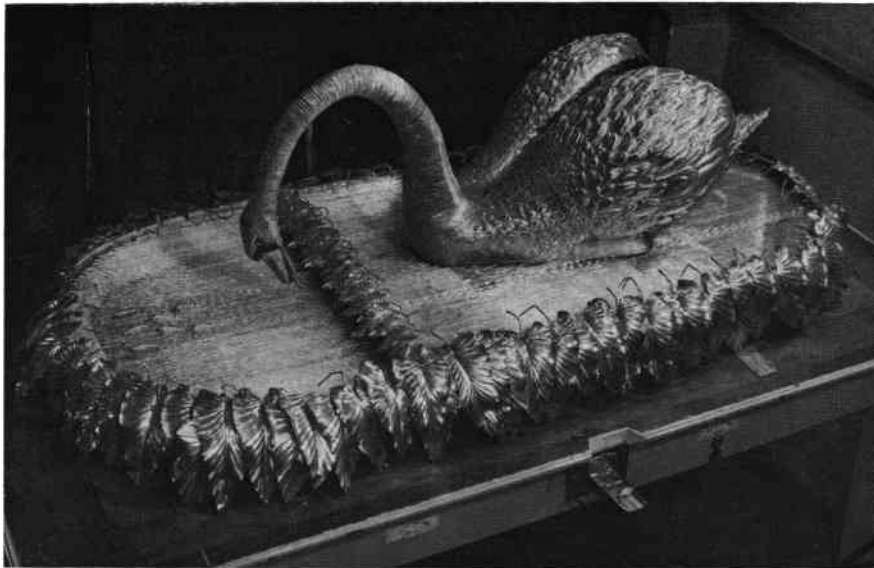
A fourth piece, The Grotto, did not survive. The Grotto was a three-dimensional, animated scene of a garden and a hillside, with working fountains, singing birds, a guitarist, shepherds, sheep and other animals, all moving about in a lifelike manner. It was the most elaborate of the four automata, but was unfortunately, *too real*! The Spanish authorities supposedly de-

stroyed it during a show-tour, for they believed the makers to be in league with the Devil. Imagine the hurt and dismay of Jaquet-Droz, father and son, after all the work it must have taken!

It must be realized that many of those who saw such objects back in an age dominated by superstition often did not accredit the makers with the mechanical knowledge which they so obviously possessed, nor did they try to find out more about the workings. The audiences were mystified, sometimes horrified, and frequently claimed the makers must be in cahoots with a Lower Source. This reaction itself was a credit to the credibility that makers like Jaquet-Droz bestowed upon their animate objects. But it was the recurring source of frustrated efforts to amuse and fascinate an otherwise superstitious public.

Though tour shows were publicised through playbills and newspapers, makers were careful to plan the stops only in areas where the public "knows something," or had already been exposed to at least a modicum of mechanical wizardry. This usually meant the cities, and thus the violent fate of The Grotto was usually averted. Only in the past few decades have people earnestly tried to re-grasp the mechanical wisdoms of human-like articulation.

Pierre Jaquet-Droz, through his work, elevated the art of automaton-making, and in turn his workshop spun a legacy of its own: his son, Henri Louis (1752-1791);

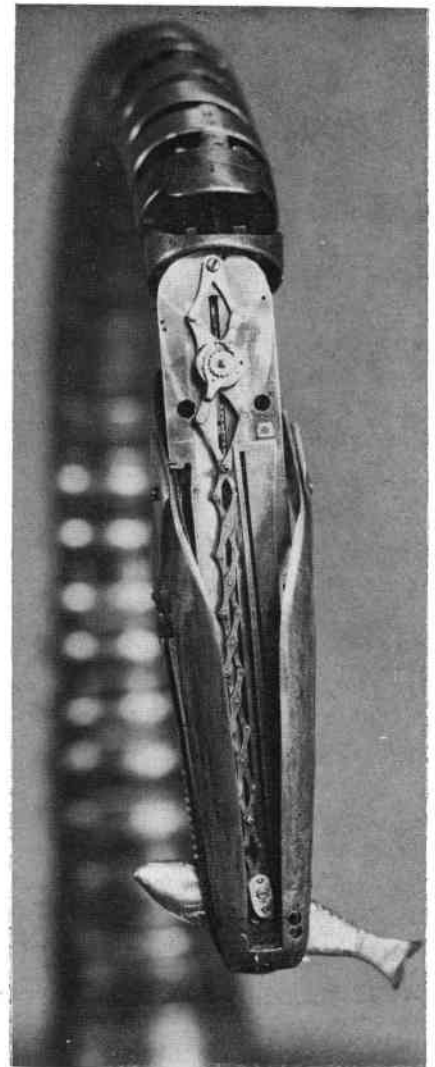


The Silver Swan preens herself upon a lake of twisted glass rods, then bends forward and apparently snatches a fish from the water. In the detail picture, right, can be seen the method by which the fish is made to appear.

ard Castle, Durham, England. This graceful, life-sized figure nearly swoons to the music of a hidden carillon, whilst searching for fish in the pond below. When she spots her prey, she nonchalantly swings lower, then dips in for a

bite, emerging with a fish within her beak.

The performance is most amusing. The rippling water is simulated by rotating twisted crystal rods, and in actuality, the fish is hidden in the beak. The Silver Swan



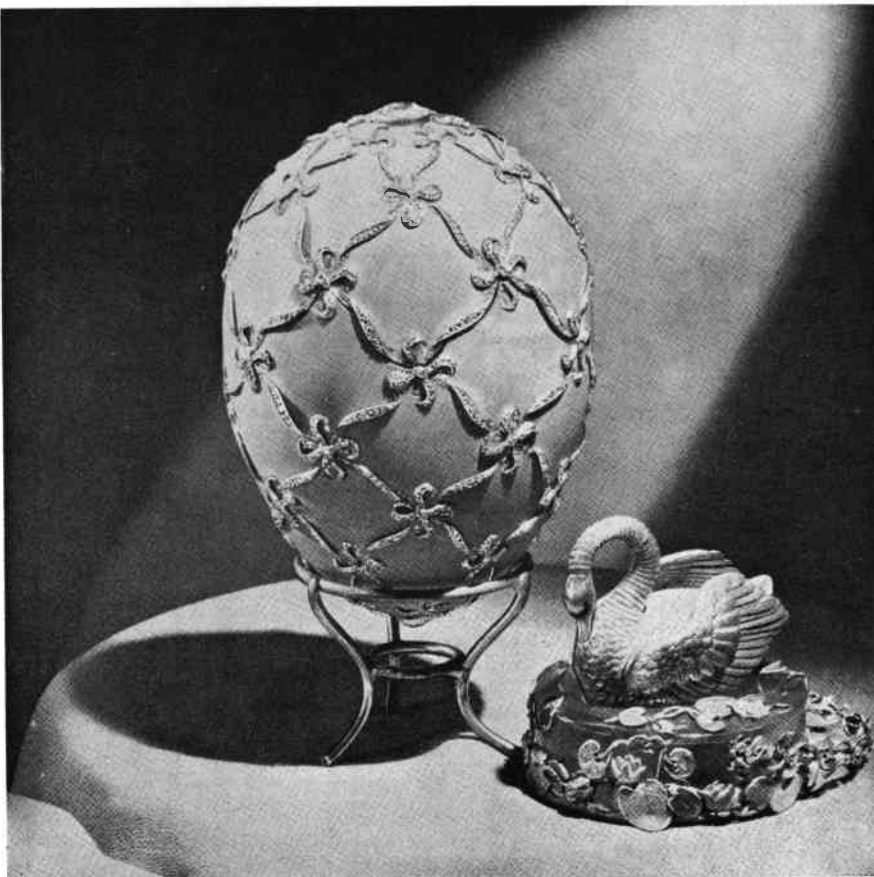
is conjectured to be the work of Vaucanson. In fact, the body and neck appear similar to some of his works, but the mechanisms are quite different in their degree of complexity. Nevertheless, the Silver Swan is one of the most graceful-moving automata ever built.

The Imperial Easter Eggs

Enough on birds! Before the bird, came the egg. And the eggs were made by "Peter" Carl Fabergé. Henry Charles Bainbridge describes the first of these:⁷

"... Fabergé... produced what was to all appearance an ordinary hen's egg. It was of gold enamelled opaque white, and on being opened revealed a yolk, also of gold. The yolk opened, and inside was a chicken made in gold of different shades; within the chicken was a model of the Imperial crown, and inside this hung a tiny ruby egg.

"This pleased the Tsar so greatly that he gave the Craftsman a standing order for an egg every Easter, and a bargain was struck between Emperor and Craftsman. The latter was given a free hand to make whatever took his fancy,



The 1906 Faberge Imperial Easter Egg given by Tsar Nicholas II to Alexandra Feodorovna. Four inches high, the egg reveals a large aquamarine serving as a lake upon which the swan rests. In motion, gold webbed feet are seen, the head and neck extend and the wings display every individual feather. (Sandoz collection).

and the former was to ask no questions, the one stipulation being that each egg must have some surprise in it."

Fabergé had an imagination to match his skill, and never let the Emperor down with "surprises." Known by some as the world's greatest goldsmith, he crafted about fifty-seven eggs in all, starting with Tsar Alexander III in 1884.

Over a decade later, the second Tsar, Nicholas II, was so anxious for the "surprise," that Fabergé ended up making *two* eggs each year, which the Emperor always ceremoniously delivered to his wife, Empress Alexandra Feodorovna, and his mother, the Dowager Empress Marie. The Imperial Easter Eggs represent the finest of the craftsman's art.

The Orange Tree

But as certain as the Bird emerges from an Egg, he must also find a place to perch. So comes the Orange Tree! . . . and it went, for a staggering £90,000 at auction last year. This tree is described by Member Peter D Ward on pages 102 *et seq* of Vol 8 of *The Music Box*, and its mechanism is the subject of a more detailed appraisal on pages 190-193 of this same volume.

The tree grows roughly two feet out of a base of tulipwood with ormolu relief, which contains the early mechanism. Two feathered birds twitter their songs from



The extraordinary automaton Tipoo's Tiger shows a mechanical man-eating tiger in the act of devouring a prostrate European soldier. The animal roars and the unfortunate man wails when a handle is turned. The tiger also contains a manually-play organ. V & A Museum.



amongst the branches. Four controls, in the shape of fallen oranges, determine the song to be sung, the on/off, the bass and treble stops. A fusee drives the pinned barrel, which opens pallets to individual pipes through which a bellows pumps air. The mechanism is signed by Richard, rue des Prouvaires, Paris, 1757.

A later version of the Orange Tree, beautifully jewelled and studded, is pictured in the book, *Les Automates*, by Chapuis and Droz. From the Sandoz Collection, this tree features a single bird which emerges abruptly from the very top of the tree, sings his song, then pops back into the tree. This second tree is attributed to Carl Fabergé, although the mechanism was probably made by someone else.

Tipoo's Tiger

And sad is the Englishman who finds no tree to climb, when chased by a ferocious tiger. Such was the fate of the soldier felled by Tipoo's Tiger. This blood-curdling piece is best described by the man who restored its mechanism and to whom it is most familiar, Arthur W J G Ord-Hume:⁸

"One of the earliest and most gruesome . . . (automaton creatures) . . . was the mechanical man-eating tiger contrived by an unknown European organ builder to please Tippoo Sultan, the ruler of the Indian province of Mysore, in his palace at Seringapatam. This was captured by British troops who overthrew the empire and slew the Sultan in 1799. Working on the principle of a barrel-organ but with automaton actions, the device was a three-quarter life-size stylized tiger crouching over a prostrate European soldier and sinking its fangs into his chest. When the organ handle was

turned, the tiger produced a life-like growl and the wretched man screamed and moved his one free arm. The device is preserved in London's Victoria and Albert Museum."

Tippoo's Tiger held a morbid fascination for the English public during the period of Indian conquests. With the military stationed in India, London received lurid newspaper accounts of man-eating "tygers", with detailed sketches of their stealing away humans entrapped in their fangs during the dead of night. The so-called reports provided spicy table discussion for Londoners, and few returned soldiers would deny they had seen at least *one* of these ferocious beasts! This near-hysteria set the stage for Tippoo.

Louis Rochat

No history of automata should overlook the Rochat family which came from Le Brassus in the heart of the Swiss music- and watch-making district, the Vallée de Joux.

At the start of the nineteenth century, Pierre Rochat, the father, and Louis Rochat, the son, came to Geneva and worked with the firm of Jaquet-Droz and Leschot. A few years later, Louis and his brother Napoleon, went into business together. Now based in Geneva, they attempted to incorporate mechanical singing birds into every variety of item. One popular article was the jewel-encrusted, double- and single-barreled pistols, out of which popped beautifully feathered singing birds.

Rochat Freres are also reputed to be the makers, along with Jaquet-Droz, of the elaborate Temple now in the Peking museum. The Temple is in the form of a clock. Set above are

multi-coloured wheels which simulate the rays of the sun. While the music plays and the bird sings, the Temple doors open to reveal a conjurer. The magician's head, eyes and lips move, as if speaking to his audience. When the music stops, he plays his cup game, and, amongst other things, presents another singing bird, which sings a song on the table in front of him.⁹ After the act is over, the doors shut.

The mechanism of the Temple is one of the most intricate ever built for an automaton. It is made of well over 60 cams, and nearly 300 pieces in all. In addition, the musical movement is of good quality, playing classical compositions.

A sister piece, in the private collection of Mrs Grace Thompson, was displayed at the York Regional meeting of this Society last year. This is a slightly different model by the same maker, which Mr Thompson laughingly refers to as "The Temple of Grace". Those members who were present will testify to its mechanical complexity. Instead of one bird up top and one on the table, it has two birds designed to pop out of the metal columns in front.

