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## 玉eith 䤄arDing Antiques

W. K. Harding and C. A. Burnett

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## THE MUSIC BOX

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## The Editor writes:

Just once in a while, the blowing of one's own trumpet is justified and may be excused. Now is such an occasion. The moment has come to pause and look at ourselves, our Society and our achievements. In six years, it is probably only logical that any society should expand and better itself one way or another. This we certainly have done. But we have done even more than this. In spreading our knowledge to others, in individual argument and collective forum, we have sponsored a new generation of craftsmen. I use the word unreservedly, for ve now find in our midst members who are developing their talents both as an art and a craft.

One such Member is Michael Gilbert whose practical demonstration of dampering a comb earned such an ovation at the Society's workshop meeting on Sunday, May 19th.

Refearning lost skills is, to take the materialistic view, a waste of time. Why, indeed. But it gave me a strange sense of reflected achievement the other day when Keith Harding, showing me round his intensely active workshop, pressed into my hand a new comb for a Symphonion. His technique is still in its infancy, but he has high hopes of being able to cut combs as part of his facility in due course.

As a Society, we are now able to give the musical box a longer lease of life and ensure its preservation for another generation.

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

# Mechanical Music 

by Dr. Alexander Buchner

(from "Mechanical Musical Instruments" published by Batchworth Press, c. 1955).

TO PLAY a musical instrument calls for a measure of skill and talent not everyone is endowed with, and so from ancient times man has endeavoured to make the technique of playing mechanical, and to devise a musical instrument which can be played without skill or previous musical education.

This process of mechanising musical instruments is as old as music itself. At first man was content to perfect the technique of using his own voice and performing on simple musical instruments he had invented. The primitive musical instraments, however, soon began to develop into more and more complicated forms until today all instruments are to some degree mechanical. The development of musical instruments shows that man has gone on increasing the mechanical element in his performance of music. The gamut of increasingly mechanised musical instruments runs from the bowed and plucked instruments, through the wind instruments, to the piano and organ. At one end of the scale is the human voice, quite unmechanical; at the other are the automatophonic instruments which involve the complete mechanisation of playing. Unlike machines for musical reproduction, such as the gramophone, radio or tape recorder, in which music passes through a mechanical process but is not of mechanical origin, automatophones actually produce the sound of music; using their own resources, just as a singer does, without external aids.
$U_{p}$ to the thirties of this century the mechanical performance of music was entrusted to barrel-organs, musical boxes, orchestrions, pianolas and other mechanical musical instruments. These have a centuries-old tradition in Europe, and their history is closely bound up with the development of automata of all kinds, i.e. machines in which the motive power is so concealed that they appear to move spontaneously without the application of
extemal force. We find many references in the writings of ancient Grecce and Rome to automata which imitated the movements of men or animals. We may quote the "living statues" of the Island of Rhodes, mentioned by Pindar, the flying wooden dove of Archytes of Tarentum, and others. There are but few reports of automata from the Middle Ages. In the first half of the ninth century Leo the Philosopher made two automata for the emperor Theophilus Ikonomachus of Byzantium; they included artificial trees and singing birds. Conrad of Wurzburg mentions an àrificial tree of precious metals with birds perched on it, moving their wings and singing; this dated from about 1250 .

These automatic devices became far more numerous later, in the artistic, sensitive and stomy atmosphere of the Renaissance, which raised the science of mechanics to an art. The Renaissance was not only the age of progress in philosophy, astronomy and mathematics, but the age of technical inventions of great importance for music. The invention of the printing press and the technique of engraving musical scores meant a fundamental change in the practical aspects of music-making, whilst music did not lag behind the general advance of science. The middle classes made an industry of music-making, alive to technical progress. Music was not only "ars", but "scientia" as well. The beautifully wrought cabinets which arouse our admiration today, and which were so popular particularly in the late Renaissance, almost invariably housed a mechanical musical box of some kind. Augsburg was the home of a very flourishing industry, both the cabinets and the movements inside.

The idea of using a precise mechanism to produce music, however, could only be brought to fruition when the art of clock-making had achieved delicate clock movements to replace the hour-glass and the water-clock. For this reason the history of automatophones is closely bound up with that of the clockmaker's craft. As early as 1500 or thereabouts we find dolls playing musical instruments. Leonardo da

Vinci constructed a mechanical spinet and drums. The anonymous author of the poem Zodiacus vitae saw a mechanical flute-player in Rome in the year 1523; constructed by a skilful potter, it seems to have been a forerunner of the Vaucanson's flute-player which was to become famous later. About the middle of the sixteenth century the Emperor Charles V constructed a flying wooden sparrow, with the help of Turrian of Cremona; they also devised armed puppets which fought battles and played drums and trumpets.

The number of mechanical devices invented in the centuries which followed rose in direct proportion to the growth of interest in music. The tendency to extravagance and caprice which is characteristic of the baroque period in art showed itself in the mechanical musical devices of the period, too. The longing for the supernatural in its more sensational forms and the ambition to play an active part in divine intervention in the affairs of this worldin miracles, that is - inclined people to supersticion and mysticism. They worked up their belief in illusion and self-deception, hearing mysterious supematural forces in the sounds of the Aeolian harp, and seeing living beings in automata. They were not content with automata which imitated only the movements of human beings; they required them to talk and sing as well. Wolfgang von Kempelen, a native of Pressburg (now Bratislava), created a sensation in 1788 with a talking machine which imitated the voice of a child and pronounced simple words quite clearly. At the beginning of the last century Professor Robertson put his "Phonaugon" before the public. Josef Faber's talking Turkish Woman, who could sing as well as say whole sentences in different languages, was considered by contemporary experts to be a triumph of human ingenuity and one of the most remarkable inventions of the time. Johannes Muller the physiologist tried to produce a melody by blowing through a carefully prepared larynx in which strings and weights replaced muscular action. To save fees demanded by living singers Muller suggested that opera companies could buy the larynxes of dead opera stars; after proper treatment the larynxes could be made to sing the most beautiful songs and arias. This fantastic idea shows how strong was humanity's impulse to preserve sound - an impulse expressed in the prophetic words of Father Engramelle: in his remarkable book on the pinning of music-box cylinders he suggested that the works of the great composers, played by great masters, should be preserved with the help of mechanical musical instruments, and regretted that the works of

Lully, Rameau, Couperin and others had not been so handed down.

In the world of music there are many compositions which were written especially for mechanical instruments. Hans Leo Hassler wrote a 'piece or song' which 'was to be put on the barrel of an organ movement which plays without the help of any singers'. In his Musurgia universalis Athanasius Kircher published a Ricercata by Johann Kaspar Kerll as an example of music suitable for a mechanical organ. On the cylinders of a harp-playing clock destroyed during the second world war, formerly owned by the Duke of Anhalt, in Dessau, were tunes said to have been composed by Johann Sebastian Bach while in the service of the Prince of Anhalt-Kothen, 1717-23. George Frederick Handel was so interested in this form of music that he composed a number of works for the carillon, or chimes, some of which are preserved in the Royal Music Library in London, copied by an unknown contemporary of the composer. The greatest eighteenth Flemish composer, Matchias van den Gheyn, wrote numerous preludes and fugues for the carillon. Michael Haydn composed tunes for the Salzburg carillon; sixteen rough versions of them have been preserved in the posthumous papers of Mozart's eldest niece.

The time of the classic Viennese composers raised automatophones to new heights, many works came into being, composed for these instruments alone, by the great masters. Joseph Haydn wrote no less than 32 pieces for the flute-playing clock; five of them are preserved on the cylinders of a fluteplaying clock made by Primitivus Nemec in 1792 for the household of Prince Esterhazy. Towards the end of his life Mozart also wrote music for the flute-playing clock; the three of his compositions for this instrument which have survived are; Ein Stuck fur ein Orgelwerk in einer Ubr (K.594); Orgelstuck fur eine Ubr (K.608) and Fur eine Walze in eine Orgel (K.616). An interesting feature of the manuscript score of the last of chese compositions is the provision of two alternative da capo variants, to shorten the work should it be too long for the cylinder; he wrote with the technical limitations of the instrument in mind. Not even Beethoven could avoid writing several pieces for the popular instruments of the time, the flute-playing clock: Adagio, Scherzo and Allegro in the same notebook as four of the variations on the theme of a song to words by Goethe, Ich denke Dein; and Allegro and Allegretto, the manuscript score of which is in the Berlin State Library with a note by the Viennese publisher Artaria: 'Wahrscheinlich fur eine Spielubr bestimmt'. Wellingtons Schlacht bei Vittoria, by Beechoven, was
originally written for Malzel's orchestrion called the "Panharmonicon".

Flute-playing clocks were used to keep the customers in inns and similar places amused, just as later on polyphons and pianolas were installed. The newspaper Prager Zeitung reported in 1826 a Parisian hairdresser who entertained his customers with a clock playing fourteen of the most delightful melodies of Rossini. About the same time Franz Schubert was a regular visitor at an inn in the Himmelp fortgasse in Vienna where the innkeeper had a clock made with Schubert's compositions pinned on the cylinders. The Viennese pianist Anton Eberl, who was a very popular composer in his day, and Cherubini and Salieri, all wrote music for mechanical instruments. Waltzes were at the height of their popularity men, and the piano score of Michael Pamer's Neuesten Linzer Tanze bears a note that they were composed for a musical clock.

The mentality of the period, seen in the pretty litcle china knick-knacks and in the style of furnishings, found an outlet in the new types of mechanical musical instruments. These were the cylinder musical boxes which soon became the serious rivals to the popularity of flute-playing clocks, having small proportions and a delightful tone to recommend them. Free metal reeds began to be widely used, gradually replacing pipes in instruments of the organ type, The rapid growth of production created condicions in which problems in which problems which had occupied men's minds in vain could now be solved successfully. Science was applied to practice to an extent never seen before, and there was no invention in the sphere of mechanical musical instruments which was not taken over by the industry. The most important of these was a preumatic mechanism which was adapted for all kinds of instruments. Most successful was the mechanical piano known as the "Pianola", in which playing could be controlled by levers. In 1912 a concert was held in Queen's Hall, London, at which the London Symphony Orchestra conducted by Arthur Nikisch played Grieg's Pianoforte Concerto in A minor; the solo part was played by Easthope Martin on a pianola. Elena Gerhardt sang several songs to pianola accompaniment at the same concert. The same programme was repeated in Paris a year later, with Camille Chevillard conducting the Lamoureux Orchestra.

So far the inventors and makers of mechanical musical instruments had been spurred by the ambition to make instruments which would reproduce as nearly as possible the music performed by human beings. The
music they played was originally intended for other instruments in most cases. After the introduction of a pneumatic mechanism, however, there was an increasing, tendency to write music specially for the automatic organs and pianos; this was music which a human performer could not play - it was music for an automatophonic instrument only. Not until now did the mechanical instruments come into their own as the equals of other musical instruments; their music was music written for them, just as other works were written for the violin or the piano, and was no longer merely reproduced music.

Paul Gaubert composed the incidental music for Calderon's play El Magico prodigioso, scored for a small number of voices and instruments, chief of which is the pianola. Great composers like Debussy, Elgar, Grieg, Humperdinck and others wrote or arranged music for the pianola, or at least recommended works for the instrument. In his Cbronicle of My Life, Igor Stravinsky mentions a composition of his for the pianola, and talks about his collaboration wi th the firm of Pleyel. Stravinsky explained his interest in this instrument by the fact that the new problems it presented entiched his work, besides the desire he felt to aid pianists in the correct interpretation of his works. Later Stravinsky signed a contract with the English firm of Aeolian, London, to play his compositions on perforated strips for the Duo-Art pianola. Furcher evidence of Stravinsky's extreme interest in this instrument is his attempt to combine mechanical performance with that of musicians and singers, a remarkable suggescion first made by Kircher in the seventeenth century. Stravinsky began scoring his ballet The Wedding for pianola, mechanical hamonium, percussion instruments and two cymbalons. Not until he had completed two scenes did he realise how difficult it would be for a conductor to co-ordinate mechanical with live performers.

George Ancheil carried on this line with his Ballet mecanique, followed by Paul Hindemith and Emest Toch, who performed their compositions for mechanical instruments at the Baden chamber music festival in 1925. In 1926 a 'Alechanical Music Festival' was held in Baden, and works by Toch, Hindemith and Gerhart Munch were performed. Besides his music for the pianola, Hindemith wrote the music for OskarSchlemmer's Triadic Ballet, for the roll of the 'great Italian barrel organ'.

The high point in the construction of of mechanical instruments was reached in the twenties of our century by Hupfeld's Trifonola and the Welte-Mignon pianola. These types
permitted variations in performance; for example instead of using levers to achieve different effects, the mechanism could be left to reproduce the exact performance by the pianist. This
was' the furthest point reached, for what followed the Trifonola was a new art, the art of perfect sound recording and faithful reproduction - the art of musical machines.

# F. NICOLE OVERTURE BOX 

by<br>Jocelyn R. Walker

$T$0 every collector, once in a while - perhaps only once in lifetime - comes the thrill when the so often rebuffed enquiry for musical boxes results in the acquisition of something really fine. Such was my good fortane when on holiday in the North Country in September 1967. I am now the proud owner of a very distinguished box by F. Nicole. However, some anxious days were spent before I could be sure of its possession.

A double-fronted house in the High Street proclaimed "Teas and Antiques". The tea proved to be indifferent and the antiques dubious. It was only when departing from the shop that my companion said "I suppose you do have musical boxes sometimes". After questioning the assistant and receiving the usual disclaimers, the lady thought for a minute and said "Now I come to think of it, there was something under that table". Heedless of trouser knees, we burrowed through a morass of junk on the floor, pulling out cardboard boxes and rolls of faded brocade, eventually unearthing a medium sized, plain looking box. One glance told me that this was a 'find' - but the owner of the shop was abroad and the assistant did not know what was being asked for the box, nor would she let it go against a deposit. I had to return to Surrey (and to work) the next day empty handed but with the promise that when the owner returned I would be told the price. This proved to be so low by today's standards that it was well worth the special journey which my friend made to collect it for me. Even this trip was not without incident; the northbound train being held up by cows on the line during the night !

A glance at the photographs will give an idea of the general appearance of this box, but
some more details may be of interest. The case is of simple design and is veneered on the outside in a glowing, pale wood which, I am told, is bleached mahogany. The lid is also veneered on the inside There are flush fitting,folding brass handles at the sides and the hole for the winding key has a brass mount. The usual three operating levers are shallow brass buttons mounted on a brass plate with beautifully engraved directions at each position of the controls. The repeat/change lever is marked 'Meme air' and Changement d'air'; the stop/start: 'Arrete a fin de 1'air' and 'Detente'; and the instant stop says 'Musique' and 'Arrete Volonte'.


The heavy brass bed-plate bears the number 84 in the top right-hand cornere

The comb, which is in two sections, carries the name FRANCs, NICOLE on each one. There is a total of 200 teeth. The length of the comb being only $10.5 / 8^{n}$ the teeth are very fine, presenting the appearance of a large snuff box comb. The lower 175 teeth have square cut ends with very fine points. In common with many other boxes, the teeth of the upper quarter of this comb are tapered from their roots to their tips. This probably

accounts for the considerable difference in the tone of the high notes which seem to play the wood-wind parts. There are 12 comb screws without washers, eleven of which are punched with identifying marks.

The gear-train is very fine and small for a box of this size and spring power.

The cylinder is $101 / 2^{\prime \prime}$ long and $23 / 4^{\prime \prime}$ thick. Around its extreme left-hand edge there are four very fine grooves or thread-cuts. When at rest at the end of a tune a small notch $1 / 4^{n}$ long on the cylinder lies adjacent to, but never touching, a steel, square-tipped projection mounted by two screws to the rear edge of the hole in the bed-plate in which the cylinder tums. When the cylinder tums the grooves engage lightly with fine perpendicular cuts in the steel projection thus providing a safety precaution against the possibility of the cylinder being knocked or tipped out of register, thereby causing damage to the pins or teeth during performance or while at rest at the half-turn during its third shiftra facility later described.

There is a small brass extension screwed to the cylinder edge at its treble end which carries one extra pin. This plays the top tooth of the comb, just once in the whole programme.

While nearly all musical box cylinders are marked round at the point where each tooth should be when at the start of the first tune, this' one is also ruled lengthways with lines 1/12". apart, looking like drawings one has seen of the barrels for early barrel-organs. $\dagger$ -

The cylinder shifts three times - the snail having six.points. The music of this box is by Rossini, there being two overtures and another two pieces taking half a revolution. The performance is splendid and full of orchestral colour. A steel rod attached to the end of the cylinder withdraws from the slot halfway round the gully in the great wheel during the third shift, allowing the detent to operate if desired to stop at the end of the first of the two "half-revolution" tunes.

Were I to be cast away alone on that Desert Island and asked which eight musical boxes I would take with me and then which, if I could have only one, I would keep, this would be my choice.
$\dagger$ This is a characteristic also found in the early 17th century clockwork spinets made in Augsburg by Samuel Bidermann, both father and son. (EDITOR)

The impressive appearance of the superb Francois Nicole box described by Jocelyn Walker in good quality boxes, it is normal to find a greater distance between the points of the comb teeth at the bass than at the treble. On this box there is a very marked difference in the spacing of the circumferential ruling. Just visible at the back of the cylinder at the motor end is the small steel bracket which carries fine teeth to engage in the cylinder end (see reference in article).
J. P. HALL has in stock at present:-

Astor barrel pipe organ.
Pistor barrel pipe organ.
Davrainville clockwork barrel pipe organ.
Small fair organ
Organ musical box.
Cabinet roller organ. (2)
Polyphon upright model 19.5/8*. 1d in the slot. (2).
French automata doll, with 2 tune music.
Chordaphon mechanical zither with discs.
Tanzbar automatic melodian, with rolls.
Piano player with 90 rolls s
Serinette.
Automata picture.
Phonographs and cylinders.
E.M.G. gramophone with 6 ft hom, $28^{n}$ diameter at wide end.
58, 65 and 88 note music rolis.
A few musical boxes, disc machines, organettes and albums.
Positive pipe organ with oak case.
Dulcitone. (2)
For a customer a huge musical box with 5 cylinders, $26^{\prime \prime} \times 31 / 4^{*}$, 10 bells, wood block, drum, triangle, organ pipes, engraved tune sheet, complete with table, nearly 5 ft long and 4 ft high. AMI RIVENC, Manufacturer, Geneva. Arriving shortly, Orchestrelle, Singing bird, Monkey Automata, and a barrel piano complete with drums, cymbals and hand cart.


In his School for Singing, Balfe said: "A singer may have the finest voice in the world, and the most brilliant execution; but these qualities will only enable him to gratify the ear, without touching the heart, unless he add to them that energetic and impassioned delivery of the words which is to be acquired only by a thorough knowledge of their meaning and spirit, and without which he will never be able (in the happy phrase of Shakespeare) to "discourse most eloquent music". Eloquence in music, like eloquence in in language, consists in the utterance of impressive thoughts in an impressive manner."

IT HAS been stated by some historians that the works of Michael William Balfe were never really of a high order, but if the real value of music lies in its ability to satisfy the listener, and to linger pleasantly in his memory, then Balfe must be credited as one of the world's greatest composer.

The impact of Balfe's music on the development and popularity of the music box cannot be accurately estimated, but it may be stated that the effect of the music box on his own astonishing career was of a magnitude which he himself could hardly have overlooked, or failed to appreciate during his lifetime. The golden age of Balfe's productive life and that of the music box were by coincidence concurrent. Second only to live performances of his operas, the music box served as did no other media to popularize (if not immortalize) his best compositions. Such was the quality of his work that its popular appeal did not perish with its composer. Many of his melodies are still appreciated today as beloved examples of the florid and sentimental musical style most characteristic of the Victorian era. It is fortunate that these same delightful airs may still be heard as they were in the past through
surviving examples of nineteenth century mechanical musical instriuments.

Balfe, who was born in Dublin on May 15, 1808, was introduced as a violinist at the age of eight. His father, himself a reputable violinist, wisely exercised a strong hand in the guidance of the boy's career. At ten, Michael had composed his first ballad which he titled "The Lover's Mistake". At seventeen he was tutored in composition by C.F. Hom, the organist at St. George's Chapel, Windsor, and shortly afterwards he was schooled in counterpoint by Frederici. As he was also developing an exceptionally fine baritone voice, it was next decided that he go to Milan for voice training under Filippo Galli. During his spare moments in Milan, he set to work composing a ballet which he titled "La Perouse". When he timidly presented the work to La Scala, it was not only accepted for presentation, but was hailed as an important work, and was praised for its melodious and richly orchestrated score. With this success, the talented young Irishman was on his way.

