THE MUSIC BOX

JOURNAL OF
the MUSICAL BOX SOCIETY
OF GREAT BRITAIN

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No. 4 Christmas 1963

editorial

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We celebrate with this fourth issue of THE MUSIC BOX two important events. First and foremost, it's Christmas and secondly, our Society is now one year old. We feel that the Society is a very important asset to us all. Here we have a means of widening the interests and knowledge of every collector, of bringing together collectors with like interests and of trying to broaden the appreciation of collectors not only in the 'dense' membership areas such as London, but in the remote parts of the country - and we've got some pretty remote parts and there will be a lot more even more remote once Mr. Stephenson's invention has been pensioned off by that enterprising gentleman, Dr. Beeching.

WALTER GABRIEL FINDS POLYPHON

Walter Gabriel, earthy but nevertheless notable citizen of Ambridge, has found an old Polyphon! Unearthed, it was, in an old barn and now it stands in the bar of the "Bull" to delight customers.

Yes, this is the latest event to take place in the nightly round of factual happenings recounted in "The Archers" B.B.C. Home Service serial. Featuring recordings made of Mr. Bruce Angrave's auto-change 22" Polyphon, this episode, broadcast in one of radio's most loved and most realistic family programmes, should re-create a wide demand for old Polyphons and - if my experience is anything to judge by - new dampers!

JAPANESE DEMONSTRATE LATEST NOVELTY - MUSICAL CLOCKS

A few months ago, the 9th International Watch & Jewellry Trade Fair opened at Earl's Court. It's all over now, but never let it be said that THE MUSIC BOX overlooks current events! Nigel Scroggett, our MUSIC BOX reporter,has just returned from Earl's Court (he took the wrong bus and had some explaining to do at Aberdeen) and, in his usual forthright manner, has made no comment on the Exhibition. Nevertheless I was intrigued by an item about it in THE DAILY TELEGRAPH. It seems that the World's largest watch factory is in Japan and, following the signing of the Anglo-Japanese Trade Treaty, large quantities of Japanese watches and clocks are coming into our shops. And good stuff I believe it is. However, to the point. The 'D.T.' reporter wrote "Among the Japanese clocks .... are a variety of alarm clocks from 59/6d which will wake you gently or, alternatively, lull you to sleep with a musical box playing a Western tune!" Perhaps it can't make up it's mind whether it is intended to wake you up or send you to sleep! Definitely a bad point. 'D.T.' reporter goes on: to write: "I heard one clock play 'Jeannie with the Light Brown Hair' and another render an excerpt from 'Swan Lake'. Each clock plays one tune but there are about two dozen tunes to choose from". Not very enterprising, these Japs, y'know. Now a Polyphon clock would play about 1,000 or so tunes, but, of course, that was something like 75 years or so ago.....

In defence of the enterprising makers, the 59/6d clock is intended to be a travelling clock (it can be carried about without recourse to a pantechnicon) whilst the Brachhausen device required four strong navvies and a donkey-cart to shift about the countryside. This proves that the Japs have gone into this market research business pretty thoroughly and have come up with the concrete fact that few English people today own a donkey-cart, a donkey and four strong navvies.

There's a slant-eyed elderly Mama
To the West of Fujiama.
There's an inlaid case of brass upon the wall.
There's a little pair of gilded hands
Behind glass front with coloured bands
Display'd in gay plastic to show out for all
Time of Day whilst playing - to Mama
Bright tunes, pops, classics and drama..... (Well, it's Christmas!)

ORGAN PIPES - WHEEZING ORGANIST REVEALS BAFFLING CRIME

This issue of THE MUSIC BOX contains quite a bit about organs - both pipe organs and organettes. I wondered whether or not this was altogether a wise move after I read an item in my daily paper headed "Pipes Stolen from Church Organs". It seems that some subtle thief has carefully selected fifty-eight pipes from two Churches in Berkshire, replacing

them with dummies. "It was very embarrassing for both vicars" says this report and continues, about one vicar, "He did not know anything was wrong until he called a hymn number. The organist could only manage a wheeze!" Now there's a thing!

ORGANS & ORGANETTES

Mr. F. Hill of Godalming contributes a most interesting article on the barrel organ in this issue. Whilst considerably older than the musical box - the Hydraulus or water-organ, precurser of the organ as we know it, played automatic music almost 2,000 years ago - the barrel organ is not so prolific in numbers extant today and they are thus of great interest to collectors.

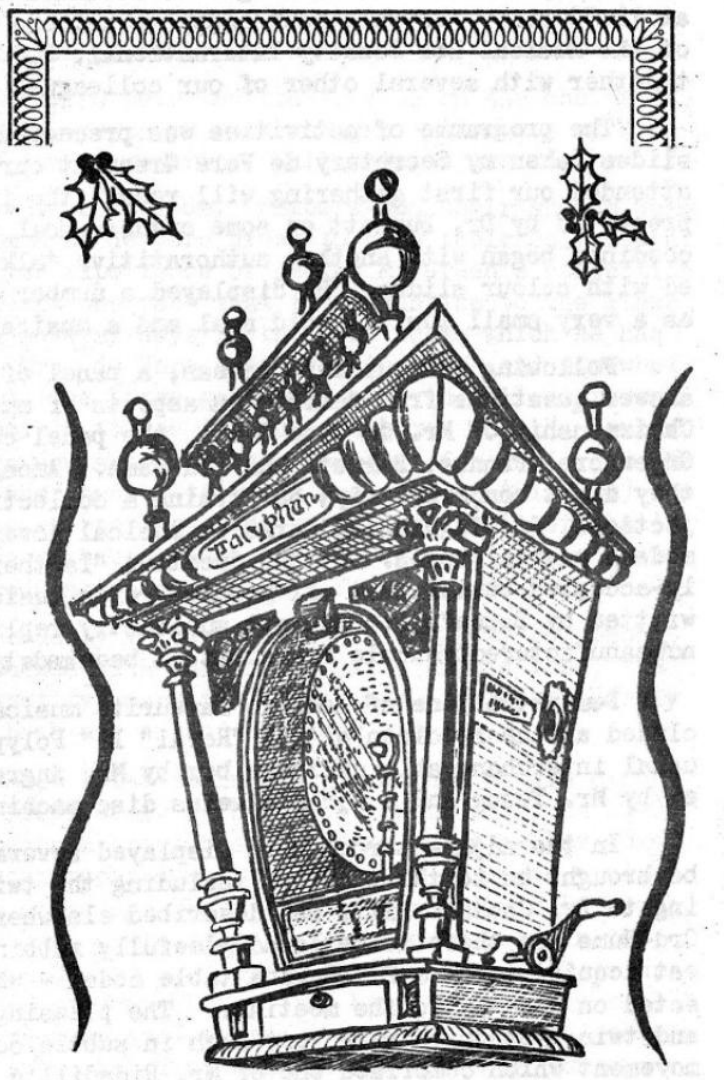
The organette, however, survives in greater quantity having been produced in huge numbers to "under cut" the high-priced musical box. Both devices are musically interesting as well as mechanically fascinating.

GREETINGS

The President and Committee of the M.B.S. of G.B. take this opportunity to wish all Members a hearty Christmas and a fortuitous 1964.

The sketch on the right is based on an original design by Bob Minney. It appeals to my warped sense of humour. Perhaps it is the warped perspective.....!

Arthur W. J. G. Ord-Hume



THE AUTUMN MEETING OF THE MUSICAL BOX SOCIETY OF GREAT BRITAIN

The Autumn Meeting of the Musical Box Society of Great Britain was held at the Mostyn Hotel, London, W.1. on Saturday, November 16th, 1963. More than fifty Members and their guests attended the gathering which began at 11.30 a.m. We were most happy to welcome Mr. M. Guinness, President of the Musical Box Society International, U.S.A. as guest of Mr.Farmiloe, together with several other of our colleagues from across the Atlantic.

The programme of activities was preceeded by a display of coloured slides taken my Secretary de Vere Green at our March meeting. Those who attended our first gathering will recall the inspiring illustrated talk presented by Dr. Burnett on some of his musical snuff-boxes and our proceedings began with another authoratitive talk by Dr. Burnett illustrated with colour slides. He displayed a number of his snuff boxes as well as a very small musical gold seal and a musical repeater watch.

Following the luncheon recess, a panel of 'experts' was convened to answer questions from Members on aspects of musical automata. Under the Chairmanship of Mr. de Vere Green, the panel comprised Messrs. Coombs, Greenacre, Planus, Burnett and Ord-Hume. Among the questions with which they dealt concerned tips on forming a collection, repairs to disc projections, distinguishing marks on musical movements and the merits of modern musical boxes. To the question "Is there any truth in the widely-accepted belief that all Nicole Freres musical boxes were in fact written by Bacon", Dr. Burnett succinctly replied that these boxes were not manufactured by Nicole Freres but had been made by two brothers named Nicole.

Demonstrations of Members favourite musical boxes followed and included a fine specimen of the "Royal" 11" Polyphon by Mr. Massey, an unusual interchangeable cylinder box by Mr. Angrave, a musical jewel casket by Mr. Young and a 4½" Edelweiss disc machine by Mr. Bayford.

In the adjacant room were displayed several machines too large to be brought on to the platform including the twin-disc Symphonion belonging to Dr. Jackson Fritz and described elsewhere in this issue. Editor Ord-Hume was there to be found gleefully rubbing his hands over his latest acquisition - a 27" Regina table model - which he had actually collected on his way to the meeting. The pleasing, varied tones of Regina and twin Symphonion were very much in subtle contrast to the interesting movement which comprised one of Mr. Ridsdill's exhibits. Made by Rzfbitschek of Prague, this cylinder mechanism was noteworthy for its mellow tone produced from the comb which was arranged with treble notes to the left and base to the right. Mr. Greenacre had on show a 17¼" Stella disc machine which was unfortunately not in playing order, being short of a motor. A horizontal model, this machine was mounted on an ornate stand and incorporated a disc stowage rack. The front and lid were richly in-

laid and inside it bore the black and gold label of Imhof & Mukle, London

Believed to be the earliest musical box on show was that belonging to Mr. Keast of Fareham. The movement comprised a cylinder some nine inches long playing a laminated comb with teeth in groups of 2 and was mounted upside down in an oval box which probably was intended as a foot-stool.

During the afternoon, Members were invited to vote on the choice of Society emblem from two designs prepared by Mr. Angrave. Members agreed on one of these by an overwhelming majority. Full details are on Page 15.

