THE MUSIC BOX

a magazine of mechanical music

Volume 6 Number 8

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THE MUSIC BOX

a magazine of mechanical music

Journal of
The Musical Box Society of
Great Britain
Hon. Editor: Arthur W.J.G. Ord-Hume

Volume 6 Number 8

Contents

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The Editor writes:

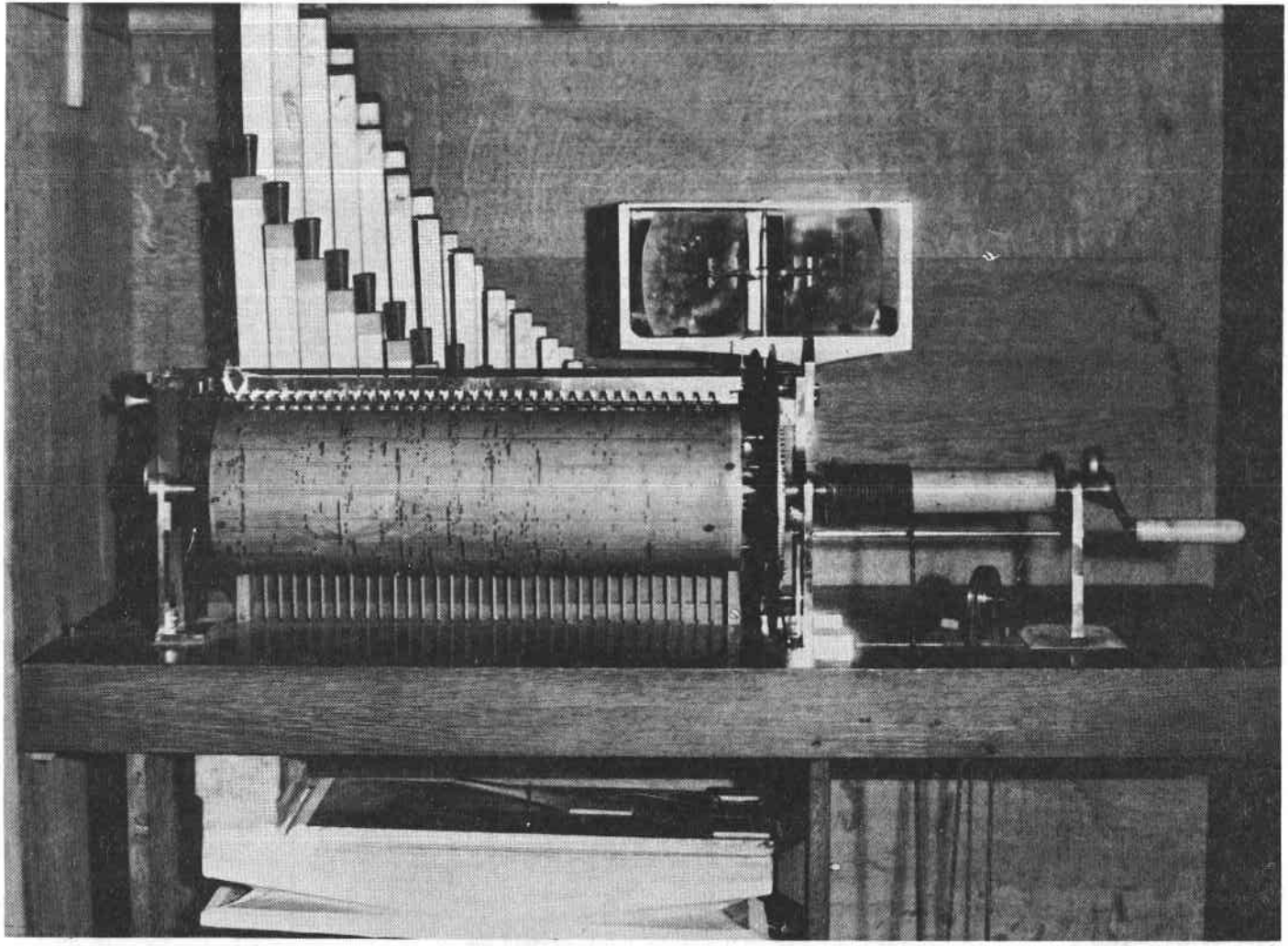
A TRIUMPH of achievement and organisation. That is how best to sum up the event which took place at Saddle Brook, N.J. over the last week-end in September 1974. The 25th Anniversary of our elder sister organisation, the MBSI, demonstrated clearly and succinctly the international interest in mechanical music and its instruments. The three-day event, expertly planned and realised, marked more than just the silver jubilee of a gathering of musical box collectors. It marked the undoubted maturity of a society comprising enthusiasts and experts drawn from all walks of life and all aspects of interest.

It demonstrated the power and intellectual wealth of knowledge and learning as well as friendship and collaboration within the society of which Walt Bellm is President.

Much of the credit for holding together a society whose home membership alone covers an area three time zones wide goes to the Bulletin, so carefully edited by our good friends Howard and Helen Fitch. Without their efforts the MBSI would be inestimably poorer.

But Saddle Brook also taught us a lesson and that is the importance of a strong working committee or team of rehearsed helpers to attend to the sheer mechanics of conducting a meeting and monitoring the movements of a crowd of people.

Continued on page 527



THE DUTCH MOZART ORGAN

by Arthur W. J. G. Ord-Hume

This is the story of what is, musically speaking, a most interesting discovery recently made in Holland where a hitherto unknown piece of music reliably attributed to Wolfgang Amadeus Mozart has turned up on the barrel of a technically unique barrel organ.

DURING the past few years, the name of the Dutchman, Dietrich Niclaus Winkel, has emerged as that of a true genius among those builders of mechanical organs. His name is best remembered, perhaps, for his remarkable Componium, an instrument of the orchestrion family which was built to compose its own variations on a submitted musical theme. This organ, which operates on the barrel principle, is in truth two separate organs built as one and playing two large pinned wooden cylinders at once. The interaction of both organs and their respective keyframes and stops is under the control of an incredibly complex 'clockwork computer'.

Winkel also invented a means of beating variable time as a means of instilling tempo into the minds of student musicians. This little machine, which was powered by weight-driven clockwork, Winkel called his Metronome. Both this primitive instrument and the complex Componium are connected with one incident in Winkel's life which is well recorded and which, ironically enough, is about all that can be learned with certainty about the man.

The metronome was made in 1814. At this point the second character enters the story – Johann Nepomuk Maelzel, the Ratisbon-born son of an organ builder who constructed at least two large automaton orchestras both of which bore the name Panharmonicon.

It is necessary to disgress a little at this point to study this man who earned himself the reputation of being a sharp, shrewd clever man of business, with a strong propensity to use the ideas of others for his own benefit.

Among Maelzel's circle of friends was Ludwig van Beethoven, who at this time was losing his hearing. Maelzel promised to make him an ear-trumpet, then considered an expensive luxury. Maelzel had just completed his second Panharmonicon, a larger and improved model, and wanted a special piece of music for it with which to launch it before the public. He prevailed upon Beethoven to compose a grand symphony to commemorate the Battle of Vittoria (June 21, 1813). The outcome was Beethoven's celebrated Battle Symphony, the only copy of the score of which Beethoven gave to Maelzel for setting on the barrels of the Panharmonicon. Maelzel, whilst doing this, saw fit to prevail upon Beethoven to score the piece for orchestra and this, too, Maelzel took possession of. The next thing was that Maelzel organised a concert at which the Battle Symphony was played. Beethoven learned that Maelzel was claiming the symphony as his own work, and so there opened the rift between the two men which led to the former seeking restitution through the Courts. But Maelzel was too shrewd and departed to Munich, still performing the symphony as his own. Beethoven never did catch up with Maelzel nor did he get his ear-trumpet.

And so it came to pass that Maelzel visited Amsterdam and here saw Winkel and the Metronome. Maelzel promptly went away and copied the mechanism, then set up a factory producing it as Maelzel's Metronome, a name by which the familiar pyramid-shaped item is still known to this day. Winkel took a dim view of this and tried, without success, to prosecute Maelzel. All he did succeed in doing was to get official recognition that the metronome was his own invention. This, though, brought him no salvation – and no monetary reward for his brainchild.

Winkel set himself to try to out-Maelzel Maelzel and decided that the one sphere in which he might exceed the talents of his wrong-doer was in the art of organ-building. He would build an orchestrion which would go one better than Maelzel's Panharmonicon. His would actually compose its own music. The manner in which he tackled this seemingly far-fetched scheme was to create the

Componium. It is still to be seen today in the Conservatoire de Musique, Brussels. It has had a chequered career including almost total destruction after Winkel's death, rebuilding by Robert Houdin, fresh tribulations playing background music to inspire the customers of a bordello, and then a decline until the closing decades of the last century when attempts were made to preserve it. It still works, after a fashion, and the writer spent some while examining its now out-of-adjustment mechanism two years ago.

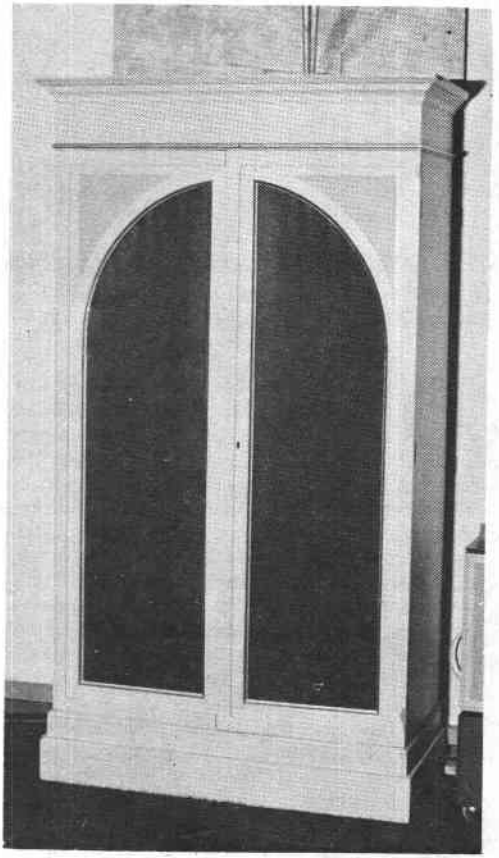
The Componium did work and it was evaluated by an independent panel of highly-qualified engineers and other experts who avowed that it was the most remarkable instrument of all time.

Sadly, this second great achievement again brought no salvation to its inventor. Nobody wanted to pay to see and hear the Componium. It was now 1821 and Maelzel had bought Von Kempelen's famous automaton chess-player (already accredited as a fraud) and was touring Europe and America making money out of its deceit. Winkel died in 1826 in poverty. All that survived him appeared to be nothing more exciting than a record of financial failure and two masterpieces – the metronome and the Componium.

Recent Discoveries in the Netherlands

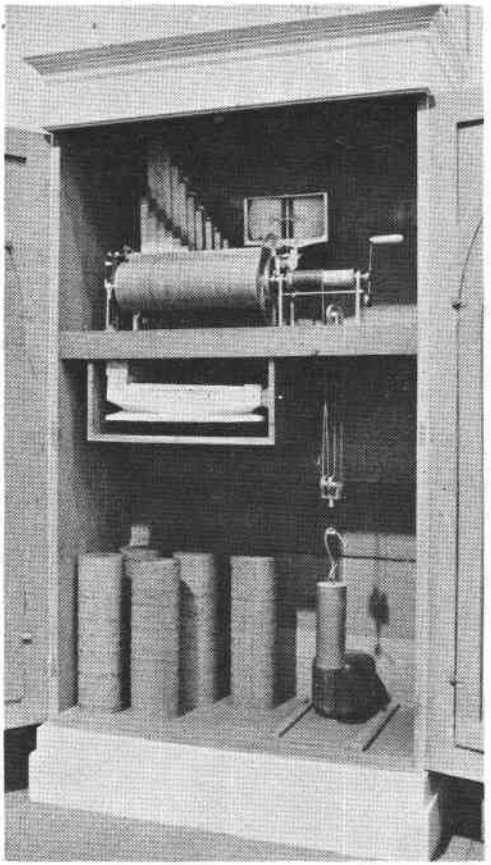
Until three years ago, that was all that was known about this man and his work. Since that time, though, three very remarkable barrel organs have been found in Holland, each bearing the signature of Winkel and each being in its own right a unique example of mechanical ingenuity.

The first organ came to light when it was presented to the Nationaal Museum van Speeldoos tot Pierement (National Museum from Musical Box to Barrel Organ) in Utrecht. The organ had come from the country retreat of the Six family, an aristocratic family among whose members had been the first Burgomaster of Amsterdam. It had been built by Winkel and dated 1819 and comprised 22 keys, two stops (one stopped and one shaded open) of wooden pipes with a fully chromatic compass from D two and one fifth octaves, and a weight-driven mechanism. Technically speaking, the instrument is remarkable. It is, as might be imagined, extremely small, being about the size of a medium-sized Black Forest clock organ. The stops are changed by means of a single key connected by a normal sticker to a counterbalanced trundle action. The key is provided with an overbalanced locking cam or latch so that when the key is raised by a special long barrel pin, its tail depresses the sticker and draws the sliders whilst the locking cam holds



the key in the 'up' position via a projecting nib at the head of the key. However, this locking cam has its own key-type point which projects below the level of the now-raised key point. This means that the next high pin on the barrel misses the stop change key, but contacts the cam, drawing it forward and so releasing the key which falls to its normal position and so cancels the stop selection. All this is fully shown in the accompanying illustrations.

For a weight-powered organ, one is accustomed to finding a train of wheel-work to regulate the power of the descending weight. This organ has just one wheel which lets down the weight under the regulation of a truly enormous air brake or fan which is fully eight inches in span by four inches deep. This has to be housed in a half-casing so as to avoid acting as a tremulant on the treble organ pipes. The feeders for the bellows are operated not by the accepted system of rigid reciprocators, but



by a peripheral set of pins on the single wheel. These pins contact lifting pieces which are pivoted off the organ case at one end, and carry connecting rods to the feeders at the other. Throughout the playing of the organ, these arms are lifted and dropped so as to pump wind.

The barrels themselves are all scored in what is termed 'rigid notation' (this is described in my book THE MECHANICS OF MECHANICAL MUSIC) and the surface is divided into a grid. However, unlike the barrels of the average clockwork organ, the Winkel organ barrels operate just like the cylinder in a musical box.

Each piece of music required seven revolutions of the barrel. Instead of the barrel advancing gradually on a spiral, it rotates in one plane for 350° and then for the final 10° of the circle it is advanced laterally by a cam and snail mechanism The musical pinning is, of course, continued across this shift.

The organ is housed in a comparatively small, plain case of small wardrobe proportions and has survived with a large selection of barrels which include music by Cimarosa, Haydn and Mozart. It is one of the Mozart barrels which is proving of immense interest, for it is pinned with an air and variations which are hitherto unrecorded examples of Wolfgang Amadeus Mozart's talent.

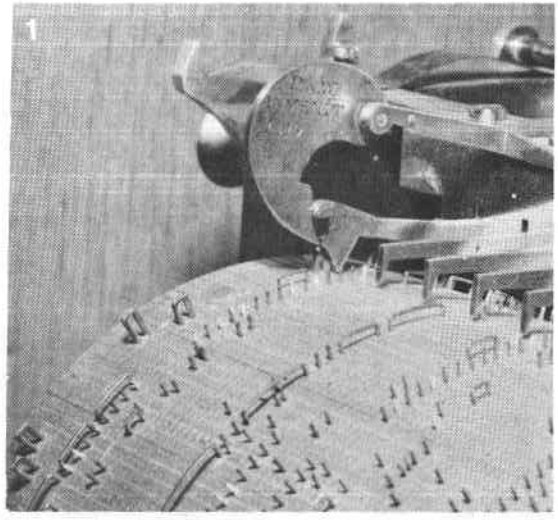
The Newly-discovered piece of Mozart's Music

Now Mozart died in 1791, Winkel built and dated this organ in 1819, and the published letters of Mozart show no correspondence between Mozart and Six. To justify the attribution of the music to Mozart we must examine the alternatives. Were the barrels originally made for another, earlier organ which might pre-date 1791? Unlikely, since the barrels all bear characteristics which have subsequently been identified as constant in the examination of the other contemporary Winkel organs. What is the music? It turns out to be a familiar Austrian song known to everybody who collects Swiss musical snuff-boxes. The tune is set in the key of D major. It is then followed by four D major variations, one in D minor modulating to F major, then B flat major and finally back into D major again. The scoring is extremely brilliant complete with breathtaking cadenzas. The music has been analysed by experts in the music of Mozart and all agree that it bears the stamp of the master. But, and this is even more telling, if Mozart did not write it, then there is nobody else of the period who is thought technically competent to have composed it.

