

JOURNAL OF
THE
MUSICAL BOX
SOCIETY OF
GREAT BRITAIN

THE MUSIC BOX



Vol.3 No.1 Easter 1967



Keith Harding



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THE MUSIC BOX

THE JOURNAL OF THE MUSICAL BOX SOCIETY OF GREAT BRITAIN

Vol 3 Number 1 WINTER, 1967

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Hon. Editor: Arthur W.J.G. Ord-Hume.

The Editor writes:

For four years now, I have had the privilege of holding office as Hon. Editor on your behalf. This is a task which demands an enormous amount of work and the end product, although but quarterly, may well belie the fact that the job of production is just about a continuous run of work, taking much spare time and effort. There is always something to be done, to ensure that THE MUSIC BOX appears, to see that acceptable material is contained in it, and to maintain interest and variety. Things go wrong sometimes and it was an accumulation of such things which caused the Christmas issue to be several weeks late.

In my years as Editor, I have never failed to be amazed at the almost unending potential of magazine material. A quiet afternoon in the Patent Office in London can, for example, yield a wealth of forgotten material to fill an issue. Again, the Public Records Office, the Guildhall Library - all offer information of interest to us. Of course it has to be dug for and there can be times when a session of many hours reveals nothing of consequence. But material is there and just needs ferreting out, using time and inquisitiveness as the tools.

Again, the odd, interesting and unusual musical box crops up with unfailing regularity as if to sneer at those of us who thought unwisely, that we were knowledgeable enough to know of everything.

This is the first issue of a new volume - Volume 3 - and it is also the first issue to adopt our new format. I hope that you approve of it.

ARTHUR W. J. G. ORD-HUME

THE REPAIR OF MUSICAL BOX DISCS

by Frank S. Greenacre



ALTHOUGH my binder is now crammed full of copies of this journal I am somewhat surprised to note that complete silence has been maintained on the subject of repairing Polyphon and other makes of discs. This silence might indicate that repair technique has been perfected and the subject not worthy of mention but, judging by what I have seen, this is not the case! For the want of half an hours work many a good disc is marred by missing projections and indeed it is unusual to buy a disc machine without some of the discs (or 'tune sheets' as the manufacturers termed them) needing attention.

This damage is, more often than not, the result of misuse (witness the 'antique dealer' taking a disc off half way through a tune and jamming another on), bad storage (the ill-designed contemporary disc bins), and stiff or seized star wheels all take their toll. It is very unfortunate when one finds, on acquiring a 'new' box, all ones favourite pieces have been played to destruction leaving the unintelligible Russian and Polish airs intact!

Experimentation with various types of repair has been carried out in collaboration with that doyen of the soldering art, Member Mr. I. Tapping, and the following method is seriously suggested as the ultimate in repair

technique where speed is essential. The writer has recently successfully repaired a large batch of 25" Symphonion discs using this method and the replacement of 100 projections per evening, by using mass-production techniques, is easily attained.

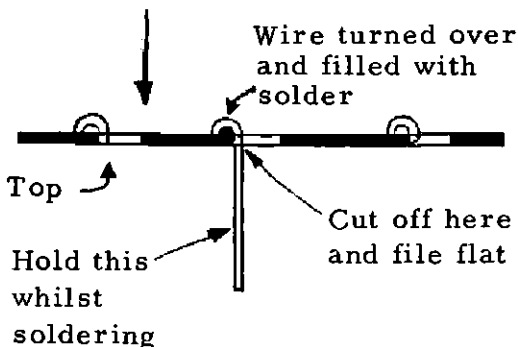
TOOLS REQUIRED

Small electric soldering iron, small square section file, small flat file, 1 box of 3/64" cotter pins, pair of sharp side cutters, small pair of snipe nosed pliers, non-corrosive flux, solder steel wool.

METHOD

Scrape a small square section area of lacquer off the underside of the disc where

Disc Underside



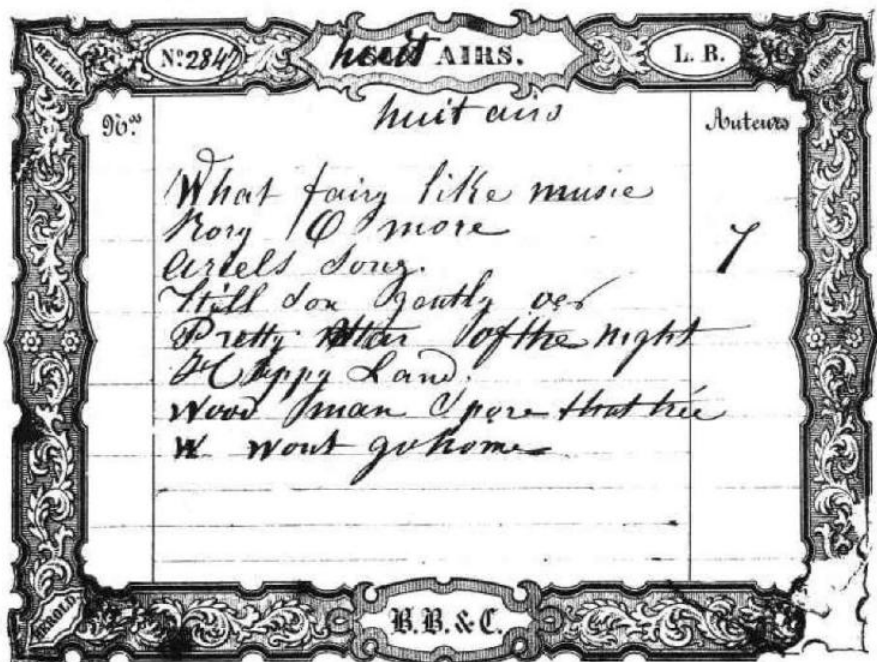
the new projection is to be affixed. Apply flux to the bright metal and 'tin'. Take one of the cotter pins (which will make about eight projections), straighten, then clean with steel wool until shining. Turn the end over in the shape of a projection – with a little practice this can be done in a second without making the 'U' too large or small. Dip the end in the flux and tin so that the 'U' is filled with solder. Thread the wire through the hole in the disc so that the potential projection is in the desired position and, whilst pulling down slightly from the title side, place the iron on the wire sufficient to allow momentary melting of the solder. 'Twang' the wire which is sticking out to make sure the joint has 'taken' then

turn over the disc and cut off the wire as close to the face as possible. Finish off by filing flat taking care not to scratch the surrounding area.

As with all soldering work, cleanliness is the secret of success – keep the soldering bit clean and do not allow scale to form. On no account use corrosive flux such as Bakers fluid or, after the elapse of a few days, patches of rust will have appeared.

If any difficulty is experienced in obtaining the correct size of cotter pin the firm of G.K.N. (Screws and Fasteners) Ltd., Heath St., Birmingham 18, is able to supply 10 gross for the sum of 13/6d.

This Lecoultré tune sheet may be compared with that illustrated on Page 204 of Volume 2. The initials "L.B." together with the B.B. & C. imprint suggest "Lecoultré Brothers". The 6-air tune sheet has been altered for an 8-air box, otherwise it is original.



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Of the Name of Lovelace, upwards of One Hundred Years since,

CONTAINING THE FOLLOWING MOVEMENTS:

A TIME PIECE, striking the Hours, Quarters, &c.

A PERPETUAL ALMANACK, which has an exclusive Movement for the Leap Year, requiring to be regulated once only in 100 years—the principal Wheel in which revolves but once in four years.

On a Plate, in the Centre of the Face, is seen the **SUN** in his Course through the Heavens, as he appears to us. The Circle which he makes is beautifully described in the Changes of the Seasons, by the Horizon receding or advancing as the Day lengthen or shorten.

Under the above, is seen the **MOON**, showing her Age and Wane, as she appears to us in her different Stages.

An **ORGAN**, playing a variety of Pieces, that produce a most delightful harmony, the figures of which are brilliant, beyond any thing of modern Composition.

A BELFRY, in which are Six Figures ringing the Changes on Six Bells.

A variety of other Figures are shewn, in motion, playing Instruments, beating Time, &c.

The whole is contained in one splendid **PILE of CABINET WORK**, Ten Feet high, Five Feet wide, and weighs upwards of Half a Ton. The Sculpture, Paintings, and Embellishments of which, though executed more than 100 years since, are not surpassed for Workmanship or Beauty in the present Day, and strike the Beholder with Admiration; but, at the same Time, with regret, that an Individual, whose powerful Intellect and refined Mind could execute so extraordinary a Machine, should have died in a Workhouse.

Mr. B. has just received a beautiful Collection of PAINTED GLASS, of the 16th Century. He has also added to his Collection some fine SPECIMENS of CHINA, PAINTINGS, CABINETS, and other CURIOSITIES.

POLLARD, PRINTER, NORTH-STREET.

Plate 1. The Exeter broadsheet of 1821.

[Photo courtesy of the British Museum]

THE EXETER LOVELACE CLOCK

By Alan Smith

In May, 1941 the City of Liverpool Museum was destroyed by enemy air raids and amongst the treasures which were lost was the famous musical/automata/calendar clock by Jacob Lovelace of Exeter. No photographs of the clock survived and research showed that no detailed analysis of the clock had ever been made apart from a few notes compiled by the late J. J. Hall of Exeter, who published a serialised account of the life and work of Jacob Lovelace in the *Horological Journal*, November 1931 - May 1932. Several references have been made in other works but most contain little more than a description of the clock quoted from a broadsheet published in Exeter in 1821, when it was exhibited in that city by one Mr. Burt on Fore-Street Hill (plate 1).

In the Autumn of 1964 an enquiry about the Lovelace clock resulted in fresh research work being carried out to determine what the clock was like and what exactly happened to it during the war. The dial and one figure from the cabinet were discovered in the museum store at Liverpool in an undamaged condition, and this raised the interesting question as to why the dial should be intact while the rest of the clock had vanished. Further clues, kindly initiated by Col. Quill from a letter he discovered in the Ilbert Collection, resulted in the recovery of a large part of the movement of the clock, another decorative figure from the cabinet, the original winding key and a set of brass feet which belonged to the movement. Careful questioning of people who had been at the museum or who were connected with it during the war disclosed that the clock was, in fact, never destroyed in the "blitz" at all, but that, abandoned and decrepit in the ruined building it was dismantled and dispersed in the chaotic and abnormal conditions of the period. The real tragedy was that this object was, at that time, of no interest to anyone, nor as far as we can tell had it ever been cherished during the years preceding. It seems unlikely that it had ever been in good order in Liverpool Museum for many years before Mr. Hall first saw it, twenty years before he wrote his article in 1931.

Another curious and disconcerting detail about the history of this clock is that there

is no record of how it ever came to Liverpool Museum in the first place! It is likely that it was acquired by Joseph Mayer, a distinguished antiquarian and goldsmith of Liverpool, who gave his entire collection of antiques to the Museum in 1867, though this is not necessarily the year in which the clock arrived. Of its ownership and whereabouts before it came to Liverpool the details are sparse. Nothing is known of it from 1755, when it was apparently discovered in a garret after Jacob Lovelace the younger's death, until the early years of the 19th century when it was in the possession of Mr. Burt of Exeter who displayed the clock to the public and advertised his exhibition in the broadsheet mentioned above. We next hear that the clock was restored by one Mr. Frost who exhibited it at the London Polytechnic in 1834 and that sometime after this it passed into the hands of Mr. Charles Brutton, an attorney of Exeter, who not only kept it going for the diversion of the judges and other court officials when the Exeter Assizes were being held, but who also arranged for it to be displayed in the Philosophical, Musical, Horological and Surgical Instruments Section at the Great Exhibition of 1851. A woodcut illustration and description were published in the catalogue of the Great Exhibition, Volume 1, Plate 33 page 418. Mr. Frost appears to have continued in his attentions to the clock for some time after the exhibition for he apparently re-pricked the worn-out barrel for the organ, his daughter made new dresses for the bell-ringers and, according to a letter to the *Devon and Exeter Gazette* of September 10th, 1921, written by his then 82 year old son David, he did other things . . . ! Mr. Brutton died in 1854 and the clock was purchased by the Exeter silversmith Mr. John Stone who in all likelihood sold it to Joseph Mayer. David Frost, in the letter just mentioned, wrote "When the clock was sold by Mr. John Stone my brother and I packed it for Liverpool". He does not, unfortunately, quote the year when this happened, nor are there any records in the Museum archives to establish this for us.

The dial of the Lovelace clock measures overall approximately 25" x 31" and this measurement, when compared with the

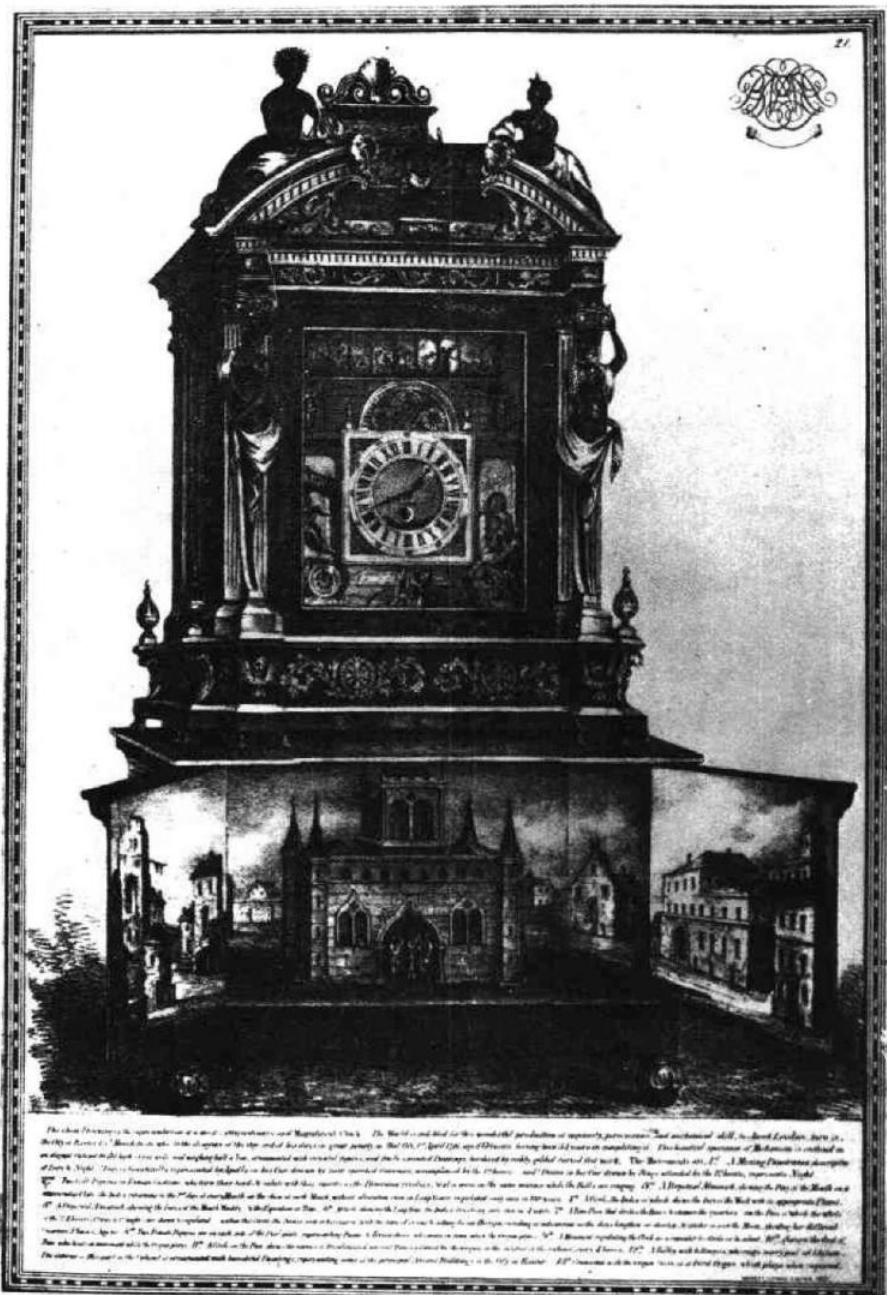


Plate 2. The Hackett lithograph of 1833

[Photo courtesy of the Clockmakers' Company]

Hackett lithograph of 1833 in the Clock-makers' Company Library (plate 2), establishes that the size of the whole piece was, in fact, some ten feet tall and five feet wide. The outer dial (plate 3) is embellished with decorative paintings and automata figures and is made of sheet iron, strengthened with an iron frame to which it is rivetted and enclosing an inner dial of brass. The inner dial is 13" square with a break-arch top of 6" diameter. The chapter ring is of the 24 hour type enclosing a recessed centre which has an aperture showing the lunar phases and a gilded disc which indicated the rising and setting of the sun. Within the chapter ring there is also a wooden moulding, lacquered in the Chinese manner and appearing to be quite original, though it does not correspond with the detail of the Hackett lithograph. The outer edge of the break arch indicates the date of the month and was operated as a perpetual calendar while within the arch the left dial shows the day of the week, the centre indicates the month and solar time on four dates each month, while the right hand dial shows the state of the leap year cycle. The movements which actuated these dials are completely missing and were obviously carefully removed, leaving behind a pattern of pivot and screw holes as the only evidence of the mechanism. At the foot of the dial are two more subsidiary dials, the left one being a strike/silent indicator and the right one showing the organ tunes which were played every four hours. This dial, from a comparison with the engraving of the strike/silent one, is obviously a 19th century restoration, probably having been changed when Mr. Frost re-pricked the barrel. There are eight tunes in all, though there are ten spaces available on the dial, with two left blank. The titles of the tunes are as follows, with notes on the dates and composers from Mr. Hall's notes:

1. ST. JAMES. R. Courtville, 1735.
2. ST. STEPHENS. W. Jones, 1726-1800.
3. NEW SABBATH. Thomas Kelly, 1805(?).
4. OLD 104th PSALM. Ravenscroft's Psalter, 1621.
5. OLD 100th PSALM. Genevan Psalter, 1551.
6. LUTHER'S HYMN. Johann King, 1535, present form by Martin Luther, 1483-1546.
7. RULE BRITANNIA. Dr. Arne, 1740.
8. GOD SAVE THE QUEEN. Original form John Bull 1619, present form 1745.

