

## *The Rise, Blossom and Fall of the Gavioli Factory* *Part 1. The rise: Ludovico Gavioli 1807-1860* *from inventor to organ builder*

Dr. Hans van Oost, Netherlands

Not much has been published so far about the early history of Gavioli. One source is the excellent set of articles by Mr. Henri Bank, published in the Dutch magazine *Het Pierement* in 1957 and 1958. These articles are based largely on the correspondence between the author and Miss Andrée Gavioli, at that time the last living daughter of the last director, Ludovic Gavioli, Jr. Most other articles about the Gaviolis are derived from these articles.

Other contributions were made later, generally about minor subjects. Much more has been published about Gavioli's products, like the many large fairground organs which were built by the firm between 1880 and 1912.

In this first installment I will try to describe, using as many historical sources as possible, how Ludovico Gavioli Sr. in his life span of 68 years developed from a young and almost genial inventor to a successful builder of mechanical musical instruments, during a turbulent era in European history.

**G**iacomo Gavioli (Cavezzo 1786—Modena 1875) started his career as a wagon maker in Cavezzo, a village that lies about 20 kilometers north of Modena. Whether or not by coincidence, this village has a street named Via Gavioli! Later he settled in Modena. He must have been an ingenious blacksmith and carpenter, because in 1818 the maintenance of Modena's two main belfry clockworks was commissioned to him by the town council. In October 1819 he made a request of the city's governor to display on his shop: "Giacomo Gavioli, maker and restorer of German clocks with bells." He was not without spirit of enterprise either—ten years later his workshop boasted "manufacturer and trader of carillons and organs." He sold all kinds of mechanical items like Dutch cuckoo clocks, hydraulic machinery, curl-making machines and numerous other items that he had invented himself or which were made by license. In 1829 he built a steam boiler for a "locomobile," an invention by Ir. Cesare Rosa.



Figure 1. Clockwork with two bells in German Style, made by Giacomo Gavioli in 1861. The two hands below are for the date and month. From the collection of the Museum Speelklok tot Pierement, Utrecht.

Photo: KDV.

In the National Museum van Speelklok tot Pierement there is a clock with date indicator built in 1861 (**Figure 1**). This clock was clearly inspired by German Black Forest builders. There is much use of wood and as little metal as possible, although brass was by no means scarce in Modena at that time. Despite the signboard on his shop no organs from his hand are known.



Figure 2. Clockwork escapement by Ludovic Gavioli, 1830. The main spindle is supported laterally by three large wheels, thus reducing friction (ball bearings were not known at this time). From the collection of the Museum Speelklok tot Pierement, Utrecht. Photo: KDV.

Lodovico (Ludovic) Gavioli Sr. (Cavezzo 1807—Modena 1875) was Giacomo's only son. At the age of 12 he moved to Modena with his parents. There he married Joséphine Gabrielli

and they had three sons: Anselmo, Enrico (Henri) and Claudio. Henri is said never to have been involved in organ building; the others would have their own role in the Gavioli story, albeit their respective influences differed. More about that will follow. Ludovico must have been gifted both technically and musically. His feverish urge of investigation and his recklessness were such that father Giacomo soon took some distance of Lodovico, whom he did not trust fully. He preferred to loiter in his little laboratory next to the son's workshop. The boy had made a wooden clock at the age of nine (1816), a clock with an 8-melody barrel organ by his 16th birthday (1824) and in 1830 he was praised by the Royal Academy of Literature, Arts and Science for his design and construction of a new type of pendulum clock. This clock contained only two single-tooth wheels and a single escapement by which friction was reduced to the minimum<sup>1</sup>. (Figure 2) This escapement is also part of the collection of the Utrecht museum. A bronze memorial tablet with his portrait was placed on the Modena market plaza.

From that moment many belfry clockworks were ordered and he made, amongst others, bird organs with wooden pipes. One of them is part of the collection of the Marini sisters in Ravenna, Italy (Figures 3 & 4).

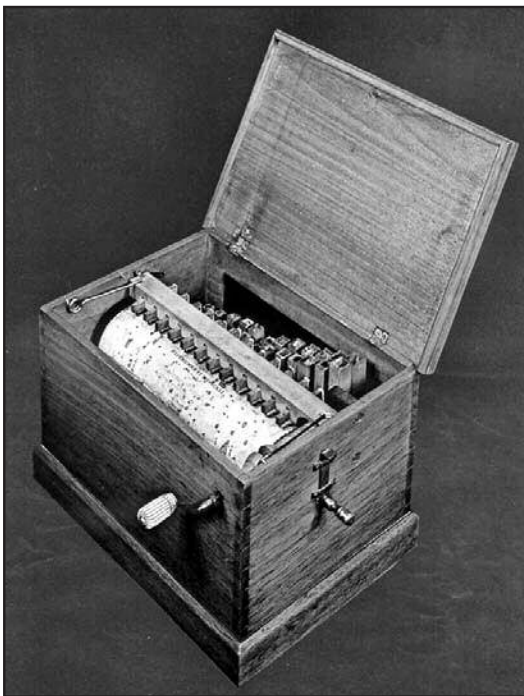


Figure 3, above. 12-key serinette with wooden pipework by Lodovico Gavioli, built in Modena around 1840.

Figure 4 below.. The label on the cylinder reads: Factory of musical instruments with cylinders of Lodovico Gavioli, rewarded by the respected Society of the Royal Academy of Fine Arts with a gold medal, in Modena.

Photos: Marini, Ravenna.



## David.

In 1838 Ludovico built a marvelous musical automaton, "David." A. Malibran described this work in an article entitled "Ludovico Gavioli" in the *Union Instrumentale*, issued in Paris on 10th October 1856:

... he is seated realistically on his royal throne in natural size with a harp between his legs and his hands upon his knees. Underneath the throne is placed the mechanism with a brass cylinder for the control of the humanoid. When the mechanism is started, David takes his harp in the hands, shuts his knees to support the instrument and moves his fingers along the strings like an instrumentalist touches them. And then, in a manner that only engineers can comprehend, the two hands move like those of a virtuoso, the fingers crook and the arms bend and stretch.

