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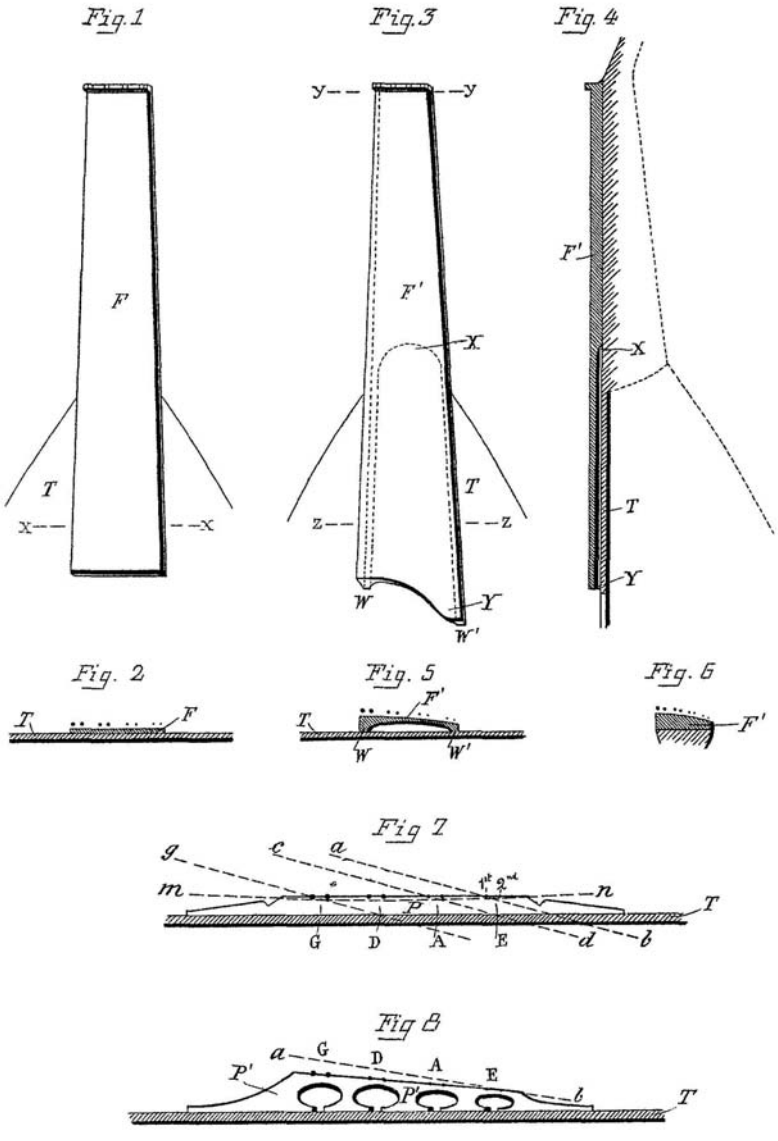
(English version by Simona Colombini)

Mandolin patents in Italy between 1870 and 1930: between real innovations and commercial strategy.

(With a brief history of the Roman Mandolin from Maldura-De Santis to Embergher)



Mandolin from 1899 belonged to Giovan Battista Maldura himself - and probably exhibited at the Universal Exposition in Paris 1900, where Maldura won the Gold Medal - with technical drawing attached to the filing of the Maldura patent in the U.S. (1896)

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Excerpt from: "Il periodo d'oro del mandolino" curated by Ugo Orlandi

Introduction

Between the last decades of the 19th and the early 20th centuries, throughout the western world and also a part of the eastern one, we attend - as it is defined by several historians - the "Second Industrial Revolution". It has been a period of strong industrial development - even started from the "Great Depression", result of an overproduction - that finds its main boost, in the countless discoveries and inventions - occurred in that short time - in quite every field of knowledge and production.