The Freres Rochat continued to surpass themselves in producing exquisite, unusual objects. Their insignia was often a lozenge inscribed with the mark 'FR'. Unfortunately, as with music boxes, it is still difficult to tell how much collaborative effort went into any particular automaton. Through the 1700's and 1800's, and up to this very day, only a handful of artisans have made these pieces. As we have demonstrated, a number of them came out of the Jaquet-Droz workshop, and no doubt they continued to work together even after splitting off. Indeed, the atmosphere of secrecy under which they worked, must have kept them together, for their topic of interest was beyond the ordinary and probably considered by the general public to be downright mystic.

In examining pieces we get in for repair, we often recognize the characteristics of a certain workshop or "clan," but not that of a particular individual, for example, the workshop of Decamps, or that of Vichy. And if the individual craftsman left his mark, it is still no indication that he was the sole

maker. Analysis must be made through a hop-scotch pattern of induction and deduction.

The Showmen

What is more, the operators who took the pieces on tour, sometimes claimed themselves to be the maker. In some cases, we know this to be an unmitigated lie. In other cases, the operators would employ an unnamed mechanic who might restore decrepit acquisitions to a state satisfactory for demonstration to the public. In the latter case, the refurbished piece would sometimes bear more outward resemblance to the hand of the so-called "restorer," than to that of the original maker. Would the showman then be correct in his claim, to the degree that his workman had had an influence on the mechanics?

In either case, the showman had a great influence on the way these pieces were seen in the eyes of the public. Some owned museums, and others operated travelling shows. They provided a constant demand for new pieces which could tantalize the crowds, and were always running into mechanical breakdowns. For this reason, the best operators were often the makers themselves.

To this end, the family of Maillardet displayed certain knack for showmanship. Henri Maillardet, it has already been noted, worked with Jaquet-Droz and Leschot. He then went to London, set up an exhibition and acted as agent for Jaquet-Droz. He worked in partnership with a man named Philipstal, at the "Royal Museum."

Henri's two brothers, Jean-David (born 1748) and Jacques-Rodolphe (1743-1828) continued to build automata in Neuchatel and at Fontaines in the Val-de-Ruz. Before long, Jean-David's son, Julien-Auguste (1779-1852) joined the clan, and together they built a number of remarkable pieces, including mechanical soothsayers who managed questions from the audience by waving a wand and opening a window to reveal the characteristically vague answers.

As has been noted, Henri was the maker of the Writer which now appears in Philadelphia. The Writer was for a time displayed at Henri's exhibition in London, along with other pieces by Maillardet and Droz, and was eventually

brought to America by Maelzel who will be remembered for his connection with Von Kempelen's Chess-player. The Writer was nearly destroyed in the same fire which took the famous Chess-player. When later discovered in a private home, he was re-built under the auspices of the Research Museum at Franklin Institute. After months of work, the piece was finally in order and when turned on for the first time, it proclaimed its hitherto uncertain origin by writing: "Written by the Automaton of Maillardet".

Prior to that, it had been referred to as Maelzel's Writer! Jean Maelzel was a dramatic stage man who took various pieces on exhibition throughout Europe, to London, and eventually to the U.S. He had been appointed as mechanic to the Austrian court, but probably employed a mechanic of his own while on tour. He is falsely accredited as inventor of the metronome, and we have seen patents he registered on various machines, but we believe most of his exhibition pieces were made by others, and restored by his workman-in-residence. He is sometimes referred to as Leonard Maelzel and as Johann Nepomuk Maelzel, but his patents are signed "Jean".

Maelzel was famous for displaying the Writer by Maillardet, the Chess-player by Baron von Kempelen, and the famous "Panharmonicon" — a 42-man orchestra of animated figures which actually (!) played the instruments. He also displayed a number of life-sized automaton figures which performed every trick in the book, including a Trumpeter who really "tongued" his mouthpiece, and a "talking man." It must have been fascinating to see, but woe if he experienced a mechanical fowl-up just before curtain!

Even more dramatic was the showman Robert-Houdin, who usually employed one or more "confederates" to help him stage a performance. He, too, travelled Europe widely, and staged a lavish exhibition in the Palais Royale, Paris, in 1844. His performances are recounted in his memoirs entitled *Confidences*, and in contemporary accounts of the day.

There were a handful of other showmen, who displayed automata through the late 1700's and early 1800's. They were colorful and

Colour illustrations on facing page: The left: From the collection of Murtogh Guinness in New York City comes this writing Pierrot by Vichy. The lamp lights, and the head and arms operate in a realistic sequence. Bottom left: The Peasant and the Pig by Vichy, Paris, late 1800s, now in the Ryder collection. Bottom centre: The exposed rear of a Negro Smoker during restoration showing tubes from pipe through arm bellows, then up to the mouth. The papier-mache body encloses mechanism, linkages and *plaque d'animation*. Paris, late 1800s. Ryder collection. Far right: The many and varied expressions of automata.



fascinating, but accounts of their programs are too lengthy to mention here. Among them were James Cox, who set up a large museum in London in 1772. It was here that the Silver Swan was displayed.

Another team was Dietz and Frechon, who operated a travelling automaton museum during the first half of the 1800's. And others included Anthon, and Talon. Sometimes the makers themselves went on the road, and so appeared Bontems and Jaquet-Droz, Reche-Steiner and others, in regions remote from their workshops.

Clockwork Art and Mechanical Pictures

Automata and clockwork are inherently linked. Their genesis originates in the same district: the Canton de Vaud, the Vallée de Joux, Geneva and Neuchatel. During the mid-1800's, artists migrated and found homes in other cities, but they always retained their knowledge of the clockwork art. It was only natural then, that animated figures would be incorporated in clocks, pocket watches, and other timepieces.

For many years, man-sized figures were carved out of stone, their hands holding a bell-striking hammer and with arms free to swing so as to toll the hour in the clocktower. They were known as "jacks", and they were positioned on the ledge of a belfry so they could easily be seen from the road below. Many can still be seen in Germany today, the later ones cast of metal and painted with enamel, striking away the hours in church towers.

Another source of pleasure is the mechanical picture. The older ones are very large and gilt-framed, usually depicting a country scene with, possibly, a clock tower. The clock was either mounted in the top-center of the frame, or in the clock-tower itself. In the latter style, the clock faces were nearly always over-sized as regards the scale of the rest of the painting, but this unreality was in many ways counteracted by the added delights of hidden music and the animated figures.

The musical movement was sometimes separate, sometimes tripped by the clock, and most usually wound by means of a pull-string from behind. Animated cardboard features took the form of (a) windmills, (b) water-wheels, (c) trains rolling across the picture and into a tunnel, (d) hot air balloons, and (e) rocking ships in the



Maelzel actually built two Panharmonicons but this one was shown in London in November 1811 by Joseph Gurk of Vienna.

water. There were other variations, some *sans* clocks, and these pictures were made before and throughout the 1800's.

Similar pictures were made using sand as the means of providing power to drive the works. By pulling a knob over a paddle-like wheel, so setting the entire scene in motion. We have seen one in the collection of Fredy Baud in l'Auberson, Switzerland, which features a cardboard cut-out band of monkey musicians, who beat the drums and appear to play instruments. Once tripped, the picture literally plays for hours. The sand-activated pictures were usually made without a musical movement, because, of course, they lacked a spring drive.

A third, smaller and plainer variety of mechanical picture has been made through the late 1800's and early 1900's. These are the small, animated scenes, musical or non-musical, which depict a topical or humorous scene. They were usually (though not invariably) French, spring-driven, and contained from one to four scenes. One topical-interest American picture of this type is in the Wilkinson collection in Philadelphia. This boasts a facsimile of former President Grover Cleveland with his mistress, fishing by the Potomac river. During Cleveland's term,

this was a scandal that rocked Washington!

With little doubt, the most exquisite automata are found in pocket watches. Upon opening the front lid, an animated scene is revealed on the clockface — perhaps of a woman pumping water into a horse trough, or some similarly innocent scene. However, upon opening the rear lid, a pornographic scene is revealed. These watches, made in Switzerland, sometimes contained one scene, sometimes two. They usually had music, but sometimes not. They are hard to find, and fetch high prices when offered at auction. Noteworthy is that the Reuge company of Ste Croix are now producing a modern automaton watch, not, though, of this riské style.

Miniatures

Another rare form of automata are the exquisite, jewel-encrusted creatures built by Fabergé and others, usually under Royal Patronage. They are miniatures, some no more than two inches long, representing insects and reptiles—frogs that jump, caterpillars that creep, crawling spiders, and so on.

Singing Birds

Mechanical singing birds and whistling automata are a breed unto themselves. Their origin is in the small serinettes or canary bird-training organs of the 18th century. These consisted of a pinned barrel, bellows, and wooden or pewter pipes. The operator would confine himself in a cell with the bird to be trained, and crank out tunes endlessly till the bird could recite the melody. Then the bird would be presented in a Royal performance, or exhibited at a Ball.

Miniaturized versions of the same mechanism soon found themselves in the base of automata, and before long they were accompanied by mechanical birds which flapped their wings and tails, moved their beaks and turned their heads. The birds were often found in snuff boxes, and popped from behind a lid when the catch was released.

Up until the early 1700's all the tunes were classic melodies, arranged on the barrel within the mechanism. A spring- or fusee-driven bellows would force air through the pipes, which opened a lever tripped by the barrel pins. If the maker were inclined to arrange a different tune in every piece, he had the mechanical liberty to do so, and often did. Larger versions of this mechanism, including the serinette,

were thus properly termed "bird organs". The Orange Tree, mentioned earlier, is one example.

However, during the beginning of the 1800's, a system developed whereby all air was forced through one tube with a sliding piston. The piston was regulated by a gear-driven cam, to allow varying amounts of pressure through one valve. As the cam rotated, and the bellows pumped, the hills and dales of the cam determined the pitch of sound released from the mouth of the whistle, and the diviation of each sound.

Since the slightest nuance in the ridge of the cam, would touch off a twitter of a different tone, makers could now produce machines which exactly imitated the call of a specific bird, . . . say a humming-bird or a nightingale. Unfortunately, this step forward in technology tempted them to abandon the classical tune arrangements. And before another hundred years passed, they lapsed into the mass-production laziness of manufacturing standard-shaped cams, which played only a limited selection of tunes. Up to this day, there are several types of singing birds on the market, but they nearly all sing the same melodies. The most popular are made by the Reuge company of Ste-Croix, Switzerland, and Grisbaum of Germany.

The early makers of mechanical singing birds included all the disciples of the Jaquet-Droz workshop, plus Jacob Frisard, Sandoz, Charles Abram Brugier and his brother Jacques Brugier, and the Maillardet family. The aforementioned arranged more of the classic melodies, as well as bird calls. As the "piston" style became pre-eminent, the following names came into the picture: the Bontems family of Paris, Antoine Salmon of Geneva, and Friolet of Paris.

The Bontems made some re-

markable pieces, including a collaborative effort with Vichy which was a flautist birdman now in the New York collection of M D Guinness. In addition, Lucien Bontems took pieces on tour. The various branches of the Bontems family have been recurrently misrepresented in reference works; and though we have not yet pieced the whole puzzle together, we have attempted to chart the family tree of this bird-making family in an accompanying chart. Noteworthy is that the two final branches were bought up by Reuge of Ste-Croix, and Michael Bertrand, only a few miles away in Bullet.

The Heart of an Automaton

The heart and soul of an automaton is the cam which lies within. A cam is a multiply curved wheel which rotates on a shaft drawn from the motor. The more movements to a given automaton, the more cams lie on the shaft.

The hills and dales of the cams are cut, much like a gear, to precisely direct a specific movement. If the automaton is to perform an act in sequence, i.e. first with one movement, then with another, the cams must be cut and aligned very accurately. A space of two millimeters on the cam can mean the difference between failure and success.

Each cam is followed in turn by a small, pivoted cam-rider, or tracer, which triggers the motion through a rod, or a series of linkages. The size and shape of the automaton, and the depth of the function to be performed, determine the number of linkages that are required. The nodding of a head may require only two linkages from the cam-rider, the winking of an eyelid may call for four, and the movement of a finger may need seven.

Some of the more complicated

automata make use of "cams within cams". In order to perform a series of acts, there would be sets of several cams each, rotating on shafts geared from larger "master" cams. This, of course, required great drive power, and very few were made. The finished products were naturally very expensive.

The task of packing the cams and their associated mechanism into a base, or of fitting the linkages into a humanoid or animal form, is not a simple matter. Usually *plaque d'animation* was necessary. This would be a metal plate located within the torso, upon or through which all linkages passed. The plate often held springs which "loaded" the movements of the figure.

In addition, the automaton craftsman had to know the craft of doll-making. He had to know the human form like a painter knows the sky. Sculpting was part of his job. He had to mould plaster-composition heads, and sometimes he would have to fire heads of bisque, as well. And the visage had to be perfect! Finally, and only after everything was complete, the dress-maker's art was exercised. Soft satin gowns billowed stylishly about the boudoir's powderlady and the smoking dandy sported a velvet suit-coat.

This procedure was particularly the task of those who made automata through the 1800's. Paris slowly became the center for automaton-making as the makers recognized their market. While royal patrons and aristocrats were losing their hold, the well-heeled, rising bourgeoisie were spending huge sums of money on anything unusual but refined. And this money was spent in Paris, the world centre for culture and decadence.

Makers of the 1800's, such as Renou, Phalibois, and Dehais, used wooden cams, and resorted to producing the delicate, smaller-style automata, sometimes with bisque heads, which could easily be displayed in the homes of the wealthy.

Domed pieces were popular, and a variety of automata stood on wooden bases, under glass domes, with pull-strings to the side for winding. The base often contained a small cylinder musical movement, usually of two tunes. Phalibois and Renou were adept at producing this style of automata.