Balfe's next move was to Paris for instruction under Cherubini. Here he was presented to the great Rossini, who being favourably impressed with the young man, selected him to sing the lofty role of Figaro in "Barbiere". He
handled this important role with such success that soon dhereafter, in 1828 , he was signed as leading batitone ar the Palemso Opera House. Immersed in the environment of the grand opera, and with the buming desire to create musical forms strong within him, he brought forth his first successful opera, "I Rivale". Soon afterwards he followed this. with three others. The last, titled "The Siege of Rocielle" was a brilliant success when presented at Drury Lane in 1835. This opera ran for three months and established Balfe as one of the most famous composers of his day,

It is interesting to note that Balfe enjoyed his first successes as an operatic composer during the period when the musical box was gaining wide and rapid acceptance as a novel medium of tasteful home entertainment.

Early in 1836 his opera "The Maid of Astois ${ }^{\text {r }}$ was presented with Malibran, then at the height of her fame, in the leading part. The outstanding ballad of this immensely success ful opera was "The Light of Other Days has faded. This lovely air "pinned" on many of the easly fowr-air cartels was among the first of Balfe's melodies to eam musical box billing on a latge scale. An example in the auchor's collection presenting the air is F. Lecoultre (No. 11639), a four tune box marketed through B, B. \& C. of Geneva.

Produced in 1838 were Balfe's operas "Catherine Grey" and "Joan of Arc" in which he sang the baritone role. The haunung overture to "Catherine Grey" was captured in a four overture carrel by F. Lecoultre (No. 11086) also marketed through B.B. \& C.

The following year Balfe presented "Diadeste" at Drury Lane, and "Falstaff" at Her Majesty's Theatre, each work in tum enhancing his reputation.

Following a period of financial reverses as manager of the English Opera House, Balfe left for Paris somewhat disillusioned. A proposal by Scribe to collaborate in the making of a comic opera pleased Balfe, and the result was the chaming "Le Puits $\mathrm{d}^{\prime}$ Amour", which they presented ar the Opera Comique with complete success. They followed this with "Les Quatre Fils d'Aymon" which was equally successful.

Basking in the glow of success, Balfe retumed so England, and in 1843 produced his masterpiece, "The Bobemian Girl". The libretto was adapted by che poet Alfred Bunn for Fanny Elssier's ballec "The Gypsy" Wich overnight popularity, the opera was eranslated
for production in most of Europe and was as enthusiastically received in Germany and America as it was in England. The score was richly endowed with heart-warming ballads, but the three singled out for perennial hits were "I dreamt that I dwelt in marble hall's", "The heart bowed down", both from Act II, and "Then you'll remember me" ("When other lips") from Act III.

The opera's acclaim was strongly sustained by its melodious quality, and it was subsequently produced in Italian and French, the French version being given at the l.yrique in Paris. For this venture, Balfe was awarded the ribbon of "Chevalier of the Legion of Honour" by Napoleon III, and from the Regent of Spain he was awarded the title of the "Order of Carlos III". Few composers have been more richly rewarded during their lifetime than was Michael William Balfe.

Following his "Bohemian Girl" Balfe wrote several more operas, but the only one which approached the popularity of the earlier work was "Satanella", which he presented at the Lyceum in 1858. One song from this opera, "The Power of Love" attained immense popularity, and it belped greatly to prolong the period of the opera's engagement. This lovely air appeared soon after on the programmes of thousands of musical boxes, and retained its billing on tune sheets for as long as musical boxes were made.

As "The light of other days" was fading in Balfe's own life, he retired to an abbey in Hertfordshire where he raised sheep until his death following a severe cold in 1870.

Nicole Freres, during their entire period of joint production, always had a selection of boxes in their inventory programmed with an air or two from one of Balfe's operas. Most popular, of course, were airs from "Bohemian Girl" and Satanella". A six--air cartel sold by Nicole in 1844, (No. 26221), presented a simple and moving rendition of "Then you'll remember me". Fifty-five years later, and thirty years after Balfe's death, Nicole was offering a series of eight-air cylinders "acceptable to nine models of interchangeable cylinder boxes". Cylinder No. 39 presented all "Bohemian Girl" selections. Cylinder No. 42 presented a programme from "Satanella".

In the 1870 catalogue, Nicole listed one ten-air box which presented "Then you'll remember me" and "When other lips" on the same programme! This is puzzling to the author, who had concluded previously from all available evidence that these were two names
for the same song.
To list the numerous makers who offered programmes or selections from Balfe's most popular works, would serve only to burden the reader, however, it is interesting to mention a few more.

Polyphon offered selections from "Bohemian Girl" and "Satanella" in all disc sizes. Fortuna edited "I dreamt that I dwelt in marble halls" and "My heart bowed down" in no less than ten disc sizes.
"Then you'll remember me" was a good seller for the Capitol Box in the $41 / 4^{n}$ (No. 40) and $51 / 2^{\prime \prime}$ (No. 546) cuff sizes.

Roll No. 501 of Seraphone (and Celestina) featured four selections from "Bohemian Girl".

The $151 / 2$ " Regina discs of "Marble halls" and "Then you'll remember me" (Nos. 1824 and 1327) possibly sold in greater quantities than did any other Regina disc edited in this size. Balfe may have been a candidate for a "golden disc" from the Regina company for each had he lived to witness the extraordinary demand for his music during the latter years of the "Gay Nineties"
'The Oxford Companion to Music' has this to say concerning Michael William Balfe's contribution to song: "His instinct for easy, flowing melody, unembarrassed by any subtleties of hamony or orchestration, is seen in his one surviving English opera (surviving only on the smaller English stage, but there on a firmly established basis), "The Bohemian Girl".

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©Simple Crossword>


## Across

1. That which contains No, 3 across,
2. The driving force of it all.
3. Intermediate between disc and comb.
4. The place for much inlay.
5. Most boxes will ne in need of this when found.
6. Birthplace of the disc box.
7. A combination of $\operatorname{cog}$ wheels.
8. Heres hoping they have not powdered!
9. The dictionary definition is "rods, axes or arbors that revolve*.
10. The early boxes were wound with this.
11. The first American ones pertaining to musical boxes were Nos, 95915 and 105972
12. Tragedy if your escapement does this!
13. Lion and Unicorn on the tune sheet indicates this maker.

## Down

1. Our main object is collecting these-
2. That of Dawkins, for instance, was a sphinx.
3. Best of the Swiss disc boxes?
4. By its name, this should sound glorious!
5. The butterfly has these.
6. Three-disc machine made by Symphonion.
7. Idlers are not necessarily this!
8. That of the musical box is unfortunately over.
9. Large numbers of 1ater boxes play this number of airs

## SOCIETY MEETING

## 

THE Spring meeting of the Musical Box Society of Great Britain was held in London at the Great Western Royal Hotel, Paddington, on Saturday and Sunday, May 18th and 19th.

More than a hundred Members and guests attended the event which was held in the same rooms which have seen our past two meetings. As usual, many Members brought along boxes for display and the immediate impression was that the quality of boxes shown this year was considerably higher than at earlier meetings. One of the choice items, a Francois Nicole, is the subject of a separate article within this issue. In the field of large or cartel boxes, there were six boxes, several of which were of outstanding quality. President Bob Burnett showed a large Nicole overture box playing, among others, Bellini's overture "I Puritani", not a commonly found piece. Great interest was shown in a forte-piano box made by Moulinie Aine ("The Elder"). Although the
comb arrangement was normal, i.e. bass teeth on the left, the motor was to the right and the escapement to the left of the cylinder.

## SINGING BIRD MAKERS A MYTH ?

The meeting began on Saturday morning with coffee after which the morning paper was presented by Member W. Galbraith. An expert on singing bird automata, he spoke on the history of the caged and boxed singing bird and revealed that such pieces as attributed to Rochat, Brugier and Droz were the products of a highly developed industry in which separate craftsmen would each be responsible for the mass production of an individual component part. There were, for example, specialists in the art of steel work, wheel cutting, brasswork, framing, making birds, feathering birds, making the bellows and also the delicate and often fine enamel work. The works attributed to the much-cherished makers were thus the craft of many experts. The true singing bird box was sometimes made as a prestige piece by a clockmaker who would make every piece from start to finish.
$\mathrm{Mr}_{r}$ Galbraith went on to state that the earliest singing birds were painted and not feathered. With the development of fine metals craft, cases were made in England, exported to Switzerland, there fitted with the movements and distributed from there. Far more research was needed, he said, to determine the identities of some of the other craftsmen involved in


A corner of the display tables showing musical box literature in the foreground. Members, intent on the musical boxes on exhibition, present their backs to the camera in this study of the automataphonophile at sport.
making singing birds, particularly the fine enamellers and casemakers. These men, specialising in one aspect of the whole, would perform just that one function on work for several different makers and thus constant characteristics appear in the alleged work of different 'makers'. The earliest singing bird which Mr, Galbraith had seen was made by a clockmaker called Barber during the peak of the London watch and clockmaking industry about $1680 .^{\circ}$ Some singing birds of this period had bellows made with wooden boards. Whilst Droz also made clocks and automata, Rochat and Brugier produced only bird boxes. Singing birds were far from cheap when made. At a time when Tompion was charging 20 guineas for a watch (1690-1700) the singing bird would have cost a small fortune, particularly as it was not unusual for some watches to cost three to four hundred guineas.

Mr. Galbraith's talk was followed by questions from Members, after which luncheon was taken,

## SUBSCRIPTIONS DATE CHANGE LIKELY

Immediately after luncheon, Members assembled for the Annual General Meeting under the chairmanship of President Bob Burnett. A welcome was extended to our Members, particularly those who had come from overseas to attend, We were, he said, pleased to see again Mr. \& Mrs. Hughes Ryder from New Jersey, and also Mr. Murtogh Guiness from New York. A letter was read which had been received from the President of the American Musical Box Society International, Mr. Harvey


One of the many fine boxes on show - a large Nicole Freres with detachable ratchet lever wind.

Roeh1, which wished us success. Secretary Cyril de Vere Green reported that, although the growth of our Society had not entirely continued at the same rate as last year, the amount of correspondence had increased and last year some 1,500 items of mail were despatched. Treasurer David Tallis presented the financial report which showed that, following the publication of the last magazine and also the Directory of Members, Society funds were somewhat lower than at the same time last year. Editor Arthur Ord-Hume in presenting his report stated how conscious he was that his job was in spending the Society funds and he only hoped that Members agreed with the way he was disposing of their money. He outlined some of the material which was to be used in forthcoming issues, Regarding the Directory of Members, he said that the decision to omit Member's telephone numbers was in part due to the length of time needed to prepare and print the Directory and also the general change-over taking place throughout the country to the numerical system of telephone numbering.

The election of officers for the following year then followed; there being no fresh nominations, the existing Committee and Officers were returned unanimously.

The question was raised as to whether or not the payment of subscriptions should become due at a specific time during the year rather than the present arrangement which did incur a great deal of administration and expense in postage, It was agreed that David Tallis would evolve a system which would be easier to manage without Members being put to embarrassment, and that his plan would be discussed and considered by the Executive Committee.

In response to a request from a Member, it was decided that the Autumn meeting would be brought forward from November to October and a date was subsequently fixed for the Autumn meeting at Saturday, October 12th, 1968. There being no further business, the A.G.M. was concluded at $2.55 \mathrm{p} . \mathrm{m}$.

## WORLD'S BIGGEST BARREL ORGAN

The first of the afternoon papers, entitled "From Singing Engines to Mysterious Monsters", was presented by Mr. A. Ord-Hume, The subject of his talk was giant barrel organs built in London, and he began by outlining the circumstances surrounding the two machine organs constructed for the Earl of Bute, the second one being by Alexander Cumming in 1787 . Sadly, this organ was ultimately dismantled and
re-acquired by its builder only to be lost when he died shortly afterwards,

The second great barrel organ was built by Flight \& Robson for the Earl of Kirkwall and the success of this led to the construction of the vast Apollonicon which played its mechanical music from sets of three wooden barrels, two of which were eight feet long and one somewhat shorter for the bass notes. Costing $£ 10,000$ to make, it could also be played upon by five organists at once. Mr. Ord-Hume then presented the findings of his exhaustive search into the history of this organ which was for at least twenty years the only concert organ giving regular recitals in London. For so great an organ it seemed remarkable, Mr. Ord-Hume said, that so very little information about it survived, least of all any illustration. But he had succeeded in locating from various sources not only the specification of the organ, but many details of its mechanical parts. To illustrate the organ, he presented a slide depicting his interpretation of a description of the case which he had found. Certain information had given rise to doubts as to whether the organ had in fact been taken to pieces and scrapped in 1840 or thereabouts as generally accepted, and Mr . Ord-Hume had made the remarkable discovery that at least three Apollonicon organs had been made, two by Flight \& Robson, the second one going to a Comish baronet in the 1830's, and the third made in the late 1840's by Bevington \& Sons for the Colosseum in Regents Park.

In a series of fascinating references, it was shown that the Bevington organ ultimately went to the Royal Music Hall in Holborn in 1868, and that the Flight \& Robson organ was still to be found performing mechanically in the Strand in 1851,

## SNUFF BOXES IN COLOUR

The second of the afternoon's papers was presented by Mr, C. de Vere Green who spoke about some of the more interesting miniature musical items in his very large collection. He has compiled a superb set of colour slides of these, some of which feature greatly detailed close-ups of minute details of items, 1Further illustrated by tape-recorded sound, Mr. de Vere Green's talk was well received and many Members were heard to express their envy of items in his collection A pearl-studded slim gold box with two richly enamelled blue lids drew gasps from the audience. This has a platform or disc musical movement.

Following the recess for afternoon tea, the third talk of the afternoon session was pre-


In an age of ties of peculiar colours and designs, that of Member Mr. G. Worrall of Sheffield with its strong mechanical musical motif may not be considered too unusual. Made by Mrs. Worrall, it shows a Polyphon and a separate comb set. The star wheels and dampers are the real thing and make forming a knot a precision business. Could, one wonders, a bent damdamper result in a squeaking tie ?.
sented by Mr. Hughes Ryder from America who spoke on American disc-playing boxes, illustrated with slides. He showed some excellent pictures of the early Symphonion and Regina factories showing workers producing musical boxes. By comparison, we saw the same factories as they are today.

## FAIR ORGAN IN THE BAR

The schedule for the day ended with a dinner at which we were pleased to welcome Mr. \& Mrs. Jesse Lippencott of New Jersey who had just flown in from Geneva. The welcoming address to the guests was made by Member Bruce Angrave who confided whimsically that his own house was so full of musical boxes that he found it a delight to come to a place where there was room to move about. Guest of honour Mr. Norman Seeney responded, confessing that he knew little about musical boxes, nor even owned one. In the irony of things, this situation was soon altered when Mr, Seeney succeeded in winning the key-wind Nicole Freres box, donated to
the Society by our Secretary for raffle. The winning ticket was drawn for Mrs. Seeney! Mr. Murtogh Guiness, introduced as having the finest collection of musical boxes and automata in the world, made a short address, stating how very pleased and honoured he was to be with us.


35-key Limonaire fair organ making its first appearance in England complete with catchy French tunes.

Dinner concluded, everyone repaired to the bar where Mr. Ord-Hume and Mr. Webb demonstrated a superbly restored Limonaire fair organ. Found by Graham Webb derelict in Paris a few months ago, Arthur Ord-Hume rebuilt it in eight weeks and it was thus making its first public performance in England. As the evening wore on, the more alert and awake Members may have caught sight of a certain Founder Member performing a fanless fan-dance around the room flashing his eyebrows. The presence of the organ created quite a stir in the hotel and during the evening many not-so-young faces could be seen pressed against the glass doors looking in.

## SKILLED REPAIRS DEMONSTRATED

[^0]assistants. Watched by an intent audience they all donned white dustcoats, the Polyphon was set on its back on the worktable, and the four experts, set to with occasional muttered calls for spanners, screwdrivers and so on. Before our eyes the instrument was dismembered and stripped. The whole procedure seemed akin to one of those much-publicised new types of surgical operation now being carried out in various parts of the world, and one Member was heard to mutter 'I wonder who the donor was! ${ }^{n}$.

After morning coffee, the final demonstration was of cylinder-box comb-dampering presented by Member Mike Gilbert With concise explanations and well-planned demonstration, he exhibited a high order of skill which impressed everybody. The drama of drilling out a broken damper pin using a tiny battery-operated jewellers drill held the audience on the edge of seats, the tension only relaxing when it was announced that the pin had in fact been drilled out and the drill switched off. The presence of two large sponges on the table caused some mystification, until Mr. Gilbert nonchalantly picked them up, arranged them before him, and leant his elbows on them!

The Sunday workshop meeting concluded at $12.30 \mathrm{pr} \mathrm{m}_{\text {. T The assistance and co-operation }}$ rendered by the hotel manager, Mr, Hawkins, was greatly appreciated and the illustrations accompanying this report were taken by the hotel photographer,


Once a feature of Harrods, the London department store, this Polyphon clock unusual in that it had a $24 / 1 / 2 \mathrm{in}$. musical movement. Whilst most of these instruments had an 11 in . or $151 / 2 \mathrm{in}$. movement, this one appears to be a very special custom-made example. On the following pages can be seen details of this interesting combination. The attachment of the of the zither to the combs, offered as an optional extra on all Polyphons, is seldom found today.




What appears to have been a fine repertoire of music accompanied this instrument, sold some while ago, in a matching case which stood beside it.

Some idea of the size of this Polyphon, which must have stood over nine feet high, can be gained from this view of the mechanism through the open door.

Pictures by courtesy of Mr. Murdoch, Piano Department, Harrods.


From Member Keith Harding comes these pictures of an interesting Paillard musical box. The interchangeable cylinders are dropped over a fixed arbor. On the following page is reproduced the instruction sheet contained in the lid,


## PAILLARD'S MUSICAL BOXES. <br> STYLES No 601 \& 602.

## Instructions for changing the Cylinders.



To take out the Cylinder, push the knob A to the left, at the same time pressing downward until it catches; then withdraw the Cylinder.

To insert another Cylinder, slide it in and over the slots B B, pressing it toward the comb, and lift knob A, which will push the Cylinder in place. The box will not start unless these instructions are properly followed.

It is important that no attempt should be made either to take out or insert a Cylinder before the tune is finished, when the bar $D$ rests in front of the comb.


This rare print from the Editor's collection, advertises an exhibition of "The Musical Lady", one of Maillardet's remarkable automata.

## THE ORPHEUS

## |CLARK PATENT|

## The New Ideal Self=playing Organ.



Once you hear this wonderful Instrument, you will never listen to any other Organ.

## THE "ORPHEUS" IS THE HIGHEST PRODOCTION OF THE REED ORGAN.

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# London in the 'Nineties 

A Survey of Mechanical Music in the Closing Years of the XIXth Century

by

Arthur W.J.G. Ord-Hume

Continued

THE closing years of the XIXth century were rich indeed for the numbers of mechanical musical instruments made. Although by this time the quality of the cylinder musical box and its market were deteriorating steadily in the face of competition from cheaper and, in some cases, better instruments, the demand was increasing at such a rate that the diminishing percentage was counteracted by the general rise in all areas of the market.

Although Nicole Freres and several other reputable makers refused to lower their standards and by that decision gradually lost their share of the market, many others moved with the times and the factories of Paillard, Thorens, Karrer and so on applied mass-production. techniques to their assembly lines.

In the late 1880's and 1890's, the principle rival to the cylinder musical box had been the organette, some of which sold for but a few shillings, Now, with the invention and perfection of the disc musical box, the decline of the traditional musical box accelerated. The industry geared itself to disc boxes and, as we saw in Part I of this survey, a wide variety of extremely fine instruments were being produced Zimmermann was probably the first to produce a 'new generation' of disc machines, absorbing all the best features of his contemporaries into his Fortuna range. He then formed a subsidiary company to produce the Adler (which used the same trade-mark as Fortuna).

It fell to the Swiss to invent the projectionless musical box disc and a machine to play it.

## ERRATA

Owing to a printing error, a line of type was lost from the first paragraph on Page 363. This should read:
No doubt that particular fellow had been carried away by the sentiments expressed by the Rev. H. Haweis who averred that "organ grinders are the men who bring sunshine to the slums*.

Mermod Freres introduced the Stella, the discs for which were absolutely smooth on both sides. It was possible to play the disc either way round and, as many present day collectors know some interesting effects can be produced by playing their favourite discs upside down!

The Stella agency, first held by Gaeter, was looked after in London by Imhof \& Mukle from 1898 onwards. It is a sad truth that most of these boxes, although by many standards better than Polyphon, Symphonion and Regina, did not achieve the sales they deserved, Names became household words and only today is it that we see described "Polyphon by Stella" in the sales ads. The names of the 'big three' were known and respected, and it was usually for their products and their products alone that customers asked.

## The LATEST and BEST Musical Box is th.

## SHPETLA.

No pins or projections to break off.


By appointment to Her Majesty the Queen.
TEN GOLD MEDALS.
IMFOF \& HUETK, 110, NEX OXFORD ST*, W.C.

## TO DEALERS.



## The Victolian Organ

 Is unique, and can be played by ANY ONE WITHOUT MUSICAL KNOWLEDGE. It has also a KEY-BOARD, which can be played in the asual manner by Musicians. It enables ANY ONE WITHOUT MUSICAL EDUCATION to play (after one hour's instruction) Liszt's Rhapsodies, Beethoven's Sonatas, Chopin's Waltzes and Nocturnes,-in fact, every kind of Music both Sacred and Secular. Invaluable for all kinds of Dance Music.The Price is only Seventeen Guineas.

