

On  
Playing The 'Pianola'  
*and the*  
'Duo-Art' 'Pianola' Piano

By  
REGINALD REYNOLDS



*Of the 'Pianola' it may be said 'A Child can play it.' So he can, and, even at a first attempt, with very fair effect. This little book has, however, been written for that owner of a 'Pianola' who is not content to play it in a child-like way, but wishes to make fullest use of all its magnificent potentialities as a highly-developed musical instrument.*



ON PLAYING THE 'PIANOLA'  
AND THE  
'DUO-ART' 'PIANOLA' PIANO

*With directions for using the special*  
'Pianola' Practice Roll

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*By*  
REGINALD REYNOLDS

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*This Booklet and the Roll to which it refers have been approved by the*

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# CHAPTER I

## ON

### PLAYING THE 'PIANOLA'

	PAGE
Foreword - - - - -	5
Reading the Rolls - - -	6
Position at the Instrument - -	6
The Duties of the Feet - -	7
Amount of Power - - -	8
Description of the Various Levers	9
Placing the Roll in Position -	11





# On Playing the 'Pianola'

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**I**N view of the statement that 'a child can play it,' the following instructions may seem unnecessary.

It may, therefore, be well to explain the apparent paradox of an instrument so simple that a child can certainly produce quite musical results without previous knowledge or practice, yet so vast in its potential power for the interpretation of music that not one of the so-called demonstrators of the instrument can be said to have reached the limit of its possibilities—just as it is impossible to say that even the greatest pianist has ever acquired complete mastery over the resources of the Pianoforte.

The truth of the matter is that, with the 'Pianola,' a child can instantly produce the most brilliant technical passages with a clearness, equality and faultlessness beyond the power of the most eminent virtuoso, and if the composition depends almost exclusively upon brilliant technique for its effectiveness then the child will succeed in giving a performance in which the shortcomings in expression may be outweighed by the amazing

execution ; but, before sentiment can be adequately expressed, the 'Pianola' player will need much practice to acquire quality and variety of touch, the power to bring about subtle and sudden changes of *tempo*, prominence of the melody, a nicely balanced accompaniment, and skill in the use of the levers for actuating the soft and sustaining pedals of the Pianoforte.

## Reading the Rolls.

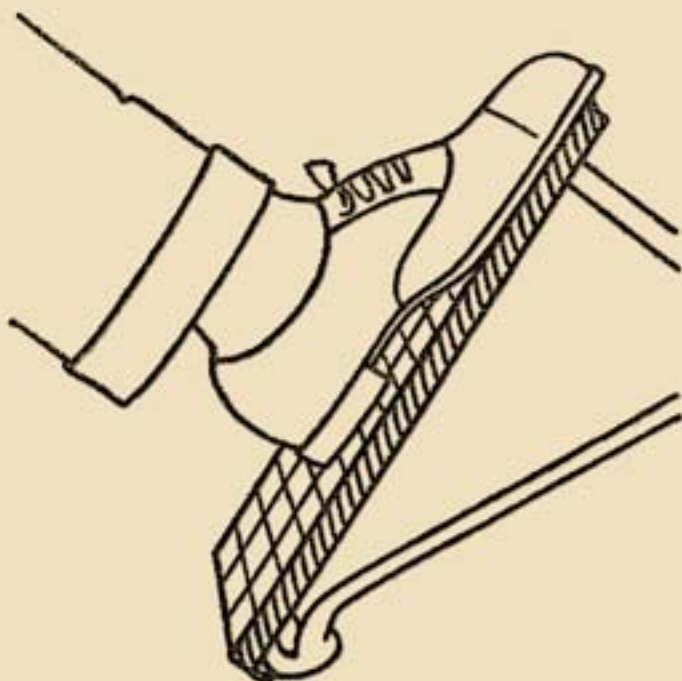
It will be found necessary, and is fortunately easy, to be able to read and understand the perforations in the music rolls sufficiently well to know what to expect before the notes are actually played. This form of notation may be regarded as a visual representation of music as played upon the Pianoforte keyboard, for the perforations are in precisely their proper relative positions of pitch, their length in the roll indicates their duration of sound (apart from the effect of the sustaining pedal), and the distance at which they follow each other across the 'Tracker-bar' will determine their rhythmical spacing, which in almost all 'Pianola' rolls will be found to be in exact accordance with the time value of the notes in the printed music.

## Position at the Instrument.

Before attempting to play the 'Pianola,' obtain a suitable seat. This should not be less than 22 inches high, preferably with the top slanting from a height of  $23\frac{1}{2}$  inches at the back to  $22\frac{1}{2}$  inches at the front. Such seats are, of course, obtainable from all Agents.



Place the feet upon the treadles of the 'Pianola,' with the toes slightly projecting over the top ends and the heels not above the centres. Sit



sufficiently far from the instrument to avoid any uncomfortable bending back of the feet when the treadles are in their normal position, because it is important that these should completely return after each stroke and not be kept partially depressed all the time.

### The Duties of the Feet.

As the 'touch' of the 'Pianola' is controlled by the feet, each foot must be trained to act independently of the other, in somewhat the same way as a pianist's hands are trained, but with this difference, that for 'Pianola' playing *one* foot should be practically exclusively prepared for melody playing, accentuation and phrasing, the other foot serving as an auxiliary, to provide sufficient reserve power, and also to play the accompaniment, and any passages in which general modulation of tone is more important than subtle phrasing.

Both treadles acting equally throughout the entire compass of the instrument, it does not matter whether the right or left foot is used for the more important portion of the touch, but it is best to use for this purpose the foot which happens to be the more active, if the feet are not equal in strength and agility.