This still leaves unanswered several important and obvious questions. How did it end up on the Winkel organ more than a quarter of a century after the death of its composer? It was common for composers to produce music or arrangements of favourite tunes for friends, hosts of influential people and quite common for there just to be written one copy. The composer would think so little of this work that to give it to somebody caused him no grievance. From a surviving member of the Six family in Holland, it is confirmed that the music was a favourite air, and that it was arranged for the family by Mozart. There is much more corroborative evidence of a musical kind which I shall not enter into at this time.

Winkel, the real genius

So there we have the story of Winkel and the Dutch Mozart organ. In conclusion, and in order that the real star of the story should not be eclipsed by the better-known names of Maelzel,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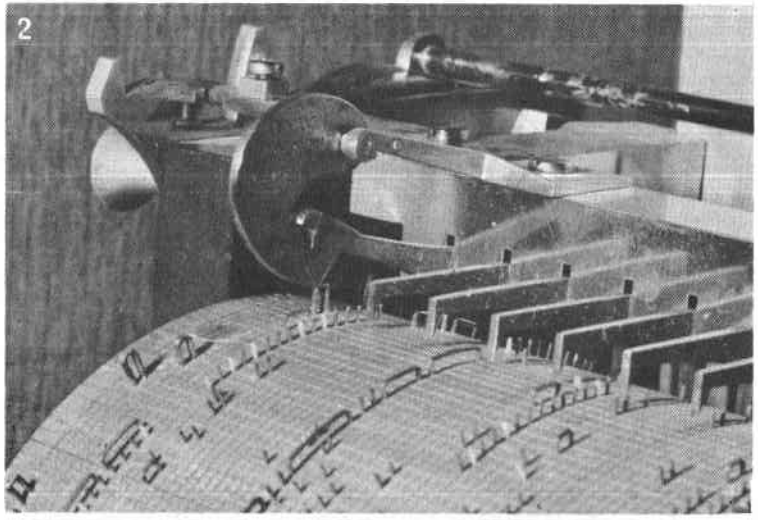
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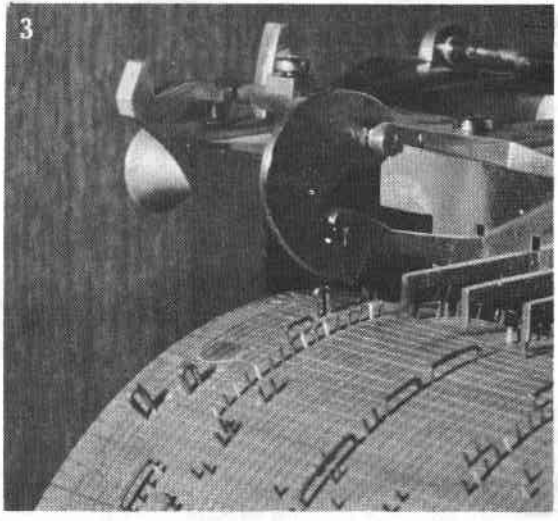
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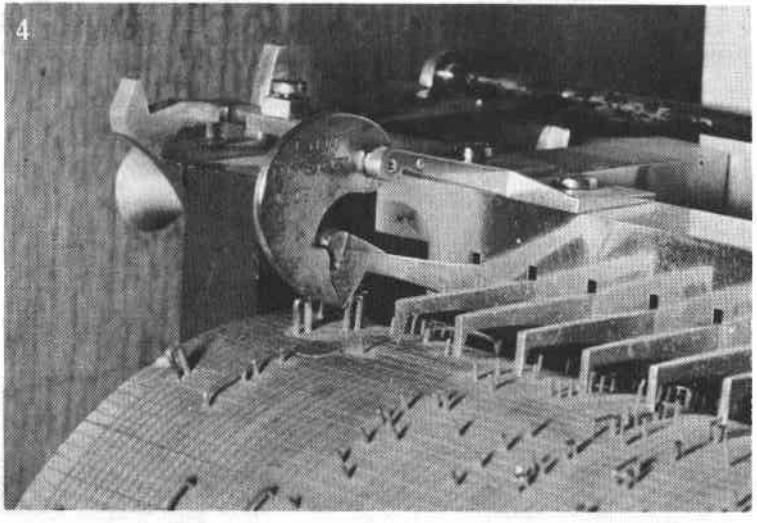
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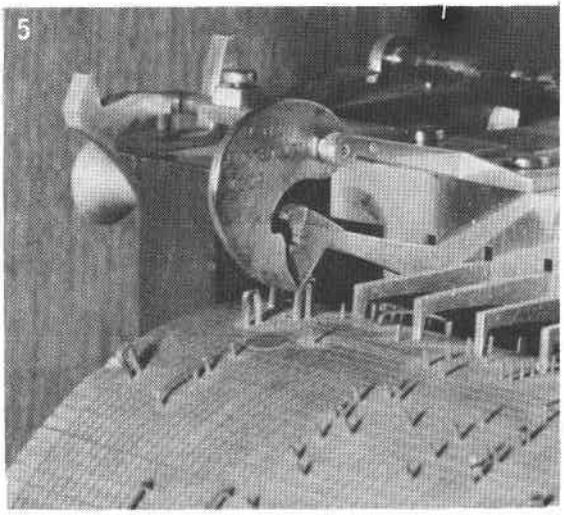
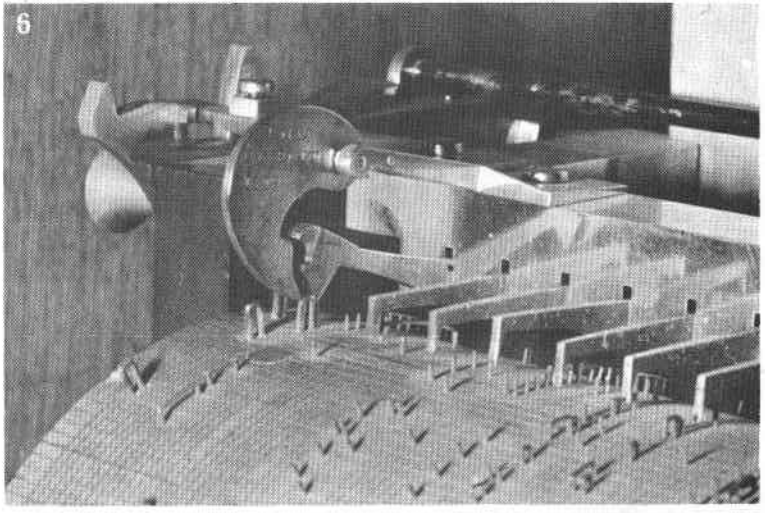
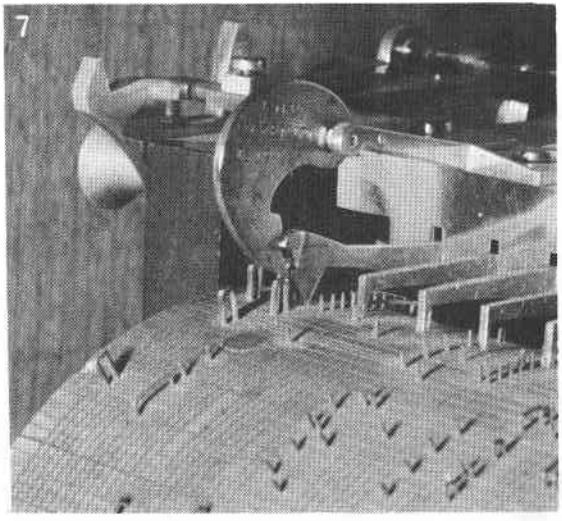
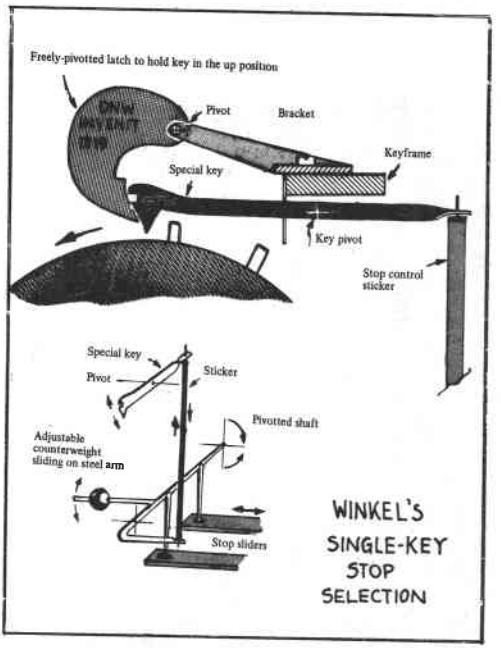






The sequence of operation of Winkel's single-key stop-change control. Picture 1 shows the stop-change key in the normal position, aligned with all the other keyframe keys. The locking cam hangs free. In Picture 2, a medium-sized barrel staple has lifted the stop-change key so that the locking cam drops under the projecting nob of the upper front of the key. In Picture 3, the medium-sized staple has passed, leaving the stop-change key held in the up position. Picture 4 shows a tall staple lifting the raised key even further, so allowing the lower point of the locking cam to present itself to the staple. In Picture 5, the stop-change key is held well and truly clear and the tall staple is now pushing the locking cam forward. Picture 6 shows the locking cam still held clear as the stop-change key begins to fall under the weight of its counterpoise (shown in the sketch on page 492) behind the staple. Picture 7 shows the stop-change key returned to normal and the cam about to return to its free position once more.



Beethoven and Mozart, let us return briefly to Winkel. Since the discovery of the Mozart Winkel, two more Winkel barrel organs have come to light. By a strange coincidence the second is also in the Nationaal Museum van Speeldoos tot Pierement where Dr. J. J. Haspels, the conservateur-director who was responsible for finding out the story of the Mozart Winkel, is at present restoring it. This is also a unique instrument, being quite different from any other barrel organ I have ever come across. It has, for example, two special controls added to the wind department, the full interpretation of which must await restoration. However, it appears that one serves to trap the movable board of the reservoir in the empty position so that the feeders pump directly. This would materially alter the speech of the pipes. The second traps the movable board at the full position just short of the point where the spillvalve operates. This allows the organ to overblow, again altering the speech of the pipes. The controls for these two functions are operated from extremely peculiarly-shaped barrel projections, some of which are like inverted crescent moons, and others like saw-teeth.

The style and function of these controls leads me personally to believe that Winkel must have been modelling this particular barrel organ along the same lines as those which G. J. Grenie of Bordeaux worked in 1810 when he produced his unusual manual or finger pipe organ which he called the *Orgue-Expressif*.

The other Winkel barrel organ is a splendid-looking instrument in the Hague museum where, some months ago, I succeeded in inducing music out of it for the first time in living memory.

Every nation has its clique of master builders of mechanical organs. Germany had its Bruder; France its Davrainville, and England had several brilliant makers such as Flight, Walker and Bryceson.

Let it now be placed on record that Dietrich Niclaus Winkel was not only Holland's master of mechanical organs, but in truth he may in years to come be accredited as surpassing all those whose names have already been mentioned. It has taken more than 150 years to appreciate the true genius of this great artist.

Acknowledgements

My sincere thanks go to Dr. J. J. Haspels, Conservateur-Director of the Nationaal Museum van Speeldoos tot Pierement, Utrecht, Holland, for permitting me to examine in detail the Winkel instruments in his museum and for arranging for me to be granted similar facilities at The Hague museum and the Brussels Conservatoire. The photograph on page 478 was taken for me by Dick van Minnen, Dr. Haspels' senior assistant.

This article is based on an article by the present author and published in THE KEYFRAME, Summer 1973, pp. 81-85.

The signature of D. N. Winkel on the organ which he built which is now in the Hague Gemeentsmuseum in Holland.

SILVER JUBILEE MEETING OF THE MBSI

A Special Report from Saddle Brook, New Jersey

THE last week-end in September of 1974 marked the 25th anniversary of the founding of the Musical Box Society International, our American-based sister organisation which has a world-wide membership of 1200.

Venue for the four-day convention to mark this occasion was the Saddle Brook Motel, a modern building erected on an oasis surrounded by highway intersections and railroads.

The MBSI organising committee arranged and conducted a programme distinguished by its variety and interest and the entire convention went off smoothly. Considering the world-wide attendance of members and guests and the fact that on the main banquet evening, more than 450 sat down to dinner, this was no mean achievement.

A strong MBSOGB delegation attended, comprising President Cyril de Vere Green and Bertha, Secretary Reg Waylett and Marie, Treasurer Keith Harding, Editor Arthur Ord-Hume, and Members Bill Nevard and Douglas Berryman.

The convention opened on Thursday, September 26th and the afternoon was devoted to a continuous showing of films including the celebrated Paillard film *Boite a Musique*, Time/Life's *The Ultimate Machine*, QRS Piano Roll factory's *You Asked for It*, Frank Holland's *One Man Band* (about the British Piano Museum), and Bruce Angrave's *Autoglockenpolyphon*. Also during the day, char-a-banc tours were arranged to Murtogh Guinness's collection in downtown New York.

Friday was devoted to workshop meetings which included Harvey Roehl demonstrating piano restringing, Ralph Heintz on tuning techniques for musical box combs, and Jacques Horngacher on musical box classification. In all 12 speakers talked on various subjects.

After dinner, a special feature was a lecture by the editor of THE MUSIC BOX, Arthur Ord-Hume, who spoke on the development of the mechanical organ in Europe and the evolution of the English church and chamber barrel organ. His talk was illustrated with tape recordings and colour slides.

On the completion of this talk, the mart rooms (where items were on sale) were opened and this proved to be a fascinating collection of rooms set aside for the sale of items from reproducing pianos down to snuff boxes.

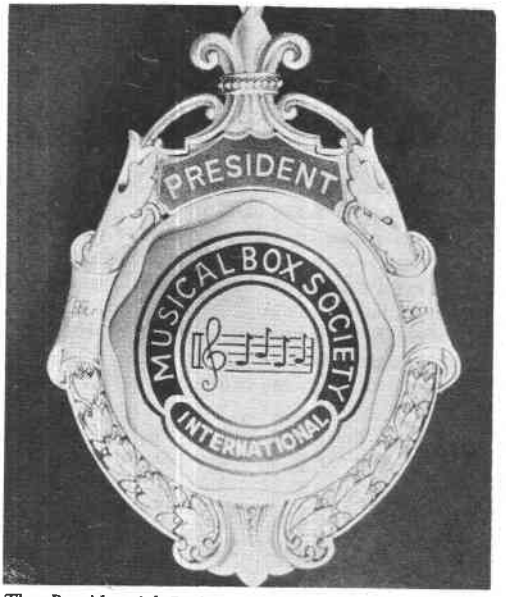
The Saturday programme began with the Annual Business Meeting followed by more time in the mart rooms. The weather, hitherto very fine and sunny, had changed and heavy rain kept most of the delegates inside the building. However, the presence of a Wurlitzer band organ mounted on an aged Ford wagon encouraged many to stand outside under the hotel front porch where the instrument performed to the enjoyment of all. A roll-playing calliope was also to be heard and this was eventually brought into the hotel lobby where, to the consternation of those few guests who were nothing to do with the MBSI convention, it was played.

Also in the front hall was a fine restored Steinway Ampico grand piano and veteran music roll arranger J. Lawrence Cook arrived to preside over the playing of some of the rolls he has

Editor Arthur Ord-Hume lecturing on mechanical organs.

arranged for the Australian Mastertouch company.

The afternoon programme began with a talk by Dr. Robert Miller on the classic fair organ in sight and sound. His talk was illustrated by slides and tape recordings. This was followed by MBSOGB Treasurer Keith Harding who spoke on his recent discoveries in connection with Nicole Freres box numbers versus gamme numbers.



The Presidential Badge – a gift from our Society.

.The evening was devoted to the annual banquet after which our President Cyril de Vere Green presented MBSI President Walt Bellm with two gifts from our Society. The first was an illuminated address and the second was a formal presidential badge of office.

After dinner, the speaker was our President Cyril de Vere Green who gave a film and slide show (with tape) on miniature musical movements in his collection.

Sunday was devoted to a repeat of all the films and further char-a-banc tours to view the Guinness collection.

The British delegation were extremely well treated by our American hosts and a number were shown home hospitality by New Jersey members. THE MUSIC BOX in particular was very well looked after by MSBI vice-president Jack Hardman and his wife, Mildred, Walt and Ellen Bellm, Hughes and Francis Ryder, Howard and Helen Fitch, Walter and Kay Keyhoe, and Fran Mayer.

President Walt Bellm and Ellen Bellm with Reg Waylett at the banquet.

Cyril de Vere Green places the Presidential Badge around Walt Bellm's neck.