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## W. W. KIMBALL CO.



## ORGAIS, PIIIOFOORISS, PPPE OREAIIS,

## Self-playing Organs.

Special Attention is called to the New Style Self-playing Organ illustrated herewith, full particulars of which will be forwarded on application. The cheapest. simplest, and best

Self-playing Oıgan on the Market.
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## ROBERT M. MARPLES \& SON,

 57, Holborn Viaduct, London, EC
## NEW INTHNMIOTS $\%$ DESIGNS.

## The Orpheus Self-playing Organ.

The first delivery of "The Orpheus" arrived at Messrs. Story \& Clark's a mohth ago; and ere the first one was unpacked, Mr. Charles Wagener was "booted and spurred," and soon on the war path with a sample instrument. Fourteen were disposed of in a week atter their arrival, all of Story \& Clark's agents having the "first refusal." One energetic dealer took forcible possession of the sample, and Messrs. Methven, Simpson secured the Dundee territory. Ere these lines see the light, seven additional instruments will haye arrived; but
they are all sold. About the first day of this month, Mr. Wagener will take another sample round the Midlands. "The Orpheus" is a handsome American organ played by means of perforated slips, and pedalled in the usual manner. At present there are a hundred tunes available, but shortly there will be on sale twelve times th>t number. It was a pleasure the other day for us to hear the overture to "Semiramide" rolled off. But a musician may discard the perforated rolls if he likes, and play by the manual. The organ has three and a half full sets; and all reeds sound, whichever way they be utilized. The retail prices are from $£ 75$ upwards. Mr. Clark (the patentee) worked upon the invention for six years.


The last years of the century also saw the perfection of the pneumatic player action, first devised for harmoniums and organs, and later applied by E. S. Votey to the piano-player and later still to the player-piano. The Chicago firm of Story \& Clark had a London Showroom and in 1898 they introduced in England the Otpheus Self-Playing Organ. Competition in this particular field was strong, for Geo. Whight were selling the Victolian, William Gerecke the Pneuma made in Germany by Kuhl \& K1att, and Robert Marples had the agency for Kimball player organs. All these were reed instruments and were generally inferior to the White \& Wilcox "Symphony" being marketed by Murdoch's in London. The peak of perfection of these instruments came with the Aeolian Orchestrelle in 1899-1900.

It was a far cry from these primitive pneumatic-action player harmoniums to the player organs of the next quarter century which was to see the arrival of the famed Mustel organ with roll playing attachment, not to mention great pipe organs by such British makers as R. Spurden Rutt, Jardines and others. Alas! none of these survive with their player actions, having long since been "improved". But we are ahead of ourselves by a long, long way.

Today many people mis-spell the products of the house of Lochmann in Leipzig as "Symphonium" instead of "Symphonion". That this is no new foible is shown by the number of contemporary references in sales material to

# ZппнвRиант, 

67, New Bond Street, London, W.

## 'FORTUNAS'

THE LATEST NOVELTY MUSICAL BOX.
And with Penny-in-the-Slot Attachment.
Far Superioh to other Mugical Boxes OF THIS KIND.
PRICES, TNCLUDLNG SIX DIBCS, from \&1.
 Fortuna Style 370 118 Broad Stee Tongues, 14 Harmonium Reeds, Triangle and Drum. Size of Disc, 26 in , diameter.


Pries, facluding Six Disos, ess.
Specially adapted for Large Halle, Hotels, \&ce., \&c. Sole Agent for the United Kingdom-
JUL, HEINR.ZIMMERMANN 67, New Bond Street, London. Factorien: Leipzig, St. Petersbarg, Moecow.

## ELECTRIC PIANOS

Newest \& most Remarkable Invention.
Even the most difficult Music is accurately performed by this Mechanical Arrangement, which does not in any way interfere with the Plano being used in the ordinary way. Whoicrale Depot-
Jul. Heinr. Zimmermann, 67, New Bond Street, London. And at Lelpalg, 8t. Peterabarg, Moscov. Write for Complete Catalogue. -
the instrument as "Symphonium :
The Symphonion Co. opened its doors in 1900 in Ely Place, that'stately row of mansions in Holborn built on the site of the famous palace of Ely Place. As well as stocking their own musical boxes, they sold phonographs, the Phoenix organette and also did repairs to all types of musical boxes.
It was during 1901 that Paul Lochmann moved from Leipzig to Zeulenroda (Thuringen) in Central Germany, setting up the Original-Musikwerke Paul Lochmann GmbH . Here he put into production his new brainchild, the Lochmann Original series of disc-playing musical boxes. These were very fine pieces of work and, no doubt following on some of the acoustical teachings evidenced by the Regina, used the entire case as a resonator. He also made a pianoorchestrion called the Original Konzert Piano. This was made in 1902.
In that same year, Schubbe 8 d Co. of Berlin, claimed to be the oldest factory in Germany engaged in manufacturing mechanical musical instruments, brought out their largest orchestrion organ made to special order for an Eastern potentate.

The Sun was another disc musical box which was a 'nonstarter' in the popularity polls. Made in Geneva by Schramli $8_{6}$ Tschudin, it was available in both table and upright models. The firm also advertised as manufacturers of orchestrion organs but no instrument has so far come to light bearing their name and they may just have been agents for German makers. Orchestrions were, of course, also made in Switzerland, perhaps the largest manufacturers being Heller of Berne, the well-known musical box makers.
Disc musical boxes were 'big business' throughout Europe and at least one firm set up in business to manufacture the machinery needed to stamp out discs. Julius Berthold of Klingenthal would not only

## ESTABLISHED 1876.

## Symphonion

# Musical Boxes 

## AND <br> Tunes.



SUPPLIED FROM LONDON STOCK.
No delay in executing Orders, eilher for Instruments or Tunes.

## SMART \& CHEAP LINES por CHRISTMAS TRADE.

## Edison Phonograph

The only Reliable Machine on which you can make your own Records.

## Zonophones.

The latest and best Talking Maohine, with Indestructible Records.

## Phæenix Organettes.

With Metal Tunes.

Repairs to Musical Boxes anel TaLking Machines. PROMPT ARD MODKRATR. EBTIMCATBS FRRE.

Write fop Price Liet No. 4 and Terms to
SYYPHONION Co. London

28, BLY PLACB, HOLBORN, LONDON, E.C.

make the stamping machinery and supply the blanks, but they would also contract to make discs for musical box makers who were, perhaps too small to set up their own disc-making plant. Berthold's also produced music bands for book-playing instruments, organs and suchlike

The tremendous spread of business made this type of business venture a paying proposition and the sub-contracting of component manufacture became fairly common. In the manufacture of orchestrion organs, for example, those worked by descending weights mostly used standardised components produced as sets by Karl Ganter of Furtwangen.

This vast industry sent its products far and wide and


## Laufwerke und Bestandtheile,

insbesondere gestanzte und geprägte, für die gesammte Musikindastrie, sowie WalzenzeichenMaschinen fertigt als Specialitit

## Karl Ganter,

Mechan. Werkstätte, Furtwangen, Bad. Schwarzwald.
Bei gefl. Anfrage Muster oder Zeichnung, sowie Ansabe der Quanten erbeten.


# Orchestra-Pianos 

replacing a music band.

First Class Instruments.
Fitted for every climate. Schübbe \& Co., Berliul I.,

1 fetentiase is.
Eldest and largest factory of Orchestra-Pianos.


## 

Cnsere

## Violinflïten-Piano-Orchestrions


sind die besten and preiswerthesten fïr Konzert und Tan\%.

## Patent.

Selbstthiitiger
Weelisel und
Zuriuckrolle: der
P'api-rnoten.
Neu'ste
und solideste Sanart.

## Apollo Inlusikwerke

 max Espenhain \& Co. 4 anLeipaig-(íohlis, Dtrotheenstr. $\because 7$.


London was just one of many markets, London being the clearing house for the whole of the British Isles. But one product probably never came into Great Britain. This was the last great enterprise of the Symphonion company in Leipzig - the $25^{\circ}$ self-changer. Made in 1902 as their answer to the eimilar models turned out by Polyphon and Regina, this giant instrument was probably the cause of the closing of the firm only a year or two later. The patents for this were takenout in 1901 (British Pat. No. 14, 249) and in 1902 British Patent No. 2583 was issued covering a horizontal self-changing disc musical box. Both were in the name of the Fabrik Lochmann'scher Musikwerke of Leipzig No examples of either are known to survive.

The decline of the cylinder musical box continued during the ten to fifteen brief years of the boom in the disc musical box, but before the new century was but five years old, the musical box in all its forms was on the slippery slope. The great names closed their doors for the last time, the 'for sale' boards went up, dealers either shut down (like Klein) or took on other lines such as the new-fangled gramophone. The new century was filled with its own sounds which did not include those of the musical box, Germany shrugged its shoulders and applied all its talents to the improvement of the orchestrion. For London, however, attention was directed more in favour of the player piano than these giant organs. And the world as a whole was changing.


Breveté S.G.D. G. -Patented. Fatuatirl In alien Staten!
Höchste Auszeichnung: Chicago 1893.
Höchste Auszeichnung:
Diplôme d'Honneur: Antwerpen 1894.

Ifichste Anszeichnung:
Königl. Süchs. Staats-Medaille: leipzig 1897.
Wöchste Auszeichnung:
Gold Mredal Birmingham 1897.


## SymphonionMusiknerke

mit auswechselbaren und selbstthåtig auswechselnden Notenscheiben.
[131i


## Schatullen-

 Automatenin allen Grössen und jedem Geschmack entsprechend.


## Symphonions

zeichnen sich durch ihre solide, dauerhafte Konstruktion des Werkes und ibre geschmackroll ausgeführten Gehäuse vor allen anderen ł'abrikaten aus.


Man verlange ansführliche Be whreibung ete. von der

## ,SYIPPIOMIOM" Padilil Locinamiscier luikrurte Hktiengesellschaft <br> Lelpzig-6tohlis.

Katalope, Rioklameplakate, Motes- listen oto. oto. gratis und frameo.

# JUL. HEINR. ZIMMERMANN  <br> <br> 67, NEW BOND STREET, LONDON, W. <br> <br> 67, NEW BOND STREET, LONDON, W. And at Leipzig, St. Petersburg, and Moscov. 



The most Simple and Perfect Musical Box. Prices from 15s, 9d. to £60.

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High Class Violins,
Violas, Violoncellos,
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ZIMMERMANN
Violins \& Violin Strings.
ACCESSORIES for all Instruments
wholesale impoorte or
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Salsedo, De Meglio, Vinaccia, \&c.
GENUINE ITALIAN MANDOLINES, SPANISH GUITARS, RUSSIAN GUITARS, At Moderate Prices.
Lyon \& Healy American Banjos
ZITHERS, AUTOHARPS, STRINGS and FITTINGS.

## PIANOFORTES AND AMERICAN ORGANS.

Before musical boxes had proper tune sheets, and before a method of listing all the tunes on the cylinders of an interchangeable cylinder musical box was thought of, it was usual to have a separare card for each cylinder. When a particular cylinder was put into the mechanism, the appropriate card would be inserted in a recess in the inside back of the case. On one of my memorable visits to see our good friend, the late John E.T. Clark, at his Bidford-on-Avon home, he gave me a little envelope upon which was written in a flowing hand "6 Tune Cards: Walnut Musical Box"。 Of the box and its maker, I know nothing. That envelope in fact contained five cards finely written, now faded and no longer of value I reproduce them here for one startling reason cylinder number 6 played a tune from H.M.S. Pinafore which means that this style of tune sheet may well have been in use far later than we may hitherto have imagined


## WEEKS'S

## Royal Mechanical

EXHIBITION, 3, THchbome Street, Plccadilly,

OPPOSITE THE HAYMARKET.

## [Extract from The Theatrical Observer.]

"Fuil many a flower is born to blush unseen," says the poet, and there are flowers more brilliant than those Aladdin saw in the gardens of the Genius of the Lamp, if not unseen, at least unknown by a large portion of the public. We speak of the Mechanical Exhibition, at No. 3, Tichborne Street, Piccadilly, which we visited a few mornings ago with surprige and gratification. This Exhibition consists of a variety of the most costly and splendid Musical Clocks, Temples, Fountains, Birds, and almost every variety of animated nature represented by Mechanism of extraordinary perfection and beauty. Cascades fall, mills turn, carriages roll along, ships sail, birds flutter, sing and hop from perch to perch, flowers expand and bloom before you, decorated with saperb jeprellery, and all performing their appropriate movements by invisible Mechanism. The variety, as well as splendour, of this Exhibition is most extrsordinary; we will enumerate one or two objects which will, doubtless, be sufficient to induce our readers to inspect the whole; one superb assemblage of objects has for its pedestal an elephaut executed in gold, which winds ito trunk about, and moves its eyes and tait with an imitation of nature so perfect as almost to starile one. There is, and this pleased us as much as any part of the exhibition, a minute bird in a small cage of gold, which flutters its wings and warbles the exact notes of the nightingale.
"We underatand these magnificent specimens which constitute almost the labour of a long life, and were all executed by one individual, were originally intended as pnesents for the east, they have, indeed, all the gorgeous splendour, so admired there, and we can fancy the absorbing admiration they wotald create in the harems of the eastem monarchs, where their indolent hours mast be agreeably relieved by these splendid baubles, which bowever are so constructed as to combine in almost every instance some object of utifity. They are tastefulty disposed in an apartmeat brilliantly lit ap, from twelve to five o'clock.

Melbourne Exhibition, 1880-81.


HIGHEST AWARD For Perfection in Musical Boxes

GOLD MEDAL.


Sydney Exhibition, 1879-1680.

Inyentions Exhibition, 1885.


HIGHEST AWARD For Quality of tone and finish

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## TWO AIRS.

Price $f 1$ Is. od. Size $4 \frac{1}{2} \times 3 \times 2$. No. 1.
The Mocking Bird.
Silver Threads among the Gold.
No. 2.
Hypatia Valse.
Bonne Bouche Polka.

## THREE AIRS.

Price $£ \mathrm{I}$ 6s. od. Size $5 \times 3 \times 2$.
No. 3.
Hypatia Valse.
My Queen Valse.
Black and Tan Polka.
No. 4.
Three Little Maids.
Mikado.
Chanson. Les Cloches de Corneville.
Little Buttercap.
Pinafore.
No. 5.
Una Voce. Il Barbièro di Seviglia.
Brindisi. La Traviata.
Com' e gentil.
Don Pasquale.

## FOUR AIRS.

Price $£ 118 \mathrm{~s}$, od. Size $5 \times 3 \times 2$.

$$
\text { No. } 6 .
$$

Hypatia Valse.
My Queen Valse.
Blue Danube Valse.
Bonne Bouche Polka.
No. 7.
Prière.
Guillaume Tell.
Coro di Fattori. Les Cloches de Corneville.
Chanson
Cbanson Les Cloches de Corneville.
Little Buttercup.
Pinafore.
No. 8.
Home, sweet Home.
Aald Lang Syne.
The Blue Bells of Scotland.
The Bay of Biscay.
No. 9.
Chase that Sorrow.
Paul fones.
And why, I pray. Doris.
Where I thy Bride. Yeomen of the Guard.
Be wise in time.
Dorothy.
No. 10.
When other Lips. The Bohemian Girl. Confidence Valse.
Black and Tan Polka.
Vers toi toujours. Lucia di Lammermoor

## SIX AIRS.

Price $£^{2} \mathbf{2 s}$. od. Size $6 \times 3 \times 2$.
No. 11.
Those Evening Bells.
The Meeting of the Waters.
Grandfather's Clock.
Home, sweet Home.
The Blue Bells of Scotland.
Silver Threads among the Gold.

$$
\text { No. } 12 .
$$

Jernsalem! Thou that killest. St. Paul. Then shall the Righteous shine. Elijah. Kyrie Eleison. Twelfth Mass.
The Heavens are telling.
Creation.
With Verdure clad. Creation.
Comfort ye my people. Messiah. No. 13.
Soldiers' Chorus.
Faust.
Je regardais Valsé. Cloches de Corneville The last Rose of Summer. Marta. Three Little Maids. Mikado Ombra leggiera. Dinorah. Zitti, piano! Il Barbiëre di Seviglia.

> Price $£^{2} 8 \mathrm{~s}$. od, Size $7 \times 4 \times 3=3$ No. 14.

Home, sweet Home.
The last Rose of Summer.
Those Evening Bells,
Ye Banks and Braes.
The Blue Bells of Scotland.
Auld Lang Syne.
No. 15.
Aria Duetto.
Aida
Then you'll remember. The Bohemian Girl. Confidence Valse. Black and Tan Polka.
Vers toi toujours. Lucia de Lammermoer. A Summer Night in Munich.

$$
\text { No. } 16 .
$$

And why, I pray.
Doris. Funiculi, Funicula.
The Garden of Sheep Valse.
Be wise in time.
Dorothy.
Were I thy Bride. Yeomen of the Guard.
Chase that sorrow
Paul'fones.
 No. 17.
Chase that Sorrow.
Pand Yoxes.
Silently, warily. Doris.
Were I thy Bride. Yeomen of the Gward. queen of my Heart Valse. Dorothy. No. 18.
Estudiantina Valse.
Myosotis Valse.
Bon Ton Polka.
Idle Moments Schottische.
No. 19.
Three Little Maids. Hinado.
See-Saw Valse.
Black and Tan Polka.
My Queen Valse.
No. 20.
Those Evening Bells.
The last Rose of Summer.
Nancy Lee.
Grandfather's Clock.
No 21.
Madame Favart Valse.
Ebb and Flow Mazarka.
Les Cloches de Corneville Valse.
Sweethearts Valse.
No. 22.
Rule Britannia.
Stella Mia Valse.
Genesta Polka.
God Save the Queen.
Price $\mathrm{E} 5 \mathrm{5s}$. od. Size $18 \times 8 \times 6$. No. 23.
Be wise in time.
Dorothy.
Were I thy Bride. Yeomew of the Guard. Valse. Falke.
Je regardais Valse Cloches de Corneville. No. 24.
Ruddigore Valse.
Queen of my Heart Valse.
Dorothy.
Gypsies Valse.
On a tree by the river Tit Willow. Mikade No. 25.
Comin' thro' the Rye.
There's nae Luck about the House.
Home, sweet Home.
Auld Lang Syne.
No. 26.
Little Sailors Valse.
Hypatia Valse.
My Queen Valse.
Bonne Bouche Polka.
No. 27.
Largo al factotum Il Barberve di Sstigho. Ah f quel plaisir La Dame Blarehe. Vedrai cafriso. Don Gjovanni. Com' egentil.

No. 28.
Ernani! involami.
Fra foco.
Com' à bello
Ombra leggiera
Emomi
Limercia Borgic.
Dimerah.

FOUR AlRE-Continued
No. 29
Scenes that are brightest. Mavitann. Com' è gentil. Dox Pasquale. Zitti, piano! Il Bapbizart di Sroiglia. Abl Perchè non posso. La Somiambuna. No. 30.
Grande Valse.
Fanst.
Uaa voco poco fá Il Baybrás di Savigitia.
Ombra leggiera
Dizoreh.
Libiamo, né lieti tal ci.
La Traviafa. No. 31.
Bell raggio lasingheir Semiramide
Soldiers' Chorns.
Fawst.
Amis, la matinée est belle. Masani $1 l o$.
O dolce contente. Il Flanto Magico.

## OVERTURES WITH VARLATIOMS.

 No. 32.
The last Rose of Summer.
She wore a Wreath of Roses.
Alice Gray
Ohl 'Tis the Melody.
No. 33.
Fanst.
Goxnod.
La Figlia dell' Reggimento
Guglielmo Tell.
L'Africaiue.
No. 34.
Zampa.
I Tancredi
La Gazza Ladra.
Nabucodonosor.

## TWELVE MELOBIE8 OM InTERG HAMaEABLE OYLINDERS. <br> No. 36.

Prics £ 34 os. od. Size $33 \times 13 \times 10$.
Cylinder No. 1. Overtures.
L'Italiana in Algieri
Rossiai.
Fra Diavolo.
Auber.
Robert le Diable.
Meyerbecr.
Der Freyschütz.
Webor.
Cyllinder No. 2." Overtures.
I Puritani, Belliki.
La Sonnambula. Bellini.
Guglielmo Tell Rossini.
Zampa.
Herold.
Cylinder No. 8. Overtures.
I Tancredi. Rossini.
Don Giovanni. Mozart.
Semiramide.
Norma.