If the heel of the accentuating foot be raised, the thrust of the toe can be quicker and stronger ; while for the other foot, a smooth ankle movement is usually best.

This different action of the two feet will be almost always desirable, but sometimes (when no melodic phrasing or accentuation is required) it may be found convenient to use both feet equally. More rarely, there will occur cases in which two or more strong accents follow in rapid succession, making it necessary to use the feet alternately for accentuation.

### Amount of Power.

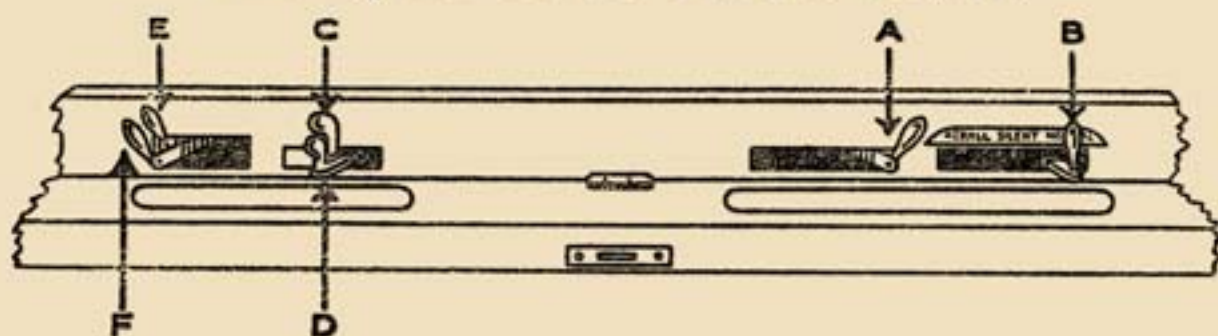
Although for a single accent all possible power can be used without obtaining more tone than is sometimes needed, one must carefully avoid too much continuous force, for this is capable of being not only greater than a pianist could produce, but also much more than is desirable. The two most noticeable cases in which this fault is likely to occur will be found in rapid successions of chords, and in brilliant passages, particularly if the latter are in the upper treble. It should be remembered that the moment a strong accent has been made the pressure should be released by *both* feet, unless another accent is required immediately, otherwise the following notes will probably be too loud, and unnecessary energy will be expended. There is nearly always sufficient reserve power left in the instrument, after accenting strongly, to play several notes without any further movement of the treadles.

*Very light* rapidly alternating foot work is best for obtaining extremely soft effects of touch, especially if the passages are rapid, or if there are quick repetitions of the same note, or chord,



whereas when more tone is desirable a longer stroke can be taken, though it should seldom be more than half the available movement of the treadles, while the *accentuating foot* should make the shortest stroke with which the effect can be obtained.

### Description of the Various Levers.



- A—Tempo Lever. B—Gear Lever (Re-roll—Silent—Play).  
 C—Bass Subduing Lever } or Graduated Accompaniment Levers.  
 D—Treble Subduing Lever }  
 E—Soft Pedal Lever. F—Sustaining Pedal Lever.

The 'Tempo Lever' (A) controls the speed at which the paper passes over the 'Tracker-bar' (see illustration on page 11). To stop the roll for a 'pause,' this Lever must be placed over to the *left* as far as possible, whereas the further to the *right* it is moved the more rapid will be the *tempo*.

The 'Gear Lever' (B) merely engages the driving gear for rolling the paper from one spool to the other. When placed to the *right* it will cause the 'Take-up Spool' to revolve, thus drawing the paper downwards across the 'Tracker-bar.' By placing this Lever to the *left* the gear is reversed so that the top spindle is now revolved, for re-rolling the paper back on to its own spool.

If the instrument is provided with the 'Silent' device, this 'Gear Lever,' when placed centrally, will enable the paper to be



moved rapidly over the 'Tracker-bar' on to the 'Take-up Spool' without allowing the notes to sound ; thus sections of the rolls can be omitted at will.

The two 'Subduing Levers' (C & D) modify respectively the power of the Bass and Treble portions of the instrument. The upper or backmost Lever controls the Bass section (up to and including the E flat nearest to the middle of the keyboard) ; the lower or frontmost Lever controls the Treble section (from the next note, E natural, up to the highest note of the instrument). When these Levers are held over to the extreme *left*, variations of foot pressure should have no appreciable effect upon the power of the notes, *unless these are 'Themodised,'* i.e., provided with special marginal perforations (which always appear in *pairs* on the right, or left, edge of the paper), in which case these 'themodised' notes are independent of the action of the 'Subduing Levers' and can be varied in power by the action of the feet.