Senior MBSI executives, treasurer Hughes Ryder (left) and past-president, now editor Howard Fitch ponder internal politics over an ice-cream.

MEETING REPORT

THE Autumn meeting of the Musical Box Society of Great Britain was held in London on Saturday, October 26th 1974 at The Kensington Close Hotel, Wrights Lane.

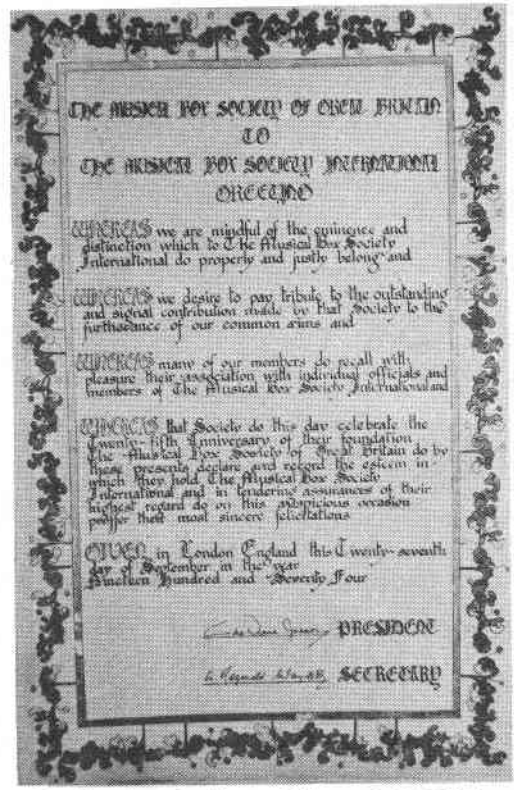
More than 120 Members and Guests registered for the one-day event which began at 9.00 a.m. Elected to serve on your Executive Committee at the Annual General Meeting, Member Alex Duman from Glasgow was very much in evidence along with Member Norman Brown, both being joint editors of the Society's Newsletter. Alex Duman took charge of timing and shepherding people between events and generally helping to keep the meeting on the move.

Registration was once more the task of Marie Waylett, our Secretary's wife, and Sarah Tallis, our Vice President's wife, with occasional other help.

The first talk of the day was presented by Keith Harding and dealt with his programme of research into the tune lists of Nicole Freres musical boxes. He illustrated by means of slides of graphs the relationship which he has discovered between box numbers and gamme numbers. The discoveries which led to the present work were first published in THE MUSIC BOX, Volume 5, page 374. Mr. Harding highlighted the fact that there is still much work to be done before positive conclusions can be drawn.

The second talk of the day was by Arthur Ord-Hume who, with the aid of slides and tape recording, traced the invention and subsequent, perfection of the mechanical organ in Germany and the eventual development of the English church and chamber barrel organ. He showed how the church barrel organ was introduced to fill a long-felt want in country churches where the services of an organist were not available, or there wasn't even a "finger" organ. One of the recordings he played had been made the previous day on a visit he made with our Member, Dr. J.J.L. Haspels of Utrecht, to the village of Sutton in Bedfordshire where a barrel organ is still in regular use. The organ had actually been used in a wedding ceremony during the previous week.

After lunch and much deliberation between Members over the items on sale and display, the first talk of the afternoon was by Dr. Robert Burnett on overture musical boxes, Dr. Burnett, a past president and a Founder Member, began by defining the overture box and explained that one


THE MUSICAL BOX SOCIETY OF GREAT BRITAIN
TO
THE MUSICAL BOX SOCIETY INTERNATIONAL
GREETING

WHEREAS we are mindful of the eminence and distinction which the Musical Box Society International do properly and justly belong and

WHEREAS we desire to pay tribute to the outstanding and signal contribution made by that Society to the furtherance of our common aims and

WHEREAS many of our members do recall with pleasure their association with individual officials and members of the Musical Box Society International and

WHEREAS that Society do this day celebrate the twenty-fifth Anniversary of their foundation the Musical Box Society of Great Britain do by these presents declare and record the esteem in which they hold the Musical Box Society International and in tendering assurances of their highest regard do on this auspicious occasion proffer their most sincere felicitations

GIVEN in London England this twenty-seventh day of September in the year Nineteen hundred and Seventy Four

PRESIDENT

SECRETARY

The illuminated address which we presented to the MBSI and which bears the signatures of Secretary Reg Waylett and President Cyril de Vere Green.

THE MUSIC BOX is pleased to announce that Member Arthur Heap has been appointed Hon. Advertisement Manager. As from now he will assume responsibility for dealing with all advertisement enquiries, copy-chasing and invoicing. All advertisement correspondence should be sent to him at the following address:

Arthur Heap,
Advertisement Manager:
THE MUSIC BOX,
51, Station Road,
Delamere, Nr. Northwich,
Cheshire, CW8 2HZ
Telephone: 060-688 2122

INDEX FOR VOLUME SIX

The Index for Volume 6 is in the course of preparation and is expected to be published free to Members with the first issue of Volume 7 at Easter, 1975.

reason why they were so sought after was that they were almost always of outstanding quality since this type of programme was at its peak at the zenith of musical box perfection. Members and guests then had the chance to listen to some of the boxes which Dr. Burnett had brought with him.

Among the noted overseas members attending the meeting were Dr. J.J.L. Haspels and his associate, Dick van Minnen from Utrecht, and Werner Baus and his colleague from Kassel. Members will recall the many pictures published in THE MUSIC BOX recently of items from the Baus museum and, in particular, the description of the Poppers Violinova on page 251. It was this that made a surprise and welcome extra to our programme, for Herr Baus had brought over from Germany a remarkable colour film which he had made during the restoration of the Violinova. This showed much of the work done to bring this now thought to be unique specimen back to perfection. Member Baus provided a commentary to the film in German, and Dr. Haspels adroitly provided an "instant translation" into English! The film – and the bi-lingual commentaries – drew a warm response from the audience.

President Cyril de Vere Green then presented a short talk illustrated with slides describing the 25th anniversary meeting of the Musical Box Society International at Saddle Brook, New Jersey, in September.

After the tea interval it was decided by popular vote to forego the formal open discussion scheduled as the closing event in favour of a return to the boxes on exhibition and for sale and to indulge in what our Editor dubbed many years ago as "musibox collecty chattle".

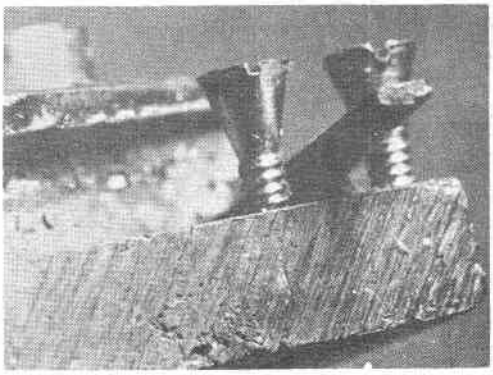
MUSICAL BOX IN CAMERA

This is the first of a series of illustrated features which deal with various aspects of musical boxes. The speciality of these articles will be the depiction of familiar – and not so familiar – items portrayed by the larger-than-life lenses of the camera.

SMALL musical movements, often called "snuff-box movements" after their early use in pocket snuff cases, existed for a very long time. Just as the tiny serinette spanned from the mid-eighteenth century to the outbreak of the First World War, the miniature musical movement was made from the first decade of the last century and is still in production today. After more than one and a half centuries there have, of course, been changes. For example cut brass bedplates were replaced first by cast brass and then by zinc alloys, and wheelwork now tends to be of man-made synthetic materials.

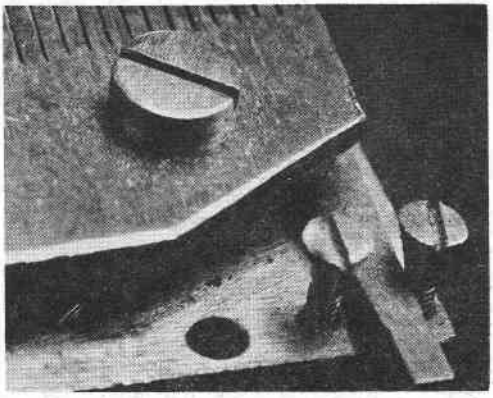
There are many features of the small movement which demonstrate quite different design solutions. Here we take a look at just one of these – tune-changers. The greater majority of all early miniature movements played two tunes and the method of shifting the cylinder laterally to bring the second tune's pins into alignment with the comb was very simple. The right-hand end of the cylinder – the end opposite the clockwork spring driving motor – was provided with a flanged plate of appreciably greater diameter than the cylinder. Mounted pivotally on the bedplate was a steel arm, one end of which was furnished with a claw-like, notched end to engage with this flange. The other end connected either directly with the tune-change button on the case, or with a bent-up strip of metal which could be slid from side to side via the external case button.

The simplicity of the system and its positive operation are immediately obvious. What is not at once so obvious is the importance of this sliding motion being precisely limited at each end of its travel so that the proper pins on the cylinder are in exact alignment. Many of the later movements permitted extremely fine adjustment by providing two screws which were threaded into the brass base either side of the lever. Each screw had a considerable proportion of its length tapered outwards towards the head – rather like a very exaggerated countersunk – head screw – so that as it was screwed in, the movement of the lever was



gradually reduced as the cone-effect of the screw-head virtually moved its point of contact with the lever nearer to the centreline or middle position of the slide travel. Conversely, as the screw was slackened off, so the lever could move out further. With one such screw at each side of the lever, its travel could very precisely be adjusted.

However, there were other methods. A very early sectional-comb snuff-box movement in the Cyril de Vere Green Collection has a surprisingly coarse system which is virtually non-adjustable. The end of the lever is stepped in thickness to allow for the drilling and tapping of a hole to take the slide button through the side of the case. This thickened end is located between the sides of a cut-out in the brass bedplate. To regulate the limit of travel, this cut-out has been made larger than usual, and then closed up to the desired width by driving a chisel into the brass at each side so as to spread it. Quite a crude way.



A second method, produced later, is to provide a steel yoke which is threaded into the bedplate. This yoke you can liken to a steel screw with a very, very wide screwdriver slot – so wide in fact that it will act as a guide for the sliding lever. This method has the advantage that it can be adjusted simply by turning the yoke slightly in one direction or the other. Initially, it was set by filing the side pegs (all that remains of the 'head' each side of the 'screwdriver slot') to the right clearance.

In subsequent issues, we will be looking at stop-start levers, winding, endless screws and fans.

TUNE LIST FOR THE SYMPHONION DISC MUSICAL BOX

By courtesy of Member Brian Etches of the West Quay Panel Works, the Musical Box Society of Great Britain has been permitted to reprint in facsimile a rare original catalogue of disc titles for the Symphonion. The catalogue, which lists tunes for the range of ten different disc sizes, includes all the issued discs for the Giant Symphonion, the Eroica, the popular-sized 11.7/8" and 19.1/8" models and a host of others. Additionally, there is a tune list for the very rare Symphonion Koschat automaton zither which was made in two sizes. It had been hoped to be able to make this catalogue available as a free issue to Members but due to the high cost of reproduction this project has been priced out of Society funds.

There are 56 pages plus paper covers and the original catalogue, dated about the turn of the century, includes a much earlier 6-page listing which features many titles excluded from the main catalogue.

The catalogue has been produced in matching size to THE MUSIC BOX for the benefit of those who wish to bind these publications. The edition is very limited and once stocks are exhausted it will not be reprinted. Price £2.00 plus 7p postage (UK only): $5.00 inclusive of surface mail (USA and Canada).

The Musical Box Society of Great Britain, Crockham Hill, Edenbridge, Kent.

VALETE THE OLD "MUSIC BOX"

This is the very last issue of THE MUSIC BOX in the present size and format. Starting with the first number of the next volume, THE MUSIC BOX will appear in enlarged format and will be printed letterpress instead of by offset lithography. The new magazine, the outcome of extended planning by your Editor and Committee, is the product of the idea sanctioned by the Members attending the last Annual General Meeting in London.

Since the very first issue of THE MUSIC BOX, and including this page, we have published no fewer than 2,808 pages of pictures and data on the instruments of mechanical music. For comparison, this is well over two and a half times the number of pages contained in the *Encyclopaedia of Automatic Musical Instruments* compiled (and a proportion of it from THE MUSIC BOX) by our Member, Q. David Bowers. This has only 1008 pages.

Volume 1 contained 256 pages; volume 2, 428; volume 3, 612; volume 4, 568; volume 5, 412; and volume 6, 524, these totals excluding special supplements, membership directories and suchlike.

And so the next issue will mark a fresh milestone in the development and expansion of The Musical Box Society of Great Britain which now has Members in almost every corner of the world.

UNCONSIDERED TRIFLES

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

In 1893, John Arrigoni advertised himself as agent for street organs by Wm. Bruder & Son. His address was 158 Great College Street, London, NW. Things did not go well for him and in October, 1895, *Musical Opinion* reported: 'Mr. John Arrigoni . . . manufacturer of orchestrions &c., has turned his business over to Messrs. Cocchi, Bacigalupo & Graffigna of Berlin. Some of the firm's mechanical organs have been dispatched to many parts of the globe, and the new proprietors hope that in the near future they will do an export as well as a home trade. The first named gentleman will continue to act as manager'. The same journal, two months later, told the rest of the story in a paragraph headed: 'Arrigoni, J., barrel organ maker, Great College Street, Camden Town – Accounts have been filed showing liabilities £1199. 8s. 7d., and assets £141. 10s. 6d, or a deficiency of £1057. 18s. 2d. When this case was called, on November 13th, an adjournment was asked for and granted. Mr. Edwin Kingcombe Smith, 18 Albert Road, Peckham, has been appointed trustee. Among the creditors are the following: Cocchi, Bacigalupo & Graffigna – £52. 16. 0; Limonaire Bros. – £764. 0. 0.; Mukle, L. – £27. 0. 0.

By 1909, the Polyphon Musikwerke A.-G. of Wahren, Leipzig, was involved with making the Polyphon Orchestrion, electric pianos, the Polyphon gramophone, the Polygraph typewriter – and the Polymobil motor car! The business was at this time being operated by Albert Becker and Hugo Robert Wunsch. This is probably the same as the R. Wunsch who patented a system for playing an accordion using a perforated tune sheet in May, 1896 (British Patent No. 11,215). Polyphon's address was Bahnhofstrasse 61.

Leipzig was indeed leading the world in mechanical music in the closing years of the nineteenth century. Instruments were constantly being invented, perfected and improved upon. The works of Polyphon, Lochmann, the Adler and the Euphon-

ika firms' exported to most parts of the world. However, because of the high protective tariff levied on these goods by the United States, sales to there were restricted and most of the principal firms began their own factories on the other side of the Atlantic.

The New Polyphon Supply Co. Limited, removed to 137, Oxford Street in 1898. Their business was concerned entirely with the disposal of automatic, coin-operated musical boxes to the proprietors of restaurants, bars, theatres, steamboats &c. If desired, instruments might be hired out and arrangements made as to the profits to be derived therefrom.

The increase in the demand for the disc-musical box in England was such that during the summer of 1898, Henry Klein were forced to lease four more rooms at their 84, Oxford Street premises. More than two hundred instruments were held in stock and the price of some models were lowered – the Model 104 being £17.10.0., the 103 £14 and the 105 £26.10.0. Mr. Martin Hirsch was the agent for the 'Symphonion' imported by J.H. Zimmermann, the popular sizes being the 191/8 Troubadour and the 25" model which stood more than six feet high. He also stocked the 'Kalliope' which, it was said, used discs which 'cannot get disarranged'. The New Polyphon Supply Company were also the agents for the 'Sirion' disc musical box which had two tunes on each disc. At the conclusion of one revolution to play the first tune, the centre spindle was shifted slightly so that the second tune might be played. This operation was automatic and was also used to play one long tune by shifting the disc in the middle of the performance. Substantially made in brass and nickel, the Sirion sold for £23.

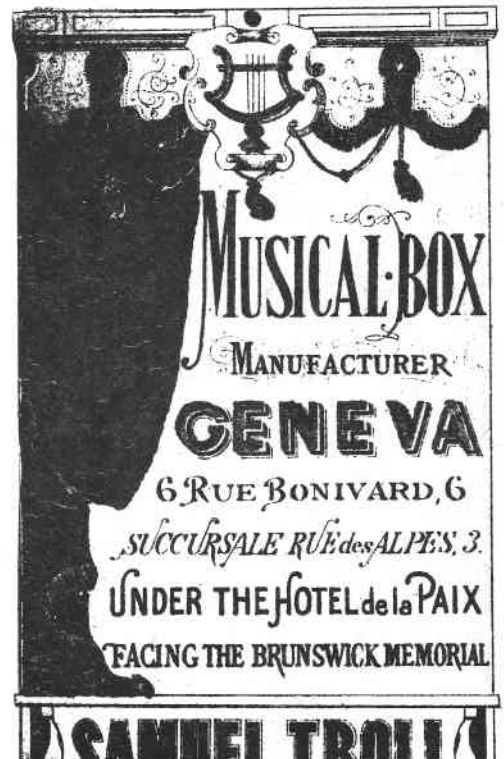
One model of the Polyphon, introduced into this country by Henry Klein in 1898, came complete with a galvanic battery and a couple of handles so that, for the insertion of one penny, the public could not only hear a tune but might also obtain renewed life by having an electric shock!