From the programmed events of the day, Members and their guests were invited to the home of Mr. & Mrs. de Vere Green to view their collection. Members who have never had the experience of seeing Mr. Green's collection may find it difficult to accept the fact that to do justice to the items he owns, one needs to spend several days in the four rooms which he has devoted to his collection. Mrs. de Vere Green graciously - and somewhat gallantly - became hostess to the large gathering of avid collectors and soon it became almost impossible to see the musical boxes for the Members! This is quite something when you appreciate the number of boxes! For the average Member (the writer must own up to being included in this bit) who proudly owns one or two Nicoles (perhaps even with blue labels at that!) it was with a marked feeling of having been knocked down to size that we viewed one whole room devoted entirely to Nicole Freres products.

The only disc machine readily to be seen was a fine 24½" Polyphon complete with storage bin packed with shining discs. Around this, the disc protagonists sought sanctity, ears to the cabinet, plotting quietly among themselves as to the best way out of the door with it.

A movement of considerable interest is contained in a mantle clock of French origin which Mr. Green owns. The clock itself is circa 1820 and is mounted in a case having a broad base. Within the long box this provides is affixed a cylinder mechanism. The cylinder is about twelve inches long and only 1½" in diameter. The comb is formed of single teeth, each individually mounted with a small screw. Treble notes are in the centre, the teeth lengthening to the base notes at each end. The teeth are extremely narrow almost as if made of wire and the base notes carry small resonators. The tone is very crisp and precise - quite unlike the average mechanism. Six tunes are played including what is now known as "Rule Britannia". There are no dampers whatsoever but the notes do not reverberate long enough for this to be noticeable. Winding is by fusee mechanism.

As we finally took our leave and walked out (some stumbled out!) into the cool night air, thoughts inevitably turned to the next Society meeting.

THE "DUPLEX" SYMPHONION

— By —

Jackson W. Fritz, D.D.S.
Lt.Col. USAF Dental Corps
R.A.F. Alconbury, Hunts.

By 1870, competition in the production of musical boxes had attained a feverish pitch and leading manufacturers worked constantly to develop modifications which would capture the interest of the public and boost sales. In this year, the spectacular revolver musical box was patented by Amadee Paillard in which six cylinders were mounted permanently in one instrument. Any one of the six could be selected for playing merely by rotating the wheels upon which they were mounted - not unlike the seats on a 'Ferris wheel'.

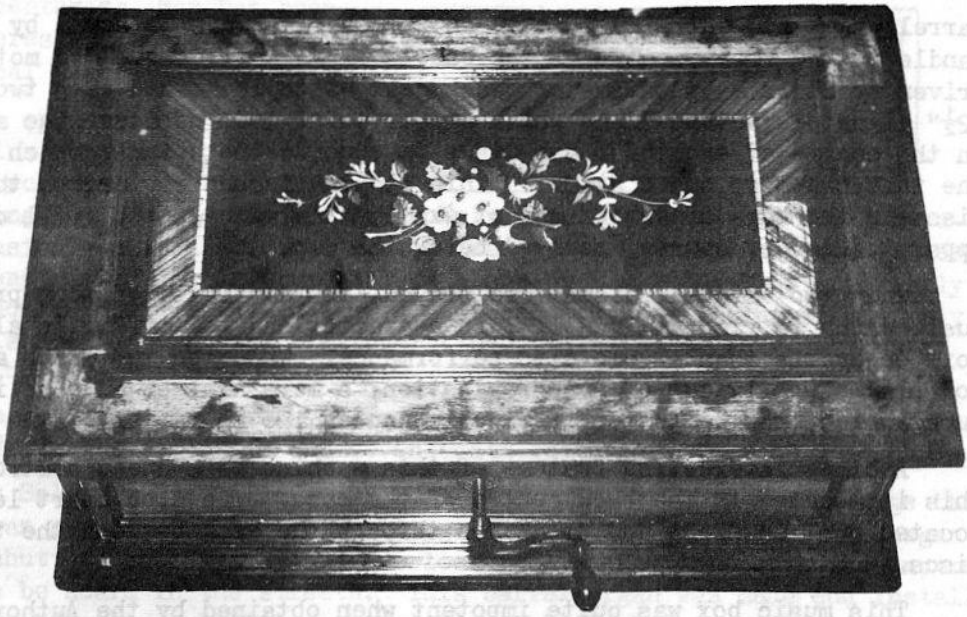
However, as far as can be determined, it was not until January 18th 1887 that attempts to play two cylinders simultaneously were successful, when Alfred Junod patented the 'Duplex Musical Box'. The principle, however, was not universally accepted or copied by other manufacturers for, as Clark points out in his book, "Musical Boxes", this was almost over-development in musical box design. Very much the same effect could be obtained with the ordinary single cylinder playing on two combs - the 'Sublime Harmony' arrangement.

Some two years earlier, Paul Lochmann had introduced his first musical box playing on discs instead of cylinders and he quickly captured the market with this revolutionary idea. His monopoly, however, was short-lived for, soon afterwards, the Polyphon Company was established nearby. The fierce rivalry which soon fermented is a story in itself.

It was undoubtedly the intense struggle to keep afloat which eventually led to the production of several interesting originations by the Lochmann firm. Among them were machines which would play two or three discs simultaneously.

For present lack of a better term, the two-disc machine might well be named the "duplex" Symphonion. Although such machines may very well have also been made in upright cabinets, the example in the Author's collection is a table model, the works being housed in a walnut and oak case, the dimensions of which are 32" x 20" x 11". A spelter handle is mounted on each end and the lid is inlaid with a delicate floral design. The case has its share of the walnut mouldings as were typical of the period.

More interestingly, the interior contains two sets of two 43-tooth combs, one set mounted on each side of the 'deck' of the cabinet, making a total of 172 tongues. Each set of combs is designed to play one $11\frac{7}{8}$" diameter disc. The discs are driven from the centre by the usual small turntable and these are turned by a single powerful spring motor in a 4"



barrel which is centrally located in the case. This is wound by a crank handle in the front centre of the case. Directly above the motor and driven by it is a $3\frac{3}{8}$" diameter brass gear which is meshed with two large $12\frac{1}{2}$" diameter toothed discs which appear to be made of some zinc alloy. In the centre of each of these discs is mounted the spindle which drives the tune sheet or music disc. This simple mechanism drives the tune discs in the same direction and at exactly the same speed. All of this apparatus is, of course, mounted below the deck.

When two similar discs are played, the duplicity of tone produces music which is rich and powerful in character and the effect is altogether more enjoyable than a solo disc performance. When the two discs are set to play slightly out of synchronisation, a mere hint of an echo is produced which, to the Author, further enhances the character of the music.

Another interesting feature of this machine is a speed control lever. This is located in the back centre of the case. The stop-start lever is located just in front and protrudes through the deck between the two tune discs.

This music box was quite impotent when obtained by the Author since there were no discs to accompany it. Effort has so far been rewarded with one set - "The March from Tannhauser" - and approximately fifteen single discs which are still crying cut for 'partners'.

Discs made especially for this machine were made with two additional holes for secure mounting on the spindle table. These holes were not present in the $11\frac{7}{8}$" diameter discs thus obtained, but careful drilling has permitted their adaptation to the machine.

Editor's Note This is the only twin-disc Symphonion I have ever heard of and I know for a fact that publication of the illustrations overleaf of Lt. Col. Fritz's machine will dispel Member's beliefs that this is a 'lash-up' by a musical box jobber! The case is so excellently proportioned and made that one might adduce that a quantity of these were made. A music box dealer told me recently that he had come across these before but at that time I was unable to refresh his doubtful memory with a picture. Even so, one can, I feel, assume that the two-disc Symphonion is more of a rarity than the celebrated 'Eroica' 3-disc model. Twin-disc boxes were by no means unusual in the larger sizes and both the $24\frac{1}{2}$" Polyphon and the 26" Fortuna were produced with twin interconnected movements at one stage. Others may well have appeared, but I believe Lt. Col. Fritz's to be the smallest size of twin produced. It is safe to assume others to be in existence. Would Members care to comment?

THE ENGLISH BARREL ORGAN

By

F. Hill

For centuries, Man has been interested in making Mechanical Musical Instruments.

It appears that one of the first instruments to become fully mechanised was the Organ. According to the late Canon Francis Galpin in his scholarly work "European Musical Instruments", he states that the Arabs in the ninth century A.D. constructed 'an instrument that plays by itself'. This apparently combined hydraulic power to turn the barrel and provide the wind supply for this primitive organ. Kircher (1650) illustrates many devices of this kind.

In Austria and Germany, barrel pipe organs of various sizes were being made in the sixteenth and seventeenth centuries.

At Salzburg Castle in Austria there remains to this day a large barrel organ set high up in the building. During the playing of the organ, large shutters could be opened overlooking the city to enable the instrument to be heard in the streets. This barrel organ was made and installed in the Castle in 1502 and, later in its life, had associations with Leopold Mozart. Out of its repertoire of nine tunes, it has three by Mozart and one by Haydn.

In 1593, Queen Elizabeth 1 of England presented the Sultan of Turkey with a large Organ Clock. The organ mechanism of this was made by Thomas Dallam, the leading organ builder of the time. The clockwork was supplied by Randolph Bull. This clock would release the organ mechanism at certain hours, the whole performance being automatic.

The stops this organ clock possessed were:-

Open Principal	Flute	Shaking Stop
Unison Recorder	Drum	
Octave Principal	Nightingale	

From about 1760 to 1860 appeared to be the most popular period for the Barrel Organ in England. They were made in large numbers, mostly in London, at the end of the eighteenth century and the beginning of the nineteenth century in the form firstly of Organ Clocks and small Table Barrel Organs. These latter were used to teach cages birds to sing. Secondly they developed into moderate-sized Chamber Barrel Organs with a large repertoire of tunes, used mainly for the accompaniment of dancing and singing.

Later on - from about 1830 to 1860 - they developed into small Church Organs. These gradually replaced the small Church Orchestras and these

Barrel Organs provided an excellent and faultless accompaniment to the Metrical Psalms.

DESCRIPTION OF THE MECHANISM OF THE BARREL ORGAN

I will now describe the workings of a simple Barrel Organ, referring to the illustration on the facing page (Page 11) which is not to scale.

The solid four-posted frame of the instrument with its morticed and tenoned cross pieces is nearly always made of well-chosen mahogany. Between the four corner posts fit the Front, Sides and Back, being held in grooves and easily raised to give access to the Organ. The brass Endless Screw (A), the front end of which is located in a bearing in the Frame Post (B), has the Handle (C) attached to its front end. Fixed to the crank in the Endless Screw is the Reciprocator (D), the bottom end being hinged to the Rocking Feeder Bellows (E). On turning the Handle, air is admitted to the Rocking Feeder Bellows through pallets in their bottom board and from there pumped into the Reservoir (F).