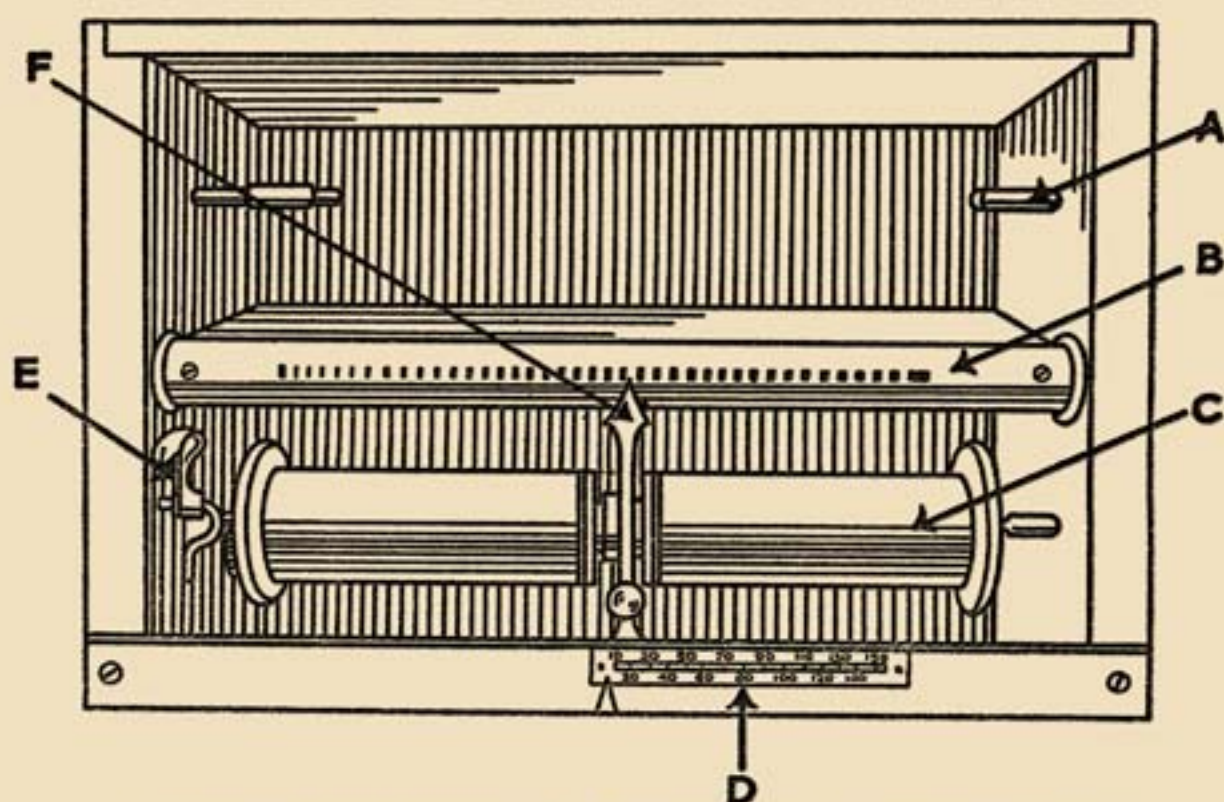
The 'Soft Pedal Lever' and 'Sustaining Pedal Lever' (E & F) merely take the place of the usual two Pedals of the Pianoforte, and act upon the instrument in precisely the same manner, the *former* reducing the amount of tone, the *latter* removing the dampers from the strings, thus causing the sounds to be sustained so long as the Lever is held over to the right.

The 'Tempo Lever' should be held *lightly* and freely between the thumb and forefinger of the right hand.

The 'Subduing Levers' can, in most cases, be used by the thumb of the left hand, enabling the middle finger to be used for the sustaining pedal, with the forefinger available for the soft pedal. But should the isolation of individual notes (not



already 'Themodised') be desired, it may be found necessary to use the thumb upon the lever for subduing the treble, and the forefinger upon the lever for subduing the bass, in which case the sustaining pedal must be controlled by the little finger. When this form of manipulation is required it will be best to turn the left wrist and elbow outwards ; the forefinger can then be released while the thumb is held back, or vice versa.



A—Flanged Roll-holder. B—Tracker-bar. C—Take-up Spool.  
D—Tempo Indicator. E—Lever for Automatic Sustaining Pedal.  
F—Metrostyle Pointer.

### Placing the Roll in Position.

Keeping the 'Gear Lever' at the left, as for re-rolling, place the roll in position between the metal holders, making sure that the flange of the right-hand holder goes into the groove in the spool end. To make certain of this it is advisable to press a finger upon the right-hand metal holder, while you turn the roll round with the left hand ; then, if the holder is

rotated by the roll, the flange is in the correct position ; if the roll can be turned without moving the holder, the flange is not in the groove, but will probably slip into its place during the rotation of the roll.

Then place the ring of the roll upon the hook in the ' Take-up Spool,' and before commencing to use the treadles, turn the ' Take-up Spool ' with your hand until you have wound past the thicker front portion of the roll, (used in most ' Pianola ' music) and brought the thinner paper on to the ' Tracker-bar.'

To start the roll the ' Tempo Lever ' can be moved over to the highest speed, then, after placing the ' Gear Lever ' to the right, the treadles can be used to hurry over the plain paper. Now the ' Tempo Lever ' should be pushed over to the extreme left, about two inches before the first perforation reaches the ' Tracker-bar.' This will stop the roll and give you the opportunity to decide at what speed, and with what degree of power, you will commence to play.



## CHAPTER II

# DIRECTIONS FOR USING THE 'PIANOLA' PRACTICE ROLL

	PAGE
Foreword :       -       -       -       -       -	15
Example I.   Developing Foot Power -	15
Example II.   Variation of Tone -       -	16
Example III.   Accentuation       -       -	16
Example IV.   Controlling the Tempo	17
Example V.    Playing a Themodised Melody -       -       -       -	19
Example VI.   Accentuating   Unthemo- dised Notes-       -       -	19
Example VII.   Graduating an Accom- paniment -       -       -	20
Example VIII.   Subduing the Bass       -	22
Example IX.   Subduing the Treble       -	22
Example X.    Use of the Sustaining Pedal       -       -       -	22



## Directions for using the 'Pianola' Practice Roll

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The student should devote his attention entirely to the particular form of foot work, or lever manipulation, for which each example is specially intended. He should remember that these excerpts, from certain compositions, have been selected for the purpose of *study*, and must not be treated as pieces to be played for personal enjoyment. In effect the *musical results* will probably be very crude, because only a *portion* of the artistic possibilities of the 'Pianola' will be made use of in each case ; but if the various forms of expression control are thus studied separately, and each one is thoroughly mastered, there will be less difficulty in acquiring a sub-conscious use of the foot work in combination with the manipulation of the levers. When once acquired, this new technique will provide the power to play, *at sight*, the most difficult compositions in a perfectly artistic manner.