Needless to say that David has forgotten his old psalms and Hebrew songs when he plays Desdemona's supplication from Othello and other pieces by Rossini; and at the end he does not simply stop like other automata, but he spreads his knees, puts down the harp, and puts his hands back on his knees.

Now the King-prophet is roaming over the world, accompanied by 35 or 40 foresters—and he earns lots of money. Every time the deceased count of Modena meets Gavioli he asks him "Where the heck is David?"

This automaton, after a short period of success, turned out to be a major disappointment for Ludovic; he had rented the machine to a traveling group of show people, but despite all the solemn vows he got back neither the rent nor the machine . . .

## The Panarmonico or Stratarmonica.

Four years later, in 1842, Ludovic's undaunted ingenuity expressed itself in the making of the "Panarmonico," a personal version with identical name of the orchestrion that was built by Maelzel in 1805. In order to build this instrument father Giacomo had given him, according to Andrée Gavioli, a considerable amount of money as an advance to his future heritage.

A.G. Spinelli cited a description of this instrument by a research committee of the Modena Academy in 1901.<sup>2</sup> The Commission rewarded Gavioli with a gold medal.

... after having established a precise and accurate examination to all aspects of this music machine the commission has judged it, without hesitation, as the best and most prodigious of all machines known until now, of which it is exceptional that two cylinders are working inside, and the amount of keys or claves is 240.

And, in the judgment of this Panarmonico on technical grounds the research committee acknowledges that it is built with unspeakable mastership and perfection, also regarding the notation, especially insofar the way is observed by which the figures carry out the various movements, for the way in which he imitates the wind



instruments most accurately, and for several new, useful and ingenious inventions: and also, listening to the musical effect, they leave no doubt that the best rules of musical art were followed. Therefore the Commission, summarizing, cannot do less than sound the most special praises of the clever construction of this wonderful machine.

The locals too were impressed by the Panarmonico. Francisco Manfredini wrote in 1843: *Various*, “Ludovico Gavioli’s Panarmonico:”

The friends who had access to Gavioli’s workshop and listened to the particular instrument admired the symphonia from Elena da Feltre, the soft-voiced Adagio and fiery Allegro from Mosè’s new 3rd finale,<sup>4</sup> the joyous vividness in Strebinger’s fine waltz, the wonderful colouring is the repeated sinfonia from Rossini’s William Tell and many other selected pieces on the two cylinders and 240 keys, named claves by foreigners. And soon the rumor spread all over town and more and more people came standing by the windows of our expert to be inspired by this sound of superhuman harmony.<sup>5</sup>



Figure 5. Ludovic Gavioli in his thirties.

The Panarmonico had been commissioned by the wealthy Cavaliere Puccini of Pistoia for his lavish villa Pratolino, south of Modena, and not by the duke, as was told before. Price and terms of deliverance had been fixed by contract, but as he handed it over to Gavioli, Puccini said “I assign this sum to you, but I do not mean to put any limitation to your ideas. See to it that what you make is worthy to you and to Italy.”

Gavioli, driven by his own genius and enlightened (or deceived?) by Puccini’s words, set himself to the work and made it so big and complicated that it exceeded the assigned sum by two-thirds. When he had almost finished it Gavioli wrote to Puccini, never expecting what would happen, but the answer was in a quite different tone. Puccini protested that the artist had not kept his part of the agreement, that the costs were so much higher than agreed in the contract, and he stated that he only wanted to take the instrument for the agreed price. Gavioli neither could, nor wanted to, agree with such a proposition, and the whole thing ended in Gavioli keeping the Panarmonico.

The public administration did not reiterate the praise accorded by the newspapers, but “some citizens, exponents of common opinion” collected together some of their writings and published them in 1843. The collection was prefaced by a lithograph portrait of Gavioli by Adeodato Malatesta (**Figure 5**) and by an introduction brimming over with “Italianness.”<sup>6</sup> The writings praised Gavioli as the vindicator of Italian honor, which was maltreated at that time by ignorant and contemptuous foreigners. The poet Erio Sala celebrated the young engineer in his elevated, touching and persuasive verses, which he was later to publish again separately.<sup>7</sup>

This cynical rejection was Ludovic’s second major deception and it may have caused him to start thinking of leaving his hometown and to move to Paris, where he thought to find a huge market for his products and more intelligent benefactors and gentlemen.

For the rest it must be said that Gavioli did not suffer from lack of recognition in Italy. Even duke Franc IV<sup>8</sup> invited him in his palace court to show his Panarmonico and his “David.” He congratulated him most cordially for his success and appointed him to the post of “court engineer.”

### Traveling with the Panarmonico or Stratarmonica

Miss Andrée Gavioli wrote:

He assumed he would find a buyer for his instrument in England. After having studied some English from a dictionary he left with his organ for England, accompanied by his eldest son Anselme and his wife (my grandparents) with their first-born baby of barely a few months old. Without any relations they were completely lost in the crowd and did not earn a penny. The misery reached its high point when the baby almost died from starvation because of its mother’s malnutrition. This must have occurred around 1850.

It is true that Ludovic traveled to London, but a few years earlier, and without the infant. In 1846 Ludovico Jr. was not born yet.



Figure 6. The Panarmonico as Stratarmonica in London, December 1846.  
Photo: *Illustrated London News*.

He was not lost in the crowd either. In the *Illustrated London News* of December 19, 1846, is an article about this “monster organ” appearing in the London streets.<sup>9</sup> The description of the instrument matches the picture with the article (Figure 6). A complete translation of this article was published in *Het Pierement* 2000/1 p. 35.<sup>10</sup> In the description of the instrument we read:

...And how hard do the automatons labour in their vocation: gaze on that Prospère Ophicleide! What are Chipp’s drums compared with the mechanical artist? ...and... Ask the “Conductor”—we mean the living one—to display the organic riches of the interior, and how will you revel in reversing cylinders... [Mind the plural!].