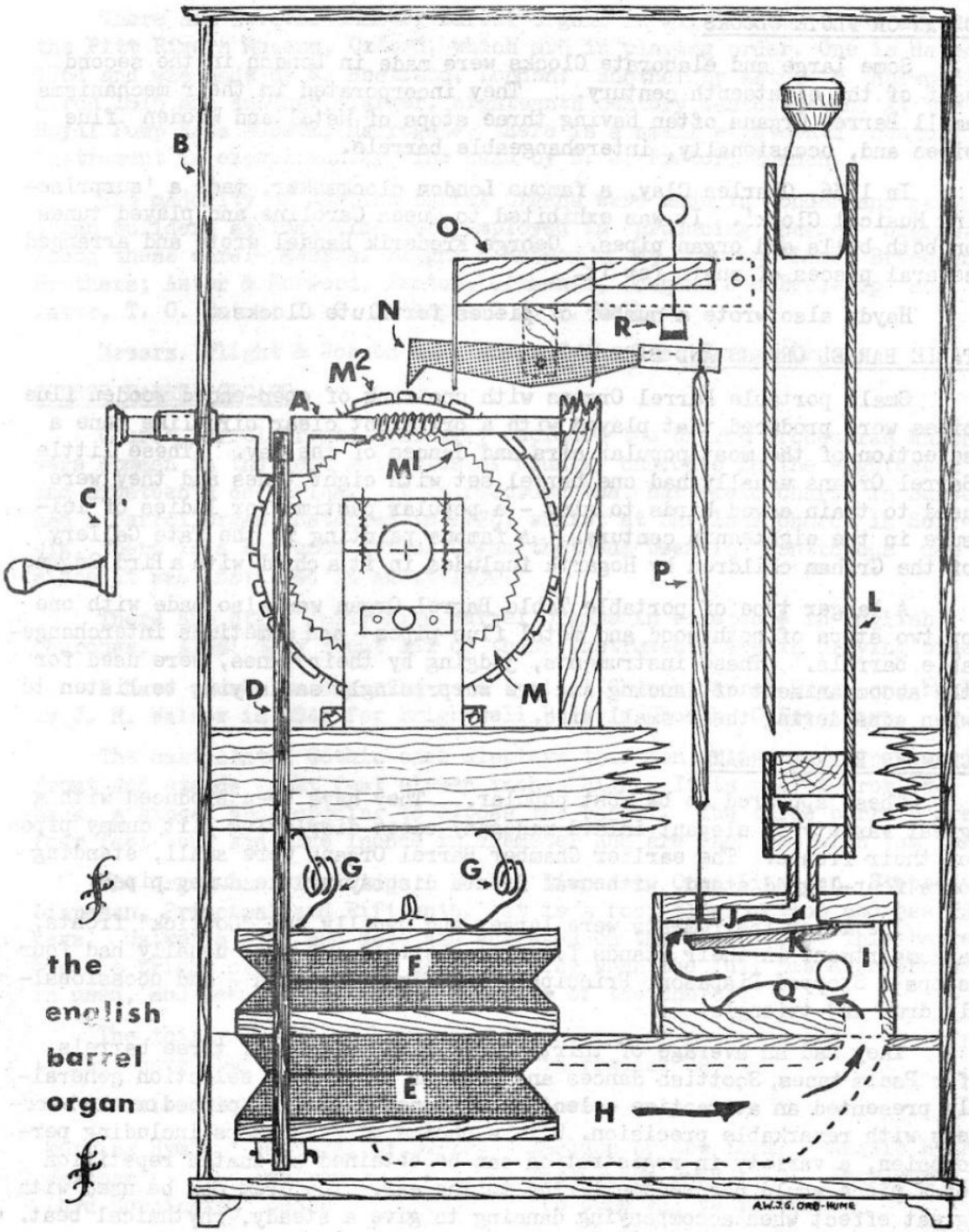
The Reservoir Springs (G) press on the upper board of the Reservoir and in this manner the correct wind pressure is maintained. The wind is then transmitted in the direction of the arrow through the Wind Trunk (H) to the Wind Chest (I).

This air-tight compartment has on the underside of the Soundboard (J) a series of grooves which are covered by the Pallets (K). The Pallets are faced with soft leather to ensure an airtight fit. The Soundboard is drilled with holes into which the foot of the Pipe (L) fits.

The action of turning the Handle also serves to rotate the Wooden Barrel (M) by the engagement of the Endless Screw in the Barrel Wheel (M^1) and, as it turns, the flat brass wire pins and bridges (M^2) raise the metal Keys (N) which are pivoted to the Key Frame (O). The Wooden Stickers (P) which are pivoted to the back of the Keys, have at their lower end a brass wire which passes through a fine hole in the Soundboard (J) and rests on the face of the Pallet (K).

In the drawing, the Key is shown in the raised position, the Sticker being depressed and the Pallet open admitting air to the Pipe (L). On the return of the Key, the Pallet Spring (Q) sharply closes the Pallet, thus raising the Sticker, the movement of the Key being checked on its return by the felt-covered Check Piece (R).

The action of a Barrel Organ, when properly adjusted, is remarkably prompt and quiet and is able to transmit to the pallets the trills, grace notes, shakes and turns (in which barrel organ music abounds) with remarkable precision.



the english barrel organ

ORGAN OR FLUTE CLOCKS

Some large and elaborate Clocks were made in London in the second half of the eighteenth century. They incorporated in their mechanisms small Barrel Organs often having three stops of Metal and Wooden flue pipes and, occasionally, interchangeable barrels.

In 1736, Charles Clay, a famous London clockmaker, made a 'surprising Musical Clock'. It was exhibited to Queen Caroline and played tunes on both bells and organ pipes. George Frederik Handel wrote and arranged several pieces of music for it.

Haydn also wrote a number of pieces for Flute Clocks.

TABLE BARREL ORGANS AND BIRD ORGANS

Small portable Barrel Organs with one rank of open-ended wooden flue pipes were produced that played with a brilliant clear bird-like tone a selection of the most popular airs and dances of the day. These little Barrel Organs usually had one barrel set with eight tunes and they were used to train caged birds to sing - a popular pastime for ladies of leisure in the eighteenth century. A famous painting in the Tate Gallery of the Graham children by Hogarth includes in it a child with a Bird Organ.

A larger type of portable Table Barrel Organ was also made with one or two stops of both wood and metal flue pipes - and sometimes interchangeable barrels. These instruments, judging by their tunes, were used for the accompaniment of dancing and are surprisingly satisfying to listen to when considering their small size.

CHAMBER BARREL ORGANS

These appeared to be most popular. They have been produced with a great variety of elegant inlaid mahogany cases displaying gilt dummy pipes on their fronts. The earlier Chamber Barrel Organs were small, standing on a four-legged stand, with oval fronts displaying the dummy pipes.

The later instruments were larger and usually had "Gottick" fronts, a compartment in their stands for extra barrels and they usually had four stops - Stopped Diapason, Principal, Twelfth, Fifteenth - and occasionally drum and triangle.

They had an average of thirty tunes, ten on each of three barrels, for Psalm tunes, Scottish dances and popular airs. This selection generally presented an attractive selection of tunes marked and pinned on the barrels with remarkable precision. With a choice of five stops including percussion, a variety in registration can be obtained so that a repetition of a piece would not become tiring to the ear. The drum can be used with great effect when accompanying dancing to give a steady, rhythmical beat.

There are several Chamber Barrel Organs in existence. Three are in the Pitt Rivers Museum, Oxford, which are in playing order. One is dated 1764 and was made by E. Rostrand, London; another by Astor & Horwood circa 1815 and another, larger, eighteenth century 4-stop organ. At the Royal Pump Room Museum, Harrogate, there is a small eighteenth century instrument in exceptionally fine case by E. J. Pistor, London.

The majority of English Barrel Organs were made in London and many organ builders at that time were employed in producing barrel organs. Among these were:- Messrs. Flight & Robson of St. Martins Lane; Bryceson Brothers; Astor & Horwood, Fentum, Clementi, Longman and Broderip and, later, T. C. Bates; J. C. Bishop and J. W. Walker.

Messrs. Flight & Robson made some of the best Barrel Organs.

CHURCH BARREL ORGANS

Church Barrel Organs gradually replaced the Church Orchestras which were common in the West galleries of country churches in the eighteenth and nineteenth centuries. It is recorded that Hartfield Church in Sussex had a barrel organ installed in 1726, whilst at Shelland Church in Suffolk, there is a Bryceson Barrel Organ that has been in continuous use since it was installed in about 1830.

There are still forty-five Barrel Organs in existence in English churches. Alas! only about six of these instruments are in playing order.

I have chosen to describe as a typical Church Barrel Organ one built by J. M. Walker in 1843 for Brightwell Baldwin Church, Oxfordshire.

The castellated Gothic case displays thirteen gilt dummy pipes on its front and stands eight feet eleven inches high. It is played from the back, a hinged door opening to expose the barrel. The three barrels are four feet long and nine inches in diameter and are each set with ten tunes

The organ has five stops:- Double Diapason, Open Diapason, Stopped Diapason, Principal and Fifteenth. It is a foot-blown action and has 22 keys. Walker's name and date are engraved on the key frame. This barrel organ's bright clear tone is most pleasing when the full Diapason Chorus is used, and seems adequate for the size of the church.

The thirty tunes are well set, the harmonies pleasing and I am sure it must have been of good service when in regular use.

A selection of the tunes is as follows:-

Morning Hymn	Pastoral or Surrey	Cheldon or New York	Angels Hymn
Wareham	Devizes	Portuguese Hymn	Shirland
Lord Mornington' Chant		(O Come all ye Faithful)	

We are apt today to think lightly of the possibilities of the use of Barrel Organs. The famous Dr. Burney, however, in his long treatise on the instrument in Ree's Cyclopaedia of 1819, declares that 'recent improvements in the making and pinning of barrels has enabled the Barrel Organ to produce an effect equal to that of the fingers of first-rate performers'.

The poet Mason who was Precentor of York Minster from 1763 to 1797, said that he prefers 'the mechanical assistance of a Barrel Organ to the fingers of the best parochial organist!'.

Later in the nineteenth century there were built Hand and Finger Organs combined which could either be played by hand using the barrel, or with the fingers playing the keyboard. A fine specimen of a hand and finger organ remains to this day at Llanvair-Waterdine in Wales. It was made by J. C. Bishop in about 1830.