J Phalibois

However, we have so far found only one patent for J Phalibois,

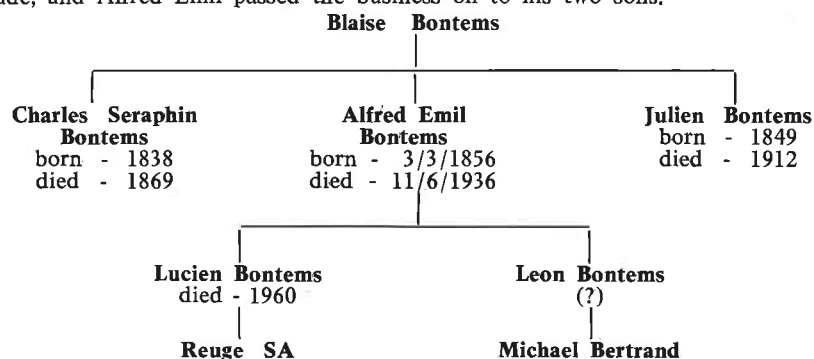
The Bontems firm was founded in 1849.

Clement Lemenil Bontems (1811-1890).

His exact relationship to the other Bontems is uncertain. May have been father of:

Blaise Bontems

In his prime during 1850's thru 1870's. He produced some of their most ingenious pieces, as well as three sons that we know of as follows. Each son worked in the trade, and Alfred Emil passed the business on to his two sons.



which he took out in 1887. This is for a humorous "Clown a la Mouche", which really borders upon the mechanical picture category. It is of a clown's head and right arm protruding from a tambourine. The clown has a fly on his nose, and is making a vulgar gesture. It has been proposed that Phalibois wryly adopted this portrait as a symbol for his business! An example is found in the New York collection of Murtoth D Guinness, who says: "The clown holds its thumb to its nose and moves its four fingers up and down . . . As well as the hand movement, the tongue protrudes, and withdraws, and the eyes move up and down, one being up when the other is down, which gives it an amusing expression".¹⁰

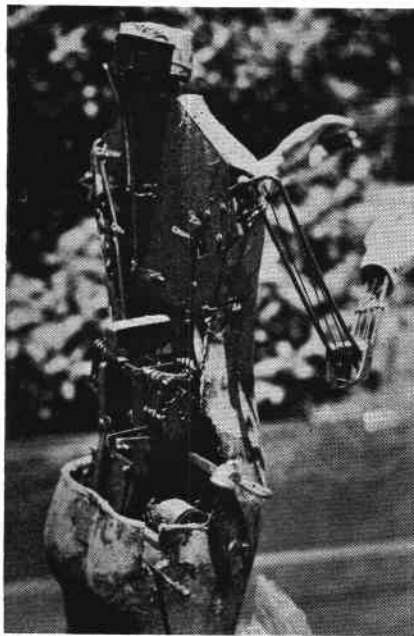
Monkey Business

Monkeys dressed in aristocratic clothing were an all-time favourite during the 1800's. Many varieties of these were made, and the growing middle class took great delight in comparing these androids to the leading regal figures that were passing from power. Eventually, when Charles Darwin's theory of "monkey to man" appeared in contemporary journals, it spurred renewed interest in the already-sophisticated craft of making mechanical monkeys. Parisian maker Alexander Nicholas Theroude was prolific at producing these furry primates.

In our father's collection is a regally-dressed monkey, under-dome, that continually saws on a log of wood while the music plays. He turns his head and opens his mouth, as if cursing the fact that he can't cut through. Numerous political connotations could have been derived from such a piece.

Monkeys were also made for the musical clearing house of Thibouville - Lamy, who incorporated "monkey - theatres" into their smaller barrel organs. The theatres usually stood about three feet high and two feet wide, and had additional provision for carrying about. The bottom half was an inlaid case containing the bellows, barrel and pipes, and above was set the "stage" — complete with walls and a peaked roof. The interior was decorated like a parlor of the day, and in the centre sat two or three monkey musicians, each playing a different stringed instrument, and each with a separate music stand.

Novel variations were conceived, all with monkeys activated from wooden cams rotating on a rod connected to the drive train in the



Mechanical Harpist, Vichy, late 1800s, showing typical acorn stop/start lever, two separate sets of cams either side of the spring barrel and the plaque d'animation. Hoone collection.

barrel organ. The barrels were pinned with several musical arrangements, which played while the monkeys wildly moved their arms, tapped their feet, turned their heads, opened their mouths, and so on. One, in the collection of member William Nevard, depicts a death-bed scene complete with four-poster, monkey-priest, monkey-widow, and a *very* alive patient!

A source of confusion to present-day researchers has been that these monkeys, as well as the humanoid automata, were often dressed in styles of a slightly earlier period. Automaton-pieces are sometimes thus thought to be older than they are.

In an attempt to shed some light on the dates of manufacture, Jere Ryder has painstakingly searched in Paris for the patents of various makers who existed between 1836 and 1911. The result is the accompanying chart, with patent dates and addresses. Needless to say, the patents themselves are very interesting, and will form the basis for some future writings.

The Workshop of Vichy

The most artistic maker of automata in the 19th Century was probably Gustave Pierre Vichy, who reached the peak of his production in the 1860's and 70's. His pieces are recognized for expressive faces, graceful form, and well-built mechanisms.

Vichy built a wide variety of humanoid automata, usually accompanied by music. Among the

most desirable were harpists and flautists (in which the fingers were articulated), and acrobats that stood first on two hands and then one. Vichy managed to eliminate the cumbersome base by embodying the entire mechanism, including the music, within the human form. And when this was impractical, he would build the base into the larger tableau. For example, "The Peasant and the Pig", found in our family's collection, conceals the mechanism in a chair and the top rung on which the man rests. The linkages travel up through the back of the chair.

Vichy's trademark, and that of his successors, is an acorn-shaped knob for stop/start. His heads were usually of plaster composition, delicately formed and painted to reproduce faithfully the true facial characteristics of a man. The construction of the head itself was a task, and the linkages within sometimes outnumbered those in the rest of the body. Moving eyelids and lips required specially treated kidskin that could be painted yet not become brittle with age. The head had to turn, and sometimes nod, while its features were still moving, and all without mechanical noises or jerking.

A book could be written on Vichy, the varieties of automata he built, and the philosophies which underlie his work. However, space precludes any desire to digress. Suffice to say he was in every way a master of his art.

Gustave Pierre was accompanied and possibly succeeded by Henry Vichy. Their exact relationship is not known to us. Henry rarely left a conclusive mark, and his pieces are only identifiable, when at all, by nuance of style. The Vichys were succeeded in turn by A Triboulet, who reduced the size of the automata so they were more compact. Triboulet later bought the workshop of Lambert, referred to further on.

Both the Vichys and Triboulet displayed their pieces at contemporary expositions. Documents have been preserved which picture the pieces at exhibition and provide descriptions of their actions. These bear the trade-mark of the Vichy firm: a moon-faced dandy with top-hat and monocle.

The business was carried on after Triboulet's death by his widow and a Mr Guimbertaud. Later, it was acquired by a Daniel Accursi, who re-named the workshop 'JAF' (Jouets Automatique Francaise).

Accursi's apprentice, Michel

Bertrand, was to become the successor. Bertrand spent the major part of his life working in the Parisian studio, learning every facet of the nearly-forgotten art. He finally bought the firm, and then spent over four years restoring the collection of about one hundred automata now on display in the National Museum of Monaco, Monte Carlo.

Having demonstrated his accomplishments, Michel Bertrand has since moved his workshop to the cradle of the musical box industry, in the Canton of Vaud near Ste Croix. Tucked away in the Jura Mountains, overlooking Lake Neuchatel, he today hand-crafts exquisite animated figures in the style, and in the former workshop, of Vichy. Jere Ryder has worked with him, and can attest to the discipline and care which is taken in his work.

Lambert

Another Parisian workshop of the late 1800's was that of Leopold Lambert, who made a smaller style automaton or mechanical doll in many different types. Lambert's signature was (not always) a metal key with the initials 'LB'. Until recently, researchers wrongly thought this stood for "Lucien Bontems".

Probably Lambert's most popular pieces were (a) Smoking Gentlemen, (b) Conjurers playing the "cup game", and (c) Powder Ladies in the Boudoir. This we deduce by his production, but he made an infinite variety of styles and types — many with bisque heads and some with composition ones. The figures which boast signed *Tete Jumeau* heads are considered very desirable. And nearly all had music.

Roulet - Decamps

Yet another workshop made animated figures during the same period — that of Decamps — which, through inter-marriage, became Roulet-Decamps. This firm has been presided over by a Decamps since before the turn of the century, beginning with Ernest Decamps, his father-in-law Jean Roulet, and son Gaston Decamps.

The Decamps are known for their animals — not to be mistaken with mere "toys" — as much as their animated humanoids. They devised musical, furred rabbits which popped from within cabbages, walking camels (one hump, or two?), and a great variety of clever, animated figures. One device, made in collaboration with an electronics expert, was a

life-sized man who stood, sat down, and turned realistically. He was part of a play given at the Grand Opera in Paris, and through the use of ventriloquism, the audience believed him to be one of the actors. Then, as the finale, the poor man exploded! The audience was aghast, but the piece was rigged to be reassembled for every performance. The Decamps firm eventually passed into making animated window displays, and survived until very recently.

What Does the Future Hold?

It is rather sad that certain firms, including ones we have not mentioned, slid from making these artistic works of the 1800's, to producing crude advertising machines for store windows. Yet others refused to shift their priorities from delicacy to durability, and simply went out of business.

The intricate works of Jaquet-Droz and Leschot would have been considered as impractical luxuries in the late 1800's, but they set the foundation for later makers. In turn, the Parisian makers excelled at their own work. And though the temptation to appeal to a larger market became great, there remain those today who continue to imitate them. Their works are of superlative quality, and they appeal to a very select few, but these specialists do not go unrecognized. They are makers and restorers like Michel Bertrand and Jere Ryder.

Even so, from old ideas come new ideas. David Secrett has made a working archer and mandolin-player using strings for the linkage. The system itself is akin to that used by the Takeda family for their "Kurakuri" automaton show in Japan in the early 1700's, and that used for tiny rope dancers under-dome in the mid-1800's. With carved wooden heads and arms, sporting medieval clothing, the archer reaches into a turnstile, lifts and sets an arrow into his bow, and shoots it for quite a distance! Secrett's musician is just as intriguing, and, anticipating the natural curiosity of onlookers, he has built a removable wooden sleeve around the base of each piece, so that after (or during) the performance, the audience may inspect the mechanism.

Meanwhile, Jere Ryder has built a "Monkey Violinist" under-dome, which, like the old ones, taps his foot, moves his bow across, up and down, turns his head, nods, opens his mouth, and so on, while the music plays.

The most ambitious approach

to creating animated androids in the recent past is of a very different kind. It is in the studios established by Walt Disney Productions. Through the use of electric sensing devices (much like a lie-detector) and a scanner, they record the ambulatory movements of a human they seek to imitate. Then, after a piece is built, they can make it go through the same gyrations any number of times by playing back the tape. Unfortunately, their figures have not been mechanically intricate enough to follow more than a few rudimentary functions, but the theory behind the system lends itself to expansion, although the necessary stimulus is unlikely to be a commercial proposition.

Who knows what the future will hold? The human imagination is limitless, and when applied to automata, "It is, to laugh!"

Books and References

The most authoritative reference books on the topic of automata are by Prof Alfred Chapuis and his associates. In their early research they trod ground which we can no longer cover, and their books were a constant reference in the writing of this article. Anyone seriously interested in automata should have a copy of *Le Monde des Automates* by Chapuis and Gelis (2 vols, Paris, 1928) and *Les Automates* by Chapuis and Droz (Neuchatel, 1949). These books are hard to find, but well worth the effort. *Les Automates* was also printed in English in 1958, by B T Batsford Ltd. A film, *Le Monde des Automates*, was made after the first book, but copies are so scarce as to be unobtainable. One copy was viewed at a recent meeting of the French Musical Box Society. In addition, Chapuis' book, *L'Histoire de La Boite a Musique*, makes some mention of automata. There is a movement in the United States to have this book translated and published for the English-speaking market. If this is done, a reprint of *Les Automates* would make a tidy follow-up.

Court documents, patents, museum pamphlets and contemporary advertisements form the large part of our research, but there is very little that is widely available. The only book easily obtainable in English on the topic is Mary Hillier's recent writing, *Automata and Mechanical Toys* (1976, Jupiter Books), which is inexpensive, non-technical and easy-to-read. Two other books in French, *Les Automates* (sic) by Jean Prasteau (Librarie Gründ,

Paris, 1968) and *Les Automates* by A B C Decor (Paris, 1972) focus more on the topic-at-hand.

We have much original documentation and would be pleased to hear from anyone who has questions, ideas to relate, or more information. We photograph and take notes on pieces which are dissembled in our workshop, and might be able to shed some light on specific things which this article has only been able to touch upon.

Write: Jere and Steve Ryder, AutaMusique Ltd, 2 Kent Place Boulevard, Summit, New Jersey 07901, USA.

Author's Footnotes . . .

¹The *wayang*, or *wajang*, originally came from Java, and is used throughout Indonesia. It is a shadow puppet play used to depict legends and epics of the culture. Cast at night behind a silk screen with coconut oil lamps flickering further behind, jointed figures are manipulated by the *dalang*, or puppeteer, for 10 or more hours. The puppet figures are made of treated, colourfully decorated and delicately cut bulls' hide. They are jointed in various spots, and the arms of the figures are traditionally larger by proportion, so that animated expression can be added.

