

JOURNAL OF
THE
MUSICAL BOX
SOCIETY OF
GREAT BRITAIN

THE MUSIC BOX



Vol.3 No.2 Summer 1967

GREAT BRITAIN'S PREMIER
MECHANICAL MUSIC SPECIALIST

GRAHAM WEBB

93, Portobello Road, London, W.11.

Telephone: 01-727-1485

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THE MUSICAL BOX SPECIALIST SHOP



MECHANICAL MUSICAL INSTRUMENTS OF ALL TYPES

BOUGHT, SOLD AND EXCHANGED

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Vol 3 Number 2 SUMMER, 1967

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

The Editor writes:

Once in a while, something happens to show the true value of a Society such as ours. It may be something small and almost insignificant. Again, it can be something which is of value to a Member. It all boils down to knowledge, the sharing of information and the interaction of our individual talents.

At our first Regional Meeting, reported in this issue, Mr. Hugh Miles demonstrated a Freres Nicole box with a 17,000 serial number. He confessed that, as a novice to musical boxes, he would probably have passed this one by had he not learned from the pages of THE MUSIC BOX that the early and valuable boxes were frequently in ugly, plain cases. During the same afternoon Mr. Roy Mickelburgh showed an example of the unusual Multiphone, of which I happen to have all the patents.

Here we have two small but individually satisfying examples of the merits of the Society and the value of co-operation between Members. A detail - yes, but an important one. Quite often, a fellow collector comes up with something which may not be of too great significance to him but, to the enquiring enthusiast, something which can spark off a whole chain reaction of research and discussion with other collectors. As spread the ripples from a pebble dropped into still waters, so can we spread our enquiries until the information desired is found. Somebody had to write the history of the Capitol musical boxes and Member Hughes Ryder set to and did it. He's now delving enthusiastically into the Perfection and the shifting-disc Sirion. A Society such as ours can inspire individuals to this sort of work and this is a very gratifying thing.

ARTHUR W. J. G. ORD-HUME

HOT AIR PIANO

by Arthur W. J. G. Ord-Hume

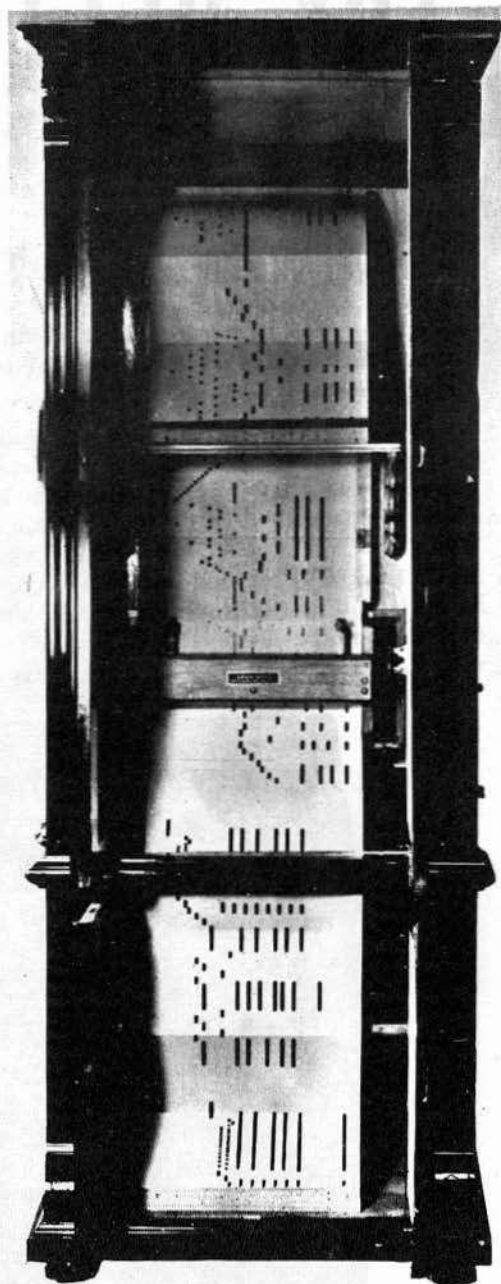
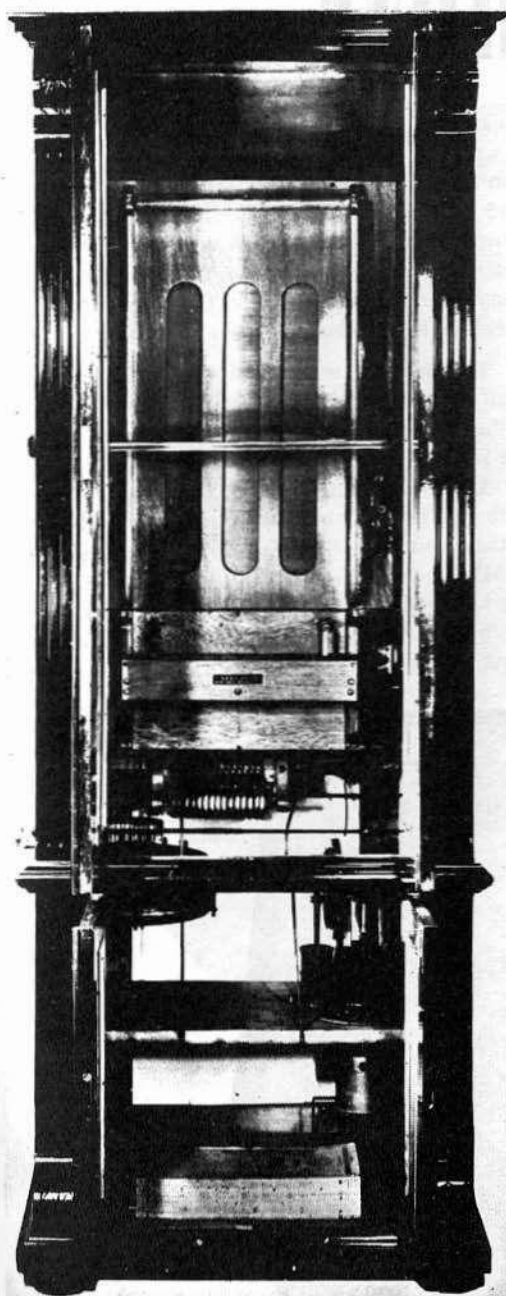
AMONG the many interesting exhibits on display at Birmingham's City Museum & Art Gallery, is a book-playing piano which is powered by a hot-air engine.

Of slender proportions, the tall cabinet, shown with the two doors closed on the left, contains drum, bells and a triangle in addition to the piano strings. The compartment beneath the mechanism contains a hot-air engine and this drives the mechanism which transports the music and at the same time sets in motion the continuously-beating hammers. The action is thus very similar to that described on Page 372 of Volume 2 of THE MUSIC BOX relating to the instrument made by Racca of Bologna. The music is fed from the top of the instrument to the bottom where it is re-folded.

A product of Leipzig, it dates from about 1886

These photographs have been taken specially for the author by the Museum and they are reproduced with grateful thanks.





THE MULTIPHONE

by Arthur Ord-Hume

THE Multiphone, illustrated here from the collection of Member Roy Mickleburgh, was manufactured to a patent taken out on 16th February 1886 (Brit. Pat. No. 2241) by John Manger of 26 & 27, Bartlett's Buildings, Holborn, London, E.C. The lid of the box bears a richly-decorated coloured lithograph containing, on the skin of the tambourine held by the cupid on the left, the initials Ch.U. - Charles Ullman.

John Manger is described in the Patent Specification as a 'Musical Box Importer', and indeed this address in Holborn is that which was occupied at this time by Mojon, Manger & Co. In addition to musical boxes, Mojon Manger produced watches and clocks at their factory at Chaux-de-Fonds, Switzerland, and they were also makers of barrel pianos in London. This poses several

interesting questions, namely whether a tie-up existed between Ullman who was a German Swiss and a musical box maker of the 1885 - 1900 period, and Mojon Manger who appear to have ceased musical box production about 1890. John Manger certainly sold many other makes of box from the London warehouse and also the Coventry one.

The Multiphone is a hand-cranked instrument of the manivelle type and its main feature is that the cylinders, each playing one tune, are interchangeable. Quite probably this is the smallest changeable cylinder box ever made. The movement is fixed vertically on to the front case divider and is turned with a small crank handle through a hole in the front. The spare cylinders, each $1\frac{3}{4}$ " long, rest in the top of the case and are fixed into the movement by swinging arbors.





FIRST REGIONAL MEETING

THE first regional meeting of the Musical Box Society was held on Saturday, April 8th at the home of Mrs. Monington Miles 329, Rednal Road, Kings Norton, Birmingham.

To those of your Committee who set forth from London, it seemed that half Southern England was hell-bent on attending. However, it was soon realised that on that day there was also a large football match, a horse race and a few other sporting fixtures in Birmingham.

Between 40 and 50 Members and guests, many armed with musical boxes, attended and for a number it was their first Society gathering, our London meetings being too far removed for some of the Northerners. We thus had the pleasure of meeting new faces,

The local newspapers and B.B.C. wireless took great interest in the proceedings and there was excellent press coverage with photographs which Mr. Hugh Miles took.

The meeting was opened at 2.30 p.m. by President Bob Burnett and then Secretary Cyril de Vere Green gave a talk on his latest experiments in dampening snuff box combs. This was followed by a discussion on damping techniques in general.

At this point, Mrs. Miles generously provided tea. Whilst Members ate, drank their tea and went in for 'musibox collecty chattel', the Committee held a short meeting (and also had tea) to finalise arrangements for the Summer meeting on June 3rd/4th.

The programmed events continued with an official statement on the plans decided upon for the next meeting. Then Members were invited to bring their boxes up to the rostrum and demonstrate them. Mr. J. Fardon, a new Member whom we welcome, showed an unusual automaton clown which layed on its back and juggled with two balls.

Roy Mickdeburgh of Bristol demonstrated an example of the Multiphone, described with photographs on Page 60.

Mr. Hugh Miles then showed a particular-

ly fine key-wound box bearing the name Freres Nicole on the tune sheet and the serial number 17057 - perhaps the earliest Nicole partnership box which any of us have seen. It played with an extremely fine, rich bass accompaniment - unusual for so early a musical box.

Graham Webb and David Tallis both brought along fine snuff boxes and Dr. Burnett showed a Nicole Freres overture box.

Among the Members present were two who have promised to lend for reproduction in THE MUSIC BOX a Polyphon parts catalogue and a Symphonion catalogue and we hope to feature these at an early date.

The meeting closed at 6.0 p.m. with a vote of thanks and appreciation to Mrs. Miles for her hospitality and giving us the chance to see some of her collection of musical boxes.

The enthusiastic attendance at this meeting has demonstrated the need for more regional gatherings in various parts of the Midlands and North of England.



Dr. Burnett (right) beams as Dr. de Vere Green displays some of his choice items.



Roy Mickleburgh of Bristol shows Mrs. Monington Miles the sectional comb movement of a musical tea caddy, apparently dating from about 1810-1820.

TANZBAR DANCING BEAR

THE MECHANICAL CONCERTINA

by ARTHUR ORD-HUME

THE forerunner of the accordion, itself played pneumatically in later years in the Belgian "Arbuero" orchestrions of the late 1940's, was the concertina. This used a reed plate in which were set reeds facing alternate sides and controlled by small pallets worked by finger buttons. Wind was passed through the reeds by the inward and outward moving of the bellows and each reed would have a leather flap over the speaking side so that, on moving the bellows inwards, the inner reeds on the plate would speak, the others muted by the flaps. On moving the bellows inwards, the process would be reversed.

Mechanising the concertina, beloved, or so tradition would have us believe, by the mariner and country dancer alike, was attempted by several inventors, among them M. A. Wier in 1883. He used a perforated tune sheet transported across the pallet linkages by springs and bridges between the two ends of the instrument. Wier also made many other mechanical instruments playing perforated music including a trumpet-shaped reed instrument blown by means of a mouthpiece and playing music by a hand crank. Similar instruments were made in Leipzig by O. Meinhardt from 1886 onwards, whilst G. A. Cole's toy trumpet of 1888 played its tune from a fixed disc against which a handle rotated a reed plate.

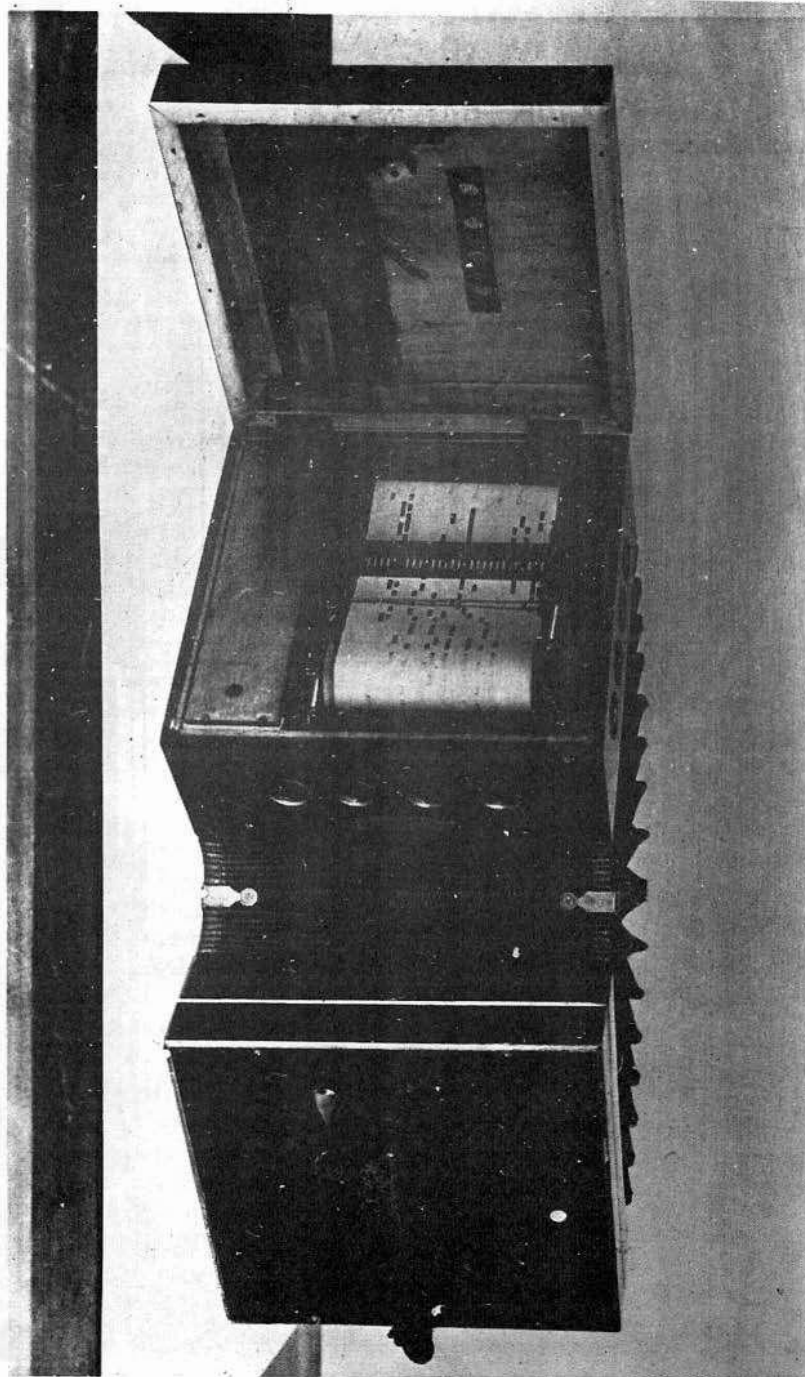
L. A. Klepzig shunned perforated music in his mechanical concertina of 1884, favouring a pinned barrel rotated by a linkage between the two ends as used by Wier. G. Richter, probably of the Richter manufacturing empire which produced the Libellion, Imperator and other musical boxes using plucked combs, devised a type of inertia motor to drive his tune sheet. This was in 1885 and the inertia motor was set into motion and boosted on each compression of the concertina bellows. J. M. Farmer's concertina-

like instrument of 1889 again played perforated music and was similar to that thought up by M. A. Wier.

The name Richter, this time Freidrich Adolf Richter the musical box maker, appears on another patent dated 1893 for a concertina. In this one he used a coil spring to drive the music roll, and wound it by a ratchet lever from the normal playing action of moving the bellows in and out. However, the successful self-playing concertina - as automatic as it could be - was the work of P. Fehling in 1895. Fehling used a motor of the inertia type which had a large fly-wheel which was driven by a ratchet lever within constant easy reach of the performer's fingers. This lever could be flicked back and forth whilst 'pumping', and the music roll was there by transported across a keyframe. The music paper held down a row of lightly-sprung keys. Where a hole in the paper indicated a note to be sounded, the key rose through the hole, and its other end lifted a pallet. R. Wunsch patented a similar device in Leipzig in 1896.

These mechanical concertinas were produced with 14 or 28 reeds and were in production right up until the 1930's. They were known as the Tanzbar or 'dancing bear' for some unknown reason although it seems likely that this was a registered trade mark. Many hundreds were built and they were particularly successful in the field of the old music hall where it was often desirable for the comic to be able to play a few bars of music to get himself off the stage. The instrument lent itself admirably to such little pieces of harmless deception. Each bore a small circular emblem showing a dancing bear and with the word 'Tanzbar' (which is German for a bear dance).

The instrument illustrated is from the collection of Member Graham Webb.





THE shop is not a big one, as many know, nor is it noted for its tidiness. In fact when a piece is dropped "just inside the door", it tends to stay in that position until sold since it is often impossible to move it further in. Under these conditions, when offered anything really large, I tend to think very carefully because of the upheaval necessary to make room.

Thus when a telephone call brought the offer of a Welte Orchestrion ("not one of the large ones, only ten feet high!") my first thought was towards a polite refusal, but this reaction was quickly stifled by two of my better instincts - curiosity (I'd never seen one and greed (what's it worth?). So I asked for a little time to think.

Arthur Ord-Hume came upon me whilst I was engaged in this thinking operation and I explained the position to him so that he could share the pain. We decided that the opportunity to inspect such a machine was too good to miss, and so it came to pass that the following Sunday saw the two of us glaring at each other over a 'Scrabble' board on a fast train to the far North.

Between Scrabble and lunch we had very little time to speculate on the machine we were about to see, but even if we had, I doubt if the tremendous impact which the thing made upon us would have been any the less. I really should have been prepared for the sound by my first glimpse of the ten-foot high oaken case packed with beautiful pipes. I suppose in truth I was prepared for the music to some degree. What I was not prepared for, and what took me by storm, was the little snare drum. So neat, so precise, so definite, she completely stole my heart and senses. No longer the hard businessman figuring out the profits, planning presentation, working out the cost of transport. No longer the shopkeeper wondering will it fit. Instead it was "How will it go in?" Just a man in

love - not with the august boom of the big bass drum, not with the shiny yellow fan of brass trumpets, not even with the beautiful design of the air motor drive, but with, of all things, a little snare drum.

It had to be mine, that little snare drum. Oh yes, I knew that with it came 192½ cubic feet of Orchestrion which would take up a quarter of the shop and block half the light from the window, but what could I do? I was snared, so to speak.

Arthur felt it too, I know. Why else would a certain carriage on the London train that night hold a pair of maniacs who occasionally looked up from a violent game of Scrabble to grimace and raise a fist at one another and vibrate it as if beating some invisible drum?

THE DRUM SNARE

by Graham Webb

Back home, away from the insidious call of the drum, I stood in front of the shop and realised for the first time how deeply I had been under its spell. Reality came upon me, questions began to insist upon answers. How, for example, disregarding the 30 inch wide door, was the thing to be got into the shop? Answer - through the window. How to get the windows out? Answer - by trying every way conceivable until, as the pan-technicon containing the little drum and its accessories rolled to a stop, the last bolt broke the last pane of glass as it surrendered

to the battering which had superseded the more polite attempts of the preceding ten days.

At a blast of the signal horn, thirty heads popped from shops along the Portobello and sixty willing hands converged like some Lavender Hill mob upon the stripped Orchestration body and its seventeen crates of bits, one of which contained my new addiction. After all the worry, things went surprisingly smoothly, and, with only one crushed foot and a good deal of "to you from me", the deed was done. Everyone at once squatted on the pavement and waited for the concert they had been promised.

Resting after my efforts to get near enough to the organ to get a hand to it, and at least pretend to help, I leaned against the inside sill of the open-to-the-street window—and the climax of the day occurred! With heavy-handed humour, a voice came from the crowd. "Two four-pennies and a lolly please, mister!".

THIS WELTE ORCHESTRION is a 44-note instrument similar to that shown on the last page of Q. David Bower's book "Put Another Nickel In". In addition to the 44 notes, it has a triangle, a repeating snare drum, a bass drum and a bass drum roll. A cymbal has been added sometime during its life so that the bass drum hammer also carries a steel striker for the cymbal, both being sounded together.

The ranks of pipes comprise, from front to back, metal flute 2 ft., trumpet 4 ft., metal salicional 4 ft., wooden violin 4 ft., open wooden principal 4 ft., wooden stopped diapason 8 ft., gamba 4 ft., and a wooden 4 ft. unison.