DUMB ORGANIST

As Church Barrel Organs gradually became replaced by Finger Organs, there was in existence a barrel attachment or Dumb Organist as it was called. This device consisted of a Barrel and Pin mechanism similar to a Barrel Organ action which could be attached to the keyboard of an organ. There are only a few of these Dumb Organists now left in the country and I can record only six. I will describe one good example which is now in playing order and belongs to a small Bates organ at Faulkbourne Church in Essex.

It consists of a mahogany frame 2 ft. 7 ins. long between which the Key Frame and Barrel are pivoted. At the rear end of the 44 keys are attached wooden fingers which are located in square holes in the frame. The fingers project between ½" and 1" below the frame so that when the Dumb Organist is fixed in position above the organ keyboard, the wooden fingers are in exactly the right position to act upon the keys. The Faulkbourne Dumb Organist has four different coloured barrels set with eight tunes each, the total repertoire of thirty-two tunes being a selection of the most popular Metrical Psalm tunes of the day.

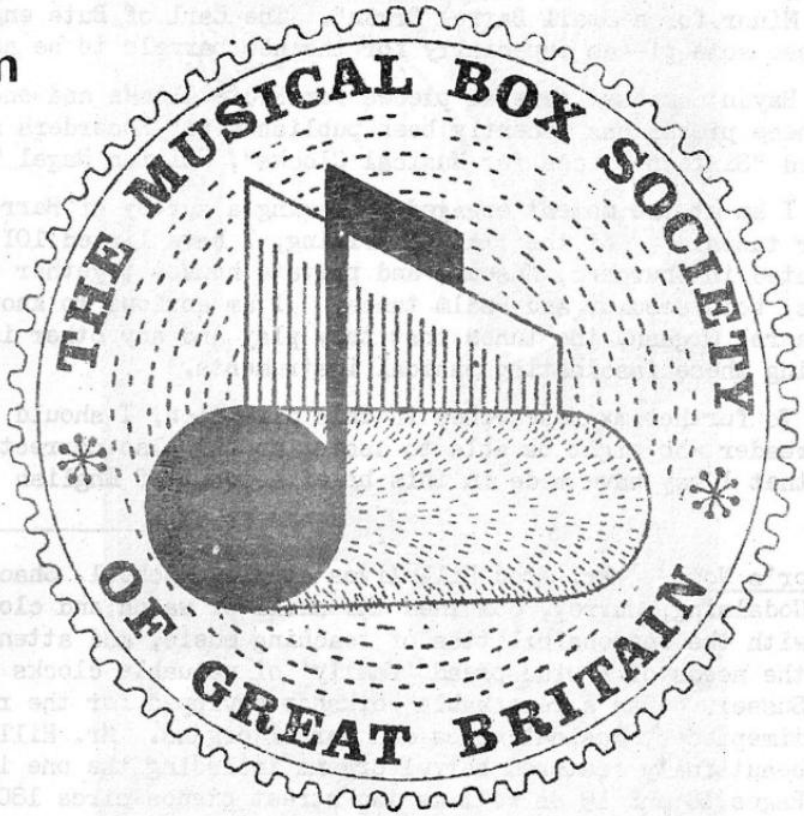
The Writer has recently successfully accompanied a school service with this Bates Dumb Organist.

The composers Back, Handel, Haydn, Mozart and Beethoven all at one time or another composed special pieces to be set on the barrels of mechanical organs.

W. A. Mozart's "Fantasy in F Minor" K.608, for mechanical organ has been revived as a popular concert number and was recently performed at St. Albans Cathedral. Another Mozart work was K.616 titled "Andante

(Continued on Page 16)

society emblem



The Emblem which has been chosen to represent the Musical Box Society of Great Britain is depicted above and is the work of Mr. Bruce Angrave. At the request of Members attending the March meeting, your Executive Committee examined a number of proposals for a suitable design including several submitted by Mr. Angrave. A final 'short list' of designs was prepared and these two were presented at the Autumn meeting, Members being invited to state their preference by a show of hands. The overwhelming majority voted for the design shown here and thus adopted by the Society. Enquiries are in hand now to find out the manufacturing costs for car badges and lapel pins for sale to Members. These costs, when available, will be circulated to Members before any decision to manufacture is reached. We would like, on behalf of the Society and Members, to express our thanks to Mr. Angrave for his work in this connection.

(Continued from Page 14)

in F Minor for a Small Barrel Organ". The Earl of Bute engaged Handel to compose some pieces especially for the new barrels to be added to his organ.

Haydn composed several pieces for Flute Clocks and one excellent book of these pieces has recently been published for Recorders and Strings entitled "Sixteen Pieces for Musical Clocks", Edition Nagel 538.

I am at the moment engaged in making a survey of Barrel Organs and their tunes. At the time of writing, I have listed 101 Barrel Organs situated in Churches, Museums and private houses together with about 800 tunes, both secular and Psalm tunes. I am anxious to know the whereabouts of Barrel Organs, the tunes that they play and any other information concerning these fascinating musical instruments.

To further my researches in this direction, I should be grateful to any reader who might be able to assist me and also correct me in any errors that I may have made in this brief account of English Barrel Organs.

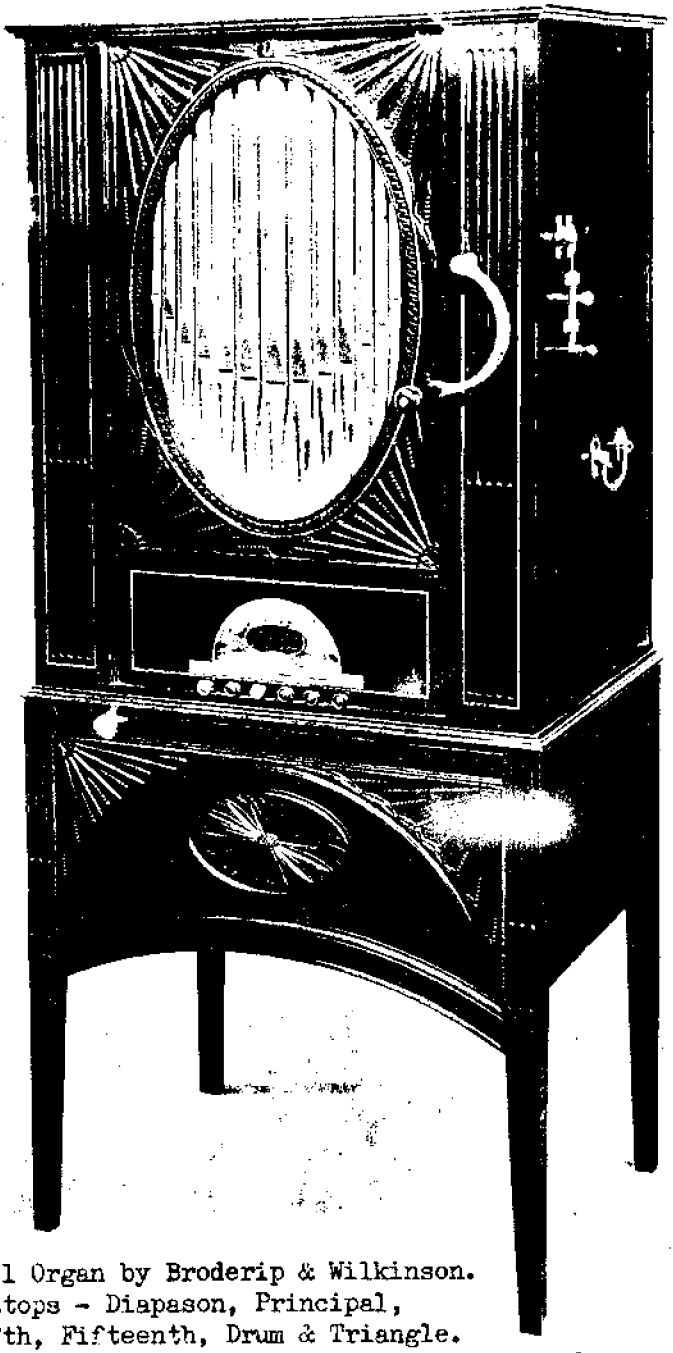
F. Hill

Editor's Note Mr. Fred Hill lives at Aldro School, Shackleford, near Godalming, Surrey, combines the skill of watch and clock repairing with the responsibilities of teaching music, and attends regularly to the needs of a widespread 'family' of valuable clocks in Surrey and Sussex. Has a remarkable workshop equipped for the restoration of timepieces, musical boxes and barrel organs. Mr. Hill owns several beautifully restored barrel organs including the one illustrated on Pages 18 and 19 as well as two street pianos circa 1800.

Members interested in further reading on the subject of Barrel Organs should refer to the following works:

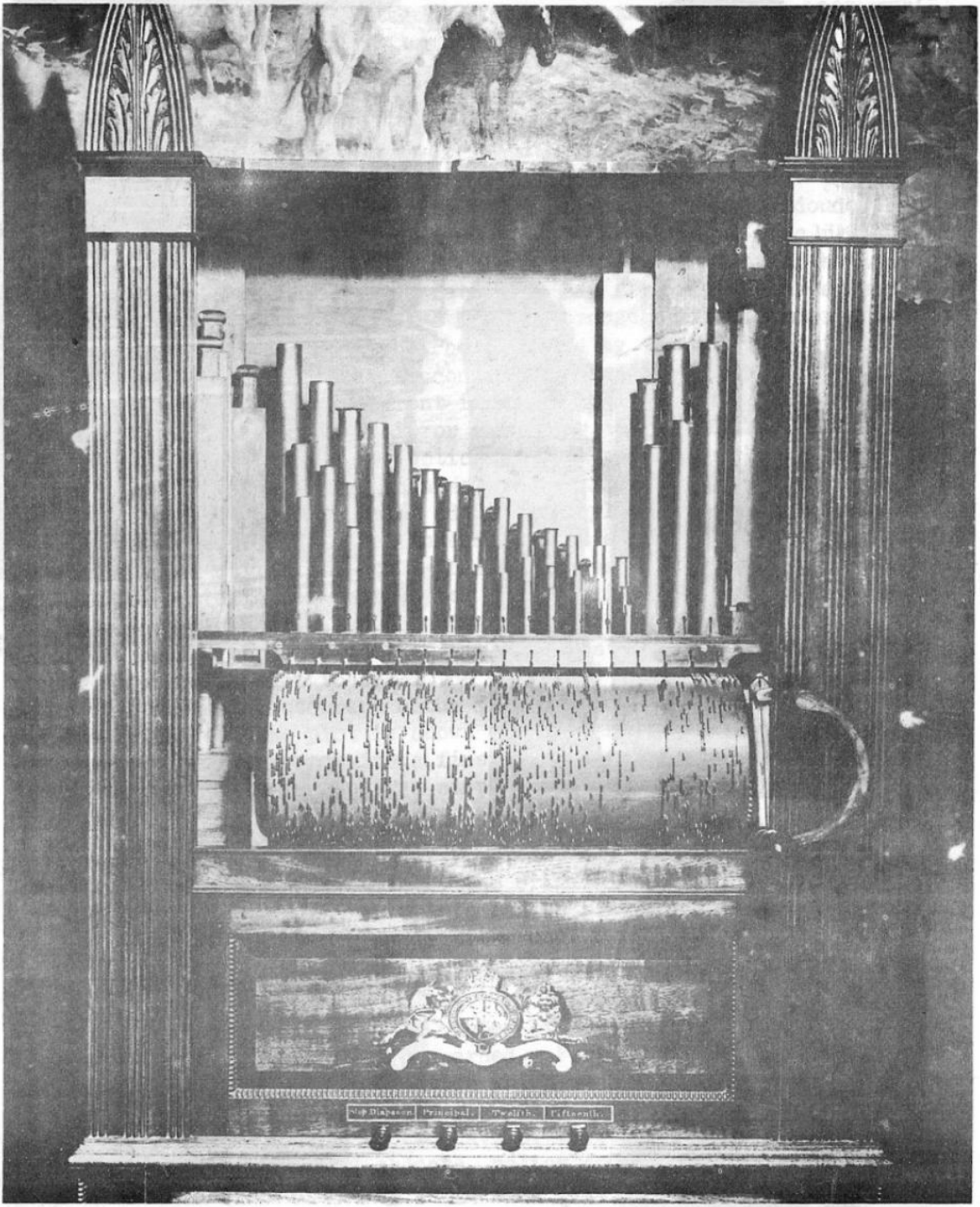
BUCHNER, ALEXANDER "Mechanical Musical Instruments" (Batchworth)
BOSTON, Canon NOEL "The Barrel Organ" contained in Vol. 7 of the Transactions of the Ancient Monuments Society
BOSTON, Canon NOEL "Barrel Organs" contained in "Music, Libraries & Instruments" (text of paper given to International Musical Congress, Cambridge, 1959) (Hinrichsen)
CHAPUIS, ALFRED "Histoire de le Boite de Musique" (Scriptar)
CLARK, JOHN E. T. "Musical Boxes" (Allen & Unwin)

Captions to Illustrations on Pages 18 & 19: Organ by Small Bruce & Co., Edinburgh. Stops are Diapason, Principal, Twelfth and Fifteenth. The rich ornamentation of the case is noteworthy. The door, visible on P.18, level with the crank and on the left hand side gives access to the barrel for changing whilst the large door in the base gives access to the two other barrels. Further illustrations will appear in subsequent issues of THE MUSIC BOX.



Barrel Organ by Broderip & Wilkinson.
Six stops - Diapason, Principal,
Twelfth, Fifteenth, Drum & Triangle.
Exhibited : Chelsea Antiques Fair, April 1962

captions on page


Stop Diapason
Principal
Twelfth
Fifteenth

A

C

D

CAPTIONS TO PICTURES (A) Etienne Blyelle stands beside the 1900 "NEW CENTURY" disc musical box. Pictured in a music store in Geneva, this instrument features four combs each of approximately 77 teeth. The disc is of surprisingly small diameter for the size of cabinet, as is the clockwork motor beneath its glass cover. There appears to be a speed control lever immediately to the left of the comb base and also what is quite possibly a timbro attachment under the top left-hand comb. The pediment bears the inscription "Henri Vidoudez, Ste. Croix (Suisse)" and the lower half of the case is a hinged disc bin. Possibly a Regina influence is the twin roller arrangement to hold the disc on to the peripheral drive cog. The retaining bar fits right across the disc. (B) This handsome cabinet houses a Mira interchangeable cylinder movement and stands over six feet high. Photographed by the Editor at the State Iconographic Museum, Madison, Wisconsin, the twin-barrelled motor drives a 22" cylinder. The ornate front is arranged to slide upwards to show the works, behind which is a mirror extending to the full height of the case (hence the extraneous reflections). Twin parachute checks are fitted indicating late 19th century manufacture. A timbro or zither is fitted and the twin doors at the base house additional cylinders whilst the whole design of the case seems to be intended to cater for the requirements of the knick-knack collectors, there being shelves for plates, ornaments &c. (C) 16-note Amorette reed organette. Similar in mechanism to the Intona, the Amorette discs have flanged note slots which depress the piston to sound the note - opposite to the familiar Ariston type where the piston raises through the slot to sound the note. (D) The handsome ebony front cover of a musical photograph album from the Editor's collection. Richly and deeply carved, the picture shows an old bearded man and a young girl. The back of the album contains a fine two-air movement bearing the name "Galliard" and, quite unusual, a simple tune sheet is provided.

NOTE! The Editor is always pleased to receive pictures for reproduction. They must be glossy, preferably post-card or half-plate sized but, wherever possible, the original negatives should be sent from which correct-sized prints can be made. All material loaned will be returned immediately after use.

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MEMBERSHIP DRIVE The larger the number of Members which our Society has, the better it will be for all concerned. Furthermore, our Members share between them a wealth of information which we believe could be of interest to everyone. More Members means a greater realisation of this. In an endeavour to boost membership, we have prepared some special application forms which state the aims, objects, policy and benefits of the Society. A specimen is enclosed. If you would like more copies, please ask. Would every Member use this form to try to obtain at least one new Member.

THE ORGANETTE
IT'S HISTORY & DEVELOPMENT

By R. A. Moss

HISTORICAL SIGNIFICANCE Easy terms, low deposits, high-pressure advertising and warehouse-to-customer sales are popularly depicted as a feature of life in the present age. However, turn up an 1898 edition of the Strand magazine and one is confronted with fantastic too-good-to-miss, think-what-you-save offers such as "The Autoharp - easy to play, easy to buy", "Seven Year Old Rye - direct from Distiller to Customer", "The Y. and N. Patent Seamless Corset (3000 Testimonials and ..... "The Excelsior Organette - even a child can play it! Bulk purchase enables price reduction from £3 to 23/6d. Send 5/- deposit and 12 monthly payments of 1/8d".

The Manufacturing Age, as epitomised by Henry Ford, was beginning. Oil lamps, American clocks and rolls of wallpaper were being produced in their thousands. Two widely seperated countries served as the birthplace for the Organette - Germany and the United States and, from both of these countries, came the manufactured Organette. Produced in great quantities their sales were handled - and stimulated - in many cases by agents. With a Gem Roller Organette, complete with 3 cylinders, available in the U.S.A. for as little as £1. 12. 6d, here were Organs for All!

Hurdy Gurdies The most mis-used title in the history of Mechanical Musical Instruments is probably 'hurdy gurdy'. It is sometimes utilised by enterprising (or less scrupulous) 'antique dealers' to good effect by endowing an organette with a shoulder strap and calling it a 'hurdy gurdy'. When considering the history of the organette, it is interesting to follow the development of the use of the term 'hurdy gurdy' and see how it became applicable to several quite different instruments, the organette included.

The original hurdy gurdy, also known as a rote, was a type of violin or guitar, the strings of which were caused to vibrate by a hand-cranked wheel, thereby producing a droning sound. The term 'grinder' may have originated with this machine. The use of this ceased in the eighteenth century when the 'organ grinders' began to use the fully automatic barrel organ, the portable variety then receiving the title hurdy gurdy. At the end of the 18th century, free metal reeds, as used later on in the organette, were perfected and towards the end of the 19th century they were incorporated in hurdy gurdies so that machines with a larger range of music for the same portable weight and size could be made.

Now, the Gen Roller Organ was similar in design, although considerably smaller than these later hurdy gurdies, even the sound being comparable. With the present rarity of these hurdy gurdies, the title easily

passes to any organette.

The conclusion of this story came with the final instrument to receive the title - street barrel pianos, also known by the equally falacious term 'barrel organ' or 'piano organ'. These superceded the portable reed barrel organs and the operators of barrel pianos are still known as 'organ grinders'!.

HISTORICAL BACKGROUND In the same way that Edison in the United States and Cros in France apparently worked independently towards the invention of the phonograph, the organette was developed along independent paths in France and the United States.

It is probable that the story began in France. In 1846, A. F. Debain made an automatic player of keyboard instruments. This was called the Antiphone and was claimed to replace the organist. The fingers were actuated by iron pegs set into a moving flat piece of wood. In 1852, de Corteuil substituted a perforated cardboard strip for the iron pegs and wooden plate, the holes in the strip controlling the fingers of the player machine. Working in Nantes, J. A. Teste developed from de Courteuil's machine the first recorded organette in 1861. He called it the Cartonium. A stiff perforated cardboard disc passed between a metal plate and the lid of the Cartonium, thereby pressing down fingers which, in turn, closed valves to the reeds from the wind chest. A perforation in the disc released a finger, opened a valve and a note sounded.

The Germans, being a manufacturing nation, took up the idea of the Cartonium and all German organettes work on Teste's principle, although in some cases the cardboard disc is replaced by a metal disc or continuous cardboard band.

In the United States, E. P. Needham invented the simple idea of perforated paper passing over channels in which reeds were fixed, the channels leading to an air-chest. The patents covering this idea were sold to the Mechanical Orguinette Company which began production of this type of organette in 1876. Although no organettes appear to have been manufactured in France, this country may claim, in addition to Teste's principle, the inspiration for the American pneumatic organettes which followed those working on Needham's principle.

C. F. Seytre of Lyons patented in 1842 his Autophon which played from perforated cards. Hammers were pneumatically caused to strike the strings in the instrument. In 1863, Forneaux produced a pneumatic piano player, the fingers of which would play a normal piano and this led on to R. W. Pain's player piano, a self-acting piano as distinct from Forneaux's piano player. Pain's piano was built in the United States for Needham & Sons in 1880 and about this time the pneumatic principle was applied to organettes with the advent of the Celestina. To complete the perspective,

Welte introduced paper rolls for Orchestrions in 1878 and E. S. Votey was granted his patent for the Pianola in 1897, this being the final stage in the development of the player piano.