### EXAMPLE I.

#### The March of the Men of Harlech.

When attempting to play the 'Pianola' for the first time, it will probably be necessary to use the feet in a more or less even manner (using them alternately), in order to obtain a sufficient amount of power, and this March can be played in this simple way until the student becomes accustomed to providing enough energy to produce a full volume of tone.

It should be understood that the foot thrust only gives the maximum effect when it is made at the *moment* a note, or chord, is *being played* ; if used in between the sounding of the notes, the energy is expended almost uselessly, except for the small amount of reserve power thus created.



As soon as fairly loud effects can be easily produced, the student should endeavour to make really strong *accents* by using sharp, decided strokes with considerable strength from *one* foot, and it is best to proceed at once to train either the left, or the right, foot *exclusively* for the purpose of accentuation.

#### EXAMPLE II.

Prelude Op. 28, No. 20. Chopin.

(*Excerpt from Roll No. T82592, Aeolian Co.'s Catalogue*).

In this well-known Prelude will be found ample opportunity for studying and obtaining the wonderful variations and gradations of tone which can be produced by the proper control of the foot pressure.

The art of very gradually increasing or decreasing the power should be carefully studied until successive changes can be made so smoothly as to be almost imperceptible.

#### EXAMPLE III.

Noël. Balfour Gardiner.

(*Excerpt from Roll No. TL22324, Aeolian Co.'s Catalogue*).

Before attempting to accentuate this exceedingly rhythmical fragment, the student should read the following remarks :—

There are three essentials for an effective and powerful accent. First, there must be enough reserve power in the instrument to cause the treadle to offer some resistance to the pressure of the foot, otherwise the treadle will sink away and the energy be wasted ; this resistance can be created by strong pressure with the reserve foot just before the accent is required. Next, a sharp thrust must be used, as a heavy push does not give a crisp accent. Finally, and most important, the action of the accenting foot must take place at the instant the first fraction of the perforation belonging to the particular note reaches the corresponding hole in the 'Tracker-bar.' As only a short



stroke should be used, it will be seen that if this action occurs even a very small distance in *advance* of the note, the foot will have expended its force almost uselessly in merely creating reserve power which never approaches the force that can be exerted upon a note, or chord, by the direct and instantaneous action of the foot, while if the stroke is used *after* the note has sounded, the energy is utterly wasted so far as that attempted accent is concerned.

A word of warning is also required to guard the student against the fault of using too much force upon the shorter notes which occur immediately before the accentuated longer notes in this example, for if, in the effort to obtain power for the latter, the reserve foot is thrust down vigorously exactly upon these shorter notes, *they* will become accentuated, and will detract from the rhythmic effect so essential in cases of this kind.

Considerable practice will be needed before the student will be able to gain sufficient reserve force without creating accents where they are not required.

#### EXAMPLE IV.

Serenade Badine. Gabriel-Marie.

(*Excerpt from Roll No. 81472, Aeolian Co.'s Catalogue*).

After acquiring the art of obtaining a wide range of touch (including definite accents), surely and without undue effort, it is well to proceed to a careful study of the tempo control, for which purpose the fourth extract has been chosen as a type of light, fanciful music, in which considerable excesses of tempo variation can be used.

Before attempting to practise this, certain combinations of tempo and touch should be considered, because the manipulation of the 'Tempo Lever' must be accompanied by suitable foot work.



The well-known effects of *rallentando* and *diminuendo*, *crescendo* and *accelerando*, also the usual form of *allargando*, can only be artistically expressed if the gradations of touch are in exact accordance with the gradations of tempo.

When practising these effects it must be remembered that the 'Pianola' requires at a rapid tempo more power than it does at a slow tempo, to produce the same degree of force, whilst the number of notes to be played will also considerably affect the case.

In addition to the gradations mentioned, rapid movements of the 'Tempo Lever' will be required for sudden effects. Frequently a *tenuto* must be made upon some individual note, or chord; sometimes it is necessary to halt for an instant before an accented note in order to broaden the effect, or it may be that a 'breath' is needed between two phrases, and occasionally a sudden pause is required. These quick movements of the 'Tempo Lever' will vary in amount, according to the speed at which the roll is being played and the nature of the effect required, whilst the accompanying touch must be suited to the particular purpose.

The 'Metrostyle' line has been specially marked for this extract and can be used as a guide for the tempo by following the red line with the pointer attached to the 'Tempo Indicator.' This will result in variations of speed in accordance with the interpretation of the person who originally marked this line. The amount of movement has been purposely exaggerated, but in such an avowedly frivolous piece, considerable freedom is permissible, and it must be remembered that in 'Pianola' playing it is most important to avoid any stiffness of the tempo movement, or the effect will become extremely mechanical, and it is far better to err upon the side of a slightly excessive movement of the 'Tempo Lever.'



## EXAMPLE V

### Scherzo Valse, Op. 106. Godard.

(*Excerpt from Roll No. T80136, Aeolian Co.'s Catalogue*).

In this example the melody notes are evenly spaced and can be easily distinguished from the accompaniment by their duration and the nature of their perforations, which appear as *open cuttings* for a portion of their length and then continue by a series of small round holes ; whereas the accompaniment has mostly short chords and octaves, each note of which consists of small perforations.