Particularly interesting are the trumpets which are, of course, reed stops. The entire foot, boot and shallot is made of wood, closely fitting and most accurately made. The resonators are of brass and seamless.

The organ is dismountable at two levels—the soundboard and the deck or chest level, and the case is an excellent piece of cabinet work comprising hinged panelled doors which

are either secured with turn-buttons or with hinges. The primary framework is dowelled and screwed but, even so, assembly of the case is remarkably quick.

On arrival, the organ was suffering from shortage of both wind and suction (the feeders take air from the running of the valve chest and thus provide pressure for the pipes) and a massive cypher on two stops plus other sundry malfunctions of speech on other ranks. The subsequent rebuild gave ample opportunity to inspect its principles of operation, patented in 1897, and other details.

The pneumatic action operates on the fundamental single valve system in which suction is applied to a running upon which are mounted a number of leather purses. The instructions to sound a note consist of a perforation in the paper tune sheet which admits the atmosphere to the partial vacuum in the airway between the tracker board and the chamber under the purse. When a note is required to speak, the atmospheric pressure lifts the leather purse, so lifting a double valve contained in a separate air-tight chamber to which is attached a small pneumatic motor or bellows. When the valve is lifted, the air in the bellows is immediately extracted by the partial vacuum in the running. The action of extracting this air causes the bellows to collapse and this motion is used, via an eye hook and a wire pull-down, to shift the pallets in the organ wind chest. The suction part of the organ thus comprises this valve chest and its bellows motors, one for each note. Suction is provided by the inlet side of the pressure bellows under the organ deck which are fed by three double-acting feeders driven by a linkage from a large drive wheel on the back of the organ. This, in turn, is driven by an electric motor.

The stops are automatically controlled from the music roll, locking valves coupled to small bellows (motors) being used.

The illustrations depict the features of operation and show the pneumatic action.



Each pallet chest controls a separate stop or rank of organ pipes

Laminated sound board to direct wind from each separate pallet windway to the correct organ pipe

Organ pipes

Hair pin return spring

Entry of wind into pallet chest (representing one stop of pipes) controlled by the stop selectors

Pipes are tuned from the rear: Metal pipes by a partially-cut strip from the top, and wooden pipes by a sliding metal tongue let into the back of the top of the pipe.

Hair pin return spring

Wind pressure from bellows via main wind trunk.

Leather buttons sealed in varnish

Each pallet is mounted individually but is controlled collectively by the action of the tracker

Pallet tracker wire

Locator

Pivot
Bell-crank or 'square'

THE OPERATION OF THE WELTE SINGLE VALVE PNEUMATIC SYSTEM

Single valve pneumatic system

Wire pull-down

Hook

Air motor or bellows

Double acting valve assembly

Suction from inlet side of bellows

Thin leather pouch

Bleed hole

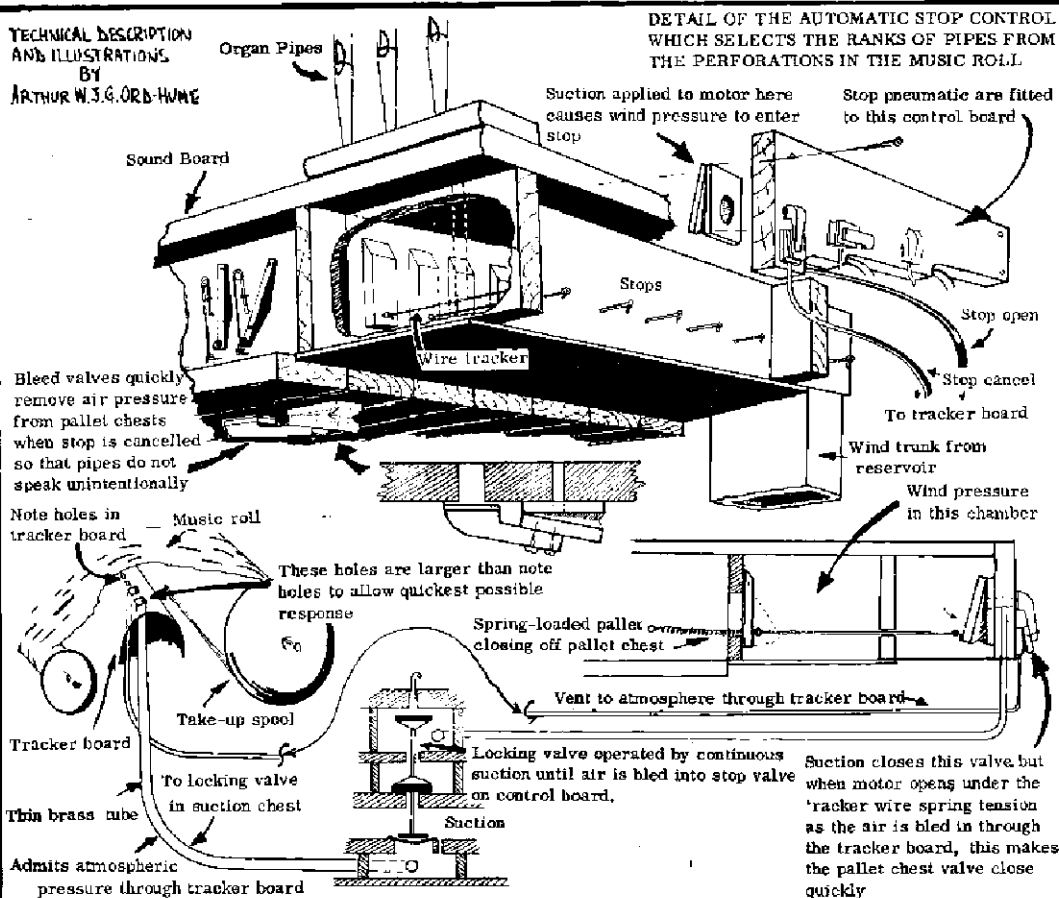
Thin Brass Tube

Tracker Board

AWJG 0-11

TECHNICAL DESCRIPTION
AND ILLUSTRATIONS
BY

ARTHUR W. J. G. ORB-HUME



OPERA —a Guide to Dating that Box

ONE way in which a musical box may be dated is from the musical programme which it plays. An example of this is that a box which plays a tune known to have been performed for the first time in 1891 could not have been made earlier than that year. By the same premise, it may have been made much later than that date. The vital thing is to be able to have a date to start with and, since so many boxes play airs from operas, a good starting point is to know when various operas were first produced.

To this end, we reproduce with grateful acknowledgement, the listing of operas as set out in the Oxford Companion to Music edited by Percy A. Scholes. Each century is divided into two parts and the opera shown by composer, title and place of first performance, the whole prefaced by the year.

As a general rule, it has been found that, where there are other positive features by which a box can be dated, about a year elapsed between the performance of a popular air from a new opera and its appearance on the cylinder.

The period 1850 to 1900 will be of most concern to collectors, but the record is reproduced in full since earlier operas contained works which remained in popularity for over a long period and kept re-appearing on the musical box tune sheet.

A Survey of Historical First Performances. This list includes (a) works that have influenced the development of opera, (b) works that retain an important place in the repertory, and (c) works by British and American composers that represent the efforts of these two nations to establish a permanent footing in the field of operatic composition.

(a) **Sixteenth Century.** 1597 (or 1594?) Peri's *Daphne* in Florence.

(b) **Seventeenth Century.** 1600 Peri's *Eurydice* in Florence (some portions by Caccini). 1607 Monteverdi's *Orpheus* in Mantua. 1627 Schütz's *Daphne* in Torgau (first German opera—an adaptation of Peri's). 1642 Monteverdi's *The Coronation of Poppaea* in Venice. 1647 Rossi's *Marriage of Orpheus and Eurydice* in Paris. 1671 Cambert's *Pomona* in Paris (first French opera). 1673 Lully's *Cadmus and Hermione* in Paris. 1677 Lully's *Atys* in Paris. 1678 Theile's *Adam and Eve* in Hamburg (precursor of Singpiel). 1688–90 (exact year uncertain) Purcell's *Dido and Aeneas* in a London school for young ladies.

(c) **Eighteenth Century.** 1711 Handel's *Rinaldo* in London. 1728 *The Beggar's Opera* (book by Gay; music chosen by Pepusch) in London. 1733 Pergolesi's *The Servant as Mistress* ('La Serva Padrona') in Naples; Rameau's *Hippolytus and Aricia* in Paris. 1737 Rameau's *Castor and Pollux* in Paris. 1739 Rameau's *Dardanus* in Paris. 1752 Rousseau's *The Village Soothsayer* ('Le Devin du Village') in Fontainebleau. 1753 Dauvergne's *The Huchters* ('Les Troqueurs') in Paris. 1762 Arne's *Artaxerxes* in London; Gluck's *Orpheus and Eurydice* in Vienna (revised version in Paris twelve years later). 1767 Gluck's *Alceste* in Vienna (revised version in Paris eleven years later). 1769 Monsigny's *The Deserter* in Paris. 1774 Gluck's *Iphigenia in Aulis* in Paris. 1777 Gluck's *Armida* in Paris. 1779 Gluck's *Iphigenia in Tauris* in Paris. 1784 Grétry's *Richard Cœur de Lion* in Paris. 1786 Mozart's *The Marriage of Figaro* in Vienna. 1787 Mozart's *Don Giovanni* in Prague. 1791 Mozart's *The Magic Flute* in Vienna. 1792 Cimarosa's *The Secret Marriage* in Vienna. 1796 Carr's *The Archers of Switzerland* in New York; Pelissier's *Edwin and Angelina* in New York.

(d) **Nineteenth Century—First Half.** 1800 Cherubini's *The Water Carrier* ('Les Deux Journées') in Paris; Boieldieu's *The Caliph of Bagdad* in Paris. 1805 Beethoven's *Fidelio* in Vienna. 1807 Spontini's *The Vestal Virgin* in Paris; Méhul's *Joseph* in Paris. 1816 Rossini's *The Barber of Seville* in Rome. 1821 Weber's *The Marksman* ('Der Freischütz') in Berlin. 1823 Weber's *Euryanthe* in Vienna. 1826 Weber's *Obéron* in London. 1828 Auber's *Masaniello* ('La Muette de Portici') in Paris. 1829 Rossini's *William Tell* in Paris. 1830 Auber's *Fra Diavolo* in Paris.

1831 Hérold's *Zampa* in Paris; Bellini's *The Sleepwalker* ('La Sonnambula') in Milan. 1832 Bellini's *Norma* in Milan. 1835 Halévy's *The Jewess* ('La Juive') in Paris; Donizetti's *Lucy of Lammermoor* in Naples. 1836 Meyerbeer's *The Huguenots* in Paris. 1840 Glinka's *A Life for the Czar* in St. Petersburg. 1840 Donizetti's *The Daughter of the Regiment* in Paris. 1841 Auber's *The Crown Diamonds* in Paris. 1842 Glinka's *Ruslan and Ludmilla* in St. Petersburg; Wagner's *Rienzi* in Dresden. 1843 Wagner's *The Flying Dutchman* in Dresden; Donizetti's *Don Pasquale* in Paris; Balfe's *The Bohemian Girl* in London. 1844 Verdi's *Ernani* in Venice. 1845 Fry's *Leonora* in Philadelphia; Wagner's *Tannhäuser* in Dresden; Wallace's *Maritana* in London. 1846 Loder's *The Night Dancers* in London. 1847 Flotow's *Martha* in Vienna. 1848 Nicolai's *The Merry Wives of Windsor* in Berlin. 1849 Meyerbeer's *The Prophet* in Berlin.

(e) **Nineteenth Century—Second Half.** 1845 Wagner's *Lohengrin* in Weimar. 1851 Verdi's *Rigoletto* in Venice. 1853 Verdi's *The Troubadour* ('Il Trovatore') in Rome; Verdi's *La Traviata* in Venice. 1855 Bristow's *Rip Van Winkle* in New York. 1856 Dargomizsky's *Russalka* ('The Water Sprite') in St. Petersburg. 1858 Cornelius's *The Barber of Bagdad* in Weimar; Offenbach's *Orpheus in the Underworld* ('Orphée aux Enfers'; recast 1874) in Paris. 1859 Gounod's *Faust* in Paris. 1862 Benedict's *The Lily of Killarney* in London. 1863 Fry's *Notre Dame de Paris* in Philadelphia. 1863 Berlioz's *The Trojans at Carthage* in Paris (Part 2 of *The Trojans*; for Part 1 see 1899). 1864 Wagner's *Tristan and Isolde* in Munich. 1865 Smetana's *The Bartered Bride* in Prague; Ambroise Thomas's *Mignon* in Paris. 1867 Gounod's *Romeo and Juliet* in Paris; Offenbach's *Grand Duchess Gérolstein* in Paris. 1868 Wagner's *The Mastersingers of Nuremberg* in Munich; Boito's *Mephistopheles* in Milan. 1869 Wagner's *The Rhinegold* in Munich. 1870 Wagner's *The Valkyrie* in Munich. 1871 Verdi's *Aida* in Cairo. 1872 Lecocq's *Madame Angot's Daughter* in Brussels; Dargomizsky's *The Stone Guest* in St. Petersburg. 1873 Rimsky-Korsakoff's *Ivan the Terrible* ('Pskovianka') in St. Petersburg. 1874 Mussorgsky's *Boris Godunov* in St. Petersburg; Goetz's *The Taming of the Shrew* in Mannheim; Johann Strauss's *The Bat* ('Die Fledermaus') in Vienna. 1875 Bizet's *Carmen* in Paris; Sullivan's *Trial by Jury* in London (beginning of the Gilbert and Sullivan partnership); Goldmark's *Queen of Sheba* in Vienna. 1876 Wagner's *The Ring of the Nibelung* complete (i.e. including *Siegfried* and *The Dusk of the Gods*, now first performed) in Bayreuth; Ponchielli's **Gioconda* in Milan. 1877 Saint-Saëns's *Samson and Delilah* in Weimar. 1878 Sullivan's *H.M.S. Pinafore* in London. 1879 Tchaikovsky's *Eugene Onegin* in Moscow. 1880 Sullivan's *The Pirates of Penzance* in London. 1881 Sullivan's *The Patience* in London; Offenbach's *The Tales of Hoffmann* in

Paris; Stanford's *The Veiled Prophet* in Hanover. 1882 Wagner's *Parsifal* in Bayreuth; Sullivan's *Iolanthe* in London. 1883 Mackenzie's *Colomba* in London. 1884 Stanford's *Savonarola* in Hamburg; Stanford's *The Canterbury Pilgrims* in London; Massenet's *Manon* in Paris; Sullivan's *Princess Ida* in London. 1885 Goring Thomas's *Nadeshda* in London; Mussorgsky's *Khovantchina* in St. Petersburg; Sullivan's *The Mikado* in London. 1886 Mackenzie's *The Troubadour* in London. 1887 Verdi's *Othello* in Milan; Sullivan's *Ruddigore* in London. 1888 Sullivan's *The Yeomen of the Guard* in London. 1889 Sullivan's *The Gondoliers* in London. 1890 Mascagni's *Rustic Chivalry* ('Cavalleria Rusticana') in Rome; Borodin's *Prince Igor* in St. Petersburg; Tchaikovsky's *The Queen of Spades* ('Pique Dame') in St. Petersburg. 1892 Leoncavallo's *I Pagliacci* in Milan. ★1893 Verdi's *Falstaff* in Milan; Humperdinck's *Hänsel and Gretel* in Weimar; Sullivan's *Utopia Limited* in London; Puccini's *Manon Lescaut* in Turin. 1894 Massenet's *Thais* in Paris; Strauss's *Guntram* in Weimar. 1895 Alick Maclean's *Petrucio* in London. 1896 Stanford's *Shamus O'Brien* in London (Breslau 1907); Wolf's *The Corregidor* in Mannheim; Giordano's *André Chénier* in Milan; Puccini's *La Bohème* in Turin; Sullivan's *The Grand Duke* in London (end of the Gilbert and Sullivan partnership). 1897 d'Indy's *Fervaaal* in Brussels; Mackenzie's *His Majesty* in London. 1898 Giordano's *Fedora* in Milan. 1899 Berlioz's *The Taking of Troy* (first part of *The Trojans*; for second part see 1863) in Paris.

(f) Twentieth Century. 1900 Puccini's *La Tosca* in Rome; Charpentier's *Louise* in Paris. 1901 Dvořák's *Rusalka* (the favourite of all his operas, amongst his countrymen) in Prague; Strauss's *The Fire Famine* ('Feuersnot') in Dresden; Stanford's *Much Ado about Nothing* in London (Leipzig following year); Smyth's *Der Wald* ('The Forest') in Dresden (London following year). 1902 Debussy's *Pelléas and Mélisande* in Paris. 1904 Puccini's *Madam Butterfly* in Milan; Delius's *Koanga* in Elberfeld. 1905 Strauss's *Salome* in Dresden; Coerne's *Zenobia* in Bremen (first European production of an American opera). 1906 Converse's *The Pipe of Desire* in Boston; Gatty's *Greysteel* in Sheffield; Alick Maclean's *Die Liebesgeige* in Mainz; Smyth's *The Wreckers* in Leipzig (London, 1909). 1907 Delius's *A Village Romeo and Juliet* in Berlin; Dukas's *Ariadne and Bluebeard* in Paris; Strauss's *Elektra* in Dresden. 1909 Gatty's *Duke or Devil* in Manchester; Alick Maclean's *Maitre Seiler* in London. 1910 Puccini's *The Girl of the Golden West* in New York; Rimsky-Korsakof's *The Golden Cockerel* in Moscow. 1911 Strauss's *The Rose Cavalier* in Dresden; Ravel's *The Spanish Hour* ('L'Heure Espagnole') in Paris; Wolf-Ferrari's *The Jewels of the Madonna* in Berlin; Converse's *The Sacrifice* in New York; Herbert's *Natomah* in New York. 1912 Horatio Parker's

Mona in New York; Schreker's *The Distant Tone* ('Der Ferne Klang') in Frankfurt; Strauss's *Ariadne in Naxos* in Stuttgart (new version in 1916). 1913 Walter Damrosch's *Cyrano de Bergerac* in New York. 1914 Stravinsky's *The Nightingale* in Paris; Herbert's *Madeleine* in New York; Mackenzie's *The Cricket on the Hearth* in London; Boughton's *The Immortal Hour* in Glastonbury. 1916 Granados's *Goyescas* in New York; Boughton's *Bethlehem* in Glastonbury; Smyth's *The Boat-swain's Mate* in London; Holst's *Savitri* in London; Stanford's *The Critic* in London; Boughton's *The Round Table* in Glastonbury. 1917 de Koven's *The Canterbury Pilgrims* in New York; Pfitzner's *Palestrina* in Munich. 1918 Busoni's *Harlequin* in Zürich; Bartók's *Duke Bluebeard's Castle* in Budapest; Nevin's *A Daughter of the Forest* in Chicago; Puccini's *The Cloak* ('Il Tabarro'), *Sister Angelica* ('Suor Angelica'), and *Gianni Schicchi* in New York; Cadman's *Shanewis* in New York; Schreker's *The Branded* ('Die Gezeichneten') in Frankfurt. 1919 Strauss's *The Woman without a Shadow* in Vienna; Delius's *Fennimore and Gerda* in Frankfurt-on-Main; Gatty's *Prince Ferelon* in London; Boughton's *The Birth of Arthur* in Glastonbury. 1920 d'Indy's *The Legend of St. Christopher* in Paris; Korngold's *The Dead City* in Hamburg; de Koven's *Rip Van Winkle* in Chicago; Hadley's *Cleopatra's Night* in New York; Gatty's *The Tempest* in London; Alick Maclean's *Quentin Durward* in Newcastle-on-Tyne. 1921 Busoni's *Turandot* in Berlin. 1922 Boughton's *Alkestis* in Glastonbury; Stravinsky's *Mavra* in Paris. 1923 Holst's *The Perfect Fool* in London; Smyth's *Fête Galante* in Birmingham. 1924 Mackenzie's *The Eve of St. John* in Liverpool; Boughton's *The Queen of Cornwall* in Glastonbury; Boito's *Nero* in Milan; Vaughan Williams's *Hugh the Drover* in London; Pizzetti's *Deborah and Jael* in Milan; Schreker's *Fitful Flames* ('Irrelohe'), in Cologne; Strauss's *Intermezzo* in Dresden. 1925 Berg's *Wozzeck* in Berlin; Busoni's *Doctor Faust* in Dresden; Holst's *At the Boar's Head* in Manchester; Smyth's *Entente Cordiale* in London. 1926 Puccini's *Turandot* in Milan; Stanford's *The Traveling Companion* in Bristol. 1927 Weinberger's *Schwanda the Bagpiper* ('Svanda Dodat') at Prague; Stravinsky's *Oedipus Rex* ('opera-oratorio') in Paris; Deems Taylor's *The King's Henchman* in New York. 1928 Strauss's *The Egyptian Helen* in Dresden; Schreker's *The Singing Devil* in Berlin; 1929 Goossens's *Judith* in London; Tovey's *The Bride of Dionysus* in Edinburgh; Vaughan Williams's *Sir John in Love* in London. 1931 Deems Taylor's *Peter Ibbetson* in New York. 1933 Strauss's *Arabella* at Dresden. 1934 Hanson's *Merry Mount* at New York. 1935 Strauss's *Silent Woman* ('Die Schweigsame Frau') in Dresden. 1936 Vaughan Williams's *The Poisoned Kiss* at Cambridge. 1937 Goossens's *Don Juan de Mañara* and ★Vaughan Williams's *Riders to the Sea* in London.