The roller organ which was operated by a small wooden barrel was introduced in about 1880 and the idea for this design probably came from the larger metal-reed hurdy gurdies being produced at that time. The lateral movement made by the cylinder turning on a spiral was already in use on barrel-operated Orchestrions.

DESCRIPTION OF MODELS 1. German Of the metal disc machines, the Atlas came in two sizes - 12" and 10⅜". The latter model had eighteen notes and this make had the action as a separate unit to the case whilst the rival Ariston incorporated the case in the action as the wind chest. The Arriosa, Intona and Phoenix were all similar and again came in two sizes. The familiar zinc discs with the cut-out centres provide an easy recognition factor. The sizes were 12" external diameter by 7" internal and 8½" external diameter by 3¾" internal. As compared with the plain slots of the Intona which pressed down all the reed pallets except those that were required to play, the Amorette was produced having punched slots which were circumferentially flanged. In this machine, the flange was arranged to press down the reed pallet link to sound the note. Amorettes were made in at least two sizes, the smallest had sixteen notes and the disc was 8.8" diameter and another, known as the 'No. 18', played eighteen notes from a 10⅜" disc. The discs were interchangeable with the Atlas.

The Manopan and Victory organettes are examples of the card band variety, but the Kalliston is the most worthy of mention. Probably the organette with the most elaborate specification, it had 24 notes with two reeds per note making 48 reeds, together with four bells, thus requiring 28 keys. The music band encircled the end of the case.

However, the most prolific German organette in England is the Ehrlich Ariston type. Those imported by Hermann Loog Ltd. of London Wall were endowed with lids complete with large colour transfers and were walled 'The Hermann'. The 13" diameter leather-paper discs play on 24 notes and there would appear to have been 5,000 titles from which to choose, although this must cover several nationalities. One or two later number metal discs were made for Ehrlich organettes, but these do not play as easily as the leather-paper variety. Ehrlichs also produced card discs 11½" in diameter - these were in 1500 number series - possibly for a smaller Ariston or for the later Orpheus. Several Ehrlich zinc discs have come to light 8⅜" diameter in the 8000 series.

Although the Ehrlichs are also well known for their Monopol disc musical box series, nothing is heard of the Pianette, known also as the Orpheus. The action incorporated several parts from the Ariston including

the leather-paper-type discs. The Pianette which was shaped like a Grand Piano but only about two feet long, was wound from the side. The 24 string notes were hit by hammers and when the disc perforation passed away, a damper was pushed down on to the strings of a note to deaden the sound. Thus the sustained organ notes on the discs were also sustained to a certain extent when the same notes were played on the Pianette.

2. American Of those organette manufacturers in the U.S.A., two firms stand out from the rest as the leading lights of the industry, namely the Mechanical Orguinette Company and the Autophone Company. The former Company is the subject of a success story which is worth tracing from the beginning right through to the decline of the organette.

Needham's idea for the paper roll organette was put into practice by Mason J. Mathews who prepared the organettes for production. William B. Tremaine, working for the piano firm of Tremaine Brothers, took the opportunity presented by Mathews and, at the age of 36, formed the Mechanical Orguinette Company in 1876. The organettes were made under contract for the firm by the Munroe Organ Reed Company of Worcester and the paper roll music by the Automatic Music Roll Company of Boston. The name Munroe never appeared on any of the organettes. One of the first models was the Royal 'Orguinette' with 14 notes, patents for which were taken out in England on July 18th, 1882. The $7\frac{3}{4}$" wide rolls, not being wound on to a spool, are rather tedious to re-wind. The next models to work on Needham's principle were the Celestina, Clariona and Aurephone, all with 25 notes played by $13\frac{1}{2}$" rolls which were wound on to spools. These models were patented in 1879. Similar to the 'Royal' was the 'Melodia'.

At this stage, literally thousands of organettes were produced in a year. In about 1880, the range was augmented by pneumatic organettes, the most popular model probably being the Celestina. The $5\frac{1}{2}$" rolls played on 20 notes. Other models using the same action as the Celestina were the Mandolina, Seraphone, Mignon, Peerless and the Arial. The Arial was advertised as being made in England but this probably only applied to the case. The Peerless also came in a 14 note size with 3" rolls. A pneumatic organette in good order has the advantage that the notes answer immediately and loudly so that they are suitable for dancing and singing. The swell flap on the front of these organettes is usually kept closed for 'parlour' use. The Celestina was introduced only to play rolls but was later modified to play both rolls and endless bands. Hymn tune rolls designed for singing purposes have duplicated verses while only one verse is required on endless bands. The operator simply carries on winding the band through for the desired number of verses. The Celestina rolls were grouped under different headings and number batches; 300 series were all sacred music; 400 popular, 500 operatic, 600 dance, 700 French and German. The prices of rolls, which varied according to the length of paper, are illustrated in George Wight & Company's English 'list of music arranged for the Celestina'. Roll No. 608, the complete Lancers Quadrille, which

plays for 14 minutes, was one of the most expensive at 11/- whilst the leas expensive roll, 'Nearer my God to Thee' - complete in four verses with interludes, cost just 2/6d.

In 1883, the Aeolian organs were introduced by the company and such was the success of the 'orguinettes' and Aeolian organs that in 1888, the Automatic Paper Music Company was purchased. At the same time, the Mechanical Orguinette Company was re-organised as the Aeolian Organ and Music Company. In 1892, the patents owned by the Munroe Organ Reed Co. were purchased and 1895 saw the introduction of the Aeriol self-acting piano. H. B. Tremaine, son of W. B. Tremaine, became President of the Aeolian Company at the age of 33 in 1895. The now world-famous Pianola was introduced in 1899, a trade name which became accepted into the dictionary, substituted by the masses for the term 'player-piano'. By 1903, there were 13 subsidiary companies in the Aeolian Company, an organisation which had been formed 27 years previously for the sale of organettes. A product worthy of special mention to conclude this story was the Duo-Art reproducing piano mechanism which was introduced in 1913 - the first in the United States. This was fitted to their own and other famous makes of piano such as Steinway, Weber &c. These pianos reproduced not only the music but also the style of playing of the artists who 'recorded' the roll and should therefore not be confused with Pianolas which simple reproduce the music and rely on the pianola operator to supply expression. Reproducing pianos, although embraced by the aims of the Musical Box Society of Great Britain, have not yet been introduced by any Members!

In the United States, the term 'roller organ' applies to all organettes, disc-operated zithers (e.g. Chordephon) and table-model automatic pianos. In England, the word is more logically used and describes those organettes which are operated by small wooden barrels. They were all manufactured by the Autophone Company of Ithaca, New York, and were one of the best selling organettes in the States. For example, in 1882, 18,000 were sold. However, just as Ehrlich organettes are rare in the United States, so the roller organettes are scarce in this country, less of this type having been imported. The 'Gem' roller organ had 20 notes and played $6\frac{1}{2}$" wooden barrels which rotated for 3 turns and simultaneously moved laterally by means of a spiral gear - this system being similar to the large barrel Orchestrions. The playing time was about half a minute and there were eventually 1500 selections from which to choose. The Concert or Cabinet roller organs utilised the same action in a more elaborate case. A later model, the Grand Roller, had 32 notes played by a 15" barrel and sold in the States for about £5 with three barrels. The sales of roller organs were greatly increased when the large mail order firm of Sears, Roebuck & Company took over distribution and advertising of them.

In 1880, the Autophone Company introduced an organette known by the

Company name and this played perforated strips. The two cheapest models had 22 notes and the larger, treadle-operated floor models had 32 notes. The operator had to squeeze the sides of the 22-note Autophone and the strip passed through the top of the organette, the music being produced on Needham's principle, except for the sustained notes which were regulated by the operator controlling the advancement of the strip with a hand-controlled ratchet.

A further example of American organette was the 16-note Musette but, along with other less popular makes, no information is in my possession.

b. English Whilst not unnaturally German organettes were quite widely distributed throughout the British Isles and such makes as Diana and Intona were featured in the Polyphon catalogues, several English makers devised machines as well. These displayed then typical ingenuity by being 'different'. In 1896, J. M. Draper Limited of the 'English' Organette Works, Higher Audley Street, Blackburn, produced the 'Orchestral Orgarette'. Selling for £2, this included 28 notes, three stops (Vox Humana, Expression and Flute) which were described as 'furnishing the grandest orchestral effects'. The method of operation, unfortunately, appears not to have survived and it can only be conjectured that the 'Vox Humana' and 'Flute' stops were represented by uncovering different reeds of different tuning, resonance or disonance. However, this sophisticated organette no doubt followed the smaller 'English' organette from the same maker. This was a neat looking shallow cabinet with an open windchest. Reeds were mounted in a small rectangular box which, complete with friction roller, was clipped over the wide tune strip. The roller pressed the perforated paper tune to a rubber-covered shaft which was connected at one end to the winding handle and at the other to the bellows cranks. This model had one 'stop' named 'Expression'. Its function? To open a long flap behind the reeds to make more noise! An example of the "English" organette is in the Gilchrist collection at Cowes.

Probably of similar mechanism was the Aerial Organette comprising two rows of double reeds ('double voiced') and four stops including Vox Humana. This played rolls or endless bands and was a costly contrivance at £3. 12. 0 complete with six endless bands and one roll of music.

It seems likely that, somewhere, examples of these 'refined' organettes survive to this day and it would indeed be interesting to have the opportunity of filling in the intriguing information which is missing.

LATER HISTORY In the 1920's, an automatic accordian actuated by a paper roll was produced in Leipzig. The control of the instrument was comparable to an Autophone, the accordian being held in the hands. The bellows were operated in the normal manner for an accordian and the right hand operated levers on the outside of the case which caused the roll to move.

Perhaps the last organette to be produced was the Rolmonica, introduced in the United States in 1929 for 7/6d with 4 rolls. It was similar to

a cheap mouth organ with a bakelite case, the operator blowing in the usual manner for a mouth organ. In addition, the roll was wound on with a handle operated by the right hand.