Price $£ 55$ s. od. Size $15 \times 8 \times 6$.
No. 37.
Old Hundredth.
Abide with me.
Before Jehovah's Awful Throne.
Onward, Christian Soldiers.
There is Life in a Look.
Nearer, my God, to Thee.
No. 38.
Chase that Sorrow.
Silently, warily.
Paul fones.
Were I thy Bride. Ycomen of the Guard.
Queen of my Heart Valse. Dorothy.
Connais-ta le pays.
Valse.
Dorothy.
Cloches de Corneville.
Price $\AA^{66} 6$ s. od. Size $18 \times 9 \times 6$. No. 39.
Be wise in tume.
Dorothy.
Were I thy Bride. Yeomes of the Guard. Chanson du mousse. Cloches de Corneville. L'amour est un oiseau. Polka. Carmen. Finale Valse.

Falka.
The dappled Fawn, Duetto. Nell Grynne.
No. 40.
Were I thy Bride. Yeomen of the Guard.
Queen of my Heart Valse.
Dorothy.
The Patrol Chorus. Falka.
The Beadle's Song. Nell Guynne.
Valse. Cloches de Cormeville.
On a tree by theriver Tit Willow. Mikado.
No. 41.
Three little Maids.
Mikado.
See-saw Valse.
Estudiantina Valse.
My Queen Valse.
Myosotis Valse.
Black and Tan Polka.

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\text { No. } 42 .
$$

Home, sweet Home.
Those Evening Bells.
Beautiful Star.
The British Grenadiers.
Rale Britannia
God Save the Queen.
No. 43.
The Campbells are coming.
Annie Laurie.
Robin Adair.
St. Patrick's Day.
The Blue Bells of Scotland.
Ovar the Sea.

$$
\text { No. } 44 .
$$

Let the bright Seraphim.
Angels ever bright and fair.
Samson.
Waft her Angels.
Thandert. lon that Reamer liveth
Cujus Animam.
O: Rest in the Lord.
Slabat Mater.

A/ss-Continuad.
Annie Laurie.
Comin' tbro' the Rye.
Auld Lang Syne.
Ye Banks and Braes.
The Keel Row.
Bonnie Dundee.
Price $£ 77$ 7. od. Size $24 \times 10 \times 7$.
No. 46.
Queen of my Heart Valse. Dovothy. Valse.

Falka.
Were I thy Bride. Yeomen of the Guard. Song of the Clock. Nell Gwynse. Chanson des Cloches. Clochesde Cornervile. Tyrolienne.

La Vie Parisiemre.
No. 47.
Morning Hymn.
Evening Hyma.
With Verdure clad.
Creation.
Non pio andrai. Le Noyze de Figaro. Una voce poco fà. Il Barbière di Saviglia. See! the Conquering Heri Maccubass.

$$
\text { No. } 48 .
$$

Annie Laurie.
Bonny Jean.
Auld Lang Syne.
Ye Banks and Braes.
The Keel Row.
Bonnie Dundee.
No. 49.
Home, sweet Home.
The Blue Beils of Scotland.
The last Rose of Summer.
Auld Lang Syne.
Ye Banks and Braes.
Comin' thro' the Rye.

$$
\text { No. } 50 .
$$

Three little Maids.
Mikado.
Je regardais Valse. Cloches de Corneville. Tyrolienne. Madame Favart.
See-saw Valse.
Toujours Fidele Valse.
Hypatia Valse.
No. 51.
By the sad Sea Waves. What are the wild Waves saying?
Come into the Garden, Maud.
Maid of Athens.
Shells of the Ocean.
The Brook.
No. 52.
Ombra leggiera.
Dinorak.
Robert I toi que j'aime. Robert le Diable.
Ah I perchè non posso. La Sonkambula. Mira, O Norma.

Norma.
La Donna \& Mobile. Rigoletto.
Il Balen del suo.
Il Trovatore.
six Alrs-Continued.
No. 53.
The Death of Nelson
The brave old Oak.
She wore a wreath of Roses.
The Lover and the Bird.
The Meeting of the Waters.
Fly not yet.
No. 54.
Annie Laurie.
Comin' thro' the Rye.
Auld Ladg Syne.
Ye Banks and Braes.
The Keel Row.
Bonnie Dundee.
No. 55.
The Sprig of Shillaleh.
The Girl I left behind me.
Molly Athlone.
Rory o'More.
Paddy, will you now?
Why did my Father sell me?
MANDOLIME EXPRESSION.
Price $\notin 7$ os. od. Size $18 \times 9 \times 6$.
No. 56.
Valse.
M'appari tutt'amor.
Quand je quittais.
Stride la vampa.
Der Freyschutr. Marta.

Casta Diva.
Robent lo Diable. Il Trovatore.

Perle d'Allemagne Mazurka.
No. 57.
The last Rose of Summer. Parigi O Cara.

Martha.
Grand Valse.
Marche du Sacre.
Ah! che la morte Il Trovatore.
Norma. Cupid Galop.

## EIGHT MELODIES DN INTERCHANGEABLE OYLIMDERS. PROLOMGED PLAYING.

(Two Hours.)
Price $£ 40$ os. od. Size $50 \times 24 \times 14$.
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Overture Flate Enchantic. Mozart.
Market Chorus Massaniello. Auber. Overture Oberon Overture Guillaume Tell.

Weber. Rossini.

## Cyllnder No. 2.

Com è bello.
Suoni la Tromba.
D'amore Sull' ali.
Gloire de nos aieux.

Lucrezia Borgia.
$I$ Puritani. Il Trovatorg. Favst.

FORTE PIANO. SUBLIME HARMONY.
Price $f 9$ os. od. Size $26 \times 10 \times 8$. No. 59.
Let the bright Seraphim. Samson. Sound an Alarm. futhas Maccabews. Angels ever bright aod fair. Theodora. The Trumpet shall sound. Messiah. I know that my Redeemer liveth. Messiah. Hallelujah Chorns.

Messiah.
No. 60.
Flow on thou silver Rhine.
Lurline.
The Power of Love.
Satanella.
Blue Danube Valse.
Faust Valse.
Sans Souci Galop.
The Carnival of Venice.
No. 61.
Allegro d'ouverture. Martha.
Servants' Chorus. Cloches de Corneville.
Chœur des Fiançailles. Lohengrin.
Chanson du petit bossu. Le Petit Duc. March. La Fille du Regiment.
Tausend und Eine Nacht Valse.
No. 62.
The last Rose of Summer. Martha.
Legende. Madame Angot.
Libiamo, né lieti. La Traviata.

Faust.
Salut demeure.
Rigoletto.
La Donna è mobile.
Qui vive Galop.
No. 63.
Casta Diva.
Norma.
The Guards' Valse.
Suona di giubilo. Lucia di Lammermoor.
The Flower Girl Valse.
La Diane Polka.
Souvenir de Naples Mazurka.

## VARIATIOMS.

Price $£ 14$ os. od. Size $26 \times 12 \times 9$.
No. 64.
Oui! vous me l'arrachez. Guillaume Tell. Casta Diva.
D'amore Sull'ali. Norma.
Di 1 rovatore.
Di Piacer mi balza. La Gazza Ladra.
Tu non sai. La Somnambula.
Una voce poco fà. Il Barbière di Seviglia.
No. 65.
Casta Diva.
Norma.
Cara nome. Rigoletto.
Sù, da bere.
Par l'honneur.
Belo si celebri!
Faust.
Semiramide.
Ma makink est belle. Masaniello.
No. 66.
L'Italiana in Algieri. Rossini.
Fra Diavolo. Auber.
Robert le Diable. Meyerbser.
Der Freyschütz. Weber.
I Puritani. Bellini.
La Sonnambula. Bellini.

Price $f 6$ ros. od. Size $19 \times 9 \times 6$. No. 67.
Chase that Sorrow.
Sitently, watily.
Paul fomes.
Doris.
Were I thy Bride. Yeomen of the Guard.
Queen of my Heart Valse
Dortithy.
Connais-tu le Pays.
Migmon.
Valse Cloches de Corneville.
The Power of Love.
Satanella.
When other Lips. The Bohemian Girl. No. 68.
Otd Hundredth Psalm.
Creation.
Miles Lane.
Monmonth.
Come to Jesus.
Olivet.
Rossini.
Margate.
No. 69.
Onward, Christian Soldiers.
The Vesper Hymn.
With Verdure clad.
Creation.
Old Handredth Psalm.
Before Jehovab's Awful Throne.
Sun of my Soul.
Abide with me.
O, come, all ye faithful. . Adeste Fideles. No. 70.
Ehren on the Rhine Valse.
Some Day Valse.
The Priests' War March.
My Queen Valse.
Dream Faces Valse.
The Lost Chord.
Eulalie Gavotte.
Bonne Bouche Polka.

$$
\text { No. } 71 .
$$

Tête Blonde Polka.
Mary Stuart Schottische.
Dorothy Valse.
Colonial Polka.
Je regardais Valse. Cloches de Corneville.
Ona tree by the river Tit Willow. Mikado
Silver Threads among the Gold.
When other Lips. The Bohemian Girl.

$$
\text { No. } 72 .
$$

Black and Tan Polka.
L'Addio Valse.
Stella mia Valse.
Genesta Polka.
He is an Englishman. Pinafore.
L'amour est un oiseau, Polka Carmen.
Silver is the Raven.
Palience.
Marche du Sacre.
Le Prophète.
No. 73.
Ye Banks and Braes.
The Keel Row.
Roy's Wife of Aldivalloch.
Robin Adair.
Annie Laurie.
The Campbells are coming.
Within a mile of Edinboro' Town.
The Power of Love.
Satanella.
crant alpt-emennace.
Price $£ 7$ 15s. od Size $24 \times 10 \times 7$. No. 74.
Chase that Sorrow. Paul fones. Were I thy Bride. Yeomen of the Guard. Queen of my Heart Valse. Dovothy
Silently, warily. Doris
Venitia Valse.
Estudiantina Valse.
See-Saw Valse.
Bon-ton Polka.
No. 75.
Valse.
Y comen of the Guard.
Valse. Mikado.
And why I pray.
Doris.
Connais-tu le Pays.
Miguon.
Myosotis Valse.
Night and Morning Valse.
Les Sourirs Valse.
Boulanger March.
No. 76.
Three little Maids.
The Beadle's Song.
Mikado.
The Torpedo and the Whale Nell Guynne.
Duetto. La Mascotte.
Would you know the Maid. Printess Ida Valse.

Cloches de Corneville.
A Magnet bung.
He is an Englishman.
Patience.
No. 77.
The Blue Bells of Scotland.
The Campbells are coming.
Ye Banks and Braes.
The Keel Row.
Auld Lang Syne
Roy's Wife of Aldivalloch.
Those Evening Bells.
My Love she's but a Lassie yet
No. 78.
The Blue Bells of Scotland.
Home, sweet Home.
Auld Lang Syne.
Scots wha hae.
Caller Herrin'.
Comin' thro' the Rye.
Robin Adair.
Ye Banks and Braes.
No. 79.
Kathleen Mavourneen.
Oft in the stilly Night.
The Mocking Bird.
Comin' thro' the Rye.
Annie Lautie.
Auld Lang Syne.
The Keel Row.
Beautiful Star.
No. 80.
In the Gloaming.
Three little Maids.
Mikado
See-Saw Valse.
Estudiantina Valse.
My Queen Valse.
Myosotis Valse.
Some Day Valse.
Black and Tan Polka.

WITH ALL THE LATEST IIMPROVEmENTS AMO OF EXCEEDIMG BALLLIANCY.
Price $f 9$ gs. od. Size $26 \times 10 \times 8$. No. ${ }^{-}$
Dance a Cachuca. The Gordoliers. Parlate d'amor, Gentle Flowers, Faust. Martha! Martha.
The Priests' War March. Martha.

Les Traineaux Mazurka.
Estudiantina Valse.
Home, sweet Home.
Silver Threads among the Gold.
No. 82.
Les Cloches du Monastères.
Oh, du Himmelblauer See. . . ..
The last Rose of Summer.
Loreley.
The Blue Danube Valse.
Stepbanie Gavotte.
Du du liegst mir im Herzen.
Mikado Valse.
No. 83.
I beard the Voice of Jesus say.
Holy Lord Almighty.
Our blest Redeemer.
My God, my Father, while I stay.
Rock of Ages.
$\mathrm{O}!$ Rest in the Lord.
Lead kindly Light.
One there is above all others.
No. 84.
The Blue Alsatian Mountains.
The Mocking Bird.
Home, sweet Home.
Annie Laurie.
Silver Threads amotg the Gold.
The Marseillaise Hymn.
God save the Queen.
Hail Columbia.

$$
\text { No. } 85 .
$$

Estudiantina Valse.
Nightingale and Lark Duo Jour et la Nuit Benediction des Poigoards. Les $H_{\text {ugwnets }}$ Gasparone Marche.
Un Nit de Bengalis Polka.
The Priests' War March.
Ah! que dit-elle! Septuor.
Ablatio. Ermatio.
Les T'raineaux Mazurka.
No. 86.
Chase that Sorrow.
Be wise in tine.
Silently, warily.
Were Dity Doris.
Leomen of the Guard.
La Gitana Valse.
Lullaby, Dear Mother, Valse. Erminic. The Power of Love. Satanella. Sweet Spirit, hear my Prayer. Lurline.

## EAHT ARE Cqntinubd.

Price $£ 9$ os. od. Size $26 \times$ 10 $\times 8$. No. 87.
Kathleen Mavourneen.
Savourneen Deelish.

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The Harp that once.
The Minstrel Boy.
The last Rose of Summer.
The Criskeen Lawn. *:
Kitty Tyrrel.
No. 88.
The Song of the Clock. Nell Gwywne.
Estudiantina Valse.
See-baw Valse.
Les Patineurs Polka.
Dream Faces Valse.
My Queen Valse.
Ehren on the Rhine Valse.
Some Day Valse.
No. 89.
Idyllen Valse.
Tête Blonde Polka.
Gondolier Valse.
The Maid of the Mill Valse.
L'Addio Valse.
Douce Paroles Valse.
Black and Tan Polka.
Nigbt and Morning Valse.
No. 90.
Dream Faces Valse.
Toujours Fidèle Valse.
Some Day Valse.
Bonne Bouche Polka.
In the Gloaming.
Myosotis Valse.
Auf Wiedersehen Valse.
Les Fleurs Valse.
No. 91.
Gypsies' Valse.
Ruddigore Valse.
Dorothy Valse.
Genesta Polka.
Stella mia Valse.
Colonial Polka.
Mary Stuart Schottische.
Indies Valse.
No. 92.
Home, sweet Home.
Bid me discourse.
The Power of Love.
The lost Rose of Summer.
Oft in the stilly Night.
The Harp that once.
Rule Britannia.
God save the Queen.
No. 93.
Sicilian.
Vital Spark.
Sound the loud Timbrel.
Lo! He comes.
All hail the Power.
O! Rest in the Lord.
Elijah.
See! the conq'ring Hero comes. Mactabaus
But Thou did'st not leave.
Messiah.

Entit AlRE-Contiruent,
No, 94.
Helmsley.
Lord of all Power.
Evening.
Easter.
Morning.
German.
Abingdon.
Portuguese.
No. 95.
Bonne Bouche Polka.
Mignon Gavotte.
Soldaten L'eder Valse.
Le belle Hèléne Valse.
Blue Danube Valse.
Morgen-bārter Valse.
Sweethearts' Valse.
Champagner Gallop.
No. 96.
Scots wha hae.
Auld Robin Grey.
Tom Bowling.
The last Rose of Summer.
The Distant Shore.
Bonne Dundee.
The Minstrel Boy.
The Harp that once.
No. 97.
The March of the Men of Harlech.
Auld Lang Syne.
Annie Laurie.
Ring the Bell, Watchman.
Rule Britannia.
The last Rose of Summer.
Home, sweet Home.
What are the wild Waves saying ?
No. 98.
The Blue Bells of Scotland.
Caller Herrin'.
Robin Adair.
Comin' thro' the Rye.
Ye Banks and Braes.
Scots wha hae.
Auld Lang Syne.
Annie Laurie.
No. 99.
She wore a wreath of Roses.
The Bay of Biscay.
Sally in our Alley.
The White Squall.
Cherry Ripe.
I know a Bank.
Mary Blane.
Silver Threads among the.Gold.
No. 100.
Three little Maids.
Mikado.
Je regardais Valse. Cloches de Corneville.
Tyrolienne. Madame Favart.
The Toreador's Song.
The Song of the Clock.
The Convent Slept.
Hey Willow, waly ho.
Little Buttercup.

Carmen.
Nell Gwymиe.
Olivette.
Patience.
Pinafore.

EIGHT AIRS-Continmed
No. 101.
With Verdure clad.
Creation
I know that my Redeemer liveth. Messiah.
He layeth the Beams. Creation.
Hailstone Chorus. Israel in Egypt.
Lord, remember David.
Hallelujah Chorus.
O ! Rest in the Lord.
Unto us a Cbild is born.
No. 102.
Hypatia Valse.
See-saw Valse.
Loving and Hoping Valse.
Fédora Valse.
Estudiantina Valse.
Toujours Fidèle Valse.
Bon-ton Polka.
Fairy Voices Valse.
No. 103.
The Song of the Clock.
Estudiantina Valse.
See-saw Valse.
My Queen Valse.
Loving and Hoping Valse.
Toujours Fidèle Valse.
Fédora Valse.
Bright Eyes Valse.
No. 104,
Safe in the Arms of Jesus.
The Gate's ajar for me.
Jewels.
Knocking-Who is There?
Bury thy Sorrow.
The Great Physician.
Clinging to the Cross.
Jesus of Nazareth passeth by.
No. 105.
Once for all.
Substitution.
Oh! sing of His mighty Love.
Almost persuaded.
Tell me the old, old Story.
Ninety and nine.
Hold the Fors.
Even me.
No. 106.
Home, sweet Home.
Robin Adair.
The last Rose of Summer.
Tramp, the Prisoner's Hope.
Love's Chidings.
Auld Lang Syne.
Comin' thro' the Rye.
Trab, trab.
No. 107.
Rob Roy.
The Kelvin Grove.
Auld Robin Gray.
Bonnie Dundee.
Caller Herrin'.
The Campbells are coming.
Annie Laurie.
The Minstrel Boy.

## EIBHT AIRs-Continued.

MANDOLIME EXPRES8ION. No. 108.
Price $£ 88 \mathrm{~s}$. od. Size $24 \times 10 \times 7$.
Il Balen del suo. Il Trovatore. Libiamo, né lieti calici. La Traviata.
Ah! che la morte. Il Trovatore.
Escherzo, od è follia. Ballo in Maschera. Là ci darem la mano. Don Giovanni. Com' è gentil. Don Pasquale. Norma.
Ah! perchè non posso. La Sonnambitla.
Frice $£ 9$ 18s. od. Size $26 \times 10 \times 8$. No. 109.
Libiamo, nẻ lieti calici. La Traviata. A cheval. La Grande Duchesse. Valse. Le four de Bonhewr. Crains ma furear. Robevt le Diable. Mazurka.
Si j'etais Roi.
Au Banquet.
L'Automne. Lava.
Zefhoris.
Les Huguenots.
Les Vâpres Siciliennes.
No. 110.
L'Adieu Mazurka.
La Folie Polka.
Le Torrent Valse.
La Bravura Polka.
Les Roses Valse.
Phillipine Polka.
Fairy Footsteps Valse.
Bon Soir Galop.

Price $\notin \mathrm{I} 5$ os. od. Size $29 \times 11 \times 8$. No. 111.
Pour cette cause sainte. Les Huguenots.

Ah! che la morte.
Il Trovatore.
Ah! per semper.
I Puritani.
Ah! perchè non posso. La Sonnambula.
Parigi, O Cara.
Grande Valse.
Qui la voce.
Tyrolienne.
raviata.
Faust.
I Puritani.
Guillawme Tell.

No. 112.
The Power of Love.
Qui la voce.
Parigi, O cara.
Satanella.

Ah! perchè non posso.
O Paradise.
Grande Valse.
I Puritani.
La Traviata

Ah! che la morte.
La Sonnambula.
L'Africains.
Faust.
What will they say in England?
No. 113.
I know that my Redeemer liveth. Messiah. Angels ever bright and fair. Theodora. Let the bright Seraphim. Comfort ye my People. The Heavens are telling. Jerusalem! Thou that killest.
With Verdure clad.
O! Rest in the Lord.
Samson.
Messiah.
Creation.
St. Paul.
Creation. Elijah.

## EFGHT AlRe-Continued.

## WITH BELL AGCOMPAMMENT.

Price $f$ io ios. od. Size $22 \times 13 \times 12$. No. 114.
Little Sailors' Valse. Hypatia Valse. Myosotis Valse.
My Queen Valse.
Bonne Bouche Poika.
The Lost Chord.
In the Gloaming.
Silver Shield Valse.
No. 115.
Chase that Sorrow. Paul fones.
Silently, warily. Doris.
Were I thy Bride. Yeomen of the Guard. Queen of my Heart Valse. Dorothy. Connais-tu le pays. Mignor. Valse. Cloches de Corneville. The Power of Love. Satanella. When other Lips. Bohemian Girl.