Small Grind Organs

by ARTHUR H. SANDERS

AMONG children's toys of the 1870s were some little machines which produced music by the turning of a crank. They seemed, for some reason, to interest parents more than children, and soon alert manufacturers were introducing more expensive and larger models.

By 1880 over fifty different sizes and types of little hand-crank paper-roll organs were on the market. Though they were made by different manufacturers and each required its own size and type of roll, they all operated on the same principle. Minor variations appeared in the handling of the paper music sheet, in the bellows assembly, and the like.

Rollers with hymn tunes were very popular. Some were put on rolls for use as an accompaniment to singing. There were tunes for dancing, too.

Manufacturers were conscious of the sales appeal of a catchy name. The Melodia (Fig. 5), The Celestina, Clariona and Mascotte (Fig. 2), were all very popular organs. (The Mascotte has an unusually small roll.) Some, like the Gatley Organette (Fig. 4) or the Needham Organette, took their names from their makers.

The 27-Key Organette (Fig. 1), about the size of a portable typewriter, operates from a paper roll which is pulled through the mechanism as the crank is turned. The crank also operates a small, powerful "two-cylinder" vacuum pump which draws air into the reeds when the proper valve is opened by the music roll. Key Organette rolls can play nearly five minutes without changing or re-winding—just cranking!

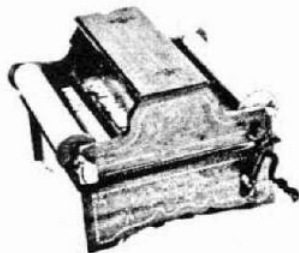


FIG. 1—27-Key Organette

The Celestina and the Madolina were the same, and used the same rolls, but one was tuned to play in the key of C, the other in the key of A. The Melodia (Fig. 5), the Reed-pipe Clariona (Fig. 3), the Aurephone and Musical Casket are very much alike though made by different companies and using different rolls.

Thousands of Gem Roller Organs (Fig. 6), made by the Autophone Company in Ithaca, New York, from 1879 to about 1904, were sold through Sears Roebuck mail order catalogs, the Charles Williams Stores, St. Nicholas Magazine, and the like. In 1888 they were listed at \$6 with three rolls. These were tiny enough to be placed on a small table, yet had sufficient volume to fill a large room. This model uses a changeable wooden roller with pegs sticking out from it which act on the organ valves to play the tune. When cranked, the roller revolves in a spiral, making three revolutions to complete the song, and then re-sets itself to start again.

A larger version of the Gem, using the same roller, was the Concert Roller Organ, and a mammoth size, with a roller about a foot long, was the Grand Roller Organ (Fig. 7).

The Tournaphone name was unusual, and many owners felt it should be called a "turn-a-phone." (See Letters, *Spinning Wheel* April '58). In this instrument, the crank turns a

TOURNAPHONE

Can you tell me something about an old "Tournaphone," a musical instrument whose outward appearance resembles an upright Victrola. On the inside a paper roller, similar to Pianola rolls and perforated in the same manner, is attached on one side, drawn over a part that looks like a mouth organ or harmonica. The roll is fastened to an empty spool. As you turn the handle on the outside, the sheet music is drawn over the harmonica part, which is furnished with air by three bellows that alternately go up and down. The music is similar in sound to a parlor organ, having the same volume, tone, and quality.

—Elaine Mosie, Burlington, Vermont

• Arthur Sanders of the Musical Museum, Beaushoro, N. Y., identifies the Tournaphone (the spelling gets corrupted to "turn-a-phone" after one has played one for a while) was first patented in 1877, which was early for the principle involved. It was made in Worcester, Mass., either by the Monroe Reed Organpeople or a branch of that firm. The whole affair, he says, is a bit over a foot square, and uses a huge roll nearly a foot wide, sometimes 80 feet long. He suggests \$50 to \$60 as a fair price for a Tournaphone in perfect or restored condition; considerably less for one in need of repair.



FIG. 2—Mascotte

large wooden roller which pulls the wide roll of paper with holes in it across a wooden bar which also has holes in it. The holes in the wooden bar have reeds in them, and when air is blown through these reeds they will sound. Turning the crank also works a small vacuum pump underneath, creating a sort of reverse action wind. When a hole in the paper music roll comes over one of the holes with the reed in it, sound is

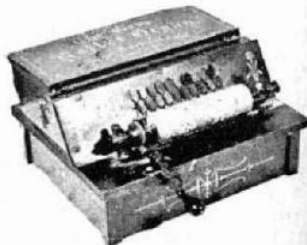


FIG. 6—Gem Roller Organ

produced.

The basic idea for these small grind organs was provided by the 16th century barrel organ in which a crank operates a small wind bellows in the bottom of the case, and also turns a cylinder, or barrel, which has pegs sticking out from it. These pegs pluck open small valves and allow the air from the bellows to enter some organ pipes in the back of the organ. These early barrel organs were crude, but the 19th century versions were merely improvements upon its basic principle.

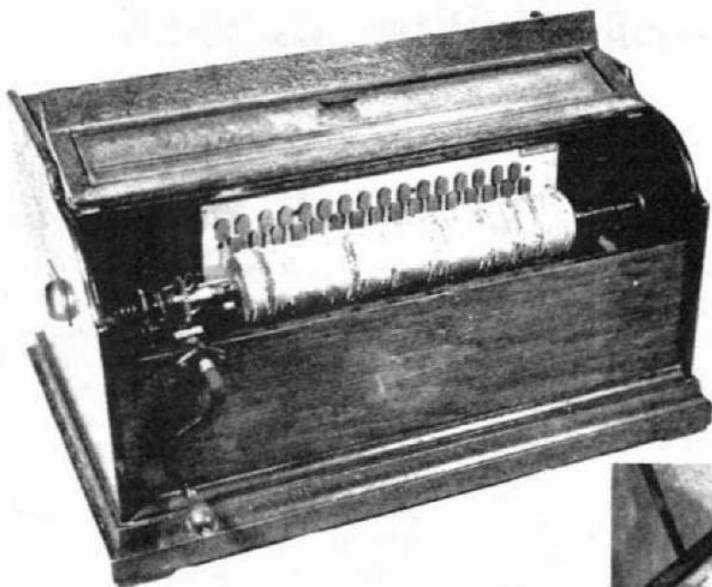


FIG. 7—Grand Roller Organ

The author is curator of the Musical Museum of Deansboro, New York, and his article provides an insight on some of the organettes not readily found by collectors in the British Isles.

THE SPINNING WHEEL for June 1958

This article was sent in by Member Henry A. J. Lawrence and was published in THE SPINNING WHEEL of Hanover, Pennsylvania, U.S.A. to whom we gratefully make acknowledgment



One of the larger grind organs in which the same principles as in the smaller ones were used.

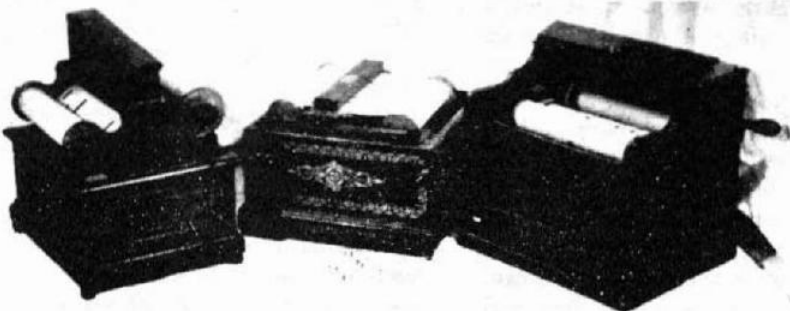


FIG. 3—Reed-pipe Clariona

FIG. 4—Gatley Organette

FIG. 5—Melodia



THE MECHANICS OF THE HAIR-SPRING DAMPER

by B. Horngacher

translated by Mrs. Jane de Vere Green

THE following process is certainly not the quickest, nor the method originally used, but, without any special training, any watchmaker, or anyone who is good with their hands can use it. Naturally one needs a little patience, intelligence and determination at first, but one can soon do it quickly.

TOOLS FOR THE JOB

A workshop, or a large working surface, clean and well lit. An adjustable lamp. A vice to hold the comb — the jaws of the vice can either be in lead or brass. A white cup to put the pins into. Your cuffs should fit tightly to your wrists to reduce the risk of catching them in the comb — but better still, roll up your sleeves.

A hammer (1/10 lb. = 60 gr.) a pin-punch — 1" = 2mm. in diameter. A pair of very fine tweezers to extract the rest of the damper from the hole and to put in the pin with. The tweezers should be made of steel so that they can grip tightly without bending. A paint brush, short, fine and firm, to clean the dampers with. A few pieces of card-board for cleaning in between the teeth of the comb. A hard wooden clamp block (preferably in box-wood), for filing down the new pins. A hand-chuck to hold the brass wire for making the pins. The diameter of this should be 1/2" — 3/4". Two files (nos. 3 & 7) to make the pins. The best shape for these is triangular or rounded. A pair of special pliers converted from normal ones to lift out the damper pins and to cut off the pins — particularly for cutting the

damper wire. This must be a very good quality tool — unfortunately expensive.

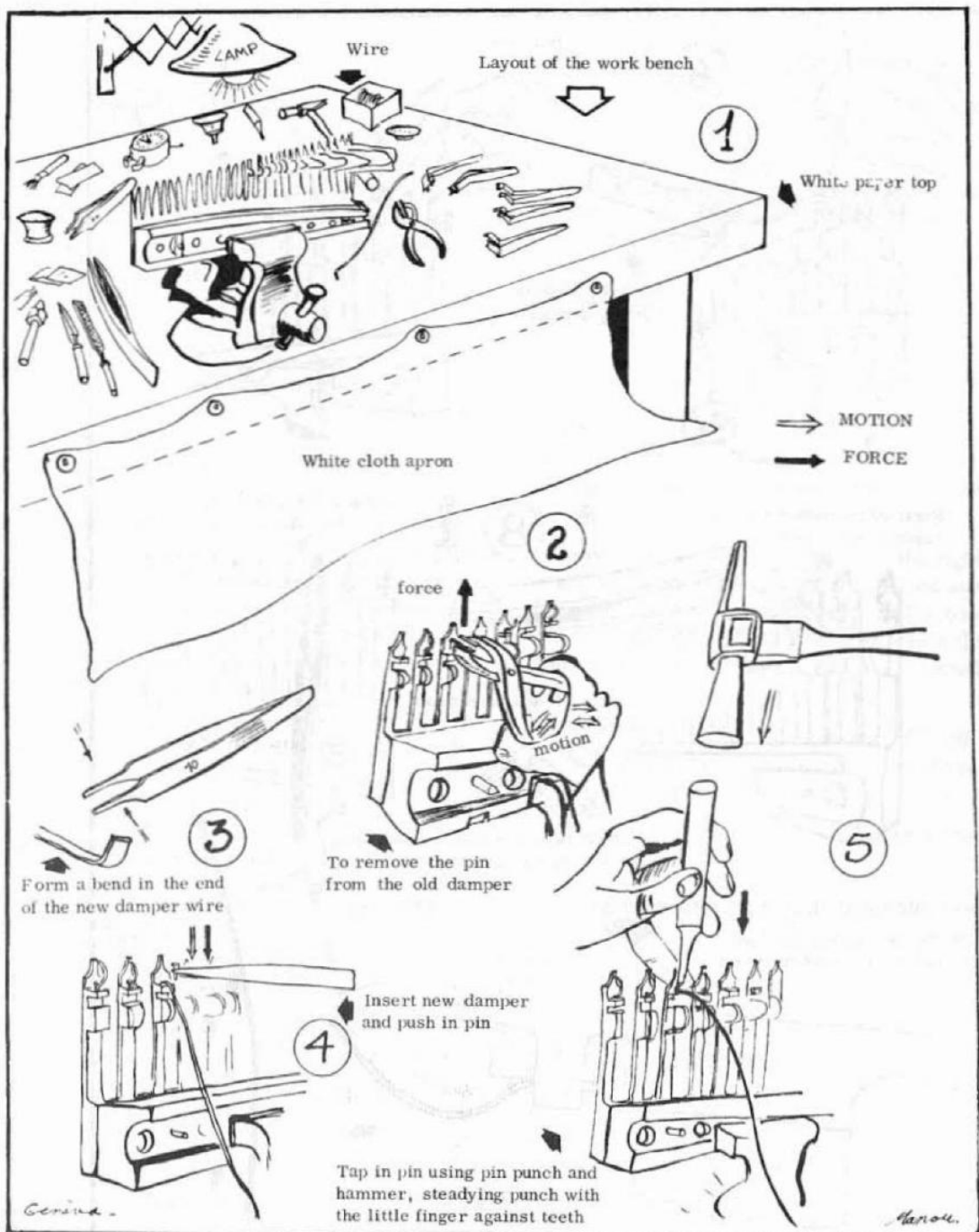
You must buy pliers specially made for cutting the balance-spring of watches — the flat kind, with oblique cutting line. The modification involves grinding down the ends so that they can go between the dampers. it is important when carrying out this modification that the steel is not allowed to become too hot, so that it turns yellow, as this destroys the hardness of the steel. If you hold the pliers close to the end you are working on you will soon feel if they are getting too hot. You will need to allow about 1/2 an hour for this work. If you have a grinding wheel that is water-cooled it will not take so long but you must wipe the pliers carefully afterwards to make sure they do not go rusty.

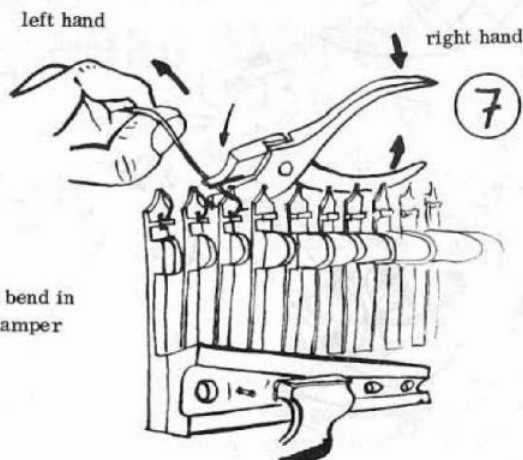
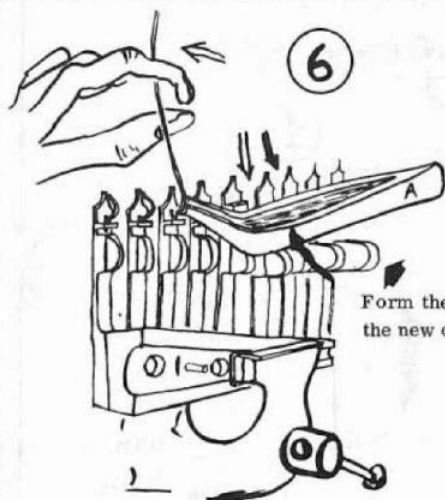
You need another two watchmakers tools:

1. Tweezers for shaping balance springs — no. 10 very slightly curved. With this you make the first bend so that the damper leans away from the pin. You make this curve before pinning.
2. Watchmakers micrometer (dial). Finally, you need a couple of good eye-glasses to use when shaping both old and new dampers as this work must be very exact.

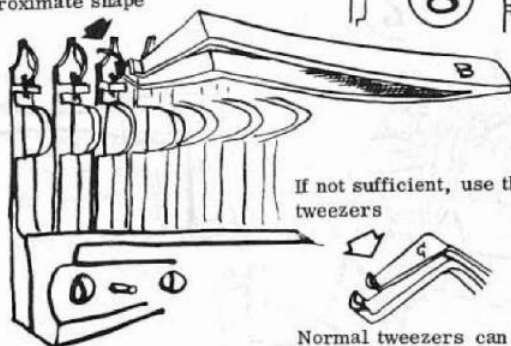
REPLACING THE DAMPERS

The comb is held in the vice with the teeth vertical. It is sometimes necessary to use some scrap pieces of brass as a wedge in between the vice and comb so that the latter is not marked by the contact — be par-





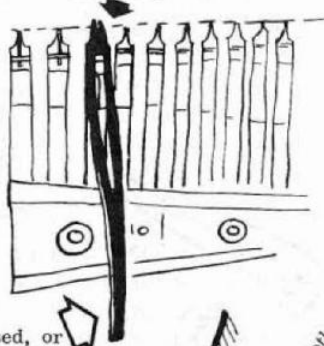
First correction - approximate shape



If not sufficient, use these tweezers

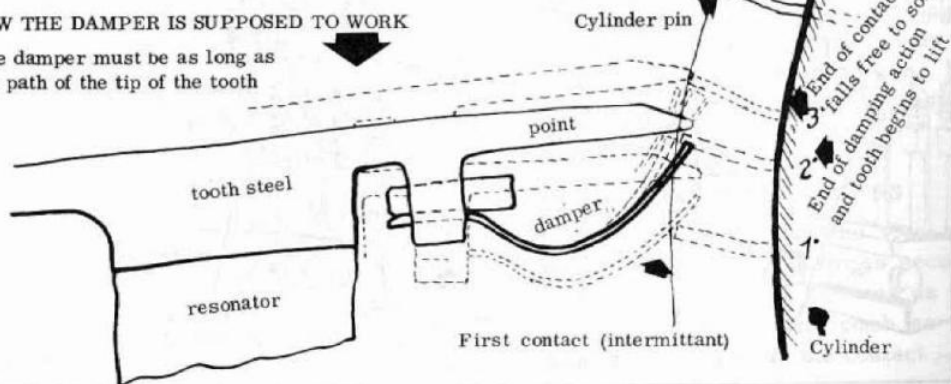
Normal tweezers can be used, or the special tweezers type A

Align the damper with the others



HOW THE DAMPER IS SUPPOSED TO WORK

The damper must be as long as the path of the tip of the tooth



ticularly careful of the lever for tightening the vice. Place a white cloth on your lap to catch falling damper pins.

To lift out the damper pins hold them firmly between the cutting-pliers (but be careful not to cut through them). You squeeze and twist at the same time. Practice first on an old comb because if you do not do this right you will break the tooth. If the pins are too distorted you must make others. If they are alright, clean them and keep them in the white cup. If you remove all the pins before redampering be careful that there are not two different sizes of holes, as on the old combs. This is relatively rare, but measure the pins and, if you find any are different, keep them separately. Sometimes brushing with a paint brush is sufficient to remove the rest of the old damper. Vibrate the tooth. Make sure by inspecting with a watchmakers glass that it is completely removed. If some of it still remains, use fine tweezers. To replace dampers for the longest and shortest teeth, measure a medium tooth to ascertain the correct wire. Cut a piece of wire about 6" long. With the normal no. 10 balance-spring tweezers bend the wire almost 90°, leaving a short piece straight ($\frac{1}{2}$ "). Keeping the long part towards you, engage the straight end in the hole, holding it with your left hand. With your right hand, using fine tweezers, place the pin into the hole, behind the wire. Push it gently in the meantime

keeping an eye on the direction of the wire. In the left hand take the pin-punch and, holding it vertical and exactly on the pin. Keep the little finger against the tooth you are working on and the one next to it so that you can appreciate the strength of the blows, and hit it four or five times with a hammer. Practice on an old comb so that you can learn how much force you use without breaking the tooth, because the pin should be driven well home.

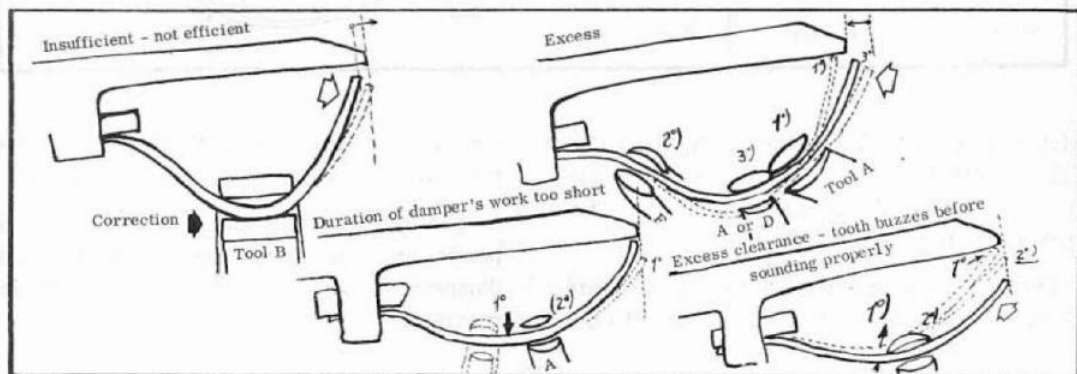
Lift wire with your left hand and bend it with the special tool 'A' tweezers. Continue to bend it, leading the wire with your left hand behind the tip of the tooth. Bend more sharply than you finally want.