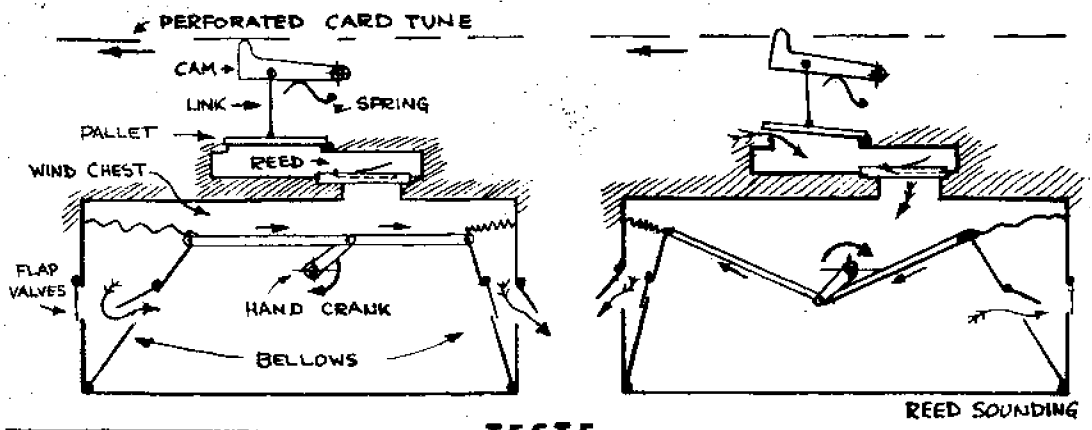
THE APPEAL OF AN ORGANETTE As shown by the prices commanded by organettes in good order, there is an increasing demand among collectors for these instruments. The appeal is made up of several different factors - one of which is the act of turning the handle. The operator actually produces music and, however small is the part which he plays in the performance, the organette is nevertheless dependent upon an operator. The living example of this factor is the popularity of hand-wound barrel pianos compared with clockwork-driven barrel pianos.

The musical quality, however, often appears to be in some doubt. An antique dealer, on being asked recently about mechanical musical instruments, replied 'no, nothing musical - only a thing like an old organ'!. The removal of large quantities of dust from the reeds made the Celestina sound like a new machine! Although there are usually only about 20 notes in an organette, the inexperienced ear would probably not detect this because it is a characteristic of free metal reeds that, when sounded, they tend to produce a chord-effect and not just a pure note. The relatively small number of notes is therefore not such a disadvantage as at first believed. Again, considered mechanically, the organette has a distinct advantage concerning the length of music which may be played. Listen to the 120-second 'Hallelujah Chorus' from "The Messiah" on a 19⅝" Polyphon and then wind a Celestina for the same piece of music. In the latter case, the roll plays for the same length of time as the original musical score.

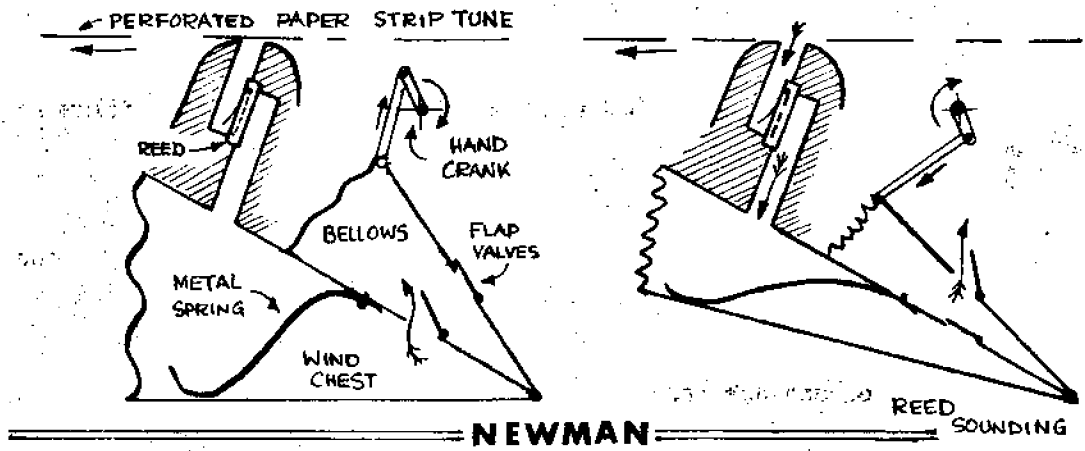
The cases are not the product of High Wycombe craftsmen but are often attractive in design and a convenient size for the modern home.

Add the factors together and one is presented with an automatic musical instrument which makes a refreshing change from the musical boxes as has already been found by many collectors.

AUTHOR'S FOOTNOTE Whilst every effort has been made to ensure the accuracy and completeness of this article, there are inevitably omissions where no information has been found available. Members who can provide any notes or corrections are invited to send them to The Editor. The Author furthermore adds an invitation to interested Members to see and hear a small collection of organettes at his home - 109, London Road, Luton, Bedfordshire. The Author also wishes to make special reference to the assistance he has received from Mr. D. Smith of Takeley, Essex, who has provided much information and also the Editor of THE MUSIC BOX.



TESTE



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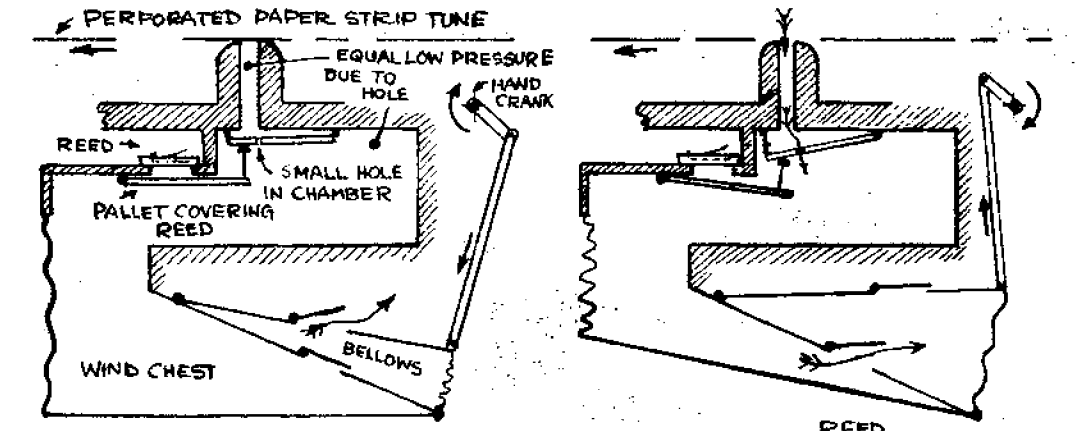
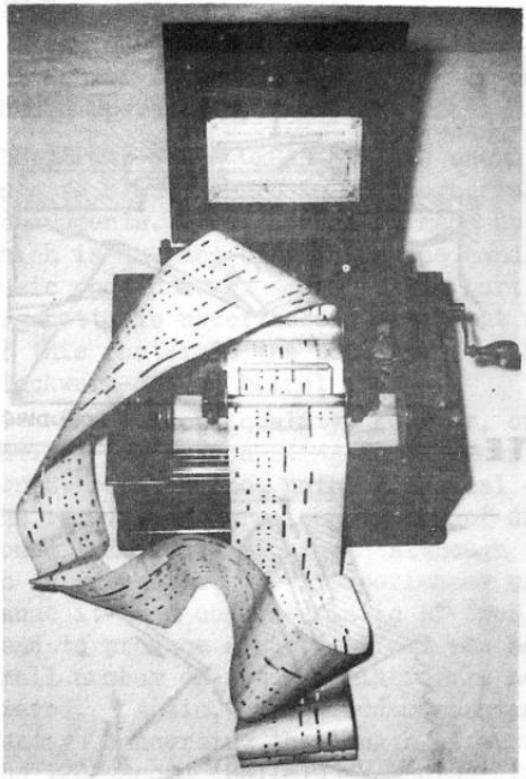


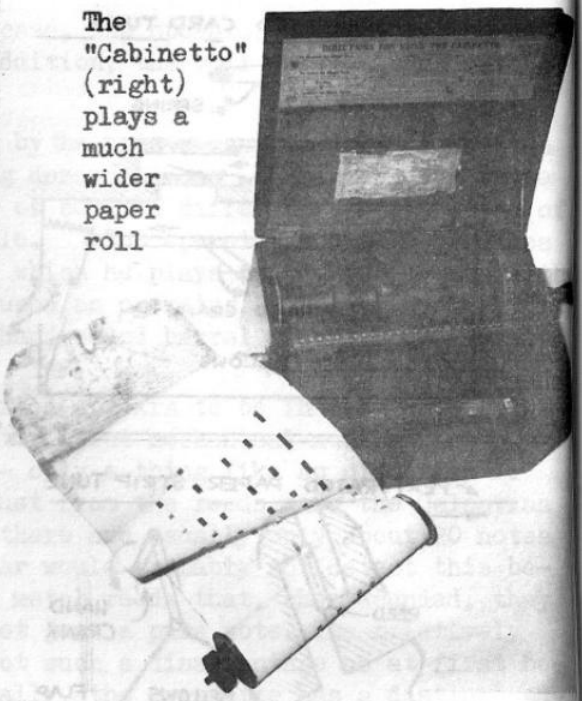
PNEUMATIC

A.N.J.6.050-HIME



The "Seraphone" (above) and "Celestina" (beneath) both play rolls or endless bands

The "Cabinetto" (right) plays a much wider paper roll



Below is the Ehrlich "Ariston" which plays card discs

MUSIC AND TIME
- a diversion -
by The Editor

There is a strong affinity between the musical box and the clock. The clock, of course, is very much older but then so is time. However, I find it interesting to note that many collectors of musical boxes either also collect clocks and watches or develop an interest from one to the other, not necessarily at the expense of the first, but purely as a complementary study.

The fine art of clockmaking is quite as fascinating and as distinctive as musicwork. Recently, I have been reading Kenneth Ullyett's fine book "IN QUEST OF CLOCKS" and I was not really surprised to recognise in his writings much that could be translated from clocks to musical boxes.

He writes, for example "It is an awesome reflection that in the very fact we cannot 'buy' an example of the craftsmanship of the old clockmakers. Their work is far more enduring than is our own substance. All we purchase is the right to live with some timepiece, some masterpiece in metal which left its maker's hand perhaps two or three centuries ago, which tells the time and sounds the hour now just as it did then and which will be continuing its function long after we ourselves are forgotten".

Ullyett says some lucid things about 'antiques' and relates that the precise word has come to imply merely old-fashioned. This is true and one only has to explore the average 'antique' shop to verify it! It is a sad state of affairs when the contemporary contents of a mid-Victorian home can be displayed for sale as 'antiques'. There are many fine antique shops, reputable dealers and truthsayers I know and my generalisation intends no offence to the genuine friends we have in the trade.

The musical box is, perhaps in a more subtle sense, also indicative of the passing time. Pause a while as you listen to the purity of sound from Bremond, Lecoultre, Nicole - pause and ponder on the generations who have also listened to the same steel tongues set in vibration by the same pins. Spare a thought for the genius who, without recourse to the facilities we take for granted, planned and built and then set in motion for the very first time the treasure which you now own. These men, masters at their craft, are no more, yet their work lives on.