According to one recent observer (David Andelman, *New York Times*, March 4, 1977 p48), "He sometimes manipulates as many as 400 different puppets that are passed to him by assistants. He directs an orchestra of drums, xylophones and gongs, using a wooden knocker grasped between his toes. He delivers a constant stream of ad-libbed repartee, chants, dialogue in the different voices of each character and at the same time threads his way through a complex story line, with asides and wisecracks."

The *dalangs* themselves are revered in the villages, and their art is handed down from father-to-son. In recent times, political forces on the islands have seen the advantage of these plays for promotion, and have attempted to persuade the *dalangs* to add little "messages" to their plays. But the art of the *wayang* remains an honorable and most labourious profession.

There are actually three forms of *wayang* play: (a) the *wajang kulit*, the most popular, is described above; (b) the *wajang golek*, which uses carved wooden dolls in bright costumes instead of flat leather figures, and (c) the *wajang orang* (literally "man"), in which humans act out the parts.

²Puppets received the name *marionettes* in the Middle Ages. Used in Church plays, the girl puppets received, from their fancied similarity to statues of the Virgin, the endearing title of "Little Marias"—or "marionettes". Though string- or stick-operated, marionettes are presented quite differently in the Orient than in the West. The doll theatre in Osaka, Japan, is the oldest marionette theatre in the world. Its puppets are finely carved, richly clothed wooden dolls about three feet in height, and, unlike Italian marionettes, they are not dangled on wires controlled from above, but are openly carried onto the

NOTABLE PARISIAN MAKERS OF AUTOMATA 1836 to 1911

Showing year of recorded French patents

| | |
|---|---|
| (1) Bontems, Blaise 72, rue de Clery | "Mecanicien a Paris", Founded business 1849. Pat. 1857, 1858, 1863, 1868, 1873. |
| (2) Bontems, Alfred Emil 3, rue de Mülhouse | (son of Blaise) born 3.3.1856, died 11.6.1936. |
| (3) Bontems, Charles Seraphin | (son of Blaise) born 1838, died 1869. |
| (4) Bontems, Lucien | (son of Alfred Emil) died 1960. |
| (5) Bontems, Leon | (son of Alfred Emil) |
| (6) Dehais 19, rue Montmorency | Founded in 1836. |
| (7) Verger 19, rue Montmorency | Suc'r to Dehais. |
| (8) Renou, L 19, rue Montmorency | Nephew & Suc'r to Verger. |
| (9) Rouillet, Jean | see (10) and (12) below for address. |
| (10) Decamps, Henri Ernest | Pat. 1882. |
| (11) Rouillet, Jean et Decamps, Ernest 10, rue du Parc Royal | "Fabricants des jouets mecaniques" Pat. 1886, 1886. |
| (12) Rouillet et E Decamps (Societe) 10, rue du Parc Royal and 14 rue des Minimes | Pat. 1905, 1906. |
| (13) Decamps, Gaston | Pat. 1911. |
| (14) Decamps, Mme Henriette Neé Rouillet | Pat. 1911. |
| (15) Theroude, Alexandre Nicolas 14, rue Montmorency 5, rue Montmorency 3 and 5, rue Montmorency | "Fabricant de jouets d'enfants" Pat. 1845, 1846, 1847, 1848, 1852, 1853. Pat. 1854, 1855, 1856, 1857, 1858, 1862, 1864, 1866. Pat. 1854, 1862, 1869, 1872. |
| (16) Theroude, Adolp "(pere)" | Pat. 1890. |
| (17) Vichy, Antoine Michel Marie 59, Faubourg du Temple | "Horloger Mecanicien, Fabricant de jouets mecaniques". Pat. 1858. |
| (18) Vichy, Gustav Pierre 36, rue Montmorency | "Mecanicien, Horloger" (founded in 1863). Pat. 1862, 1870, 1873. |
| (19) Vichy, Henry | Pat. 1895, 1895. |
| (20) Lambert, Leopold 13, rue Portefoin | Pat. 1894. |
| (21) Lambert, Leon | Pat. 1910. |
| (22) Phalibois, Jean Marie 22, rue Chalot | Pat. 1887. Later Henri Phalibois at same address. |
| (23) Desrosiers, Theophile | "Fabricant de tableaux mecaniques a Paris". Pat. 1865. |
| (24) Steiner, Nicolas-Jules 16, rue de Poitou | "Horloger". Pat. 1855, 1867. |

scene, each by four puppeteers. One of these merely holds the doll, while the others manipulate the strings that control the head, arms and feet. (*The Puppets are Stealing the Show*, Reader's Digest, January 1936.)

³The concept of setting machine versus man in a game of chess has found new ground with the advent of integrated circuits. Miniaturized computer chess games are now being sold through American department stores for home-use. The games are adjustable to several levels of chess "intelligence" depending upon the skill of the opponent, and the games, some of which retail for under \$200 (£100), are seldom beaten in play. On a more sophisticated level, David Levy, a 32-year-old British international chess master, will this year lock wits with a computer program called "Chess 5.0", developed by David J Slate of Northwestern University in Evanston, Illinois. "Chess 5.0" uses a Control Data Cyber 176 computer and gives a read-out of the moves it makes. In 1968, the London-based Levy bet a group of computer experts £1,250 that in the following decade no chess-playing computer could beat him. Levy plans to collect his money in

August at the Canadian National Exposition in Toronto.

⁴Professor Edmond Droz is perhaps the world's leading authority on various automata, particularly those of Jaquet-Droz. A Professor at the Ecole de Mécanique de Neuchâtel, he collaborated with Alfred Chapuis in the writing of the major reference work, *Les Automates*, and in a number of smaller works. Together they researched the three androids on exhibit in Neuchâtel, and Edmond Droz is known the world over as their curator, having even taken them to demonstrate in the US. He is also regarded as an authority in the worlds of horology and electrical devices. In 1961, Professor Droz became an honorary member of the Musical Box Society International.

⁵Quote of Beireis, *Les Automates*, by Chapuis and Droz, page 234.

⁶Ibid, page 236.

⁷Peter Carl Fabergé, *His Life and Work*, Batsford Ltd. London, 1949.

⁸Collecting Musical Boxes and How to Repair Them, London, 1967, page 58.

⁹Journal of the Peking Museum, Simon Harcourt-Smith.

¹⁰Silver Anniversary Collection, Musical Box Society International, pages 848-849.

World Digest

MBSI Bulletin

(c) Musical Box Society International *Bulletin*, vol XXIII, number 3 - Autumn 1977. Two issues ago there was a detailed article on Dr Cecil Nixon's paradoxical automaton Isis. Howard Fitch now summarises further information which has come to light. J E Blyelle-Horngacher describes the unusual musical movement in a Paris-made comb-playing musical clock by Meuron. Jere and Steven Ryder describe four automata by Vichy with illustrations. Pierre Germain completes his research into the Lecoultries with an examination of the work of Francois-Charles, Henri-Samuel, Charles-Philippe and Charles-Francois. The involvements with Falconnet, Aubert, Capt, Golay, Audemar, the Billons and so on are outlined. A catalogue of a New York piano roll company, E T Paull, is reproduced. Helen Fitch writes on the Mentmore Towers' orange tree automaton and George Worswick describes some names he found stamped on the intercostal discs inside musical box cylinders. A long-lost Welte orchestration is remembered and Edward Hattrup describes the snare drum reiterating mechanism used by Welte orchestrations. James Spriggs suggests that musical box discs can be copied onto blueprint paper (the Editor of *The Music Box* successfully "lofted" Stella discs onto photo-sensitised sheet steel, an application of a common aircraft design practice, some 24 years ago). John Hoeltzel relates how easy it is to read music on a disc and visualises for us some standard embellishments. The World's Fair, staged in St Louis in 1904, is remembered with a Regina Company's exhibition blurb followed by a similar essay for the Aeolian Company's Pipe-Organ complete with illustrations. A Criterion advertisement and one for Roth and Engelhardt's player pianos is followed by the words to Arthur Lloyd's ballad *The Organ Grinder* made famous at Almark's Theatre in the early 1860's

PPG Bulletin

(d) Player Piano Group *Bulletin* No 67, October 1977. Some space is devoted to a disagreement between the PPG and its Founder, Frank Holland (later resolved — Ed.) and advice is given of the Group's AGM, and a report on the Purcell Room concert last April. Social meeting reports are followed by an appreciation by Dan Wilson of Frederick H Evans, one-time bookseller, renowned architectural photographer — and enthusiastic pianolist. But Evans really made his name, as far as we are concerned, by his extraordinary collection of 1,500 piano rolls, punched on a home-made machine, and largely of 18th century music. Neville Coombs contributes a technical article on the use of ex-aircraft pressure gauges for work on Due-Art actions. *Bulletin* No 68, January 1978. Editor Roger Buckley announces with regret that this must be his last issue due to pressure of his other work. Gordon Iles of the Ramsgate-based Artona roll company writes describing the circumstances by which he took over the old Universal Music Company. Robert Good, who worked with Reginald

Reynolds at the Aeolian Company and later at Harrods, is now 78 and is interviewed. Sharp reminiscences of the Aeolian Hall and its layout combine with descriptions of roll concerts and pianola lessons. The article on how the player piano won the war, first published in Vol 7 of *The Music Box*, is reprinted by arrangement. Robin Cherry's visit to the Mekanisk Musik Museum in Copenhagen is described and two pages of a guide to the care of a pianoforte are reprinted.

FOPS The Key Frame

(e) Fair Organ Preservation Society *The Key Frame*, Winter 1978. An

account of methods of treating wood-worm infestation is given by Brian Blockley after which there is a translation of a recent article on our member Peter Schuknecht of Hannover. An introductory-type article on musical boxes follows. Editor A C Pilmer provides a biographical story of Imhof and Mukle.

GDFMM Das Mech. Mus.

(f) Gesellschaft der Freunde Mechanischer Musikinstrumente *Das Mechanische Musikinstrument*, number 9, October 1977. Pictures of the Hupfeld factory workshops and the family home
continued on page 280

Technical Topics

Orchestrelle valves

THE valve chamber of an Orchestrelle Model V 1903 I had to check was in such a frightful condition that a total replacement of all the valve components was necessary.

Not only had moth eaten the valve facings, but verdigris had attacked the brass stem rods to make the valve unadjustable and some actually snapped off on being touched.

The valve stems I made from $\frac{1}{16}$ in brass wire $4\frac{1}{2}$ in long as the originals. One end was tapped 8BA thread for about 1in, and the other end about $\frac{1}{4}$ in for the pouch button. I noticed that the valve opening was $\frac{1}{8}$ in, and the original valves sat over this by scarcely 1mm seat. As there was a slight play in the stems, the chances of having a 100% seal seemed very remote.

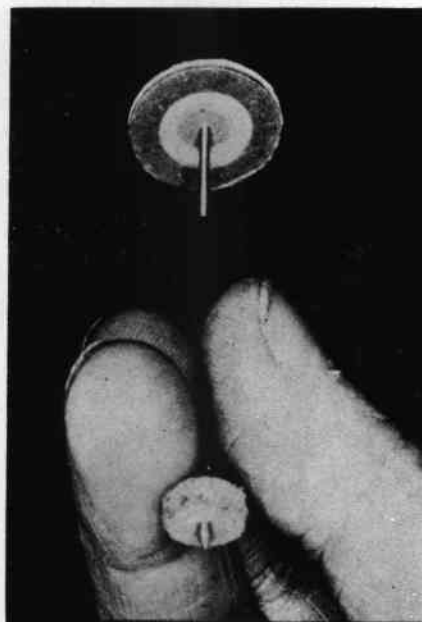
Thinking I would improve on the sealing, I made up some larger valves $\frac{1}{4}$ in across from fibre board and faced with thin calf leather. This certainly made a better seal of at least $\frac{1}{4}$ in all round. Unfortunately this increased the total weight of the whole valve double unit from 4gms to 4.4gms. The pouches were then unable to raise the extra weight I found to my dismay. (Remember the Orchestrelles only work on about 4 to 5in pressure). Not only that, the pouches had to push the valve unit with a larger surface area against the air pressure above. Actually I had increased it from about 256 sq mm to almost double at 460 sq mm. No wonder the pouches struggled in vain to shove against that lot!

In the end I made up a third set of valves after still finding no satisfaction with a second set of smaller ones $\frac{25}{32}$ in. The compromised solution utilised a standard $\frac{1}{4}$ in fibre washer which was glued onto a sheet of thin calf leather about $\frac{1}{16}$ in thick. In the centre of each one I then placed a small

round piece of fibre board $\frac{1}{32}$ in thick $\frac{1}{4}$ in round. As the centre hole of the outer fibre washer was $\frac{1}{4}$ in round, this left a nice "floating" area between as shown. The total weight was now down to 4.1gms, only .1g above the original. Not only that, the valve now had a $\frac{1}{4}$ in seating all around, and because of its "floating" periphery, it would seat perfectly even if it was slightly out of line.

The original valves must have been perfectly made from a solid piece to seat exactly, obviously with special punches and centre threads not usually available to amateurs like me. True, the surface area of the valve is larger (down to about 375sq mm with a little sanding), but the lightness is nearly restored. With a gap of $\frac{1}{16}$ in, the valves are quite responsive to 5in, but there again I used preformed Perflex pouches from America which are a lot thinner and more airtight than the original tan pouch leather.

GEOFF WORRALL



Devon Regional Meeting

THE Winter regional meeting of the Musical Box Society of Great Britain was held at the Manor House Hotel, Mortonhamstead, Devon, on Friday, Saturday and Sunday, March 10th - 12th, 1978.

After severe weather which had brought the worst snows to Devon for many years, followed by heavy flooding, less than three weeks prior to the meeting most of Devonshire had been impassable. Happily for us, most of the snow had gone by the time we arrived, leaving in its wake a havoc of flattened greenhouses and barns, splintered trees and, from the snow-clearing machinery, battered, pock-marked roads.