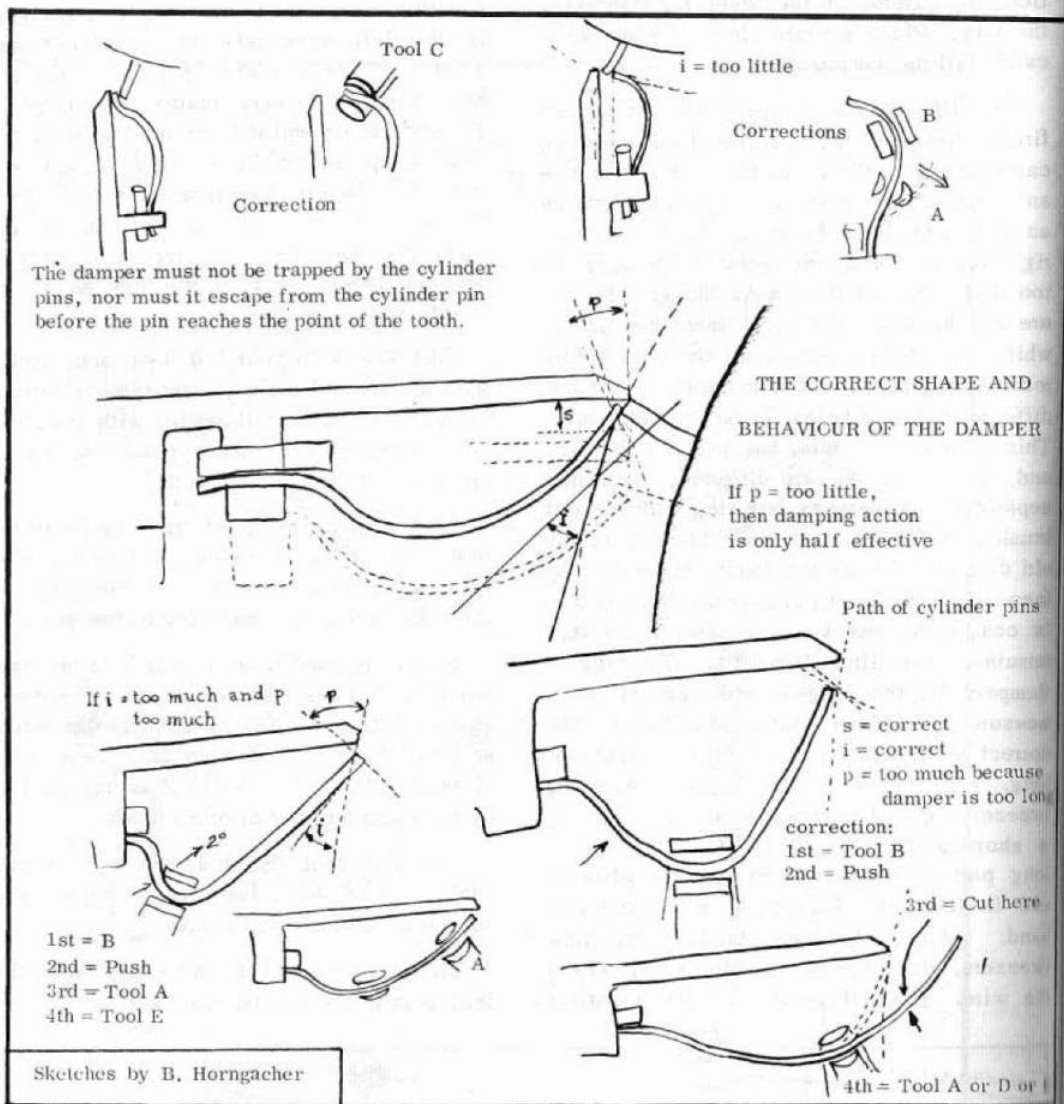
Still holding the wire behind the tip of the tooth, pulling on it very slightly, cut it with the pliers, held close against the comb, at the back, and perpendicularly to the wire.

Reset the damper and see if it is the right length and shape. There are many sizes and shapes but only a few of them are effective and will last. The damper must be exactly aligned to the tooth so that it is not touched by the cylinder pins of other tunes.

The flat tool 'B' and reverse 'C' will enable you to obtain the correct shape if you use them carefully and gently.

The tools 'D' and 'E' are useful when the lead gets in the way of your hand.





THREE IMPORTANT POINTS IN SHAPING THE DAMPERS: 1. The clearance at the tip; 2. The angle of incidence; 3. The trajectory angle. (p)

These characteristics of the damper are dependent on those of the comb and cylinder

which are: Angle of contact, (r); Tangential speed (v); and time of free damping.

Finally, the thickness of the wire depends on that of the tooth, its width, dampers width and the amount of resonator.

ENTERED ACCORDING TO ACT OF CONGRESS, IN THE YEAR 1883, BY

C. H. JACOT,

IN THE OFFICE OF THE LIBRARIAN OF CONGRESS, AT WASHINGTON.

EDWARD STERN & CO., PRS., PHILADELPHIA:

INTRODUCTION.

THE rapid sale of the first and second editions of this little work, and the many complimentary letters received from watchmakers, have convinced us that it has filled a long felt want, since nothing so complete and practical had ever been published.

The first two editions being now exhausted, we publish a third, carefully revised and enlarged, having been led by inquiries from our readers to enter more fully into details, and to explain with greater clearness such points as still seemed difficult to understand. It also contains a much more complete list of material (at reduced prices) for repairing musical boxes.

We hope that this little book will continue to be of great assistance to the many watchmakers and others in the trade who repair musical boxes, and are convinced that all who consult it will find it invaluable.

C. H. JACOT.

New York, January 1st, 1890.

NOTICE.

IN order to save useless correspondence, we will state here that no comb or cylinder can be duplicated, even by the manufacturer, unless the whole box is sent to the factory, which generally would cost more than a new one. But a comb can be made as good as new by us, especially if the box is one of our make. The price of such work is one dollar for each tooth.

If the pins of a cylinder are much damaged, we can replace them, but for CHEAP boxes this is hardly worth while, as the cost of such repairs would almost equal the value of the box.

❖ THE ❖ MUSICAL ❖ BOX ❖

AND HOW TO REPAIR IT.

BY C. H. JACOT

❖ **T**HERE is hardly a watchmaker at the present time who is not called upon, occasionally, to repair a musical box, and there are so many of these instruments in this country, that a competent workman, who is able to repair them properly, will find his skill well remunerated, many of them being quite valuable and belonging to persons who are able and willing to pay liberal prices for good work; yet there are comparatively very few workmen, even among the best watchmakers, who can make these repairs in a creditable manner. We have seen many a musical box thrown aside as worthless that could have been put in order at very little time and expense if it were intrusted to one acquainted with this branch of work, while it often requires much time of one who is not acquainted with the theory of their construction, no matter how skillful he may be in other branches.

The reason is that while the mechanism is very similar to that of a clock, the musical part requires special knowledge, which can be obtained only in the factories where they are manufactured, or from workmen who have been engaged in them, and fully understand all the details and processes of manufacture. In the following article we shall endeavor to give all the directions as clearly as possible in

writing, confining our instructions to the difficulties likely to be encountered by the workman in his repairs of musical boxes, taking for granted that he is a watchmaker, and therefore knows all about wheels, pinions, depths, clickwork, etc., etc. Our instructions, moreover, are limited to what can be successfully accomplished by any intelligent workman, and we would advise him to send to us, or to some specialist (to be found in most large cities), such repairs as present greater difficulties than those explained below.

In order that our instructions may cover every disorder likely to be found in a musical box, we will suppose one that requires a thorough overhauling, and proceed in regular order, as we have practiced it for many years; so that when a musical box is brought to the watchmaker he will be better able to see what is to be done and the best means to adopt, no matter what the difficulty may be.

Examining the Box.

Before the repairer attempts anything let him first examine whether the box has "*run*."

A musical box is said to "*run*" when the cylinder is accidentally disconnected from the fly-wheel (which regulates its speed) while the mainspring is still wound. Hundreds of boxes are ruined by this accident every year, either by some part breaking or getting loose or more frequently by careless removal of the fly-wheel before letting down the mainspring. The controlling force (or governor) being thus removed, the cylinder suddenly whirls with lightning rapidity, bending and breaking the pins and also the teeth of the comb. See Illustration, page 22.

To prevent this accident care must be taken to ascertain that the mainspring is *entirely down* before removing the fly-wheel or any part of the mechanism, for the slightest "*run*" is certain to cause great damage by spoiling the hairsprings (or dampers) and bending the pins out of their proper position.

[We have just patented an attachment (see page 23) that is being introduced in all our boxes, which will render such accidents abso-

lutely impossible, by automatically checking the cylinder when its speed is unduly increased.]

If it has "*run*" on one tune only and this be much damaged, it will be better to suppress it altogether, as will be explained further on, for it will not pay to replace all the broken pins; but if it has "*run*" on all the tunes the box is probably not worth repairing, and it would not be advisable to try as it will never give entire satisfaction either to you or your customer.

In making your estimate of the cost of repairs it is very important to examine carefully the condition of the cylinder pins, for if in bad condition much time will be spent on this part of the work. All the pins must be straight and bent a little *forward*, but never to one side or backward.

As it sometimes happens that a box has previously been taken apart by incompetent persons and put together carelessly, it is necessary, before winding or starting it, to ascertain that nothing is broken and that all screws are tight in place. Unless this precaution is taken, the box might "*run*" in your hands.

If the box is in running order listen how it plays; if it has a dull sound, strike a few light blows on different parts of the cylinder (where there are no pins), and if it sounds hollow, the cement, of which it is half full, does not adhere to the metal (the box having been exposed to an undue degree of heat). Sometimes it has melted so much that the cylinder cannot move on its shaft; more frequently the cement has melted only on one side, or on one end of the cylinder; this can be easily ascertained. The proper way to remedy this defect is by re-cementing, which will be explained further on.

Replacing Pins in the Cylinder.

If the pins have been broken only in few places they can be replaced, but this must be done with great care, as follows :



The broken pins must first be driven into the cylinder to make room for the new one. To do this we use a punch shaped as illustrated in Fig. 1, which is *only to start it*. Then use one a little thinner (see Fig. 2), which will drive it in deep enough *without enlarging the hole*. Now insert a pin a *trifle* thicker than the former, and drive it in with a punch having a hole corresponding to the length of the other pins and just large enough to hold it (see Fig. 3). By this means, when the punch has reached the surface of the cylinder, all the pins will be of equal length, which is very important. However, before driving in the pin entirely, file the end *flat* so that it will fairly catch the teeth of the comb when the box is playing.

We can furnish steel pin-wire, tempered and half cut, of the proper length, ready for use (see price list of material).

Taking the Works Apart.

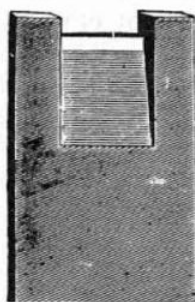


FIG. 4.

The next thing to be done is to take the movement out of the box, by removing the four screws on the outside (mark these so as to return them to their proper places); then place the movement on the bench, taking care that no tools lie under it to bend the pins of the cylinder.

Now remove the comb (the box having stopped at the end of a tune, so as to have no pins in contact with the comb), using a good large screw-driver. In Fig. 4 we give the shape of one we use, which has no chance of slipping and breaking the comb. It is made from an old file.

If the comb is rusted, scrape off the rust, but if this is on the teeth, be careful not to alter the pitch in doing so.

Broken Comb—How to Replace the Teeth.

If one or more teeth are broken, they can be replaced and be as good as new if it is done properly. When several are broken side by side, it is sometimes very difficult to tune them accurately, as it often

occurs that the scale is not marked under the comb, and we may not know how many notes are to be tuned on the same pitch, since the teeth of the musical box are not tuned in regular succession like a piano or organ. In such a case the tone is to be guessed, and your success will greatly depend on your musical talent.

How to Replace a Point.

If only the point of a tooth is broken, it is not necessary to replace the whole tooth, but only its point, as shown in Fig. 5. Raise

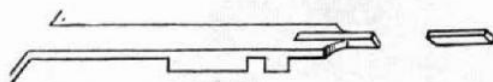


Fig. 5.

the broken tooth by introducing a wire under it and resting it on the others; then with a blowpipe take the temper out of the end of the tooth, just enough so that you can make a small notch with a narrow file; next fit into it a piece of tempered steel, and solder it in place with a small soldering iron; the point must then be finished in the manner explained further on. If the tooth is loaded with lead at the end, care should be taken not to unsolder it.

How to Replace a Tooth.

If only one tooth is broken, take a piece of steel and make one of the same shape as the broken or adjacent ones, with the point a little longer and wider; but a heel must be made as indicated in Fig. 6. Then temper the new tooth, drawing it to a dark blue, in order that it can vibrate and at the same time be filed; then scrape clean its heel, so that the solder may flow. In the steel block of the comb make a notch with a file of



Fig. 6.

the same width as the tooth, as shown in Fig. 7. Put it in place firmly enough to remain in position while it is being soldered. Then

take a heavy soldering iron, such as is used by tinner, and solder it with soft solder and soldering fluid, care being taken that the solder runs all around it. Wash the comb in water, then in alcohol, to remove all traces of acid, and scrape off all superfluous solder. If the job is done properly the new tooth will sound as well as the others, and hardly show the mending.

In scraping, as well as in tuning, great care must be exercised not to file the other teeth, for very little filing, or even rubbing, with emery paper will lower the pitch, and, consequently, put them out of tune.

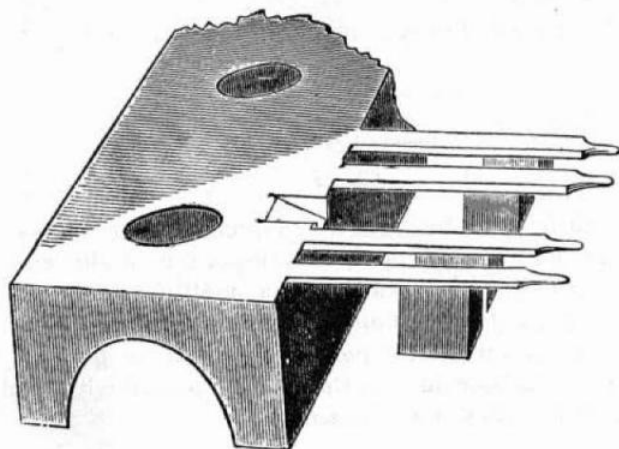


Fig. 7.

N. B.—When several teeth are broken side by side it will be necessary to procure from a material dealer a piece made in the factory for that purpose, having the same number of teeth and matching it in every way.

The tooth must then be finished and tuned by filing underneath. Finish the point of the tooth by filing it to its proper width to correspond with the other points, and at the same time to bring it exactly midway between the two adjacent points. To make the point of the exact *length*, hold the comb perpendicularly with the teeth resting on a piece of plate glass. This will readily show how much the point is to be reduced in order to bring it to the proper length. Be very careful not to make it too short.

Now bring the point of the tooth exactly to the same level. If it has to be lowered or moved to the right or left, it can be done in the following manner :

To shift it to the right or left, place the tooth so that it will rest evenly on a flat and tempered anvil (see Fig. 8), and strike on the left to move it to the right, with the sharp end of the hammer (two or three strokes will suffice), and *vice versa* ; the tooth must be struck on the under side. To raise or lower a tooth, the anvil must be tempered and cut like the edge of a file (see Fig. 9) ; hold the tooth evenly on the anvil, strike a few blows with a small, flat, *soft* hammer, and the tooth will bend upward. Great care must be taken when doing this, since a tooth is easily broken with the hammer.

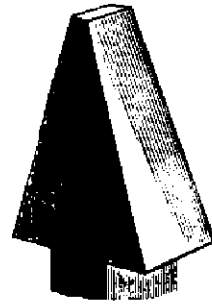


Fig. 8.

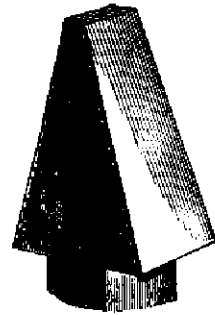


Fig. 9.

The comb now being repaired, replace it on the bed plate, and the line of dots made on every cylinder will enable you to see whether the new points are in their proper positions. To be fully convinced make the box play a few tunes, and if the pins pass in the centre of the points they are true ; if not, correct as directed above.

Tuning New Teeth.

The next thing to be done is to tune the new tooth or teeth. Take a piece of brass a little thicker than the width of the tooth, fasten it in the vise, and make a notch lengthwise on the edge, as long as the tooth ; then rest the tooth in it, with the under side up, and press the comb down, so as to make the tooth rise enough to be filed without danger of filing the others.

Use a square file, made for that purpose, about a quarter of an inch wide and six inches long, and sold by us. File the tooth near the point to raise the pitch, and near the heel to lower it. With regard to the teeth loaded with lead, it is only necessary to add to or cut from it.

If the tooth needs a hairspring, put it on before tuning, or the weight of the pin will alter the pitch.

If no teeth are broken, see if any of the points are worn; if so take an oil stone as long as possible and perfectly flat, and pass it two or three times over all the points, then examine whether they have all been touched, and repeat the operation, if necessary. A piece of plate glass with powdered oil stone will be still better.

If the box is old or has "*run*," the points are generally rounded, and the teeth are liable to slip aside from the pins, making a bad sound. The point must be flat underneath to give a clear, good tone.

Hairsprings.

We now come to the part most troublesome to watchmakers; that is, repairing the hairsprings or dampers, and for this reason we shall enter into some details. As they are of the first importance to insure the proper performance of the box and are easily damaged, the repairer must understand their use thoroughly and how to shape them, otherwise the box will give certain disagreeable, whistling sounds, which greatly impair the effect of the music.

This squeaking sound is produced by the sudden stopping of the vibrations of the steel tooth, caused by several pins coming in close succession under the same tooth; and the object of the hairspring is to stop these vibrations gradually, before the point of the tooth rests on the pin. Consequently, for the lower notes, which are loaded with lead, the hairspring must be stiffer than for the higher; but in repairing, it is easy to find the proper strength as generally only a few are missing, and it can be ascertained from the one next to it. The steel for hairsprings is sold by the foot, and numbered according to strength from No. 1 to 8, No. 1 being the stiffest.

Replacing Hairsprings.

Examine each hairspring, and break off all those that are worn or have a sharp bend (these having been caught between the tooth and pin); then place your comb upside down on a smooth piece of board about the width and length of the comb. Remove the pins

which held in place the hairspring, with a pair of small flat pliers, or by pushing them out from the back, and lay them on the bench *in the same order in which you take them out* so as to know where they belong, for if changed they may alter the pitch of the teeth. Then take your hairspring wire, introduce it in the hole, push the pin in firmly and cut the steel one-eighth of an inch longer than the point, and so on, for each one. When this is done straighten one of the original hairsprings to ascertain its exact length. To do this we use a gauge made of sheet brass bent at a right angle and of a graduated thickness on the edge (see Fig. 10). Place the gauge under the comb, as it lies inverted with the angle resting against the points of the teeth, and the straightened hairspring projecting over the edge of the gauge. Move the gauge to either side until the projection of the hairspring corresponds with the thickness of the gauge, and note the exact place on the gauge. Having thus obtained the measure, cut the other hairsprings the same length, by resting the cutting pliers against the edge of the gauge. Use a sharp pair of pliers for this operation. It is important to have the hairsprings all of the same length, or they will be irregular in shape.

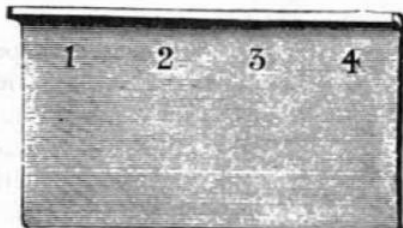


Fig. 10.

Speed Regulated

To make the box play slower, work the wings of fan together in pushing on them so as to make them smaller.

Shaping the Hairspring.



Fig. 11.

To give the shape and curve to the hairspring we use a pair of tweezers made for that purpose (see Fig. 11). Hold the comb upside down, horizontally, in your left hand; then, with the tweezers pressing lightly the hairspring, describe a curve with them, allowing the hairspring to slide slowly through. Repeat this operation two or three times, until it is of the same shape as those which have not been disturbed, or as Fig. 12. The hairspring must come nearly to the end of the point, but without touching it; the curve should be even and without any sharp bend, so that it will recede before the pin and press upon the point of the tooth, stopping gradually its vibrations (see Fig. 12).

Any jeweller or watchmaker having musical boxes to repair ought to practice this operation until successful, since it is the greatest difficulty in repairing these instruments, and a good workman can always command high prices for this kind of work.

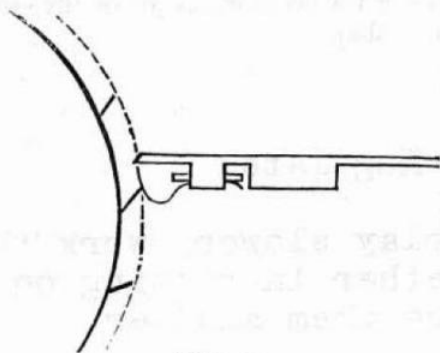


Fig. 12.

Besides those provided with a hairspring the comb has a number of teeth furnished with sections of barbs from ordinary hen feathers, which answer the same purpose as the hairspring for stiffer teeth. To replace them, follow the same directions as for small musical boxes.