Comparing to the "First Industrial Revolution" - occurred mainly in England since the 18th century and traditionally dated back to the invention of the steam engine - during this period the great innovative fervor and the timeliness of the Industry, to take over the numerous discoveries and inventions, converting them to occasions of production and development, takes on a particularly important value. Nevertheless, in this phase, States and Governments tend to encourage this trend by stimulating private initiative through laws and international agreements, aimed at promoting industrialization and production in general.

The value - even economic - that discoveries and inventions can take, finds therefore support of no small importance - which could be defined also psychological - in the patent's legislation development.

The institution of patent protection, so encouraged in this period, does not arise in fact with the exclusive purpose of preventing an idea from being "copied", but rather with the idea of developing progress. In absence of such a protection, in fact, every inventor would rather be driven to protect the "secret" of his idea, hindering its development by others, without having however any guarantee of exclusivity. The possibility of having recognized an exclusive right of exploitation, filing a detailed description of the procedure - which becomes public, after a certain period of time - guarantees the inventor in his own rights and allows technological progress, also through the circulation of ideas and the competition's incentive.

In the last decades of the 19th century, the prevalent thought looked towards scientific and technological development - also strengthened by the ever-increasing use of discoveries in production - as an exclusively virtuous process that would necessarily bring well-being. The patent then becomes in common opinion synonymous of progress.

The patent

Without the claim or the aim to give a precise and exhaustive definition of the field of patents, with the only purpose of providing some means to evaluate the phenomenon in the musical sphere, some terminological and historical references could be useful.

The patent, or "privativa",[1] is essentially the certification of the right of a person to exploit exclusively, for a certain period of time and relative to a certain territory, the yield of an original and innovative idea, in place of its divulgation. In our case it refers to the industrial sphere, therefore to the invention of a good, or an industrial method or to a completely different and new use of something already known.

[1] During this period is much more used the term "privativa" (industrial property right) or even, sometimes, "patente" than "brevetto" (patent), more common nowadays.

This good or procedure needs to have some essential characteristics to be considered worthy of protection:

- *Novelty:* the good or procedure must not be in the public domain; in this sense, in order to request a patent and the consequent legal protection of the good, its disclosure - and so much more its production - must be strictly succeeding to the filing of the registration. This is valid even if such disclosure was made by the inventor himself.[2]
- *Originality:* means that the good must not be the mere and obvious result of the application of techniques or knowledge already known. Note how this characteristic, differently to the previous one, that is objectively detectable, derives from a subjective evaluation.
- *Industriality* (Industrial applicability): the invention must be able to be produced - and must be put in production - and solve a technical problem in the industrial field.[3]

It is important to notice that at the time we are dealing with, in some countries tradition - including Italy - the existence of these characteristics was not substantially verified at the moment of the application submit, and was not in fact necessary for the release of the patent. In other countries instead - mostly of Anglo-Saxon tradition - the verification of these characteristics was (and is) prejudicial to the release of the authorization.[4]

There are traces of some documents, somehow similar to patents, dating back to very ancient times, but the first official form regulating the right to exploit an invention, is found in the "Statute of Patents", promulgated in 1474 by the Republic of Venice:

> *Many men in this town and its surroundings are attracted by its excellence and magnificence, many men of different origins, with ingenious minds, able to invent and discover various "artful objects". And if it were possible to guarantee them the honor that other men would not take possess of their artful objects, then these men would use their brains to discover things of no small value for our Republic. Anyone who will create a new "artful object" in our Venice, never created before by anyone else, will be obliged to register it in the municipal offices. It will not be possible for any other man in our Republic to create an object in the figure and resemblance of that, without the permission of the inventor, for a period of ten years.*[5]

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2 Only in the United States there is a patentability clause, within a year of disclosure, if it was made by the inventor.

3 Broadly understood, including - for example - agriculture.

Another essential characteristic is the lawfulness. The invention is legitimate when its exploitation is not contrary to public order and morality.

4 Nowadays, both Italian and European legislation provides for the preliminary verification of the characteristics of Novelty, Originality and Industriality.