The painting of the outer dial is good provincial work of the early 18th century. It is most unfortunate that the painting of the panorama, which revolved behind the arcade of arches at the top of the dial, is lost, the present fragment of it having been pasted flat and over-painted at some recent date to make it "match" the arcade. It is possible that the panorama, with its paintings of Apollo and Diana and their retinues, was discarded when the dial was rescued from the "blitz" and that it received its present treatment when it was placed in its modern frame, perhaps about 1945. Apart from two free-standing gilded automata figures the rest of the outer dial is painted with architectural niches, masonry, mouldings and receding arcades, creating an illusion of space and depth; the style and quality of the painting is, to a certain extent, primitive, but it is an interesting example of the Baroque "grand manner" from a provincial hand.

The surviving movement is that part concerned with the organ barrel, the automata figures on the dial, the bell-ringers in the lower cabinet, the bird organ and the revolving panorama. The frame is of brass measuring $17\frac{3}{4}" \times 10\frac{1}{4}" \times 12\frac{3}{4}"$, with square, gently tapering corner columns complete with bases and capitals. The bun feet for this movement were rescued from the base of a long case clock in a house in a Liverpool suburb, but they came too late for inclusion in the present illustration. It is obvious that decorative finials were also made for the top of the frame but these have now vanished. The movement consists of two trains powered by large springs and fusees and governed by one fly above and one on the opposite end. Looking at plate 4 the left hand train begins with a spring barrel 4" in diameter and 4" in length driving a fusee of 26 turns, this in turn driving a train of three horizontal arbors, wheels and pinions governed by a large fly mounted at right angles above. This train drives the organ barrel through two large wheels seen on the end of plate 5, the barrel being held at this end by a large cranked lever and spring. In the centre of the movement and driven by this train is an irregularly toothed wheel for controlling the movements of the automata figures on the dial, and a locking plate to secure the train after each tune was played. The right hand train on plate 4 is powered by a smaller spring barrel, $3\frac{1}{2}"$ in length and $3\frac{1}{4}"$ in diameter, driving a fusee of 20 turns and a train of three arbors, wheels and pinions terminating in the fly mounted at

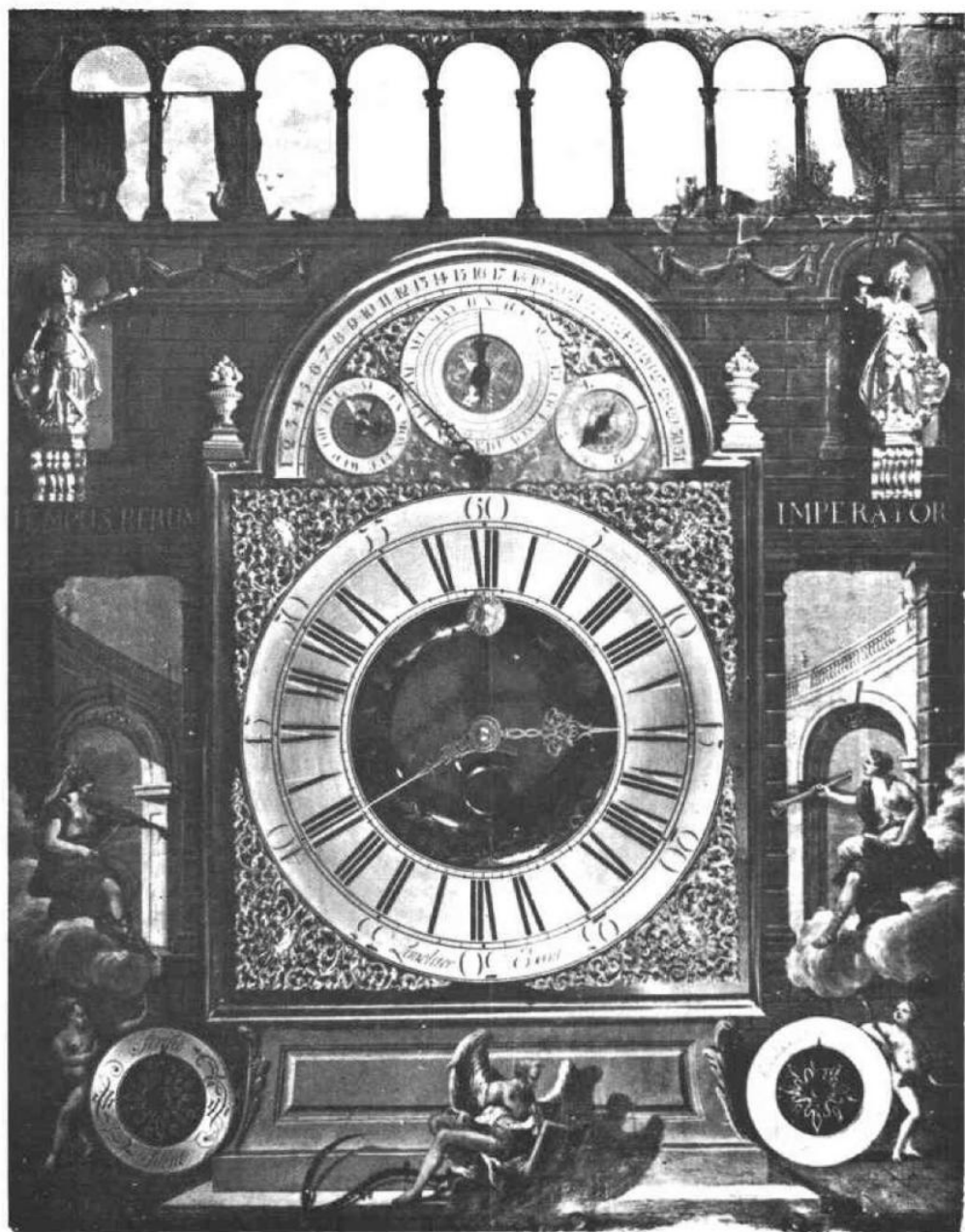
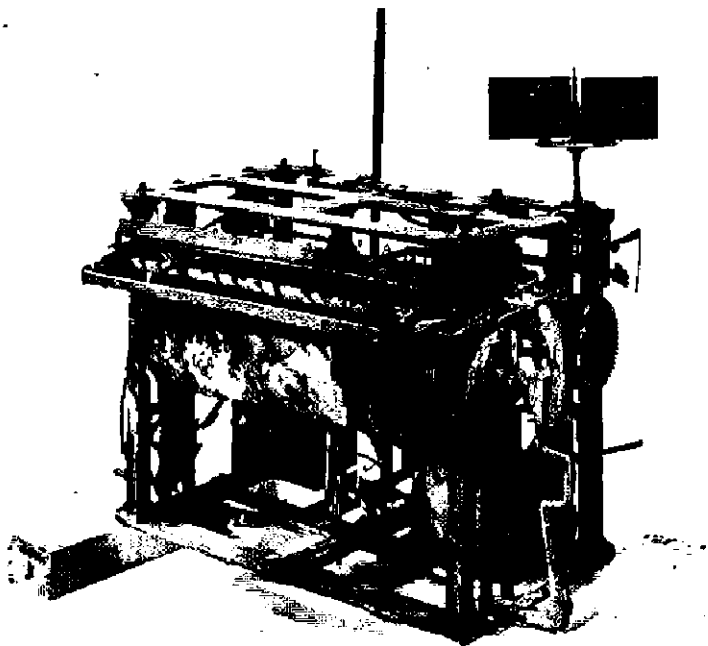
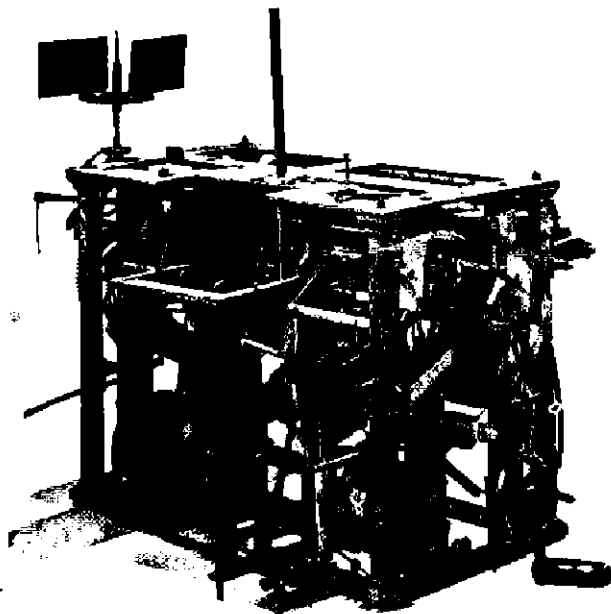


Plate 3. Dial of the Lovelace clock.



Plates 4 and 5. The Automata and Barrel-organ movement of the Lovelace clock.
Note original winding key in Plate 4.

the end, outside the frame. This train would appear to have provided power to the revolving panorama through a vertical arbor and to the bird organ (as required) and to be basically responsible for unlocking the previous train. A system of levers shown on the end of the frame in plate 4 controlled the lateral movement of the organ barrel for the tune changes and also automatically changed the dial tune indicator. The drive for the bird organ was geared through a contrate wheel to the smaller fusee and employed a simple clutch mechanism to engage or release as required; this may be seen on plate 4. The organ barrel is made of wood, 15" in length and 5½" in diameter. It is fitted with bridge pins to operate 15 levers to actuate the pipe pallets, and the snail controlling the position of the barrel has ten stops, corresponding to the ten divisions on the tune dial already mentioned. There is a large space below the barrel (plate 5) which might have held two rapidly vibrating air feeders to supply the pipes, as suggested by Canon Miles Brown. On the other hand there might have been a set of bellows housed in the lower cabinet, but if this was the case there is no evidence of how they would have been driven. The set of organ pipes was no doubt housed in the ample space above the movement in the upper cabinet. The actual clock movement is still missing but this was comparatively small in size, measuring approximately 9" square. It was a three train spring driven movement according to Mr.

Hall's observations in 1931, striking on bells, and would no doubt have fitted into the aperture in the upper centre part of the movement illustrated in plate 4. One difficulty here is that since there are no winding holes in the dial it is not known what means of access would have been available for winding.

The cabinet of the Lovelace clock was a massive affair, in two separate parts, the upper portion containing the dial and movements and the lower, slightly wider, containing the bell ringers, "puppets", inside a three-dimensional model of a Gothic building and belfry, and paintings of buildings in Exeter executed on the inside of the cabinet and on the insides of the doors. These paintings were, apparently, representations of the ruins of Rougemont Castle on the left and the old city gaol on the right. A lithograph by W. Spreat, preserved at the Exeter Museum, shows the arrangement of the lower cabinet better than the Hackett print illustrated here. The base and feet of the lower cabinet survived, according to an old employee of Liverpool Museum, until quite recently, but were destroyed when old cellars were being cleared to make way for the re-building of the museum! The paintings have completely disappeared though it is hoped that they may be still intact somewhere, awaiting discovery. Of the upper cabinet there are no traces except for the right hand pediment figure of Diana (plate 6) and the right hand caryatid. The carving of these figures is of good quality and an



Plate 6. Right hand pediment figure of Diana from Lovelace clock. Note traces of greenish-black paint.

interesting point revealed after cleaning was that they were originally finished in white and gold, on a white gesso ground. On the extant lithographs they are shown black and described as "oriental" figures in the captions. The greenish black paint which was found on the figures was obviously applied early in the 19th century to conform to the then current standards of taste! We do not know if the whole of the cabinet was painted or not, but the effect of white and gold figures, gilded ornaments and richly painted dial must have been sumptuous indeed when the clock was first made.

There has been a good deal of confusion about the maker of this clock and one or two doubtful legends have survived with very little factual evidence to support them. The name "Lovelace, Exon." appears on the dial but there were two Lovelaces of Exeter, clockmakers, father and son, and both called Jacob. In spite of contradictory statements from many sources about the dates of these individuals it would probably seem that the father was born in 1656 and died in 1716, possibly under conditions of great poverty in the Exeter workhouse, as has been so frequently stated. It would, however, be difficult to imagine this to be the case with a son in business nearby to help and support him. This son, Jacob, was probably born in 1695; he definitely married in 1712 and had seven children, one of whom, John, became the Vicar of Aylesbeare at an early age. Jacob was a clockmaker like his father and became a respected citizen of Exeter and Churchwarden of St. Stephens where he also attended to the turret clock for thirty-nine years. A regular contributor to the "poor rate", he died in 1755 at his son's vicarage aged 60, and the foregoing circumstances of his life are such as to suggest that he would never have allowed his father to come to a miserable end. It has been suggested, in the past, that it was Jacob the son who made the clock but perhaps it was the father who started it, exhausting his means in so doing, by neglecting his routine clockmaking business. However this may be, the date suggested by the clock itself would seem to be between about 1720 and 1740 and therefore within the lifetime of Jacob the son, but not the father. It has been stated that the son took no interest in his father's work but it would seem that he probably took up his father's incomplete clock and had the dial and cabinet made for an enthusiastic client

who either died, or lost interest, before it was finished. This would account for it being found neglected in 1755 at the time of the son's death and also for a comment by David Frost, in the letter of 1921 already quoted, that Lovelace never did, in fact, finish it. David Frost goes on to say "My father did so with his son's help and that was 87½ years ago"—that would be in 1834.

From the evidence already acquired it is obvious that no complete restoration of this clock could ever be attempted; too much is missing or known to have been destroyed. On the other hand it is certainly the intention of the Liverpool Museum to display once more such fragments as remain, and at least to remedy as far as possible the mistakes and neglect of the past. The early and middle years of the 19th century were the ones in which this clock last captured the imagination. Today it is recognised that this was an important specimen of an interesting group of early 18th century musical/automata clocks, in which their perhaps eccentric makers planned elaborate and pompous displays of amusements and diversions to complement the serious business of recording the passage of time.

This article appeared in the June, 1966 issue of the Journal of the Antiquarian Horological Society, and we gratefully acknowledge permission to reprint this article from Mr. Alan Smith, Keeper of Ceramics and Applied Art, City of Liverpool Museum, and the Editor of *Antiquarian Horology*.

BOOKS

To be published during this year are the following books of interest to musical box collectors:

"Collecting Musical Boxes and How to Repair Them" by Arthur W.J.G. Ord-Hume, published by George Allen & Unwin about May, price 42/-

"The Barrel-Organ Book" by the late Canon Noel Boston and Lyndesay G. Langwill, published by Boston & Langwill early in the summer, price 50/-

"The Cylinder Box Collector's Handbook" by Graham Webb, published by Faber & Faber about the end of the year.

MY WAY WITH DAMPERS

by Tony Sherriff

I WAS most interested in Mr. de Vere Green's 'DAMPERMANIA' (Vol. 2 page 109), all the more so when only a few evenings before I had damped a comb almost exactly in the fashion described with fair success. I confess that through ignorance I had to look up the meaning of the word 'BARK' and discovered that it was 'one of the lateral processes of a birds feather'. I have damped several small fine combs with these, one being an Alibert snuff box. I have never given thought to the possibility that there is a right and wrong way to apply barbs to teeth but I propose to have trials on this with the next comb. Fortunately barbs are slightly curved and provided they are glued with all the curves in the same direction, you have either all the flats or all the semi-circular surfaces to the teeth. I have studied a fine F. Nicole comb and am certain that here the dampers have the semi-circular surface to the teeth.

I am the sort who usually starts repairs completely unprepared. I have converted a washhouse outside the back door to a reasonable workshop equipped with gas, water and electricity - in fact a musical box repairer's paradise. Unfortunately, and rightly I suppose, wives have that something about them that induces a feeling of guilt if night after night one spends happy hours in one's den. To overcome this problem, I have developed my own portable work bench - nothing more than the door of an old kitchen

cupboard, and a selection of likely tools and a small vice. I then bring this lot into the lounge and seat myself comfortably in front of the T.V. after having switched on, with my work bench on the piano stool which is a convenient height. My wife never interferes. This has now developed into a typical winter routine, my workshop having become a store only. Every box in the collection, including an organ similar in most respects to that described by Mr. Angrave (vol. 2 page 103) has been via the lounge for restoration before being put on show in a specially designed room. Even this room had to be halved to provide a playroom for the children and only thin people are able to get in to see the collection. I fear that the speed at which I am putting on weight. I shall soon be denied the delights of oiling this and dusting that apart from listening to them! However, where I usually proceed with no forethought, I have developed a knack of improvising. On one such occasion when I had a comb lined up for damping I had neither feathers nor shellac. A house search revealed a plastic nylon brush and a bottle of clear nail varnish. To prepare a damper is simply to cut out a single nylon strand, hold one end in a pair of pliers or vice and use emery cloth folded in half, the abrasive on the inside and pull the nylon through a number of times until the strand becomes flat. One has to gauge the thickness unless you are in possession of a micrometer. You now proceed to glue with the nail varnish as

you would with feathers. The beauty with this way is that you have two flat surfaces and I have found this way to be very successful. The width of the nylon should suit most combs. I agree that it is better to be traditional and use feather but I doubt if anyone would know. As a rule I try to preserve the originality of a box throughout. In spite of the success that I have had with this method I have to admit that probably what is good for one comb may be hopeless for another. Unless a box is really worth it, I very rarely set out to improve one that I have already restored and placed in the collection. Anything I learn by way of mistakes or improvements, I apply them to the next repair. By doing this I feel I am trying to avoid that real danger where the hobby becomes the boss.