Clock-maker Thos. Lister in 1730 wrote on the door of a long-case clock the following words which Ullyett quotes in his book:

Lo! Here I stand by you, upright
To give you warning, day and night;
For ev'ry tick that I do give
Cuts short the Time you have to live.

Therefore a warning take by me,
To serve thy God as I serve thee:
Each day and night be on thy guard
And thou shalt have a just reward.

THAT MASTER TOUCH By Arthur W. J. G. Ord-Hume

Recently, I had cause to clean and overhaul a handsome Nicole 8-air machine, No. 42373. The mechanism was in fairly good condition and just about the first thing I noticed was its superb tone. It was thus not without surprise that I detected that almost every comb tooth had been re-pointed and with such a high degree of skill that the repairs defied all but a glass to detect them. The cylinder was then examined and bore the slight signs of having been re-pinned - again superbly executed. A faint rectangular discolouration on the motor barrel face then disclosed where a complete segment of half a dozen new teeth had been cut in - the fit so perfect that no solder or braze could be detected. Quite obviously this machine had been rebuilt by a craftsman after some early disaster. Later and much cruder repairs were also evident - the winding lever pawl click-spring had been replaced by a useless bent piece of brass and a new tooth had been cut into the cylinder great wheel - this latter repair being an extremely crude effort.

I thought this an interesting discovery: had the machine had a maker's rebuild and, if so, why had the comb been so painstakingly repaired when surely it would have been cheaper to fit a new comb? The several teeth on the comb which are new are undetectable on the face and only upon the closest scrutiny of the underside of the tooth roots can tell-tale traces just be seen. I discussed this with Mr. Clark and he suggested that the evidence pointed to a repair by Henri Metert who would, on principle, repair rather than replace. The initial 'M', he said, ought to appear somewhere, possibly scratched on the mechanism. This would positively identify the work as Metert's. I could find no 'M' on the brass-work, but found a clear initial 'M' penned to the tune sheet just to the right of the '8 Airs' heading. This, Mr. Clark asserts, in definite evidence of Metert having re-pinned the cylinder. Since re-pinning must have followed the catastrophic run which broke the teeth of the comb, one is safe to credit the comb repairs to him also. Again, since a run can shear off teeth on both motor barrel and great wheel, I believe there is sufficient evidence to credit all pf the skilled repairs to Metert.

All this I find most fascinating in particular since the comb has retained its fine tone in spite of major repairs. The upper surface of the comb has been filed and re-polished to hide - successfully - all traces of tooth work.

Metert was apprenticed to Nicole Freres starting work at their Geneva factory when he was eleven years old. He came to London with the firm working first at Hatton Garden and then Ely Place. When Nicole went out of business in 1903, Metert carried on on his own as a repairer of musical boxes up to the time of his death in 1933 at the age of 82. In addition to repairing, Metert was also a manufacturer of singing birds.

THEORETICAL ENVIRONMENTAL BEHAVIOUR OF A VIBRATING STEEL TONGUE

By Martin Drivell*

Musical boxes produce their pleasing sounds by the setting in vibration of tongues of tempered steel. The forces acting on a tongue during vibration are readily calculable and have their reaction in line with the centre-line or centroid of the tongue, provided that it is symmetrical in section and uniform in thickness. We can see then that the tongue thus described will vibrate equally and uniformly regardless of the attitude in which it is plucked. However, since all musical boxes use tongues which are broader than they are thick, a variation in vibration duration is detectable between a tooth plucked when its broad dimension is horizontal and again when it is vertical. This is occasioned by the difference in the inertia of the tongue section in consequence of its weight, assuming always that the applied plucking force is constant.

The problem becomes vastly more complicated if the tongue is asymmetric in section and weight. There is the practice of weighting a tooth with lead to produce a lower frequency of greater sustension. At once the symmetry of the tongue is destroyed and its centre of gravity lowered well below the point at which it is plucked. To obtain a lowering of the pitch, a given amount of lead will be effective regardless of the attitude of plucking but sustension and volume of sound produced is dependent on the line of the applied force actually passing thought the centre of gravity of the tooth.

To simplify, if the weight is vertically below the tongue, maximum sustension and volume will result. So far, so good. What happens, however, when we tilt our whole mechanism 90° so that the comb of tongues is still horizontal but pointing upwards (or downwards)? At once, there is a loss of sustension and volume because the tongue is rippling due to the asymmetric forces brought about by its vibration. Now raise one end of the mechanism so that it is standing upon one end. At this point, things become incredibly involved. Not only is there no hope of maintaining the plucking force in line with the centre of gravity of the tongue, but now the offset lead weight to one side tends to twist the tongue as it vibrates. Remember that in this attitude the action of plucking is horizontal whilst the weight imposes a tangential force on the tongue, thereby damping it. Whilst this out-of-balance force may be insufficient to fracture it, the sustension and volume of the resultant note is drastically cut.

In summary, then, a cylinder box comb is in the best possible position. The disc boxes with upright, horizontal combs comes second best but the poor large Polyphon-type with vertical combs must count as a classic piece of poor design. This can be proved easily, for my own Polyphon plays far better when laid upon its back!. Modern knowledge versus old beliefs!

* Guest author Martin Drivell; graduate engineer, age 37, music box lover

LETTERS TO THE EDITOR

Mr. C. H. Skinner, 9, Nightingale Place, Woolwich Common, London, S.E.18, writes:

First and foremost let me say how very pleased I am with THE MUSIC BOX. This is excellent in every way. I would like to pay tribute to your Editorial mention about the little scene enacted at Pompey Station re the Polyphon and the porter. This appeals to me very much. I also notice your mention in No. 2 of the Journal about the 'Polyphon Girl'. May I at this juncture make mention of the following.

Actually, she is a fully-fledged woman and she stands for German Industry, her name being Germania; in this instance the new musical industry. You will notice by the transfer that Germania is already crowned with success, further success is hers by the wreath of laurels that she carries in her right hand and regarding the shooting star this speaks for itself. And a very successful musical industry it was, too.

I have carded and boxed dampers I have made for my Polyphon should you consider them worthy of mention. Incidentally, I want a sketch of the stop mechanism as fitted to the 22" Polyphon. Mine is faulty. Can you please come to my rescue? In closing may I wish you more power to your pen.

The excellent set of dampers manufactured and delightfully presented by Mr. Skinner will be illustrated in the March issue and any Members seeking dampers might contact Mr. Skinner. Could somebody help with a detailed sketch of the stop mechanism for Mr. Skinner? Editor.

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A TRAGEDY

By John E. T. Clark

A few years ago, I was called to a large, well-known London store to repair a child's musical chair. This was a very elaborate basket-work arm-chair - very fine basket-work, gilded and red enamel. I took it home and found that it only wanted cleaning - I refer to the movement - and was otherwise in very good condition. When I had finished, I returned it to the firm and they asked if I would repair the twin chair. This was very much like the first one and I agreed to take on the work but said I would only take the movement which I could easily carry. I asked if their man would take the base out of the chair together with the movement. The workman was not available and I had to do this myself. This movement only required cleaning as with the other one. It was an old one and very finely made.

When I returned the job some weeks later, I assumed that their workman could fit the bottom to the chair. However, he was not to be found, so I asked to leave the base and movement for the man to fit when he returned. I left it in the firm's workroom standing on a bench with

the movement towards the wall so as to avoid dust &c. Now comes the tragedy! The workman did not return that day and the next morning when the boy swept up the workroom, he whipped up the chair base with the movement, placed it with other refuse in a sack and threw it into the incinerator! There was, of course, a fearful row - I expect the boy got the sack - and I was recalled to supply another chair bottom with a musical movement. I was able to fix the chair alright but could not, of course, supply a similar antique movement and was forced to use one of the album type.

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HOLD ON TO YOUR MAINSPRINGS - CONTACT!

Which official of our Society is it who has been seen recently cavorting over the countryside in a blue Chipmunk aircraft? Who is it who has spent all his spare time at Elstree Flying Club mastering the technicalities of aviating? And who was it who was late for a Committee Meeting once because (he said) he was delayed flying back from Cambridge on his solo cross-country flight? Congratulations to Secretary C. de Vere Green on achieving his Private Pilot's Licence. Mr. Green obviously is unaware that, in 1680, Borelli stated quite categorically '...Icarian invention is entirely mythical, because impossible'. Seriously, though, good show, Mr. Green. With both Editor and Secretary flying, the others haven't a chance!

MEMBERS IN THE NEWS

Lt. Col. Jackson Fritz, contributor of the article describing the twin-disc Symphonion in this issue, was visited by the DAILY EXPRESS reporter. The result was a fine write-up on his collection in the DAILY EXPRESS for October 15th together with a picture showing Mr. and Mrs. Fritz and one of their cylinder boxes. Mentioned also was our Society. Mr. Fritz, who has been in this country for about 18 months, has a collection of over 57 pieces including a fine Dutch flute-playing clock. Louise Fritz says she has thrown away the television set, favouring musical boxes. I hope she knows that you cannot get Perry Mason on a Nicole - even with an outsize antenna.....

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LIST OF MEMBERS

66. Barry J. Worham, 38, Denbigh Street, London, S.W.1
67. W. Galbraith, 82, Mannock Road, London, N.22
68. David Nixon, "Innisfree", Walpole Avenue, Chipstead, Surrey
69. Miss Y. Gilchrist, "Beaulieu", Queens Road, Cowes, Isle of Wight
70. T. L. Jones, Street Acre, St. Nicholas-at-Wade, Birchington, Kent

CHANGE OF ADDRESS

48. Brian T. Evans, 76, Tottenham Lane, Hornsey, London, N.8

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To avoid possible disappointment through loss of your copy of the Journal please notify the Secretary of any change of address immediately. Whilst the Society appreciates that sometimes these formalities get forgotten, it cannot hold itself responsible for any mis-direction or loss incurred through failure to ensure that your current postal address is on file.

Back numbers of No. 2 (Easter 1963) and No. 3 (Summer 1963) of THE MUSIC BOX are available price 6/-. No. 1 (Winter 1962/63) is now out of print.

The Editor is always anxious to receive contributions for publication in THE MUSIC BOX. Where possible, material should be typed or, failing that, written clearly. Line illustrations can be submitted in pencil or ink as they have to be re-drawn. Photographs should be supplied as negatives or, if these are not available, post-card or half-plate prints may be submitted provided that they are glossy originals and are contrasty and sharp.

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