5 Archivio di Stato di Venezia, Senato terra, registro 7, carta 32: "El sono in questa città et anche ala zornada per la grandeza et bontà soa concorre homeni da diverse bande et actutissimi ingegni, apti ad excogitar et trovar varii ingegnosi artificii. S'el fosse provvisto, che le opere et artificii trovade da loro altri, viste che le havesseno, non podesseno farle e tuor l'honor suo, simel homeni exceritariano l'ingegno, troveriano et fariano de le chosse che sariano de non picola utilità et beneficio al stado nostro. Però l'andarà parte che per auchtorità de questo Conseio, chadaun che farà in questa città alcun nuovo et ingegnoso artificio, non facto paravanti nel dominio nostro, reducto che'l sarà a perfection, siché el se possi usar et excercitar, sia tegnudo darlo in nota al officio di nostri provededori de Comun, siando proibito a chadaun altro in alguna terra e luogo nostro, far algun altro artificio, ad imagine et similitudine de quello, senza consentimento et licentia del auctor fino ad anni x. Et tamen se algun el fesse, l'auctor et inventor predicto, habia libertà poderlo citar a chadaun officio de questa cità, dal qual officio el dicto che havesse contrafacto sia astreto a pagarli ducati cento, et l'artificio subito sia desfacto.

It is particularly interesting and surprising, that all the elements of the modern patent are already in this standard:

- novelty, originality and industriality are required ("a new ingenious device, not created by anyone else previously");
- an exclusive period and territory are established ("in our republic ... for a period of ten years");
- registration and therefore disclosure of new knowledge are required;
- the social and political value of the norm is explicit: an exchange of utility between ingenious men and the Republic, having the former the guarantee of being protected in their interests and the latter the advantage of attracting productive intelligence, and therefore economic development and stimulus to research.

Patent law is constantly evolving; in some countries such as Great Britain and the United States, but also France and Germany - although to a lesser extent - in the 1700s the institution of the patent was already widespread and well regulated.

Concerning Italy, the first law of 1864 on the matter is issued by the Kingdom of Italy (it is an extension of a previous pre-unitary law of 1855), and gradually extended until beyond 1870.

But the act that gives maximum impetus to the diffusion of the patent institute - which also had a great echo in the national press - is the Paris Convention of 1883, with which are established the principles of reciprocity (i.e. they recognize to citizens of other countries, the same rights already recognized to its citizens) and priority (by filing a patent in your own country, you get the right to file it within a certain period of time also in other states, keeping the filing date of the first act as a starting date of the patent).

Mandolin's patents and the "brevettisti" phenomenon

The period of the "Second Industrial Revolution" coincides in a unique way, with the one that is usually called the "Mandolin's Golden Age".

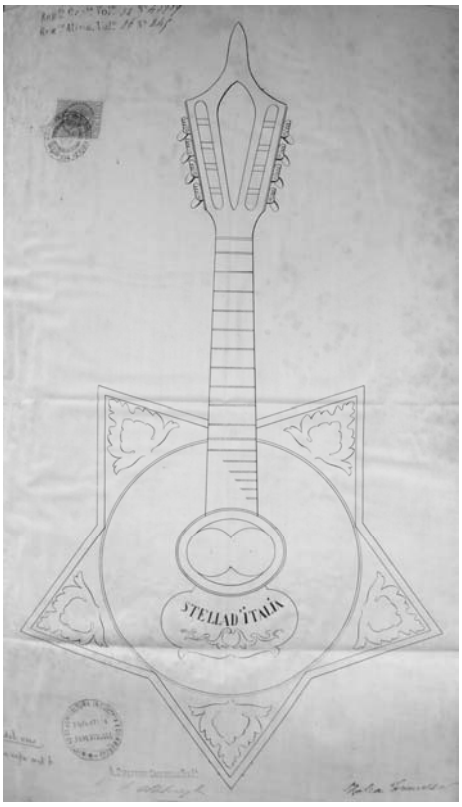
The technological development in the metallurgical field leads to the production of steels much more resistant, than those available up to the first half of the 19th century. This brand-new availability is promptly used in the musical instruments' sector, with especially regard to keyboard instruments - the piano knows a period of frenetic development - but also to string instruments. The development of the mandolin, fitted exclusively with steel strings (bare and coated), is traditionally attributed to Vinaccia. Certainly, this new feature of the instrument had a resounding success and within a few decades the mandolin spread enormously in all social classes and all over the world.