The two 'Subduing Levers' must be held hard over to the left, throughout this example, then the greatest care must be taken to time the stroke made by the phrasing foot to take place at the *exact* moment each melody note is *actually played*. When this can be accomplished with certainty, variety of strength can be used, always with *one* foot, from a delicate touch which may be almost as soft as the subdued accompaniment, to the strongest possible tone, which should cause the melody note to ring out perfectly clearly and distinctly above the chords and octaves.

As melody playing is obviously an extremely important part of 'Pianola' playing, the student will do well to endeavour to cultivate every possible degree of touch when studying this excerpt.

## EXAMPLE VI.

### Scherzo Valse, Op. 106. Godard.

(*Excerpt from Roll No. T80136, Aeolian Co.'s Catalogue*).

The 'Themodist' perforations have been purposely omitted in the repetition of this excerpt, in order to necessitate the rapid manipulation of the subduing levers for the purpose of keeping the melody clear and distinct from the accompaniment chords.



The student can use the two levers (Bass and Treble) simultaneously, and must release them just before each melody note, but they must only remain in their normal position for the fraction of a second during which the note commences to sound, and must then be returned hard over to the left, so as to subdue the chord and octave occurring in each bar.

It is best to use the *thumb* across both levers for this manipulation, and it will have to move quite rapidly ; but a 'Pianola' player should be able to isolate unthemodised notes when they occur in a similar manner to those in this example, also when the levers have to be used separately.

#### EXAMPLE VII.

La Fileuse, Op. 157, No. 2. Raff.

(*Excerpt from Roll No. TL20001, Aeolian Co.'s Catalogue*).

Before playing this excerpt the student should read the following explanation of the principles governing the use of the 'Themodist' and the 'Subduing Levers' :—

Bear in mind the following broad rule : When the melody is Themodised by means of the *double* perforations (near the treble or bass edge of the roll), if each melody note requires to be distinctly stronger than any accompaniment note, chord, or passage, both of the 'Subduing Levers' must be held hard over to the left and kept there during the whole section in which the Themodist perforations appear. The word *Solo* should be found on the roll at the commencement of each Themodised section, and the word *Normal* should be found at the end of such sections, but the *double* perforations will serve as the best guide for holding back the two levers, the broad rule being that while these pairs of perforations are visible between the top spool and the 'Tracker-bar,' on whichever side of the paper they occur, the 'Subduing Levers' should be tightly held over to the left.



There are, however, some important exceptions from this rule. The space between two successive melody notes may be sufficient to allow for special phrasing of the intermediate notes of the subordinate part; it will, therefore, be found necessary in many cases to allow these levers to return partially, or entirely, to their normal position after the first of the widely separated melody notes, making sure that they are again held over to the left in time for the playing of the next Themodised note.

These levers of the 'Pianola' have a graduated effect upon the accompaniment, inasmuch as they allow more power to be produced when fully over to the right than when nearly over to the left; but as the variation of foot pressure will very considerably affect the result (except when the levers are held *hard* over to the left) care must be taken not to counteract the graduation by faulty foot work.

Further cases in which these levers should be released or only partially held over will be found when the melody is being played strongly and the accompaniment may seem too weak; or when volume of tone is required, when the accompaniment may have to be brought up to such a strength that it will probably overpower the melody before sufficient fulness of tone is obtained.

If the mechanism of the accompaniment control has been adjusted to give extremely soft effects for single notes, it may be necessary slightly to release the levers when rapidly repeated notes occur in the accompaniment sections, otherwise the controlled power may not be sufficient to play such portions satisfactorily.

\* \* \*

In this example from Raff's well-known composition, the student should practise the increase and decrease of tone in the short intervals between the melody notes, as indicated and explained upon the Roll. The variation of foot pressure is not less important than the correct movement of the levers, and it is very desirable to acquire the art of introducing variety of touch in accompaniment passages in such a manner that the melody is not overshadowed.



### EXAMPLE VIII.

Variations in D minor, Op. 54. Mendelssohn.

(*Excerpt from Roll No. T20171, Aeolian Co.'s Catalogue*).

It is not always necessary or desirable to use the *two* subduing levers simultaneously. Frequently the Bass portion of the piano can be softened with considerable advantage in order to give the Treble a greater prominence.

This example will serve to illustrate this point, and it can be played with the 'Bass Subduing Lever' held over to the left.

The student may also play this excerpt again *without* subduing the bass, and he will then observe how overpowering and monotonous will become the repeated chords in the lower portion of the Piano.

### EXAMPLE IX.

Rondo Capriccioso, Op. 14. Mendelssohn.

(*Excerpt from Roll No. 80096, Aeolian Co.'s Catalogue*).

Far less frequently it will be found possible to improve the effect of certain passages by subduing the Treble, and this example is intended to show the result of holding back the treble subduing lever *only*, at certain places indicated upon the roll, though the lever is soon allowed to return to its normal position.

### EXAMPLE X.

Valse des Fleurs. Tchaikovsky.

(*Excerpt from Roll No. TL20491, Aeolian Co.'s Catalogue*).

Finally (but not until *all* other manipulation has been acquired), the student should study the use of the Sustaining Pedal, for although an automatic device for this purpose is provided in the 'Pianola,' this part of the expression control



is so much a matter of personal taste and is such an important feature in Pianoforte music, that the use of the 'Sustaining Pedal Lever' should be cultivated ; but as the injudicious use of this lever will result in objectionable discords, it will be safer for the *beginner* to avail himself of the automatic use of this part of the expression.

This example serves to show the effect of the 'Automatic Sustaining Pedal,' but if played with the actuating lever placed to the 'off' position, the student will readily observe how thin and poor in comparison will be the long passages and groups of chords which are no longer linked together.

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No example need be given for the use of the 'Soft Pedal,' but it might be well to point out that it should not be used for merely producing *pianissimo* effects if these can be obtained by light foot work.