I mentioned earlier a comb by F. Nicole. This is from a movement in a dark blue tin box that I brought to the summer 1965 meeting in London. It has an interesting history. Obviously it had had very little use and story has it that it lay in an attic for many years at Clevedon, Somerset. I understand that it was thrown out of the window onto a court yard with other junk when the decorators were in. Before being transported away with the rest as rubbish, a workman spotted the tin under some canvas and retrieved it with the idea that it might be useful. Whilst aware of its unusual weight he did not inspect it until later. Fortunately he was not particularly interested and happened to show it to a friend and it eventually came to my collection. It is now in pieces and whilst perfect in most respects, it requires a polish and re-damping. The single-piece comb is 2¾" and has 74 teeth. It plays three airs, the waltz from The Thieving Magpie (Rossini), The Rose Will Cease to Blow

(or Bloom?), and a last tune that includes the word 'butterfly' but has been obliterated by solder as this programme was scratched inside the tin lid. No doubt this movement should have been given a correct case after its export from Switzerland. However, there is a faint horse scene print on the lid in blue and black. Two interesting features are these. Firstly, on the comb, in between the lead resonators there is a section of ten resonators made in brass. Secondly, the comb is stamped F. Nicole suggesting a date prior to 1839 when the two brothers Francois and Raymond joined forces to become Nicole Freres, but on the brass plate is stamped Freres Nicole (also J.H. and J.R.) disproving this. Our Editor has the theory that after the two brothers amalgamated, old stocks of each were pooled and were put into early movements after the brothers linked together. This box survives as a reminder. The tin case is scratched and needs attention. I propose to experiment on this case and the idea I have is to borrow the childrens water paint box. With this I hope to match the blue colour exactly, but this would have to be lacquered with a clear varnish. By brushing, I think the colour will probably run and to these ends I have purchased a clear varnish spray made by Humbrol. The spray will have to be used at a distance otherwise it will be applied too thickly, but if it is a success I will hope to bring it to the next meeting. I hope this idea may prove helpful to others on this type of restoration.

I picked up an eight air Nicole box recently, No. 30933 (approx. 1850-51), but with an oval endstone. I have never seen this before.

I do not recollect having heard or seen any reference, since the Society was founded, to the possibility of building up a library

both in writing or tape of musical box programmes. I feel this deserves special study and if other members are co-operative a most interesting catalogue could be built up. I would suggest that the compiler would send a tape (3") to any member requesting it and this member would record any box he so wishes (all if possible) and return it with the programmes clearly written and identified on the tape. The compiler would then transfer this to a 5¼" long play tape and for convenience I would suggest 4 track at 3¼ i.p.s. With each full tape would be the programme in detail with further details such as box make, number and approximate date etc., also the owners name. A duplicate could be

made of each large tape, a master being sent to the secretary for careful preservation and the other to be let out to any member wishing to borrow it for perhaps some nominal charge to go towards Society funds. The real idea is to help those members who have a valuable box with no tune sheet and which plays unknown music. Tunes could be identified and surely there would be no difficulty in producing standard tune sheet blanks that would be in character with the boxes we collect. Can any member do Copper Plate writing? I would be prepared to start this off though I only own one tape recorder. It would be interesting to hear the views of members on this subject.

Organs of Death

BY J.P. HALL

SINCE the last century the travelling fair of Emerson & Hazard has visited Kendal, which is the largest town in the county of Westmorland. Being the centre of a farming community the hiring of farm hands took place on the 12th. May and 11th. November (Martinmas) and the fair visited Kendal for these times. Farm hands would congregate at recognised places, and farmers would hire men and women for the coming months, many a bargain was struck by the slap of hand against hand and a 1/- paid over to bind the deal, for six months or one year. The employment of labour in this manner no longer takes place, but tradition dies hard, and the fair still comes for the 'hirings' in

May and November.

The fair is not as large as it used to be, but is still attended by the Emerson family. The gipsies no longer come with their horses for sale, and there are not the fortune tellers. The old steam engines have gone, including Lightning II the showmans engine which now attends rallies in the North, under different ownership. One rarely sees an old 'steamer' these days pulling four or five wagons behind it, and it was no mean task to negotiate corners and hills with such a load. One thing which is still part of the fair is the Gavioli organ, seldom in use now, for modern day youth seems to prefer pop music from a loudspeaker.

In May of this year, I was called in by Mr. John Emerson the proprietor, to tune the organ in readiness for a B.B.C. programme, which I understand is to be screened in the



John P. Hall of Kendal is seen here in the process of tuning the Gavioli organ belonging to Mr. John Emerson (left).

Spring.

Over a cup of tea in the hospitality of his lovely caravan, Mr. Emerson gave me a few details of the history of the organ. It would appear that Gavioli was having great success with his large show organs, and was approached about making a smaller version to fit into the centre of a galloping horse roundabout. In due course four organs were made and all came to the British Isles. They were all 65 key and were bought through Gavioli's agents in this country, - Messrs. Veretto Bros., of Manchester. The organs have the reputation of being known as the 'organs of death' or 'widows and orphans organs' for the buyers did not live very long.

One organ was sold to a Mr. Piper of Tramore, Co. Waterford, who put it in a set of galloping horses, and died shortly afterwards. Mr. Piper's widow carried on the business, and after a while Mr. Randle Emerson bought the organ, which was undergoing repair, and died before he ever heard it. His son John acquired the instrument and still owns it, refusing all offers from people who wish to purchase it. John is not married and remarks that the hoodoo has missed him for he has no widow or orphans to leave.

As galloping horse roundabouts were losing popularity, and by way of a change, it was decided that a Noah's ark roundabout would be a better proposition, and this was ordered. Lakin made the animals, rounding boards, gates and other woodwork, and George Maxwell of Musselburgh made the machinery. The new Noah's ark roundabout was assembled round the Gavioli organ on the fair site at New Road in Kendal, and was opened in November 1946 and blessed by the local priest.

Another organ went to Job Hoadley of Middlesborough, it was very similar, except

for the moving figures and bandmaster, it was sold to a Mr. Forest of Gravesend, who did not live very long.

A third organ went to Smith (& Warren) of Lincoln. It was slightly smaller having no Dulcimer. Mr. Smith died and left a widow and fatherless children. This organ was converted to a barrel.

A fourth organ went to a Mr. Holland, and it is believed to have been converted to a barrel.

In just about every case, the men owners were hale and hearty, and fathers of families, and died within a twelvemonths of acquiring these organs. The jinx did not affect the womenfolk, in fact they were fairly prosperous whilst they owned an organ.

Mr. Emerson has a lot of 'book' music for his fair organ. It was stored in a house at Barrow-in-Furness during the last war, when a bomb dropped close by, and the books were covered in rubble. All one winter was spent, unfolding the books and cleaning away the debris, and pieces of glass, and patching and repairing where necessary. Most of it was salvaged, but one book - Maritana overture, (a piece that can bring tears to the eyes when played on the organ) is incomplete.

He also has a fine collection of porcelain, (half of it on loan to a local museum) he also has an eye for a good oil painting or choice piece of furniture. Many of his pictures grace the walls of an old peoples home, and a Romney was given, which is hung in the Mayors parlour at Barrow-in-Furness. Before leaving his lovely home on wheels, I noticed a small tortoiseshell box, and on examination it turned out to be a Bordier musical snuff box in pristine condition - not for sale I'm afraid.

DOUBLE - BARREL BIRD PISTOL.

Double-barrel gold pistol, enamelled barrels blue, remainder red and blue and lines of pearls, plaques of coloured gold, raised designs of trophies, etc. Watch in end of stock. When fired, a bird comes out of barrel and sings. A very fine "jewel" and a wonderful piece of mechanism. Probably made between 1800 and 1815. The watch cover opens with the nail, then winding, setting and regulating squares are seen. The ram-rod is the key. This rod can only be replaced when the key is quite withdrawn into its sheath. To make the bird sing, the right-hand hammer is cocked. In doing so, the spring is wound up. This must be done with decision and sharply, but not with violence. Then the secret trigger comes out. On pulling this trigger, the hammer falls, the trap door at end of barrels opens, and the bird comes out, stands upright and sings. When singing, the hammer must not be touched. Should it happen that the bird finishes its tune and does not retire, then re-cock and start afresh. If by chance the bird retires but the trap door does not close, this can be done with the finger. It may happen that the bird comes out and sings but does not get quite upright, so cannot move about. When singing is over, the bird comes upright and trap door opens. It is now only necessary to make the bird sing again by winding with the hammer as usual, and all will go right. The winding hammer is the one to the Right when looking from butt end. The other one is only an ornament, to balance. The "powder cover" of this hammer can open, but the box below is too small to be of service. The pistol and works are magnificent.

NOTE.—In a book published in Switzerland in 1920, called "La Montre Chinoise," by A. Chapuis, are coloured illustrations of this pistol. There it is said that the plates were found in 1920 amongst the papers of the celebrated makers, "Piguet et Meylan." Hence they were the makers, and the pistol was made earlier than 1815, since the drawings were so dated.



VIEW OF PISTOL.

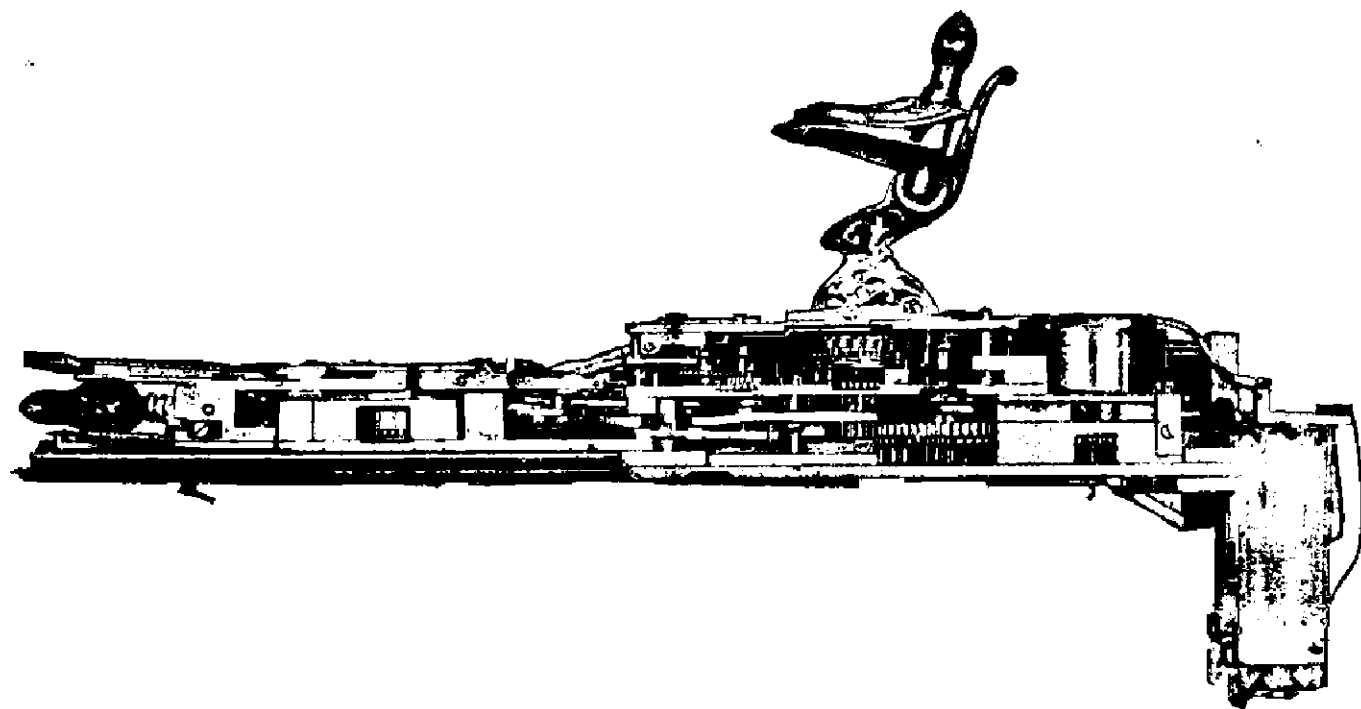
NOTE.—VERY IMPORTANT.

The hammer should be "sharply" cocked, or certain troubles may arise, which are the following :—

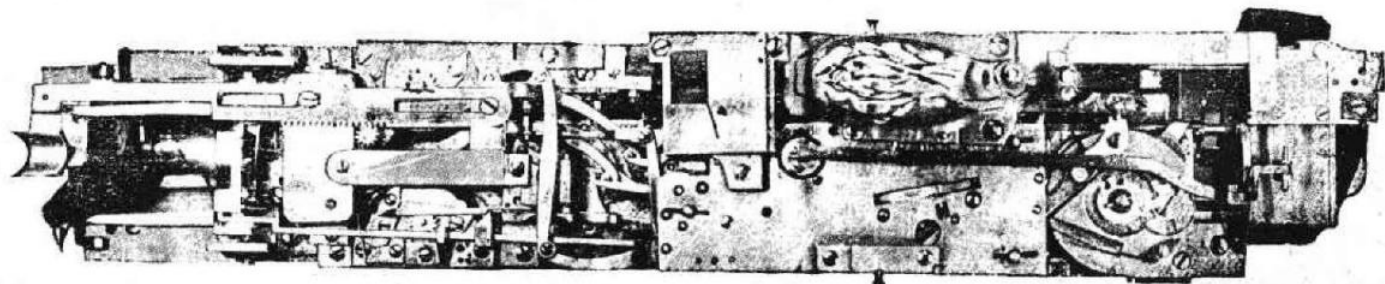
- 1.—The bird may come out and fail to sing.
- 2.—The bird comes out, but does not come to upright position, though it may sing.
- 3.—The bird fails to retire properly.

In no instance must re-winding by means of the hammer be attempted while machinery is running. In all cases when the bird is nearly but not quite upright, it may be pushed upright with the end, say, of a wooden match, then made to sing, when all will go right. In other cases, it is best that a good expert puts matters right.

The construction of the pistol is, that the outer case is built on to the works, *i.e.*, the works do not take out, but all the outer case can be removed in pieces, leaving the works by themselves free. To remove the outer case is not simple. Start first with the barrel. Little screws hold the pearl setting on at the muzzle. These are removed. The pearl bands then take off. Then along the barrels each side the upper row of three screws is removed, and certain others which are self-evident in plate reaching to and beyond the hammers. Then the top of the two barrels comes off. It is best first to remove the two chased shields by the lock. The rows of pearls on each side of the stock are then removed by taking out the little screws which hold on the settings. Then screws below appear which, on being released, allow the side enamel plaques to come off. Remove now the plaque at end of butt, the screws on the two gold ornaments behind the hammers, if not already done, and the screws of plate to which the guard is fixed, also plate over movable trigger, then top plate comes off, and the under one. At this stage, the whole of the works come to view. Any further pieces not removed can now easily be accomplished.

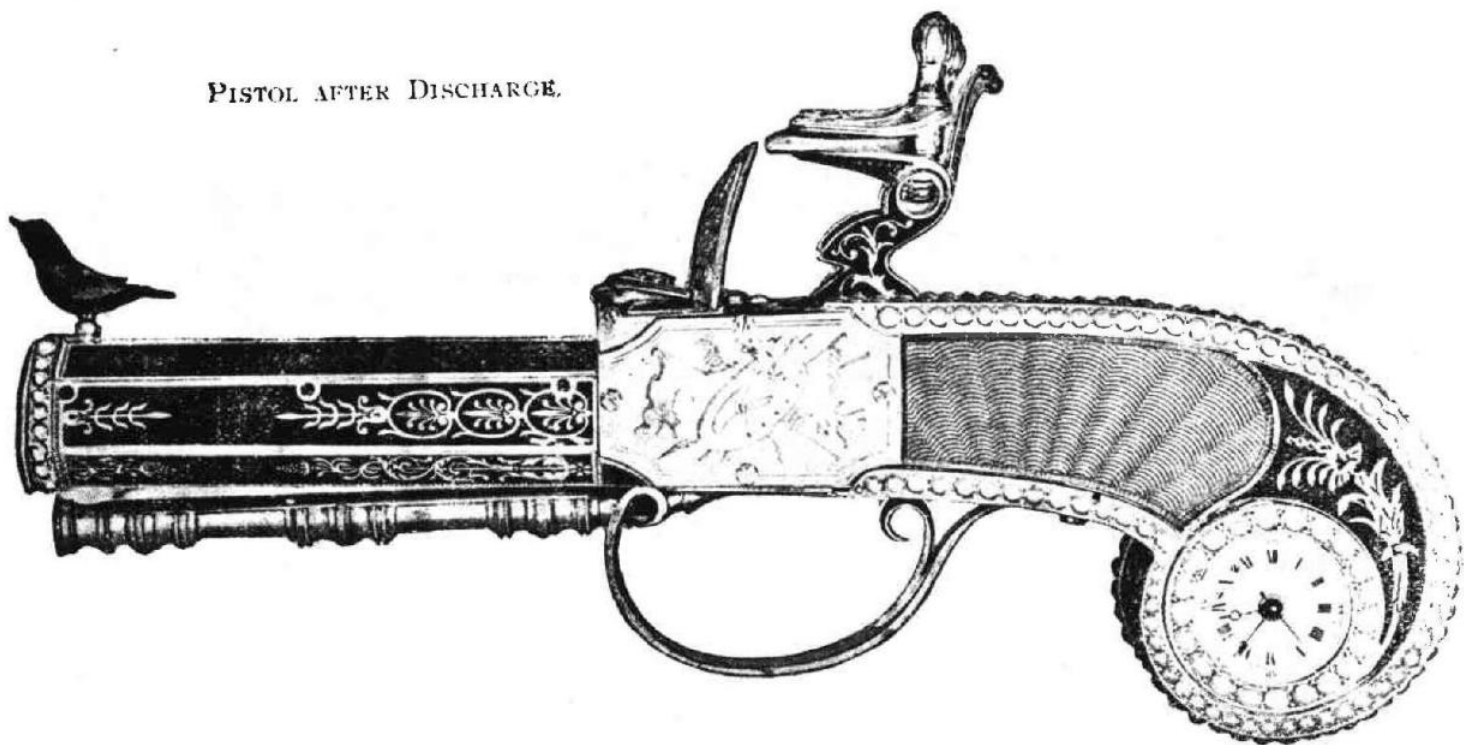


VIEW OF WORKS FROM SIDE.



VIEW OF WORKS FROM ABOVE.

PISTOL AFTER DISCHARGE.



Peter Ward of Grantchester, Cambridge, owns the original of this brochure on the operation of singing bird pistols made by Piguet & Meylan. This text and illustrations probably date from about 1922 when they were compiled and the brochure privately printed by a contemporary collector. Peter Ward has worked on one of these unique pieces - it is thought only three were ever made by Piguet & Meylan - and is an authority on singing birds. He has a large collection and has actually constructed one from scratch.