Parallel to this diffusion, the demand for these instruments and therefore their production naturally grows; many mandolin factories are born and wide market opportunities are opened.

Until now, patents have been registered in the field of music, especially in those sectors where mechanics play an important role or where entirely new instruments are born - pianos, harps, wind instruments: around 1850 many instruments such as the sax, the helicon, the sarrusophone, etc... are patented[6] - after 1880 we are attending something like a race to patent the most various ideas, even within the mandolin context.

Siando però in libertà de la nostra signoria ad ogni suo piaxer tuor et usar nei suo bisogni chadaun in dicti artificii et in strumenti, cum questa però condition, che altri cha i auctori non li possi exercitar".

[6] The sax has been patented in 1846, the helicon in 1849, the sarrusophone in 1856.



The mentioned cultural spirit - which saw the patent almost as a certification of modernity and progress - evidently has also an influence on the commercial aspects, so much that the patent becomes an instrument of competition, translating itself - in the society of that epoch - into the fascination that all the "novelties" emanated.

In this panorama, some manufacturers began to patent their innovations and boast themselves about it on their labels; from this point of view, the analysis of the patent bulletins of those years is surprising: the patents concerning innovations in the construction of the mandolin registered in the decade between 1890 and 1900 are over thirty - these come from builders active throughout Italy: from Lombardy to Sicily, even with an justifiable prevalence in the Rome and Naples area - and give an image of the production, such as that of a real industry with a significant national importance.

But it is not uncommon also the case of manufacturers that only boast the ownership of a patent on their own labels, having not actually filed any request.

This circumstance, together with the analysis of the patents effectively filed, in some cases quite specious - so much that they seem to have the only purpose of being able to boast of them - gives the sense of a real trade war, as evidenced by this little short article located in the catalogue of the Fenga Company in Catania, year 1896, which certifies the existence of a real phenomenon, which he called "brevettisti" *(the "patented")*:

> *The unpredictable success of my Company in the manufacture of string instruments, soon made rise around it an endless swarm of competitor - people good for nothing - who prompted on by envy, disavowing that the secret of triumph is in the tireless work, they have hoped to bring down my factory with unfair and aggressive competition.*
> *Contrary to all their expectations, as clearly shown by the little table above, my production has always been increasing, while I have seen many of these boasters tumbling over.*
> *Even in the surrounding of Catania, some speculators have attempted to have war against my factory, contrasting with me through some types of instruments that they call patented mandolins; trying to give prerogative of originality to their monstrous creations, they started eliminating the sound box - essential in the mandolin, called so just so for its shape resembling that of the one mandola - doing it with the side hole or to § as in the violins. On this false way the fantasies are unbridled and who knows where will they stop!*
> *But the common sense of the public didn't sweep away by such mystifications and the ever-increasing demand for Neapolitan mandolins it's a clear sign that everyone prefers my type of Neapolitan mandolin with its classic shape, while every attempt of alteration and corruption proved ineffective, and one after the other, the "brevettisti" are intended to close shop.*[7]

[7] For the authentic texts of all the documents translated here, please consult the original Italian version of this study. The mention is taken from "Il cigno" magazine - Year I no. 1 - Catania, 1th January 1896. It is a purely

Overview of registered patents

The first mandolin patent registered in the treated period, is the one of G.B. Maldura in 1884 and it refers to his innovations on keyboard and bridge in the Roman Mandolin.