In cases of rapidly repeated notes, as in that of the frequently found *tremolo* accompaniment, it may be desirable to use the 'Soft Pedal' for modifying the tone of the piano, while using enough power to make the reiterated notes play clearly.

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Before leaving the Practice Roll, the student should endeavour to master as much of the manipulation of the 'Pianola' as possible, and should realise that the artistic possibilities of the instrument are practically unlimited.

The remainder of this Booklet describes the various forms of the 'Duo-Art' 'Pianola' Piano.





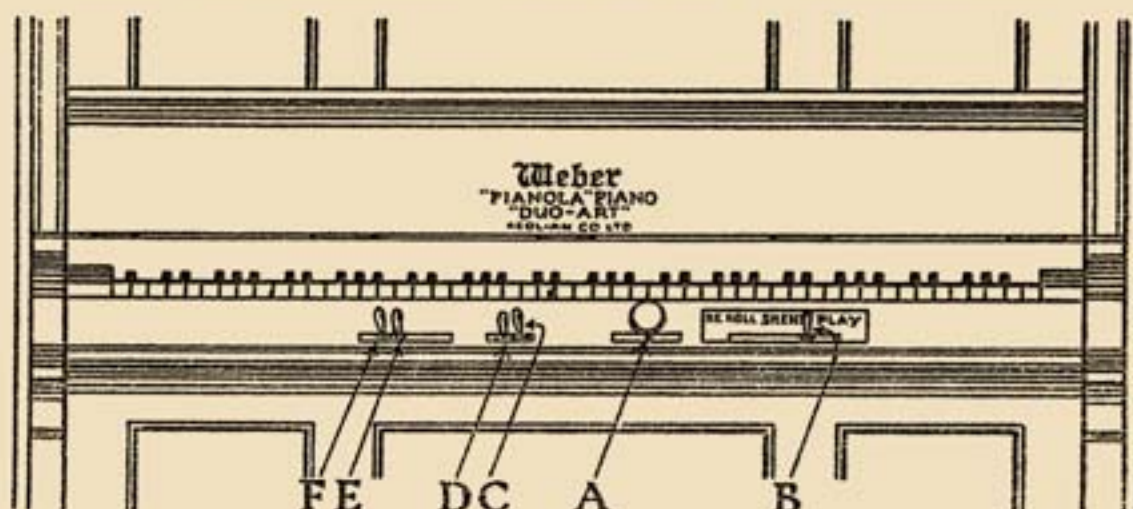
## CHAPTER III

### INSTRUMENTS FOR REPRODUCING THE PLAYING OF CELEBRATED PIANISTS, AND THE 'PIANOLA' PIANO WITH REPRODUCING ACTION

	PAGE
The Electric 'Duo-Art' 'Pianola' Piano - . - - - -	26
The 'Duo-Art' 'Pianola' Piano, Pedal-Electric Model - -	31
The 'Pianola' Piano with repro- ducing action - - - -	32



## THE ELECTRIC 'DUO-ART' 'PIANOLA.'



A—Tempo-Lever and Themodist Control.

B—Gear Lever (Re-roll—Silent—Play).

C—Bass Subduing Lever } or Graduated Accompaniment Levers.  
D—Treble Subduing Lever }

E—Soft Pedal Lever.

F—Sustaining Pedal Lever.

The Electric 'Duo-Art' Model is primarily intended for the reproduction of records by celebrated pianists, so that their interpretations can be studied and enjoyed. Doubtless it will prove of interest to give a short account of the method by which the 'Duo-Art' records are produced—

The celebrated pianist is asked to play upon a Grand Piano that in outward appearance does not differ from the usual instrument. Into this piano is inserted an electric cable containing a large number of wires, half of these leading to specially devised contacts under the keys, the remainder running to positions near the point where the hammers strike the strings, whilst the cable itself passes through the wall of the room, coming out into a sound-proof chamber, in which is installed the 'Duo-Art' Recording Apparatus. Here the other ends of the wires are attached to electro-magnets which operate the punches in the powerful perforating machine, each punch corresponding with its proper note upon the piano.

The pianist plays, the punches perforate, the permanent record is produced !



This method of recording ensures accuracy of reproduction, the length of the perforation being determined by the period during which the key is held down. As the machine causes the punches to repeat at the rate of 4,000 pulsations to the minute, it is a proof of the agility of the pianist's finger if he is able to attack and leave the key of the piano during a single movement of the punch, yet such *staccato* notes are frequently found in the records, and these perforations measure about the 32nd part of an inch in diameter.

The Rhythm is determined by the spacing of the perforations in the music roll as it passes through the recording machine at a uniform speed (usually eight feet in one minute), and this spacing is in exact accordance with the interval between the notes played by the pianist, so that when the music roll is placed upon a 'Duo-Art' Piano and caused to move at the same speed, there must result perfect reproduction of the most subtle rhythm.

Dr. John B. McEwen (Principal of the Royal Academy of Music) has mapped out a chart (see page 28) to illustrate the different tempo phrasing used by two great pianists when playing the first four bars of the so-called *Raindrop* Prelude by Chopin.

The Melodic outline is shown by its position in the horizontal sections; the vertical columns represent the regular divisions of the rhythm, each one being of the value of one quaver; the Bar lines are shown by darker lines.

The MIDDLE SECTION shows the rigid metronome tempo with the notes occurring exactly upon the rhythmic positions indicated in the printed music.

The UPPER SECTION is taken from the 'Duo-Art' music roll recorded by Busoni.

The LOWER SECTION shows the amount of *tempo rubato* used by Pachmann in his 'Duo-Art' record.