Price f $^{12}$ 15s. od, Size $26 \times 13 \times 11$.
No. 116.
The Blue Bells of Scotland.
Bonnie Dundee.
St. Patrick's Day.
Comin' thro' the Rye.
The Minstrel Boy.
The Campbells are coming.
Robin Adair.
Auld Lang Syne.
No. 117.
La Donna è mobile.
Rigolette.
Home, sweet Home.
The Carnival of Venice.
Little Buttercup. Pinafore.
Aria.
Olivette.
Mabel Valse.
Il segreto per esser. Lucrezia Borgia. Bid me discourse.

No. 118.
He is an Englishman.
Pinafore.
A Magnet hung. Patience.
The Torpedo and the Whale. Olivette. Valse. Cloches do Corneville. The last Rose of Summer. Marta. Patrol Chorus. Rip Van Wirkle.
The Heart sighs ever. Les Manteaux Noirs.
Dream Faces Valse.
Price $£ 13$ ros. od. Size $28 \times 13 \times 11$.
No. 119.
The Song of the Clock.
Estudiantina Valse.
See-saw Valse.
My Queen Valse.
Loving and Hoping Valse.
Toujours Fidèle Valse.
Fedora Valse.
Bright Eyes Valse.

## WITH DRUM AND BELL ACGONPANIMENT.

Price $£ \mathrm{f}$. os. od. Size $26 \times 13 \times 1 \mathrm{I}$. No. 120.

Aria
Rip Van Winkle.
My Queen Valse.
Bonne Bouche Polka.
Grande Valse.
Sailors' Chorus.
Faust.
Pinatore.
March.
Tannhaüser.
Chanson. Les Cloches de Corneville.
The Soldiers of our Queen. Patience.
No. 121.
Kutschke Polka.
Spring, gentle Spring.
C'est l'Espagne.
The Campbells are coming.
Ye Banks and Braes.
Jadis les Rois.
Madame Angot.
March.
The Talisman.
C'est unfameux Regiment. Grand Duchesse

$$
\text { No. } 122 .
$$

Onward, Christian Soldiers.
The Vesper Hymn.
With Verdure clad.
Creation.
Old Hundredth Psalm.
Before Jehovah's Awful Throne.
Sun of my Soul.
Abide with me.
O come, all ye faithful. Adeste Fideles.
No. 123.
Legende du Verre. La Granatt Duchesse. Glorie à Jupiter. Orphếe aux Erfors. Deux Hommes d'Armes. Geva, de Brabant. Ciascum lo dice. La Figlia del Reggimento. The Power of Love. Satanella. Soldiers' Chorus. Il segreto per esser. Lucresia Borgia. Stride la vampa.

Il Trovatore.
No. 124.
Take me in your Arms.
Bonne Bouche Polka.
Eulalie Gavotte.
My Queen Valse.
The Lost Chord.
Some Day Valse.
The Priests' War March. Athalie. Truth in the Well. Rip Van Winkle.

No. 125.
Little Sailors' Valse.
On a tree by the river TitWillow, Mikado. Bonne Bouche Polka.
Under the Stars Valse.
My Queen Valse.
Poor wandering One. Pirates of Penzance. Duetto.

Iolanthe.
Truth in the Well. Rip Van Winkle.

EIGHT A蚆S-COMEInverin

## WITH MANDOLINE AND AUTOMATIO DANGING FIGURES.

Price t $^{28}$. os. od. Size $37 \times 16 \times 1$. No. 126.

| Grande Valse. | Faust |
| :--- | ---: |
| Stride la vampa. | Il Trovatore |
| Ombra leggiera. | Dinorah. |
| De miei bolenti. | La Traviata. |

De miei bolenti.
La Traviata.
Kutschke Polka.
Liebeszauber Mazurka.
Souviens-toi Valse.
My Queen Valse.

## WITH FLUTE AGCOMPANIMENT.

Price $£ \mathrm{r} 4$. os. od Size $25 \times 14 \times 12$.
No. 127.
Nancy Lee.
Trial by Jury Valse.
Je regardais Valse. Cloches de Corneville. Little Buttercup. Pinafore. Ma Mèreaux Vignes. Madame Favart. Dream of Love Valse.
Sparkling Cascades Mazurka.
Les Cigognes Galop.

## WITH FLUTE AND VOIX celeste.

Price $£$ I8. os. od. Size $29 \times 15 \times 13$.
No. 128.
Hearken to my strict com'ds. Princess Ida. Fairies' Chorus.

Inlanthe.
The heart sighs ever. Les Manteaux Noirs.
When I go out of Doors. Patience.
I hear the soft Notes, Patiencs.
Prithee, pretty Maiden.
Little Buttercup. Patience.
Pinaforc.
Pinaforc.

## WITH SUBLIME HARMONIE, PIGCOLO AND BELL ACCOMPANIMENT.

Price $£ 30$ os. od. Size $38 \times 15 \times 1$.
No. 129.
Home, sweet Home.
The last Rose of Summer.
Cujus Animam.
Stabat Mater.
The Carnival of Venice.
Ouverture.
Poéte et Paysan.
Marche du Sacre.
Le Prophête.
Mazurka des Traineaux.
Je regardais Valse. Cloches de Corneville.
130.

Dieu puissant.
Alla vita.
Com'e gentil.
Ah! Bello a me. Di tale amor.
Per me ora fatale. Il Balen del suo.
Sempre libera.

Robert te Diable. Ur Ballo in Ahasthera. Don Pasquale. Norma.
Il Trovatore.
Il Trovatore.
Il Trovatore.
La Traviata.
Price $f^{8} 8$ s. TEN AlRS. ${ }_{\text {Size }} 24 \times 10 \times 7$.

I am a Courtier Gavotte. The Gondutiers. Silently, warily:
Connais-tu le pays.
When other lips.
Doris.
Mignon.
Black and Tan Polka.
5 weet Spirit hear my Prayer. Luvline. Then you'll remember me. Bohemian Girl Home, sweet Home.
Those Evening Bells.
Valse.
Cloches ds Corneville. No. 132.
Patrol Chorus.
Rip Van Winkle.
Manteaux Noirs.
Cloches de Cornaunile.
Valse.
The Torpedo and the Whale, Olivette.
Valse. La Fille du Tamionr Major.
Duetto.
A Magnet hung. La Mascotie-

Valse.
He is an Englishman. Palieme. Iolanthe. Pinafoye.
Aria.
No. 133.
Three little Maids.
Mikado.
Dieu puissant. Robertle Diable. Ah 1 sever in tel. Il Barbière di Seviglia. Parigi, O Cara.

La Traviata.
Wedding March.
Lonempria.
Valse. La Fille du Tambour Major.
Tyrolienne. Madame Favart.
The Torpedo and the Whale. Olivette.
Valse. Les Cloches de Corneville.
Prithee, pretty Maiden.
Patience.
No. 134.
Jernsalem! Thou ihat killest. St. Paul.
Then shall the Righteous shine. Elijah.
Kyrie Eleison.
Twelfih Mass.
The Heavens are telling. Cration.
Comiort ye my People. Messigh.
Let the bright Seraphim.
Angels ever briglt: and fair. Throdova.
Waft her Angels.
f̈eph $\mathrm{th} a$.
I know that my Redeener liveth. Mossiah.
Home, sweat Home.
No. 135.
Auld Lang Syne.
Home, sweet Home.
Bonnie Dundee.
The Minstrel Boy.
The Blue Bells of Scotland.
Within a mile of Edinboro' Town.
The Campbells are coming.
Roy's Wife of Aldivalloch.
The Keel Row.
Grandfather's Clock.
No. 136.
The Blue Bells of Scotland.
Home, sweet Home.
Bonnie Dundee.
The Minstrel Boy.
Auld Lang Syne.
Scots wha hae.
Caller Herrin'.
Comin' thro' the Rye.
Robin Adair.
Ye Banks and Braes.

TEN AIRS-Continued.
Price $£ 9$ 9s. od. Size $26 \times 10 \times 8$.
No. 137.
I am a Courtier Gavotte The Gondolisms.
Sweet Spirit, hear my Prayer. Lurline, Chase that Sorrow. Paul fones. Silver Threads among the Gold. Silemty, warily. Darit. Queen of my Heart Valse. Dorothy. Connais-tu le pays. Migan When other lips. The Bohemian Givt. On a tree by the river Tit Willow. Mikaido Valse.

Claches de Cormesilte. No. 138.
Scots wa hae.
The Blue Bells of Scotland.
Come under my Plaidie.
Caller Herrin'.
There's nae Luck about the House.
Comin' thro the Rye.
Roy's Wide of Aldivalloch.
Robin Adair.
The Campbells are coming.
Within a mile of Edinboro' Town.
No. 139.
Luther's Choral.
The Pilgrims of the Night.
O Paradise.
Sun of my Soul.
Abide with me.
Kyrie Eleison. Twelfth Mass.
Onward, Christian Soldiers.
The Vesper Hymo.
See! the Conquering Hero comes.
Harts the Herald Angels sing. No. 140.
Sound the Loud Timbrel.
Before Jehovah's Awful Throne.
Angels ever bright and fair. Theodora.
Old Hundredth Psalm.
Lo! He comes.
Glory to God.
With Verdure clad. Creation.
He layeth the beams. Creation.
The Heavens are telling. Creation.
O come, all ye faitiful. Adeste Fideles.
No. 141.
Valse
Fulka.
The Dappled Fawn, Null Guyme,
Hearken tomystrict coun'ds. Princess /da.
Valse.
The Heart sighs ever. Der Aettolsfedent.
Soldiers' Chorus. Fiaust.
Valse. Cloches des Corneville.
A Magnet hung.
Patience.
He is an Englisiman.
Pinators.
Poor Wandering One. Pivates of Pontance. No. 142.
The Gate's ajar for me.
Hold the Fort.
Even me.
Tell me the old, old Story.
Whiter than Snow.
Bury thy Sorrow.
Let the lower Lights be burning.
Ob! Sing of His mighty Love.
What shall the Harvest be.
The Great Physician.

## WITH BELL AGGOMPANIMENT.

Price $£ 13$ os od. Size $26 \times 13 \times 11$. No. 143.
Comin' thro' the Rye.


No. 144.
The last Rose of Summer.
Turn on, old Time.
Mayta.
Mentre gonfarsi.
Maritana.
Su da bere Altha.

Trinklied. Faust.

M'appari, tutt' amor.
Stradella.
Si! fino.
Marche Egyptienne.
Mayta.
Norma.
Grand Valse. Aida.

Vieni meco. Faust. Ernani.

Price $£ 14$ ios. od. Size $28 \times 13 \times 1$. No. 145.
Gypsies' Valse.
Ruddigore Valse.
Genesta Polka.
Stella mia Valse.
L'Addio Valse
Black and Tan Polka.
Queen of my Heart Valse. Dovothy,
Onatree by theriver Tit Willow Mikaio.
The Torpedo and the Whale. Olivette.
He is an Englishman.
Pinafore.
No. 146.
Scots wha' hae.
The Blue Bells of Scotland.
Come undér my Plaidie.
Caller Herrin'.
There's nae Luck about the House
Comin' thro' the Rye.
Roy's wife of Aldivalloch.
Robin Adair.
The Campbells are comin'. Within a mile of Edinboro' Town.

No. 147.
The Star Spangled Banner.
Yankee Doodle.
Dixie's Land.
Hail Columba!
The Old Folks at Home
Marching through Georgia
Tyrolienne Madame Favart. Je regardais Valse. Cloches de Corneville Little Sailors' Valse.
On a tree by theriver Tit Willow. Mikado.

## TEN AlRE-Continuodr

No. 148.
Soldaten Lieder Valse.
Vieni, ah Vieni La Faverita. T'amo, si T'amo. Un Ballo in Maschera. Scène du Mancenillier. L'Africaine. Valse. Madame Angot. Espoir charmant. Les Dragons de Villars. Rose's Song.

The Talisman. The Pbillippine Polka.
La Dispute
Ombra leggiera.
Madame Angot.
Dinorah.

## WITH DRUM AND BELL ACCOMPAHIMERT,

Price $£ 15$ 1os. od. Size $28 \times 13 \times 1$.
No. 149.
Were I thy Bride. Yoemen of the Guard. Queen of my Heart Valse. Dorothy. Connais-tu le pays. Mignon. Air tu Tonnelier. Boccacio. Couplet de la Cuisine. Serment a'amour. Valse.

Falka.
The Beadle's Song. Nell Gwynne. Regardez par ci. Cloches de Corneville. Onatree by the river Tit Willow. Mikado. Toreador's Song.

Carmen.
No. 150.
The Dead March. Saul.
Overture. Il Barbiere di Sevigha.
The Carnival of Venice.
See-saw Valse.
Estudiantina Valse
Black and Tan Polka.
Mother Hubbard Polka.
Hungarian March.
Soldiers' Chorus.
Faust.
Patience.

## TWELVE AIRS.

Pyice $f^{8}$ 16s. od. Size $24 \times 10 \times 7$.
No. 151.
The last Rose of Summer.
Home, sweet Home.
Kathleen Mavourneen. , "
Rule Britannia.
The Campbells are comin'.
The Harp that once.
Robin 1 dair.
Bid me discourse.
The Blue Bells of Scotland.
Ye Banks and Braes
The Harmoniors Blacksmith.
Roy's Wife of Aldivalloch.

## TWELVE AIRB-continued

Price $£ 9 \mathrm{r} 6 \mathrm{~s}$. od. Size $6 \times 10 \times 8$.
No. 152.
I am a Courtier Gavotte. The Gondoliers. Valse. The Gondoliers. Chase that Sorrow. Silver Threads among the Gold. Silently, warily. Doris. Queen of my Heart Valse. Dorothy. Connais-tu le pays.
Tyrolienne. Mignon.
Guillaume Tell. When other Lips. The Bohemian Girl. Onatree by the river Tit Willow. Mikado. Valse. Cloches de Corneville. Soldiers' Chorus.

Faust.
No. 153.


#### Abstract

And why I pray. Doris. Silently, warily. Doris. Were I thy Bride. Yeomen of the Guard. Queen of my Heart Valse. Dorothy. Connais-tu le pays. Mignon. Chanson du Tonnelier. Bactacio. Couplet de la Cuisine. Serment d'amour. Regardez par ci. Cloches de Corneville. Tyrolienne.

Guillaume Tell. When other Lips. The Bohemian Girl. On a tree by the river Tit Willow. Mikado Toreador's Song.

Carmen.


No. 154
Were I thy Bride. Yeomen of the Guard. Queen of my Heart Valse. Dorothy. Connais-tu le pays. Mignon. Air du Tonselier. Boccacio. Couplet de la Cuisine. Serment d'amour.

Valse.
The Beadle's Song. Regardez par ci.
Tyrolienne. On a tree by theriver Tit Willow. Mikado Toreador's Song.

Carmen.

No. 155.
Gypsies' Valse.
Ruddigore Valse.
Queen of my Heart Valse.
Genesta Polka.
Stella mia Valse.
Colonial Polka.
Mary Stuart Schottische.
Tête Blonde Polka.
The Maid of the Mill Valse.
L'Addio Valse.
Black and Tan Polka.
Night and Morning Valse.

## TWELVE AMEB-Continued.

No. 156.
Safe in the arms of Jesus. Once for all.
Shall we gather at the River.
The Great Physician.
The Prodigal Child.
Sweet Hour of Prayer.
Hold the Fort.
Jewels.
Tell me the old, old Story. O ! sing of His mighty Love.
Bury thy Sorrow.
The Gate's ajar for me.

No. 157.
It came upon the Midnight clear.
Onward, Christian Soldiers.
Sun of my Soul.
Come, ye thankful people.
Our blest Redeemer.
The Day Thou gavest.
Sweet Saviour bless us.
Jerusalem on Higb.
We plough the Fields.
Angel Voices.
Eternal Father, strong to save.
Lord of the Worlds above.

No. 158.
Lord of the Worlds above.
Eternal Father, strong to save.
Jerusalem! thou that killest. St. Paul.
Then shall the Righteous shine. Elijah.
The Heavens are telling. Creation.
With Verdure clad. Creation.
Comfort ye my People. Messiah.
Let the bright Seraphim. Samson.
Angels ever bright and fair. Theodora.
Waft her Angels. fephtha.
I know that my Redeemer liveth. Messiah O! Rest in the Lord. Elijah.

No. 159.

| Il Balen del suo. | Il Trovatore. <br> La Traviata. |
| :--- | ---: |
| Libiamo. | Martha. |
| The last Rose of Summer |  |
| Ah! perchè non posso. | LaSonnambula. |
| Casta Diva | Norma. |
| Devant ce signe. | Guillaume Tell. |

.tWELVE AIR8-Cóntinuad.
No. 160.
The March of the Men of Harlech.
The Criminal cried. Mikado.
Twickenham Ferry.
The last Rose of Summer.
The Ash Grove.
Il Balen.
Il Trovatore.
The Lost Chord.
Where the Bee sucks.
Mignon Gavotte.
Prithee, pretty Maiden. Patience.
Parlate d'amor, Gentle Flowers. Faust.
Kathleen Mavourneen.

$$
\text { No. } 161 .
$$

Kathleen Mavourneen.
The Harp that once.
The last Rose of Summer.
The Minstrel Boy.
Auld Robin Gray.
Ye Banks and Braes.
Robin Adair.
Annie Laurie.
Auld Lang Syne.
My own, my Guiding Star.
Oft in the stilly Night.
Spring, mentle Spring.

$$
\text { No. } 162 .
$$

The last Rose of Summer.
The Blue Bells of Scotland.
Comin' thro' the Rye.
Ye Banks and Braes.
The Keel Row.
Auld Lang Syne.
The Minstrel Boy.
Maid of Athens.
Kathleen Mavourneen.
Home, sweet Home.
Bid me discourse.
The Mocking Bird.

$$
\text { No. } 163 .
$$

Hearts of Oak.
Maid of Athens.
Home, sweet Home.
Bid me discourse.
The Mocking Bird.
The Lass of Gowrie.
Rule Britannia.
Jack $0^{\prime}$ Hazledean.
The bonnie House of Airlie.
Kate Kearney.
Come under my Plaidie.
A' the airts the wind can blaw.
No. 164.
Comin' thro' the Rye.
Ye Banks and Braes.
Robin Adair.
Scots wha hae.
Caller Herrin'.
The Keel Row.
Within a mile of Edinboro' Town.
The Death of Nelson.
Nancy Lee.
The Tar's Farewell.
Grandfather's Clock.
Come back to Erin.

TWELVE AIR8-Continned.
No. 165.
Those Evening Bells.
Home, sweet Home.
The last Rose of Summer. . $\ddagger$ Annie Laurie.
The Mocking Bird.
The Blue Bells of Scotland.
When other Lips. The Bohemian Girl.
Silver Threads among the Gold.
Believe me, if all those endearing.
The Bells of Aberdovey.
Ona tree by the river Tit Willow. Mikado.
The March of the Men of Harlech.
No. 166.
Come into the Garden, Maud.
My pretty Jane.
The Bailiff's Daughter of Islington.
The Carnival of Venice.
Nancy Lee.
Mandolinata.
Wear this Flower.
Dream the World.
Green grow the Rushes.
God save the Queen.
The merry Wives of Windsor Galop
We may be happy yet.

## WITH DRUM AND BELL AGCOMPANIMENT.

Price $£ \mathrm{I} 6$ os. od. Size $28 \times 13 \times 11$.
No. 167.
Annie Laurie.
Auld Lang Syne.
Auld Robin Gray.
Caller Herin'.
Comin' thro' the Rye.
Roy's Wife of Aldivalloch.
Scots wha hae.
The Blue Bells of Scotland.
The Campbells are comin'.
The Lass o' Gowrie.
There's nae Luck about the House.
Ye Banks and Braes.
No. 168.
Chase that Sorrow.
Silently, warily.
Paul fones.
Be wise in time. Doris.
Were I thy Bride Yeomen of Dorothy.
Cbanson du Tonnelier.
Boccatio.
Couplet de la Cuisine. Serment d'amour.
When other Lips.
Bohemian Girl.
Bonne Bouche Polka.
Estudiantina Valse.
The March of the Men of Harlech.
The Power of Love.
Satanellv.
Yes, let me like a Soldier fall. Maritana.