FROM TEXTILES TO MUSIC

BY JACK TEMPEST

THE word 'automation' is one which today fills many with foreboding and a sense of resentment and yet, of all the quaint and curious forms of automation that brightened life for the masses in and around the Victorian era, one system still survives to provide a living for a small community. The end-product is not expressed as beautiful music, nor is it the mechanical actions of some amusingly animated figure. The means of achieving the end-product have changed very little over the years and have successfully resisted any fears of obsolescence through electronic interference.

I am referring to the Jacquard system of weaving in which punched cards operate a series of strings to control the intricate patterns of warp and weft to produce beautiful textiles. Many furnishing fabrics are produced by this method and, although their designs may not be quite so colourful as their printed counterparts, they generally have a much more pleasant 'handle' as a result of the many varied weaves.

Jacquard looms are used for producing lovely damask tablecloths, towels, ribbons, quality trade labels as sewn into jackets, blankets &c., and for writing 'Made in England' along the selvedge of fine worsteds, as well as for weaving beautiful dress materials and other specialised cloths.

The design of the cloth is worked out on graph paper in such a manner that it is, in

fact, a greatly magnified plan of the finished cloth showing the weaving interlacings in detail. The design is then transferred to cards in a similar way that music is cut into cards for the fairground organ. Jacquard originally suggested that his system might be used for the production of automatic music although certainly he never exploited this application.

Holes are punched into these cards on a 'piano machine' which, to this day, is worked entirely by foot-power and the operator treadles away, controlling the card punches with his fingers.

When the design has been transferred, the cards are laced together into an endless chain and are hung around a square cylinder on the Jacquard machine which is a separate section of the loom mounted above it. As each card is presented to a matching set of keys or 'needles', the interlacing on one pick of weft is completed according to the instructions passed on by the perforations in the card. If there is a hole in the card, nothing happens to the needle, and a string is allowed to be lifted upwards. This, in turn, raises a warp thread and the shuttle carrying the weft across the loom passes underneath the thread. However, where there is no hole in the card, the needle is pushed back, the string is not lifted, and the shuttle passes over the warp thread. In this manner, the pattern in the cloth is constructed.

Endless paper rolls produced by the French Verdol system are gradually replac-

ing the card method and they permit a speed-up of design methods and there is now a cutting machine for card punching which has bowed to progress in permitting the introduction of electro-magnets. Many inventors have had a go at modernising and speeding up the antiquated method by using photographic and electronic techniques, but with little success. Here is one aspect of the world of Victorian automation which has survived!

Whilst Josef Marie Jacquard of Lyons in France patented his invention which was to revolutionise the textile trade in 1801, records show that similar experiments were carried out by a Monsieur Bouchon as early as 1725.

A late friend of mine, a Customs and Excise man at Ringway Airport, Manchester, told me a tale which I am sure Society Members will appreciate. Occasionally, English manufacturers obtain Jacquard cards from Continental sources and these would find their way to Ringway Airport. Now a Customs man has to have a very wide knowledge embracing a great variety of subjects to cater for the varied odds and ends which find their way into the country, and my friend's new assistant was at a loss to understand a roll of perforated paper which he had discovered in a package.

'Well', says my friend, 'you know what a pianola is like?'

'Yes', came the answer. 'It's a piano that's worked by a roll of paper'.

'Well, this one's a full symphony for the Halle Orchestra!'

Jacquard machinery is illustrated in the reproduction of Messrs. Devoge's advertisement of late 19th century weaving machinery on page 34. This company is still in existence today.

NEXT SOCIETY MEETING

The next meeting of the Society, incorporating the Annual General Meeting, will take place on June 3rd and 4th, 1967 at the Great Western Royal Hotel, Paddington, London.

A full programme has been planned which will include an address by Mr. Howard Fitch, President of the Musical Box Society International of America, who will be talking about the works of Jaquet Droz. Mr. Phillip Coole, Keeper of the Ilbert Collection at the British Museum will be delivering what promises to be a most interesting talk on early mechanical music.

Ample space will as usual be provided for Members to display their musical boxes and a sale table will again be featured. It is hoped to arrange a dinner on Saturday evening if support is sufficient at which Member David Nixon has agreed to be one of the speakers.

ROBERT BURNETT

XVII - XIX Century

Clocks, Watches and Musical Boxes

My Stock usually includes one or two English Bracket Clocks, a good selection of Carriage Clocks, including several Grandes Sonneries & Quarter-Repeaters, one or two Marine Chronometers, several Watches.

A few Cylinder Musical Boxes and Disc Machines, two or three Musical Snuff Boxes and one or two Singing Bird-Boxes.

Similar items bought or repaired.

Visitors Welcome.

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A CATALOGUE
OF
REGISTERED MUSICAL BOXES

HAVING
INTERCHANGEABLE CYLINDERS
With a list of the Melodies played by each.



MANUFACTURED EXCLUSIVELY
BY
Messrs. NICOLE FRERES,
LONDON:—21, ELY PLACE, E.C.
GENEVA (Established 1815):—17, RUE KLEBERG.

EVERY DESCRIPTION OF MUSICAL BOX REPAIRE AND PUT INTO
THOROUGH ORDER AT MODERATE CHARGES.



The following are the Patterns and Sizes in which the above Musical Box is made, with their prices, including one Cylinder *au choix* :—

			SIZE OF BOX.	PRICE.
CHICOT ...	8 Airs, with Zither ...		30 x 11 x 9 ...	£14 0 0
ARAMIS ...	8 Airs, with Tremolo and Zither ...	...	32 x 12 x 9 ...	18 0 0
PRIZE MODEL	8 Airs, with Mandoline and Zither ...	...	39 x 13 x 10 ...	24 0 0
SPLENDIDE	8 Airs, with Mandolin , Piccolo Bells, and Zither		39 x 15 x 12 ...	28 0 0
QUEEN'S MODEL	8 Airs, with Mandoline, Piccolo, Drum and Bells		39 x 15 x 12 ...	30 0 0
PRINCESS...	8 Airs, Sublime Harmony, Tremolo and Zither ...	...	41 x 14 x 10 ...	32 0 0
ROYAL ...	8 Airs, with Drum, Bells and Castanetts...	...	39 x 15 x 12 ...	35 0 0
JUBILEE ...	8 Airs, with 'Flutina and Voix Celeste ...	...	42 x 16 x 14 ...	42 0 0
IMPERIAL	8 Airs, with full Orchestral Accompaniment ...	...	46 x 17 x 15 ...	65 0 0

PRICE FOR EACH ADDITIONAL CYLINDER.

CHICOT ...	£3 16 0	SPLENDIDE ...	£6 18 0	ROYAL ...	£ 6 18 0
ARAMIS ...	£4 6 0	QUEEN'S MODEL	£6 18 0	JUBILEE ...	£10 12 0
PRIZE MODEL	£5 18 0	PRINCESS ...	£6 18 0	IMPERIAL ...	£14 0 0

All Cases are artistically inlaid in Rosewood, Walnut, Ebony, Satinwood, Cherry, Cedar, Coromandel, or other Choice Woods.

❖ CATALOGUE OF AIRS. ❖

Selection No. 1.

Hypatia Valse
See-saw Valse
Loving and Hoping Valse
Fedora Valse
Estudiantina Valse
Toujours Fidèle Valse
Bon Ton Polka
Fairy Voices Valse

Selection No. 2.

Cujus Animam *Stabat Mater*
Lord of the Worlds above
Eternal Father, strong to save
With Verdure clad *Creation*
The Heavens are telling
Let the bright Seraphim *Samson*
I know that my Redeemer liveth *Messiah*
O, Rest in the Lord *Elijah*

Selection No. 3.

The Blue Bells of Scotland
Call'er Herrin'
Robin Adair
Comin' thro' the Rye
Ye Banks and Braes
Scots wha hae
Auld lang Syne
Annie Laurie

Selection No. 4.

Tyrolese *Guglielmo Tell*
Com' e gentil *Don Pasquale*
La Donna è mobile *Rigoletto*
Il segreto per esser *Lucrezia Borgia*
Ah! che la morte *Il Trovatore*
Libiamo, ne lieti calici *La Traviata*
Ombra leggièra *Dinorah*
Robert, toi que j'aime *Robert le Diable*

Selection No. 5.

I heard the Voice of Jesus say *Vox Dilecti*
Holy, Lord God Almighty *Titchfield*
Our Blest Redeemer *St. Cuthbert*
My God, my Father, while I stray *Troyte*
Rock of Ages *Pascal*
A little Child the Saviour came *Cranellius*
Lead, kindly Light *Lux Benigna*
One there is above all others *Freyburg*

Selection No. 6.

Jesus loves me
Shall we gather at the River
Pleasant are Thy Courts above
Nearer, my God, to Thee
Safe in the Arms of Jesus
Hark, the Herald Angels sing
Old Hundredth Psalm
Adeste fideles

Selection No. 7.

Home, sweet Home
The last Rose of Summer
Tom Bowling
The March of the Men of Harlech
Sally in our Alley
My Pretty Jane
Good-bye, Sweetheart
God save the Queen

Selection No. 8.

She wore a Wreath of Roses
Where the Bee sucks
O! 'tis the Melody
The Harp that once
The Harmonious Blacksmith
The Bells of Aberdovey
I hear the soft Notes
The Minstrel Boy *Patience*

Selection No. 9.

Our great Mikado *Mikado*
Behold the Lord High Executioner
Three little Maids from School
I am so proud, if I allowed
With aspect stern and gloomy
Brightly dawns our Wedding Day
The Flowers that bloom
On a Tree by the River Tit Willow

Selection No. 10.

Rule Britannia
The Marseillaise Hymn
God preserve the Emperor
The Watch on the Rhine
The Russian National Anthem
The Danish National Anthem
Hail, Columbia!
The Swiss National Hymn

Selection No. 11.

Hey Willow *Patience*
Little Buttercup *Pinafore*
When Britons *Iolanthe*
Poor Wandering One *Pirates Penzance*
Would you know the Maid *Princess Ida*
Valse *The Sorcerer*
Lancers *Trial by Jury*
The Lost Chord

Selection No. 12.

Das Alpenhorn
Auf ein' Bergh bin i g'sässe
L'Echo des Ravines
Die Heimath
Der glückliche Schweizer
Wen der Schnee von Alma
La Fiancée d'Appenzell
Lanterbach

Selection No. 13.

Von meinen Bergen muss ich
Der Tyroler und sein Kind
Ma chère Helvétie
Le père sur la Montagne
L'Infidèle
Der Schweizerbub
Herz mein Herz
Le Ranz des Vaches

Selection No. 14.

Gypsies Valse
Ruddigore Valse
Dorothy Valse
Genesta Polka
Stella mia Valse
Colonial Polka
Mary Stuart Schottische
Indies Valse

Selection No. 15.

Adio speranza *Rigoletto*
Ernani, Ernani! involami *Ernani*
Parigi O cara *La Traviata*
Per me ora fatale *Il Trovatore*
L'Automne *Les Vêpres Siciliennes*
E scherzo, od è follia *Un Ballo in Maschera*
La mia letizia *I Lombardi*
Quale insolita gioia *Aida*

Selection No. 16.

Lieder ohne Worte *Mendelssohn*
Opus 62, No. 30, in A. (The Bee's Wedding.)
Alliegretto grazioso.
Lieder ohne Worte
Opus 62, No. 36, in F.
Alliegretto non troppo.

Messrs. Nicole Frères, Musical Box Manufacturers,

Selection No. 17.

Nocturne.	No. 3. in A	<i>Fidel</i>
"	"	"
"	"	"
Nocturne	No. 1. in E flat	"
"	"	"
"	"	"
"	"	"

Select on No. 18.

Comfort ye, My people	<i>Messiah</i>
Hallelujah Chorus	"
I know that my Redeemer liveth	"
Let the bright Seraphim	<i>Samson</i>
Angels ever bright and fair	<i>Theodora</i>
Sound an Alarm!	<i>Judas Maccabaeus</i>
Gloria in Excelsis	<i>Haydn's 1st Service</i>
As pants the Hart	<i>Spohr's Motet</i>

Selection No. 19.

I cannot sing the Old Songs
Kathleen Mavourneen
Oft in the stilly Night
My pretty Jane
Good-bye Sweetheart
The Harp that once
The Bay of Biscay
Rule Britannia

Selection No. 20.

Onward, Christian Soldiers
The Pilgrims of the Night
Oid Hundredth Psalm
Ave Maria
Waft her Angels
Nazareth
Abide with me
Nearer, my God, to Thee

Selection No. 21.

Overture	<i>Maritana</i>
Scenes that are brightest	"
In happy Moments	"
I dreamt that I dwelt	<i>Bohemian Girl</i>
When other Lips	"
The Heart bow'd down	"
The last Rose of Summer	"
Home, sweet Home	"

Selection No. 22.

See-saw Valse
Hypatia Valse
Fatinitza Polka
My Queen Valse
Sweethearts Valse
Bonne Bouche Polka
Sorcerer Valse
Kutschke Polka

Selection No. 23.

O, Rest in the Lord	<i>Elijah</i>
Prayer	<i>Moses in Egypt</i>
Caller Herrin	"
Kathleen Mavourneen	"
I hear the soft Notes	<i>Patience</i>
He is going to marry Yum-Yum	<i>Mikado</i>
Tyrolienne	<i>Madame Favart</i>
Home, sweet Home	"

Selection No. 24.

Faust Valse	<i>Der Freischütz</i>
Leise leise fromme Weise	"
Leise zieht durch mein Gemüth	"
Oh Thaler weit oh Höhen	"
Drunten im Unterland	"
Coro di Zingari	<i>Il Trovatore</i>
The Keel Row	"
Spanish March	"

Selection No. 25.

The Vesper Hymn	<i>Theodora</i>
Angels ever bright and fair	<i>Spohr's Motet</i>
As pants the Hart	<i>Messiah</i>
Hallelujah Chorus	"
Home, sweet Home	"
Auld lang Syne	"
Bridesmaids' Chorus	<i>Lohengrin</i>
March	<i>Tannhäuser</i>

Selection No. 26.

Once for all
Substitution
Oh! sing of His mighty Love
Almost persuaded
Tell me the Old, Old Story
Ninety and Nine
Hold the Fort
Even me

Selection No. 27.

The Marseillaise Hymn	
The Watch on the Rhine	
The Dead March in Saul	
The March of the Men of Harlech	
Take back the Heart thou gavest	
Blue Danube Valse	
Three little Maids from School	<i>Mikado</i>
On a tree by the River Tit Willow	"

Selection No. 28.

Shadow Dance	<i>Diurnah</i>
Conspirators' March	<i>Madame Angot</i>
Bonnie Dundee	"
The Lass of Gowrie	"
Rory O'More	"
The Harp that once	"
The brave old Oak	"
Shells of the Ocean	"

Selection No. 29.

Dell'aura tua profetica	<i>Norma</i>
Amis, la matinee est belle	<i>Masanillo</i>
Il suo sguardo e dolce tendo.	<i>Maria</i>
Coro	<i>Lucia de Lammermoor</i>
Questa O quella	<i>Rigoletto</i>
O, cara immagine	<i>Il Flauto Magico</i>
Ah! que j'aime	<i>La Grande Duchesse</i>
Ah! per perché non posso	<i>La Sonnambula</i>

Selection No. 30.

Dormi in pace	<i>Diurnah</i>
Come allor che lieve la brezza	<i>Faus</i>
Il segreto per esser	<i>Lucrezia Borgia</i>
Deh vieni alla finestra	<i>Don Giovanni</i>
Flow on, thou silver Rhine	<i>Lurline</i>
Sweet Spirit, hear my prayer	"
Tyrolienne	<i>Madame Favart</i>
Scene du Mancenillier	<i>L'Africaine</i>

Selection No. 31.

Home, sweet home	
The last Glimpse of Erin	
The Lass of Gowrie	
Rule Britannia	
The last Rose of Summer	
Ye Banks and Braes	
The Marseillaise Hymn	
I dreamt that I dwelt	<i>Bohemian Girl</i>

Selection No. 32.

Rule Britannia	
The Marseillaise Hymn	
God preserve the Emperor	
The Watch on the Rhine	
The Russian National Hymn	
The Danish National Hymn	
Hail, Columbia	
God save the Queen	

Selection No. 33.

Rule Britannia
God bless our Sailor Prince
The Watch on the Rhine
The Russian National Hymn
The Danish National Hymn
Hail, Columbia!
God bless the Prince of Wales
God save the Queen

Selection No. 34.

I stand at your Threshold *Dorothy*
Be wise in time "
You swear to be good and true "
Oh! fly not yet "
Contentment I give "
With such a dainty Maid "
We're sorry to delay you "
Time has come "

Selection No. 35.

Ah, je ris de me voir si belle *Faust*
Faites lui mes vœux "
Gloire de nos aïeux "
Grande Valse "
Vin ou bière "
Qui c'est toi que j'aime "
Ai moi les plaisirs "
Dieu de l'or "

Selection No. 36.

Libiamo ne lieti calici *La Traviata*
Coro e Valse "
Un di felice e eterea "
Ah fors è lui che l'anima "
Pura siccome un angelo "
Di Madride noi siam "
Parigi o cara "
Ah! Gran Dio morir "

Selection No. 37.

Aria di piva *Dinorah*
Ombra leggiara "
Aria de Danse "
Te l'Ora suonerà "
Un sogno? O Ciel "
La Spiche andiam "
Il Sol si levò "
Santa Maria "

Selection No. 38.

All the World over *Maritana*
Farewell, my gallant Captain "
Alas! these Chimes "
Yes, let me like a Soldier fall "
In happy Moments "
Scenes that are brightest "
There is a Flower that bloometh "
Turn on, old Time "

Selection No. 39.

A Soldier's Life *The Bohemian Girl*
I dreamt that I dwelt "
Come with the Gipsy's bride "
The Heart bowed down "
When other Lips "
The fair Land of Poland "
Comrade, your Hand "
Valse "

Selection No. 40.

Flow on, thou Silver Rhine *Lurline*
Take this Cup of sparkling Wine "
As in the Cup the Bead flies up "
Gentle Troubadour "
A Father's love "
Sweet Spirit, hear my Prayer "
My Home, my Heart's first Home "
Sail, sail on the midnight Gale "

Selection No. 41.