Squeaking in Small Musical Boxes.

In small musical boxes the most common defect is the squeaking of the comb. This occurs as in large instruments, when the dampers under the points are worn or have dropped off. Instead of hairsprings, however, barbs from ordinary hen feathers are used as dampers, but do not last as long, and must therefore be replaced more frequently. Replace them as follows:

Lay the comb inverted on a small wooden block, and with a knife or screw-driver scrape carefully the old dampers and shellac. The dampers should be cut from the wing feather of a hen, with a sharp pair of scissors; Fig. 13 shows the only serviceable part of the feathers. Since barbs differ in width, they must be selected so as to correspond exactly to the width of the points.

The composition used for gluing the dampers is a thick solution of shellac in alcohol, with the addition of a little fine sealing-wax, to prevent snapping in the cold.

Hold the strip of barbs that have been cut, between the thumb and index finger of the left hand, and with a pair of tweezers separate one barb after the other, dip the *wide end* in the shellac and lay the flat side on the point, leaving the end projecting beyond the tooth. When all the dampers have been so placed and before the shellac is dry, see that each one is straight and covers the point. Then set it aside to dry, which will take about twelve hours. When dry, they are cut *even* with the points, using a pair of scissors.

In replacing the comb, follow the same directions as for large boxes (page 19).

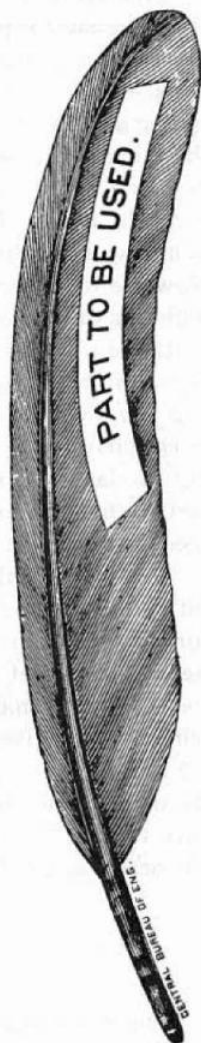


Fig 13.

Repairing the Fly-Wheel Train.

We are now ready to examine the fly-wheel and train, and make the necessary repairs. If the box will run let it run down *entirely*, and to make sure that the mainspring is completely uncoiled, lift the click on the barrel bridge. If it will not run, let down the main spring as you would that of a clock, by holding the lever and raising the click. We repeat it again here: *Never unscrew the fly-wheel or any part of the mechanism without ascertaining if the mainspring is entirely uncoiled; and, particularly, when the comb is in place.* When you are thus sure that there is no danger, remove the fly-wheel. Now see if the cap jewel is worn by the point of the fly-wheel staff, which is often the case; if so, put in a new one, or, if you have none, shift the plate so that it will work on another spot, *but be sure to repolish the end of the fly-wheel staff*, which must be rounded, or the cap jewel will soon be worn again and cause the box to stop or go irregularly. See if the pivot holes, and especially the upper one, are not too large; if so, bush them, or they will cause the fly-wheel to rattle when in the box. See also that the fly-wheel check is not too loose, nor so stiff as to check the fly-wheel too suddenly.

Then see if the small wheel next to the fly-wheel is in good condition; if the teeth are worn or have been injured, replace it at once, for in trying to repair it you will only lose your time. In placing the new wheel, rivet it well so that there will be no danger of its getting loose, for this may cause the ruin of the box. See also that the other wheel is well riveted. Then have all parts well cleaned as you would a French clock; put them together. Oil all the pivot holes and the fly-wheel staff where in contact with the wheel. Now try if they will turn freely; if not, adjust the depthing of the fly-wheel by turning the screw at the back of the bridge, then lay it aside until later.

Mainspring Barrel.

Next, examine the mainspring barrel. See that the click work on the lever bridge is in good order, and that the hole in the bridge is not too large. In removing the stopwork make a mark in the arbor so as to be able to replace the male stopwork in the same position. If the mainspring is stuck on account of bad oil, it must be taken out and cleaned. Oil the mainspring before replacing it in the barrel;

put the arbor with the barrel containing the mainspring on a lathe and polish it clean, and polish all the parts and put them together. Use good clock oil for the spring as well as everywhere. The click screws must be screwed in firmly and have a little oil on them, or they will work loose and may cause an accident. The lever must work a little stiff. A piece of drum-skin is to be placed between the lever and washer to lessen the friction, and all parts should be oiled. Leave the female stopwork to be placed later on, as we shall show.

The Cylinder.

RE-CEMENTING THE CYLINDER.

In order to secure the pins as well as to give body to the cylinder, which is of thin metal, it is partially filled with cement. This cement must adhere closely to the circumference, for if from heat or any other cause it should become detached, the box in playing will give a dull metallic sound, which can be remedied in the following manner :

Take all apart, including the start wheel. Then oil well the *cylinder-shaft* and *pin* with common oil, to prevent the cement from adhering to them when melted, and put it on a lathe large enough for that purpose ; see that it is well secured but turns freely, with the points oiled. Now take a shallow but wide tin-pan, put some alcohol in it and light it, keeping it under the cylinder, revolving the cylinder slowly with the hand and moving the pan from right to left in order to heat it uniformly. When you see the cement come out of the pin-hole at the right end of the cylinder, remove the pan and make the cylinder to revolve as rapidly as possible in order to drive the cement against the sides of the cylinder. As it gradually cools, revolve slower until it is cold enough to be taken in the hand (for a large cylinder, this requires about half an hour). Take it quickly from the lathe, pull out the shaft and remove the cement from around the pin-hole while it is soft, still turning it in the hand ; now let it cool entirely (half a day at least). The whole operation must be performed very carefully, as the least mishap may cause a disaster. If overheated, the left end of the cylinder might be forced out, and the cement escape. If cooled too suddenly the cement will not adhere well to the metal. When perfectly cold the cylinder is to be polished,

and the best way to do this is to place it on a lathe, the same way as for re-cementing. Take a mixture of powdered scouring brick, or tripoli and alcohol, and spread it all over the cylinder; then, with a wide, stiff brush pressing on the cylinder, make it revolve very rapidly, and in a few minutes it will be as bright as new. Polish until the alcohol is entirely evaporated and the cylinder perfectly bright and clean. Then take a sheet of thick paper, the width of the cylinder, and wrap it around, so that in handling, the warmth of the hand will not be felt. It is useless to say that in handling the cylinder the greatest care must be taken not to bend or break the pins.

Suppressing a Tune.

When only one tune has been ruined by a "run," it is best to suppress it altogether, which may be done as follows: While that air is playing make a mark on the side of the star wheel at the spot where the cylinder stud rests; then take it apart and file the portion marked to the height of the preceding tune, which it will repeat. When the damaged tune is either the first or the last, you can substitute any of the others instead, by filing or soldering a piece of brass of the proper height. Or, by making that tooth of the star wheel longer, the tune will be skipped altogether. See that the end of the stud is properly rounded and polished, so as to slide easily over the incline of the star wheel.

Putting the Works Together.

When everything is nicely polished and cleaned you may commence putting together. The cylinder shaft must be well cleaned, and the cement carefully removed from it. Screw on the star wheel with a drop of oil under it; then pass an oiled rag over the polished part of the shaft with just enough oil to moisten it, but never put any oil there, for in contact with the cement it will thicken so as to prevent its sliding readily. Clean the holes of the cylinder, making sure that no cement is left in or near them. Put it in place with the spiral spring and pinion, the latter with the number on the same side as the one stamped on the shaft; try if the cylinder slides easily on the shaft. Screw on the bridges and see if the shaft is perfectly free without the

least end-shake, for if there were any it would be impossible to make the box play properly. In this case give a light tap with a hammer on the side of one of the bridges, and try again the play. If too stiff, strike on the end of the shaft with a piece of brass so as not to injure the point. Now put on the barrel, screw it firmly and see that the clicks work properly. Then screw on the fly-wheel train, and wind the spring a little to see if the fly-wheel turns freely. Put the stop piece in its place on the train-bridge, and see that when the pin falls in the notch of the cylinder wheel the other end stops the fly-wheel instantly.

This done, wind the spring fully, and let it run down a quarter of a turn, enough to place the female stopwork in its proper position, so that, in winding, the strain will be on the stopwork and not on the mainspring. If the male stopwork is not placed properly, turn it towards another side of arbor. Now put in its place the steel piece that causes the air to change; let the box run, and see if the cylinder shifts easily and if the star wheel has moved just enough for the stud to rest on the flat space; if it goes too far it will make the pins catch on the edge of the points of the comb, or sometimes two tunes will play at a time, making a horrible discord and spoiling the hairsprings.

To Put the Comb in Place.

We are now ready to replace the comb, which has been previously set in order. Clean the upper surface with a little oil, and give it the finishing touches by rubbing in the direction of the teeth with the palm of the hand. Now put on the comb (the box being stopped at the end of a tune), and fasten it with only three or four of the screws, as it will probably be necessary to take it off several times. Let it run slowly, checking the fly-wheel with your finger, and look if the pins pass directly under the centre of the points; if not, turn the cylinder stud in or out. If it is of a kind that cannot be turned, shift the comb with a good-sized hammer, striking on a large nail or piece of soft iron resting against one of the screw holes. See also that the teeth of the same chord fall at the same instant at both ends of the comb. The end falling late is too near; shift it back. Be careful not to place the comb too close to the cylinder, for the hairsprings will get spoiled, the sound of the box will be harsh, and should the steel be hard-tempered some of the teeth might break. If too far, on the

other hand, the box will not sound loud enough, and, the hairsprings not working, the box will squeak.

Now, see how the hairsprings work. If they have been shaped as directed, they will not require much alteration. But if any of the hairsprings have not been properly shaped it will be now detected. Remember that they must come as near as possible to the end of the point without touching it. See also that no pins are bent to the right or left, else they will catch the points in the wrong tune and make a disagreeable noise; they must be straightened. Do not mind a few broken pins, they will not be noticed; but if bent, and catching the wrong point, they cannot fail to attract attention.

If the pins should pass in the centre of the points on all tunes but one, the star wheel has been injured; punch it on the side so as to raise the spot where the cylinder stud rests.

If you have a musical box with two or more combs, care must be taken that all the notes of the same chord fall at the same instant on all the combs. To ascertain this, hold the fly-wheel with the finger, and let it play very slowly, and you will be better able to see if they do so; but always fix one at a time, never attempt to set two combs at once. In this way also, it is much easier to detect any defect, either from hairsprings or bent pins. When the combs are in proper position and the hairsprings all fixed, put in all the screws and fasten them very firmly, or the box will not sound well. Remember that in musical boxes every screw must be driven as firmly as possible.

Now put the movement back in the case and the four screws that secure it, but without screwing them in entirely; slip in the metal wedges opposite the screws, and drive in the screws hard. If any of the wedges are loose put in thicker ones, for the bed plate must press firmly against the box, or it will lose much of its tone. See that the start and change pieces are not too loose on the sideboard, then put it in place as well as the one on the left side.

Now listen while it plays, and if there is any rattling or disagreeable noise it is caused by something loose about the box, that vibrates when a corresponding note of the comb plays—either the washers of the case screws, the lock or any metallic appendage, or something lying loose in the bottom of the case. The lock should be well clogged with wax or grease to prevent rattling.

If the musical box has bells, see that the hammers stand neither too near nor too far.

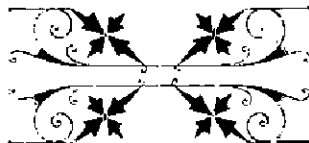
Finally, take a piece of wide broken mainspring about ten inches long, and oil it well on the convex side. Then, while the box is playing, pass it over the steel pins of the cylinder, in order to prevent wear and a screeching noise. Care should be taken, however, that the oil does not spread over the surface of the cylinder.

Recapitulation.

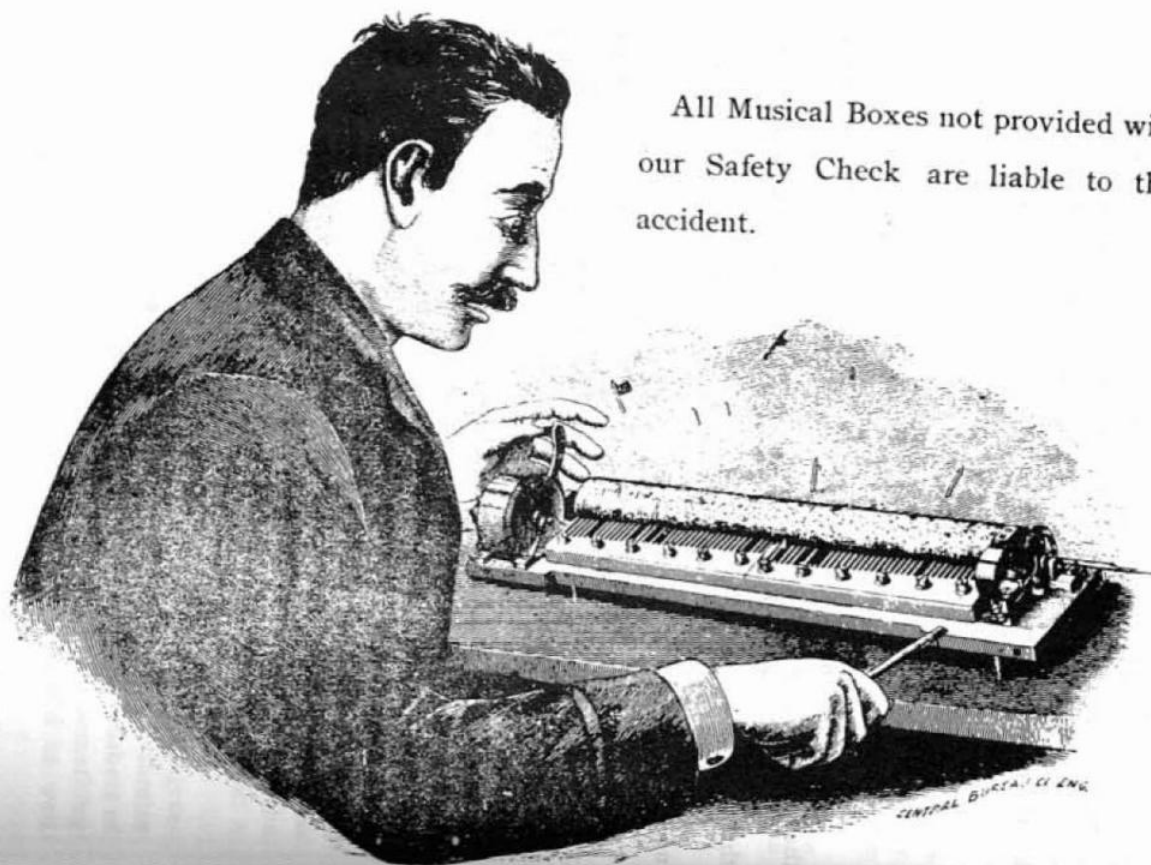
For better understanding, let us recapitulate the order in which the work is to be done :

- (1) Examine the box to see whether it is worth repairing; see that it has not "run."
- (2) See if the cylinder needs re-cementing; this is frequently necessary in this climate.
- (3) Repair the comb, in case any teeth are broken.
- (4) Examine the hairsprings, and replace them where necessary.
- (5) Repair mechanism, from fly-wheel to barrel, and clean it.
- (6) Put together in the following order: Cylinder, mainspring barrel, fly-wheel train, finally the comb.

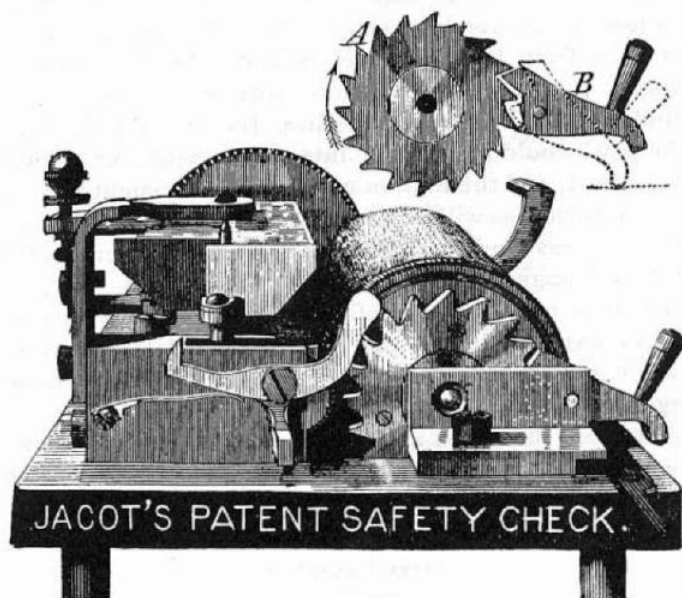
There is a great variety in the sizes and styles of musical boxes, but the above instructions will apply to nearly all of them, and will enable any intelligent watchmaker to repair them satisfactorily.



All Musical Boxes not provided with
our Safety Check are liable to this
accident.



NO MORE RUINED MUSICAL BOXES
 WITH JACOT'S
PATENT * SAFETY * CHECK.





Musical boxes are operated by one or several powerful springs, the speed being controlled and regulated by a series of wheels and pinions terminating in a fly-wheel. Now if the fly-wheel be broken or removed, or any of the wheels get loose from the pinion when the spring is wound, the cylinder will revolve with lightning rapidity, causing the partial or complete ruin of the instrument, by bending and breaking the pins on the cylinder as well as the teeth of the comb, as illustrated on page 22.

In order to prevent this destructive "*run*," (which, as dealers well know, is constantly occurring), we have invented and patented an attachment, illustrated on preceding page, which for simplicity of construction and perfection of action can never be equalled.

Secured rigidly to one end of the shaft of the cylinder is a ratchet wheel A, formed as clearly shown in the engraving. Pivoted so as to engage with the teeth of this wheel is a pawl B, having a weighted outer end; the upper part of the inner end of the pawl is formed to fit the recesses of the teeth, and the lower part is so formed that each tooth, as it moves by, will raise the outer or weighted end. This movement brings the upper inner end of the pawl into one of the recesses, but before the tooth touches it, the lower part is freed from its tooth, allowing the weighted end to drop and thereby remove the upper part away from the wheel, as indicated by the dotted lines. This motion is, of course, made possible only by the slow movement of the cylinder. But if, from any cause, the cylinder should move rapidly, the pawl would be brought into engagement with one of the teeth of the wheel, and the motion of the cylinder would be instantly arrested. The device, as will be understood, is positive and absolutely reliable in its actions, and can be placed upon any instrument without necessitating a change in the arrangement of the parts.

Another important feature of this attachment, which will be appreciated by watchmakers, is that it can be used for checking the cylinder while the fly-wheel is removed for cleaning or repairing, thus saving the trouble of letting down the spring.

 To release the check after the fly-wheel is replaced, turn the latter a few times *backward* and the check will fall off itself. 

N. B.—All our boxes are provided with this indispensable attachment which we hold exclusively.

MATERIAL FOR LARGE MUSICAL BOXES.

BEFORE ORDERING MATERIAL, READ CAREFULLY THE DIRECTIONS
ON INSIDE BACK COVER.

					NET CASH PRICES.	
					Each.	Dozen.
1	Mainspring,	$\frac{3}{4}$ -in. wide,	$1\frac{5}{16}$ -in. diam.,	. . . . .	\$0.30	
2	"	$\frac{7}{8}$ -in. "	$1\frac{7}{8}$ -in. "	. . . . .	.50	
3	"	$1\frac{1}{8}$ -in. "	$2\frac{1}{4}$ -in. "	. . . . .	.80	
4	"	$1\frac{3}{8}$ -in. "	$2\frac{1}{4}$ -in. "	. . . . .	1.00	
5	"	$1\frac{1}{2}$ -in. "	$2\frac{3}{8}$ -in. "	. . . . .	1.25	
6	"	1-in. "	$1\frac{7}{8}$ -in. "	for boxes with bells.	.70	
7	"	$1\frac{3}{8}$ -in. "	$2\frac{3}{8}$ -in. "	"	1.25	
8	"	$1\frac{5}{8}$ -in. "	$2\frac{3}{8}$ -in. "	"	1.25	
9	"	$1\frac{1}{2}$ -in. "	$3\frac{1}{8}$ -in. "	"	2.50	
10	"	$1\frac{5}{8}$ -in. "	$2\frac{3}{8}$ -in. "	Interchangeable cyl. boxes.	1.25	
11	"	$1\frac{3}{4}$ -in. "	$3\frac{1}{2}$ -in. "	"	3.50	
12	Male Stopwork for	6-inch cylinder box and under,			.15	\$1.20
13	"	13-inch " "			.20	1.60
14	"	17-inch " "			.30	2.40
15	"	extra large boxes, . . . . .			.40	3.20
16	Female	6-inch cylinder box and under, .			.15	1.20
17	"	13-inch " "			.20	1.60
18	"	17-inch " "			.30	2.40
19	"	extra large boxes, . . . . .			.40	3.20
20	Ratchet Wheel,	$\frac{5}{8}$ -inch diameter, . . . . .			.10	.80
21	"	$\frac{3}{4}$ "	" "	. . . . .	.15	1.20
22	"	$\frac{7}{8}$ "	" "	. . . . .	.20	1.60
23	"	1 "	" "	. . . . .	.25	2.00
24	"	$1\frac{1}{8}$ "	" "	. . . . .	.30	2.40
25	"	$1\frac{1}{4}$ "	" "	. . . . .	.40	3.20
26	"	$1\frac{3}{8}$ "	" "	. . . . .	.50	4.00
27	Click, for	6-inch cylinder box and under, . . . . .			.10	.80
28	"	13-inch	" "	. . . . .	.15	1.20
29	"	17-inch	" and over, . . . . .		.20	1.60

MATERIAL FOR LARGE MUSICAL BOXES—Continued.