The Panarmonico-Stratarmonica was not sold in England. Fleury gives a report about the first appearance of the same instrument in Paris, 1848:

This big instrument completely fills a horse-drawn wagon. It is over 9 feet high; in the top of the proscenium there is a long gallery in which the automatic musicians are housed who seem to play the instruments of which the sound is made inside, and they are animated by a motor that puts into action both the cylinders and the bellows. This organ has a big volume, the sound quality is excellent and the pieces of music are well marked onto the cylinders.

The conformity between the description of the Panarmonico in 1843 and the two of the Stratarmonica in 1846 and 1848 is striking: more than one cylinder and a row of

automatons depicting orchestral musicians. It must be considered highly improbable that Ludovic, with limited means and after the failure of 1843, would have built another, (almost) identical organ while the first one was not yet sold. Although this is not a 100% proof we may conclude that we are dealing with one single instrument, with which Gavioli performed in both Modena, London and Paris—for the general public and not for the nobility as before. This may be characteristic of the social changes around the revolutionary year 1848 in Europe.

The ultimate fate of the Panarmonico/Stratarmonica is not clear. After 1848 no more is heard of the instrument. Two theories exist:

A. According to one story the Panarmonico was sold to Napoleon III. This is not unthinkable, for after this year Ludovic lived in Paris and Modena for a couple of years without a clear source of income.

B. According to the family story it was embezzled by a Russian scoundrel who had promised to sell the instrument.

### Towards the first organ factory.

Andrée Gavioli wrote: “The organ factory was moved to Paris in 1845. I assume this because my great-grandfather used to work for the duke in Modena and lived now in France, then in Italy. My father is not here anymore to inform me, but he has always told me that he and his parents moved to France when he was three years old.”

The Parisian land registry mentions father and son Gavioli, makers of portable organs, from 1852. They were then living in 96 Rue Charenton, which is situated obliquely opposite to the corner with the Rue d’Aligre. The property was built in 1826 and owned by a Jean M Frezier. Ludovic stayed at this address until after 1862; his son Anselme moved to Rue d’Aligre 8 or 10 in 1860.

Now Ludovic could go on with his work. On 15th December 1852 he acquired his first patent in which he described several special organ pipes (Figure 7).

He did not build organs at that time. Another Italian built organs according to his systems—Antoine Corvi, who had a workshop in the Rue d’Aligre 14. The owner of this complex

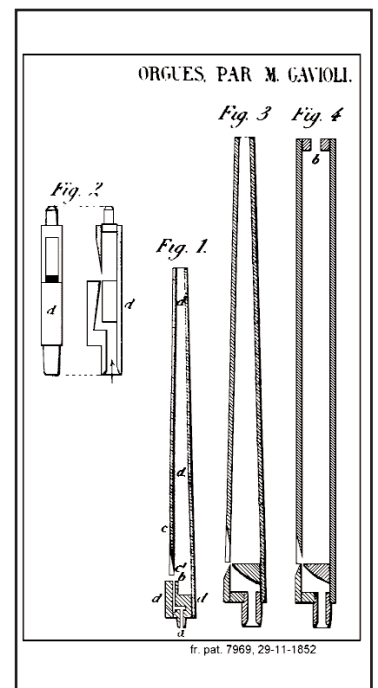


Figure 7. The first French patent by Ludovic Gavioli, November 1852.





Figure 8. HarmonieFlûte nr. 550 by Gavioli and Corvi, collection of Fredy Künzle. The dial is clearly visible. Photo: Hans van Oost.

of buildings around a central court was Jean Planche. The land registry mentions Antoine Corvi as a user since 1847. It seems that he did not start as an organ builder, but as an innkeeper (cabaretier). Part of the space, which he hired, was used as a taproom (salle à boire). This was changed later to storehouse (magasin). According to Ord-Hume this Corvi had a patent on a tune indicator for barrel organs.<sup>11</sup> Although we could not retrieve this patent we know about a couple of organs with such an indicator in the front, which would show the tune currently played. We know of three such instruments: one with an unknown building number in the Musée de la Musique Mécanique in Les Gets, and one numbered 550 in the collection of Fredy Künzle in Lichtensteig, Switzerland (Figure 8) and another one in Italy. A private collector in England has a



Figure 9. Harmonipan organ by Corvi, after Gavioli's patents. Exactly the same organs were made later under Gavioli's name.

Photo: Private collection, U.K.

Harmonipan organ made by Corvi according to the Gavioli system (Figure 9). Gavioli produced identical organs under his name later. The address Rue d'Aligre 3, which is mentioned in some previous articles, cannot have been used by Gavioli; it was owned and inhabited by the Anquetil family all the time.

The new street organs of Gavioli & Corvi were soon exported to other countries and apparently with much success. In the London *Notes and Queries*, a kind of supply-and-demand magazine, one could read in February 1856:

Street organ novelties: There are now in the London streets many French organs remarkable for the singular and novel character of their flutes and viol di gambas. Some also for their horns and trumpets. I see the invention is claimed by an Italian, and patented by a Parisian. Can you or any of your readers inform me if our new English organs have any of these tones, so new to English ears? And if so, where are the organs in which I may find them? The flutes are of great merit, and some so exceedingly well done, that the approach to the flute blown by the human mouth is most extraordinary.

In the meantime Gavioli went on with his experiments. In 1858 he had been granted eight patents, varying from an improved oil lamp to an automatically playing violin. This last invention was successfully demonstrated at the Paris exhibition of 1855 under the name of "Poliaccord;" even more success had the claviaccord, a small, portable hand-played harmonium with manual expression. From 1856 until 1858 he was chief engineer of the famous Pleyel piano factory, where he introduced many improvements.