## WITH MAMDOLINE EXPRERSIVE. <br> Price $f 13$ os. odi Siz? $30 \times 1 \mathrm{I} \times 7$. No. 169.

The Old Hundredth Psalm.
O come, all ye faithtul Adeste Fideles.
0 ! Rest in the Lord Elijah.
The Heavens are telling. Creation.
Abide with me.
Sun of my soul.
Before Jehovah's Awful Throne.
Nearer my God, to Thee.
Cujus Animam.
Stabat Matm.
Angels ever bright and fair. Theodora.
With Verdure clad. Cveation.
I know that my Redeemer liveth. Messiah.
No 170 .
The last Rose of Summer.
The Minstrel Boy.
Kathleen Mavourneen.
Rory O More.
Fly not yet.
St. Patrick's Day.
Annie Laurie.
The Blue Belts of Scotland.
Bonnie Dundee.
Auld Lang Syne.
There's nae Lack about the House.
The Campbells are comin'. No. 171.
The March of the Men of Harlech.
The Blue Bells of Scotland.
Auld Lang Syne.
The Bay of Biscay.
The Campbells are comin'.
The Keel Row.
Within a mile of Edinboro' Town.
Comin' thro' the Rye.
Lo! He comes with Clouds descending.
Oh! Rest in the Lord.
Elijah.
Brightly pleams our banner.
Hallelujah Chorus.
Messiah.
No. 172.
The last Rose of Summer.
The Blue Bells of Scotland.
Comin' thro' the Rye.
Ye Banks and Braes.
The Keel Row.
Auld Lang Syne.
The Minstrel Boy.
Maid of Athens
Kathleen Mavourneen.
Home, sweet Home.
Bid me discourse.
The Mocking Bird. No. 173.
Three little Maids. Nikado. Patrol Chorus. Rip Van Winkle. The Heart sighs ever. Les Matcayx Noirs. Valse Cloches de Cormeville. The Torpedo and the Whale. Olvette Valse. La Fille du Tambour-Mujor Duetto. La Mascotte.
A Magnet hung. Patience.
Valse
Iolanthe.
He is an Englishman.
Pinafore.
Poor Wandering One. Pirates of Penzanco. Soldiers' Choras.

Faust.

## WIIH BELL AGCONPAMIMENT.

Price $£ 15$ os. od. Size $28 \times 13 \times 11$. No. 174.

Patrol Chorus.
Aid me, Capid.
Valse.
Aria.
Olivetto.
Duetto.
A Magnet hang.
Valse.
He is an Englishman.

The last Rose of Summer. Marta.
Soldiers' Chorus Faust.
No. 175.
The last Rose of Summer.
The Blue Bells of Scotland.
Comin' thro' the Rye.
Ye Banks and Braes.
The Keel Row.
Auld Lang Syne.
The Minstrel Boy.
Maid of Athens.
Kathleen Mavourneen.
Home, sweet Home.
Bid me discourse.
The Mocking Bird.
No. 176.
Tramp, the Prisoner's Hope.
The Harmonious Blacksmitb.
Rory O'More.
Aald Robin Gray.
Comin' thro' the Rye.
I saw from the Beach.
The Minstrel Boy.
Cheer, Boys, cheer.
Ye Banks and Braes.
The Keel Row.
Roy's Wife of Aldivalloch.
Robin Adair.
No. 177.
The Blue Bells of Scotland.
Auld Lang Syne.
Bonnie Dundee
The last Rose of Summer
Within a mile of Edinboro' Town
The Death of Nelson.
Nancy Lee
The Tar's Farewell.
St. Patrick's Day
Grandfather's Clock.
Hearts of Oak.
Come back to Erin.
No. 178.
Auld Lang Syne.
Estudiantina Valre.
The Keel Row.
The Minstrel Boy.
Blank and Tan Polka.
The British Grenadiers' March.
St. Patrick's Day.
See-saw Valse.
Thres Little Maids.
Mikado.
Comin' thro' the Rye.
The Rose of Annandale March.
Il Balen del sue.
II Trovatore.

## DRUM, bELLS AND CASTAMETS. SIX Airfs.

Price $£ 12$ os. od. Size $26 \times 13 \times 11$.
No. 179.
The last Rose of Summer.
Oft in the stilly Night.
Bonnie Dundee.
Home, sweet Home.
Holly-bush Polka.
Rule Britannia.

## TWELYE AIRS.

Price $£ 16$ os. od. Size $27 \times 12 \times 9$.
No. 180.
Sweethearts Valse.
Auld Lang Syne.
Rule Britanna.
Comin' tbro' the Rye.
The Harmonious Blacksmith.
The Marseillaise Hymn.
Sally in our Alley.
My pretty Jane.
Come into the Garden, Maud.
Good-bye, Sweetheart.
The Wedding March.
Aria.
Lucia di Lummermoor.

Price $£ 2 \mathrm{I}$ os. od. Size $30 \times 13 \times 10$.
No. 181.
Coro. La Figlia dell Reggimento.

Stride la vampa.
Il segreto per esser. Lucresia Boryia.
Soldiers' Chorus.
Glorire à Jupiter. Voici le Saber
The Power of Love.
Orphée aux Enfers. Le Grande Duchesse.

The Power of Love. G Brila
Doux Hommes d'Armes. Genev. de Brabant The Campbells are comin'.
C'est l'Espagne. The Light of Love.
Spring. gentle Spring.
Kutsctike Polka.

$$
\text { No. } 182
$$

Three little Maids.
Mikado.
See-saw Valse
Estudiantina Valse.
Black and Tan Polka.
Prithee, pretty Maiden.
Patience.
Je regardais Valse. Cloches de Corseville.
Sailors' Chorus.
Pinafore.
Toreador's Song.
Aria.
Je ne sais comment.
Chanson.
Couplets du Tambour

Carmen.
Rip Van Winkle. Madame Favart. Olivette.
La Mascotte.

## WITH FLUTE AND YOIX CELESTE AGCOMPANIMENT.

Price $£ 32$ os. od. Size $37 \times 18 \times 6$. No. 183.
Home, sweet Home.
I dreamt that I dwelt. The Bohemian Girl.
The last Glimpse of Erin.
The lass o' Gowrie.
Flow on, O silver Rhine. Lurline,
Tyrolienne.
Madame Favart.
Rule Britannia.
The last Rose of Summer.
Ye Banks and Braes.
Scene du Mancenillier. L'Africaise.
Sweet Spirit, hear my Prayer. Lurline.
The Marseillaise Hymn.
WITH OROHESTRAL ACCOMPAMIMENT. EIGHT AIRS.
Price $£ 28$ os od. Size $29 \times 16 \times 13$. No. 184.
Motif de l'Ouverture. Maritana:
Frappez les airs. Robevt le Diable.
Partir avec le jour. four de Bonheur.
The Heart bow'd down. Bohemian Grvl.
Les deux Aveugles Valse.
Conspirators' Chorus. Madame Angot. Ah, que Venise est belle. Haydéz. Mazeppa Gallop.

TEN AIRS.
Price $f 32$ os od. Size $34 \times 17 \times 12$.
No. 185.
Mascarade.
Pré aux Clercs.
L'Invitation à la Valse.
Doux Zéphirs.
C'est l'Espagne.
La Favorita.
Coro di Zingari.
The Light of Love.
Si fino all'ore.
Il Trovatne.
Kermesee Scene Valse.
Norma.
Soldatenlieder Valse.
Frappez les Airs Chorus. Robert le Diable.
Au Banquet, Finale. Les Huguenots.

## THELVE AiRS.

Price $£ 36$ os. od. Size $36 \times 17 \times 12$.

$$
\text { No. } 186 .
$$

The Wedding March.
Père adoré
Girofe and Girofia.
Rondo du Cliquot.
Fleur de Thé.
L'Invitation à la Valse.
Kutschke Polka.
Mascarade
Pré aux Clercs:
C'est l' Espagne.
The Light of Love
Mandolinata Valse
Madame Angot Valse.
Dolce zeffiro La Favorita.
Soldaten Lieder Valse.
Coro di Zingari.
Il Trovatore.

## TWENTY MELODIES OH INTERGHANGEABLE GYLNDERS.

Price $£ 56$ os. od. Size $36 \times 13 \times 14$.

No. 187.
Cylinder No. 1. Overtures.
L'Italiana in Algieri.
Fra Diavolo
Robert le Diable Der Freyschütz.

Rossini. Auber. Meyerbeer. Weber.

Cyllinder No. 2. Overtures.

I Puritani.
La Sonnambula Guglielmo Tell. $Z$ ampa.

Cyllnder No. 3. Overtures.
I Tancredi. Rossini.
Don Giovanni. Mozart.
Semiramide. Rossini.
Norma. Bellini.

Faust. Grand Valse and Chorus. The Carnival of Venice.
Market Chorus. Masaniello. Ah! che la morte. Il Trovatore. Cylinder No. 5.
Blue Danube Valse.
Bonne Bouche Polka. My Queen Valse. Idie Moments Schottische.

## SIXTEEN MELODIES ON INTERCHAMGEABLE OYLINDERS.

Prolonged Playing (3 hours).
Price $£ 90$ os. od. Size $44 \times 19 \times 12$.
Size of Table, $30 \times 26 \times 32$.
No. 188.
Cylinder No. 1. Overtures.

Les Huguenots.
Don Giovanni.
Meyerbeer.
Der Freyschütz.
I Tancredi.
Mozart. Weber.

Cylinder No. 2. Overtures.
Guglielmo Tell.
Fra Diavolo.
Il Flauto Magico.
Il Barbière di Seviglia.

Rossini. Auber.
Mozart.
Rossini.

## CyIInder No. 3. Operatic.

Marche du Sacre. Le Prophête. Suoni la tromba. I Puritani. Overture. Faust. Coro di Fattori. Marta.

## CyIInder No: 4. Operatic.

Grand March. Tannhaïser. Overture. Diamants de la Couronne. Overture. Semiramide. Market Chorus. Massaniello.

## thirty-six airs with sublime harmonie, piccolo, and bell agcompaniment OM INTERCHANGEABLE OYLINDERS.

Price $£$ foo os. od.
Size $43 \times 15 \times 15$.

No. 189.
Cylinder No. I.
See-saw Valse.
Hypatia Valse.
My Queen Valse.
Mon Rève Valse.
Fatinitza Polka.
Boccacio Valse.
Cylinder No. 2.
Kutschke Polka.
Sweethearts Valse.
Entre-nous Valse.
Bonne Bouche Polka.
Autographes Valse.
The Sorcerer Valse.
Cyllnder No. 3.
Toreador's Song.
Amour mysterieux Polka Carmen.
Jours fortunés.
Sailors' Chorus.
Aira.
Pirates of Penzance.
Valse. La Fille du Tambour-Major.

Cylinder No. 4.
Marche du Sacre.
Vieni O guerriero. Overture. Le Prophète. Le Calife do Bagdad. Hamlet. Connaisttu le pays. Mignon. Bel raggio.

Semiramide.
Cylinder Ṅo. 5.
O luce di quest. Linda de Chamonnix. La mia letizia. I Lombardi. Son virgine. I Puritani. Chorus. Songe d'une Nuit d' Eté. In happy moments. Maritana. Bella immago. Semiramide.

## Cylinder No. 6.

Overture. Overture. Overture. Overture. Overture. Overture.

Poéte et Paysan.
Si $j^{\prime}$ etais Roi. Prométhée. Giralda.
La Fèe awz Roses. Mivella.

## Messarg. NICOLE FRERES beg to submit a fow Testimonials recoived

 from their clientelo.Loughton, roth January, 1889.
We are sending you another musical box to be put ingood order. The other you did for us gave satisfaction.

Yours respectfully.
WILLIAM AMBROSE
Birkdale, 14th November, 1889.
The musical box and five cylinders have arrived, and I am much obliged by the manner in which you have met my wishes.

I am, faithfully yours.
ALFRED FRISBY
Gunnersbury, 22nd March, 1889.
I received the musical box quite safely on Thursday evening, the 2rst inst., and my customer was very pleased with it.

Yours truly,
w. W. WAIGHT.

Bournemouth, 8th July, 1889. U. LAKE.

Received safe and perfect, with thanks.
Nottingham, 13 th September, 1885 .
Received with thanks. A most excellent repair.
Yours truly,
W. H. B.

Kettering, jth July, 1897.
Musical box to hand, you have made it very good. Many thanks.
Yours truly
C. FINDING.

Rugby, 20th December, 1888.
I think you will be pleased to hear that this evening 1 received the musical box quite safely. As far as I can judge after one trial, I see that everything is as you told me, in perfect order, and now I wish to send you'my great thankfuiness.

Yours respectfully,
J. SALINS.

Southsea, 21st December, 1888.
My musical box has just arrived, and I am delighted with it. Many thanks for all the trouble you have taken for me.

1 am, yours falthfully,
MARY S. F. NOYES.
Market Rasen, 25th February, 1888.
Yours of the 23rd inst. Box received quite safely, and is parfectly satisfactory, and I am obliged.

Yours truly,
H. C. FELL

Blackburn, 1oth February, 1888.
The musical box duly to hand this morning about $x$ x.jo. I must say that with all honesty It is about as pretty a box as ever I saw, and the tunes are perfectly lovely if I mav use such an expression), especially "Dream World." Thanking you for your kindness and attention,

I remain, yours truly,
CHAS HINDLE.
Altrincham, 4th January, 1889.
It was an oversight of mine, the date. Am much pleased with box.
Yours truly,
G. J. PLIMMER.

Birmingham, 15 February, 1889.
I have the pleasure to state that the musical box ordered by me was safely received, and gives perfect satisfaction to customer. Tbanking you for promptness in execution of order, I remain, yours respectfally,
W. PEARSALL

Musical box safely to hand, and am obliged.
Derby, 26th September, 1889.
Yours truly,
J. H.

Bristol, 8th October, 1889.
The musical box has arrived to-day, and is satisfactory.
Yours truly, S. H. LURY.

Manchester, 16 th January, 1890. $s 0$.

I have received the movement all right. I am sending another in the course of a day or Yours truly,
A. DEARDEN,

Suo Paulo, Brazil, South America, a7th October, 1889.
I wish you to make three more cylinders, Nos, 33,52 and 89 , and kindly have them ready early next year, when my son will call for them. I am vory much pleased with the "Chicot" muslcal box and the two changeable cylinders, it has arrived here all safe. Belleve me to remain, yours sincerely,

RIOHARD RILEY.
Liverpool, 16 th December, 1889 .
I received the musical box comb safely, and am much pleased with repair.
Yours respectfully,
0. TIDEMANN.

Ascot, 5 th April, x go.
Musical box arrived safely this morning. I am mach pleased with the way you havo executed your work. Accept my thanks for promptitude.

Yours faithfully,
T. BARNES.

Camnock, 31 st January, 1890.
Wephave now received both the musical boxes, and are very well pleased with thera. Yoors traly,
R. and A. ALLEN.

Wells, a18t April, $18 g 0$.
Musical box combs received all right, and give every satisfaction.
Yours traly,
H. E. BALCH.


# The Player or Residence Organ 

By F. Wedb

## I. Introduction

THESE titles are not neccssarily synonymous: it is possible for organs other than chamber organs to have player mechanism fitted, but the term "Residence Organ," which has its origin in the United States, is applied to a chamber organ tonally developed on orchestral lines and incorporating a player action for the rendition mainly of operatic and orchestral nusic. Whilst it is proposed to cleal with player organs generally, more space will be devoted to the "Residence Organ," as this is the most intercsting type, and one that has reccived considcrable attention and experiment in the hands of certain buildcrs. As this particular type of organ does not seem to have been described in these pages, it is hoped that some details of its design and construction may be of interest to readers.

## z II. Argument

It may be asked how far such an instrument justifics it existence. It is the intention therefore to set out bricfiy the reasons for and against. Taking the "Aycs" first, the reasons (a) For: one, if not the strongest, of the arguments rests upon the fact that there is no such thing as touch in the proper sense of the word so far as the pipe organ is concerned. With the piano, touch is all important, and variations of timbre and intensity of tone are only to be obtained by this means; with the organ, on the other hand, no variation of cither of these can be obtained by touch. The organist may describe the touch as "heavy," " Jight," or "crisp;" but as long as the keys are pressed down, the only thing tiat matters in the tonal result is the rapidity with which they are pressed down and receased. This is just as casily accomplished by a good player-action as by the human fingers. Legato playing can be casily reproduced by the careful cutting of the music roll and phrasing (so called) aisc. Other reasons are that it provides a means of reproducing good music of almost any description more or less oreliestrated for the erjoyment of poople of musical taste who have not the opportunity of acquiring extensive ability to play well; it commands the repectition of good music at any time, enabling the hearers to familiarise themselves with such work; it is ready at any time and has no humour to consider, which the true artist at times has; and is a means of bringing into
good use instruments that are now silent or little used for the want of a good exccutant to play them.

Mr. Henry Willis, our well known organ builder, after trying one of the Skinner player organs during his visit to the United States in 1925, expressed his opinion in the following terms: "I would like to say a few words about the player organ, so seldom met with in England, but by no means uncommon in America. A particularly effective example is standing in the Skinner Studio in New York. The charming effects of which it is capable fascinated me, and I spent a very enjoyable hour or two at the instrument. The ingenuity of the meclianism is very fascinating and the fine results given by the fally automatic rolls a veritable triumph." These words coming from such an authority orporgan construction will, I am sure, carry more weight than any that I can say in favour of the player organ.

There are other reasons in its favour, but enough on this side has been said to make out a good case.
(b) Now to dispose of the "Nocs." The chief, and practically oniy argument advanced against the player organ is that it is mechanical in operation and effect, and consequently not worthy of setious consideration by musicians. Abdy Williams, in his very interesting little book The Story of the Orgar (1903), in speaking of barrel organs (the ancestors of the modern player instrument) says: "Yet the most perfect of them leaves the hearer cold and emotionless; the human clement with its imperfections, is wanting, and the most perfect barrel organ cannot give an artistic rendering of music." Much water has, however, run under the bridges since this was written, and I am sure that if he could have heard a modern player organ operated by autographic rolls, he would have modificd his opinion. Even the human imperfections he speaks of could be reproduced if necessary, and probably are present in these rolls if the reproduction was critically analysed. The fault above referred to may to some extent have been justificd in early attempts with player organs owing to indifferent mechanism, poor repetition, and badly cut rolis, but with the latest modern equipment using autographic rolls, every movement of the original exccutant is faithfully reproduced, phrasing, legato and staccato passages, stop registration, variations of tempo, manual and pedal solos, operation of swell louvses and combination pistons, \&c.

Such instruments, and the music rolls for them, are necessarily somewhat expensive, but a large amount of good music can be played with adequate effect on comparatively inexpensive single tracker bar orgatis by people of musical taste having control of tempo, stop registration, and swell pedals, and they are cnabled by this means to acquire a knowledge of such music that would otherwise not be possible.

The addition of player mechanism to instruments that already have tubular-pneumatic action is not a very expensive matter, and it is possible to add such mechanism even to a mechanical (tracker) action organ, but a train of pneumatic action would in this case have to be inserted which would be more costly than dealing with an instrument that already had pneumatic action.


Console of Three-manual Player-Organ (latest type) built by the Æolian Co., Itt.
(Keproduced by permission of the Fovian Co., Ltd.)

## III. History

(a) Barrel Organs. A few words relating to the predecessors of the modern player organ may not come amiss. Tine legitimate ancestor of the player instrument, so to speak, is undoubtedly the barrel organ, and it has a much longer histery than one would suppose. Abdy Williams, in his book already referred to, says that "Kircher in his Musurgia, in 1650, gives a number of diagrams and devotes many pages to the construction of these organs;" also Grassineau in his Dictonary of Music, in 1740, says that "several kinds were used in his day in the grottoes of Italian vineyards;" and further that Dom Bedos, a century after Kircher, gives full directions for making barrel organs. Quoting again from the same source, Abdy Williams says "that the mendicant's organ seems to have appeared in the streets before 1705, and that long before its appearance as a means of mendicancy, the barrel organ had attained a considerable size and importance in large houses, and was used in village churches."

Dr. J. W. Hinton in his book on Organ Construction (1900) remarks " that street barrel organs were first introduced [presumably into England] by a builder namd Hicks, circa 1805, and that Flight \& Robson were the principal makers of church barrel organs for fully a century, during which there appeared to be a great demand for them." This was probably due to the difficulty of getting competent players to maintain the old village church bands or executants for the ordinary type of keyboard instrument. They were, apparently, fairly common in our village churches in the first half of the nineteenth century, and a few may still be found in small churches in remote villages. Some of the existing ones have been described by our esteemed contributor, the Rev. Andrew Freeman, in Musical Opinion, and one just lately in the August, 1928, number of the same journal. Other instruments of this type have been described in an article by Mr. Robert Pugh in The Organ, No. 24, Vol. VI., which contains much interesting information, and to which the reader is referred.

The mendicant's barrel organ may still be heard occasionally in our streets, but its day is departing, and it is being ousted from its position by the ubiquitous and rather terrible modern machine mis-named "pianoorgen" (Abdy Williams). Street barrej-organs, and those made for private houses, are almost always fully automatic,-i.e., all operations, including the drawing of stops, crescendo, \&c., were worked from the barrel or cylinder, but the church organs of this character were usually only semi-automatic, the stops, \&c., being operated by the human agency that ground out the tune by "handle." Probably the largest and most complicated mechanically operated organ made during the nineteenth century, was the celebrated "Apollonicon" which was built by Flight \& Robson in 1817, at a cost of $£ 10,000$. This instrument was dismantled in 1840 , and the materials used for otner organs. Dr. Hinton also describes and illustrates in his book, a fully automatic organ, operated by two barrels, built by Wedlake for the late J. H. Van Ryn no further back than 1896, which had tubular-pneumatic action and ventil wind chests : both the two manuals and
the lowest octave of the pedal were worked independently, the stops and swell louvres as well as the usual orchestral percussions. This seems to have been (apart from the percussions) a worthy ancestor of the player organ.
(b) Organ Clocks. These made their appearance cither during the first half of the eighteenth century or soon after. They are considered here as they are in reality, small barrel organs having pipes, wind chests, lever action and bellows. The clocks (they may be called clocks as they were indced such, although the clock portion formed quite a small part of the mechanism) were apparently of Dutch origin, although many were made later in Germany in the Black Forest district. Quoting again from Abdy Williams, he says: "In Dutch houses one frequently finds large clocks containing mechanical organs, which play tunes at the hours instead of chiming. It was for a clock of this kind at Vienna that Mozart in 1790 and 1791 composed his two well known Fantasias in F minor."