Our arrival at the hotel was not without incident. While our American contingent — 13 in all and led by veteran European MBS campaigner and MBSOGB Vice President Hughes Ryder — had chartered their own coach for the 15-mile journey from Exeter (St David's) railway station to the hotel, our own hired bus proved unequal to the challenge of the steep hills and the clutch packed in while negotiating a narrow pass out in the wilderness. Driver Ron, with rich Devonshire accent and commendable presence of mind,

commandeered a truck which was attempting unsuccessfully, to pass, secured a line betwixt vehicles and so took the strain so that he could knock the bus out of gear. After much delay and cunning, the coach managed to re-start in gear and complete the journey clutchless — a formidable feat in view of the terrain which would have probably challenged a tank. The trip was concluded by swinging off the narrow road and through the narrow entrance gates to the hotel with a clearance which would have made a new tooth in a comb twangable.

This was just one of a number of potential problems which posed a headache for the organising committee, but all finally went off well for the meeting which was arranged by Robert Hough of Chudleigh, Ron Todd of Exeter and Jim Fox of Exton.

The Friday evening was spent convivially in the hotel lounge with Robert Hough showing some of his more portable items. Steve Ryder, who had come all the way from New Jersey in company with two very large, heavy cardboard boxes, unpacked them to reveal a new dancing couple automaton created in the best of old tradi-

tions by his talented younger brother, Jere, and the Porter 15½in disc musical box which is an exact replica of the short-bedplate Regina. Making its European debut, this outstanding instrument was able to be compared with an original Regina which Robert Hough had on show. Members admired the outstanding finish and the tonal excellence of this piece for which Steve and Jere Ryder hold the European agency.

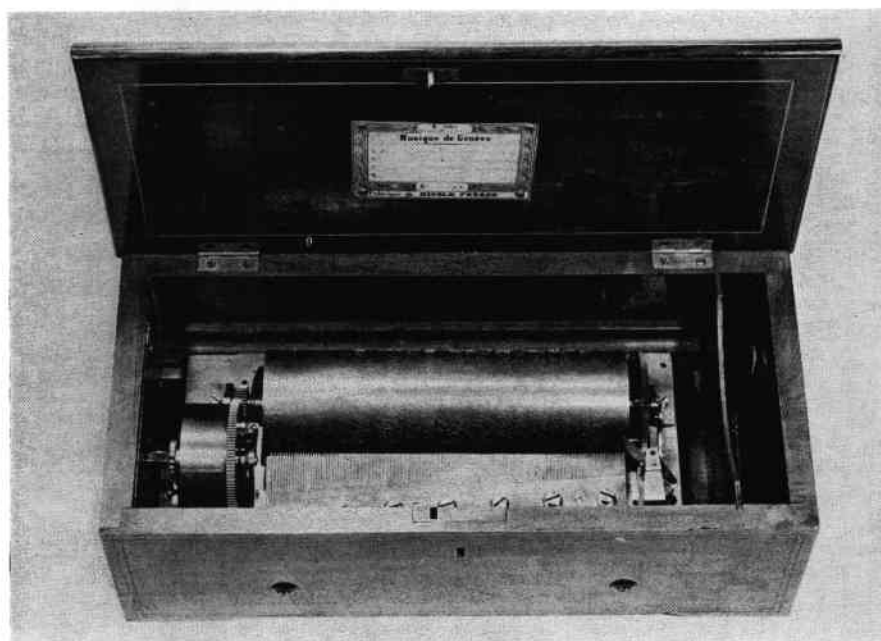
The Saturday morning opened with registration at 9.0 after which President Ord - Hume officially opened the meeting and welcomed the members and guests. First speaker was Steven Ryder whose talk, entitled *Animated Androids*, described with the aid of slides the history and development of automata. His talk formed the basis of an extensive paper on this subject beginning on page XX.

After the coffee interval, the second speaker was Douglas Berryman who founded the West Cornwall Museum of Mechanical Music, now re-named World of Mechanical Music. He spoke on the problems involved in operating a museum open to the public and described how running the enterprise had in many ways succeeded in frustrating his original goal of restoring instruments as well as showing pieces. He outlined the economics of the museum business and said that he had been forced to conclude that in the long run it was entertainment he had to provide rather than the erudition of a museum. His sober realisation that museum operation was no sinecure nor permanent way of life created a lively discussion and justified the title of his talk — *From Restoration to Restoration* — a paradox in that the museum had been intended as a means to enable him to carry out restoration: this had proved impossible, so now he was scaling down the operation to allow that vital aspect room for development.

Immediately after lunch, we boarded the coach — with slight misgivings for it was the same one which had let us down the previous evening — to drive to a village near Newton Abbot to see and hear a little-known church barrel organ. The journey, the scenic route across the wilds of Dartmoor, was very long and taxed the aged bus to the limit, but afforded

continued on page 284

Nicole Tripleture . . .



Many of the early top quality overture musical boxes played just three airs. This one, Nicole Freres 24538, Gamme number 512, is particularly worthy of attention. Note the extremely fine comb and the handsome proportions of a mechanism which fills the case with the minimum of furniture.

Introducing THE PORTER MUSIC BOX



Hand-Crafted in Randolph, Vermont,
by Dwight G. Porter

The Porter Music Box is an exact replica of the antique 15½in Regina, but the sound is *better*. Each Porter plays two, 78-note combs, precisely tuned to encompass over five octaves. The combs are made right in New England, composed of a metal alloy that was unattainable in the old days. And, with over 150 teeth, it has greater harmonic range than your piano !

Music is played from new 15½in copper-plated discs, stencilled with the tune titles, and beautifully polished and lacquer-finished. A large selection of discs are available, with arrangements both modern and old, because Dwight Porter makes them himself ! Both the box and the discs are thoroughly tested before leaving the workshop.

The case, and disc-storage cabinet, are custom-made by a craftsman with over forty years' experience. Only the highest quality mahogany is used, finished with five coats of hand-rubbed lacquer, inlaid with white holly, black ebony, tulip wood and burl.

The Porter is a musical centrepiece that combines the best qualities of Old World craftsmanship in a truly beautiful example of American furniture. It is a museum-quality musical box, worthy of being handed down from generation to generation, with the same reverence for **QUALITY**, with which it was made. The Porter is also a rarity: less than fifty are in existence, and nearly all of those in America !

The Porter is made-to-order, and the boxes are consecutively numbered. The names of proud owners are available upon request. For more literature and price list, please contact: —

JERE & STEVE RYDER

(EUROPEAN AGENTS — PORTER MUSIC BOX)

c/o AUTAMUSIQUE, LTD

2 KENT PLACE BLVD

SUMMIT, NJ 07901 USA

Book Reviews

THE MUSICAL CLOCK by Claude B Reeve. Model and Allied Publications Argus Books, Kings Langley. 125pp, 9½ins (248mm) by 6½ins (158mm), illustrated. £4.25.

A work devoted to the amateur construction of a three-train spring-driven musical clock must be among the upper echelon of projects to be tackled by the advanced model engineer who has access to a 2½in lathe and related workshop equipment. Claude Reeve's little book is set to fill that bill and the first thing one finds about it is eminently practical and clear working drawings of every part. For the novice clock-maker, the ability to advance page by page through sequences of parts is a surefire way to maintain interest in the otherwise daunting task.

The design of clock selected is linear making for ease of construction and reliability of operation at the slight expense of depth.

Naturally it is the description of the musicwork which concerns us here. With eight bells for chiming and 10 for the melody, all with one hammer per bell, the arrangements tend towards the simple and basic. Instructions for pinning the tunes, with drawings, are compressed into four pages with the somewhat arbitrary preamble: "With a set of 10 bells there is quite a choice of tunes, but this range will not cover all tunes." The next sentence begins: "Assuming the four tunes have been chosen . . ." No guide is given as to the tunes which the novice might be able to play, or, more particularly, those he should not attempt. Mears & Stainbank are listed as suppliers: one wonders how many people will write in to order "a set of ten bells for my musical clock!"

In the hands of the musically intelligent experimenter, this book and its subject will provide interesting reading — and hours of practical workshop activity. Even with so short a book, an index would have enhanced its usefulness. A O-H

MECHANICAL TIN TOYS IN COLOUR by Arno Weltens. Blandford Press, Dorset. 176pp, 7½ins (198mm) by 5½ins (140mm), extensively illustrated, some in colour. £4.25.

This is a splendid pocket-sized book which, while majoring on

toys, has some interest to collectors of automata since some of the makers were one and the same. A most useful list of makers with biographical details and reproductions of trade-marks, together with a good bibliography and index, will make this book a useful addition to the library. There is even a picture of the Mickey Mouse barrel-organist which must be among the most sought-after of tin automata today. A O-H

VETERAN TALKING MACHINES by Brian Jewell. Midas Books, Tunbridge Wells, Kent. 128pp, 8ins (203mm) by 8½ins (210mm), extensively illustrated, £3.25.

There are many who consider that the phonograph and gramophone are both instruments of mechanical music. They are not and never have been. But the fact remains that many of the makers of mechanical instruments moved into the then up-coming world of talking machines. Paillard was one, Nicole Freres was another, albeit unsuccessfully so. And so a work which sets out to list the brand names in the burgeoning world of the talking machine must of necessity include much that will be of interest to the musical box buff.

Brian Jewell's work comprises a brief history of the instrument, reproductions of contemporary advertising material ("List of Plates now ready for the GRAMOPHONE" says an early Parkins & Gotto notice which cannot have been so long after they stopped selling quality cylinder boxes), and a compendium of trade names and inventors with pictures, where possible, of their products.

The preparation of this sort of work requires endless research and no listing can ever hope to be either complete or devoid of errors. Sadly, though, this list is sprinkled with so many very obvious errors, many simply careless ones, that one is left with the feeling that here is a great idea for a book which hasn't quite come off. To illustrate my criticism, the Angelus gramophone is described as German, the Apollo as of Continental origin (both are American), Paul Lochmann is described as the inventor of the "polyphon" in collaboration with "Elias" Parr (!) and so on. And Ullmann is missed altogether.

It would have been that much more interesting if the involvement of Carl Lindström and his many brand names had been spelled out

(many are listed but not corrected), and the licensing of the Starkton record system emphasised. It is hoped that this section, even with its shortcomings, a valuable attempt, will be improved and expanded in the second edition along with the removal of the spelling errors.

Phonograph fans will, however, appreciate the conspectus of 201 models classified as to external or internal horn, cylinder or disc and so on. This is, potentially, a good book and will be of interest to those who wish to chart the decline of the musical box in the face of Mr Edison's invention. Or was it Charles Cros? A O-H

A TREATISE ON THE ART OF PIANOFORTE CONSTRUCTION by Samuel Wolfenden. Unwin Brothers, Surrey. 274pp, 9½ins (234mm) by 6½ins (156mm), illustrations in text. £6.20 (soft covers).

THE MODERN PIANO by Lawrence M Nalder. Unwin Brothers, Surrey. 192pp, 9½ins (234mm) by 6½ins (156mm), many illustrations in text. £7 (soft covers), £10 (casebound).

The first is a lithographic reprint of the 1916 edition, the second a similar treatment of the 1927 original. Both are classics in the field of pianoforte design and construction and as such are important to those who attempt restoration. Wolfenden's work is of particular rarity and has always been sought after by technicians and collectors alike. Here it comes in one volume complete with the 1927 supplement. Reprinted from a copy in the British Piano Museum it comes complete with a preface penned by museum founder Frank Holland.

Frank Holland also provides the preface to Nalder's book which, happily, has been sized up from its original small paper - back shape and so conforms with Wolfenden.

Here are two excellent and respected technical works aimed at the serious piano technician. Both are excellent reference books. A O-H

● Member H A V Bulleid published a railway biography of his father, *Bulleid of the Southern*, last February (Ian Allan, £5.95). It is mainly about steam engines. His semi-serious book on industrial management, *Brief Cases*, was published in November (Mechanical Engineering Publications, £2.00). It illuminates many problems, and even solves a few.

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Letters to the Editor

Diversify to survive

Sidney Ripley writes from Eastbourne, Sussex:

FIRST I should like to thank you and the whole Committee for all the hard work you do so willingly. To receive a magazine such as you produce regularly four times a year, for the subscription which members pay, is indeed a triumph in these inflationary times.

Your editorial in the Autumn issue (page 101) was timely. There is a danger in a society such as ours for the younger members to be forced out owing to ever increasing prices of the very fine instruments that have brought us all together.

Editor's comment: *It is for this reason that I would like to consider diversification within our field of interest to maintain interest particularly for the new and less fortunately placed members. By diversification, I am not contemplating typewriters, early radio and the like, but related aspects of mechanical musical instruments and their collecting. Two which at once spring to mind are tape-recording (the subject of an up-coming feature) and photography. Both are facets of musical box collecting and appreciation which are, by many, little understood and both could be a fascinating way of extending a collection. Another extension could be into music rolls, early advertising literature and ephemera and contemporary references. Any member with ideas on this matter are invited to write in.*

Markings identified?

Jere Ryder writes from Summit, New Jersey:

IN THE latest issue of *The Music Box*, Vol 8, No 4, Mr J L Wright mentions an automaton which he had received for restoration.

Amazingly, at that same time, I also had received an automaton for repairs, which I think is very similar to the one he described. The main difference I can detect is that Mr Wright's had a tune selection lever, whereas the one I had has a standard stepped snail and fixed tune-change finger.