		Each	Dozen.
30	Cylinder Pinion, $\frac{1}{2}$ -inch diameter,	\$0.20	\$1.60
31	" $\frac{3}{8}$ -inch " . . . . .	.30	2.40
32	" $\frac{5}{8}$ -inch " . . . . .	.40	3.20
33	" $\frac{1}{2}$ -inch " . . . . .	.50	4.00
34	" $1\frac{1}{8}$ -inch " . . . . .	.70	5.60
35	" $1\frac{3}{8}$ -inch " . . . . .	.80	6.40
36	First Wheel, with pinion, . . . . .	.50	4.00
37	" " extra large, . . . . .	.75	6.00
38	" without pinion, . . . . .	.25	2.00
39	" " extra large, . . . . .	.40	3.20
40	Second Wheel, with pinion, . . . . .	.40	3.20
41	" " extra large, . . . . .	.75	6.00
42	" without pinion, . . . . .	.20	1.60
43	" " extra large, . . . . .	.35	2.80
44	Endless Screw, for $4\frac{1}{8}$ -in. cylinder box, $11\frac{1}{2}$ -in. long, . . . . .	.25	2.00
45	" $4\frac{7}{8}$ to 6-in. " $11\frac{1}{2}$ -in. long, . . . . .	.30	2.40
46	" $8\frac{1}{8}$ to 13-in. " $12\frac{1}{2}$ -in. long, . . . . .	.35	2.80
47	" 13-in. cyl. interch. box, $2\frac{3}{4}$ -in. long, . . . . .	.50	4.00
48	" $17\frac{1}{8}$ -in. cyl. interch. box, $2\frac{9}{16}$ -in. long, . . . . .	.75	6.00
Measure Endless Screw, from shoulder of lower pivot to end of the upper pivot.			
49	Endless Screw Fan, . . . . .	.23	2.00
50	Click Spring, small, . . . . .	.05	.40
51	" large, . . . . .	.10	.60
52	Click Screw, . . . . .	.05	.30
53	Stopwork Screw, . . . . .	.05	.30
54	Comb Screw, . . . . .	.05	.30
55	Cylinder Bridge Screw, . . . . .	.05	.30
56	Barrel Bridge Screw, . . . . .	.05	.30
57	Fly-wheel Train Screw, . . . . .	.05	.30
58	Fly-wheel Bridge Screw, . . . . .	.05	.30
59	Click Spring and Cap Jewel Plate Screw, . . . . .	.03	.20
60	Casing Screw, small (to fasten movement in case), . . . . .	.10	.80
61	Casing Screw, large (to fasten movement in case), . . . . .	.15	1.20
62	Hairspring Wire, per foot, . . . . .	.05	
63	Cap Jewel, . . . . .	.10	.75
64	Piece for mending Broken Combs, per tooth, . . . . .	.10	.80

MATERIAL FOR LARGE MUSICAL BOXES—Continued.

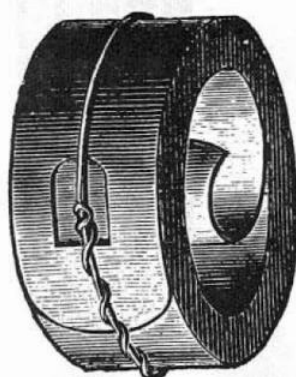
	Each.	Dozen.
65 Pins for Cylinder, per 200,	\$0.05	
66 Lock for Large Boxes, small, . . . . .	.25	\$2.00
67 Lock for Large Boxes, large, . . . . .	.35	
68 Key for Lock, . . . . .	.10	
69 Steel Washers for Comb, . . . . .		.15
70 Star Wheel to Change Tunes in Large Box, . . . . .	.35	3.20
71 Fly-wheel Check, . . . . .	.05	.30
72 Bracket to hold open the Lids of Large Boxes, . . . . .	.40	3.20
73 Hasp, small, . . . . .	.10	.80
74 Hasp, large, . . . . .	.15	1.20

Nos. 73 and 74 are intended to remedy the shrinkage of the lids of large and small boxes by moving forward the stud.

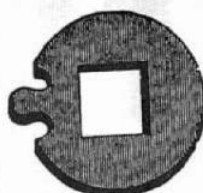
MATERIAL FOR SMALL MUSICAL BOXES.

	Each.	Dozen.
100 Mainspring for 1-Tune Box,	\$0.10	\$0.80
101 Mainspring for 2, 3 and 4-Tune Box, . . . . .	.15	1.20
102 Mainspring for 6 and 8-Tune Box, . . . . .	.20	1.80
103 Barrel Arbor and Wheel, complete, . . . . .	.30	2.40
104 Barrel Arbor, . . . . .	.10	.80
105 Barrel Wheel, . . . . .	.10	.80
106 Click Spring, . . . . .	.05	.30
107 Click Spring, flat, . . . . .	.05	.30
108 Click, . . . . .	.05	.30
109 Male Stopwork, . . . . .	.05	.30
110 Female Stopwork, . . . . .	.05	.30
111 Cylinder Wheel, . . . . .	.10	.80
112 Cylinder Pinion, . . . . .	.05	.35
113 First Wheel, with Pinion, . . . . .	.15	1.20
114 Second Wheel, with Pinion, . . . . .	.15	1.20
115 Third Wheel, with Long Pinion, . . . . .	.15	1.20
116 Third Wheel, without Pinion, . . . . .	.05	.30
117 Endless Screw, complete . . . . .	.15	1.20
118 Steel Cap Disk, . . . . .		.15
119 Comb Screw, . . . . .	.05	.30
120 Barrel Screws, . . . . .		.15
121 Casing Screws, . . . . .		.15
122 Fly-wheel Bridge Screws, . . . . .		.15
123 Sundry Screws, assorted, . . . . .		.15
124 Winding Key, . . . . .	.05	.30
125 Endless Screw for Crank Boxes, . . . . .	.15	1.20
126 Crank for Small Boxes, . . . . .	.05	.30
127 Files for Tuning Mended Combs, . . . . .	.35	2.80
128 Files for Notching Combs, . . . . .	.25	2.00
129 Files for Notching Teeth of Combs, . . . . .	.15	1.20
130 Tweezers for Shaping Hairsprings, . . . . .	.50	4.00
131 Gauge for Measuring Hairsprings, . . . . .	.25	2.00

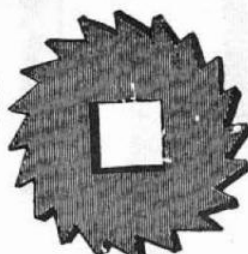
Material for Large Musical Boxes.



1 to 11



12 to 15



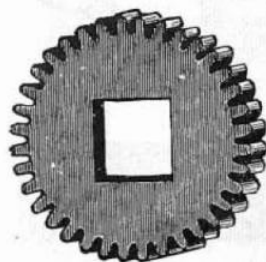
20 to 26



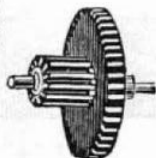
27 to 29



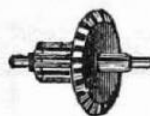
16 to 19



30 to 35



36



40



45



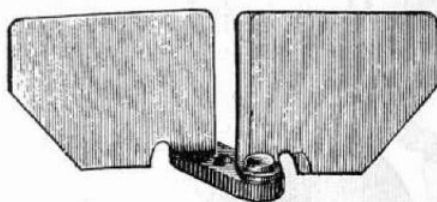
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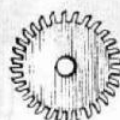
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62



49



42



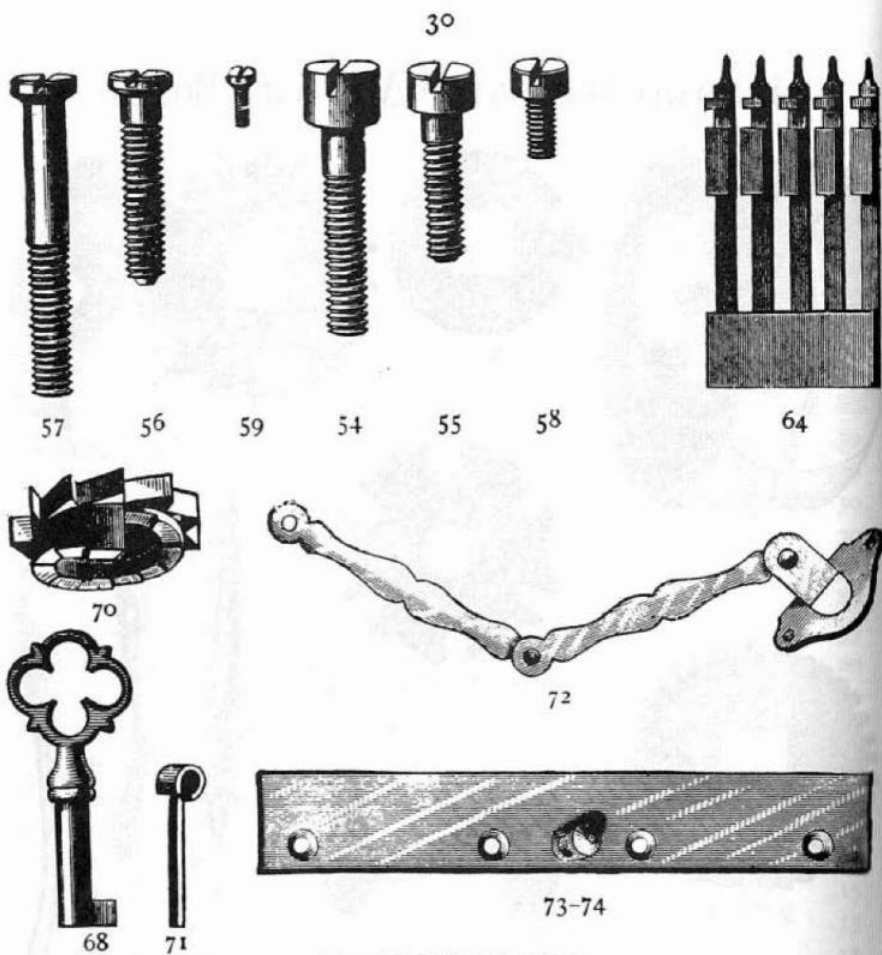
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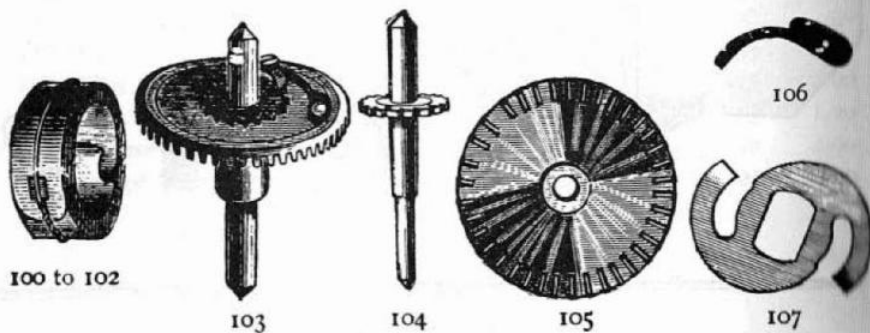
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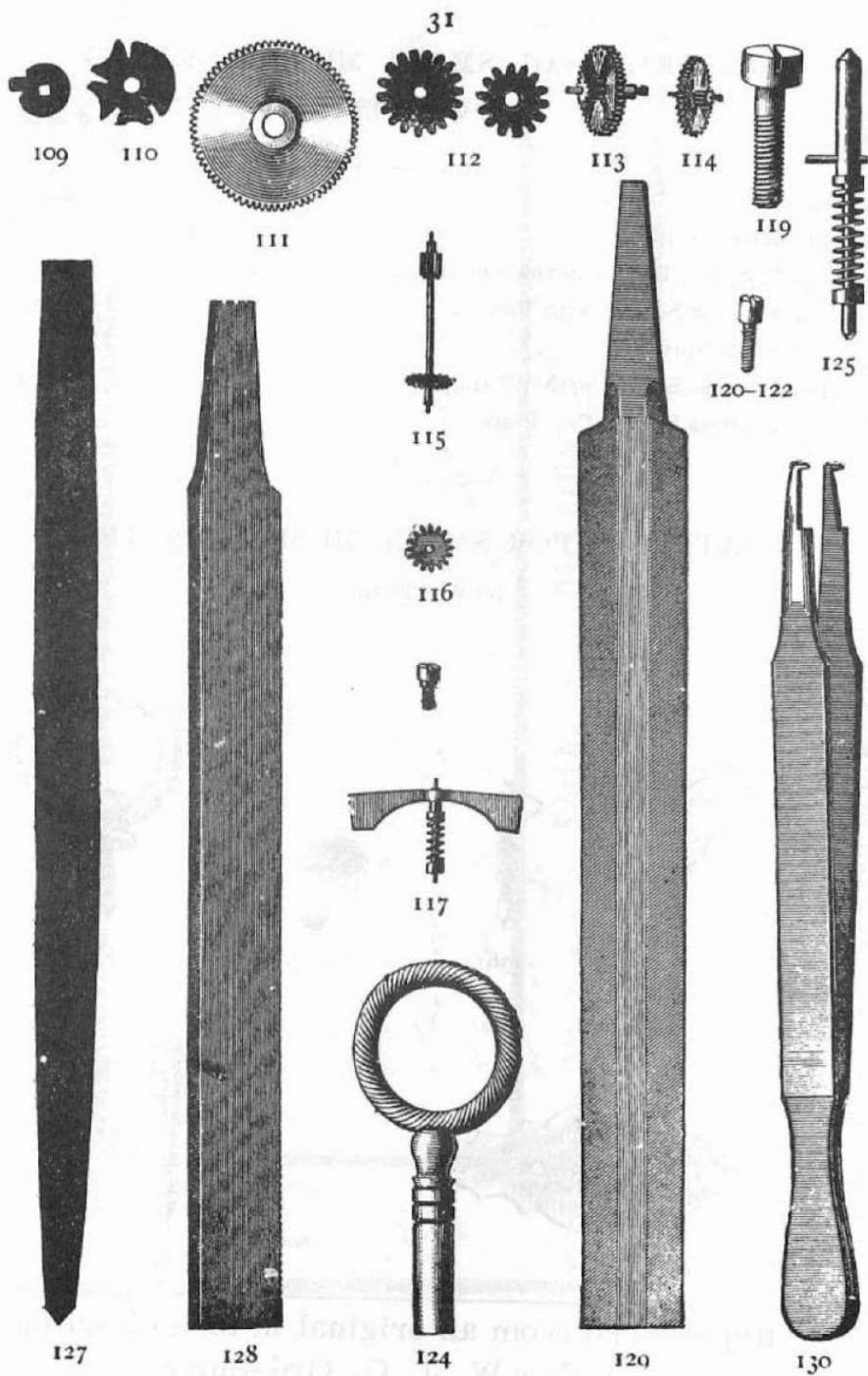


65 (enlarged).



Material for Small Musical Boxes.





MATERIAL FOR SMALL MUSICAL BOXES.

NEW STYLE.

No.	Each.	Dozen.
132 Barrel Bridge,	\$0.10	
133 Winding Key to Screw on Arbor, . . . . .	.10	\$0.60
134 Endless Screw, with Fan, . . . . .	.20	2.00
135 Click Spring, . . . . .	.05	.30
136 Endless Screw, with Wheel, . . . . .	.25	2.50
137 Endless Screw, Cap Plate,05	.30

MATERIAL FOR SMALL MUSICAL BOXES.

NEW STYLE.



135



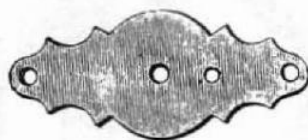
136



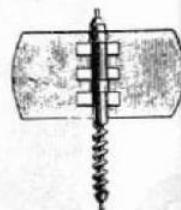
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133



132



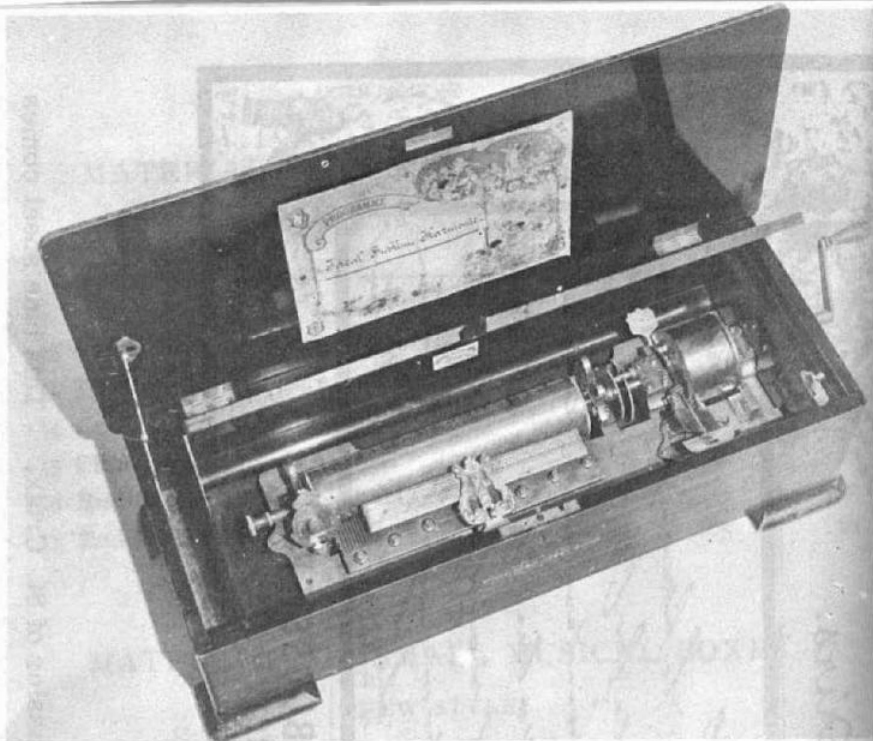
134

8 Airs.

1. The Fairy's Melody *Sporley*
2. Nocturne d'Alma Le Grandpied *Flaming*
3. Galop du chemin de fer *Strang*
4. Girandola's fleur printemps *Adams*
5. The snowdrop waltz No 3 *Tresor*
6. Adieu then sweet maid *Recher*
7. The opulent's goodnight *Wilton*
8. Pour l'air involontaire *Chen des*

SALLAZ & OBOUSSIER
à ST^E CROIX

A new name to many of us is Sallaz & Oboussier of St. Croix. This tune sheet comes from an early key-wind box of c.1850 and is reproduced by courtesy of Member Graham Webb. The movement has a brass bedplate and is similar in characteristics to Nicole Freres and Lecoultre of the period.



Although obviously produced in quantity, the Mermod interchangeable cylinder machine box depicted here is scarce by all accounts. Made in about 1895, it features the usual horizontal endless screw and fan which incorporates a speed regulator and a delicately-sprung compensator to minimise the effects of speed variations when the box plays large chords. Called Ideal Sublime Harmony, the box is fitted with the Mermod 'Parachute' check and also a combined tune indicator and selector. All parts are nickel plated and the machine has three cylinders. Note the tune sheet, device for tune titles!

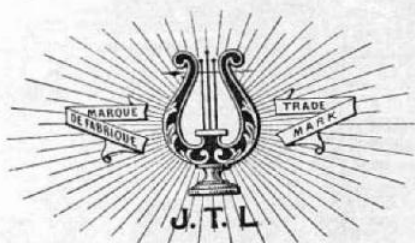
(From the collection of The British Museum)

LAST year we reprinted an extract from the Paris catalogue of Thibouville-Lamy. Now, by courtesy of Mr. J. C. Day who is manager of Thibouville-Lamy at 10, Charterhouse Street, London, we reprint part of the London catalogue of 1906. They established their London office at 10, Charterhouse Street, they suffered a very serious set-back when fire gutted the premises only six months after they moved in. Rebuilt, they enjoyed many years of business there until the bombing of the area razed most of the area.

This catalogue reveals several interesting points. First is the fact that they were still manufacturing barrel-organs as late as 1905 and secondly that the accordion-like bird-organ was also still in production at this time, unaltered in design and construction for over 150 years.

ESTABLISHED 1790.

Manufacturers of Musical Instruments
OF EVERY DESCRIPTION, AND OF
HARMONIC STRINGS.



JEROME THIBOUVILLE-LAMY & Co.,

10, Charterhouse Street,

*Factories at
Grenelle, Mirecourt,
and La Couture.*

LONDON, E.C.

Hors Concours Member of the Jury Universal Paris
Exhibitions, 1878, 1889, 1900.