The writer is in possession of what he believes to be probably the oldest, or one of the carliest clocks of this description. It is quite small, as these clocks go, being approximately 18 in . wide, 1 iin. deep, and 14 in . high. It contains about twenty-one small stopped wood pipes, ranging over two octaves or so, with a larger pipe acting as a drone or ground bass. The barrel has seven tuncs on it and is worked, as is usual in these clocks, by a fairly heavy weight, the speed of the barrel being regulated by a fly actins as an air break. The painted wooden dial, with the Dutch flags and small bunches of flowers, is in design similar to the typical "shecp's head" clock, and is inscribed on the back "No. I. Benedikt Mukle, Ncukiret," and a date (almost indecipherable) which looks like 1723. The maker was probably either the founder or one of the family of Mukles that were associated with the well known firm of orchestrion makers, Messrs. Imhof \& Mukic.

Quite a number of these clocks appear to have been made, mostly of a larger and more complicated pattern. They were frequently contained in mahogany or painted wood cases, about 5 ft . or 6 ft . high, 2 ft . 6 in . or so wide and about 2 ft . decp, with sylvan seenes painted in the upper panel of the front, with the small clock dial (about 5 in . or Gin. in diameter) just below it. One inspected at Sevenoaks a few years ago was of this character; it had several stops of wood pipes, both open and stopped, ranging over some three or four octaves in compass, and had several barrels with a number of tunes on each. An interesting feature of this clock was that the ranges of wooden pipes were made on what one might describe as the "mono-block" system, with the front and back of each set of pipes in one piece of wood with partitions between forming the various pipes, evidently done to cconomise space as much as possible.
(c) Musical Boxes. These, although they have no connection with the organ, merit a short notice here as the means of mechanically reproducing the musical sounds were similar,-viz., the tune barrel, the notes as is well known were produced by pins on the barrel catching the ends of stecl tongues of varying length giving the different notes, and in some boxes a different quality also. In a similar manner to the barrel organ, several
tunes were set out on the same barrel, this being moved backward or forward so that another set of pins came into operation.

The barrel in this type of instrument was latterly superseded by slecet steel circular discs, small parts of which were cut round and turned down at right angles, forming short tongues which caught on a scrrated steel wheel, which in turn plucked the note tongues and produced the tune. This instrument was called the "Polyphone," and it had the advantage that, whilst only one tune could be produced from one disc, the discs were interchangeable and any number could be used on the same machinc.

Musical boxes seem to have developed from the musical snuff-boxes of the eighteenth century and made their appearance about the middle of that century. They were mostly of Swiss (Geneva) make.

A rather complicated musical box heard some years ago was an elaborate affair. It had a long barrel which worked not only the usual note tongues but also a set of graduated belis and small drums; but what was rather unusual, a set (about two octaves) of delicately made free recds lightly blown; all these being, as usual in musical boxes, driven by a spring motor controlled by a fly. This instrument would seem to supply a connecting link between the barrel organ and the musical box.
(d) Orchestrions. These were apparently a more modern development of the automatic barrel organ used in the large houses before 1705, but under this title they do not scem to have made their appearance until approximately the middle of the nineteenth century. K. S. in the Encyclopadia Britannica states that "orchestrions were invented by F. T. Kaufmann of Dresden in 1851 ;" but a large automatic organ (orchestrion) was made by Michael Welte of Vohrenbach between the years 1845 and 1848. The probability was that they were a gradual development from the earlicr barrel organs, and that no definite date could be assigned to their introduction except under the title of "orchestrion."

A considcrable number of instruments of this type have been made since the above dates by the present firm of Welte of Freiburg, Baden, and also by the well-known firm of Imhof \& Mukle, of New Oxford Strect. A very fine example of one of these was to be seen in the International Inventions Exhibition at South Kensington in 1885.

They were beautifully made and finished, and were most ingeniously designed and constructed to secure the maximum effect (in quality, - not necessarily in loudness) from the smallest number of pipes, and were in consequence very compact.

Orchestrions found a full development and use as "fair"-or, as our northern friends say "feast"-organs: these as time went on became quite complicated, with numbers of sets of pipes, both metal and wood, llue and reed, with such orchestral percussions as drums, bells, triangle, cymbals, \&c. The carly examples were operated by the usual barrel mechanism turned either by hand or motive power, but later instruments are operated by the now familiar paper music roll. A steam "roundabout" organ seen some years ago was apparently operated by perforated cards something like those used in the Jacquard loom, but just how the joints were passed over could
not be ascertained. Some very elrective orchestrions have been made during recent years on the Continent, one or two of which have been described in the pages of Mrusical Opintion. These are worked by a form of music roll and are usually motor driven.

We now come to the latter half of the nineteenth century when the paper music roll first made its appearance and the barrel mechanism, which for many years had done good service, gradually became obsoletc. Messrs. M. Welte \& Sons, the well-known orchestrion makers already mentioned, claim to have been the first to build, in 1887, organs and orchestrions on the pneumatic system operated by paper music rolls; but with the pipe organ proper this form of player meclanism does not seem to have made much progress until recent years. The earlicst form of musical instrument using paper music rolls that was at all popular seems to have been a reed instrument of the suction type, miscalled American "organs." This was probably due to the fact that attenuated air was already used to produce the musical sounds, and the addition of player mechanism was therefore comparatively easy of achievement. A large number of these instruments were, and still are, being made: they have probably reached their final development and perfection in the solo orchestrelles made by the Rolian Co. One may leave out the probable contemporary and great advance made with the piano-player and player-piano, which, although they reached a perfection little realised some years ago, cannot be dealt with here.

We are now practically brought up to the present time; and it may be interesting to classify and describe some of the modern player organs built by the different makers. Before doing so, it is interesting to note that a form of music roll with pncumatic action has been adopted by the wellknown turret clock makers, Messrs. Gillett \& Johnson, of Croydon, to operate some of the fine carillons made by them for use with their turret clocks.

## IV. Description

Modern player organs may be divided into various classes as follows :-
(a) Simple one manual instruments with single tracker-bars arranged to take either 58 or combined 58 and 65 note rolls.
(b) Two manual and pedal instruments with single tracker-bars as above (a), but with melodic devices to give treble melody and pedal bass passages, and divided couplers.
(c) Two and three manual instruments having either double or long tracker-bars operating the compass of two manuals independently (three manuals through couplers), and part or the whole range of the pedal organ.
(d) Three or four manual instruments having long tracker-bars operating all three manuals independently (four manuals through couplers) and the full range of the pedal organ.

## They may be further sub-divided into two categories :-

(i) Semi-automatic where the notes only are played from the music roll, leaving the human element to operate the stops, pistons, tempo and swell pedals.


Small Model Player-Organ built by the Æolian Co., Ltd. Case by Grinling Gibbons
(Reproduced by permission of the Eolian (io.. LId.)
(2) Fully automatic where all movements, including manual and pedal notes, stops, couplers, pistons, swell pedals, tempo and re-roll, are worked from the music roll.
Before procecding further, it may be as well, for the benefit of the uninitiated, to define the term "tracker-bar." The tracker-bar is a strip of hardwond faced with polished brass or other metal (occasionally solid metal) perforated with sinall oblong holes, one to each note, that coincide with the perforations on the music roll which travels over its surface, and closes or exposes the holes as required. These holes are expanded at the back into short metal tubes that are connected by either rubber or metal tubes to the primary motors (or puffers) of the player action. The term tracker-bar is, perhaps, not a happy onc. In organ building, "tracker" is the name of a thin slip of wood with tapped wires at each end, which is used for connecting up the pull action in what are known as tracker action organs. Possibly "note bar" would have been a better term, but tracker-bar may be justified by the fact that the music roll tracks over its surface. The term, which apparently originated in America, has now come into fencral use, and is accepted as describing this particular part of the player action, so that it is, periaps, not advisable to sugrest its afteration. The double tracker-bar mentioned above, is used by the NEolian Co. It has a double row of holes, one above the other, the upper ones coming between the spaces of the lower series of holes. The uper row is connected with the upper or second manual, and the lower set with the bottom or first manual ; but this arrangement can be reversed, when necessary, by a lever or stop key. Other builders use a double row of staggered holes merely to obtain more clearance and room for the tubing at the back of the bar.
(a) Simple Single Tracker-bar Instraments. Quite a number of small pipe organs, and especially American reed instruments (suction type), have been made with a single tracker-bar action, taking usually the standard 58 -note rolls of the Nolian Co., and other makes. The pipe organs are usually small instruments of few stops, and somewhat limited tonal resources. It is usual, and advisable, in these to divide the stops into treble and bass, so that some semblance of melodic accentuation may be made, and the accompaniment kept down. No particular make can be described under this heading, as no firm of builders has made a speciality of this type, although at one time or another several builders have made organs (usually small) with this form of player action. The Estey Organ Co., of Battleboro', U.S.A., used to make a two manual and pedal organ of the usual type fitted with a single 58 -note tracker-bar. Most of the American reed organs fitted with player actions, described wrongly in some cases as "Orchestrelles," come under this heading.
(b) Single Tracker-bar Instruments zoith Melodic and Pedal Bass effects. This is a more advanced type of player organ, and one capable of good effect in the hands of people with musical taste. A number of small one manual organs of this type have been made by various builders, some of the earliest were made by the original Positive Organ Co., under the title of "kosauto" which were quite good in tone and very compact. Messis.

Spurden Rutt, of Leyton, also made instruments of this description. The stops were usually divided into treble and bass with a treble melodic action acting from middle $C$ up on one or more selected stops, and a pedal bass (melody) acting on a small scale 16 ft . bourdon in the lowest octave or tivo of the keyboard.
$\Lambda$ much better effect can be secured with larger organs having two manuals and pedals, a melodic coupler being introduced whereby any stop or combination of stops on the upper or second manual can be used as a inclody accompanied by the lower or first manual ; pedal bass effects are obtainable by a bass melody action connecting the lowest note of a chord to the pedal organ. Messrs. Spurden Rutt have made a type similar to this, and also the celcbrated Gcrman builders, Messrs. Walcker, of Ludwigsburg, who used ventil wind chests and derived some of the stops by extension from one manual to another, a procedure that seems fairly common in small instruments made by Continental builders.

The writer has recently had constructed for him by Messrs. A. W. Hayter \& Sons, of Letchworth, a two manual and pedal organ on similar lincs, with six speaking stops on cach manual and four on the pedal, including a 16 ft . reed extended from the oboe on the second manual and enclosed in the second swell box. All the pipes excepting the open diapason and remaining three pedal stops are enclosed in two independent swell boxes, one to each manual. There are melodic couplers (second manual to first manual) at unison and sub-octave pitch extending from fiddle $G$ to the top, the latter being used to bring out a melody at tenor pitch and a pedal L. ss (inelody) acting on one or all of the pedal stops throughout the entire range of the pedal organ CCC to $G$ ( 32 notes). The unison coupler second manual to first manual is also divided at middle $C$, this being useful at times to bring out a tenor or bass melody. The tracker-bar and action is extended, and an adjustable take-up spool and roll bearings provided so that either 58 or 65 -note rolls can be used, a cut-off being provided to disconnect the four upper and three lower notes when 58 -note rolls are used. The windchests are extended to $C{ }^{-1}$ ", so that the octave couplers are effective throughout the whoie upward range. The player action works through all the inter-manual couplers, as the writer considers that no player action is properly effective unless these couplers can be operated through it. This instrument has been built on more or less orchestral lines, solo stops only locing on the upper manual and suitable accompanimental stops on the lower. Whilst not being so good as instruments with double tracker-bars, this organ is quite effective, and gives a good rendering of both organ and orchestral music, and is certainly a pleasure to its owner. This instrument (without case) is illustrated in the first plate.

The disadvantages of this type are that it is impossible with melodic couplers to climinate the top note of the accompaniment from the melody, both are of necessity there at the same time. But a greater and more vital disadvantage is that the parts cannot be crossed, the melody must always be the top note of a chord and the pedal bass (melody) the lowest. A melody entwined in the accompaniment it is practically impossible to bring out.
(c) Doulle Tratker-licr Instruments. These organs having a trackerbar taking the full range of two manuals independently are much more effective, and it is possible to play with these correctly and with proper effect any music written for the organ that can be played on a two-manual instrument. Any notes may be played on any stop or combination of stops on the two manuals independently and the patts crossed ad lib. $\Lambda$ grood example of this type of instrument is the Nolian player organ built at Hayes, Middlesex, by the Eolian Co., Ltd. This is the only firm of organ builders in England who have made a study of and specialised in player organs and who have standardised music rolls for them. Quite a number of their instruments are in use in various parts of the country. The smallest model is built on the "duplex" system with ventil wind chests, all the stops being common to both manuals. This model is specially made for player work, and although two manuals are available for the player, only one keyboard and no pedal board is provided. $\Lambda$ typical specification of this model is as follows :-

| MANUAL, 1. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | I'rincipale cimalo | $\ldots$ | [.] |  |
|  | 1ilauto prime ... | ..' | . ${ }^{\prime}$ | I |
|  | Flanta misorn | $\cdots$ | $\cdots$ |  |
|  | $V$ Volino pimo | $\ldots$ | '. |  |
|  | Voce colerites | ... | ... |  |
|  | Viol sordino | ... | .. |  |
|  | Oboe di caecia | ... | . | 8 |
|  | Vox lumana | $\ldots$ | .. | 8 |

## COUPLERS

38. Manual II to manual I
39. Mantual II to manoual I octave
40. Manual II to pedal
41. Mannat 1 to pedal
42. Mantal I suboctave
43. Manual II suboctave
44. Nanual I octave
45. Manual II oclave
46. leclal nugment giving 8 ft. tone to pedal
47. Manual I unison release (off)
48. Manual II unison release (ofi)

MANIAL 1 I.
Siops Nos, y to ld reprat llose of Mammel.

redat.,<br>17. Contra basso ... ... ... lo<br>AOOLIENNE CONTROL Normal Unison Reverse

ACCESSORIES
4 combimation pistons to manual I 4 combination pistons to manual II

PEDAL MOVEMENTS
Halanced swell pedal
Halanced crescendo pedal (operating slops)

The inclusion of the vox humana in such a small instrument is probably a concession to popular, if somewhat misguided, taste. A clarinct would be of greater use for both organ and orchestral music.

The Italian stop nomenclature given above is evidentiy a relic of the late Dr. Ashdown Audsley's conncction with the company, when it commenced building organs in the United States some years ago. Fortunately his advocacy of the Italian language for stop nomenclature has not been gencrally followed: stop names are a sufficient jumble of Encrlish, Firench, German and other languages at present without adding to the difficulty of recognising stops by giving them Jtalian names. The English equivalents of the stops inentioned above is as follows:-


Console of Two-manual Player-Organ (without case)

| ande | $\because$ | Open tiafuasm |
| :---: | :---: | :---: |
| 2 Fianto primo | - | Hohl flote (wood open) |
| 3. Fianto minori | - | Harmonic flute (metal) |
| 4. Violino primo | -- | Viol d'orchestre |
| 5. Voce celestes | $\because-$ | Voix celestes |
| 6. Viol sordino is a rather stringy toned salicional with taper pipes |  |  |
| ())ooc di caccia is |  | ord |

As to the Aiolienne control, the "nomal" gives the upper manual to the "pper set of boles and the lower mamal to the lower set, the "reverse" chaneses this romind and brings the uper manual on the lower set of holes and the lower on the upper set, and "unison" brings both sets of holes into we on the lower manual.

An illustration of a beautiful case containing one of these organs is given: This case, in a charming English home setting, is reputed (") be the work of Grinling Gibbons and stood at one time in Westminster Abbey. The tone quality of these instruments is quite good and combincs well, but is not markedly individualistic. The action is electropmematic, the initial stage in the player being phematic (compressed air), converted to electric between the consoic and a two-stage pnemmatic in the orsan.

A considerable number of two and threc-mamal organs on this system have been built by the company; and it is pleasing to note that their present policy tends to the construction of instruments on more or less feritimate lines with due regard to proper tonal effect and balance. An illustration of the console of one of their latest three-manual player ogans is also given.

Probably the largest organ in England filted with this action is the very fine instrment in the company's beatiful concert hall, the Asolian 1tall. This is fitted with a double tacker-bar controling both 58 and 116 notes aide complers connecting the various sections to the player. Normally, the great is comnected to the lower, and the swell to the upper set of perforations, but this order can be reversed at will by a small lever; also the soin, choir, and echoorrans, coupled to cither set of holes. Recitals were given, a year or two ado, on this instrument which were brondeast by the B.B. $\%$, and many readers may, perhaps, remember them. The only difficulty with these, and with all other instruments having ten or more holes to the inch in the tracker-bar, is that the perforations being so close together mily a shight movement of the roll to the right or left produces wrong notes or effects; for this reason, it is usual to provide an automatic tracking derice, of which more will be said anon.

During recent years, the Eolian Co. have experimented with, and perfected, an autographic roll and mechanism named by them "Duo-Art," reproducing through the music roli the playing of well-known organists in a similar manner to the Weite, Skinner, and Nustin organs to be described later. This requires a wider roll and a longer tracker-bar containing more holes. The full compass of both manuals and pedals, and aiso stops and other movements are operated through it. Fortunately they have been enabled to do this without altering the gange of the holes, so
that with a Duo-Art mechanism cither 58, 116, or Duo-Art rolls can be playcei on the same instrument, a cut-off and adjustable take-up spool being provided for this purpose. This is a good step towards standardisation of the music roll, and marks a great advance in player organ work.

In this class also come the Welte Philharmonic organs made by Messrs. M. Weite \& Sons, of Freiburg, Germany. There is a primary and secondary pneumatic for the player, and a double pneumatic on the windehest, attenuated air being used throughout,-i.e., up to the windehest. Owing to the degrec of exhaustion used (about ioin. w.g.), the tubing is very small (about ${ }_{4}$ in. diameter) which enables all the couplers and action boxes to be kept quite small in dimensions, and with a very neat finish, thus taking up very little room in the organ. All the windchests, as is usual in German work, are on the ventil system. A typical specification, that of the largest model, is as foilows:-

> Compass Manuals CC to $\mathrm{C}, 61$ notes Compass I'edals CCC to $\mathrm{F}, 30$ notes

## MANUAL, I.

| 1. Sourtion ${ }^{\text {a }}$ - Viole d'orcheatro |  |  |  | ... | ... | 16 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | ... | ... | ... |  |
|  | Voix celmet |  |  | ... |  | 8 |
|  | liliter trave | ... | ... | $\ldots$ | .... | 8 |
|  | Giamba ... | ... | ... | ... | ... | H |
|  | Ilapason | $\cdots$ | ... | ... | ... | 8 |
|  | Plite ... | ... | ... | ... |  |  |
|  | I'iccolo ... |  | ... | $\ldots$ | $\ldots$ | 2 |
|  | Sescuiaitera |  | $\ldots$ |  |  | 23 |
| 10. IJarp |  |  |  |  |  |  |

## pedal organ

| 24. Hourdon douce | $\ldots$ | $\ldots$ | $\ldots$ | 16 |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 25. Sub-bass | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 16 |
| 26. Violon $\ldots$. | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 16 |
| 27. Trombono | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 16 |
| 28. Flute | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ |
| 29. Cello | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ |



Interchangeable combination tablets over stop keys
Interchangeable combination cut-out piston 5 graduated combination pistons and one cancellor Balanced swell pedal, stop creseendo pedal, tempo iever, automatic cut-out lever (stops), tubular-pneumatic action throughout Electric blowing
There are a number of these instruments in England. Three are in London: one in Messrs. Stcinway \& Sons' Salon; one at Messrs. Harrods, Brompton Road (specification above); and a third at Messrs. Maples, Tottenham Court Road.