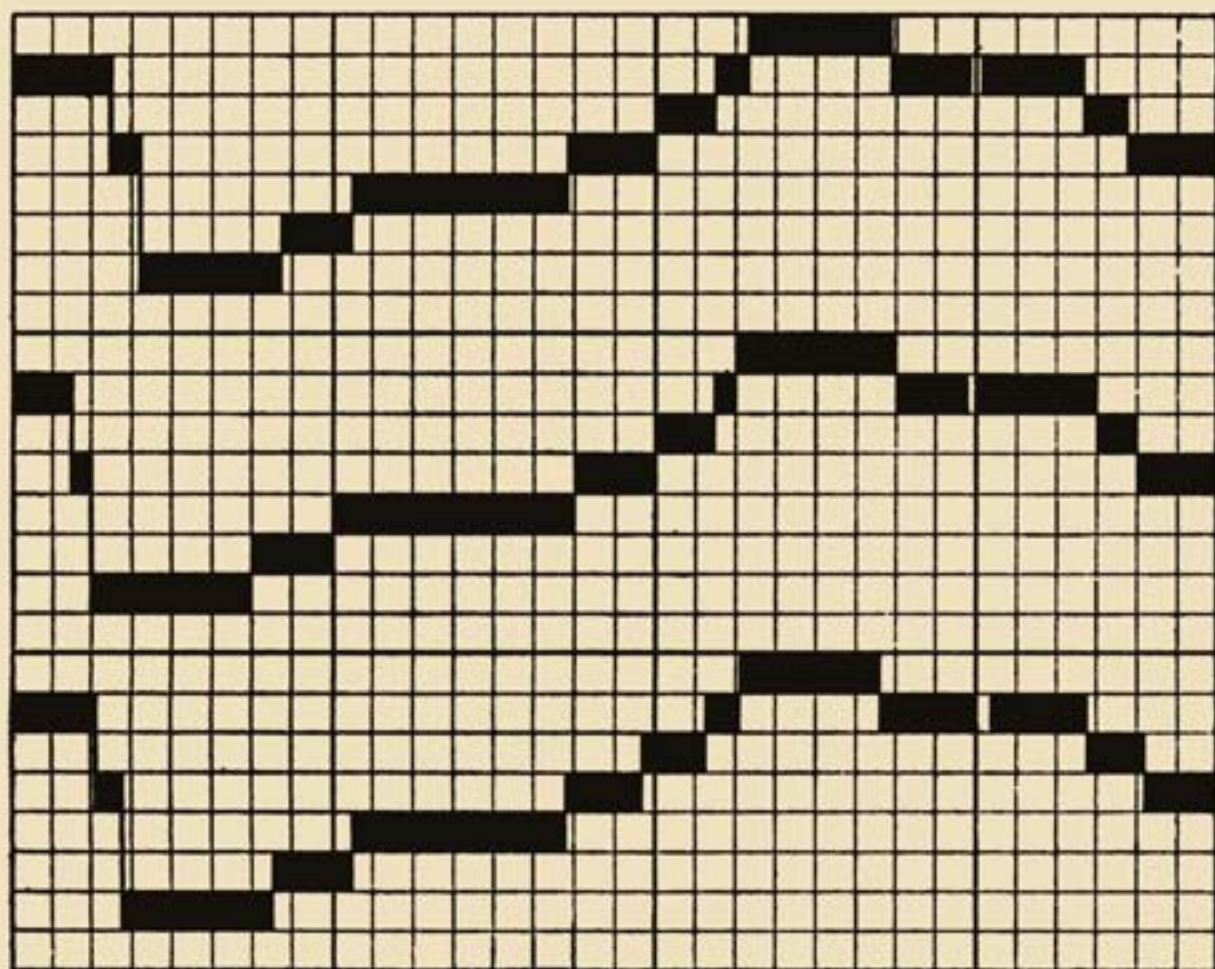
In both records the first note is in excess of its actual value. Busoni held it an extra quaver, while Pachmann increased its normal length by a dotted semiquaver.

The short notes are *all* extended beyond their value by both these artists, and this excess of time is balanced by a reduction



of some of the longer notes, particularly the dotted minim in the second bar.

Where the note F is repeated at the beginning of the fourth bar, theoretically the previous note should extend exactly to the commencement of the bar, but if the note is to be played twice, there must be a point at which the finger is raised, and this is shown by a slight division in the marking of the two notes



just before the bar line in the middle section. It is interesting to observe that while Busoni raised the finger for a very short time and played the two notes with the different values indicated by the composer, Pachmann made a wider space between the notes and played them as though they were of equal value !

The highest note of the phrase is slightly shortened by both pianists, but it is almost certain that if a vocalist had to sing that melody, the top G would be considerably extended.



The Touch of the pianist is similarly recorded and reproduced, still by means of perforations in the music roll, in conjunction with mechanism in the recording machine and in the 'Duo-Art' Piano. With four Dynamic Controls, sixteen different degrees of touch can be produced, extending over the whole range of finger power, from the lightest *pianissimo* to the strongest accent; and in combination with the Themodist device the melody is differentiated from the accompaniment, each having its own set of Dynamic Controls with the full range of touch just explained.

When the original record is made it contains several stray wrong notes which no pianist can entirely avoid when playing passages requiring force and rapidity. One of the finest artists recorded no fewer than three-hundred-and-sixty false notes in a single composition. Fortunately there is a method by which the music roll can be edited under the supervision of the pianist himself, and every blemish removed, whilst omitted notes can be cut into their proper places. Nor do the possibilities of editing end at note correction; the touch itself and even the rhythm can be improved upon if the artist should so desire.