In 1899, Mr. Ernst Holzweissig opened his large warerooms in Newman Street, London, W. He stocked a gigantic Symphonion on which was played Lohengrin's Wedding Song. The case was carved oak, and it stood about nine feet high. The instrument sold at about 30 gns. and contained a set of bells. Another box which was also coin-operated was a Kalliope which sold for about 10 gns. Some of the Adler (German-American) musical boxes and organettes contained also zither attachments. Also stocked were table models and Amerettes as well as musical chairs, decanters, workboxes &c.

The Leipzig firm of Jules Heinrich Zimmermann opened its London premises in 1887 at 67, New Bond Street under the management of Mr. August Zimmermann. They retailed musical instruments of all sorts.

In 1898, Leipzig employed nearly 3,000 hands in the production of mechanical music works alone, thus making it way ahead as the centre of the industry.

April 1899, Henry Klein of 84, Oxford Street, demonstrated the first of the Polyphon Pianos – 'the polyphon is built up into a seven octave piano and is played by the insertion of a key or by the penny-in-the-slot. Another of Peters novelties, pianoforte accompaniment can go along with the automatic musical box (with 159 tongues) by a player using the pianoforte key-board. The two instruments do not play together automatically'.



Liverpool, Dec 8 1885

W. M. Henderson Esq

To N. L. Van Gruisen & Son, Dr

PATENT PIANO FORTE, AMERICAN ORGAN AND HARMONIUM MANUFACTURERS AND IMPORTERS.

Pianos, Harmoniums & American Organs for ordinary Hire or on the Three Years System.

Instruments repaired and tuned by the most experienced English and Foreign workmen, under the Personal Superintendence of the Firm.

TERMS:— NET CASH.

SOLE AGENTS FOR BLUTHNER'S GRAND AND COTTAGE PIANOS.

Sole Agents for The SMITH AMERICAN ORGAN Co. BOSTON.

To 6 air Guitar Musical Box

Five Pounds ten shillings

£5. 10 .

Settled 18/12/85

Van Gruisen & Son

with thanks

Member Grace Thompson recently received for overhaul a Guitare Mandoline 6-air musical box with a 9¼-inch cylinder and the initials GB & C stamped on the tune change plate. Somewhat surprisingly, the original bill of sale of the instrument in 1885 was preserved with the box. It is reproduced above.

THE REAL TRUTH ABOUT NICOLE FRERES?

by Emuh-Dro Ruhtra

WHEN I was a small child, picking puhnapat pods for my parents to pack in parcels, I remember my great grandfather and his old trunk. Please do not infer from this that my old grandfather was either elephantine in species or misshapen in body, for the trunk to which I refer was a large wooden one with brass bindings and iron hinges. The trunk, my grandfather used to say, had been left in the jungle by a visiting whiteman who had died of beriberi. The whiteman was a traveller for a large firm of Swiss clock and musical box handlers and he was en route to Bombay to try to sell his wares when, two miles from our homestead, he had succombed to the call from the Great Sales Executive in the sky. His trunk, too heavy to be carried much further, and locked with a lock which had defied all attempts at picking with a bamboo poker, had lain all those years in my grandfather's hut. One day, grandfather too joined the celestial choir (this my Mother told me although I cannot imagine what he would be doing in a choir since he had a voice like a rhino with toothache). My father was eaten by a wild animal and my mother was carried off by a victorious neighbouring village. I was left alone, with my grandfather's trunk. A desultory clout with a cleaver failed to spring the lock and so, armed with all my possessions wrapped in a cloth, plus my inherited trunk, I set off for England on the paddle-steamer *Indecypherable* returning in ballast to London.

So it came to pass that I made my new home in London where I learned cobbling until I had mastered my trade well enough for me to set up a boot and shoe repairing business down by the docks. Years had passed now and the memory of my old grandfather had all but faded quite away. Yet still beneath my bench at Barking lay the old trunk. I had, of course, learned to read and write and I could now see that there had once been writing upon the side of the box. Years of exposure to the hot sun and the monsoons had, though, weathered away almost all of the words. The only two which remained were the same two which I remembered my grandfather showing me when I was a boy. I can remember him tracing out the letters with his gnarled old fingers and telling me that those two words were sacred and they were the last two ever to escape from the lips of the dying white traveller all those years ago. As an impressionable youth I had stared wide-eyed at these words – to me at that time they were but symbols with meaningless shape – and had always attached to them great reverence. Soon I learned to say them and then I used to include them in my night-time prayers. It was to be so many years later that my beliefs were shattered when I learned the true meaning of those two simple words which even now can still be made out on the old trunk – WITH CARE.

"You come here often?"

Well, as I was saying, my boot business thrived and one day I viewed the old trunk with the eyes of wisdom and experience and decided that metal must fight metal. I cut off the lock with a hacksaw and eagerly tried to tug open the lid of the box. Sadly, the iron hinges had rusted, the metal binding of the lid had corroded into the iron rim of the box and try as I might the trunk would not open. Since the body of the trunk was of wood, then I must seek to gain entry through the top

of the lid. I carefully sawed a hole in the top, lifted out the fragmented pieces of pine and peered inside.

It was full of paper.

Somehow I think I had imagined it to have been full of treasure of the traditional type – you know the sort of stuff: gold, diamonds and pieces of eight. Had I travelled half way round the world with a crate of old paper? With heavy heart and disillusioned fingers, I pulled out the bundle of papers. As I did so, some frail wrappings tore and a comforting tinkle of metal came from the bowels of the trunk. There was gold after all! My joy was short-lived, for the pleasant rattle had come from some small bright pieces of metal, sort of angle brackets with holes in, which had slipped from a packet in the pile of papers.

It was a slack day. November, I seem to think. I had just finished tacking some new heels on to a pair of brown brogues and, with the kettle on the gas-ring for tea, I fell to examining the papers more closely. They were all so utterly uninteresting, for they were all about musical boxes. There were old catalogues, there were stacks of lists of tune titles and there were lots of little leaflets on different sorts of old musical boxes.

I made the tea, found I was short of sugar, nipped round the corner to the general stores to buy some, returned, had tea and then forgot all about the papers for the day.

The very next day, a very wet day to be more precise, I had a visit from a very peculiar man. It happened like this. I was talking to a man about insoles (you know, those spongey things you put inside your shoes to make your socks smell), when this fellow came in. Bearded he was, a little bald, rather overweight I would say, and a bit impatient. He held up his foot to reveal that the side of his left shoe had split and the rain was getting in. Could I do a quick repair as he had to walk somewhere and didn't relish wet feet. Yes, I said, and without further thought drew out the old trunk for him to sit on whilst I sewed up his shoe. Well, this fellow sat down to give me his shoe, and went straight through the lid. I had forgotten that I had sawed through the wood and that I had only rested the pieces back over the hole.

He was rather upset about this and complained loudly as he got to his feet. Anyhow, he must have looked inside the box for the next moment he stopped yelling blue murder, bent down and picked up all these old papers. Once again some of those funny metal things dropped out. 'Good lord', this chap said, 'How did you get this lot?'.

Seeing that he was interested, I told him the story. About my grandfather. I showed him where it still said WITH CARE on the side. He wasn't listening, though, but was leafing through the bits of paper all bright-eyed and happy-looking. 'My goodness', he kept saying. 'What a find!' He then drew out a bit of paper from the pile which had printed on it some sort of advertising message. It read:

'Nickle Freres. All musical boxes made to date have been made with ordinary brass or steel freres. Modernise your box by fitting the new nickle freres and notice how different it will sound. No box genuine unless stamped NICKLE FRERES'.

This fellow positively jumped up and down at this, grabbed me by the arm and begged me to lend him all the papers so that he could copy them. He said something about it being the missing link. Well, I was rather taken aback by all this. Just fancy someone being interested in my grandfather's old trunk and its contents. I did not know what to say, but meanwhile this chap was going on about how valuable this bit of paper was and something about a society for musical boxes which would be amazed at what he had found. He told me his name, but I didn't quite get it – I think it was something like Old Fumes. Anyway, to cut a long story short, he picked up several of these funny little shiney angle bracket things from the box, muttered something about 'Real nickle freres at last!', gathered up all the papers and dashed out into the rain singing a happy song.

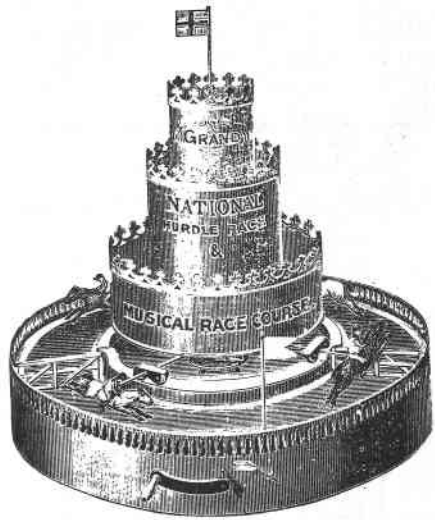
Why I am really writing all this to you, Mr. Musical Box Society, is that I still have a left shoe belonging to this gent and he owes me thirty-five new pence. I'm not worried about the old papers but think that he might like his shoe back. If you know him, pass the message on.

Electric Hat Polisher.—The electric hat polisher is one of the latest innovations in the field of applied electricity. In the lower corridor of the Produce Exchange building in New York may be seen in daily use a practical illustration of this process. The operation is as simple as it is effective. The hat is slipped over a clutch which holds it firmly, and the clutch is attached to the end of the shaft of a small Crocker-Wheeler motor. The current is switched on, and as the hat spins around at the rate of 2,000 revolutions a minute, a brush moistend with benzine, or some more mysterious fluid is applied. After this cleansing, strips of silk or plush take the place of the brush, and the hat is polished off. Ironing is rendered unnecessary, as the heat developed by the friction against the rapidly moving surface answers every purpose of a heated iron. Not only is much time saved over the old method, but the results are said to be superior. Silk or straw hats are renovated with equal success.—*Electrical World.*

From the magazine "Electricity", August 5, 1892.

Roundabouts

We are enabled to furnish our readers with an illustration of an invention made by Mr. A. G. Bingley, of 53, Beeston Road, Lenton, Nottingham, which presents some features of interest to the engineer. Although the illustration represents the idea carried out in the form of a toy, this should be regarded rather as a model of the invention, which is essentially a contrivance applicable to roundabouts of any size, and in which the jumping action of animals or similar movements can be imitated. There is nothing novel in the manner in which the circular movement of the whole contrivance is effected, any of the usual methods being adopted. The animals, boats, or other seats are attached to radial arms, which are pivoted on to a central revolving disc or to attachments on the disc. At some place between this central revolving disc and the animals there is a circular track, and to each radial arm supporting an animal is attached a loose sleeve supporting a pair of wheels, which are placed circumferentially so as to revolve on the track. At intervals in the circular track are elevations or depressions, and at corresponding intervals in the outer track of the animals there are barriers or



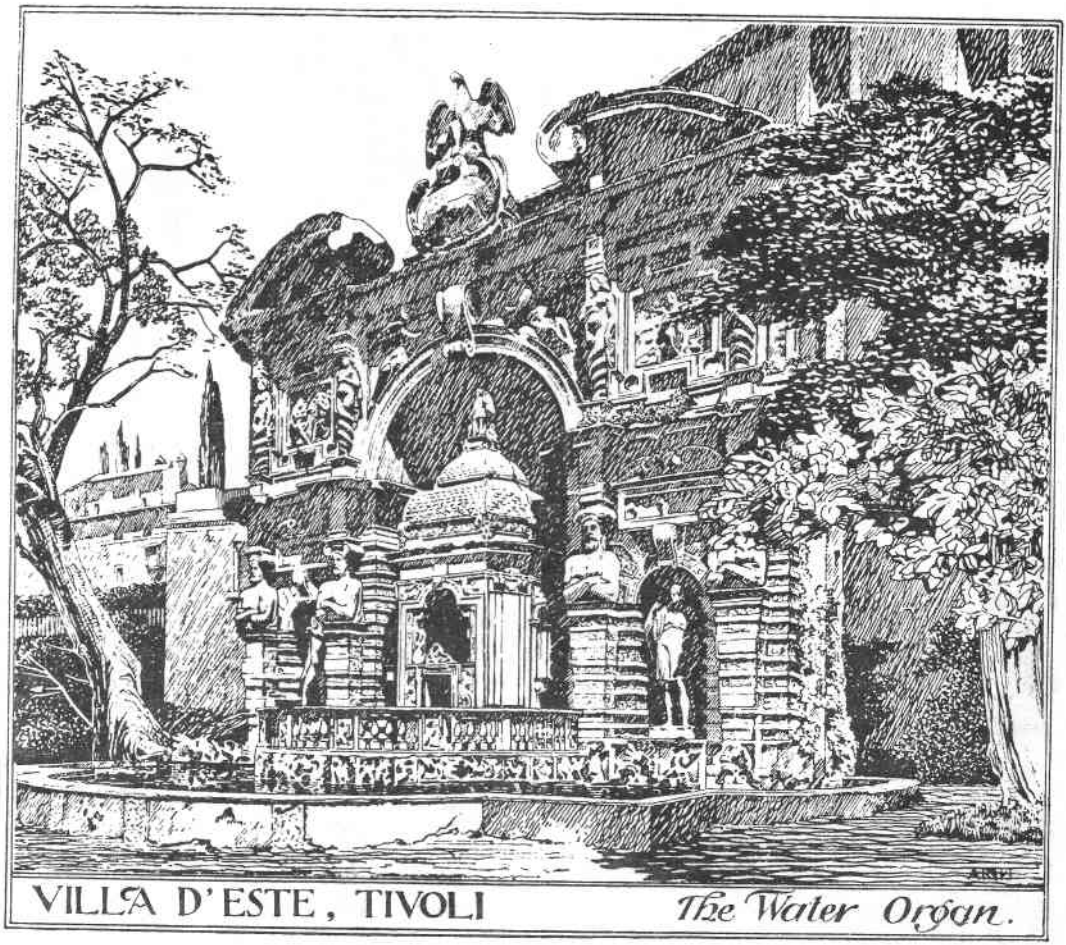
Member Graham Webb located this item

in a copy of "The English Mechanic" of c. 1890.

depressions. The barriers in the illustration are represented by hurdles. As the wheels move over an elevation or other interruption the radial arms supporting an animal is raised or depressed, and the animal, boat, or other seat undergoes a corresponding movement. These elevations are so framed that a very exact imitation of the act of jumping is produced. In some cases it has been found convenient to have the central revolving disc, the radial arms, wheels, and circular track in an elevated position, and the seats attached to the loose sleeves by vertical bars. In either case there is room for ornamental structures in the centre of the roundabout, either over or under the central revolving discs, and either moving or stationary.

SOCIETY MEETINGS FOR 1975

Provincial Meeting, Lincoln (Moor Lodge Hotel), Saturday, March 1, 1975
Annual General Meeting & Convention, London (Kensington Close Hotel), Saturday, June 7, and Sunday, June 8, 1975.
Autumn Meeting, London (Kensington Close Hotel), Saturday, October 18th, 1975.



VILLA D'ESTE, TIVOLI — *The Water Organ.*

Water Organs in Italy

INTRODUCTION

THE water organs which existed at the famous Italian villas of Aldobrandini and the Villa d'Este have excited many writers over the centuries. The exact nature of the organs has been described and detailed on many occasions but sadly little is known about the detail of the instruments or of the music which they played.

The descriptions here are abridged from The Art of Garden Design in Italy by H. Inigo Triggs, ARIBA, and published by Longmans, Green & Co. in 1906. The woodcut comes from the same book.

Villas at Frascati

FROM very ancient days the undulating country-side around Frascati has been the most favourite resort of the citizens of Rome wishing to escape from the heat and bustle of the great city. From its health-giving situation, upon a spur of the Alban Mountains, and its picturesque position, commanding wide panoramic views across the Campagna, northwards to Rome and the sea beyond, the neighbourhood was always considered most suitable for the erection of magnificent villas. At the decline of the Roman Republic, and the rise of the Empire, when men began to enjoy more leisure under an increasing sense of security, many great families erected villas in the neighbourhood of Tusculum, principally at the suburb of Frascati. The Villa Aldobrandini stands upon the site of the Villa of the Octavii. Pliny had a villa at Centrone, and Cato one at Monte Porzio. The famous villa of Lucullus occupied the site of the Villa Torlonia, and the Villas of Galba and Domitan were also in the neighbourhood.