The tonal scheme is one that might not altogether appeal to persons used to church organs, but it must be remembered that these instruments are built on orchestral lines and for the playing of orchestral, more than organ music proper. The scheme, as will probably be noticed from the above specification, is not founded on the diapason family, but is more a
combination of string and flute; but the general cnsemble is quite good and effective for the required purpose. A few words about some of the individual stops may be of interest. The strings (viol d'orchestre, \&c.) are rather broad and not so fully developed harmonically as is now the case in English organs. The diapason is rather subordinate in tonc. The cor is not, as may be supposed, a horn (reed), but is a wood harmonic flute, and the pipes are somewhat peculiar. They are of double length, but instead of the usual one or two small holes at half length, quite a large circular hole is made in front of the pipe (about half-an-inch in diameter), and from this a tuning slat is cut downwards and partly covered with a tuning slide. It is a question whether pipes with such iarge holes are truly harmonic, and it is somewhat doubtful whether the over-length has much effect on the tone, which is round and fuli, but somewhat hard. They are, I understand, somewhat difficult to tunc. The bassoon is quite worthy of attention : in the two lowest octaves it is a frce reed with wooden boots and short cylindrical covered carclboard tubes, the tone being very quaint and pastoral like, and of a quality the writer has not heard before in any organ. Unfortunately the stop is continued upwards in metal flue pipes and the peculiar quality is lost in the treble. The Vienna flute is an open wood llute with the usual circular mouth and canted cap, and has a very charming quality, being flutey and yet bright and somewhat stringy. One would like to see this stop used in English organs, but it is probably a little too much trouble to make. The flute traverse is of similar construction, but fuller, broader, and more flutey in tonc. The viola is practically a violin diapason with a little more character. The bourdon is somewhat dull and colourless and not so good as the typical licblich gedackt. The oboc and trumpet are rather on the free side and not so good as the English examples of these stops. Similarly, the pedal trombone is rather poor in quality and lacks body and smoothncss. The clarinctte, which extends to fiddle G, merits description. It is a free reed with wooden boots and large scale cylindrical cardboard tubes open at the top, the tuning wires being brought through the body. The tone is not at all like its orchestral prototype, it is more brazen, and would be more correctly described as a schalmei or broad toned corno di bassetto; it is quite characteristic and forms a good solo stop a little on the brassy side. The pedal bourdon douce and sub-bass are from the same set of bourdon pipes in two powers. The violone is of medium scale, with wood pipes in the lowest octave-and-a-half with zine pipes above, the tone is full with not much bite in it in the lower register, but more stringy above. The flute and 'cello are, as usual, extensions of the bourdon and violone.

The larger pipes are stayed, but the smailer ones are fitted with short fect, slightly tapered, and fit directly into the upper boards. These feet are provided with small set-screws to regulate the wind supply to the pipes, a much better plan than the usual English one of plugging the foot holes. The wood pipe work is very clean and beautifully made, all pipes down to the lowest ifft. being left "in the white." The whole organ, pedal pipes included, is placed in a chamber fitted with louvres at the top or front according to its position. The vox humana has a separate small box to
itself inside the chamber and is fitted with a counterweighted single louvre at the top operated separately, which when closed is called the vox humana ccho.

Several models of these organs are made, the smaller ones being on what is called the "compound" system, whereby some of the stops are uscable on both manuals. All models take the same size music roll, alterations being easily made in the stop perforations for the particular model of instrument. To avoid a long continuous perforation of the roll, the stops are operated by a single hole for the "on," and one for the "off" through the reversible (poppet) action. The tracker bar has a hundred and fifty holes in it, taking practically the full compass of both manuals and all the stops. The pedal organ is worked through the lowest octaves of the manual I. holes with an automatic cut-out. Probably no firm of organ builders has had so much experience in building orchestrions and player organs as Messrs. Welte, and their action is certainly very good and reliable. The tonal scheme of their organs seems to be influenced by their experience with orchestrions, and this as well as the orchestral leaning of the quality explains any departure from the accepted canons of organ tone.

## To be continiucd



The Welte Philharmonic player organ which formerly stood in Harrods. Picture kindly loaned to the Editor by Mr. Murdoch of Harrods Piano Department.

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From a catalogue published in 1892, and loaned by Member A.J.L. Wright.


# Rare Automaton Clock 

The clock depicted in the pictures on the facing page was recently sold by our Member in the Portobello Road, One of a distinguished pair from the famed collection of Cox's Museum in London in the 1770's and, later, Week's Museum, they are attributed to Cox and the well-known maker, Borrel. One of these clocks formerly belonged to the Ionides collection and was auctioned by Sothebys in London on November 1st, 1963, fetching £780 (G.H. Bell, Winchester).

The Ionides specimen, illustrated on page 125 (Plate 30 a) of the book "Old Clocks" by H. Alan Lloyd (Ernest Benn, 3rd ed 1964) had the top cascade missing, but had the delicate gilt filigree decoration around the clock face to match that around the central tier. It is believed that the clock shown here, rather than being the second one of the pair, is in fact the Ionides specimen. The reappearance of the top cascade may be explained by the fact that a number of automata clocks attributed to Cox and Borrel had similar cascades and one might conceivably have been found to replace that which was missing,

The clock is built in three tiers standing on delicate ormolu feet. The first tier contains a waterfall consisting of eight twisted glass rods which rotate when the mechanism is in motion. The second tier contains a remarkable clockwork movement, the principle feature of which is a long carriage extending from the

back to the front of the tier. At the front, two eye-lid shutters, chased and gilded, open, whereupon the bud of a lotus blossom is thrust forward. This then unfolds its eight rubystudded petals. The whole glorious flower, extending fully three inches in front of the case, is set in rotation, all the while a butterfly with ruby-studded wings flits and hovers over the centre of the flower, folding and unfolding its wings. Gradually, the spinning flower is withdrawn into the case, the leaves closing up around the butterfly until finally the flower is once more closed as in bud, and the eye-lid shutters close.

During this function, the fountain or cascade at the top of the clock also transforms, The twelve leaves of the dome beneath the fountain begin to rotate individually until they are all pointing upwards, revealing a cascade beneath. The fountain above and also the leaves rotate.

A musical movement playing on bells is situated in the base, but as with so many early movements, it does not play a recogniseable tune. The entire piece stands approximately 36 inches high, and is extremely heavy, the side panels of each tier being made of finely -etched black -coloured steel plates. The left hand picture shows the clock at rest; that on the right shows the clock in full movement, normally occurring at the hour,


## HOW PERFORATED MUSIC-ROLLS ARE MADE.

By the courtcsy of one of the largest manufacturers of music-rolls, I was permitted, a short time ago, to go through the factory and examine the machines and the latest method by which music is transcribed from the printed score to the perforated paper-roll.

The method is simple, but the machines seemed to me complicated and very delicate; but that may be because I am not an engincer. As I am not able really to describe accurately the parts of the machines used in producing music-rolls, I must, perforce, be content with merely writing out the underlying idea, the principle in use, in a manner simple enough to enable the average reader to get a straightforward mental view of the work.

The music selected for " cutting" (cutting is the technical term used) is gencrally those pieces which are most in demand as gauged by the enquiries for them; and entirely new pieces, fresh from the publishers, are often "cut" at once if they are likely to be popular. The manufacturers who permitted me to collect information for this article have a selection committee formed from members of their staff, and this committce sits once a month and decides what new rolls shall be put in hand. A list of enquiries from retailers is carefully kept up-to-date, so that it is easy to see what to choose for best meeting the need of the general public.

The first stage in the conversion of print to perforations is taken in hand by one of the musicians on the staff, and the " scale of cutting" is decided.

By scale of cutting is meant just how much space on the roll should be allotted to any one note; the standard varies somewhat with the speed at which the music to be cut has to be played. For example, in a very slow movement, perhaps an inch perforation to a crotchet, two inches
to a minim, might be used, whereas in very rapidly played music only half that space would be necessary. The spacing is marked on the score, cuts or repeats are shown up by blue pencil, and the general planning of the scheme of cutting is made clear on the score. The score is then passed on to another musician, who begins to do the actual transcribing. Necessity, that fecund mother, has brought forth a very simple and clever chart scheme for this purpose, and as it would be difficult to explain it very clearly, a section of the chart is reproduced on page 190.

You will note that the chart covers the full compass of the piano; the notes are marked, and the small black dots in between denote the space allotted to each note. Later on it will be seen how the small blark dots are a guide in the actual machine-cutting.

Suppose, for instance, the best-known phrase in English tunes had to be cut. The transcriber sits, with the score in front of him, and the chart, in the form of a long pasteboard roll, laid over a small table between the score and the transcriber, pencil in hand; he sces the phrase thus:-

and with scalingat 4 dots to a crotchet, he marks over with his pencil the 4 dots, left to right, of the G B D G on the chart of the first chord, and the next two in similar manner. The fourth chord, DADF $\ddagger$, is a dotted crotchet, which gives half as much againtime value to the notesas the previous ones. The transcriber therefore rules off 6 dots to each of the notes on this chord instead of 4 . The following chord, EAC\#G, is of quaver time valuc--half that of a crotchetand only 2 points to each note are ruled through. The
last chord is of the same length as the first three, and 4 points are ruled off to each note.


The section of the chart now looks as on opposite page (459)


































$\qquad$

This, then, is the process of transcribing :-ruling out with pencil enough dot spaces to correspond with the time value of each note in the score. Using the soaling above, 16 dots are ruled out for a semibreve $\rho, 8$ for a minim $P$, 4 for a crotchet $f, 2$ for a quaver $\mathcal{J}, 1$ for a semiquaver $?$, and so on. The transcriber finishes the whole of the score and chart in this manner.

The chart is now passed on to the hand-punching department. The workers here are furnished with a hard wooden punching block and various-sized steel punches. The chart is placed over the punching block, and wherever the transcriber's pencil has scored out the black dots, a hole is punched.

From this stage, correction and revision is done in the rough, the chart passing from the punchers to the transcriber until it is considered sufficiently correct to put on the cutting machines.

On the edge of the chart are seen square holes at equal distances apart ( $\square$ ). These square holes fit over a gear wheel, each cog as it revolves taking up one of the square holes, thus causing the chart to travel in the cutting machine.

The chart travels in a downward and perpendicular position close to the cdge of a horizontal metal table, and then under and away.

On the horizontal metal table is fixed a series of 88 metal points (one for each note), rather like the points of a large hair comb; each point, lowever, is in rapid movement fromits position forwardand on to the chart ( 4 -inch movement). Watching the machine at work, one arrives at the word "feelers"; these comb points, when in motion, keep tapping the chart; every dot on the chart is tapped by a point which scems to be feeling for a space deeper than the chart surface.

Underneath the table on which these wonderful little feelers are at work, and corresponding with the 88 feelers,
are 88 steel punches moving just as rapidly as-perhaps more so than-the feelers; each punch is controlled by a fecler, and when one of the feclers finds a perforation on the chart, then the punch below is released and allowed to punch holes on the ordinary paper-roll, which travels simultaneously under the machine punches as the chart passes the feelers.

Compared with a type-writer the chart is the shorthand notes, the feclers the keys of the type machine, and the punches correspond to the actual type as it hits the paper.

After the first ordinary paper-roll is punched in this way, the first sample is taken off the machine for scrious revision. Hitherto the corrections and revisions have been chiefly to prevent wrong notes and mercly mechanical defects. The roll may be, and often is, mechanically correct and corresponding exactly with the printed score; but it is simply astounding to hear the inartistic result from a roll that only mathematically agrees with the score.

Rolls put on the market when loft at this stage have been sold to the public in large quantities in the past, and to-day a cheap roll is often one that has received none of the expensive work of musicians which forms the next stage in the manufacture of the roll that can be used to produce artistically played music.

The differences, the omissions in time values, the extensions of time values, the overlapping of notes, that actually occur when a piece of music is well played by hand, are very subtle, and many of these subtle alterations must be allowed for in the cutting of rolls for piano-players.

For instance, any melody played very smoothly and sweetly is largely the result of playing a note while the previous one is held down; a kind of overlapping takes place, and some perforations will commence 2 or 3 points cven before the mathematically proper time, or one note may be made longer to cover the entrance of the next, and so on.

No one who has not compared the first exact roll with one that has passed the final test can have any idea of the amount of care, knowledge, and labour involved in the preparation of a first-class roll. Considering that the most classical, the most modern and difficult music is satisfactorily transcribed, one is left wondering at the cost entailed in the production of a work like, say, one of Sir Edward Elgar's symphonies; and for real music-lovers, at least, it is best for them to purchase rolls that are turned out under the supervision of highly-paid musicians, even if the price is considerably higher.

I was particularly impressed with this part of the process, and watched how the cantabile melodies were checked again and again, the note spacing and overlapping altered until perfect smoothness was obtained.

For this purpose the roll is, of course, put on to the piano-player, and the musician relies on his ear for the effect that he wants to make possible.

After several revisions the roll is sent to the musician-inchief, and passed for stock cutting.

From this finished roll another master roll is cut on a fresh chart. The completed chart is put into the machine, and the rolls are cut in quantities-about a dozen at a time.

The expression marks on the face of the roll, the line guides for tempo, the coloured lines for loud and soft, are placed on the first finished roll by hand, and then the remainder of the new rolls are marked by a clever kind of machine pen.

This machine is roughly in the following form :-
There are ten or a dozen glass shelves in a case. The case is open at both ends, and a dozen rolls travel flat over the shelves, one roll to a shelf, all travelling at the same pace and in perfect alignment one with the other. A dozen pen points or inked wheels, one for each glass shelf, lie on the
paper as it travels over the shelf, and at the top shelf stands the operator holding a lever with pointer attached. This lever operates all the dozen pens at once, and is guided by the operator as he holds his pointer to the top roll (hand marked), and traces the pointer along the line of the master roll. In this way a dozen rolls are marked at once, instead of each having to be separately traced by hand, as was the case not very long ago.

It is significant that this pen machine and several others have been invented by members of the staff of the factory through which I was allowed to go.

The roll itself being now finished, the process of putting on to the holders is a simple one, and the practised eye and hand make light labour of accurately placing the papor on the holder in such a manner that there is no chance of irrcgular running of the roll.

The foregoing is an outline of the usual method of making perforated music-rolls, but there is yet another, a simpler and more direct method, but on the whole not nearly so satisfactory.

A machine is in use by means of which a pianist at the keyboard actually types marks direct on to a chart as he plays. The marks are then punched and rolls made. It is also possible to have a roll cut direct from the pianist's fingers, but to have one marked is safer, and marks are more easily revised than are perforations.

In the factory I heard an interesting anecdute which explains the effectiveness of this machine, and the keen business methods of a well-known firm in New York.

A great singer was about to sing at a piano-player recital, and the heads of the business house asked the lady to see the music-roll making department. After a time, in which the singer's interest was notably growing, she was courteously invited to play and sing one of her own songs.

When the song was ended the request came: " Would you be good enough to sing this to-night at the recital?". "But it isn't even in manuscript," said the lady; "I haven't had time to write it down! No one could accompany me, and I can't do both satisfactorily."
"Oh, but we can play the accompaniment for you on the player, Madame, quite well." "How can you when I have never written it out?"
"No, Madame, you have never written it out, maybe, but just now, when you played your song, you also cut it into a roll at the same time. Here is the roll ready for rehearsal: will you try it?"

The rehearsal was satisfactory, and the song was sung in public to the accompaniment of the player that night.

The weakness of this method of producing music-rolls lies in the fact that the pianist's own tempo and phrasing are all incorporated in the roll when finished, and therefore no room is left for the individuality of interpretation.

Using a roll of this kind, the player-pianist simply pedals away, and, beyond varying the degrees of loud and soft, is merely a machine, and it is nearly always an uninteresting job for the performer at least.

Returning from my visit to the factory, and mentally making notes for this article, I found myself wondering which of the two inventions-the piano-player or the flying machine-was the greater. There being few points in common in the two inventions I gave it up as futile speculation, but for all that I was nearly as greatly impressed by what I had seen as when I first saw a monoplane soar up above my head.

H. E.

## LETTERS <br> TO THE EDITOR

Cyril de Vere Green writes:-
Whilst browsing around a certain London musical box emporium the other day, I was shown a Hymn box made by B.H. Abrahams. This box played 12 hymns on a fairly coarse comb but what interested me most was its general condition and this presented to me yet more evidence in favour of an idea which I have had in my mind for some time. This particular box, although a little dirty with age, was in most perfect condition, every pin was straight, there were no broken tips or teeth and cven the dampers were sound and working as intended.

Among the boxes in my collection I have five which have hymn programmes and each of them is in mint condition and first class playing order. They are just as I bought them and comprise two Nicole Freres, two by PVF and one by Thibouville-Lamy. I began to wonder whether there was a reason for this perfect state of preservation, or whether it was but coincidence. I have now come to the conclusion that, far from coincidence, their present condition relates directly to the manner in which they were used. During the Victorian era, the religious observance of Sundays was far more strictly adhered to than in these days. Even I can recall that there were special books one was permitted to read or to paint in on a Sunday afternoon, not every book being considered fit for relaxation on the Sabbath. May not this way of life have extended to influence musical boxes as well?

I believe that it is more than likely that hymn-playing musical boxes were permitted to be played on Sunday aftemoons in certain households and there is no doubt in my mind that the disciplinarian character of those times involved the strict ritual of winding up and the playing of such a musical box with the head of the house. Certainly no children would have been permitted experimental finger-prodding of the delicate mechanisms.

This, wen, is my theory and I should be very happy if other Members of the Society might like to comment to the Editor if they, too have discovered that hymn boxes are generally to be found in perfect playing condition.

EDITOR'S COMMENT: With one borrible excertion (a PVF in my collection best described as a former Olympic runner now in
an advanced state of dental decay), 1 corroborate Mr. de Vere Green's findings. A bymn box would more than likely have bad much less use than, say, a 'popular air' box, and the very character of instrument and programme would dissuade inexperienced tampering. It is worth noting that the Sunday afternoon rituals of a past era extended not only to the playing of bymn-programme musical boxes, but to other boxes, particularly those with overture programmes one suspects. Quality and survival for the musical box depended more on the environment, one feels, than the music. There are still boxes to be found which bave never entered a dealer's shop and have led a revered and cossetted life and quite often they are a joy to behold.

The following letter bas been received by the Editor from a Member who prefers to remain anonymous (name and address supplied):-

As a member of both the Musical Box Society of Great Britain and the older Musical Box Society International (of America), I feel I should write and voice my dismay at what seems to be a growing tendency amongst collectors in certain quarters. Perhaps I can be the first to warn against the substitution of real musical box enthusiasts by the "what's it worth" speculator.

I have never sold a musical box in my life. I collect and, within reason, I am not really concemed with the price I pay so long as I get the piece which I really want at what I believe to be a fair price. If, then, somebody tells me he bought a similar item for half the price - or twice the price - then that is just unfortunate for one or the other of us. I maintain that it is impossible to put a valuation on a musical box. To attempt to do so is both fatuous and demeaning.

So often I am asked how much a particular item is worth. As our Editor once wrote, I always answer that the value is with the collector and thus is quite indeterminate. As an obsolete piece of ethnology, they are worthless. The rise in the prices of musical boxes is only to be expected. There are too many "dealers" in the game, all assuming that they know at least as much as the collectors to whom they are trying to sell their wares. I have been collecting since before some of them knew which end to put the key in. But what is more unfortunate is the attitude adopted by some of our American friends who seem to be so hypnotised and pre-occupied with prices and values that one really wonders what their true reasons are for collecting at all. It is
because these people establish prices that we must concem oursel ves with them. Speaking as a collector, I do not believe that collectors should be speculators inasmuch as they ought by definition, to put the collecting part as of major importance, instead of worrying about how much they can expect to net by selling their 'collections'.

However untenable the situation hitherto, things are getting much worse now and all hell can be expected to have been released following the publication of an American book on mechanical musical instruments. In this, the author gives what he believes to be a rarity and price value for some instruments. The evidence upon which he has based his approbation is not given, but what he has done is to sharpen the awareness of his readers as to the money which can be made by dealing and speculating rather than collecting. It has largely put an end to the enjoyment of collecting for the true collector must now find his motives suspect. Collectors in other spheres will shun him as a potential wide-boy. In the six years which our Society has existed, it has seen many changes and achieved a great deal, particularly with the spreading of knowledge. But it has, also attained a lot of the inevitable commercial trappings and seeded a rot which I for one am thoroughly sickened by. I do not want to see the true collectors or the aims of our Societies exploited by small-time speculators who will surely destroy both collectors and themselves given sufficient time.

The following letter has been received from a new Member, Mr. Peter West of Bristol :

I feel I must write and say how very much my wife and I enjoyed our first Musical Box Society meeting.

A delightful day altogether - all the talks were outstandingly interesting (and none of them went on too long!), and very pleasant company as well. We look forward to the next оле.

## Mr. R.P. Atkinson of Alloa wtites:-

I have one Box with exactly the same Tune Sheet as those shown on pages 380/381 (last issue).

I had occasion to repair the mainspring some years since, and etched on the broken-off and was:-

$$
\mathrm{P} \xi \mathrm{~F}
$$

which could make it Paillard Freres. This box has a really beautiful case with musical instruments marquetry on the lid and front, heavy black moulding all round the bottom, and bun feet. It has a strong movement and especially wide gear wheel on the cylinder driving the fly.

On the tune sheet it states:-
" 8 Airs - Tremelo Expressif Zither, 13 Pces. No. 47753."

It has a tune indicator and a zither attachment with lyre motif.

I hope the above will help to identify Graham Webb's boxes

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[^0]:    The Sunday session began with a demonstration of stripping, cleaning and restoring a Polyphon musical box by Keith Harding, Cliff Bumett and their two able