It is obvious that when this revision is carefully carried out under the direction of the pianist, there must result a most finished interpretation. This explains Percy Grainger's statement that his records represent him not merely as he did play, but as he 'would *like* to play.'

Perhaps the greatest tribute to the artistic effect came from Paderewski, when, speaking of his 'Duo-Art' record of one of his own compositions, he said that listening to the reproduction gave him the same feeling in his heart as when he played it himself.

\* \* \*

For the purpose of playing artists' records upon the Electric 'Duo-Art' it is only necessary to place the roll in position, set the 'Tempo Lever' at the figure indicated upon the music roll, and start the electric motor. The 'Duo-Art' record will then be played with all its variety of expression and will re-roll itself without any further attention.



Ordinary 'Pianola' music rolls can be played upon the Electric 'Duo-Art' instrument ; then the expression is under your personal control by means of the levers already illustrated (*see* page 26).

The lateral movement of the Lever A will give the whole range of tempo variation from a *pause* to *presto*, and the turning of the milled head of this same lever will give graduations of tone to the *themodised* notes (notes occurring simultaneously with the double marginal perforations). The knob should be turned round to the right to increase the tone of the melody, and the movement should be made slightly *in advance* of the playing of the notes.

The Lever B engages the driving gear for rolling the paper from one spool to the other. When placed to the *right* it will cause the 'Take-up Spool' to revolve, thus drawing the paper downwards over the 'Tracker-bar." By placing this lever to the *left* the gear is reversed so that the top spindle is revolved, for re-rolling the paper back on to its own spool.

If the instrument is provided with the 'Silent' device, this gear lever, when placed centrally, will enable the paper to be moved rapidly over the 'Tracker-bar' without allowing the notes to sound.

The two 'Subduing Levers' (C and D) modify respectively the power of the Bass and Treble portions of the instrument. The upper, or backmost lever controls the Bass section (up to and including the E flat nearest to the middle of the keyboard), and the lower or frontmost lever controls the Treble section (from the next note, E natural, up to the highest note of the instrument).

All accompaniment, or *unthemodised*, notes will be under the control of these levers, the *normal* position giving the maximum power, and this can be reduced by holding the levers partially or entirely over to the left. Accents can be produced by suddenly releasing these levers (after having held them over to the extreme left) at the moment the accentuated chord is



about to sound ; and, if contrast is still required, the levers can be returned to the left in order to subdue the following notes.

The ' Soft Pedal ' and ' Sustaining Pedal ' Levers (E and F) merely take the place of the two pedals of the pianoforte, which can be used by the feet in the usual manner if preferred, or the Automatic Sustaining Pedal can be made use of by setting the special lever in the music aperture to the 'On' position for this purpose.

With practice it is possible to obtain wonderful effects with the controls in this Electric Model.

## THE 'PLANOLA' PIANO WITH REPRODUCING ACTION

This instrument is intended for cases where the ordinary electric current is not available. It serves for the playing of ' Duo-Art ' records without the manipulation of any levers, giving an exact reproduction of the tempo phrasing, but it requires careful foot work to give the correct amount of power for the *themodised* notes.

It is possible to estimate the strength required, by observing the value of the dynamic perforations on the right-hand side of the roll. These occur in four parallel lines, the outermost being of the value of one degree of power ; the next, two ; then four ; while the inside line is of eight degrees. The various combinations of these will produce all the numbers from one to fifteen, so these perforations serve as an indication of the power needed for reproducing the touch, as recorded upon the roll.

The *unthemodised* notes will not be affected by the variations of foot pressure, unless the power is dropped to a lower amount than that arranged for by the dynamic perforations on the left-hand side of the roll ; but no amount of effort will increase the tone of the unthemodised notes beyond the limits imposed upon them by these dynamic perforations.

As a broad general rule, it may be said that one can feel the trend of the power required for the melody by keeping it clearly above the tone of the accompaniment.



This instrument is specially suitable for the use of standard 'Pianola' rolls, since the controls are quite the same as in the ordinary 'Pianola' Piano. Hence nothing more need be said, except that the 'Duo-Art' lever in the music aperture must be set according to the kind of music roll it is desired to play—'Duo-Art' or ordinary 'Pianola.'

## THE 'DUO-ART' 'PIANOLA' PIANO— PEDAL ELECTRIC MODEL

The latest and most complete 'Duo-Art' 'Pianola' Piano combines the advantages of the electrically controlled 'Duo-Art' with all the features characteristic of the 'Pianola' itself. Consequently the remarks relating to the playing of standard 'Pianola' rolls on the 'Pianola' Piano will apply to the corresponding mechanism of this instrument.

It is also immediately available as an Electric 'Duo-Art' Piano for reproducing the records of the great pianists, in precisely the same manner as the ordinary electric model (see page 26).

If it is desired to use the electric motor in place of footwork, whilst playing the music rolls with your own expression, the levers will be found to act precisely as in the electric 'Duo-Art' 'Pianola' (illustrated on p. 26).

It would, however, be well to state that when you substitute the electric motor for your own personal energy, you are depriving yourself of the main enjoyment of 'Pianola' playing, and cannot hope to derive as much musical satisfaction as you will when you shut off the motor and get into intimate touch with the source of tone production. For the playing of 'Duo-Art' records, however, the electric motor is by far the best form of motive power, because the dynamic effects have been calculated to reproduce the required expression under the condition of a constant source of power of a definite amount.

*If this wonderful instrument is used for the two proper purposes for which it is designed, i.e. 'Pianola' playing by foot work, and the reproduction of artists' records by means of the electric 'Duo-Art' control, you will derive the greatest possible pleasure, musical gratification, and educational advantage that any expenditure could provide.*



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