Tusculum was sacked in 1191, and many families fled to Frascati, which was then under the Pontifical protection. In the fourteenth century the Popes took a great liking to Frascati, which once more becoming a fashionable resort, country seats arose upon the ruins of the ancient villas, and the great families resorted hither for the cooling breezes during the hot summer months.

The Villa Aldobrandini stands grandly upon a succession of broad terraces falling gently to a long slope, with three main avenues of approach from the principal entrance in the Piazza del Municipio. It was commenced in 1598 for Cardinal Pietro Aldonbrandini, nephew of Clement VIII, from the designs of Giacomo della Porta and Giovanni Fontana, whilst Orazio Oliveri was employed as an engineer of the waterworks. John Evelyn, who visited the villa fifty years after its construction, says that it 'surpasses the most delicious place . . . for its situation, elegance, plentiful water, groves, ascents and prospects'. He also gives a picturesque description of Fontana's water-theatre. 'Just behind the Palace . . . rises a high hill or mountain all overclad with tall wood, and so formed by nature as if it had been cut out by art, from the summit of which falls a cascade . . . precipitating into a large theatre of water.

Under this is an artificial grotto wherein are curious rocks, hydraulic organs and all sorts of singing birds, moving and chirping by force of the water, with several other pageants and surprising inventions. In the centre of one of these rooms rises a copper ball that continuously dances about three feet above the pavement, by virtue of a wind secretly conveyed to a hole beneath it; with many other devices for wetting the unwary spectators . . . In one of these theatres of water is an Atlas spouting . . . and another monster makes a terrible roaring with a horn; but above all the representation of a storm is most natural, with such a fury of rain, wind, and thunder, as one would imagine oneself in some extreme tempest'.

A stream from Mount Algido, some eight km away, is directed through a wood on the garden. It is diverted to the various areas of the garden and to a part called Parnassus, for formerly there existed here an hydraulic organ, and the walls were covered with beautiful frescoes by Domenichino, which became so damaged by the damp that they were removed to the Borghese Gallery at Rome.

The Villa d'Este, Tivoli

IN all Italy there are no more stately gardens nor any nobler cypress-trees than at the Villa d'Este, at Tivoli. 'In the spring, by the straight smooth ways under the Ilexes and the cypresses, all day the golden gloom is made rosy, where ever and anon red Judas-trees shower down their bloom. Marble stairs lead up through terraced heights to paved walks under the palazzo walls. The lofty spires of ancient cypresses reach up above the topmost terrace; far below in the garden, between their dark ranks, sparkle the springing fountains. Beyond, above the tallest cypresses, rise brown crumbling walls of the old town. To the west rolls out the ocean of the wide Compagna, undulating far away where Rome is lost in the sunset.' This charming description, by the Hon. Mrs. Boyle, well portrays the grandeur of the wonderful situation of the Villa d'Este, perhaps the most beautiful site of any garden in Italy.

It was in 1549 that Ippolito d'Este, Cardinal of Ferrara, having been appointed governor of Tivoli by Pope Paul III, first decided to take up his residence here; to pull down the ancient castello, and erect the sumptuous villa that now exists. He called to his aid Pirro Ligorio, the architect of the charming little Villa Pia, in the garden of the Vatican, and pupil of Vignola.

Much of the land had to be acquired from the municipality to lay out the garden – a gigantic task, and one which only the oppulence of a prince of the Church could undertake. According to Uberto Faglietta, writing in 1629, a considerable part of the village had to be demolished, and the ground upon the eastern side of the garden considerably excavated. The earth thus obtained went to extend the boundary upon the western side, where a huge retaining wall was constructed.

The villa was intended only as a summer residence, and we see it today in an incomplete state, void of all architectural embellishment – a barrack-like structure planned to house a Cardinal and his suite, numbering, it is said, as many as two hundred and fifty persons. Though the casino was never entirely completed, no effort was spared in the laying out of the grounds, which were the joint design of Pirro Ligorio, Giacomo della Porta, and the famous hydraulic engineer, Orazio Oliveri, whose work we have also seen at the Villa Aldobrandini, Frascati.

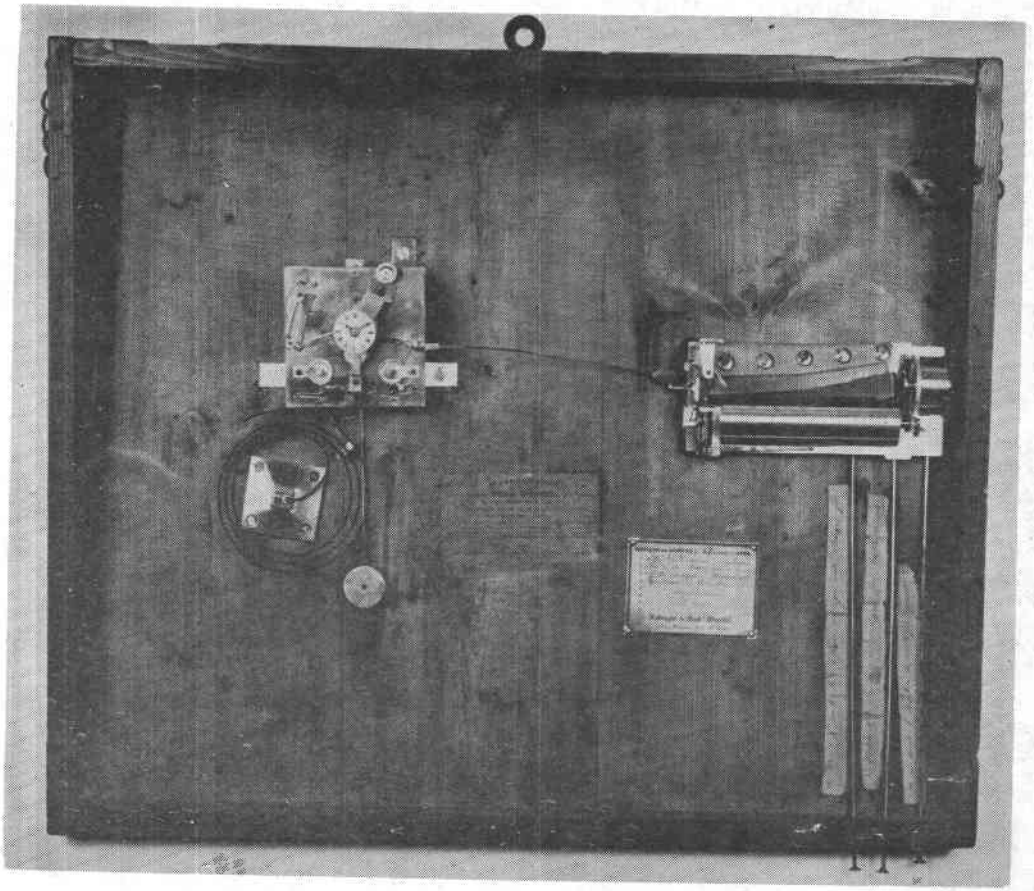
At vast expense he diverted part of the river Anio, which flows into Tivoli from the mountain heights above, and used the water for the multitude of fountains, cascades, and hydraulic surprises that excited so much wonder and admiration when in the heyday of their glory, as they appeared when Evelyn thus describes them: "We went to the Palace d'Este. In the garden, on the right hand, are sixteen vast conchas of marble, jetting out water; in the midst of these stands a "Janus quadrifons", that cast forth four girandolas, called from the resemblance, the "Fontana di Specchio" (looking glass). Before the ascent of the Palace is the famous fountain of Leda.

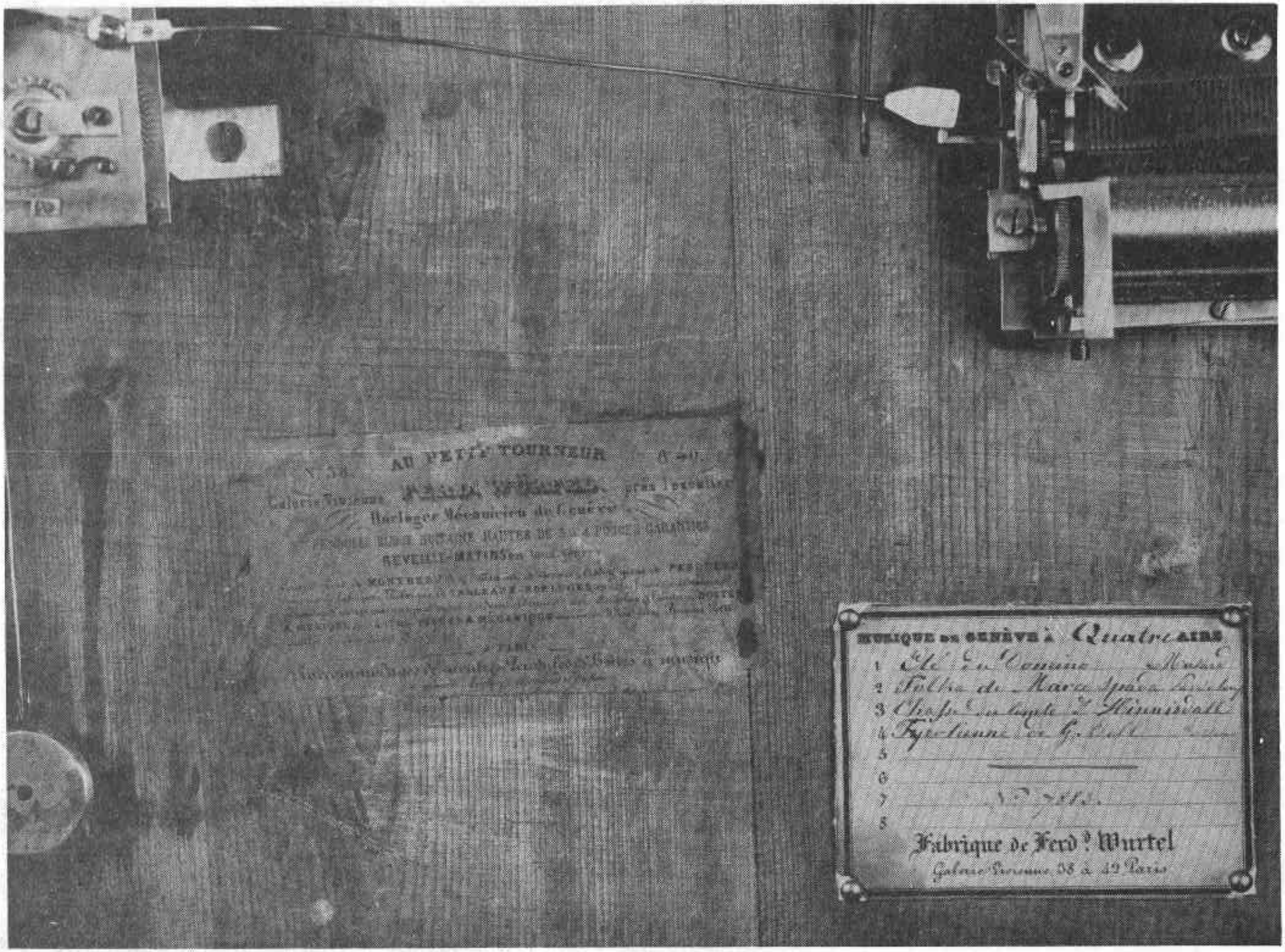
. . . The famous hydraulic organ still remains. Montaigne, describing this organ, complained that it always played the same tune. 'This', he says, 'was effected by means of water, which, falling in a large body and with a sudden descent into a round arched cave, strikes upon the air in it, and compels it to make its exit through the pipes of the organ, which are thus supplied with wind. Another fall of water turns a broad wheel, furnished with teeth, so fixed in it as to strike in due order the keys of the organ, and thus produce the tune to which the wheel is set.'

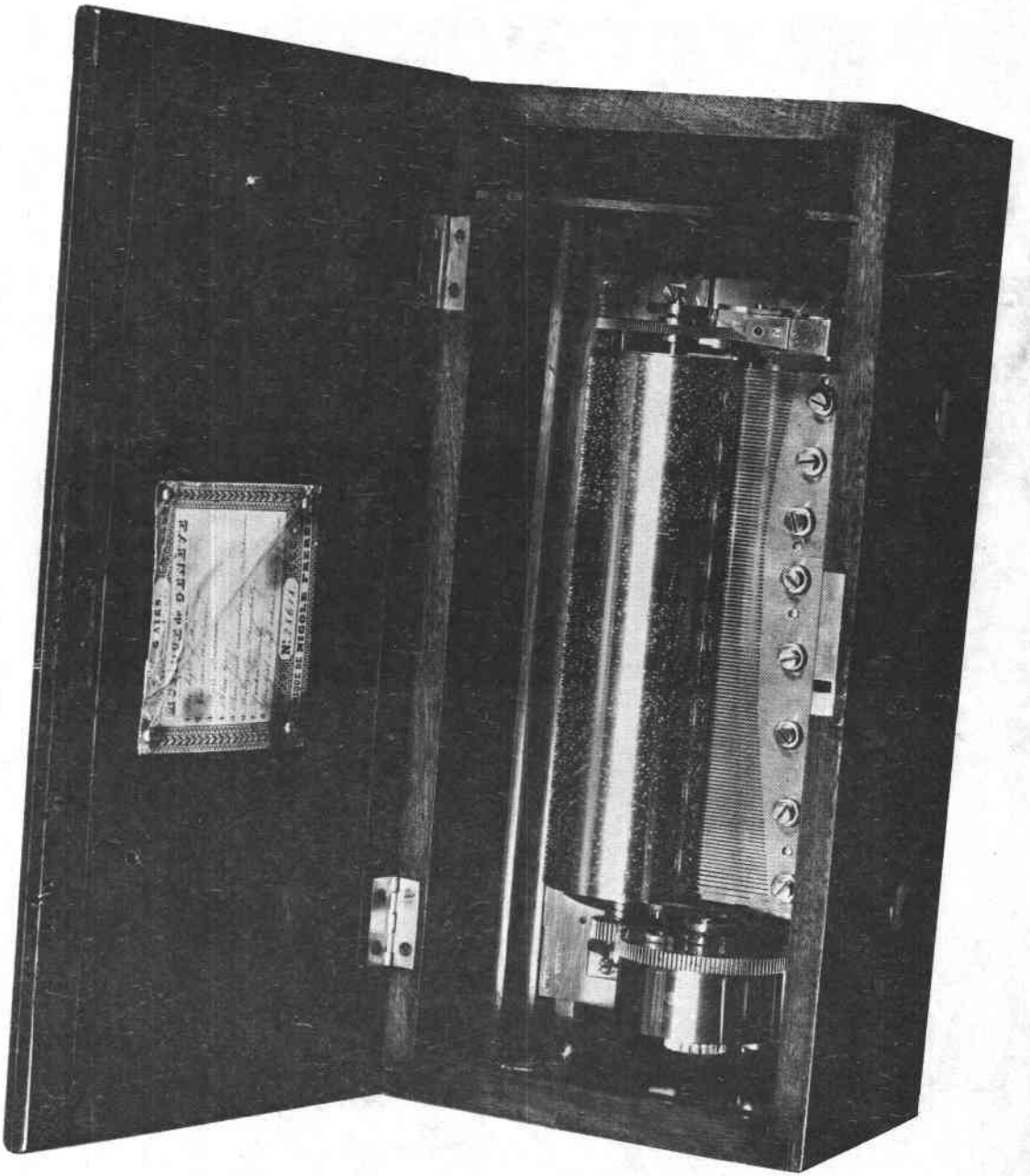
French-born Paul Martin pioneered the photographic style we know today as 'candid camera'. Born in 1864, the Franco-Prussian war forced his family to flee to London where he took up photography. These two pictures are typical of his middle-period work. "Dancing to the Organ" (above) was taken in Lambeth c. 1895 and Martin commented "These kiddies are dancing to the Pas de Quatre, the famous Gaiety piece. This entails plenty of leg twisting, which is restricted by the children's clothes." The picture below, "Organ Grinder" is from early 1890's. This piano is seen being operated by an Italian in native costume. *Reprinted from "Victorian Candid Camera" by courtesy of Member Dick Baines.*

MUSICAL PICTURE

THIS item from the Fortnum & Mason collection is a musical picture with clock. The cylinder movement has a 5.85-inch long cylinder and the whole piece bears the trade card of Ferdinand Wurtel of Paris. The word "Chapeau" is stamped into the wood. The restoration was carried out by Member Keith Harding.