The circumstance is important because Maldura, as we will see later, was certainly a man of great genius and his innovation had a great success, marking the beginning of the highly successful history of that instrument in Rome with De Santis, Embergher and several other important manufacturers. Maldura was moreover a particular personality, polyhedric and of rather advanced technical and cultural training, and it is not surprising that he had been the first to take advantage of the possibilities offered by patent practice. Also, by virtue of this, the history and fortune of the Roman Mandolin, goes significantly through the patents registered by the various characters - who took the credit for it - and deserves a separate argument.

However, many of the important builders of that time and many instruments that had a certain success, are in the list of well-known patents, that is transcribed in the attached table.[8]

A brief analysis of the data points out some aspects (see the attached tables):

- About the 60% of the patents filed in the period between 1884 and 1930 concern the years between 1895 and 1901, with a growth up to a maximum of 10 patents, filed in 1897, and then a progressive decline. Since 1910 the number of filed patents has almost decreased (just two in 1912, one in 1913 and one in 1923).
- The geographical origin gives in essence the production situation of that period and also the lutherie tradition in the mandolin sphere, where Campania region (essentially Naples) is at the first place, followed by Lazio with Rome, Sicily with Catania and finally Lombardy with Carate Brianza. From this point of view, the most active builders are in Carate Brianza, (instead of Milan), so much to justify the identification of a "Brianzolo Mandolin".[9] There are also patents from Tuscany: thanks to the authoritative presence of Mounier the mandolin had a great importance and productive importance here, also from an editorial point of view. We can find also patents from Piedmont region, Emilia (from the beginning to the middle of the 20th century Cento and Ferrara saw the affirmation of Mozzani and his School, that has always had a distinctive innovative purpose)[10] and Calabria. The number of foreign patents filed in Italy is significant - a possibility already introduced in the pre-unification law of 1855 - which attests, inter alia, the interest that the mandolin aroused even outside national borders.[11]

As already mentioned, among the various patents registered many of them seem to be specious and evidently lacking of the novelty, originality and industriality requirements; these are mostly claims presented only with the intent of being able to boast of a patent or for a naive attempt to gain a market share.

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commercial publication (quarterly catalogue of the Italian factory of stringed instruments, Luigi Fenga). A copy is preserved at the Library of the Civic Historical Collections in Milan with a GNEC.C.852 shelf mark.

8 The extension certificates about patents previously filed have been deliberately omitted, as well as the patents generically concerning string instruments or accessories not explicitly made for mandolin.