While Mr Wright found the markings shown on page 184 stamped under the comb, I found only "JCD" stamped under the comb, and not the "J7". I also found two letters, "GV" stamped on the only cast iron cam lever in the automaton. It also has a small brass acorn shaped knob (pictured), at the end of the stop/start lever. An unusual discovery was that there were two dates scribed onto the underside of the cast brass bedplate, 1865 and 1866. I had seen the acorn knob on a number of automata which were distinctly stamped on the motor plate "G Vichy, Paris".

During a recent trip to Paris, I put aside quite a bit of time to search through the French patents for anything in this field. I found a few patents under the name of Gustave Pierre Vichy, between the dates of 1862 and 1873. His occupation was listed as "Mecanicien, Horloger", and his address was Rue Montmorency, 36, Paris. It has been written that G Vichy

founded the firm in 1863, but we feel that he was making mechanical toys and automata as early as 1840.

As for the stamp mark of "JCD" under the comb, in my opinion, this would be the mark of Jean Cuendet. According to David Tallis, who wrote *Musical Boxes*, the firm of John and Ed

Cuendet was first registered in L'Auberson, Switzerland in 1895, and he states that the family were making music boxes some 20 years before that.

I would appreciate any further information anyone can supply on either of these makers.

Renewed doubts over 'De Klok'

Judith Howard writes from London: I WAS interested to read on pages 204 and 205 Mr Harvey Roehl's report on the Dutch street organ *De Klok* in Adelaide, but, with due respect, I feel it is somewhat over-simplified and glosses over some of the important points of principle behind this export.

Mr Roehl quite rightly says that organ enthusiasts in Holland were sad to see another old organ leave their country — and with good reason, as they have seen the Netherlands denuded of many fine instruments, most of which have come sooner or later to a sad end. The number of organs on the streets in Amsterdam has been reduced to something like one third of the pre-War figure. I would refer Mr Roehl to the Editor's own article in *The Music Box* (Vol 6 No 5) highlighting the dangers of the situation back in 1974. He begins: "The Amsterdam street organ may soon be a picturesque relic in memory alone unless a check is put on sales abroad". In fact, organ circles and the Dutch government are now becoming seriously

alarmed, and are considering measures to protect the nucleus of 100 or so "historic" organs. The Dutch well understand the enthusiasm for the street organ abroad, but surely it is only right to wish to protect the nucleus of this heritage within Holland, its birthplace. And, of course, they actively encourage the building of new organs — there are several very good firms now active. The great advantage is that new organs can be built, using the benefits of modern technology, to withstand better the more extreme climates met with outside Europe.

It is an interesting co-incidence that Mr Roehl should mention the organ sent to the town of Holland in Michigan; this was *De Vier Kolom*, one of the finest and most popular Carl Frei organs, exported (as far as I know) around 1948. This is in fact a prime example of why we oppose the export of old organs — apparently, after playing in one or two street processions, it was neglected and virtually left to rot. While in store, the pipework was vandalised, and either stolen or damaged



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beyond repair. I understand that members of the Kring van Draaiorgelvrienden tried to negotiate its return to Holland, but without success; now it is too late. So, far from being an "ambassador of good will" (to quote Mr Roehl), this organ has in fact caused—and still causes—much ill-will among organ circles in Holland.

It is a sad fact that the export of old organs outside Europe almost always means their end sooner or later; and this is a dual loss—to Holland, and to the importers. The only guaranteed safe method of keeping a street organ in long-term good condition outside Europe is to install it permanently in a specially air-conditioned and humidified room, simulating an outdoor European climate (temperature averaging 60-70°F, relative humidity 70-80%). I know of one organ in Canada which has apparently fared reasonably well, owing to such precautions.

The other main factor is the question of maintenance. An organ, like a car, being a complex piece of machinery, needs regular "servicing" and overhauling by a trained specialist. There are very few expert street organ builders outside Europe, and I certainly know of none in Australia. Regrettably, much damage can be done by enthusiastic amateurs! (Naturally, I do not know the qualifications for the job of the present custodians of *De Klok* in Adelaide—perhaps they are or were organ builders?)

With all due respect, I find it hard to accept Mr Roehl's view that *De Klok* is still playing as well as in Amsterdam; having heard recordings made in Melbourne and compared them with the gramophone records and with private

recordings made in Amsterdam, there are definite signs of deterioration—in tone, mechanical performance, and tuning. I only wish this were not the case!

Perhaps I should mention that, during my years as a music student, I specialised in the history and design of church organs, my particular interest being the preservation and restoration of historic instruments; I was fortunate enough to visit many extant examples of historic organs in Germany and Holland and to meet the organ builders and consultants involved in their care. Now I work with one of this country's old-established firms of church organs builders, and have over the last few years been making a study of mechanical organs, in particular Dutch street organs. Although I would certainly not claim to be an expert, I feel I have at least some knowledge of the subject!

Naturally I am pleased to hear that *De Klok* is apparently being well cared for, circumstances permitting; it is certainly good that strict security prevails and that orders have been given not to alter any part. However, I am worried by reports that the Netherlands Society wish to travel the organ all over Australia, however unsuitable the climate. I feel there are still grave reasons for concern for the well-being of the organ in the long term, and that we simply cannot afford to be complacent over the whole question of organ exports. It would be particularly sad if a respected society such as the Musical Box Society were to appear to condone, or even encourage, this practice—or, indeed, anything possibly detri-

mental to the preservation of mechanical instruments.

Finally, one other small point which rather puzzles me: it is a pity that the Netherlands Society, understandably anxious to promote Dutch culture in Australia, did not check on their facts regarding the organ. The publicity material I have seen contains the classic statement: "100 years old; built by Master Organ Builder Karl Frey" (sic). (NB Carl Frei was not born until 1884—and, precocious though he may have been, I am not aware that he was already building organs some 8 years before birth . . . !) In fact, *De Klok* was built by Mortier in 1925 (as shown by the serial number, 990), to the commission of Carl Frei; imported into Holland in sections, it was assembled by Carl Frei, with some tonal alterations, and came to Amsterdam in 1927 or 28. Regrettably, even the Art Gallery of South Australia, who agreed to list the organ as "historic" were given inaccurate information. In this connection, the Art Gallery's comment in their letter dated 14th January '77 is interesting: "In fact we did not have any reason to declare it of historic interest to our State, but to Holland from where it was exported". Also, the name of the organ has consistently been mis-translated as "The Clock" instead of "The Bell".

Recent reports have reached us that *De Klok* is now the focus of a serious dispute within the Netherlands Society, which has resulted in a lawsuit, at present in progress, over the ownership of the organ. It seems, alas, that Mr Roehl's prediction of peace and goodwill was, regrettably, over-optimistic.

One for the record

Ernie Bayly, editor of *The Talking Machine Review*, writes from Bournemouth:

JUST a short note to convey a BIG message—CONGRATULATIONS on the introduction of colour pages in *The Music Box*.

It really elevates it to an even higher plane. You have left us all standing!!

All good wishes to yourself and the magazine.

Spindle mark

George Worswick writes from Bardney, Lincolnshire:

ENCLOSED is a photo of a mark on a cylinder spindle belonging to a sectional comb movement. I cannot identify the maker from the evidence; can you or any reader comment? The mark is located under the cylinder return spring, and is the only instance known

to me of a maker's mark being placed on the spindle; there is no visible deformation of the spindle at the mark, so it would have been put on prior to machining the bearing surface.

Aussie player problem

Ken Perry writes from Fairview Park, South Australia:

I AM a collector and restorer of player pianos. Unfortunately there is very little information available on player pianos in South Australia and I do not know of any other collectors apart from myself and Mr Harold Horsfall (who has an excellent collection but does no restoration).

In the book *The Player Piano and How to Restore It* by Arthur Ord-Hume, mention is made of Mr Frank Holland and also a Player Piano Group. I would appreciate knowing how to contact them.

Like most collectors, I started with

a somewhat asthmatic Stroud player, and because of the high cost of restoration and lack of skilled restorers, decided to do the job myself; and since that time I have acquired some 25 players and have restored quite a few.

I have been particularly horrified to find that many fine instruments have been turned into pianos and the player mechanism discarded by "greedy piano dealers", and that some so called "repairers" were pulling out expression mechanisms rather than fixing them.

As a result of this practice, very few Duo-Art instruments remain intact in South Australia.

The only Recordo models I have seen have been Hardman and Peck Playotones, and all have had the expression mechanism removed. I have obtained one of these with half a mechanism and would like to be able to correspond with someone who may have drawings or literature on the full mechanism, so that I can construct the missing pieces.

A Cable Company Solo Carola, which I found, also had the expression removed.

My collection, at present includes six Stecks (including a grand); and two upright Duo-Arts; also a Weber, and a Stroud upright, both Duo-Arts; a 65-note Gotha (bottom action); and a 65-note top action with 88-note tracker; also a 65-note Aeolian and push-up.

Other makes include Schultz, Kimball, and Winkelman-Angelus. I have recently acquired a Style 8A Orchestrelle with 116-note tracker, which having been in an old farmhouse for the past twenty years, has had rats living in it. However, there is no damage



Spindle mark discovered by George Worswick.

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that can't be repaired!

The problem for this particular instrument, is that rolls are unobtainable, and it is obvious that as far as 6-to-the-inch rolls are concerned, we will have to cut our own.

Once again, I would like to be able to correspond with someone on the subject.

We have recently formed in South Australia, a Player Piano and Mechanical Music Society, and although our membership is at present small, we hope that the dedication of our members to the preservation of player pianos, will help to prevent the wanton destruction of remaining players.

We make it a point to photograph the players we come across, and if we can ever help you with photos, or assist in your research in any way, we should be very pleased to do so.

Editor's Comment: It is always nice to discover that the problems which seem to centre on your very own work-room are shared by others round the other side of the world!

Frank Holland is, of course, a member of our Society and the Player Piano Group is one of our advertisers.

Members who would like to help a colleague "down under" can contact Ken Perry direct at 16 Buckley Crescent, Fairview Park, 5126, South Australia.

Tunesheet identity

L C Thompson writes from Lincoln:

Whilst looking through Volume 8 Number 3 of the journal, my attention was drawn to the musical box illustrated on page 121, which is a large and late visible drum and bells box sold by Nicole Freres and attributed to Mojon, Manger and Co.

The tunesheet on this box appears to be identical to one borne by a hidden drum and bells box in my collections, with the exception that mine is printed with the trademark of John Cuendet (an anchor with the initials J C). This is printed in the same colour of blue as that used on the lady's dress and appears to be part of the original process.

I think that this adds further evidence to the theory that some tunesheets were not the exclusive property of one maker, but they were held in stock by the lithographers and made available to any maker requiring them; some makers had their name or trademark printed on, others did not. Having said that, of course, it would be difficult to disprove the possibility that Cuendet was responsible for both boxes, but sometimes he used his trademark and sometimes not.

Members who like to date their Nicole Freres boxes might be interested to know that my two-per-turn No 32106 has written on the duplicate tunesheet the following:

"Purchased by Revd Henry Townley, 3 Highbury Place, 29th March, 1855."

I purchased it from the grand-daughter of the original owner, and was therefore able to obtain confirmation of the authenticity of the above. Another Nicole in my collection, interchangeable No 45204, has scratched on the comb base adjacent to two expertly repaired teeth the words "Ed Adilor le 22 December 1879 Bournemouth." It could not have been very old when it met with this accident.

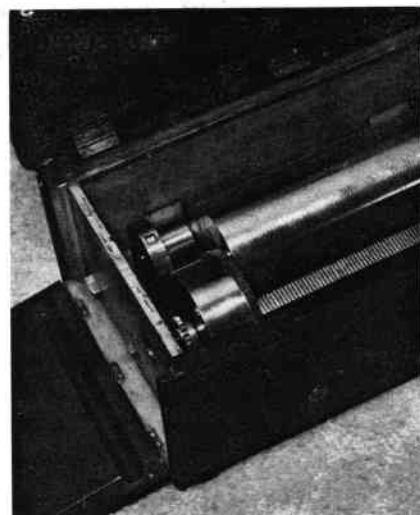
Humbert Brollet

H Farrington writes from Ormskirk, Lancashire:

THANK you for publishing my letter and photographs of the Humbert Brollet musical box. I now enclose a photograph of the original tune sheet and transcription by the Bodleian Library, which may be of interest.*

My apologies for not pointing out that the cylindrical housing as seen in the photograph of the musical box on page 186 is in fact a tune indicator which had been fitted by the previous owner. It is in brass and so skillfully designed as to be in keeping with its original counterparts. A photograph of this additional feature, in close-up, is also inclosed.

*The photograph is of a plain paper label with faded manuscript and is bereft of any indications as to maker and without decoration. The transcription of the 24 titles include a dozen by Donizetti including an aria and a duet from the now-forgotten 1833 opera La Parisina, four by Bellini, three by "von Strauss", a forgotten Verdi aria from Oberto conte di S Boni-



facio, two waltzes by the glove-maker-turned dance composer Lanner, a galop by Billet and an operatic aria called Il Bravo from a work called Sommergansi gli Affanni by one Martiani whose name is new to the Editor.

Snuff box with ivory painting

Sidney Ripley writes from Eastbourne, Sussex:

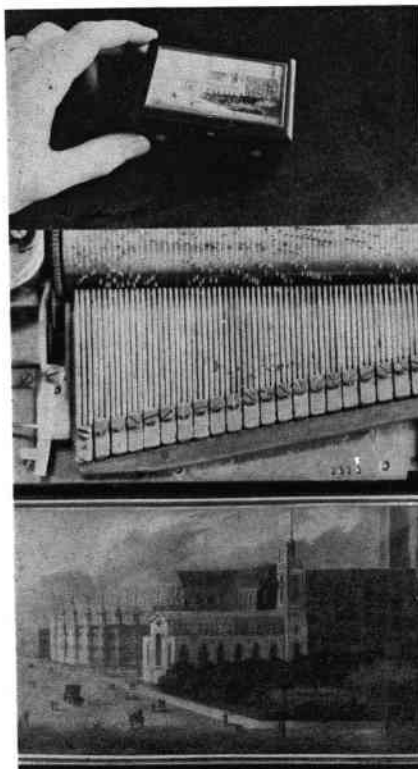
I ENCLOSE three photographs which you may feel worth publishing in *The Music Box*.