Telegraphic Address: "TIBOUVIL, LONDON."

This Catalogue cancels all previous publications.

— 1905. —

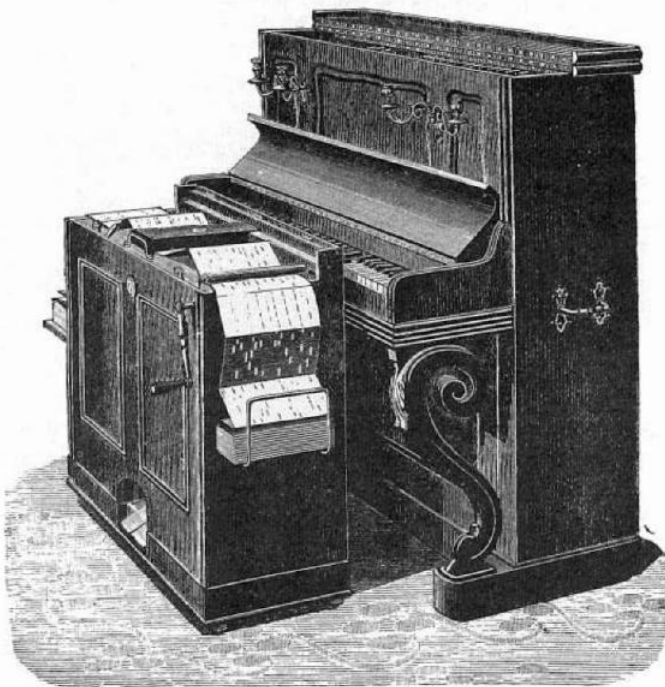


VIEW OF OUR PARIS SHOWROOMS

PIANISTA THIBOUVILLE.

View of the Pianista placed before the Piano.

By means of the Pianista one can play the piano with expression, without any knowledge of music whatever.



This apparatus can be adapted to any piano either of English or foreign make.

View of the Pianista ready to be played.

LATEST IMPROVEMENTS.

Pianista Patented S. G. D. G.

JEROME THIBOUVILLE-LAMY'S patent **Pianista** with double pneumatic action has numerous advantages over the old system.

Besides the simplicity of the mechanism, which is a guarantee for durability, the double bellows give a greater power of touch and more precision in the fingering. The expression is also rendered more effective and the resistance of the handle is greatly diminished.

The direct action of the small bellows on the valve of the large ones reduces by more than $\frac{3}{4}$ the pressure of the notes of the Pianista; which permitting the use of merely paper, diminishes considerably the price of the music.

The result is therefore:—1st, Economy; 2nd, Strength and Durability; 3rd, Execution—clear and expressive.

The **Pianista** far excels any other invention giving the facility to play the piano without the knowledge of music.

Very elegant in appearance, and rather small in size, the Pianista can be adapted to all pianos. The only fixing required being the adjustment to the key-board of the Instrument (*see illustration*) after having regulated its height by means of screws fitted for that purpose.

Pianistas—Continued.

When adapted, it can very easily be taken off, in order to allow the playing of the piano in the ordinary manner.

Perforated cardboard is used with the pianista, the perforations represent exactly the notes of the piece of music which is to be performed. This cardboard is placed on the left side of the apparatus, each tune being bound as in a book, and drawn along by the turning of the handle and refolded into a book again, after having met the mechanism, destined to put into motion the keys which are to play the tune.

This arrangement of the music is simple and makes it easy for transport, especially for sending abroad.

The mechanism of the apparatus is made for shipment to distant countries ; it is perfectly strong and durable.

But it is mainly due to the fact of its executing the different variations of forte and piano—a success which is not easily obtained, even by a clever artist—that gives an exceptional and quite artistic value to our invention : to obtain this, it is sufficient to press upon a lever placed on the left side of the apparatus ; all the graduations can be passed through from the softest pianissimo to the strongest forte. Therefore we assure our customers that it is most curious to observe how surprising the music is performed when produced through the pianista, and how identical it is to that played on the keyboard by the fingers of an artist ; in short, the delusion is so complete, that it is very difficult on hearing, to judge whether the music is automatically produced, or is the genuine playing of a clever artist.

Superiority of the Jerome Thibouville-Lamy Pianista over the old or new inventions of apparatus to play the Piano mechanically.

If comparison is made between the various mechanical apparatus adaptable to the piano, numerous advantages will be found in favour of the THIBOUVILLE pianista.

Whatever the size or shape of the piano, one minute suffices to place the pianista in its position before the piano, or to remove it.

The THIBOUVILLE pianista is a mechanical construction which plays on the piano without any preparation ; the keys of the pianista touch the keys of the piano in the same capacity as an artist's fingers.

The THIBOUVILLE pianista being portable is useful for all combinations.

Mr. THIBOUVILLE'S invention (patented 1882) of the double pneumatic bellows adds to the pianista the inappreciable advantage of simplifying the mechanism, making it strong, and reducing by more than half the price of the music.

Since this invention we have sent some hundreds of pianistas to all parts of the globe, which have all arrived in perfect condition.

One can be assured that this instrument is easily understood. It is indispensable in all houses where receptions or dances are held.

We always have ready a number of these instruments and a large assortment of music : operas, romances, valse, polkas, mazurkas, etc.

Patent Improvement for instantaneously placing the Pianista before the Piano.

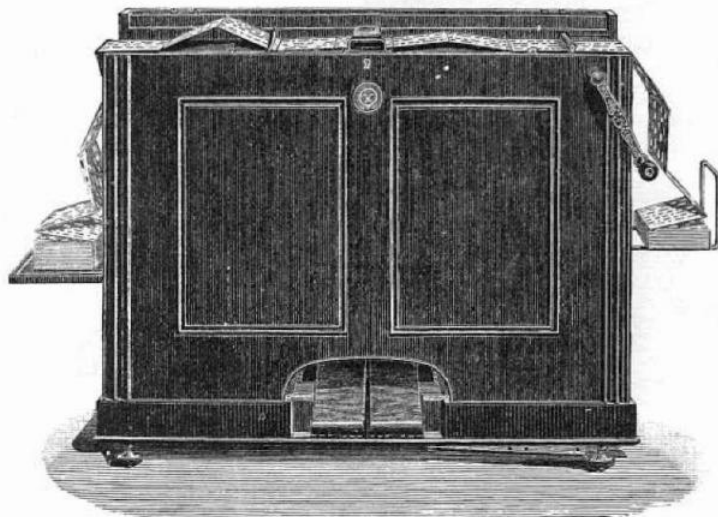
With this system no unnecessary trouble need now be taken with the revolving feet which are used to place the apparatus evenly on the floor. By means of a handle, applied to the top and under a small swing board on the right, the pianista is raised and the keys are promptly brought up to the proper height in a horizontal position, and in that position only the pianista works regularly and the trills and shades of the piano and forte are executed with facility.

The addition of this improvement increases the price of Pianistas	...	...	£3
To apply it to Pianistas already made the cost would be	...	...	£1

For Prices of Pianistas, see following Pages.

PIANISTA THIBOUVILLE—Continued.

This mechanical apparatus can be adapted to any piano, either of English or Foreign manufacture.



The pianista is easily adapted to all pianos, the only fixing required being the adjustment to the keyboard of the piano after the height has been regulated by means of the screw feet fitted for that purpose.

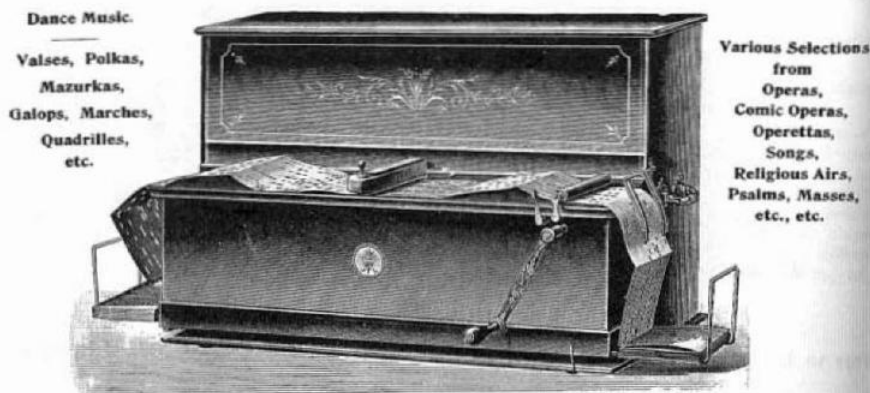
Numbers.		£	s.	d.
948	Pianista , large size, new model, 54 notes, with double pneumatic action, fine rosewood or walnut case, with lid each	56	0	0
948B	.. large size, extra fine case	60	0	0
949	.. .. imitation rosewood polished case, without lid ..	48	0	0
949B	.. .. dull varnish, without lid	46	0	0
	Extra for the new apparatus to fix instantaneously the Pianista before the piano, if applied while making the instrument	2	0	0
	Extra for apparatus applied to instruments already made	4	0	0
950	Books of perforated paper for the Pianista, tunes selected from catalogue per foot	0	0	8
	The same, but tunes not mentioned in catalogue	0	2	8

THE CÆLOPHONE ORCHESTRE.

37 NOTES.

New Automatic Musical Instrument worked by compressed air and by means of perforated paper.

Patented S. G. D. G. in all countries.



Length 26ins. ; height 17ins. ; width 14ins.

The **Cælophone**, invented by the celebrated Claude Gavioli, improved and made at our Grenelle factory, is an instrument of a special nature on an entirely new system. It produces an original sound, which, by its remarkable harmonious effects, raises it far above other organs with handles.

Nothing is more charming than this new instrument which unites so many qualities. Its shape and the case are very elegant in appearance. The sound produced is powerful enough for 60 to 80 persons to dance to.

By the disposal of the scale and the original nature of the tone, it produces the same effect as an orchestra. The tone of the high notes combining with that of the saxophones and basses, give to the pieces executed a variety of vibrations and shades and an orchestration hitherto unknown in instruments of this class.

By a new system of expression, for which we have recently taken out a patent, the tone can be quickly changed from Forte to Pianissimo.

Numbers.		£	s	d
968	Cælophone Orchestra , black wood, varnished, gilt incised			
	panel each	16	0	0
	Music for Cælophone orchestre per yard	0	1	0
	Endless music for „ „ per piece	0	0	0

ORGANINA THIBOUVILLE.

24 NOTES.

This small instrument possesses the tone of the harmonium. It is played mechanically by means of perforated cardboard.

Length, 22ins.; height, 12ins.;
width, 13ins.



Organina ready for playing.

This small French organ called after its inventor's name, JEROME THIBOUVILLE, surpasses in perfection all the instruments of its kind.

By its quality of sound, sweet and melodious, the ORGANINA THIBOUVILLE is far superior to the German productions of this class. It is strongly constructed, and its mechanism is remarkably simple.

The tunes are accurately noted from the musical composition, a piece can be had complete or reduced to the principal theme.

The cardboard is drawn along as in the Pianista; it is placed and taken away without the least difficulty.

By its moderate price, the ORGANINA THIBOUVILLE is within the reach of all.

Numbers.

960	Organina Thibouville, black wood, dull varnish, including 6 tunes, together 18 yards	each
965	Paper Music for Organina Thibouville	per yard

£ s. d.

6	0	0
0	0	9

BIRD ORGAN.

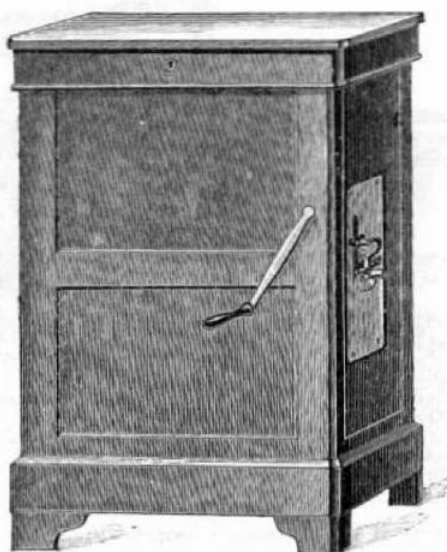


650	Bird Organ, walnut, 8 tunes	each
651	" " " varnished	"
652	" larger, walnut, 1 barrel, 2 stops, 10 tunes	"
653V	" " " varnished...	"
654	" " " 2 barrels, 2 stops, 20 tunes	"
654V	" " " " " varnished	"

0	18	0
0	19	0
1	10	0
1	13	0
1	14	6
1	19	0

MECHANICAL BARREL ORGANS.

For Ball Rooms and Halls.



First Series.

To make extra barrels for organs of this class, the instrument must be sent to factory.

All the organs of this first series are without trumpets or drums; they have 3 sets of pipes and 3 stops.

The tone, very powerful, can be softened at will by the closing of one or two stops.

Numbers.				£ s. d.
658	Organ, Walnut, 13 notes, 3 stops, 3 barrels, 30 tunes ...	each		7 0 0
	Size : Height, 28ins.; width, 19ins.; breadth, 13ins.			
	Extra for each additional barrel ...	"		1 2 0
660	Organ, Walnut, 17 notes, 3 stops, 3 barrels, 30 tunes ...	"		10 0 0
	Size : Height, 34ins.; width, 22ins.			
	Extra for each additional barrel ...	"		1 6 0
662	Organ, Walnut, 19 notes, 3 stops, 3 barrels, 30 tunes ...	"		11 0 0
	Size : Height, 36ins.; width, 24ins.			
	Extra for each additional barrel ...	"		1 10 0
663	Organ, Mahogany, 19 notes, 3 stops, 3 barrels, 30 tunes ...	"		13 0 0
	Size : Height, 37ins.; width, 24ins.			
	Extra for each additional barrel ...	"		1 10 0
666	Organ, Mahogany, 20 notes, 3 stops, 3 large barrels, 30 tunes...	"		16 0 0
	Size : Height, 39ins.; width, 26ins.			
	Extra for each additional barrel ...	"		1 10 0

Mechanical Barrel Organs—Continued.

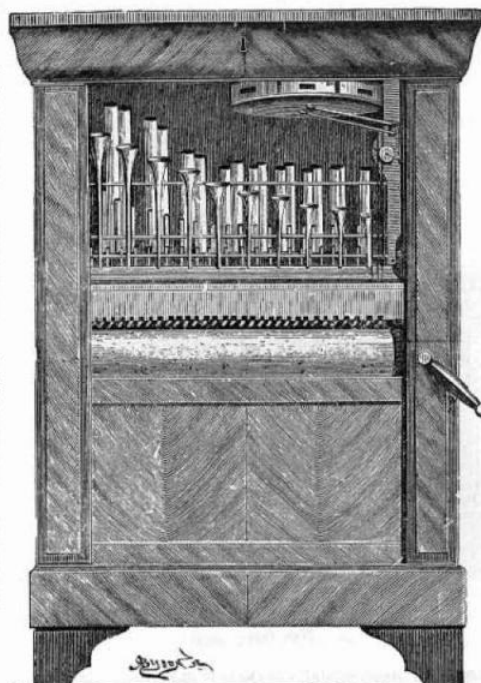
2nd Series.

The following instruments, manufactured on entirely new proportions, produce a sound much superior to what could be obtained previously.

In perforating the barrels, a process is employed by which the greatest accuracy is obtained in the noting.

We are able to supply extra barrels for this series of organs, by simply quoting us the factory and catalogue numbers of the instrument.

The drum is on a new system, and produces great effect without shaking the mechanism of the organ.



All these instruments have the keyboard and the screw in metal; the cases being suitable for hot or damp climates.

All the organs from No. 668 and upwards, are sent to our Grenelle factory, where they are taken to pieces, refitted, and finished by skilled workmen.

These instruments are specially adapted for dance-music.

Numbers.

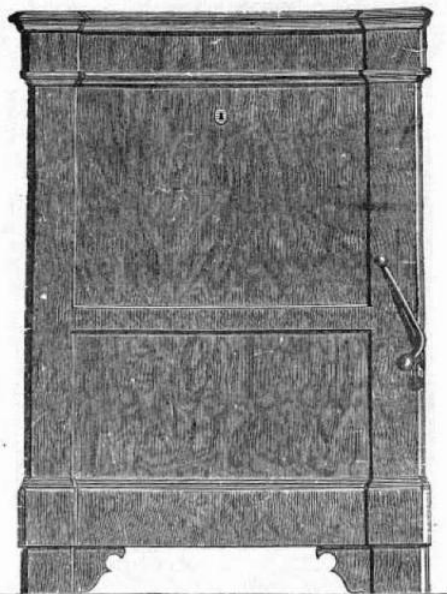
Nos. 671, 672.

			£	s.	d.
668	Organ, mahogany, 21 notes, 3 trumpets, 4 stops, 3 large barrels, tambourine, and bell, 30 tunes	...	21	0	0
	Size: Height, 44ins.; width, 28ins.				
669	Same, with drum and triangle	...	26	0	0
	Extra for each additional barrel	...	2	4	0
671	Organ, mahogany, 31 notes, 4 stops, 15 trumpets, 3 barrels, 24 tunes, tambourine, and bells	...	29	0	0
	Size: Height, 44ins.; width, 28ins.				
672	Same, with drum and triangle	...	33	0	0
	Extra for each additional barrel	...	3	0	0
674	Organ, mahogany, 34 notes, 4 stops, 16 trumpets, 3 barrels, 24 tunes, drum, and triangle	...	42	0	0
	Size: Height, 51ins.; width, 34ins.				
	Extra for each additional barrel	...	3	16	0
690	Organ, mahogany, "Exhibition model," 35 notes, 5 stops, 16 trumpets, 3 barrels, 24 tunes, drum, and triangle	...	50	0	0
	Size: Height, 51ins.; width, 34ins.				
	Extra for each additional barrel	...	4	0	0
These Organs are finished and tuned at our Grenelle factory.					

Mechanical Barrel Organs—Continued.

NEW MODELS.—3rd SERIES.

In this series each instrument is different in combination and quality, although all of them have a harmonious and delightful tone.



When extra barrels are wanted, the factory and Catalogue numbers should be quoted.

When extra barrels are wanted, the factory and Catalogue numbers should be quoted.

No. 691.

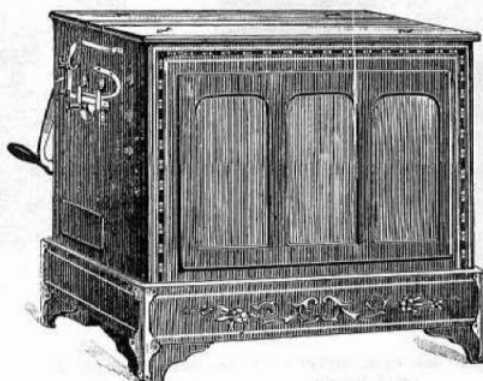
Numbers.		£	s.	d.
681	Organ, rosewood, new model, 31 notes, flutes and triangle, 2 barrels, 14 airs ... each	24	0	0
	Size: Height 39ins., width 25ins.			
	Extra for each additional barrel	2	10	0
	The above instrument has a sweet tone and is suitable for a drawing room			
682	Organ, rosewood, new model, 35 notes, sets of basses, flutes and flageolets, triangle, 2 barrels, 14 airs ... each	33	0	0
	Size: Height 44ins., width 30ins.			
	Extra for each additional barrel	3	0	0
	The above organ keeps well in tune and is adapted for dance music.			
691	Organ, rosewood, 40 notes, 5 sets of pipes, flute, flageolet, oboe and 2 of basses, drums and triangle, 3 barrels, 21 airs, stops in front	42	0	0
	Size: Height 45ins., width 31ins.			
	Extra for each additional barrel	4	0	0
	The tone of this organ although more powerful than the others is very harmonious, as the oboe and flageolet pipes render it very charming.			
	All these organs are tuned and finished at our Grenelle factory,			

PORTABLE STREET ORGANS.

Portable Street Organs with three sets of metal pipes, and the basses in wood.

Numbers.		£ s. d.
718	Portable Street Organ , walnut varnished, new style, 15 notes, 3 stops, 10 airs each Height 18ins. ; width 20ins.	7 10 0
719	Portable Street Organ , rosewood, 17 notes, 8 airs, brass screw .. Extra for each additional barrel "	10 12 0 2 0 0
720	Portable Street Organ , rosewood, 20 notes, 8 airs, brass screw .. Extra for each additional barrel "	15 0 0 2 5 0

When extra barrels are wanted for these organs it is necessary that the instrument should be sent to our factory.



When extra barrels are wanted for these organs it is necessary that the instrument should be sent to our factory.

Nos. 721, 722, 725.

Numbers.	PORTABLE STREET ORGANS with Trumpets.	£ s. d.
721	Portable Street Organ , rosewood inlaid, 26 notes, 4 stops, 8 trumpets, 1 barrel, 8 tunes each Height 20ins. ; width 24ins. Extra for each additional barrel "	18 16 0 2 14 0
722	Portable Street Organ , rosewood inlaid, 32 notes, 10 trumpets, 1 barrel, 8 tunes " Extra for each additional barrel "	26 0 0 3 14 0

FLUTE PORTABLE STREET ORGANS.