Ludovic Gavioli was right in realizing that he could have success in Paris, and not only commercially—he was also highly regarded in intellectual and musical circles and he and his family had friendly relations with people like the Rossinis.<sup>12</sup>

## Independence

Rouillé wrote an article in the magazine of the A.A.I.M.M.:

From original period private documents I was able to consult, it appears that on Oct. 23d 1858 "Antoine Corvi, fabricant d'orgues à cylindre, demeurant à Paris, rue d'Aligre No 14" sold his business to "Ludovico Gavioli, Professeur et ingénieur en instruments de Musique, demeurant aussi à Paris, rue de Charenton No 96.

The premises seemed already relatively substantial, as they included a room at the first floor, two workshops (a large one and a small one), and several various attic and basement rooms.

It seems that Corvi himself did not own the premises but was renting them (commercially I suppose, which gave him the right to sublet without the authorization of the owner, whose name is not mentioned), and the legal document explains that Corvi will "sublet" the premises to Gavioli.

The sale of his business by Corvi included the right for Gavioli to use the name "Maison Corvi" or "Successeur de la Maison Corvi."

This was published in a *Journal ... d'annonces ... légales*, dated Dec 8th, 1858, where it is mentioned that Gavioli was allowed to use the premises as soon as Nov 1st 1858.<sup>13</sup>

We know of only one instrument on which Gavioli still mentions his predecessor's name. Mr. Nicolas Simons of England is restoring a street organ with building number 600 reading:

Orgue á trombonne No 2 GAVIOLI breveté  
rue d'Aligre 14 faub St Antoine PARIS.  
Système Gavioli ANCne Mon Corvi

This last is an abbreviation of *Ancienne maison*, which means "former house." The trombone, for the rest, is a kind of wooden cylinder containing three free-swinging reeds to amplify the bass notes.

Andrée Gavioli told a story about a dishonest bookkeeper who had embezzled money in a period that the youngest son Claude was in charge of the factory. Although both Claude and even Henri (!) Gavioli are mentioned at this address in 1862, the story does not seem very logical. There was still the eldest son Anselme, who was to take over the factory later. Anyhow, business was booming. Hundreds of mechanical musical instruments were made each year—organs like Harmoniflûtes, Harmonipans and Flutino's, and reed organs like Meloton and Guitharmonie. This last instrument has the shape of a guitar, but is in effect a reed organ, which has a knob in the neck for expression.

#### Association: from Co to Cie.

In 1861 the factory was in need for expansion. For this capital was needed and Ludovic decided to associate with Prosper Charles Vincent Yver, living at 19 Rue de Reuilly. This Yver was not an organ builder, but merely an investor. After this association the products bore the name **Gavioli & C<sup>o</sup>**.

Only two years later, on June 18th, 1863, the eldest son Anselme entered the association and was appointed general director of the firm. From that moment till 1903 they used the name **Gavioli & C<sup>ie</sup>**.

Both the amount of products and the production itself grew steadily when they started to make cylinder pianos. The old fac-

tory on 14 Rue d'Aligre had no room for all those activities and they looked after new premises. These were found in 1865 in a former dead end street of the Rue Beauveau.<sup>14</sup> This street was formerly known as Impasse de l'Abbaye, but in 1861 the dead end had been opened by the new Rue de Citeaux and the houses were renumbered Rue de Citeaux 3, 2 to 30. The new factory was set up in one of the four large buildings (2 floors, attic and cellar). According to the land registry the users were Gavioli père, Gavioli fils and Claude Gavioli.

In December 1866 Ludovic Gavioli Sr. returned to Modena, because he had received an order to build a new giant clockwork for the city's belfry. He left the factory under Anselme's wing. For this, with mutual consent and like in the former agreement with Yver, a new contract was made in which Anselme was appointed Ludovic's substitute in the association. Claude did not belong to the association and started a business of his own—more about this will follow.

When Ludovico died eventually on June 26, 1875—aged 68 and three months after his father—he had both made and produced numerous inventions in the field of mechanics, engines and music. He left behind the most important European factory of fairground organs and other mechanical musical instruments.

To be continued . . .

#### Sources:

- **Bank Henri**, Gavioli, Het Pierement 1957/4 t/m 1958/4
- **Latanza, Antonio**, Il genio meccanico di Ludovico Gavioli, La ricerca folklorica, april 1989
- **Spinelli A.G.**, I due Gavioli, antica Tipografia Soliani, Modena 1901.
- **Stadler Andrea**, notes on Gavioli, 2005
- **Les archives de Paris**; cadastre 1850 - 1890 (land registry)

#### Special thanks to:

Nick Simmons (UK), Fred Dahlinger, Marc Kaufmann, Robbie Rhodes (USA), Fredy Künzle (CH), P. Zacchetti, F. Severi (I), and T. Emanuelli (D)

Dr. Hans van Oost (1946), a retired Dutch physician, started his musical career in 1963 as a tuba player in the Green River Jazz Band, playing classical jazz. His interest in mechanical music resulted in the building of a large orchestration organ and a small street organ. From 1993 he has been a committee member of the Kring van Draaiorgelvrienden (KDV). Currently he is vice-president and webmaster. He lives in 's-Gravenzande, a little town near the Hague in the Netherlands, with his wife. They have two grown children.