I'm alone *Lily of Killarney*
Eily Mavourneen "
The Moon has raised her silvery lamp "
The Colleen Bawn "
In my wild Mountain Valley "
It is a charming Girl I love "
'Twas Rank and Fame *Rose of Castile*
I am a simple Muleteer "

Selection No. 42.

Our Hearts are not our own to give *Satanella*
The glorious Vintage of Champagne "
The Power of Love "
Pirates' Song and Chorus "
In silence, sad Heart, go "
Grand Market Chorus and Dance "
Bridal Chorus *Daughter of St. Mark*
We may be happy yet "

Selection No. 43.

I am a simple Muleteer *Rose of Castile*
Keep thy Heart for me "
I'm not the Queen "
Love's the greatest Plague of Life "
Tho' Fortune darkly o'er me frowns "
Hark the Clarion sounding "
Dost thou fear me "
For Wine's sake "

Selection No. 44.

The Marseillaise Hymn
The Watch on the Rhine
The Dead March in Saul
The March of the Men of Harlech
Take back the Heart thou gavest
Blue Danube Valse
Fair Voices Valse
Il Bacio Valse

Selection No. 45.

Dormi in pace *Dinorah*
Come allor che lieve la brezza *Faust*
Serenade *Don Giovanni*
Flow on, O Silver Rhine *Lurline*
Sweet Spirit, hear my Prayer "
Tyrolienne *Madame Favart*
Scene du Mancenillier *L'Africaine*
Hear me, Norma *Norma*

Selection No. 46.

Là ci darem! *Don Giovanni*
Parigi, O cara *La Traviata*
Voi che sapete *Le Nozze di Figaro*
Ernani, involami *Ernani*
Batti, batti *Don Giovanni*
Il Minuetto *Don Giovanni*
Ai nostri monti *Il Trovatore*
Una voce poco fa *Il Barbiere di Siviglia*

Selection No. 47.

L'Invitation à la Valse
Blue Danube Valse
Amoretten Tänze Valse
Soldatenlied Valse
Morgenblätter Valse
Estudiantina Valse
Bonne Bouche Polka
Wein, Weib und Gesang Valse

Selection No. 48.

I will sing of my Redeemer
Onward, Christian Soldiers
Abide with me
My God, my Father, while I stray
Rock of Ages
Lo! He comes with Clouds descending
Sing them over again to me
I love to tell the Story

Messrs. Nicole Freres, Musical Box Manufacturers.

Selection No. 49

Grande Valse *Faust*
 Leise, leise, fromme Weise *Der Freyschutz*
 Leise, nicht durch mein Gemüth "
 Oh Thaler weit oh Höhen "
 Coro di Zingari *Il Trovatore*
 Royal Spanish March
 Bridesmaids' Chorus *Lohengrin*
 Grand March *Tannhäuser*

Selection No. 50.

Hypatia Valse
 Estudiantina Valse
 Toujours Fidéle Valse
 Bon Ton Polka
 Blue Danube Valse
 Little Buttercup *Pinafore*
 The Lost Chord
 Coming thro' the Rye

Selection No. 51.

Overture (complete) *La Fille du Regiment*

Selection No. 52.

Rock of Ages
 Abide with me
 My God, my Father, while I stray
 Lo! He comes with clouds descending
 Old Hundredth Psalm
 Safe in the Arms of Jesus
 Nearer, my God, to Thee
 Hallelujah Chorus *Messiah*

Selection No. 53.

Il Bacio Valse
 The Blue Bells of Scotland
 The last Rose of Summer
 Annie Laurie
 Bonnie Dundee
 Auld lang Syne
 The Marseillaise
 See-Saw Valse

Selection No. 54.

When other Lips *Bohemian Girl*
 Scenes that are brightest *Maritana*
 Kathleen Mavourneen
 Home, sweet Home
 The Minstrel Boy
 The March of the Men of Harlech
 Kitty Tyrrell
 The Church has but one Foundation

Selection No. 55.

Sleepers, Awake *St. Paul*
 Choral de Luther
 I know that my Redeemer liveth *Messiah*
 Hallelujah Chorus
 Prayer *Moses in Egypt*
 Adeste Fideles
 Cujus Animam *Stabat Mater*
 Ave Maria

Selection No. 56.

God save the Queen
 Austrian National Hymn
 Russian National Hymn
 Danish National Hymn
 Rule, Britannia
 Hail, Columbia
 The Watch on the Rhine
 The Marseillaise Hymn

Selection No. 57.

En vain j'espere *Robert le Diable*
 Shadow Dance *Dimorah*
 March *Tannhäuser*
 Wedding March *Lohengrin*
 Tyrolienne *Guillaume Tell*
 Serenade *Don Pasquale*
 Squilli ecchehi *Il Trovatore*
 March *Faust*

Selection No. 58.

Turn on, old Time *Maritana*
 Flow on, thou Silver Rhine *Lurline*
 Tyrolienne *Madame Favart*
 Légende *Madame Angot*
 Valse *Les Cloches de Cornville*
 Couplets du Toreador *Carmen*
 O! list the Birds *Mikado*
 Captain Corcoran *Pinafore*

Selection No. 59.

Home, sweet Home
 The Bay of Biscay
 The Blue Bells of Scotland
 Ye Banks and Braes
 Scots wha hae
 Annie Laurie
 The last Rose of Summer
 Kathleen Mavourneen

Selection No. 60.

See-Saw Valse
 Sweethearts Valse
 Wein, Weib und Gesang Valse
 Blue Danube Valse
 Morgenblätter Valse
 Estudiantina Valse
 Invitation à la Valse
 Kutschke Polka

Selection No. 61.

Comfort ye, my People *Messiah*
 O! Rest in the Lord *Elijah*
 Our blest Redeemer
 Before Jehovah's awful Throne
 Sun of my Soul
 Morning Hymn
 Evening Hymn
 Just as I am, without one Plea

Selection No. 62.

Libiamo, ne lieti *La Traviata*
 Chamon du Toreador *Carmen*
 Soldiers' Chorus *Faust*
 Tyrolienne *Guillaume Tell*
 Connais-tu le pays *Mignon*
 Marche Triumphale *La Prophete*
 Grande Marche Egyptienne *Aida*
 Couplets des Dindons *La Mascotte*

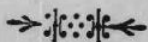
Selection No. 63.

Blue Danube Valse
 My Queen Valse
 Tout à la Joie Polka
 Aria
 L'Amour est un Oiseau Polka *Madame Angot*
 Grand Valse *Carmen*
 Kathleen Mavourneen *Faust*
 Mandolinata

Selection No. 64.

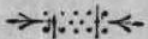
The Wedding March
 The Lost Chord
 Overture *Zampa*
 Overture *Guillaume Tell*
 Andante *Semiramide*
 Cujus Animam *Stabat Mater*
 Gloire en ce jour *Fidelio*
 Les Cloches du Monastère

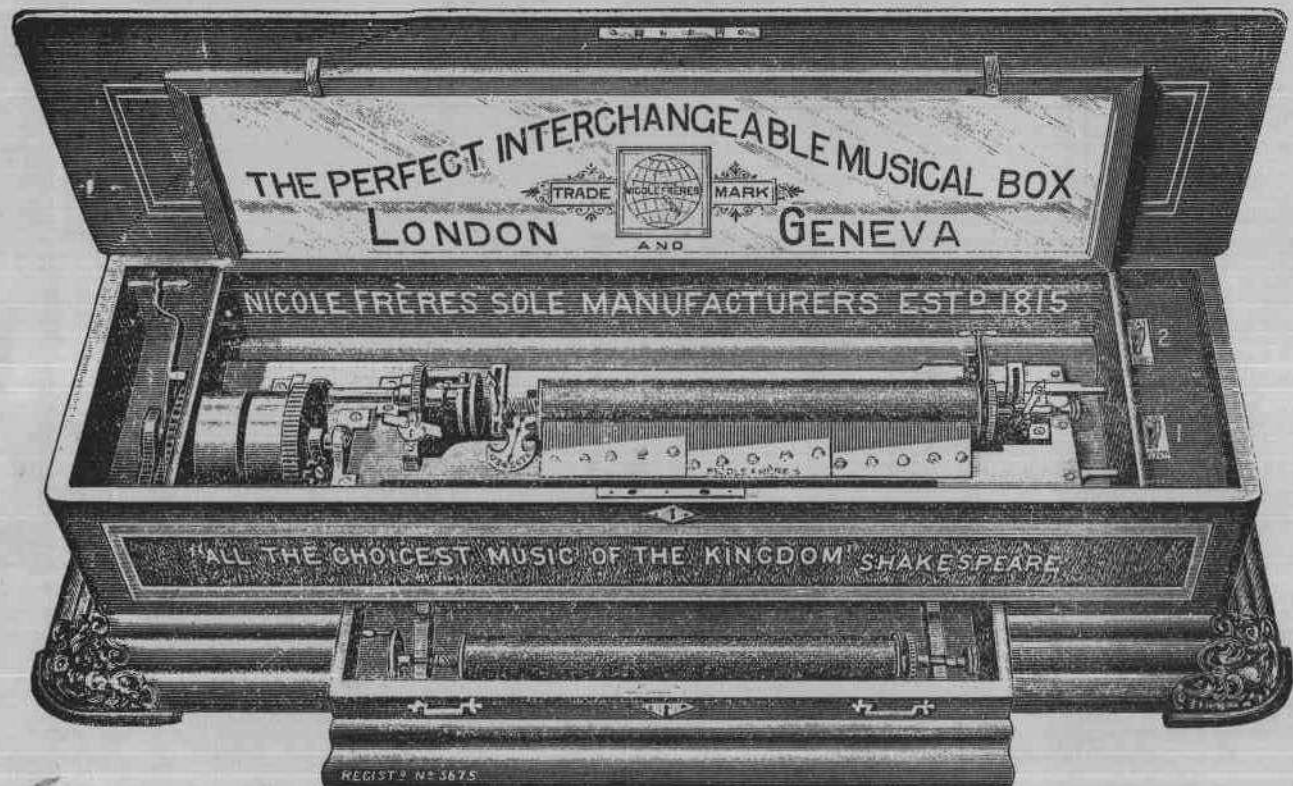
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Of all the arts beneath the heaven,
That man has found or God has given,
None draws the soul so sweet away
As music's melting, mystic lay.
Slight emblem of the bliss above,
It soothes the spirit all to love.

JAMES HOGG.





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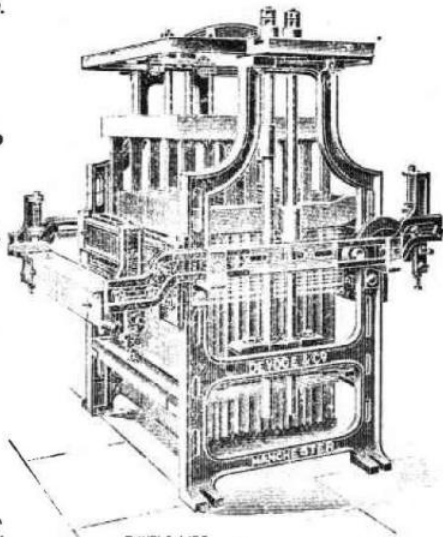
SPECIAL WAXED THREADS FOR CARD WIRES.

Patent Loops and Links for working Double-Lift Jacquards with Single Cords.

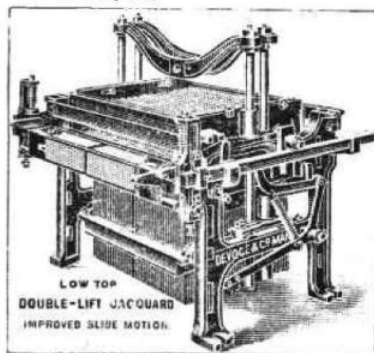
Harness Hooks and Cords for Detaching Harness.

SPECIAL QUALITY HARNESS VARNISH.

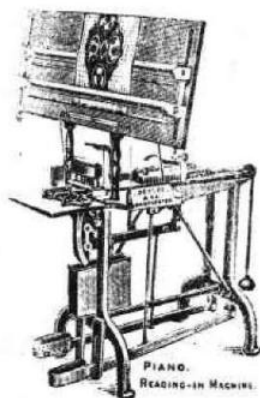
VARNISHED HARNESS THREAD FOR REPAIRS, etc.



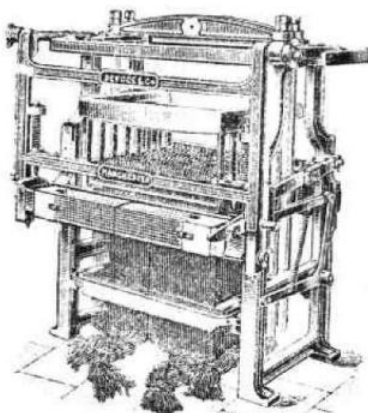
DOUBLE-LIFT
DOUBLE CYLINDER JACQUARD.
SLIDE MOTION.



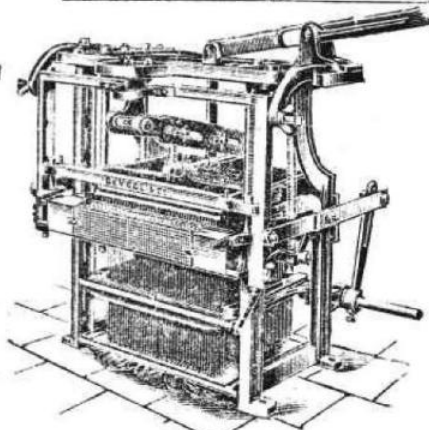
LOW TOP
DOUBLE-LIFT JACQUARD
IMPROVED SLIDE MOTION.



PIANO.
READING-IN MACHINE.



DOUBLE-LIFT MACHINE SWING MOTION.



PATENT LENO-JACQUARD.

THE "CAPITAL" SELF-PLAYING MUSIC BOX

by Hughes Ryder

ONE of the most interesting and sought-after items in the world of musical boxes may well be the Capital Music Box, more commonly known among collectors as the 'Cuff Box.' The unique shape of the 'metal note disc,' as its inventor described the note cylinder in his original patent, makes it a distinctive and desirable addition to any collection.

Since we will try to trace the story behind this American-made instrument and feel that in generic terms it would certainly be classified as a disc box, we must therefore start with this family tree in the year 1885 and Paul Oskar Lochmann's noted perfection of the disc music box. His music box was produced under the trade name of 'Symphonion,' and had the tremendous sales advantage of hundreds of metal tune-discs being available, as opposed to the limited number of tunes available on the fixed-cylinder boxes, and this advantage soon led to a flourishing business in Göhlis, near Leipzig, Germany. The need for skilled comb-tuners and machinists must have been a pressing problem, and very likely led to the importation of some of these workers, as well as to the apprentice training of local German talent. However, as history has shown in the case of the Swiss music-box makers who seemed to cluster in the Geneva-St. Croix area, 'artisans of a feather flock

together,' and within a few years there was a large group of comb-tuners, machinists and cabinet makers busily engaged in turning out Symphonions.

The artisans who worked in the Symphonion factory learned their trade well, and soon saw the possibilities in this rapidly expanding market. Among them was one Gustav



Brachhausen, who had started with Lochmann in 1885 at the age of 25 and had risen to the position of first foreman in Lochmann's Music Works by 1890. In this year, he left Lochmann and, in association with Paul Riessner, founded the firm of Brachhausen and Riessner and started producing the Polyphon Music Box in another factory in Leipzig. The wide acceptance of these two musical boxes is attested to by the numerous Symphonions and Polyphons still to be found today, even in an area of diminishing supply.

One vast market for the disc box which remained largely untapped was the United States. Very probably this was due to the problems of shipping, marketing and, especially, servicing the machines.

The appeal of this potential market was indeed not lost on the owners of the Polyphon Works, for on September 15, 1892, Gustav Brachhausen arrived in the United States and took up residence in Hoboken, New Jersey. In 1893 Brachhausen, who was an ingenious designer, inventor and machinist, set about applying for U.S. patent rights, co-patenting with Riessner, who was still living in Entritzsch, near Leipzig, most of the mechanism of the disc music box that we now recognize as the familiar Regina Music Box. It is interesting to note that their patent applications were signed by the attorney Briesen Knauth, who was connected with the German-American banking firm of Knauth, Machod and Kühne, the firm that would later provide Brachhausen with the capital necessary to move the Regina Company in 1895 into its future factory in Rah-

This article first appeared in the Bulletin of the Musical Box Society International of America and is presented with grateful acknowledgement to the Editor, Mrs. C. Fabel, and to the Author, Mr. Hughes Ryder

way, New Jersey, and into what was to become mass production of disc music boxes.

REGINA COMPANY FLOATED

By the spring of 1893, Brachhausen was living at 100, Sherman Place, in Jersey City, New Jersey, and had established the Regina Music Box Company, with a small shop located at 20, Morris Street in that city.

The year 1893 was spent by Brachhausen in filing patent applications, designing movements and cases, designing and building the machines to stamp out the note-plates or discs, and very probably in building proto-types of the Regina. On the 27th of March 1894, the Regina Company was incorporated with a capital fund of \$75,000.00, with Brachhausen, Riessner and Johannes J. Korner of Leipzig as the three principal shareholders with 125 shares, and with six minority shareholders of record with one share each. By the autumn of 1894 production has started in Jersey City, and the original books of the Regina Company show that the first Regina sold was a 15½" double-comb-model, No. 4001, to Mr. W. F. Hasse, of New York City, on October 15, 1894. So much for the progress of the Regina, and for the establishment of dates and events which are interwoven in the story of the origin of the Capital Music Box.