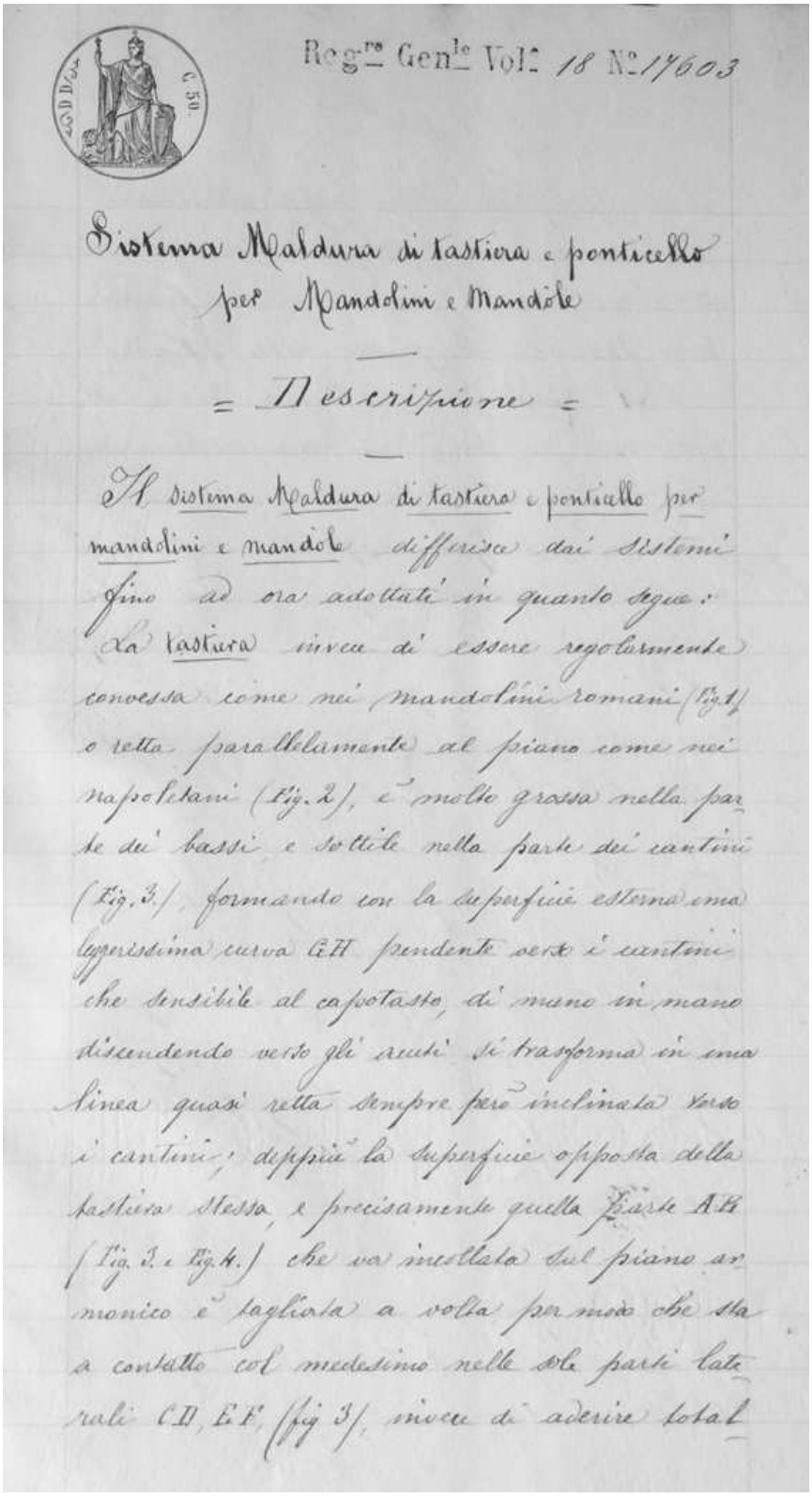
9 Cf. also: Tiziano Rizzi, "Brevi note sull'identificazione del mandolino" - "Brief annotations on mandolin identification" – CMI/IMC 2015

10 Considering also, for example Maccaferri, a Mozzani pupil, and his guitars produced first in Italy, then in France with Selmer and most recently in the USA with his plastic instruments.

11 The opposite also happened, as we will see later: some Italian manufacturers registered their patents abroad.

However, we also find some innovative instruments - for the concept or for construction techniques - which have had their success over the period, (for example: De Meglio, Loveri, Vinaccia, and the Calace's Mandolira) and - on the other hand - some experiments that have been produced and put on the market, have not been deposited (as for example, Kasermann's double-top mandolins in Naples).

It is then particularly interesting the reading of the birth of the modern Roman Mandolin and its controversies, through the series of patents filed, compared with other archival documents.



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Sistema Maldura di tastiera e ponticello per Mandolini e Mandole