The snuff-box movement as can be seen in the photograph is sectional in threes and plays two unknown airs softly but extremely well.

The main point of interest in this box is not so much the movement as the picture on the lid which is painted on ivory with a glass cover for protection.

The detail when looked at under magnification is extraordinary and no photographs can do it justice.

In the bottom left hand corner is written: "Vue de l'abbaye de West-



minster" but no artist's signature unfortunately.

Please credit the pictures to John Cowderoy.

Flutina marks

Jim Hall writes from Kendal in Cumbria:

LAST year I did some work on a large "Imperial" Orchestral interchangeable cylinder musical box by Nicole Freres. The bellows from the organ section had to be recovered, and on stripping it down I found that it had been inscribed "L Millenet, Geneva". The gussets were double covered, so I recovered as the original—i.e. an extra thickness of sheepskin leather glued on the gusset from the inside of the bellows—needless to say with scotch glue heated in a gluepot.

On stripping down the reed section, I found the name "Manguet, Paris".

The brass bedplate of this movement was 35½ins (0.9017m) long by 9½ins (23.5cm) wide by ¾in (16m) thick and weighed 33lb (14.9kg).

'Orchestrated Music'

Allan S Douglass writes from Pocasset, Massachusetts:

MAY I pose a question for *The Music Box* readers? I have a 58-note Aeolian organ that I play frequently, and about 100 Aeolian Grand rolls. Among these are three of four labelled "Orchestrated Music" that have metal spool ends and additional notations on the paper.

My question is: what kind of organ were these rolls made for? How could it pick out certain notes in the scale and assign particular ranks to them alone? Or did it? The rolls sound fine, played in the normal way but I can't help wondering what they might sound like.

Editor's Comment: Aeolian's *Orchestrated Music* was, as far as I know, a short-lived innovation only exploited in America. Some original literature will be published in the next issue.

More letters overleaf . . .



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Schlumpforgue . . .

N W Davidge writes from Grafton, New South Wales, Australia :

IN A report of the discovery of the Schlumpf automobile museum in a cotton mill outside Mulhouse in France, I noticed what looks like an ornate cafe piano and a very large dance or fairground organ lurking in the background of a photo of a Type 32 Bugatti. I read as many different reports as I could find but, since they were mainly in motoring magazines, no mention was made of the organ. Maybe if any of the members of the MBS find out, it might get a mention in *The Music Box* — here's hoping.

Editor's Comment : Immediately after receiving this letter, I went off to look at the recently-published picture book on the Schlumpf collection and sure enough there is an organ lurking, out of focus, in the background. At a guess it's a Mortier or maybe Hooghuys, both rather unlikely in a French museum. Comments, please.

Porterage

Edward J Gilbert writes from Ste Adele, Canada :

I FIND this recent edition quite interesting and was quite pleased to see that Hughes Ryder made a presentation in which he showed the Porter music box. I am quite well acquainted with Dwight Porter and, I must say that he has the possibility of becoming one of the more prominent and knowledgeable of technicians and manufacturers in recent history. I find it amazing to see how he has developed and built a magnificent and very expensive machine for making discs that range in size from 27" down. He also has an arranger who walked in out of the blue and asked if he could arrange music and apparently is doing a magnificent job. No doubt in the future you may find it of interest to run an article concerning this very competent individual.

Editor's Comment : Just such an article is being prepared by Steve Ryder who, as related on page 270, unveiled the 15½ in Porter musical box in England on March 10th.

Corporate credit

Q David Bowers writes from Los Angeles, California :

I JUST received my Spring issue of *The Music Box*. The use of color in this issue is magnificent. In one publication, *The Music Box*, you have really created a masterpiece — not only in the present issue but in past issues. I find the combination of varied articles on different facets of history, reports of the trade, gossip, letters from correspondents, and the like to be very skillfully mixed together with a really delightful result. Each time my issue comes I drop everything and read it!

Note to Correspondents: Please ensure that letters addressed to the Society or to *The Music Box* have your name and address clearly inscribed upon the contents. There are, sadly, numerous instances where the contents of envelopes bear no identification and this has been the case with several recent letters received from the United States. One of these, from some-

Members in the News . . .

● Q David Bowers and Christine Valentine were married at Beverly Hills, California, on March 11, 1978. We extend our very best wishes to the happy couple and sincerely trust that the new partnership may not prevent David from submitting his usual well-researched material for publication. David and Christine are due to "hit London" early summer and will visit the office of

The Music Box as part of her initiation into the rigours of the world of mechanical music!

● President Arthur Ord-Hume delivered the annual lecture to the Antiquarian Horological Society at the Science Museum, South Kensington, London, on May 5th. The subject of his illustrated paper was the development of the musical clock and its classification.

World Digest cont. from page 269

in Leipzig preface a reprint of a catalogue of Hupfeld electric pianos. Facsimiles of old advertisements from Paul de Wit's *Zeitschrift* include an illustrated one for the Euphonika displaying piano-orchestration with organ pipes and extensive percussion, the Symphonion self-changing table model and the Heilbrunn electric piano shown with a disproportionately large music roll which would have upset the advertising standards people today! A 1909 article on the technique of the piano-player is reproduced illustrating the Phonola push-up action, the Walcker Organola and the Welte "Mignonvorsetzer". Very much a Hupfeld issue, a further monograph on the company is facsimiled followed by a fine contemporary article on the Phonoliszt-Violina with sectional drawing. A large section is then devoted to the Hupfeld player and reproducing pianos. Gotthard Arnold writes on the restoration of a harp-playing or dulcimer clock, and the issue concludes with a profile of Marino Marini in Italy, and an article commemorating the 65th birthday of Carl Frei on November 7, 1977. Number 10, January 1978. Bum-

per 72-page issue opens with a rare facsimile of relevant sections from Joh Poppe's *Handbuch für Uhrmacher, Uhrenhandler und für Uhrenbesitzer* published in Leipzig in 1810. This is followed by a well-researched history of the musical clock by Dr Ernst Loos which includes illustrations of an organ-playing pillar clock by Kleemeyer (similar to the clock in the Nationaal Museum, Utrecht), and numerous Black Forest instruments. This is followed by a 1932 article on Haydn and his music for the *flötenuhr*, and a similar article from the 1972 *Beethoven-Almanach* on Beethoven's work in that field. The manuscript music of his *Grenadier-marsch* follows. Reprints from the "Freunde alter Uhren" follow, beginning with a 1970-71 article on the restoration of a 44-pipe Black Forest clock, and continuing with an article called "Marginal Notes on the Theme Flötenuhr". The rest of the issue is taken up with present-day articles on various types of Black Forest musical clocks including an interesting family tree of the organ builder Loos, description of a harp clock with automata, a translation of Thomas Reid's *Treatise* of 1826, and an article on a "problematic" clockwork flute-playing clock. ●

CALENDAR 1978

June 2nd, 3rd
Musical Box Society of Great Britain
Annual General Meeting, London, England.

June 15th until September 1st
Royal Palace, Dam Square, Amsterdam, Holland. Exhib. of mechanical musical instruments. Open Mon - Fri, 10.30 - 12.00; 13.30 - 16.00.

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

September 21st, 22nd 23rd
Musical Box Society Int Annual Con-

vention, 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 8th
Musical Box Society of Great Britain.
Regional meeting, Nottingham.

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

body in Tucson, queries the availability of Chapuis and Droz's book *Automata* which is, of course, long out of print and now a scarce work. With the high volume of mail received by both Editor and Secretary alike, the discovery that an envelope with return address should have been preserved is often made too late.

FINANCIAL STATEMENT

MEMBERS are reminded that copies of the Society Balance Sheet can be obtained on request from the Treasurer. The Balance Sheet is always available to those members who attend the Annual General Meeting and is distributed to those who so ask following the meeting.

The Treasurer is Mr Stephen Cockburn, Marshalls Manor, Cuckfield, Sussex, to whom written application should be made.

1978
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NICHOLAS S. TINSLEY.



Whistling Man

—a look at a 20th century novelty

DESCRIBED by John E T Clark in *Musical Boxes* as ingenious and novel but not very popular in this country, Whistling Men came in a variety of styles and were all the products of Karl Griesbaum of Triberg in the Black Forest.

Standing about a foot high, these carved figures contained a mass-

produced but nevertheless well-engineered singing-bird type of movement programmed to produce a realistic impression of a man whistling. Griesbaum was founded in 1905 and is still in business today. These hand-carved figures whose mechanism bears the German patent number 885983, were produced in large numbers up until

quite recent times.

Author and engineer Gordon Bussey found this example last year and wrote to the makers who suggested he return it to them for repair. Its delicate mechanism was ultimately restored by Dr Robert Burnett. Completion was rewarded by the *Sailor's Hornpipe*!

Record Reviews

AS THE 19th century drew to a close, the popularity of the fair-organ had spread across Europe and the market potential—and the competition—was large. The Paris business of Gavioli had for some years been trying to break into the German sales arena without much success. German showmen and proprietors of public attractions bought their organs in Germany, in Waldkirch to be precise. Waldkirch was the centre of the industry in the German Empire and the instruments were built and voiced to suit the Teutonic tastes. The piccolo, for example, was a German device recently introduced to the street organ and all fairorgans had to have piccolos and plenty of brass. Gavioli met the challenge in the best way he could muster—in 1899 he opened a factory at Waldkirch and put in Richard Bruder as manager. Richard Bruder, it turned out, was to take a major part in the design of the “German Gaviolis” which for the next decade or so came from the factory in the small Baden-Baden village whose fame was unusual and widespread.

The sound of the Waldkirch Gavioli is thus appreciably different from that of the Paris-made

(or London-assembled) Gavioli organs. One of these organs (the Aalstar Gavioli) is preserved in the museum in Utrecht. Another is at the Openlucht-Museum in Arnhem and is the subject of a disc from Profile Productions, PP 2527, *Draaiorgel de Schelm*. The 87-key organ has an interesting history. It is the one illustrated in Buchner's *Mechanical Musical Instruments* (plate 136 and on the dust-jacket) and was found in Prague by the Amsterdam organ-builder/hirer Gijs Perlee. The restoration took two years and the decoration of the facade was undertaken by five artists led by the man who was responsible for restoring Rembrandt's *Night Watch* after its attack by vandal. The object was to restore the organ to its original appearance and remove many coats of paint. The task received some impetus from the Dutch National Heritage Year and the result is an extraordinarily fine-looking piece of work. Once more the central cartouche displays the original Waldkirch landscape. Three automation figures adorn the finished front, part of which is illustrated in colour on page 251.

The music on this record is well chosen, including several Gavioli arrangements, one Gavioli composition (the simple, effective waltz

Lauriane) and an assortment of Schubert, Bizet, Fucick and Rompke de Waard.

If you want to hear the difference between Paris and Waldkirch “Gavvis,” try *Florentiner Marsch* with the trombones in full blast at one end and the countermelody being itself embellished by piccolo.

A well-produced recording of an interesting organ, this is not only one for the enthusiast, but one for the connoisseur of tonality.

From a product of the early years of this century I now move forward to 1934 and the completely different style, musical requirement and appearance of the dance-hall organs. *Sing and dance with the Mortier Organ* is the title of Decca MOR-R 503 (KMORC-R 503 on cassette) which is a re-issue of the 1972 discs “Dance Party” Volumes 1 and 2 (ECS-R 2109/2110).

All we are told about the instrument is that it was built for a small ballroom in Limburg, Belgium, rebuilt and enlarged post-war by the Teugels and later rebuilt again adding a further two accordions and two ornamental saxophones. The record sleeve actually illustrates an organ similar to the one recorded, reminding one of a certain off-beat poster on London's Underground. “Dance to a sound”, the sleeve notes might have added, “almost similar to the sound which your parents might have heard...”

There are 23 short tunes on this disc, all highly “pop” and starting with *Puppet on a String* and including *Congratulations*, *Lara's Theme*, *The Last Dance* and that beautiful Dutch song *100,000 Roses*.

Tonally these Mortier organs are nothing outstanding and once you have heard one track and assimilated bass drum, temple blocks, jazz flutes and warblers, you've heard it all. Musically, the programme offers nothing outstanding. But where I think this record does justify its existence is in the skill and subtlety of the arrangements. The off-beat, down-beat and up-beat percussion variants are interwoven with syncopation and a “hand-played” effect which is most effective. Yes, it is good music to sing and dance to and, on top of that, it is probably the best disc of a Mortier in the catalogue today. Musically, though, it is a little bit like a food-mixer: all the tunes come out sounding pretty much the same. But isn't that just what most “pop” music is about?

A O-H.

Classified Advertisements

FOR SALE

WORLD'S largest stock of music boxes, coin operated pianos, reproducing pianos. Large illustrated catalogue £2.50 per copy or £12 subscription for next six issues. Money back guarantee. Many MBSGB members have ordered from us. American International Galleries, 1802-M Kettering St., Irvine, CA 92714, USA.

MATERIALS for pneumatic instrument repairs. British cloths, imported synthetic and rubber materials for bellows. Tubing, Adhesives, Butterfly Tape, Cork for gaskets etc. Orchestrelle parts and reeds. Send 15p for list and samples to: M.I.M. SUPPLIES, 16 Barber Road, Sheffield S10 1ED. 19½" POLYPHON Musical Box. Table model. Very rare. 9 discs. Mechanically in perfect condition. Case good. No

THE publication of small advertisements in *The Music Box* under the headings “For Sale”, “Wanted”, “Exchange” and so on is, regretably, an operation which has not been profitable. For this reason, it has been decided by the Advertisement Manager, Mr Arthur Heap, that there should be a revision in our charges as follows:

Minimum charges to members

broken teeth. Offers invited over £2,000 or swap for vintage Rolls Royce or other vintage car. Jack K. Root, P.O. Box 2827, Wellington, New Zealand.