In what will prove to be an interesting sequence of events, we must move backward to the year 1875 to acquaint ourselves with the firm that was eventually to produce the Capital Music Box, the subject of this article. In that year Frederick G. Otto established the firm of F.G. Otto and Sons in Jersey City as manufacturers of surgical instruments and electrical batteries. With his sons Edmund, Gustav and Albert, Frederick Otto ran an eminently successful manu-

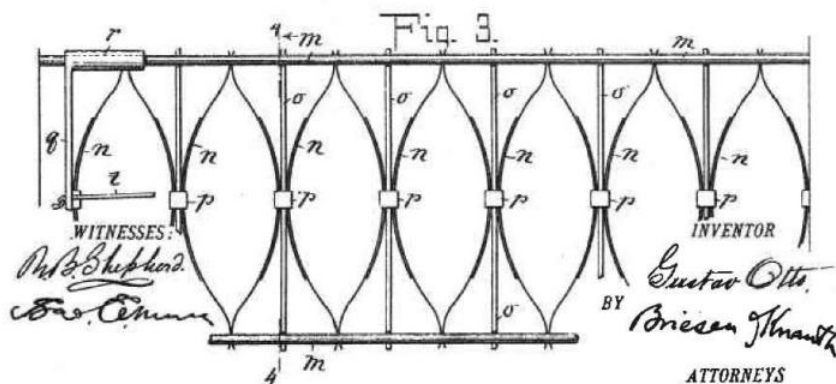
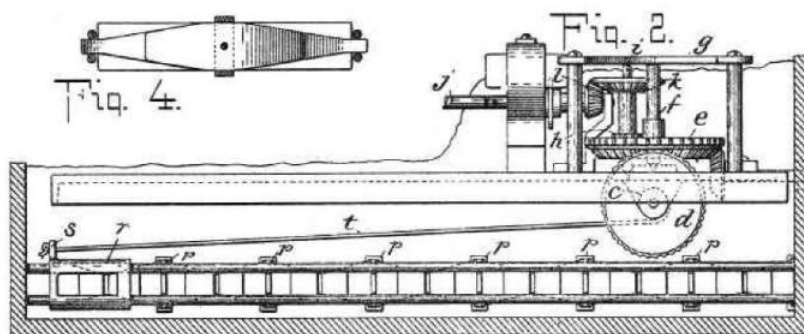
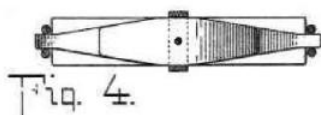
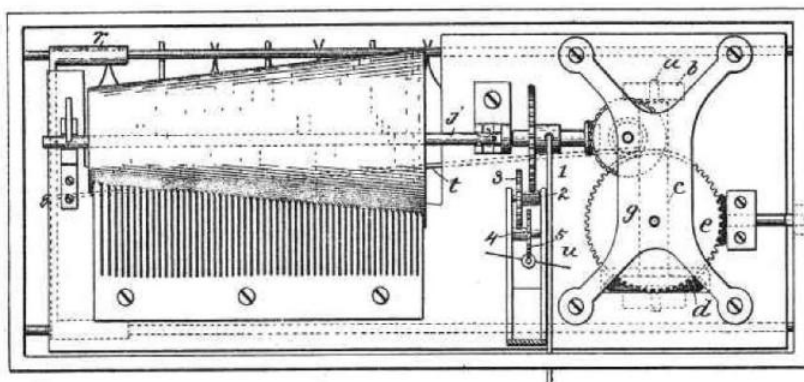
(No Model.)

G. OTTO.
SPRING MOTOR FOR MUSIC BOXES.

No. 525,717.

Patented Sept. 11, 1894.

Fig. 1.



facturing business, employing over 60 people, with the original factory at 48, Sherman Avenue, which was later expanded to include the adjacent building at 50, Sherman Avenue, (Fig. 1.)

In the manner of the tightly-knit industrial families of that era, the father, as well as his sons, lived not far from the factory in a fine home at 96-101, Sherman Place, in a prosperous residential area. It is here that our two series of events merge, for Gustav Brachhausen lived directly across the street from the Otto family in 1893-4, the years when he was getting his Regina Music Box into production. It does not take much imagination to conjure up a scene in which Gustav Brachhausen is talking to Frederick Otto and his sons over a bottle of local brew or schnapps, and convincing the manufacturing family of the great future of disc music boxes in the United States. It is very easy to surmise that Brachhausen also told them not to copy his type of movement, but to work out a completely new design. With a well-established factory, and with skilled machinists and metal-working machines at their disposal, the production of music boxes could indeed be a potentially profitable diversification for F.G. Otto and Sons.

FIRST 'CUFF BOX'

Employed by the Otto company as a pattern-maker was Henry Langfelder, a resident of Jersey City, who had already invented a variety of mechanical items. During the fall and winter of 1893-4 Langfelder was put to work by the firm on this new project, and by February 1894, he had filed patent application No. 519,816, which was granted on May 15, 1894, for a music box with a conical-shaped note-barrel, the original, rather crude cuff note-disc and comb mechan-

ism. Langfelder assigned half the patent rights to F.G. Otto and Sons and reserved half for himself. Note here that the patent attorney for the Cuff Box was the same Briessen Knauth who had handled the Regina patents for Brachhausen.

Langfelder's patent shows a fairly conventional spring-barrel. In April of 1894, Gustav Otto himself patented a spring-motor for music boxes based on a series of elliptical springs, commonly known as buggy springs. This patent, No. 525,717, (Fig. 11), shows the cuff note-disc in place, as well as his novel drive mechanism, which resembles in a most elementary fashion the fusee drive used on the earliest musical movements. The elliptical springs were fastened to a chain drive, which in turn ran to the drum of the main drive gear and thus provided the motive power. It is logical to assume that this was not an economical or practical power arrangement, for we have seen only one Cuff Box with this particular spring-drive; all others have had the conventional round spring-barrel with direct drive to the disc-shaft.

The head bookkeeper for F.G. Otto and Sons was Adolph Schaub, and in the family business tradition of that time, his son Ferdinand had been brought into the business, and by 1894 had risen to the position of shop foreman. He, also, was put to work on the new project, and by the autumn of 1894 Ferdinand Schaub had patented a vastly improved cuff note-disc, or cuff, as it is familiarly known, illustrated in Fig. III. His patent, no. 532,290, was assigned to F.G. Otto and Sons and was the prototype for all the cuffs that were manufactured. You may note that the patent shows the note projection as being an 'S' curve; in actual production this was not the case, and the note-punching machine produced projections

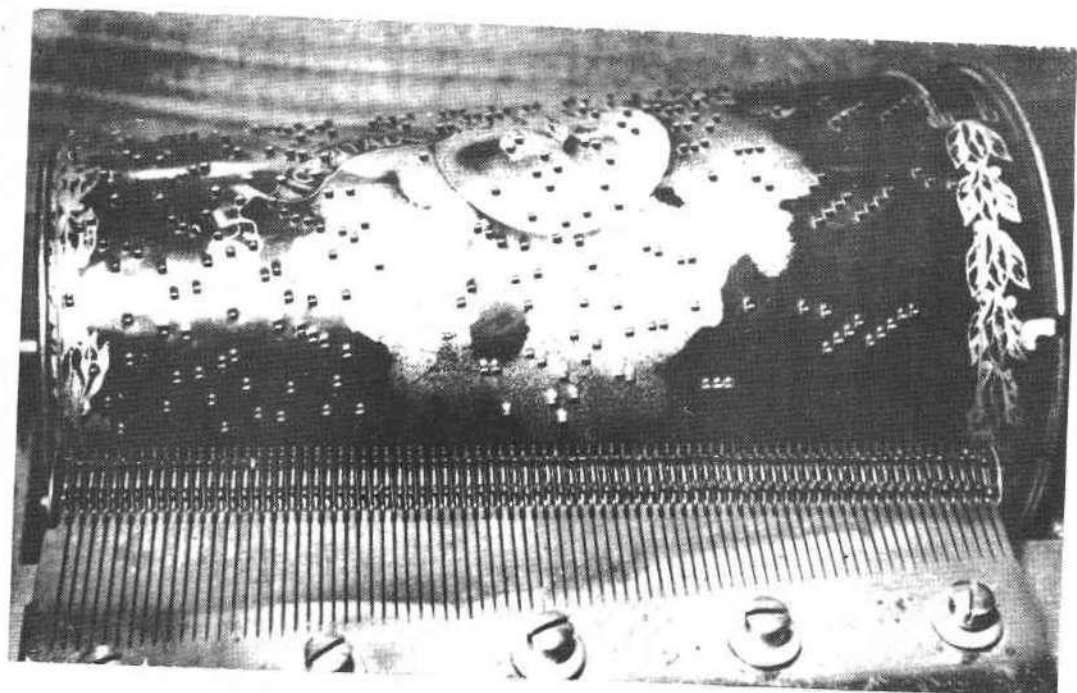


FIGURE I

that were really more elliptical than S-curved. During this same year, Patrick Kennedy, of Brooklyn, New York, a machinist and designer for Otto, was designing the machine for punching out the cuffs, and we can safely assume that F.G. Otto and Sons were ready to turn out Capital Cuff Boxes in production by early 1895. This would indicate that the Capital was put on the market soon after the Regina Music Box.

At the present time, we have no means of knowing which size of the Cuff Box was the first to be produced, but it is a fair guess that the large single-comb was the main box production item, simply because there are more of them to be met with than the other sizes. No attempt to be facetious should be implied by the above statement, for we well realize that even in the country in which it was manufactured, the Cuff Box, no matter what its size, is quite scarce.

THREE SIZES OF BOX

The cuffs were made in three sizes, which fit the four models made, since the large single-comb and large double-comb boxes took the same size cuff. They were made of steel, printed in blue (Fig. IV), with the eagle emblem superimposed in bright gold on the deep blue background, a most striking color scheme, comparable to that on the discs for the ORPHENION Disc Box.

The cases for the movements were furnished in highly polished oak or mahogany, and the company probably made special cases on customer order. They also offered a case with a pressed-wood design that was listed as EXTRA, and for the large model single-or double-comb movements offered a case combining pressed and carved wood, with a stepped lid. The inside of the lid was fitted with a colorful rural scene, gener-

ally of a landscape sloping toward a brook, with a small home in the distance. The composition of the scene seemed to vary slightly in some models. The picture used for Style 'O' included the figure of a girl seated in a landscape. This was the economy model, with a 44-tooth comb, and the only one to have the spring wound by a ratchet on the left, in the same manner as the Swiss boxes. The author regrets that he has never seen or even heard of an example of this particular mode, which is certainly an intriguing one.

MECHANISM DESCRIBED

The iron bedplate runs the entire length of the case, taking up about two thirds of the width, and is elevated by a wooden frame, thereby occupying about half the depth of the case. (Fig. V). This arrangement provides a storage area for the spare cuffs directly in front of the movement, and by nesting them, a good many may conveniently be stored there. The exception to this arrangement is found in the Model 'F' double-comb box, which has a split bedplate, with the start-and-stop lever, the spring-barrel and the governor on one section of the bedplate and the comb-and-damper assembly on the other section, which is depressed (See Fig. IV). This arrangement is necessary because the double comb has a common star-wheel assembly and the cuff note-disc must play on the very top of the star wheels in the same manner as the Regina or Polyphon double-comb boxes, whereas in the single-comb Cuff Boxes, the note discs are at a 90-degree angle to the star wheels when playing. On the extreme left-hand side of the bedplate of the large 'C', 'A', 'E' and 'F', there is cast into the bedplate an emblem similar to a trade-mark which is usually painted silver in contrast

(No Model.)

F. SCHAUB.

NOTE SHEET OR BARREL FOR MECHANICAL MUSICAL INSTRUMENTS.

No. 532,290.

Patented Jan. 8, 1895.

Fig. 1.

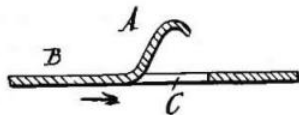


Fig. 2.

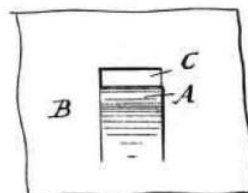


Fig. 3.

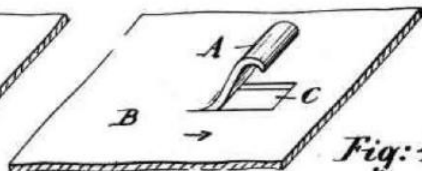
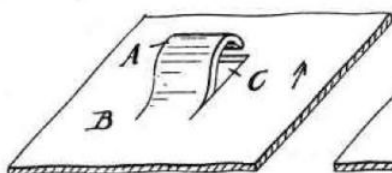


Fig. 4.

Fig. 6.

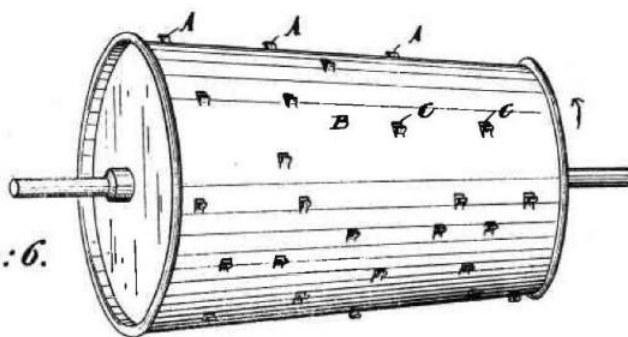
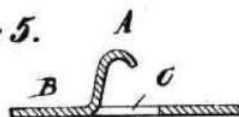


Fig. 5.



Witnesses
S. Phi. Palm.
Emil Mueller.

F. Schaub Inventor
By his Attorney Oscar T. Gumm.

to the normal gold color of the bedplate itself. (See left foreground in Fig. V). This combination, together with the deep royal blue of the cuffs, makes the appearance of the interior of the boxes most pleasing.

The spring-barrel is wound by a crank at the right-hand side of the box, using a counter-clockwise motion. When the start lever is moved, the spring barrel casing, to which is affixed the main drive shaft, moves in a counter-clockwise direction, driving the governor by means of a main gear on the drive shaft and at the same time turning the cuff, which is secured on a cuff frame-holder attached to the same main drive shaft. The main shaft is hinged at the right of the frame-holder so that upon the conclusion of a tune, one merely raises the shaft from the left, and when it is in an upright position, the cuff may be removed with a slight clockwise twist of the wrist. The cuff has a bayonet lock-slot which fits over a pin on the large end of the frame-holder, thus holding it in place. When putting on a new cuff, one simply slides it on the frame-holder and locks it with a counter-clockwise twist, and it is then ready to operate. The cuff rotates counter-clockwise, with the projections on it turning the star wheels clockwise, and they in turn pluck the teeth of the comb.

The Capital damper assembly is fastened to the bedplate and is adjusted into the star-wheel assembly. It bears a remarkable resemblance to the Regina offset damper and functions in this manner: the side of the star wheel hits the offset portion of the damper, moving it laterally to damp an individual tooth, and then allows it to move off the tooth just prior to the tooth's being plucked by the upcoming star wheel's point.

Another interesting comparison is shown in Fig. VI, where we have matched point for

point the comb from a 15½" Regina with the single comb of the Style 'C' Capital. Might it not be entirely possible that by an adjustment of the comb screw-holes, the 15½" Regina comb might be adapted to play on the Capital Music Box?

With the exception of the Model 'F' double-comb box, all of the Cuff Boxes have two important safety-control features, one controlling the flywheel of the governor and the other locking the extreme left end of the main shaft in place while the box is in operation. The shorter of the two safety rods is activated by the start-and-stop lever, which, when in stop position, moves a rod against the flywheel upon the conclusion of a tune, thus preventing any accidental starting of the mechanism while raising the drive shaft to out on a new tune-disc. Note the extension of the start-stop lever running left to the governor in Fig. VII. The other safety rod, which is offset, runs from underneath the drive shaft at the right of the cuff to the shaft-holder at the extreme left of the cuff. (Fig. VIII). Thus, when the main shaft is lowered into place for playing, it depresses this offset rod, whose extreme left end then goes through the left shaft-holder and locks the shaft in place, preventing it from lifting out of the shaft-holder while playing.

The Model 'F' double-comb box has the safety-control rod controlling the flywheel of the governor as in the other models, but due to the offset portion of its bedplate does not have the longer safety-rod from the main shaft to the left shaft-holder; instead it has a manually-controlled lock-lever for the shaft. (See left foreground in Fig. IV).