AU PETIT TOURNEUR
MUSIQUE DE GENÈVE À Quatre AIRS
Fabrique de Ferd^d. Wurtel
Galerie Vivienne 38 à 42 Paris



Also from the Fortnum & Mason collection is this Nicole Freres Forte-Piano Number 29618, gamme number 1055. The tune-sheet is dark green in colour.

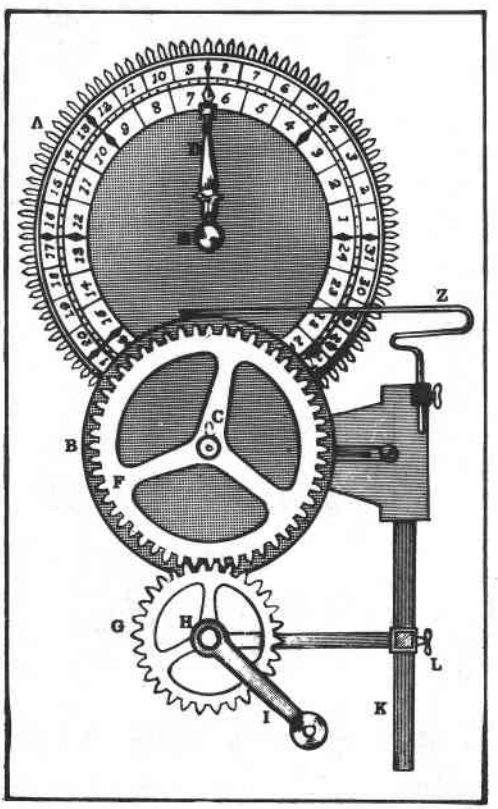
JOHN FLIGHT'S MICROMETER

A 19th Century instrument for Noting Organ Barrels

by Arthur W. J. G. Ord-Hume

THE subdivision of the surface of a barrel organ into equal parts to facilitate notation is a technique of considerable antiquity. Father and son Bidermann used it in Augsburg at the end of the 16th century and it has been a feature of the carillon barrel since at least the 15th century.

The system of sub-division into equal parts was used right up until the first quarter of the last century and is seen on numerous early musical boxes. Its advantages were numerous. So, too were its disadvantages, not the least of which being the inflexibility of the musical interpretation which it allowed. An instrument played from a strictly-observed rigid-notational barrel produced a performance which was so precise and so regular in tempo and rhythm that it sounded just what it was – mechanical.

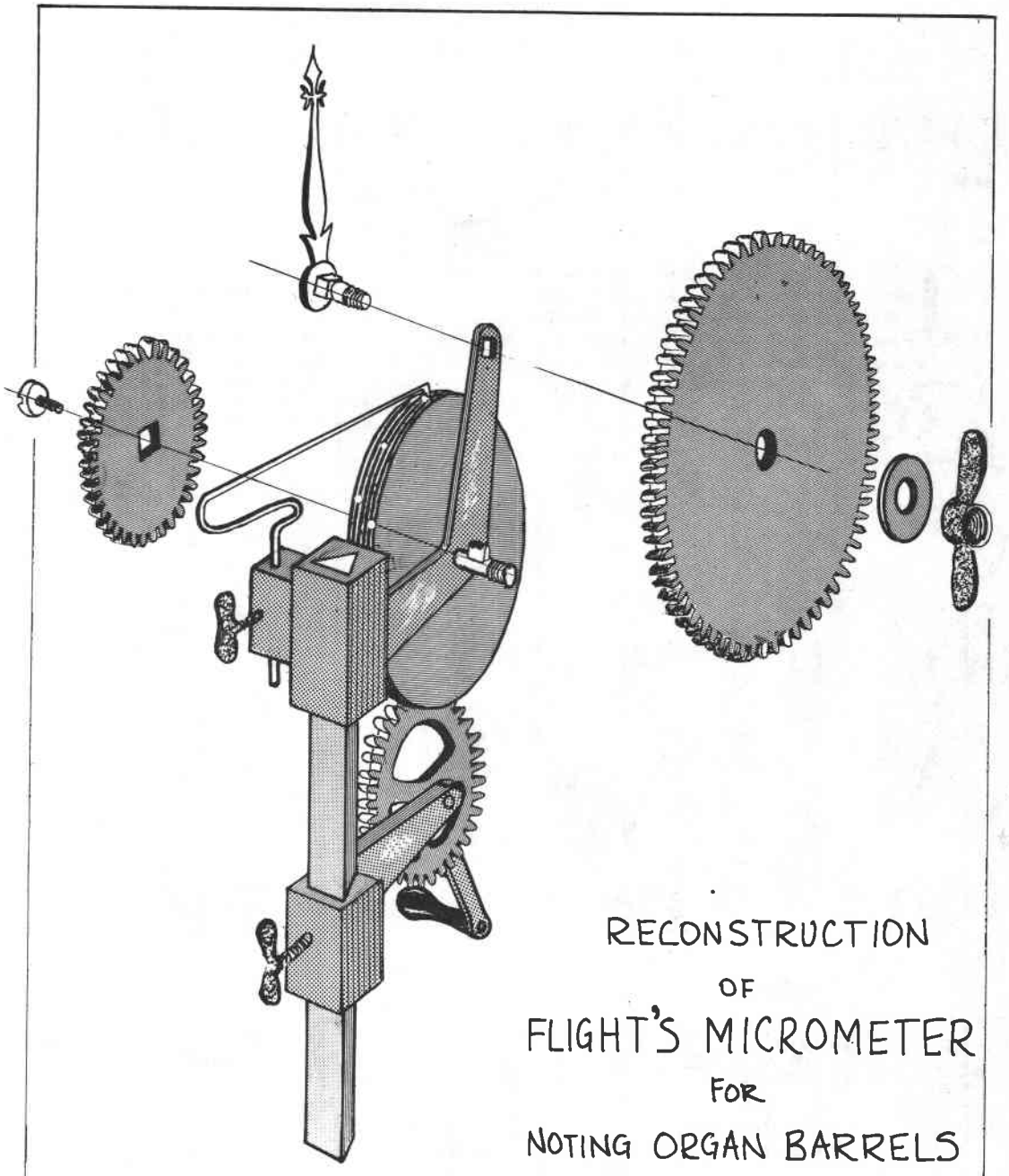


But another drawback to the system was that where a tune was pinned spirally on the barrel, barrel marking became a more and more exacting task as the barrel spiralled round since only the circumferential marks remained of real value, the note-length divisions tending to become more confusing. And so the only real advantage of rigid notation remained – that of knowing precisely where a piece of music would stop on the barrel.

Naturally there existed some very skilled musician-pinners who knew just how much to "bend" the system to shorten or lengthen individual notes without upsetting the whole, but the system was seen as outmoded.

No doubt it was the makers of musical clocks, who were clockmakers foremost and music-arrangers secondarily, who first used a lathe-type dividing head and worm gear to subdivide the barrel without actually marking it (although as late as 1825 Thomas Reid of Edinburgh described a strange combined system in his *Treatise on Clock & Watchmaking* which is reproduced in my book *Clockwork Music,* pp. 95-102). Specifically for organ work, though, Engramelle described a worm-driven dial-and-pointer system in his work *La Tonotechnie,* later simplified and revised in the volumes of Dom Bedos de Celle (a description of this is to be found in my book *Mechanics of Mechanical Music,* pp. 11-20).

One of the most talented of all builders of mechanical organs in England was without doubt Flight & Robson of 101, St. Martin's Lane in


RECONSTRUCTION
OF
FLIGHT'S MICROMETER
FOR
NOTING ORGAN BARRELS

London. John Flight Jnr, a musician in his own right and an outstanding arranger of music for the barrel organ, invented a small device which could be connected to the barrel drive of any mechanical organ and which would make it possible to prick music of any type, complete with interpretational nuances. The device he made was a variation of Engramelle's dial-and-pointer system, but it featured a massive reduction gearing so that the lengths of notes, or the silences between notes, could be minutely marked with absolute precision while at the same time maintaining an accurate running record of the length of time (meaning barrel surface) used up, and how much remained. Flight called his tool a Micrometer. As far as is known, only one was ever made and it did not feature in the sale of effects by auction when the Flight & Robson partnership was broken up in 1832. It appears to have served with the reconstituted business Flight & Son at 36 St. Martin's Lane, where they advertised during the time of the Great Exhibition (1851).

The whereabouts of the actual micrometer are unknown. However, by a strange piece of fortune, a description survives in The British Museum and with it a rough drawing upon which this article is based.

The Micrometer comprised a set of three gear wheels in a small frame. The device was screwed straight into the handle socket on the worm drive crankshaft of an organ. Wheels A and B were arranged together in a fixed position, their centres B and C being situated one above the other on the vertical limb of an 'L'-shaped bracket. The horizontal limb of the bracket was secured on to a triangular-sectioned bar, K. The third, lowest wheel, G, was attached to an adjustable arm which could be slid up or down the bar K as dictated by the size of the wheel which it carried, and was locked into place by the screw L.

The wheel A is a dial having 96 teeth on its outer edge, these 96 parts being mounted on the face of the dial in concentric divisions of 2 and 4 each to suit common or equal time (two or four beats in the bar), and triple time (three beats in a bar). Twenty-four divisions for the 4 equal 96, and 32 divisions for the 3 also equal 96.

This dial wheel A is free to rotate about its centre E which also carried á fixed pointer D. The centre C mounts three functions: first there is a one-toothed pinion or indexing cam, a peripherally-grooved disc, B, and a toothed wheel, F. The grooved disc B is about one-quarter inch in thickness and around its periphery there are four narrow grooves machined into the circumference. These grooves are divided, the first into four parts, the second into three, the third into six and the fourth into eight parts. At each division, a small hole is drilled into the disc so that the fine point of the adjustable spring finger, Z, when it is properly set by its clamping adjustment, will drop in as it travels along one groove.

The one-toothed pinion serves rather like a male stop-work and engages in the dial wheel A so that one revolution of the pinion advances the dial wheel by one tooth, or one ninety-sixth of its circumference. This advance is indicated by the dial pointer, D. The toothed wheel, F, is one of a hundred prepared for the micrometer and provided with teeth in numbers from 20 to 120. These wheels are about one-fifth of an inch thick and each is secured to the shaft C by a locking screw.

The wheel G is also one of a hundred wheels also made with teeth in numbers from 20 to 120 as wheel F, but they are only about half the thickness. These wheels slide on to the shaft, H, which is arranged to rotate in the adjustable arm, and the selected one is locked in place by the handle, I, which is screwed tightly against it.

The selection of the wheel, G, depends upon the time of the music to be noted and the number of quavers to be marked on the circumference of the barrel. If the handle makes 80 revolutions for one revolution of the barrel (which is driven by its worm from the centre C of the middle wheel), then the wheel F must have 80 teeth. If the circumference of the barrel is to be noted with a piece of music 20 bars in length with two minims in the bar, then the wheel G must have 40 teeth. From this example, it will be seen that the wheel G will make two turns for one turn of the wheel F and with this wheel also turning the disc B, if the end of the spring Z is engaged in, say, the fourth groove, the circumference will be divided into eight parts which in this instance will equal semi-quavers. At the end of this revolution, the one-toothed pinion on shaft C will have advanced the dial wheel one division.

By the use of different wheels, any required number of divisions could be obtained with this little machine.

For anyone anxious to take up barrel noting seriously, either for a musical box cylinder or for the wooden barrel for an organ or piano, the construction of a device similar to Flight's Micrometer would be of great value.

An Organ on Attenuated Air

By F. WEBB

A SHORT time ago, when looking through a varied collection of organ literature, I came upon a small brochure issued by Vincent Willis (uncle of the present Henry Willis the third) giving particulars of small organs designed and constructed by him on a unique and ingenious system. These instruments were operated by attenuated air, the chamber or box covering the pipework being hermetically sealed and the air therein being exhausted by means of a specially designed fan exhauster. To my knowledge, no description of this ingenious modification of organ construction has so far been published, and it is thought that details of this type of instrument would be of interest.

In order to make the operation of the system clear I have prepared a diagrammatic sketch (from memory) of the instrument inspected and heard at Vincent Willis's works in High Street, Brentford, in February, 1915. The section (which is reproduced on page 133) is not to scale and is approximate in detail, being designed solely to show the *modus operandi* of the system. The details and parts are lettered as follows:—

A is the trunk or duct connecting the fan exhauster (not shown) to the hermetically sealed pipe chamber (B), acting also as a swell box.

B Air-tight chamber or swell box covering the pipe-work.

C Thin air-tight membrane on inside of box covering the swell louvre openings.

D Swell louvres hinged at top on outside.

E Wind-chest at low level with exposed pallets operated by motors (F) on suction pneumatic.

F Pallet motors collapsed by external air pressure.

G Manual touch box, suction pneumatic.

H Music-roll chamber with tracker-bar, driving and take-up spools.

I Player pneumatic (suction).

J Manual keyboard.

K Player to manual and pedal coupler.

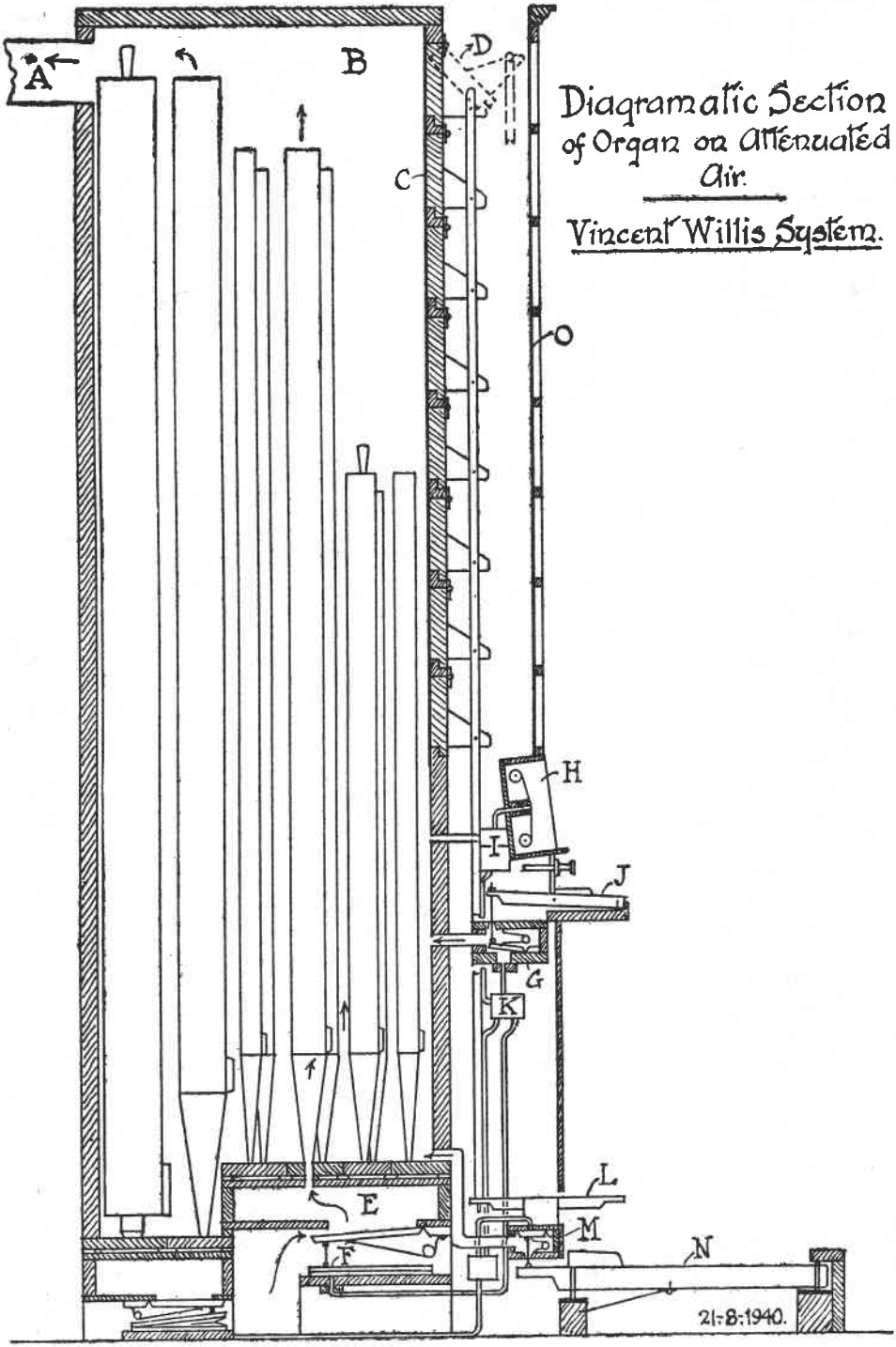
L Swell pedal (mechanical).