#### Notes . . .

- |   |   |  |
|---|---|--|
| <p>1. An oil painting of Ludovic Gavioli with a drawing of this escapement in his hands is in the collection of the National Museum van Speelklok tot Pierement. The original drawings are also part of this collection.</p> <p>2. A.G. Spinelli, I due Gavioli (Modena, Tipografia Soliani, 1901).</p> <p>3. <i>Gazzetta Musicale di Milano</i> 1843, 5th June, Vol. II, nr. 23.</p> <p>4. Opera by Saverio Mercadante</p> <p>5. Mathias Strebingner, Austrian composer.</p> | <p>6. This work appeared in June under the title: "A Lodovico Gavioli interpreti del comun voto alcuni concittadini MDCC-CXLII" - Modena, printed by Vincenzi e Rossi, 8<sup>o</sup> 44 pages. (in the Biblioteca Estense) [Note by Spinelli].</p> <p>7. "Ode a Lodovico Gavioli"—in "Versi di Erio Sala,"—Modena, Andrea Rossi, s. a. (26 June 1846) in S<sup>o</sup>, p. 16—for the marriage of Giuseppe Schedoni and Teresa de' Marschesi Tacoli.</p> <p>8. Frans IV Josef Karei Ambrosius</p> | <p>Stanislaus (Milano 6th October 1779—Modena 21st January, 1846), archduke of Austria-Este, was duke of Modena en Reggio from 1814 until 1846 and after 1829 also of Massa en Carrara as successor to his mother. He was a son of archduke Ferdinand of Austria, brother of Emperor Joseph II and Austria's governor in Lombardy. His mother was Maria Beatrice d'Este, heiress of Modena because her father Ercole III d'Este had no sons.</p> |
|---|---|--|



## *Rise, Blossom and Decline of the Gavioli Company*

### *Part 2, Blossom: Anselmo Gavioli 1828-1902*

#### *Manufacturer of Mechanical Musical Instruments*

**Hans van Oost**

**A**nselmo Gavioli (Modena, 1813-Paris—1902) was in charge of the blossoming factory of mechanical musical instruments, Gavioli & Cie in 3, rue de Citeaux from 1868, together with his companion, Yver. Until now building numbers were rarely found inside these instruments. The number 3106 was found inside of a 26-key Uniflute from about 1865 in the Niemuth collection. Another number, 4434, was discovered in the Harmonipan organ now in the Marini collection in Ravenna, Italy (**Figure 1**). One important change in the appearance of the instruments occurred in 1867, when the firm won a medal on the Paris World Exhibition. A representation of this medal appeared on later models (on the front of the products). Two identical instruments are known, only differing in the presence or absence of such a medal.

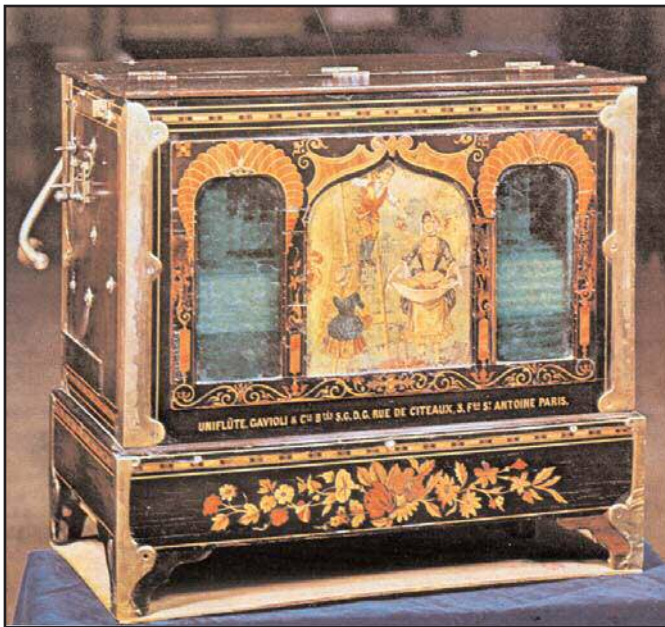


Figure 1. 33-key Gavioli Uniflute with the address 3, Rue de Citeaux, Marini collection. Ravenna, Italy, without medal. A similar instrument, but with the medal, is in a USA collection.

#### **1870-1871: The siege of Paris and the Commune uprising**

A major set back for the Gavioli Company followed in 1870, when on July 19th the war with Prussia broke out. After several important Prussian victories over the weak French army, Paris was besieged from October, 1870. Nobody and nothing could either enter or leave the city, apart from a limited service by hot-air balloons (Montgolfières). It is very possible that Gavioli's patent for a navigable airship from 1872 was an outcome of this action. The Parisians were short of everything, including that even the population of sewer rats was decimated!

Beginning with the commencement of the hostilities the production of mechanical music stopped completely. England, a major buyer, was out of reach and the French had other things on their mind. Anselmo was forced to close down his factory and discharge the workers.

In Mlle Andrée Gavioli's story of 1959 she mentioned the movement of the factory to Alisace<sup>1</sup>, which was destroyed there as a result of the war. Unfortunately, there is not a shred of evidence about this movement. No Alsatian address is known, nor has any instrument been found. Moreover, it doesn't seem plausible to have moved a complete factory to a disputed area close to the German border on the eve of a war. Possibly the idea was discussed inside the Gavioli family, but it seems that Gavioli never left Paris and went through the whole of the depression as a result of the Prussian-French war.

When the siege was concluded by the end of February, 1871 another problem arose: the Paris Commune. Workers started a revolt against the establishment and took over the government of the capital. This muddle lasted till the 30th of May, 1871, when the revolt was suppressed by the French authorities in a very bloody manner.

#### **A New Factory**

After the irregularities Anselme and his companions somehow managed to start their business again. The buildings for the new factory at 2bis Avenue de Taillebourg were probably owned by Samuel Oppenheimer, living at 30 rue Amelot. He was a maker of pendulum clocks. His workshops occupied part of the buildings until 1877.

*One important change in the appearance of the instruments occurred in 1867, when the firm won a medal on the Paris World Exhibition. A representation of this medal appeared on later models.*

It is remarkable that the Paris land registry contains two files with the same registry number. On one of these Gavioli and Yvert (sic) are mentioned as owners. A possible explanation is that Gavioli and Cie started to rent the premises and bought them later. The total surface of the buildings was 120 square meters and there were twenty windows on the street side. Obviously several rebuildings took place. The space that was

described as a “garden” in 1872 was termed a “hangar” one year later, thus adding to the surface area.