MUSICAL QUALITIES

There were good selections of tune-discs available for all sizes of Capital Boxes, and

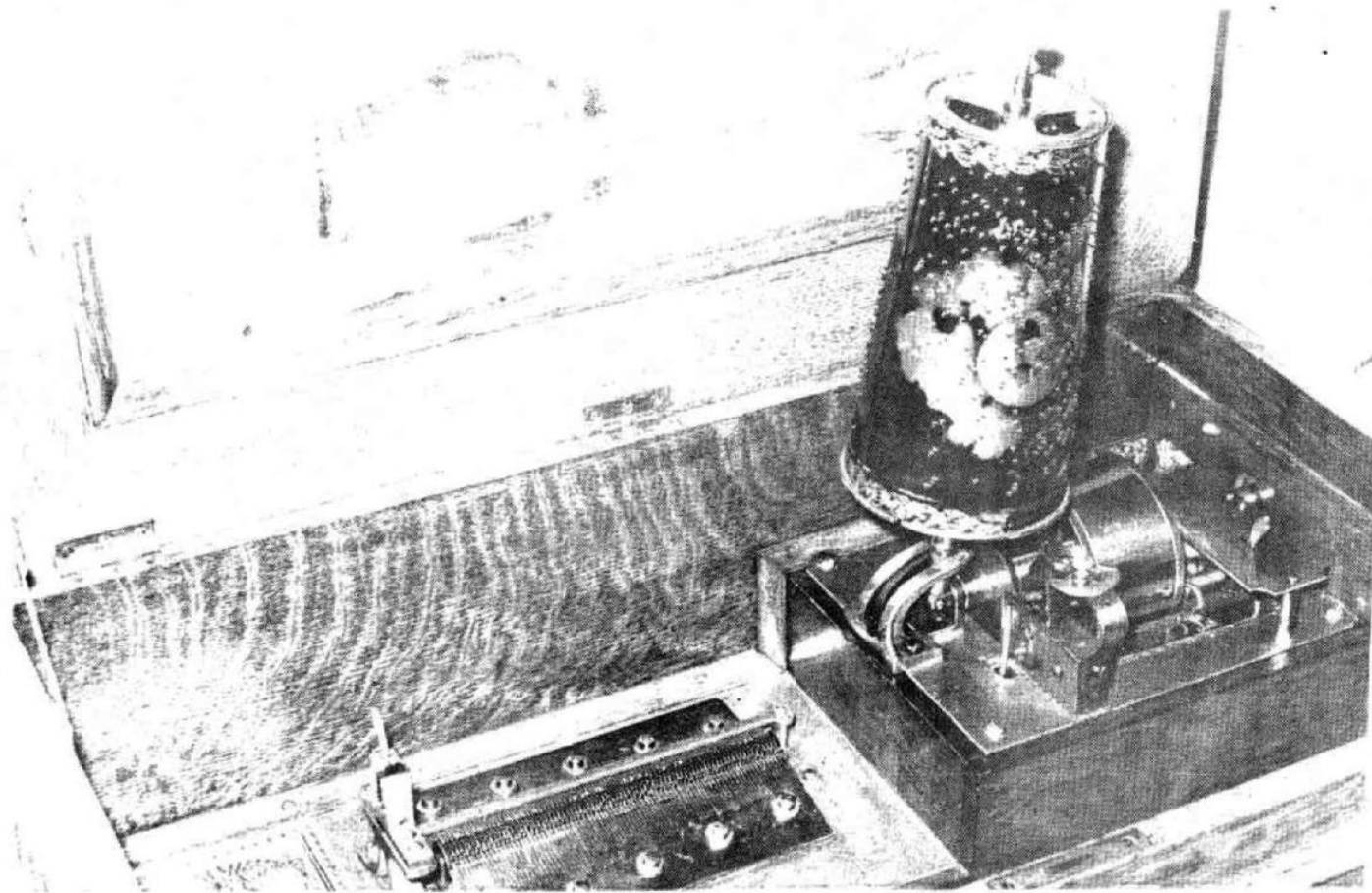


FIGURE IV



FIGURE V

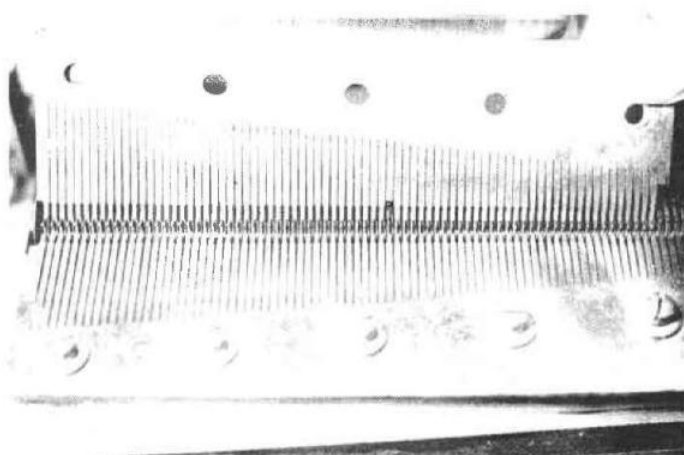


FIGURE VI

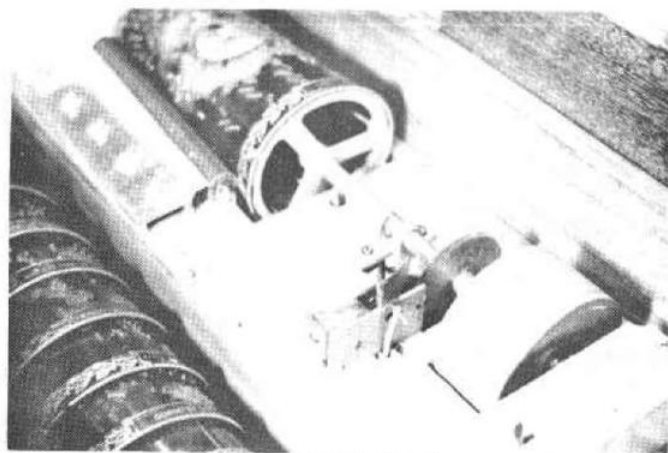


FIGURE VII

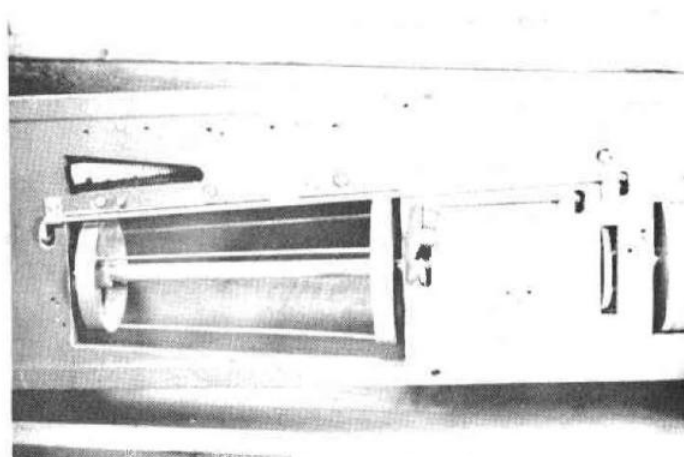


FIGURE VIII

the arrangements were well set-up, especially for the larger models. Due to the flare of the bass-note section of the tune-disc, the musical balance is more normal than in most disc music, with its limited bass. The tonal qualities of Models 'C', 'D' and 'E' are pleasant and compare favourably with the single-comb 15½" Reginas. Double-comb Model 'F', with a total of 162 teeth, and with each star wheel plucking two teeth simultaneously, has a much richer tonal quality and is a superb machine.

With production of the Capital well under way in early 1895, the Ottos appointed the firm of M.J. Paillard, 680 Broadway, New York City, as sales agent. The fifty-year-head of this firm, Alfred E. Paillard, has been engaged in selling Swiss music boxes for 34 years, and was no doubt not only pleased to be able to handle this brand-new disc machine, but was also in an admirable position to effect its maximum distribution. Research has proved that the Capital Cuff Box manufactured through the year 1897, but the mists of time have covered any traces of the total number of these interesting boxes made and the final date of their manufacture.

SUBSEQUENT DEVELOPMENTS

For the firm of F.G. Otto and Sons, however, this was only one phase in the production of music boxes, because after the Capital had gone on the market, the firm evidently felt that there was overwhelming evidence that the public preferred the more popular flat-box disc, such as the Regina, Symphonion and Polyphon, and their draftsmen and machinists were put to work again. By February of 1895, Ferdinand Schaub had filed a patent application for a flat-disc music box with a center-wound spring-barrel, in which the upper spring-barrel arbor was

the drive shaft for the disc to be played. This is the same principle as that used in the German-made Kalliope Music Box, and the governor, with light tension springs attached to the vanes of the flywheel, is not unlike that used on the Kalliope, Regina and Polyphon. (Fig. IX). This design with the center spring-wind was not used by the firm, perhaps due to the possibility of an infringement on Kalliope's patent, but the firm went ahead and set up production of a new disc box, and by November of 1896 their new item, the *Criterion* music box was on the market.

M.J. Paillard and Co. of New York was the sales agent for the *Criterion* Music Box also, and evidence shows that in the first five months of production between 80 and 100 *Criteria*s monthly were passing through their hands alone, not taking into account direct sales to others by the Otto company. *Criteria*s were cased in attractive boxes of oak or mahogany, most of them with pressed-wood trim and carved side and front panels, and suitable matching stands were available, with storage space for discs under the stand.

THE CRITERION

*Criteria*s were produced in three sizes, 15½", 15¼" and 20¼", and most of them were single-comb machines, although in the larger sizes double combs were available. The tune-discs were usually of zinc, on which the *Criterion* emblem and the name and number of the tune were printed in black ink. On the smaller, model, some of the discs were a steel alloy, with a metallic gold lacquer applied in the style of the Symphonion discs. The principal type produced was the table model, although in the 20¼" size a single-play upright model over six feet in height was available, with a tilting storage bin underneath the movement.

F. SCHAUB.
MUSICAL BOX.

No. 538,468.

Patented Apr. 30, 1895.

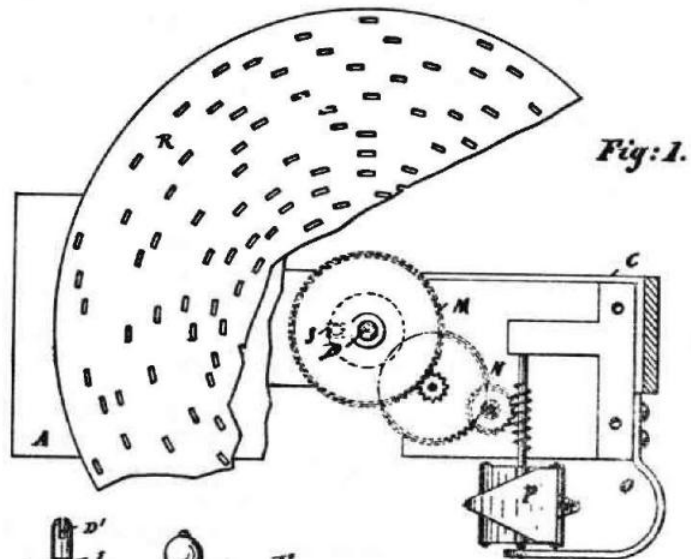


Fig. 1.

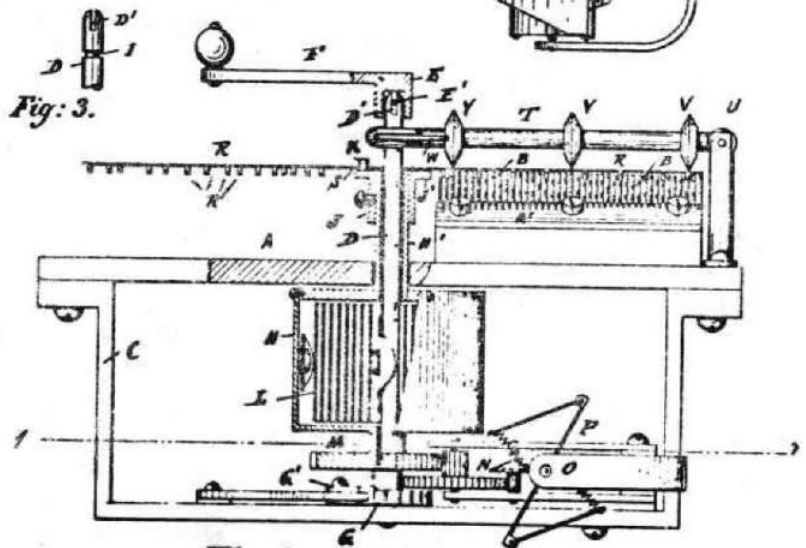


Fig. 2.

Witnesses
D. A. Schmidt
E. J. G. [Signature]

F. Schaub Inventor
By his Attorney *Robert F. [Signature]*

Later, the company produced an automatic Criterion in the larger size, and attempted to go Regina one better by having a carriage holding 15 discs, as compared to the 12-disc carriage of the Regina Automatic.

The Criterion was a pherical-drive machine in the 15¼" and 20½" sizes, using zinc discs. The zinc discs had drive holes which were rectangular in shape, with dog-ears under each drive hole, indicating that the punch caused each half of the drive hole to be folded back on itself. In the smaller 11½" Criterion the discs were of steel with a lacquered gold finish of elaborate design, and in this size the discs were driven by a center-drive mechanism. It is interesting to note here that by changing the drive sprocket wheel with suitable rectangular teeth and by enlarging the center hole on a Criterion disc of comparable size and making a few adjustments, the Criterion disc can be made to play on the Regina machine.

In fact, as a matter of record, because of the Criterion's similarity to the Regina in so many features, the F.G. Otto firm was subjected to a patent infringement suit through their agent, J.M. Paillard and Co.,

and this case was in the New York courts during the years 1896 and 1897.

THE OLYMPIA

During the year 1898, F.G. Otto and Sons came out with a third line of music boxes, known as the OLYMPIA, advertised as a Self-Playing Music Box, and cased in boxes similar to those of Criterion; in fact, some models were identical in appearance. The same type of zinc disc was used as for the Criterion, but of course, the emblem printed on it was the new Olympia trade-mark, together with the name and number of the tune. Note also that in an advertisement from a magazine, *The Youth's Companion*, dated January 12, 1899, the picture used on the inside of the Olympia lid is identical to the one used on the inside lid of some Capital Cuff Boxes. (Fig. X). Perhaps one may speculate that the Capital had been discontinued by that date, and the firm was using up the prints that were left over from its manufacture.

Whatever we may speculate now, the firm was certainly busily engaged in producing music boxes then, because the *Industrial*

THE OLYMPIA

SELF-PLAYING MUSIC BOX

Send for Handsome Illustrated Catalogue

of Music Boxes at all prices, and list of tunes.

OVER 500 TUNES are ready, and the latest music is constantly being added.

Insist on an

OLYMPIA

There is no

"Just as Good."



is the latest and most improved of all the Music Boxes with Interchangeable Tune-Discs.

THE PIANO CANNOT PRODUCE the richness attained by the Olympia unless played by six or eight hands, and then the players must be experts. It is superior to every other make in tone and simplicity of construction. The durability you'll appreciate years from now, after inferior makes would have been worn out and useless. Discs are easily changed — they're practically indestructible.

CHARMING HOME ENTERTAINMENTS may be arranged without notice if an Olympia is in the parlor — Dancing, singing, instrumental renderings; Hymns and Church Music, too.

THIS ILLUSTRATION shows Style IV — polished mahogany or oak case — 22x20x10 in. high. Price, including One Tune-Disk, \$45.00. Extra Tunes, 60 Cents each. Sent on receipt of price.

SENT ON TRIAL. On receipt of \$48.60 (\$3.60 being for six extra tune-discs) we will send the Olympia on 10 days' trial. You can return it, and get your money back, if not entirely satisfied. Write to us.

F. G. OTTO & SONS, 41 Sherman Ave., JERSEY CITY, N. J.
Or from Dealers in Musical Instruments and Jewelers.

FIGURE X.

Directory of New Jersey shows that in 1899 F.G. Otto and Sons employed 64 people in the manufacture of music boxes. This was a goodly number, but far short of the number (over 300) employed by the Regina Company at the same time, indicating how far ahead Regina must have been in sales volume. Possibly during the year 1902, the manufacture of the Olympia was moved out of the main factory, for during that year the Olympia Musical Automation Co. was located at 107, Franklin Street, just around the corner from G.F. Otto, and Stephen F. Tritschler was listed as Manager. And now the questions arise as to how many of the Olympia Music Boxes were made and for how long a period of time, but lacking the answers at the present, we will leave it to the natural curiosity of fellow-collectors to do additional research and bring these interesting facts to light.

AUTOMATIC PIANO

With the early 1900's, the era of marvelous new automatic musical instruments had arrived, and, spurred on by the marketing of the Polyphon Automatic Concerto and the Regina Automatic Orchestral Concerto, giant automatic pianos with music arranged on large 32" metal discs, F.G. Otto and Sons prodded Ferdinand Schaub again. By November of 1904, Schaub had applied for a patent for an automatic piano with a punched-metal note-disc, and this patent, no. 805,989, was granted in November of 1906. A separate company was formed, the Otto Manufacturing Company, with Edmund Otto, Gustav Otto and Ferdinand Schaub as Directors, and was located at 107, Franklin Street, where the Olympia Musical Automation Co. had been in business. May we surmise that the Olympia, also, had been discontinued by that time? Did the Company

ever manufacture any automatic pianos, and if so, under what trade name? These questions will hopefully be answered by the present knowledge of other collectors or by further research.

Be that as it may, by 1909 the Otto Manufacturing Company was back in the production of electrical goods and out of the music box business, and only one of the brothers, Edmund Otto, was still making and repairing music boxes, at 96, Sherman Place, the old family home. By this time, in all likelihood, his music box business had been relegated to what we call a home or basement enterprise, and we will have to turn the last leaf and close the book on the F.G. Otto Company, manufacturer of one of the most novel and interesting of the American-made music boxes, the Capital Cuff Box. ●

Classified Advertisements

Rates: 3d. per word (Bold type 6d. per word).
Box numbers are not permitted. Display and semi-display rates are available on request.

FOR SALE

For Sale:- Large table *Symphonion*, 12 discs 14 3/4" diameter. Large table *Adler* disc machine, 73 discs 16.1/8" diameter, also centre wound *Kalliope*. J.P. HALL, 18, Ilawesnead Drive, Kendal.

WANTED

Wanted:- Motor and Drive Mechanism, or parts thereof, for 10" *Fortuna* having peripheral drive via oblique rectangular holes. Rev. Jonathan White, St. Peter's Vicarage Flat, Swinton, Manchester.

Musical Box Discs wanted for the following machines: *New Century* 18 1/2" (preferably of the 8000 series), *Fortuna* 26", *Sirion* 22.5/8", *Symphion* 13 1/2" (outside drive), *Symphion* 10 1/2" (centre drive), *Polyphon* 22". Also need paper rolls for various organettes. Please send list of tunes and prices. Have other make discs to swap if desired. Danilo Konvalinka, Music Museum, Wiscasset, Maine. U.S.A. 04578

THE London firm of Flight & Robson were famed not only for their church organs, but also for their fine barrel organs. In 1817, they completed construction of a remarkable mechanical organ called the *Apollonicon* which was probably the most elaborate barrel organ ever made. Until about 1840, it was exhibited in a building specially built for it near Regents Park where its performances attracted large crowds. It was played either by three barrels or by anything up to six performers on its six consoles. The bill for one such concert was reproduced on Page 387 of Volume 2

of *THE MUSIC BOX*. The *Apollonicon* was subsequently dismantled and its parts used in the construction of other organs so it is forever lost and no illustration of it remains.

The following description of the instrument, contained in a treatise on barrel or cylinder organs, comes from J.W. Hinton's book "*Organ Construction*" published in 1902. The reference to Wedlake is interesting, particularly as your Editor recently had a small barrel organ by this hitherto forgotten maker through his hands.

BARREL, OR CYLINDER, ORGANS.

These instruments range from the, now practically obsolete, street organ, first introduced by a builder named Hicks, *circa* 1805, to the elaborate mechanical orchestras provided in the "Orchestrions" of Imhof and Mukle, and of some Swiss and German makers.