WATER SLIDE TRANSFERS. Less 10% over \$10. Postage 50c. Prices Australian. Edison, T. A. Edison trademarks 50c. Home Banner, G & T \$2. Graphophone 5" and shield, Gem Banner \$3. Standard Banner \$1.50. Home and Standard Horn transfers \$1.75. 4 gold lines \$1. Ericson telephone (set 4) \$4. M. Tucker, 28 Meredith Avenue, Hornsby Heights, NSW 2077. Australia.

EXCHANGE

ARE ANY MEMBERS interested in exchanging discs? I have for exchange 14", 15", and 17½" Stella. 17½" Imperial. 17½" Britannia. 26½" Monopol. 27" Regina. Also various Organette discs etc., etc. I REQUIRE for my own machines 24½", 15½", and 11" Polyphon discs. Michael Miles, “Rock Cottage,” Mountfield, Sussex. Tel. Robertsbridge 880614.

Continued overleaf

per advertisement to be £1.00 (\$2.00 US and Canada; 8fr France; Dfl5 Holland; Dm5 Germany).

Minimum charges to non-members to be twice the members' rate.

Price per word over and above minimum to be unchanged at 3p (£0.03) per word, bold type 5p (£0.05) per word.

This change takes effect as from the next issue, Volume 8 Number 7.

LIST OF MEMBERS

- 1323 John H Hobbs, Bentwood House, Bread Street, Penzance, Cornwall
 1324 J A D Stanton, 36 Farnborough Close, Matchborough East, Redditch, Worcestershire
 1325 Mr & Mrs Warren D Anderson, 902 East Shady Lane, Wayzata, Minnesota 55391, USA
 1326 Bayerische Staatsbibliothek, Erwerbsabteilung, Postfach 150, D-8000 München 34, West Germany
 1327 M F Doyle, 436 Chickereil Road, Weymouth, Dorset.
 1328 A J Maslen, 13 Colston Court, Berkeley Road, Bishopston, Bristol 7
 1329 Girard F Giblin, 717 Mirador Road, Vestal, New York 13850, USA
 1330 S E Person, 2 Rue du Prieuré, 1260-Nyon, Switzerland
 1331 Bristol, c/o The Secretary, MBSOGB
 1332 A Kunz, The Marmot, Kemnal Road, Chislehurst, Kent, BR7 6LT
 1333 D Pilgrim, 18 Linden Road, Aldeburgh, Suffolk, IP15 5JQ
 1334 Mr & Mrs Martin E Persky, 7137 North Kedvale, Lincolnwood, Illinois 60646, USA
 1335 The New York Public Library, Division MU, 111 Amsterdam Avenue, New York, New York, 11023, USA
 1336 Mrs E H Everington, Coopers Wood, Holtye, Cowden, Nr Edenbridge, Kent
 1337 Mr & Mrs David Soyer, 6 West 77th Street, New York, New York 10024, USA
 1338 P Klein, 91 Rue de la Republique, 25300 - Pontarlier, France

Continued from page 283

DISCS for sale or exchange. Polyphon 28cm., 56cm. Symphonion 18cm., 23cm., 54cm. Kalliope 18cm., 23cm. Troubadour 23cm. Regina 39.5cm. Amorette 23cm. Nitschke, Hannover, Steinbreite 55, Germany.

WANTED

HUPFIELD S or T piano rolls, Empress or similar 88 note rolls with expression, Komet 54cm. discs, Stella 17½" discs, rolls for Rolmonicas wanted. Nitschke, Hannover, Steinbreite 55, Germany.

continued from page 270

an excellent opportunity to view the countryside and our American friends were unfailingly amazed at the way in which our coach negotiated mountain - pass - type "roads" a mere eight feet wide. Someone said, in a loud whisper, that we called these motorways over here. . . .

Our destination was Salem Chapel in a miniscule village on the inevitable hillside. Built in 1845 and little bigger than a large room, a gallery over the chapel door sported a large and fine T C Bates 28-key barrel organ, foot blown and replete with four barrels (one in the organ and three in boxes alongside) and five stops — double diapason, open diapason, stopt diapason, principal and fifteenth. Our Editor who had never seen the particular instrument before, ascended into the gallery and ably described it, detailed its tonal resources, and then gave a recital of the "good" tunes on two of the barrels.

Hastily back in the bus for the journey to Robert Hough's home at Chudleigh. Here both Ron Todd and Jim Fox had arranged a three-

MUSICAL SNUFF BOXES, send details, photo if possible and asking price. Also want good BIRD BOXES, SMALL AUTOMATA and MUSICAL NECES- SAIRES. Will answer all correspondence and give immediate decision. Especially anxious for fine pieces for which highest price is paid. Frank Metzger, 16 Norman Drive, Rye, NY 10580, USA.

POLYPHON, Symphonion or similar movements without case, disc size up to 50cm. Also bedplates and spring mechanism. Please state price. Nitschke,

part exhibition of their collections to provide the utmost interest and variety. Members were also entertained to a capital tea by Mrs. Hough and lady helpers.

The Society Dinner took place back at the hotel at 8.00 p.m. Last minute arrivals swelled the dinner numbers to 53 — there had been 75 meeting registrations. The Loyal Toast was drunk to the strains of *God Save the Queen* played on the Porter musical box. After dinner, President Ord-Hume spoke on the friendly rivalry between the four musical box societies in the world and emphasised how important was the part which each could and did play in our understanding of mechanical music. He stressed the simple fact that we all had a com-

LIPSIA MYSTERY

IT IS almost two years since *The Music Box* first published pictures of the Lipsia disc-playing musical box and asked the question does anybody know who made it.

It is strange that so long has elapsed without any further information or correspondence arising.

The Lipsia, which plays a 45cm

- 1339 John J Wempe, Burg Weetsplantsoen 36, Santpoort, Holland

CHANGE OF ADDRESS

- 538 W G Clarke, Woodlands, 12a Park Hall Road, Walsall, West Midlands WS5 3HG
 754 D E Newland, Crimble Beck Cottage, Malt House Lane, Burn Bridge, Harrogate, North Yorkshire HG3 1PD
 850 D Dekyndt, Dendermondsesteenweg, 184, 9300 Aalst, Belgium
 977 Verbon E Waggoner, 119 Balfour Avenue, Colorado Springs, Colorado 80909, USA
 999 R. Gymnaistes, 2421 State Street, Santa Barbara, California, 93105, USA
 1087 R J Dring, 69 Keys Avenue, Horfield, Bristol BS7 0NQ
 1125 C H J Ruijgvoorn, Oost Indiestraat 6, 2013 RP Haarlem, Holland

CORRECTION TO ADDRESS

- 1049 Claus W Nitschke, 3000 Hannover 91, In der Steinbreite 55, West Germany
 1122 H Strengers, Grabijnhof 28, Delft - 2625 LM, Netherlands

REJOINED MEMBER

- 284 Michael Woolf, 119 Waipapa Road, Hataitai, Wellington, New Zealand.
 767 Dr N Packham, 217 Cleveland Street, Redfern 2016, Australia

Hannover, Steinbreite 55, Germany.

CAN ANY MEMBER OFFER THE FOLLOWING PLEASE — 15½" Polyphon/Symphonion case. (Duplex table model) 24½" Polyphon discs. 9½" Wrecked Polyphon. 8½" wrecked Polyphon. Michael Miles. 'Rock Cottage'. Moun'field. Suessex. Telephone Robertsbridge 880614.

HARMONIA DISCS. Size 25cm. Can anyone please sell me some! Urgently required! Peter Dobbs. 19 Farm Drive. Shirley. Croydon. Surrey. 01-777-1185.

mon goal for which to strive and that there was still plenty of research to be carried out.

On the Sunday morning, members visited Exeter Martime Museum for a non-musical but nevertheless interesting viewing of the many sailing craft in the collection. We parted company with our American contingent who went off to other Devonshire attractions. After lunch in Exeter, we boarded the London train to conclude a further successful convention.

Our thanks to Messrs Hough, Fox and Todd for the great deal of work and effort which they put into arranging the attractions — and to Mrs Hough for throwing open her home to us on the Saturday afternoon. ●

disc, was featured on page 103 of Volume 7. Reference was made to the name and to the fact that there appeared two initials—W and R—in a shield in the door design.

Can some of our German members help to identify this? The instrument itself may be viewed at the Mekanisk Musik Museum in Copenhagen.

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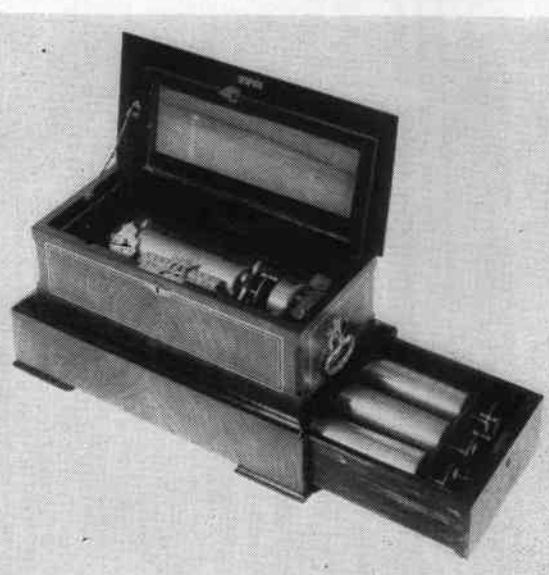
A Columbia AB graphophone



A 25 1/4 inch polyphon disc musical box on stand



A Nicole Frere Overture cylinder musical box no. 46561



A Mermod Frere interchangeable cylinder musical box

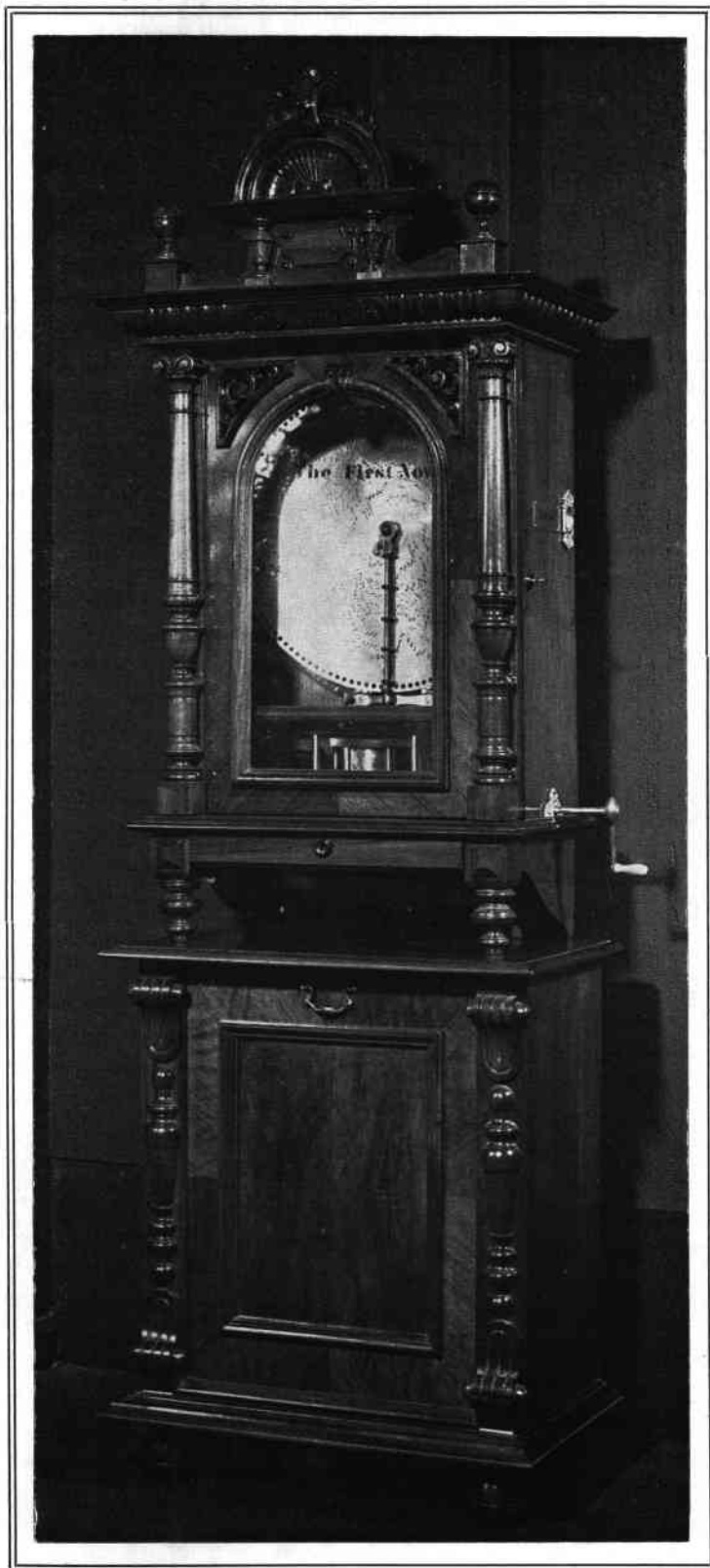
Next Sale of Mechanical Music and Talking Machines will be held on Friday 7th July 1978 at 10.30 a.m. and 2 30 p.m. precisely.

For catalogue request and advice on buying and selling please contact

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