728	Organ , rosewood, marqueterie, flutes, 8 tunes, 27 notes each Extra for each additional barrel "	21 0 0 3 4 0
------------	--	-----------------

All these instruments, although made at our Mirecourt factory, have the stamp and quality of Paris make, being rectified and finished at our Grenelle factory by skilled Parisian workmen.

PHONOGRAPHS.



Numbers.

Style A.

"The Virtuose."

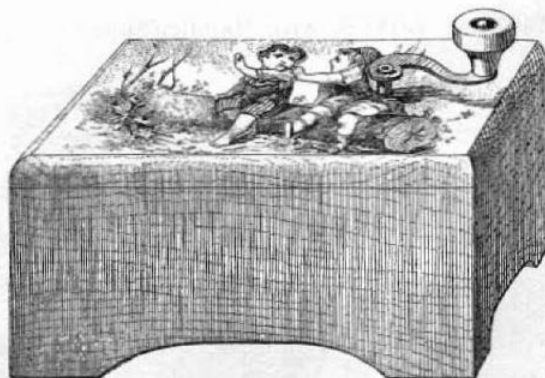
			£	s.	d.
A	Phonograph, oak case, nickel horn, recorder and reproducer, crank handle	...	1	8	0
V	" " "The Virtuose," all parts well nickel-plated, large brass horn, walnut case, recorder and special reproducer	...	3	10	0
When the bell is removed the mechanism can be turned over and enclosed in the box with handle on top to carry by.					
	Pathé's moulded "B" records	... per doz.	1	2	0

TUTORS.

Accordion, Concertina, Violin, Flute, or			
Mandolin	...	per doz., 13 as 12	0 7 0
Mandolin Tutor, by Fletcher (2/6)	...	...	1 10 0
" " by Ellis (2/-)	...	...	1 10 0
Guitar Tutor, by Ellis (2/-)	...	...	1 10 0
Violin, in 24 lessons, by Weaver (1/-)	...	...	0 15 0
Zither Tutor, by Ellis (1/6)	...	each	0 2 2
American Organ Tutor (1/-)	...	...	0 1 3
Turner's Universal Banjo Tutor (1/-)	...	per doz., 13 as 12	0 15 0
" five string " (1/-)	...	...	0 15 0
A.G. Concertina Tutor, by Roylance (1/-)	...	...	0 15 0
English Concertina Tutor, by Roylance (1/-)	...	...	0 15 0
Violoncello Tutor, by Lindley (1/-)	...	...	0 15 0
Cornet " by Sheard (6d.)	...	...	0 7 0
Clarinet " by Westrop (1/-)	...	...	0 15 0
Nicholson's Flute School (2/6)	...	each	0 3 4

Musical Boxes—Continued.

SQUARE MUSICAL BOXES, with Handle, Superior Quality.



Nos. 5032, 5033, 5034.

Design showing actual size.

Our round and square musical boxes are unrivalled for quality. The prices vary according to the number of tongues.

Numbers.

MUSICAL BOXES, with Handle, 1 Air.

Numbers.	Description	Price (£ s. d.)
5030	Square Musical Box, varnished wood, with chromo, 1 air, 12 tongues, per doz.	1 2 0
5031	" " " " " 1 " 18 " "	1 6 0
5032	" " " " " 1 " 28 " "	1 17 0
5033	" " " " " 1 " 36 " "	2 0 0
5034	" " " " " 1 " 48 " "	2 16 0

MUSICAL BOXES, with Handle, 2 Airs.

Numbers.	Description	Price (£ s. d.)
5040	Square Musical Box, varnished wood, with chromo, 2 airs, 18 tongues, per doz.	1 15 0
5041	" " " " " 2 " 28 " "	2 4 0
5042	" " " " " 2 " 40 " "	3 10 0

MUSICAL BOXES, with Handle, 3 Airs.

Numbers.	Description	Price (£ s. d.)
5045	Square Musical Box, varnished wood, with chromo, 3 airs, 28 tongues, per doz.	2 18 0
5046	" " " " " 3 " 36 " "	3 8 0
5047	" " " " " 3 " 50 " "	5 0 0

MUSICAL BOXES, with Handle, 4 Airs.

Numbers.	Description	Price (£ s. d.)
5050	Square Musical Box, varnished wood, with chromo, 4 airs, 28 tongues, per doz.	3 12 0
5051	" " " " " 4 " 36 " "	4 0 0

Musical Boxes—Continued.

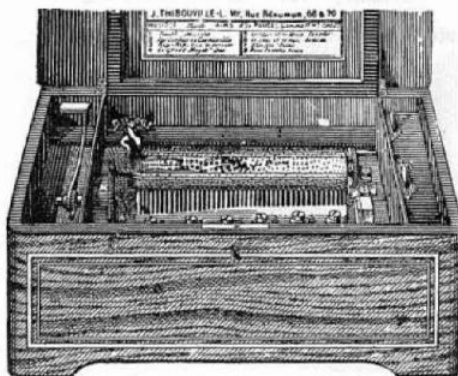
MUSICAL BOXES. Good Quality.

Large box inlaid [with
Marqueterie.

Glass cover and lock.

Large barrel.

Powerful tone.



All our movements are
nickel-plated and are
fitted with tune
indicator.

Numbers.		£ s. d.
5098	Musical Box , with glass cover and lock, 6 airs, 6 inches, inlaid case each	3 0 0
	Same, with zither accompaniment	3 6 0
5099	Musical Box , with glass cover and lock, 8 airs, 6 inches, inlaid case ..	3 4 0
	Same, with zither accompaniment	3 10 0
5100	Musical Box , with glass cover and lock, 8 airs, 8½ inches, inlaid case ..	3 15 0
	Same, with zither accompaniment	4 5 0
5101	Musical Box , with glass cover and lock, 10 airs, 8½ inches, inlaid case ..	3 18 0
	Same, with zither accompaniment	4 8 0
5102	Musical Box , with glass cover and lock, 12 airs, 10¾ inches, inlaid case ..	5 10 0
	Same, with zither accompaniment	6 6 0
MUSICAL BOXES "CLASSIQUES" First Quality.		
We specially recommend the musical boxes styled "classiques." The barrels are of a regular length and possess a sufficient number of teeth to prevent jarring when a note repeats quickly, which is difficult to stop in the small instruments possessing only a limited number of teeth.		
5114	Musical Box "Classique" first quality , fine inlaid rosewood case, with lock, 8 airs, 9 inches each	4 12 0
	Same, with zither	5 2 0
5115	Musical Box "Classique" first quality , fine inlaid rosewood case, with lock, 8 airs, 10¾ inches	5 0 0
	Same, with zither	5 12 0
5116	Musical Box "Classique" first quality , fine inlaid rosewood case, with lock, 10 airs, 10¾ inches	6 0 0
	Same, with zither	6 12 0
5117	Musical Box "Classique" first quality , fine inlaid rosewood case, with lock, 12 airs, 12¾ inches	6 10 0
	Same, with zither	7 10 0

Musical Boxes—Continued.

MUSICAL BOXES with Visible Bells.

Powerful Tone, Rich Case, Base Stand and Handles.



Numbers.

5122	Musical Box, with bells visible, 6 airs, $4\frac{1}{2}$ inches	...	...	...	each
5126	" " " 8 " 6	"	"	"	"
5130	" " " 10 " $10\frac{1}{4}$	"	"	"	"
5133	" " " 12 " $12\frac{1}{4}$	"	"	"	"

Extra for zither accompaniment :

To musical boxes $4\frac{1}{2}$ ins. to 6 ins.	...	...	...	"
" 10 $\frac{1}{4}$ ins. to 12 $\frac{1}{4}$ ins.	...	...	...	"

£ s. d.

4	8	0
5	0	0
8	10	0
11	0	0

0	10	0
0	12	0

MUSICAL BOXES with Drum and Bells visible.

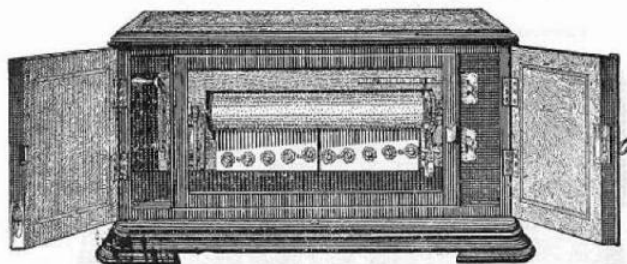
5140	Musical Box, with drum and bells visible, 6 airs, $8\frac{1}{2}$ inches	...	...	each
5141	" " " 8 " 9	"	"	"
5142	" " " 8 " $10\frac{1}{4}$	"	"	"
5143	" " " 8 " $12\frac{1}{4}$ „1st quality	"	"	"
5145	" " " 10 " $10\frac{1}{4}$ „	"	"	"
5146	" " " 10 " $12\frac{1}{4}$ „1st quality	"	"	"
5148	" " " 12 " $14\frac{1}{4}$ „	"	"	"
5149	" " " 12 " $21\frac{1}{4}$ „1st quality	"	"	"

5	10	0
6	6	0
8	0	0
9	10	0
10	10	0
12	0	0
12	18	0
24	0	0

Musical Boxes—Continued.

MUSICAL BOXES, First Quality.

Rich Case, "Cabinet" Style.

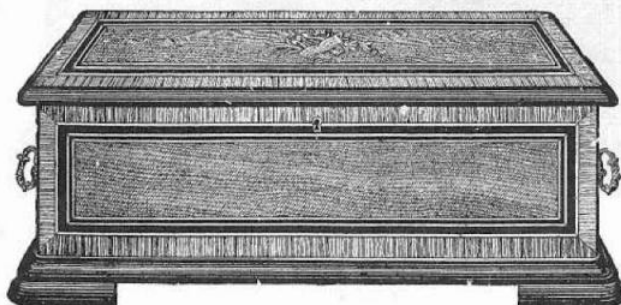


Numbers.

Length 21 ins. Width 8 ins.

5161	Musical Box cabinet style, Forte Piano, 2 combs, 8 airs, 10 $\frac{3}{4}$ ins.	each	11 10 0
5163	" " " Mandolin Zither, 6 airs, 10 $\frac{3}{4}$ ins. ...	"	12 10 0
5164	" " " " 8 airs, 10 $\frac{3}{4}$ ins. ...	"	13 10 0


MUSICAL BOXES WITH ACCOMPANIMENT, Extra Quality.



5170	Musical Box, Expressive Zither, rich case, 6 airs, 8 ins. ...	each	5 5 0
5171	" " " " 8 " 10 $\frac{3}{4}$ " ...	"	6 12 0
5172	" " " " 10 " 12 $\frac{3}{4}$ " ...	"	7 5 0
5173	" " " " 12 " 14 $\frac{3}{4}$ " ...	"	8 8 0
5175	" " Guitar Accompaniment, rich case, 6 airs, 8 ins.	"	10 0 0
5176	" " " " 8 " 10 $\frac{3}{4}$ " ...	"	12 0 0
5178	" " " " 12 " 14 $\frac{3}{4}$ " ...	"	17 5 0
5182	" " Zither Mandolin, Piccolo, rich case, 6 airs, 12 $\frac{3}{4}$ ins. ...	"	12 12 0
5183	" " " " rich case, 8 airs, 17 ins. ...	"	17 5 0
5189	" " Sublime Harmony, Forte Piano, Zither, 2 combs, 6 airs, 12 $\frac{3}{4}$ ins. ...	"	13 0 0
5193	" " Sublime Harmony, Forte Piano, Concert Piccolo, 3 combs, 6 airs, 12 $\frac{3}{4}$ ins. ...	"	14 0 0
5206	" " with double spring box, sublime harmony, forte piano, 8 airs, 17 ins. ...	"	18 10 0

MUSICAL NOVELTIES.



Numbers.	Nos. 5170, 5171, 5172.				£	s.	d.
LIQUEUR FRAMES with Music.							
5170	Liqueur Frame, complete, 4 decanters, 16 glasses, with music, 2 airs, 28 teeth	...	...	...	each	2	16 0
5171	" complete, 4 decanters, 16 glasses, with music, 3 airs, 36 teeth...	...	...	...	"	3	0 0
5172	" complete, 4 decanters, 16 glasses, with music, 4 airs, 36 teeth...	...	...	...	"	3	10 0
CHAIRS with Music.							
5206	Chair, black wood gilded, cane seat, with music, 2 airs	...	...	...	each	1	14 0
5207	" " " " " 3 "	...	...	...	"	1	18 0
5216	" tilt, rich woodwork " 2 "	...	...	...	"	4	0 0
5217	" " " " 3 "	...	...	...	"	4	5 0
PLATES with Music.							
							
5191	Plate, large size, for dessert, 2 airs	...	...	...	each	1	3 0
5192	" " " " " " " "	...	...	...	"	1	7 0

Numbers.

Musical Novelties—Continued.

MUSICAL ALBUMS.



5219	Musical Album , large size, red or black leather, music, 2 airs ...	each	0 17 0
5220	„ „ stamped leather, all shades, 2 airs...	„	0 18 0
5221	„ „ morocco, gilt fastenings, 2 airs ...	„	1 3 0
5222	„ „ plush, all shades, name plate, 2 airs	„	1 1 0
5223	„ „ smooth plush, 2 airs ...	„	1 4 0
5224	„ „ very rich, aluminium plate, large clasp, with music, 3 airs ...	„	2 0 0

DECANTERS, with Music.

5160	Decanter , cut crystal, with music, 1 air ...	each	1 0 0
5161	„ „ „ 2 airs ...	„	1 4 0

REVOLVING CIGAR CASES, with Music.

5200B	Revolving Cigar Case , imitation rosewood, 6 large doors, 2 airs ...	each	1 2 0
5201B	„ „ imitation rosewood, 6 large doors, 3 airs ...	„	1 4 0
5202B	„ „ imitation rosewood, 6 large doors, 4 airs ...	„	1 6 0
5203B	„ „ Chinese decorations, 6 large doors, 2 airs ...	„	1 4 0
5204B	„ „ Chinese decorations, 6 large doors, 3 airs ...	„	1 8 0

SINGING BIRDS.

5257	Singing Birds under globe, 3 chirping birds, with foliage, two of which hop from branch to branch, also two ducks and and one swan swimming on a lake ...	each	10 0 0
------	--	------	--------

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

Dear Sir,

My curiosity concerning the objects of the Musical Box Society has at last been satisfied. Article 2 of the Constitutions consists of a main clause governing two subordinates; "The Object of the Society is to try to gather those who collect and to preserve them wherever possible." May they rest in peace.

On another topic, Mr. Harding again writes:-

Dear Sir,

With reference to Ron Bayford's letter, Vol. 2, Number 6, we have recently had a vertically mounted cylinder movement in a glass fronted cabinet surmounted by a board carrying the name "Victoria". The tune sheet carried the initials of B.H.A. makers of the Britannia and identified by you as the firm of Harold Abrahams. If Mr. Bayford's tune sheet also carries the initials B.H.A. this would verify the attribution.

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.

Exchange large P.V.F. musical box, burr walnut case, 28" x 12" x 10" with drum, 7 engraved bells, castanette, 10 airs old English and Scottish, in good order, for the longest and fattest cylinder box offered. Operatic, oratorio, overture, fine comb. Will not sell P.V.F.
Atkinson, Gean House, Alloa, Clackmannan, Scotland.

WANTED

Wanted to borrow: Interesting and unusual tune sheets for reproduction in the pages of THE MUSIC BOX. All material loaned acknowledged in print, and returned within 21 days, mounted and restored free if required. Write in the first instance giving details to: The Editor, THE MUSIC BOX, c/o 11, Devonshire Place, Wimpole Street London, W.1.

LETTERS TO THE EDITOR

Correspondence is always welcomed on any subject concerning mechanical musical instruments.

Jocelyn R. Walker of Little Birdburst,
Raglan Road, Reigate, Surrey, writes:-

I own an early key-wind musical box in a slim, plain oak case with no side flap, the controls being exposed at the end. It has a polished brass end-plate and plays a set of quadrilles and a tune by Mozart. There are 93-teeth in sections of four with an extra one at the top end.

The point of interest is the establishment of the age of the box. During a recent overhaul the spring was removed and, being cracked, was replaced. Clearly scratched on the old spring was the date: 1829.

Will anyone who has any information on a player piano produced c.1902 and sold under the name 'Pianotist' from 56, Regent Street, London, or on a player piano produced between 1913 and 1928 called the Boyd 'Pistonola', please contact The Editor, THE MUSIC BOX.

Tanzbar 4 1/4" wide paper rolls for player accordion, 28 note. Please state name of tune, price and condition of rolls. Jon H. Lawson, 1650 Rolling Hills Drive, Monterey Park, California, U.S.A.

APPRENTICE WANTED. We are looking for a young man interested in making a career in the repair of mechanical musical instruments. He should be capable of attaining a high degree of craftsmanship, and take an active interest in improving present techniques and discovering new ones, including development work in such things as cylinder-pinning, comb making and disc punching. Previous experience is not necessary, but a knowledge of lathe work, especially gear cutting and screw cutting would help.

We are also interested in hearing from anyone capable of making a good job of comb repairs.

Apply to Messrs. Keith Harding Antiques,
93, Hornsey Road, London, N.7.

ERRATA On page 12 (Tony Sherriff's article on Dampers) please note that the word "BARK" in the opening paragraph should read "BARB"

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CORRECTION TO CHANGE OF ADDRESS

- 129 Hugh M. Miles, 329, Rednal Road, Kings Norton, Birmingham, 30.

* Denotes Associate Member

IT STILL HAPPENS!

A lesson from "Work" magazine of January 1892, found by Gerry Planus, is still applicable today. Would that we could still buy a comb from Geneva for thirty bob!

LAST WORD

WHEN A CLASS of girls at a Braintree grammar school was asked what a virginal was, one answered: "A young piano that hasn't been played yet."



Musical Box Combs.—J. B. (Kennington) You did a most foolish thing by unscrewing flyers or fan part of musical box. Had you the chapter on musical boxes, you would have that the driving part containing mainspring be at rest—no pressure on the barrel with pins. I stated it clearly, so that no one could make a take. The same accident has resulted in the destruction of hundreds of good boxes. I see it is time ago that this occurred, so it is evident you not seen the pages of Work. So many of the are gone, that repairing is out of the question if you will look at the barrel with a magnifying glass, you will see one tune destroyed—that pins that acted on the teeth of comb will be and lots broken. That you can remedy (see chapter on Musical Boxes), but you will require a new and if box has the maker's name upon the which it will have—also the number of box can get a new comb to exactly fit and with the trouble; it will be Geneva, Switzerland, as in England sells them. The cost will be about 30s.; carriage extra.—J. S.

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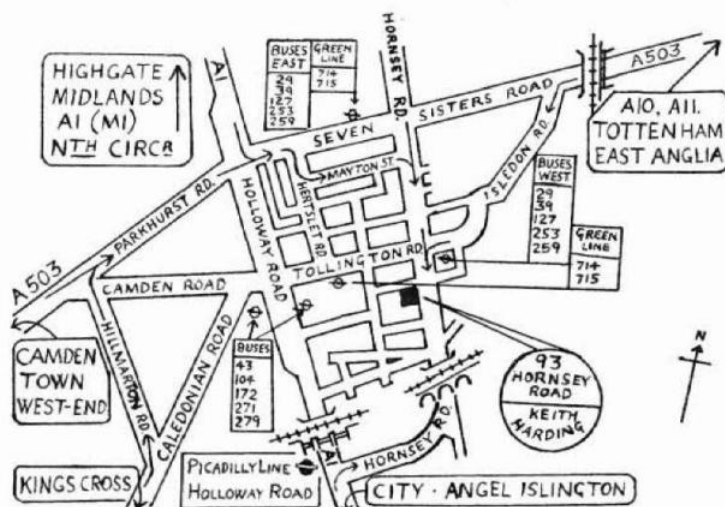
Summer 1961

Keith Harding Antiques

W. K. Harding and C. A. Burnett

MUSICAL BOX SPECIALISTS

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If you are, then you will quite probably derive immense enjoyment leading to a greater fulfilment of your interest by becoming a Member of

THE MUSICAL BOX SOCIETY OF GREAT BRITAIN

The aims and objects of the Society are extremely simple. The Society exists to bring together all those who share a common interest in the collecting, preservation and appreciation of all types of mechanical musical instruments.

What for? What good does the Society do? The Society brings together fellow collectors from all over the British Isles and many foreign countries including Switzerland — the accredited birthplace of the

musical box as we know it.

The Society publishes a quarterly Journal called THE MUSIC BOX which is devoted to articles on all aspects of musical automata, repair and overhaul tips, descriptions of fine and unusual musical movements and, of course, it circulates Members addresses. The MUSIC BOX is fully illustrated and is a unique publication, there being no other journal devoted exclusively to musical automata anywhere in the World.

Membership to the MUSICAL BOX SOCIETY OF GREAT BRITAIN opens up a whole new world of musical box appreciation. Wherever you live, up-to-the-minute news of members and collections reaches you through THE MUSIC BOX. Twice a year, a full day meeting is held at which all members and their guests are invited to attend. Ultimately, regional meetings, film shows, lectures and demonstrations will be encouraged.

How much does all this cost? Just THREE POUNDS (U.S.A. \$9) per year! If you are not convinced that Society membership can benefit you, why not send 5/- for a specimen copy of THE MUSIC BOX? Judge, critically, for yourself.

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