The late C. S. Robson once told the author that his great grandfather (who was named Wright) made a barrel organ for Fulham church about 1730, and this fact is also recorded, with some reserve, in Dr. E. J. Hopkins's article on Barrel Organs in Grove's Dictionary of Music.

The Robsons and Flights were, during several generations, the principal makers of these instruments, which continued, for fully a century, to be in great demand for different places of worship.

After the death of John Robson, this branch of industry passed to Messrs. Imhof and Mukle, of Oxford Street, and the making of mechanical instruments has almost become a lost art in England.

The celebrated *Apollonicon*, built by Flight and Robson, cost about £10,000, and was completed in 1818. This instrument was provided with five manuals available for separate players, and was also actuated by mechanical agency which further governed sundry instruments of percussion, thus completing the orchestral effects.

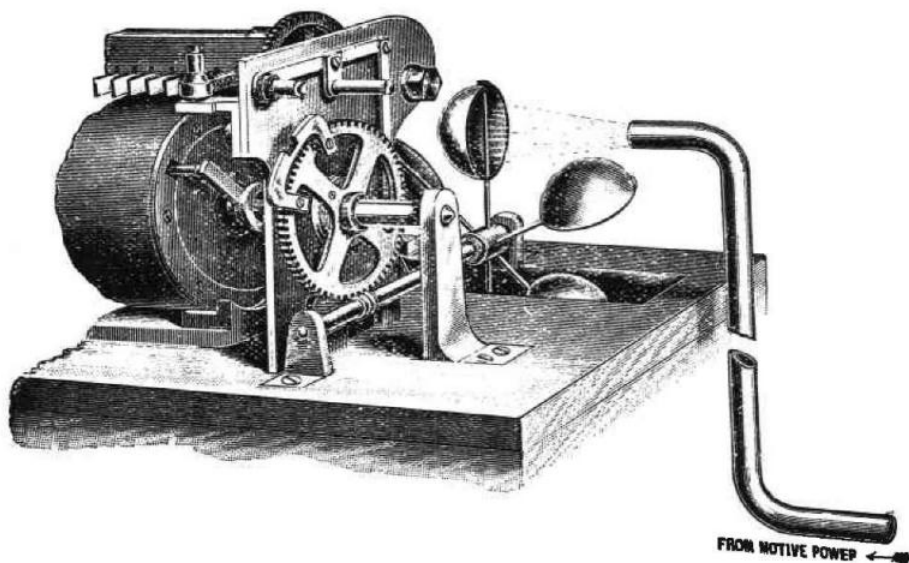
Fuller descriptions of this great masterpiece of human ingenuity may be found* in many encyclopædias and works upon the organ.

* See account of the *Apollonicon* by J. W. Hinton, in *Musical Opinion*, April, 1901.

Organ Construction.

At the present day the use of barrel organs in churches is extinct, but excellent "Orchestrions" are made, reproducing the orchestra in a way which not even five players on separate manuals could effect. In this case mechanical agency does something which cannot be done by one pair, or even by many pairs of hands; and therefore the barrel organ survives in this particular form.

A very successful miniature Apollonicon, or combination manual and cylinder organ, in which are several novel features never before introduced, was built by Mr. Wedlake for the late J. H. Van Ryn,



Atmospheric Propeller for Barrel Organs, invented by Leopold Mukle (Imhof and Mukle, Oxford Street), as used in Mr. Van Ryn's organ above described.

of Pembroke Square, in 1896 (see Plate XIV), of which the following is the synopsis.

Synopsis of the Organ: Two manuals, CC, 56 notes. Pedals 30 notes. *Great Organ*, 10 stops. *Swell Organ*, 10 stops. Pedals 2 stops. Total 1,114 pipes, 7 couplers, 4 combination knobs to Great, 4 ditto to Swell.

Self-acting Mechanism Department. No. 1 Cylinder (Swell Organ) contains 74 keys, 18 being used for shifting the stops of both Great and Swell Organs.

No. 2 Cylinder (Great Organ) contains 74 keys. The 18 in addition to the note keys are used for Bass notes (12), and the following instruments of percussion : Large Drum, Tympani and Cymbals, Side Drum, Triangle. The Swell louvres are worked automatically from the Cylinders.

There are no slides used in this organ, the action being tubular pneumatic throughout.

GREAT ORGAN.

		Feet	Pipes			Feet	Pipes
1	Open Diapason . . .	8	56	6	Harmonic Flute . . .	4	42
2	Violoncello . . .	8	56	7	Lieblich Flute . . .	4	56
3	Dulciana . . .	8	56	8	Piccolo . . .	2	56
	Stopt Bass and Clarabel . . .	8	56	9	Trumpet . . .	8	56
5	Principal . . .	4	56	10	Clarinet . . .	8	46

SWELL ORGAN.

11	Double Diapason . . .	16	44	16	Gamba Principal . . .	4	56
12	Horn Diapason . . .	8	56	17	Twelfth . . .	2 $\frac{3}{8}$	56
13	Echo Gamba . . .	8	56	18	Fifteenth . . .	2	56
14	Voix Celeste . . .	8	44	19	Cornopean . . .	8	44
15	Lieblich Gedact . . .	8	56	20	Oboe . . .	8	56

PEDAL ORGAN.

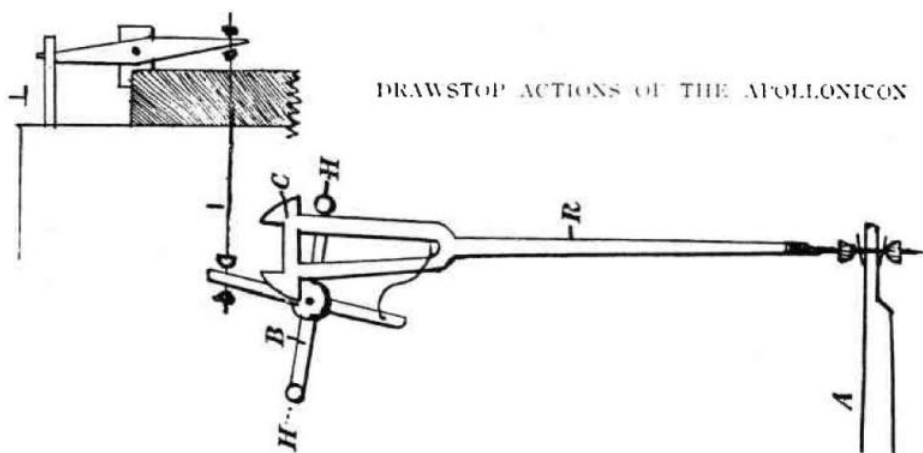
21	Grand Bourdon . . .	16	30	22	Octave . . .	8
Total . . .		1,114 Pipes.				

COUPLERS.

23	Swell to Great	27	Great to Pedal
24	Octave Swell	28	Swell to Manual
25	Sub-Octave Swell	29	Tremulant
26	Swell to Pedal		

Organ Construction.

The music played by the Apollonicon was set on three cylinders, which revolved simultaneously, at the same time moving from left to right by means of a screw thread in the notch pins (or centres) upon which they turned. Two of these cylinders were 8ft. long by 2ft. 2ins. in diameter. The third one was 3ft. 9ins. long and served only for the heavy basses. Steam was at one time used as the motive power, but manual power was reverted to, being found to be more satisfactory.



There were six sound-boards, described as "Scales" (from their respective compasses).

Scale I, GG, 12ft. to G (5 octaves), comprising

- | | |
|---|-----------------------------|
| 1. Open Diapason (bold). | 6. Fifteenth. |
| 2. Open Diapason (delicate intonation). | 7. Flute. |
| 3. Stopped Diapason. | 8. Sesquialtera, III ranks. |
| 4. Principal. | 9. Cornet (various). |
| 5. Twelfth. | 10. Trumpet. |

All these were playable from the central clavier, and constituted the Manual Great Organ.

Scale II was the pedal department on which was the Great Pedal Open GGGG, 24ft., and—I have been verbally informed—a Bourdon and a reed stop. Davy,* however, only mentions one—the Great Open Bass. This “Scale” was actuated by the short cylinder, which also governed the various instruments of percussion.

Scale III, Gamut G upwards (four octaves) was in a swell box, as were also some stops in the other scales. It contained

- | | |
|----------------------|---------------------------|
| 1. Diapason—Corni. | 4. German (Vienna) Flute. |
| 2. Stopped Diapason. | 5. Wood Fifteenth. |
| 3. Violoncello. | 6. Trumpet. |

The remaining “Scales” were from Fiddle G upwards (three octaves) and contained Flutes, Clarinets, Oboe, Vox Humana, Piccolo, etc. The tunes were set spirally on the cylinders, thus admitting of nine revolutions and giving about sixty-five feet of continuous line on which to “set” the tunes. This was found to be ample for the performance of the longest Overture or Symphony.

To effect the incessant changing of stops required by the rests and the successive “entries” of the various Orchestral instruments, the stops were actuated from the cylinders, exactly as the notes in an ordinary melodic passage. The interesting mechanism by which this was effected is shewn in diagram, *i.e.*, drawstop action of Apollonicon.

By lifting the key A the vertical part of key R was depressed, and the shoulder C bore upon the projection H in the crosspiece B, and thus the slide, or stop, was *pushed in*. The slide was also *drawn out* by precisely the same motions of the key A, viz., when the slide was pushed in, the little hair spring G threw the key R *to the left*, consequently when the key A was again actuated the key R bore upon the other extremity of the crosspiece B and *drew out* the stop, when the spring G pushed the key R *to the right*, leaving it in a position *to push in* the stop when next set in motion, and thus the cycle of operations continued to repeat itself.

* “The Apollonicon,” by Christopher Davy, architect and teacher of architecture to the London Mechanic Institute. Repertory of Patents, 1828.

H. Wedlake,

8, Berkeley Road,

(NEAR CHALK FARM STATION).

BY APPOINTMENT.



Organ Builder

Regent's Park,

LONDON, N.W.

ESTABLISHED 1859.

Builder of some of the largest four-manual organs in this country.

INVENTOR OF THE FOLLOWING IMPROVEMENTS IN PIPE ORGANS:

Transposing Combination Pedals, 1862.

Application of the Double touch to Manuals, 1864.

"Choir" Organ, and Pedal Studs to Harmoniums, Highest Award
Guildhall Exhibition, 1866. *Furor*: SIR J. BENEDICT.

Eclipse Pneumatic Action, Highest Award Inventions Exhibition, 1885.

Pneumatic Organ Pedal Action to Pianofortes, Highest Award
Inventions Exhibition, 1885.

"Simplex" Pneumatic Valves to Pedal Sound Boards, 1894.

COMBINATION ORGAN, embracing a self-acting and manual instrument,
actuated throughout by Tubular Pneumatic Agency. The self-
acting department propelled by an atmospheric engine.
(Organ erected for the late J. H. VAN RYN, Esq., 1896).

Testimonial from E. H. TURPIN, Esq., Mus. D., Sec. Royal Coll. Organists

18, The Avenue, Brondesbury, Nov. 11th, 1896.

"Having recently inspected an organ playable both by keyboard and mechanical means, invented by that well-known ingenious, experienced, and painstaking organ builder, Mr. WEDLAKE, I am able to offer testimony regarding the success of his work. The instrument is an excellent specimen of the complete Pipe Organ with distinct manuals and pedal organ, and so is available for the performance at the keyboards of classical organ music, with well-voiced and effective stops. Further, the automatic machinery has been contrived with every regard to efficiency, silent working and economy of space. The successful combination both of Keyboard and Mechanical Organ, presents facilities and advantages especially as a home instrument. Mr. WEDLAKE has, therefore, met a growing want by his successful combination. Music now claims so large a share of public attention that instruments combining both keyboard and mechanical appliances are likely to be of extensive and general utility."

E. H. TURPIN.

Extract from Testimonial:

"I can with much pleasure bear testimony to the merits of the Grand Combination Organ of your invention. In all my long and varied experience of orchestration work I can safely say it is the most wonderful instrument I have seen or heard."

Signed LEOPOLD MUKLE (late partner Imhoff and Mukle).

COMBINATION ORGANS: { (a) With Cylinders as in the above-mentioned instrument.
 { (b) With perforated paper rolls and folding cards.

Wedlake's Tubular Pneumatic & Eclipse Pneumatic Reeds are, respectively, unsurpassed
for promptness of repetition, durability, & economy.

Keith Harding, of 93 Hornsey Road, London, N.7.
writes:

Dear Sir,
The two volumes of *The Music Box* which have so far appeared have already established it as an indispensable work of reference to those engaged in the study and repair of music boxes, but with the promise of a new look for volume three I would like to make a few suggestions which might improve its usefulness. It is often difficult to locate the article to which reference is to be made and which is not yet indexed, and a list of contents on the cover of each issue would be a great help. It is an irritating fault of most magazines for an article to be chopped into several sections for no apparent reason, and each section ended with the words "continued on page....." The reprinted article from *The Model Engineer*, for example, would have read better printed as one article, no matter how it originally appeared.

I can hardly wait to have the complete list of British Patents for Automatic Musical Instruments, but how much more convenient it would be, both now and for future reference, to have it all in one place, instead of spread out a page at a time in consecutive Journals. Incidentally, the list in part two does not follow consecutively the list in part one. Likewise, Arthur H. Coombs has whetted my appetite with his most useful half page contribution on Polyphon Tuning Scales, but why not print all the Polyphon Tuning Scales in one article, even if it occupied half the magazine?

I think I shall stick a piece of blank paper over the space filler on page 352 which claims to set out the true definition of Antiquity and then fails miserably to do so. It is an absurdity to attempt to fix a date after which antiques ceased to be made. The British Antique Dealers Association do indeed use the date 1830 in connection with their annual Fair, but they require of their members only that they deal predominantly in goods more than one hundred years old, and of reasonably high quality. It is this factor of quality, which you did not mention, that distinguishes antiques from byegones and bric-a-brac or junk. Incidentally, the American Customs regulations have been changed to allow items made more than a hundred years ago to enter duty free, which includes our most desirable musical boxes, so beware!

It is with deep regret that I read Gerry Planus'

LETTERS TO THE EDITOR

letter on page 355 saying that he will no longer spare due to lack of demand. It is our experience that demand is increasing all the time. Especially now that Mr. Burnett and myself are engaged full time in repair work, we shall be happy to help members in any way we can with their problems, if they would like to call or write to us. Incidentally, in connection with my letter on page 254, we can now supply damper wire.

Once again, many thanks for an admirable magazine.

Yours sincerely

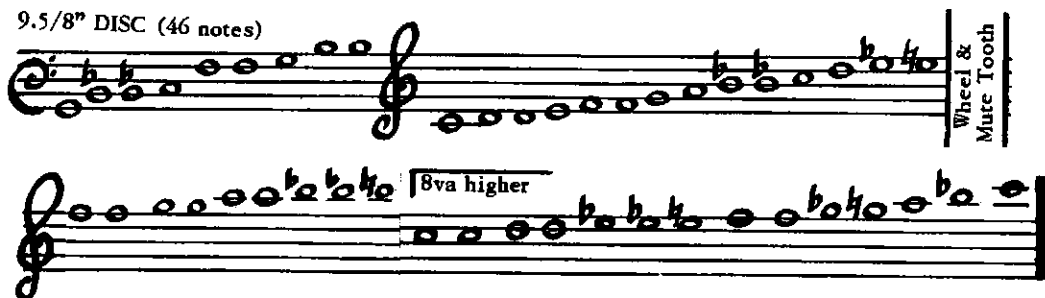
EDITOR'S COMMENT Mr. Harding raises points which are already to the forefront in my mind. As you will see from this issue, the Contents is displayed on the first page and this is intended to be additional to the cumulative cross-reference index published after the end of each volume. I quite agree that the 'chopping-up' of articles is annoying but there are sometimes conditions of make-up of the magazine which make this unavoidable. Regarding British Patents, were I to publish the lot in one go, we would have a MUSIC BOX with something like 150 closely-typed pages. The same problem arises with the Polyphon tuning scales, tune lists and so on. Because one must try to keep a publication with a balanced interest, it is unavoidable that there must be serialisation of such things. For those who are closely interested in a subject, this is a nuisance, but this must always be tempered by the fact that to others, there are more important items of interest. Antiques by definition are a serious bone of contention to many and perhaps the less said the better. On repair work, Gerry Planus still makes Polyphon dampers, both as individual elements and as complete assemblies. He can, I am sure, always advise a source of supply on either materials or service and has only off-loaded a large quantity of 'slow-moving' goods to give him more space to indulge in such things as gargantuan specimens of the Orchestrelle and some very nice clocks.

LIST OF MEMBERS

- * 283 J.R. Bozeman, P.O. Box 14, Midland, Texas, 78701, U.S.A.
- * 284 Michael Woolf, 33, Reuben Avenue, Brooklyn, Wellington, New Zealand.
- 285 P.G. Horsham, 57, Torquay Road, Paignton, Devon.
- 286 J. Tempest, 27, Cringlehall Road, Burnage, Manchester 19.
- 287 F.H. Foley, B.A., 282, George St. P.O. Box 304, Belleville, Ontario, Canada.
- 288 A.J.L. Wright, 18, Beech Road, Norton, Stourbridge, Worcs.
- 289 Cdr. J. Forrest, R.N., Oak Tree Cottage, Hanly Castle, Worcs.
- * 290 Q. David Bowers, 3524, Laurelwood Road, Kettering, Ohio 45409, U.S.A.
- 291 G.J. Goodacre, The White House, Ashby, Nr. Rugby, Worcs.
- 292 J. Pomfret, Elizabeth House, Blackrod, Nr. Chorley, Lancs.
- 293 Mrs. G. Thompson, 8, The Oval, Harrogate, Yorks.
- * 294 Walt Bellm, Bellm Cars-and Music of Yesterday, 5500, North Tamiami Trail, Sarasota, Florida, U.S.A.
- 295 Rev. D.N. Lindgren, The Manse, Ryde Road, Wishaw, Lanarkshire.
- 296 Mrs. M. Robson, Balmaghie, Castle Douglas, Kircudbrightshire, Scotland.

* Denotes Associate Member

Arthur H. Coombs on: Polyphon Tuning Scales



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