In this new factory there was much more room for the building of more and bigger instruments. There was a demand for new sounds and greater sound volumes. Moreover, the French economy was booming after the war and ready for new inventions. Adolphe Sax from Belgium had invented the saxophone in 1846 and his instruments soon appeared in the then popular military bands. Anselme liked these new sounds, so he undertook experiments to make saxophone-imitating pipes, in which he succeeded<sup>2</sup>. The export trade was growing, especially to England. Two agents became active, especially Chiappa in London, an Italian who had been an apprentice of Gavioli before the war and who made street pianos. His successors outlived the Gavioli company and descendants remained in business until recently. Another reselling agent worked in Manchester, selling Gavioli products in England.

**The Harmonic Brake: was it bought?**

As Brink wrote in several articles<sup>3</sup> the harmonic brake (frein harmonique) was not invented by Gavioli, but by the church organ builder Cavaillé-Coll. Somewhat surprisingly, Gavioli received a patent on this invention, nr. 113577 on July 3rd, 1876 (Figure 2). Although this was a legal arrangement, the question arises on what conditions Anselmo was allowed to apply for this patent, and if any money was paid to Cavaillé-Coll for this action. Their mutual relations were good and stayed that way. From that moment onward, Gavioli possessed a type of organ pipes that combined a full, stringy sound with a considerable sound output. It enabled the construction of bigger organs for use in fairground attractions, which had grown both in size and in loudness by the use of steam engines. The number of keys rose to 84 and the amount of different products grew steadily. Anselme’s son, Ludovic Jr., worked in the company beginning in 1872, particularly as a music marker and arranger.

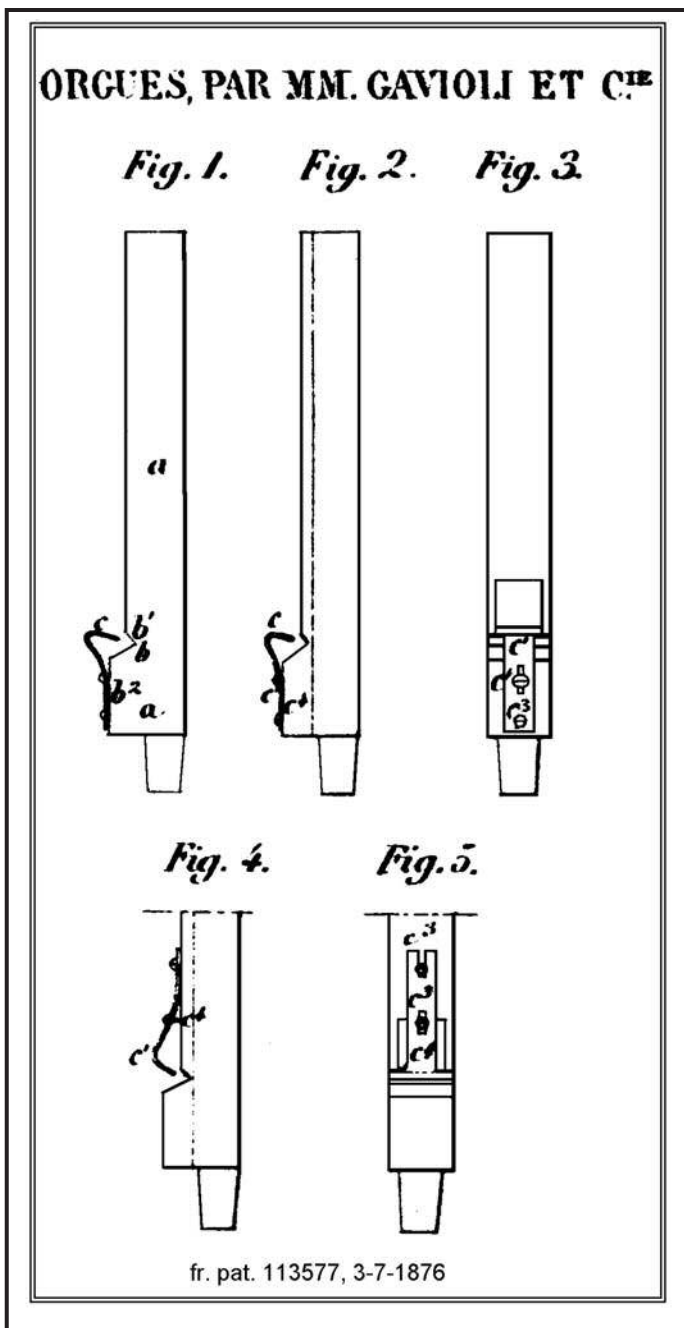


Figure 2. Patent drawing of the Gavioli Harmonic brake (Frein Harmonique). All known violin and cello pipes are made according to the top drawings. Those on the bottom show a brake mounted upside down. This was done to prevent others from using this alternative.

**Other inventions bought**

Brink described in 1998<sup>4</sup>, Anselme Gavioli bought the patent for his pneumatic keyframe in 1885 from the piano maker Fournier. Fournier had patented his “Piano exécutant,” a mechanical piano with expression effects, in 1883. Later, he made some improvements to the patent.

This purchase is striking because the Gavioli firm had made mechanical pianos under the name “Pianista Gavioli” for many years. The piano exécutant was not made exclusively by Gavioli. He granted a license to the previously mentioned (Part I) Thibouville to make the same instruments.

Gavioli had patents for a pneumatic wind chest and similarly devised percussion from 1884. His experiments lasted until 1892, when the completely pneumatic book organ, with a mechanical-pneumatic key frame, was introduced as French patent nr. 220019 on March 10th, 1892 (Figure 3). Several similar patents followed till 1895, including one for the making of folded cardboard books.