M Pedal touch box, suction pneumatic.

N Pedal keyboard.

O Front casework grill or fret, covered on inside with porous fabric.

The operation of the system is as follows. The hermetically sealed chamber (B), acting as a swell box, is exhausted of air equivalent to about



Diagramatic Section of Organ on Attenuated Air.

Vincent Willis System.

five inches on a water gauge through the trunk (A), connected with the fan exhauster (not shown). When the key (J) is depressed, the pallet in the touch box (G) is opened; and the touch box, being also exhausted, air is drawn through the connecting tubing and the coupler (K), creating a partial vacuum in the pallet motor (F). The external air pressure then collapses this motor and pulls down the pallet in the wind-chest (E), allowing the admission of external air into the groove and passing the slider (if open) into the pipe and so causing it to speak. The air current (shown by arrows) is in the usual direction, and consequently the pipes speak in a normal manner.

The pipe-work being enclosed in a hermetically sealed chamber, with the air current in a direction away from the box, it would be thought that little or no sound would reach the listener. This is overcome by cutting away and fitting the front of the chamber with swell louvres, and covering the openings with a thin air-tight membrane fixed to the inside of the chamber. This membrane being thin does not materially impede the egress of sound; and although there is some tonal loss, it is not sufficient to render the swell action ineffective.

At first sight the system seems altogether wrong, and that the pipes could not be made to speak under these apparently abnormal conditions. But if the section and direction of the air current (shown by arrows) is carefully studied, it will be found that the pipes speak under normal conditions.

When I visited the Brentford works in 1915, Mr. Vincent Willis was rather anxious to have my opinion as to whether this little instrument sounded like an organ; but after hearing it, I was able to assure him that I could detect little or no difference (apart from a slight diminution in strength) between this type of instrument and an organ of similar size and specification speaking under normal conditions.

Mr. Willis, in his patent specification (No. 28,172/1912) states: "The voicing of the pipes is not in any way affected; and all the ordinary resources of the organ builder are available with attenuated air as with air under pressure."

The advantages of this system of construction are of some importance, and may be summarised as follows:—

a. No bellows or reservoirs are necessary; therefore,
b. The soundboard (windchest) may be placed near the floor, allowing more height for the pipe-work.
c. The pallets and valves are exposed, and readily accessible for adjustment and repair.
d. The pipe-work, being wholly enclosed, is kept clean and free from dust.
e. The air being exhausted from the room through the chest, pipe-work and swell chamber remain at the same temperature and humidity as the air in the room or apartment in which the instrument is situated; therefore, the pitch and tuning remain uninfluenced by changes due to the different positions of the blower and the organ.
f. Noise from the fan is eliminated, as the current of air is towards the exhauster and away from the organ

These are, undoubtedly, great advantages, especially for organs situated in private residences; but, unfortunately, owing to the necessity of hermetically sealing the pipe chamber, there was a certain reduction in the tonal output, which is not altogether a disadvantage in chamber or residence organs.

The instrument was primarily designed as a small residence organ, fitted with player mechanism, and had pedal bass and melodic action. The pipe compass was sixty-five notes, AA to $C\sharp^4$, but the keyboard was of the usual five-octave compass, CC to C^4. The organ being on the exhaust or suction system, the application of the player mechanism was relatively simple, and similar in detail to that used for player pianos.

The exhauster, designed and constructed by Mr. Vincent Willis and his two sons, was also ingenious and merits a short description. In appearance it was somewhat similar to the usual pressure type, but the intake at the axle was connected by trunking to the hermetically sealed chamber of the organ. The casing consisted of two bowl-shaped sides, but these, although bolted together, were kept apart (by small distance pieces), leaving a small gap of about $\frac{1}{4}$in. or $\frac{1}{8}$in. at the periphery. In operation, the air was drawn in at the axle intake and ejected through the narrow peripherial gap between the two parts of the outside casing. It was, as usual, directly coupled to an electric motor, and gave an exhaustion equivalent to about 5in. on a water gauge, and was of sufficient capacity to eliminate the necessity of an intervening exhaust or suction bellows. Mr. Willis also states in his patent (No. 28172: 1912) "that in cases where stops of an imitative and solo character require a higher pressure of air than the others, I prefer to place such stops on windchests supplied with compressed air, the resulting energy being that of pressure and suction combined. This air pressure could be used for external stops such as an open diapason. In effect, there would then be available three different wind pressures from two sources: one due to attenuation, one to compression, and one resulting from the combination of both attenuation and pressure."

So far as I am aware, only one instrument of this type was constructed: that inspected by the writer at the Brentford works; and it would be interesting to know what ultimately became of this unique instrument and whether it is still functioning. This small organ (from recollection) had about four stops: three 8ft.'s and one 4ft.; and, in addition, bourdon 16ft. pipes to complete the pedal compass.

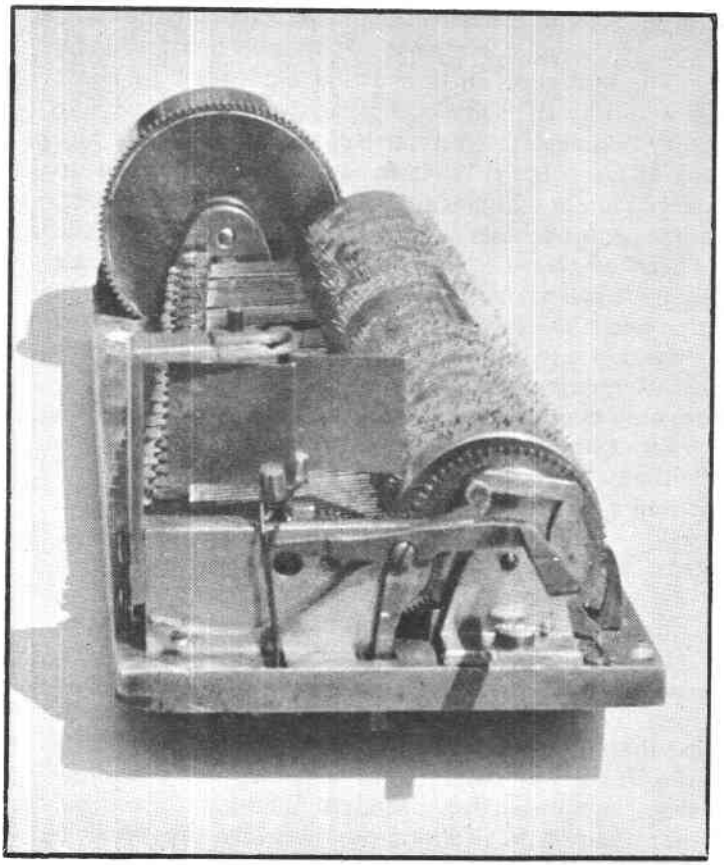
A unique instrument like this should really find a resting place in a museum; and this brings me to a suggestion that I desire to make, — i.e., that a special gallery or section of (say) the Science Museum, Kensington, should be devoted to musical instruments (both string and wind) and their construction and history.

I am quite aware that there is a number of string and wind instruments of historical interest in the Victoria and Albert Museum, but they are somewhat scattered and far from comprehensive. Modern instruments are not represented at all, and no attempt has been made to illustrate the development of such instruments up to modern times: apart from one or two enharmonic and other similar instruments in the Physics Gallery of the

Science Museum, the pipe organ proper is very poorly represented. Although music is justly considered an Art, and hence what musical instruments there are in the museum are exhibited in the Victoria and Albert Museum, yet science is largely concerned in the construction and development of musical instruments, therefore such instruments would seem to be more fittingly displayed in connection with the Science Museum.

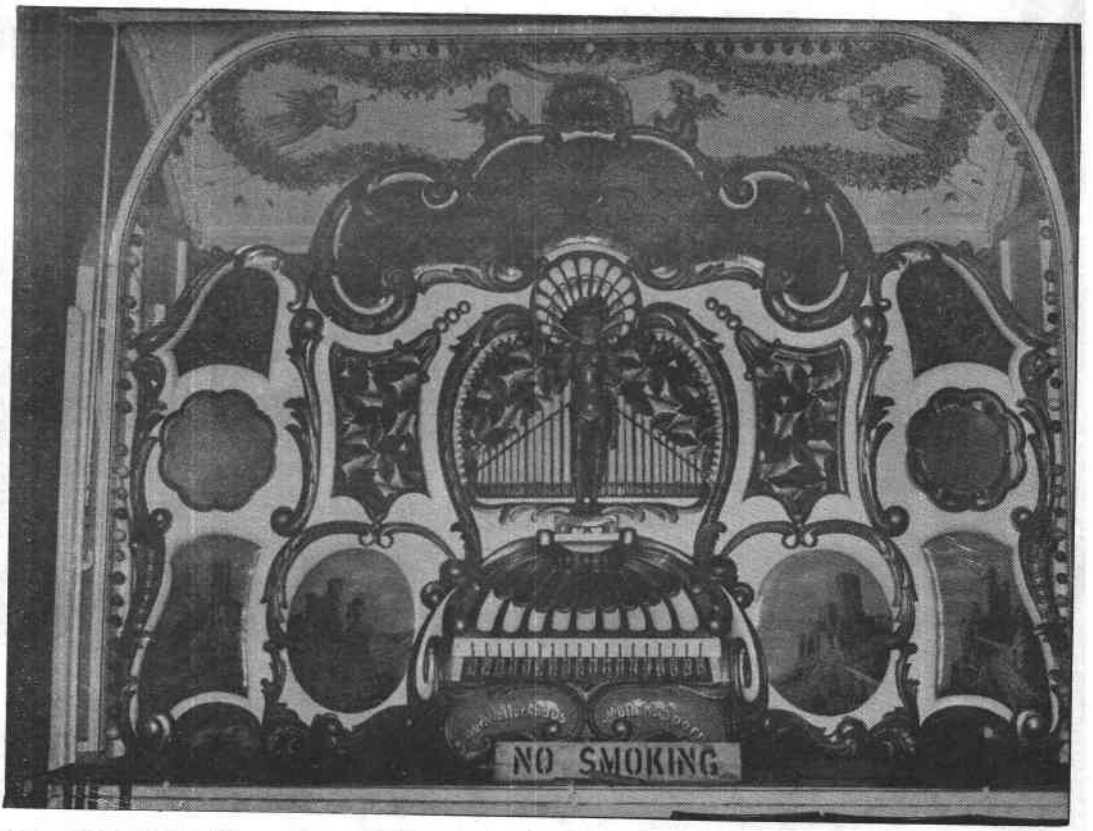
In conclusion, and in justice to the inventiveness and ingenuity of Mr. Vincent Willis, I should like to mention other inventions and improvements in connection with the pipe organ that he was responsible for,—inclined manual keyboards, floating lever pneumatic action, double languid pipes, etc.

This article first appeared in The Organ No. 79, Volume XX, January 1941 and is reproduced here with acknowledgement to that publication.

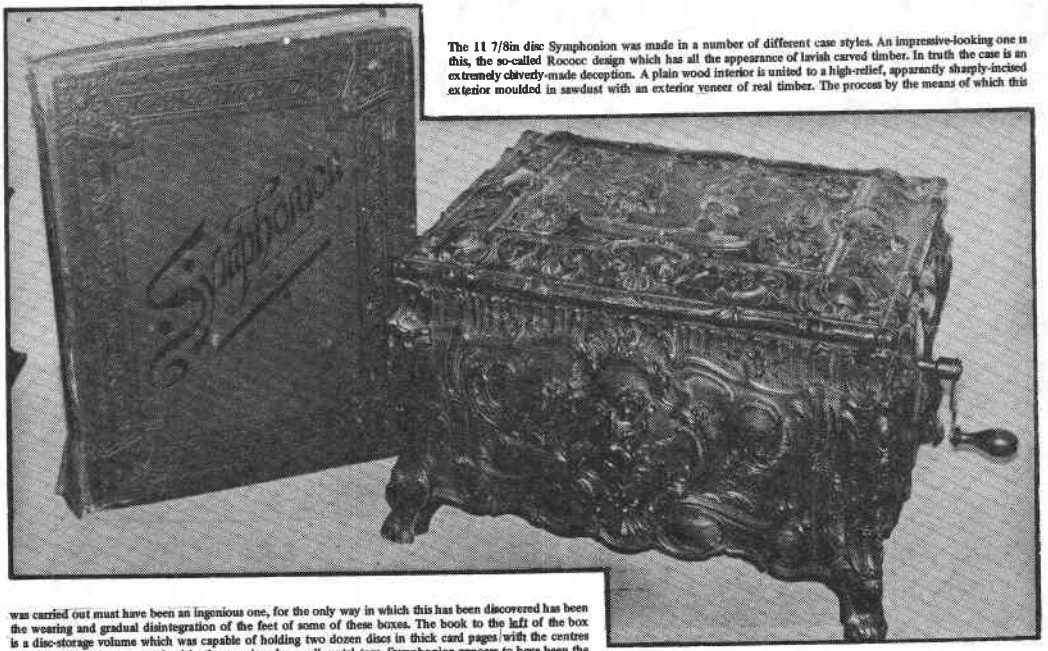


On page 343 are two pictures of an early and unusual cylinder box in the Nationaal Museum van Speeldoos tot Pierement. Here, left, is a further view showing the extended stop detent pallet. The three control levers are push-pull rods as shown in the earlier views.

Right: A Baker-Troll two-comb Sublime Harmonie 3-cylinder interchangeable musical box from the Fortnum & Mason collection. The cylinders are 11-inches long. Twin spring barrels give long playing and a tune indicator and tune selector are fitted.



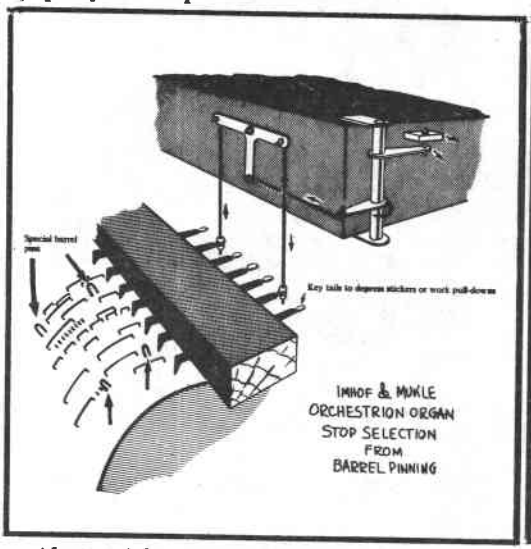
The spectacular appearance of FOPS member George Cushing's 84-key Wellershaus show-organ (above). The maker's label, left, is from a small chamber barrel organ belonging to Mr. Brider of Bournemouth. Hitherto, both the name W. Holland and the address have not been recorded before.

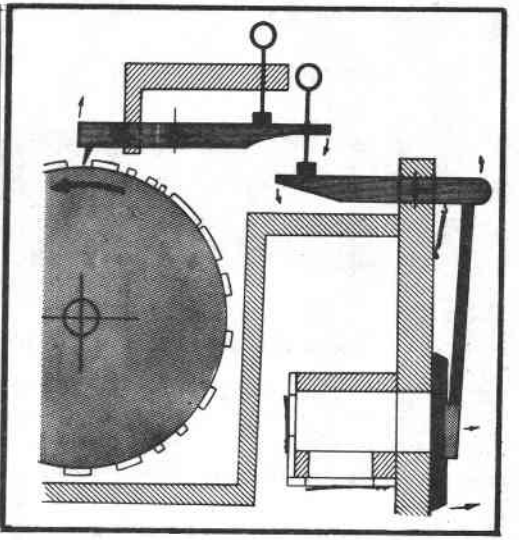


The 11 7/8in disc Symphonion was made in a number of different case styles. An impressive-looking one is this, the so-called Rococo design which has all the appearance of lavish carved timber. In truth the case is an extremely chiverly-made deception. A plain wood interior is united to a high-relief, apparently sharply-incised exterior moulded in sawdust with an exterior veneer of real timber. The process by the means of which this was carried out must have been an ingenious one, for the only way in which this has been discovered has been the wearing and gradual disintegration of the feet of some of these boxes. The book to the left of the box is a disc-storage volume which was capable of holding two dozen discs in thick card pages with the centres cut out. The discs were retained in the openings by small metal tags. Symphonion appears to have been the only maker to try this solution to the age-old problem of storing discs when not in use.