= Descrizione =

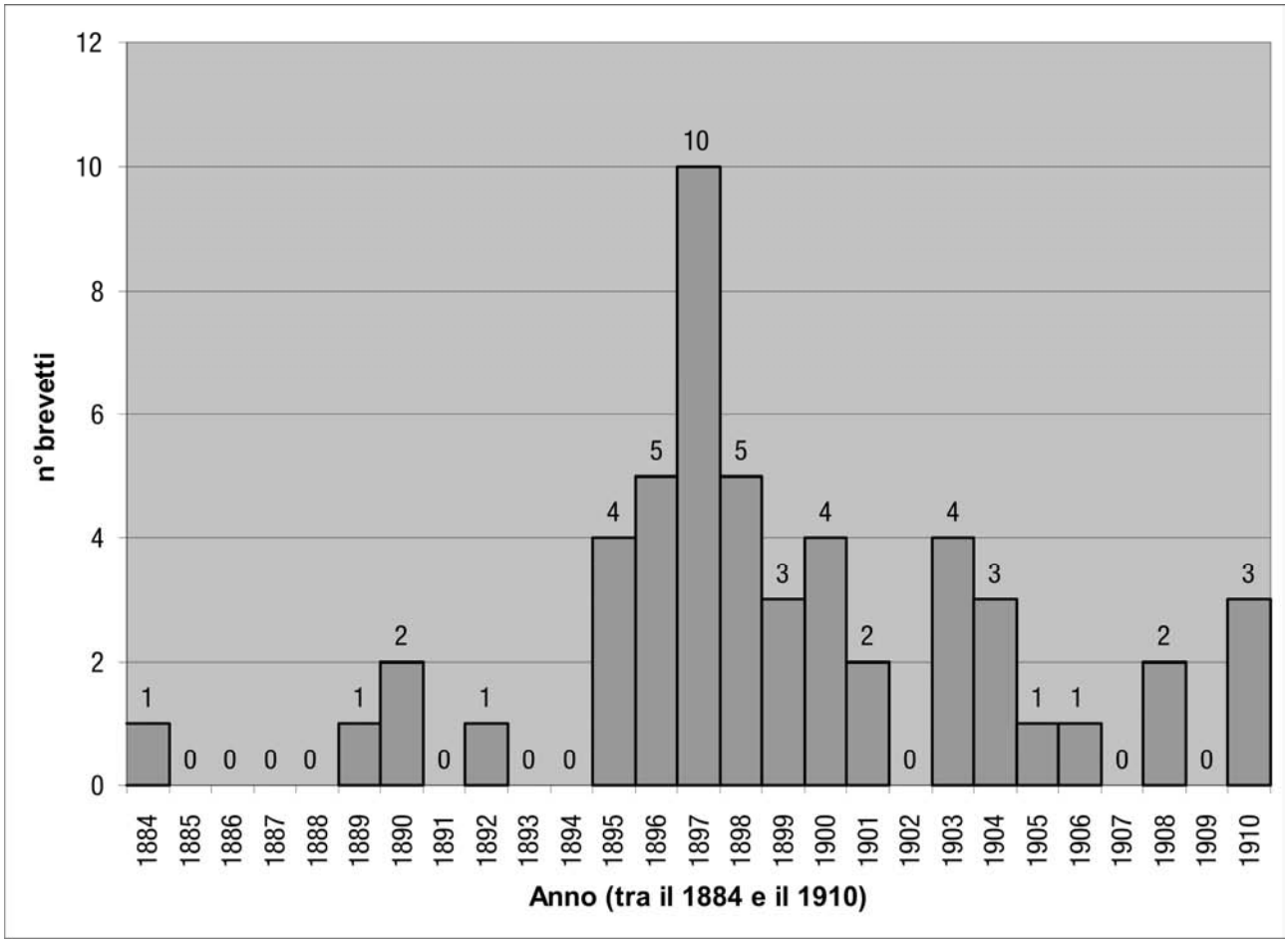
Il sistema Maldura di tastiera e ponticello per mandolini e mandole differisce dai sistemi fino ad ora adottati in quanto segue: La tastiera invece di essere regolarmente convessa come nei mandolini romani (fig. 1) o retta parallelamente al piano come nei napoletani (fig. 2), è molto grossa nella parte dei bassi e sottile nella parte dei cantini (fig. 3), formando con la superficie esterna una leggerissima curva GH pendente verso i cantini che sensibile al capotasto, di mano in mano discendendo verso gli acuti si trasforma in una linea quasi retta sempre però inclinata verso i cantini; depressa la superficie opposta della tastiera stessa, e precisamente quella parte AB (fig. 3. e fig. 4.) che va incastrata sul piano armonico e tagliata a volta per modo che sta a contatto col medesimo nelle sole parti laterali CD, EF, (fig 3), invece di aderire total