*... Gavioli possessed a type of organ pipes that combined a full, stringy sound with a considerable sound output. It enabled the construction of bigger organs for use in fairground attractions, which had grown both in size and in loudness by the use of steam engines.*



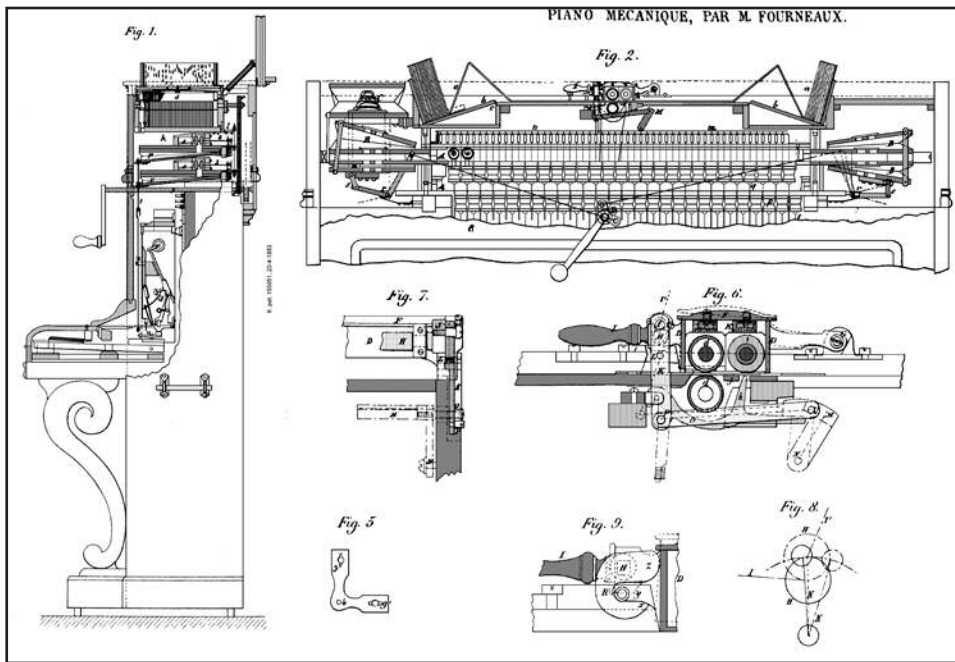


Figure 3. Patent drawing of the Fournaux piano with expression, which was bought by Gavioli. The similarity of the key frame can be clearly seen.

In between the firm was in need of more capital in order to make more and bigger organs. In 1891 the association was extended with a third party, Mr. Jalaguier, who became the main bookkeeper and third financier. The workshop manager was Charles Marengi, about whom more will be related in Part 3. Meanwhile, business flourished as never before, and Anselme moved to the chic Boulevard de Beaumarchais in 1896. In 1898 a building adjacent to the factory was acquired, bounded by the more important Place de la Nation, around the corner. Here a new office was established and the address of the firm changed once more (Figure 4).

### Claude Gavioli & Fils, 1865-1900

Anselme's brother, Claude, started his own business, too. This company principally made reed instruments like harmoniums, played by hand or mechanically, and organettes. It was Claude who acquired a patent for a reed organette playing cardboard books in 1890, two years before his brother. The mutual relations were obviously good, for Anselme took out a patent on a modification that could be used for bigger pipe organs. This invention was never applied in actual construction, maybe because it only worked well in small instruments. Claude sold a license of his patent to the Thibouville-Lamy company, which took out some minor changes in the design and placed it into production under the name "Coelophone" (Figure 5). The same happened to an organette

with three registers in 1899, which was offered later in the Thibouville-Lamy catalog as "Organophone expressif" (Figure 6). Further discussion about both interesting firms is outside the scope of this article.

### Numbering system

Many Gavioli products bear numbers. These may be found on several places inside the chest of smaller instruments, and on the wind chest of larger organs. After a study of many of these numbers it is obvious that they are building numbers. They all share the same series notwithstanding the type or model of the product. Gavioli's predecessor Corvi seems to have started this numbering, probably in 1852<sup>5</sup>. This way of numbering, also found with other manufacturers, makes it possible, at least theoretically, to establish or estimate the year of production.

*Anselme's brother, Claude, started his own business, too. This company principally made reed instruments like harmoniums, played by hand or mechanically, and organettes.*

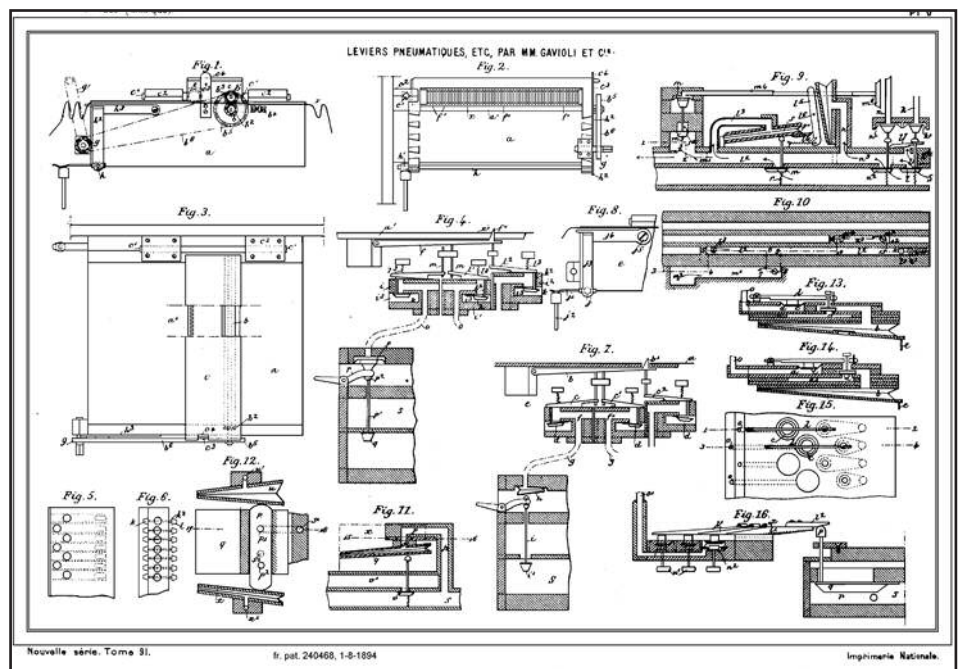


Figure 4. 1894 patent drawing of all pneumatical systems used by Gavioli for his book organs. Upper right is the first, rather heavily engineered, construction of a register changing mechanism. Gavioli improved this system regularly until 1902.