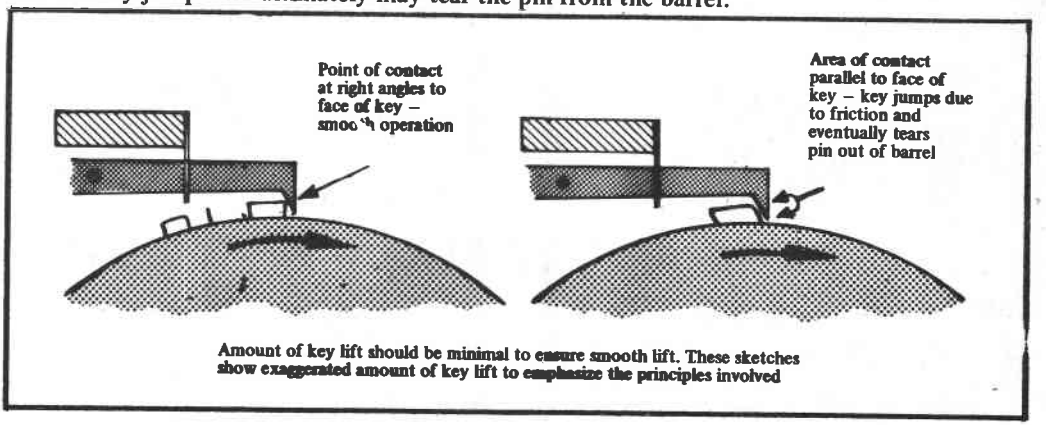
PICTORIALLY VIEWED

In the last of the present series, Arthur Ord-Hume shows here details of various types of mechanical organ. Below, left, is sketched the method used by some orchestrion organ makers, particularly Imhof & Mukle, for changing stops using a rocking T lever, two separated stop keys and a pivotted shaft.





Above right, is a sketch showing the operation of the German-style barrel reed organ, popular amongst street musicians. This is characterised by external pallets operated by a system of adjustable levers. Below are two sketches showing the importance of ensuring that the pins and bridges on an organ barrel stand straight and are not bent backwards. Where a pin or bridge begins to cant backwards, it present greater friction to the key with the result that the key jumps and ultimately may tear the pin from the barrel.



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THE GENEVA COLLECTION of Automatic Musical Instruments FOR SALE

Claes O. Friberg and Q. David Bowers, directors of Copenhagen's Mekanisk Musik Museum, are pleased to announce the purchase intact of the Geneva Collection – one of the finest groupings of automatic musical instruments ever to appear on the market. This fabulous collection, together with other important acquisitions, will be featured in our MMM Review No. 5 scheduled for publication in February. Listed, illustrated (in most instances), and priced for sale will be several hundred – that's right, several hundred – disc-type music boxes, a fine array of cylinder boxes, organettes, reproducing pianos (Ampico, Duo-Art, Welte, and Hupfeld), coin-operated pianos, several magnificent orchestrions (including the world's only known example of the Hupfeld Helios III/42), an interesting selection of fairground organs, many beautiful dance organ, and other automatic musical instruments of interest.

Continued from page 485

It is also clear that those who volunteer for meeting duties see little or nothing of the meeting itself.

To my way of thinking, meeting duties should, like Jury service, not come around too often.

Which just makes me the more aware that were it not for the unselfish help of Vice-President David Tallis and his wife Sarah, and Secretary Reg Waylett and Marie, our meetings would never get off the ground. Admittedly there are other Members who valiantly rally round and help out on the registration desks, but I feel that they deserve a break. For them, a meeting means another day sitting in a hotel corridor handling money, leaking ballpoints and a crowd of members.

If the MBSI can call for – and get – a working party together, why can't we? Or is it still thought terribly British to make martyrs out of the few by subjecting them to a regular purging of enthusiasm? At the next meeting, I'd like to see Marie and Sarah sitting in the hall. Surely some Home Counties or London-based members and their ladies will step forward and offer to take over some of the chores?

Open House Meetings

When first the Society was created, we put forward the suggestion that it would be an idea to foster and encourage the system of small group meetings in the homes of Members. With perhaps eight or ten people foregathering at a house meeting, new friendships could be set up and gradually this interaction of people of different talents on a regional level could prove beneficial.

The first house meetings were undoubtedly those we used to have at the home of our founder secretary, Cyril de Vere Green. Since those days there have been isolated meetings of this type at the homes of Bruce Angrave and Reg Waylett among others.

But properly-organised house meetings never really got going. And so it is with nothing short of enthusiasm that I greeted David Shankland's suggestion, published on our correspondence page in this issue, that he would like to start proper house meetings and, furthermore, that he would be prepared to open his Cardiff home for the first gathering on January 25. As his home is only two hours from London by the M4, and is easily reached from West Midlands and West of England areas, he is hoping for about 20 visitors. Support this venture – but write to David first as his home can only accommodate a reasonable number.

Winds of Change

As most Members now know, this is to be the last issue of our Journal in this size and format. Starting with the first issue of the next volume, THE MUSIC BOX goes larger and will be printed letterpress instead of by litho. Not unnaturally, some Members have objected. Based on letters received, the number is still less than half of one per cent of the membership. However, these objections have been rightfully aired and at the last meeting, reported elsewhere in this issue, a discussion on the change took place. The points made were that everybody had got accustomed to the size of the magazine; there would be storage and binding problems for the larger magazine and would we have to make another change at an early date.

For my part, I sympathise with all these points and more because I probably refer to my back issues more than anybody else, I have them bound and I will be faced with the self-same problems of the inconvenience of having two sizes of journals to shelve.

But however much I take sides with the objectors, I am conscious of the economics of producing THE MUSIC BOX and the simple answer is that if the magazine stays as it is, then it must either contain fewer pages or cost a great deal more as lithographic film and plates unite with paper in a rising spiral of costs. Although one time our production

was far cheaper than letterpress, we have now approached the 'break even' point and this coincides with the start of a new volume. If we do not change now, then we cannot change for another two years – and anything could happen in that time.

Producing what is virtually a new magazine even within our existing concept is an enormous task but the planning stages are almost complete now. With publication expected in March 1975, I hope you will enjoy our new-look MUSIC BOX and know that economics, not whim, has dictated its change.

The Museum Cult

An extraordinary story reached me the other day from an unimpeachable source none other than the Daily Telegraph. A museum of some sort or another opens in the United States every three days, adding to the 5,000-odd already in existence. Attendance figures confirm that the new museums are not merely showplaces but are being used by the public. In 1953, says the report, Americans paid about 100 million visits to museums and art galleries. By 1962 the figure had doubled and it now stands at 700 million visits per year.

I checked with the Standing Commission on Museums and Galleries to find out how we stood in Great Britain. We have something around 950 museums and galleries and in 1965, attendance at the main London galleries and museums totalled 10,720,306. By 1970, the total had reached 15,817,899, and in 1973 the total was 50,508,000.

I expect that all this shows that the Americans are prouder of their great heritage than we are, or that they have more time for museum-going that do we, but whatever it shows, it remains an interesting statistic.

What's In A Name

Revised editorial policy in our new magazine will dictate that the name of all contributors appear as usual, but that the work of the editor shall go unsigned.

ARTHUR W.J.G. ORD-HUME

OBITUARY

HENRY A. J. LAWRENCE

Founder Member Henry A.J. Lawrence died at Standish Hospital, Stonehouse, Gloucestershire, on October 20th after a long illness.

Many Members will recall with pleasure the immense and sincere interest which Henry Lawrence had in quality musical boxes and his bright wit and humour. An unfailing participant at Society meetings up to the time of his illness five years ago, he delivered several lectures to us and chaired one of our Question & Answer panels.

Born in Stroud, Gloucester, in December 1899, he took up engineering as a profession and became a precision engineer operating his own business for many years. During the 1939-45 war, he was on the list of repairers of Admiralty equipment and worked on ASDIC. In 1927, he began collecting musical boxes and it was a musical clock which he made as a wedding present for his wife, Queenie (Betty), when they married in 1930. In later years, they lived in Leamington Spa.

Henry suffered a severe stroke five years ago from which he never recovered, spending almost all the past two years in the hospital where he died. We extend our deepest sympathy to Mrs. Betty Lawrence and his three sons.

Henry Lawrence chairing a technical discussion at a MBS meeting.

SAMUEL F. SUNLEY

Although not a Member of the Musical Box Society of Great Britain, many of our older Members knew Samuel Sunley whose shop in George Street by London's Baker Street was known as The Music Box Gallery and was long established. It is with regret that we record that Samuel Sunley died after a short illness during the autumn.

Letters to the Editor

Our former Treasurer, David Shankland, writes that he is planning to hold an Open House day at his Cardiff home. David's address is 'Hove To', 124, Pencisely Road, Llandaff, Cardiff, CF5 1DR and he does live in an area easily accessible to many West Country and Welsh Members:

Would any Members like to call on Saturday the 25th January 1975 from 2 pm. onwards to hear and discuss musical boxes? All Members will be most welcome and I hope we shall have an enjoyable meeting.

Many musical boxes were of course made for use in the home and in this environment, they are at their best, especially when shared with others.

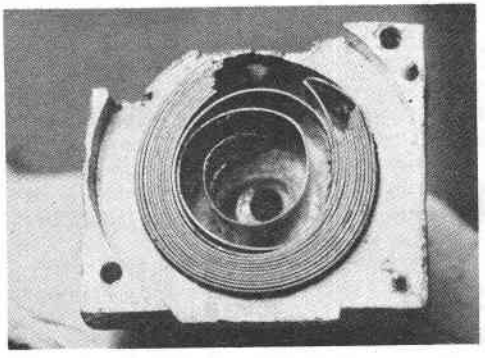
'Hove To' is just off the motorway at Cardiff, being about 30 minutes from the Severn Bridge or just over 2 hours from London. No excuses! If you would like to call please write beforehand in case I have to alter the date (or restrict numbers!).

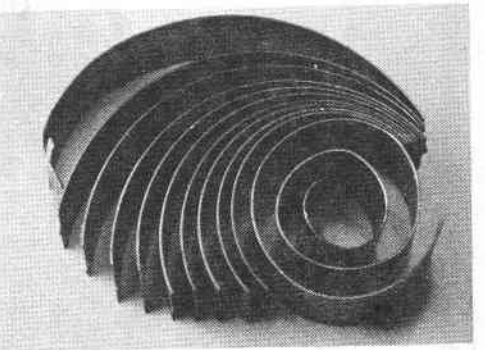
May this be the first of many Open Houses in the future.

Member Grace Thompson writes from Harrogate:

While I was reading your very interesting article on shattered springs, my brain (which is rather like a neurotic computer) slipped into gear and produced from some mysterious depths "Keith Harding musical album." Not sure whether I hadn't slipped a cog or two, I asked my spouse "Didn't I buy an album from Keith with a spring like that one?" Suspecting that he would probably be asked to join in a lengthy search for said spring, his simple answer was "Not that I can remember." As a consolation, he added "You'll have thrown it out if you did." I never throw anything out . . .

My mind was now working on a conscious level and I clearly remembered buying an album with a broken spring from Keith some years ago. I removed the spring barrel in order to replace the spring and found that it was shattered. I was so impressed





and mystified by this that I felt sure it must be interesting, but what had I done with it?

Three hours later, having tidied up the workshop suddenly there it was – an old polish tin containing a nice little movement, shattered spring still in barrel and a little card stating that I'd bought it in May, 1969!

My husband was much more impressed with the workroom, tidied in my search. He did say that when climbing in North Wales 25 years ago he had taken off his watch before going to bed. He was in a mountaineers' hut and, being hardy types, the window was open and he put the watch down on a cold slab near the window. In the morning he went to wind the watch and found the spring broken.

Editor's Comment. Grace Thompson's preserved movement is a two-air album movement of familiar format. It plays *Home, Sweet Home* and *Auld Lang Syne.* The comb bears the pre-hardening state stamp "JB" at the extreme left corner. The male stopwork is present but broken, and the female stopwork is burred due to over-winding. The facility of removing the spring allowed one to see that the centre of the spring was preserved to the extent of about three coils, and that from there 10 coils were present, each split at a position approximating the hole for the left-hand bearing of the cylinder. The outer end of the spring was still securely held on the barrel hook. The spring was broken into a total of 11 pieces and, after removal, the spring pieces were found in good condition. There was still a reasonably effective film of oil on each piece, the pieces had the appearance of a sound spring. Some of the breaks bore evidence of having been initiated by a sharp kinking. I am most grateful to Grace Thompson for allowing me to examine and then remove this broken spring but I am afraid that it solves little in quest for a positive explanation. The main question is that normally a spring must break in one place first and the instant of separation should be followed by the sudden release of stored energy in the two pieces remaining. What actually happens seems quite at variance with this.

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Letter to the Editor

Dr. J. J. Haspels, Conservator-Director of the Nationaal Museum van Speeldoos tot Pierement in Utrecht, writes:

I have just received THE MUSIC BOX Volume 6 Number 7 with all the Charles Clay clock music by Handel. What a marvellous and courageous act to reproduce the integral score! Keep up the good work!

Editor's Comment: Several other Members have criticised the devotion of so much space to this music. Your Editor considers that this music is of sufficient importance to have warranted the Musical Box Society of Great Britain taking the initiative of publishing it for the very first time.

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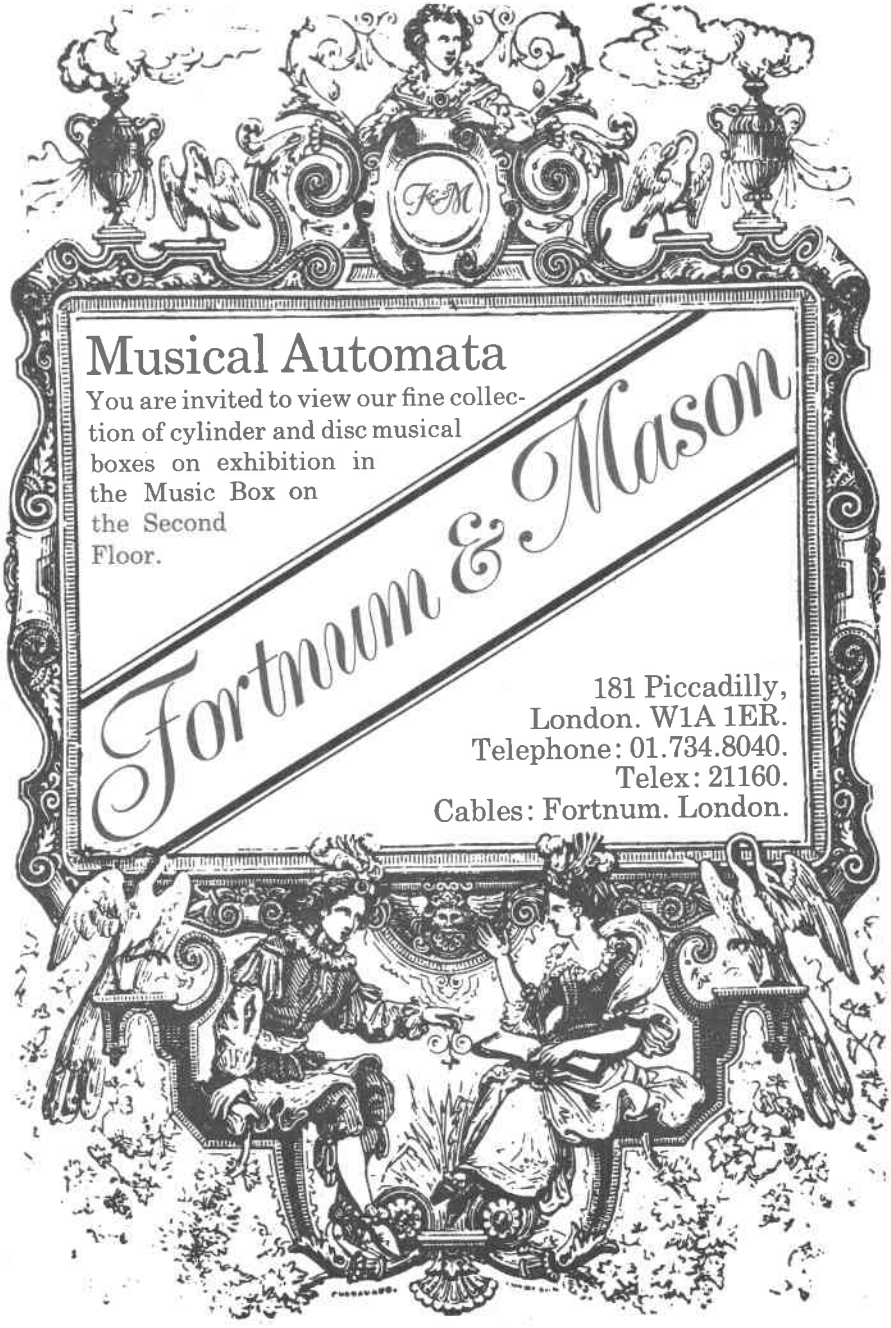
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