Figure 5. Paris, Place du Trône (now Nation), 1906. The Manège de cycle moderne (modern bicycle attraction) of the widow Mignot is a great success. The public, who had to pedal themselves, put the carousel into action! Inside this Limonaire-built machine a Limonaire organ can be seen, with a sign "tombola". Competition was close by: behind the carousel was the factory of Charles Marengi, who was the successor of Gavioli & Cie since 1902.

## COELOPHONE-ORCHESTRE

Nouvel Instrument de musique fonctionnant par l'air comprimé et au moyen du papier perforé  
Breveté S. G. D. G. en France et à l'Étranger

**AIRS VARIÉS**  
pour la danse

- Valses
- Polkas
- Marzurkas
- Galops
- Marches
- Quadrilles, etc.

Coelophone-Orchestre prêt à jouer  
Longueur 0<sup>m</sup>79 — Hauteur 0<sup>m</sup>50 — Largeur 0<sup>m</sup>45 — Poids 24 kil. — Poids avec emballage 38 kil.

**AIRS VARIÉS**

- d'Operas
- Op.-Comiques
- Opérettes
- Chansonnettes
- Airs d'église
- Messes
- Psalmes
- étrangers, etc.

Le **Coelophone-orchestre**, créé par le célèbre inventeur CLAUDE GAVIOLI, perfectionné et mis au point, pour la fabrication dans nos ateliers de Grenelle, est un instrument d'une nature spéciale, d'un système entièrement nouveau, d'une production de son original, dont les effets d'harmonie très remarquables enlèvent à cet orgue la vulgarité que l'on a rencontrée parfois dans les orgues à manivelle.

Rien n'est plus charmant que ce nouvel instrument qui réunit tant de qualités. La forme et le meuble en sont coquets; la puissance du son est suffisante au *forte* pour faire danser 60 à 80 personnes; la sonorité est douce, l'attaque de la note très nette, la voix céleste se fait entendre avec des contre-chants de *saxophone*, produisant ainsi des effets d'harmonie du plus heureux effet. Enfin, un nouveau système d'expression pour lequel nous venons de prendre tout récemment un brevet, permet de passer brusquement du *forte* au *pianissimo* le plus mystérieux.

## ORGANOPHONE EXPRESSIF

Profondeur 0<sup>m</sup>77 — Hauteur 0<sup>m</sup>45 — Poids 19 kil. 500 — Poids avec emballage 27 kil.

L'**Organophone**, nouvel instrument automatique actionné par des cartons perforés, est, comme le coelophone, dû à l'imagination du célèbre inventeur Claude Gavioli. Il est sa dernière création. L'Organophone est construit dans les ateliers de Grenelle, 130, rue Saint-Charles, et on peut dire qu'il complète admirablement la série de nos instruments automatiques. La forme ne rappelle en rien celle des autres instruments: en outre, il possède cinq registres, **Saxophone, Violoncelle, Clarinette, Expression, Céleste.**

Figure 6. Two pictures from a Thibouville catalogue showing inventions by Claude Gavioli. On top the Coelophone, on bottom the Organophone expressif. Both organettes were paper-driven.

Unfortunately nothing is left of Gavioli's production records. After a couple of years they were used in the factory to seal wind chests or bellows, together with old catalogs, folders and newspapers, as Andrew Pilmer related in an article in *Het Pierement* <sup>6</sup>. We would like to ask all restorers to take pictures of these papers, if found inside old instruments! They will broaden the understanding of Gavioli operations during the earlier era.

On the basis of several Gavioli instruments, for which the building year is reasonably known with accuracy, it is possible to make estimations about the annual production of the company. Building years can be estimated by repertoire lists; in general, the latest music was delivered with the instruments. The application of certain patents may also be of help; for instance, all organs with violin pipes were built after July, 1876, and all original cardboard playing organs after 1892. A listing with all known numbered instruments will follow in Part 3.

### Summary

It seems that Anselme Gavioli was a good businessman and organ builder, as compared to the inventor status of his father. He managed to expand the factory after the setback of 1870 and enabled the Gavioli Company to stay on top of the European makers of mechanical musical instruments into the early 1900s.

Since the publication of the first part of my article I have received additional information from several sources, which may lead to the revision of several things. I will deal with this information in the next part, together with any reactions to this part.

### Notes

- 1 The northeastern part of present France, which was captured from the German states by King Louis XIV and remained a disputed area from then until the end of WW II.
- 2 Fr. Patent 113577, 3rd of July, 1876.
- 3 J. Brink, "Musical aspects of Gavioli Organs," *Het Pierement* 1998/2 to 1999/2.
- 4 J. Brink, "Musical aspects of Gavioli Organs," *Het Pierement* 1998/2 to 1999/2.
- 5 The oldest known number is 443, inside a 47 key Harmonieflûte (coll. Museum les Gets).
- 6 A. Pilmer; "Gavioli, the Internal History," *Het Pierement* 1984 p 55 e.v..

Dr. Hans van Oost (1946), a retired Dutch physician, started his musical career in 1963 as a tuba player in the Green River Jazz Band, playing classical jazz. His interest in mechanical music resulted in the building of a large orchestron organ and a small street organ. From 1993 he has been a committee member of the Kring van Draaiorgelvrienden (KDV). Currently he is vice-president and webmaster. He lives in 's-Gravenzande, a little town near the Hague in the Netherlands, with his wife. They have two grown children.