List of patents regarding the mandolin, filed in the period 1884 – 1930

Anno	Numero	Inventore	Città	Prov.	Regione	Titolo
1884	17603	Maldura Giovanni Battista	Roma	RM	Lazio	Sistema Maldura di tastiera e ponticello per Mandolini e Mandole
1889	25100	De Meglio Giovanni e figlio	Napoli	NA	Campania	Mandolino con traforo armonico e corde a pressione
1890		Schwarzenberg Eugen	Vienna (Austria)	EE	Estero	Mandolino o Mandola colle corde accordate a modo di chitarra
1890	28724	Secchi Eliseo	Carate Brianza	MI	Lombardia	Innovazione nella costruzione dei mandolini e produzione di nuovi strumenti derivati dai medesimi
1892	32643	Cerini Felice	Carate Brianza	MI	Lombardia	Perfezionamenti nei mandolini.
1895	38288	Ventura Enrico	Carate Brianza	MI	Lombardia	Innovazioni nei mandolini a fondo piatto o quasi piatto e in altri strumenti musicali a corde a fascia laterale
1895	38509	De Meglio Vincenzo fu Giovanni	Napoli	NA	Campania	Mandolino con manico dritto, scudo un sol pezzo, traforo armonico e pressione sulle corde, sistema De Meglio
1895	38824	Casini Serafino	Campi Bisenzio	FI	Toscana	Nuovo mandolino sistema Casini
1895	39511	Calace Fratelli (Ditta)	Napoli	NA	Campania	Mandolira
1896	41404	Merrill N. e Jones A.W.	Pittsburg (USA)	EE	Estero	Perfectionnements aux instruments de musique du genre de la mandoline
1896	41877	Porto Rosario e Figli (Ditta)	Catania	CT	Sicilia	Nuovo istrumento denominato Mandolino Violino
1896	41774	Salsedo Luigi	Napoli	NA	Campania	Mandolino alato
1896	42345	Loveri Carlo fu Raffaele	Napoli	NA	Campania	Mandolino a costruzione svelta
1896	42918	Maldura Giovanni Battista	Roma	RM	Lazio	Perfezionamento nelle meccaniche dei mandolini, mandole, chitarre ed altri strumenti a corda
1897	43123	Vitantonio Vito di Giuseppe	Piacenza	PC	Emilia	Cassa armonica collocata nell'interno degli strumenti musicali a corda da pizzico e da arco di qualunque forma e dimensione essi siano.
1897	43301	Indelicato Salvatore	Catania	CT	Sicilia	Nuovo Mandolino sistema Salvatore Indelicato
1897	43703	Embergher Luigi	Roma	RM	Lazio	Perfezionamenti alla meccanica ed alla tastiera del mandolino.
1897	43831	Rubino Gennaro	Napoli	NA	Campania	Mandolino a lira
1897	43901	Ricci Luigi fu Pasquale	Napoli	NA	Campania	Ponticello a correzione automatica con frenacorde, tendente a correggere la distanza delle corde dalla tastiera degli strumenti a corda in genere e rendere la tastiera più o meno pesante a seconda l'attitudine del suonatore.
1897	43989	Zolca Francesco di Nicola	Reggio Calabria	RC	Calabria	Nuovo mandolino chiamato, dalla sua forma, "La stella d'Italia"
1897	45372	Guarrera Corsaro Francesco	Catania	CT	Sicilia	Nuovo mandolino perfezionato

1897	45762	Dabiero Pasquale	Londra (Gran Bretagna)	EE	Estero	Nuovo istrumento da musica denominato: Octochordis
1897	45839	Migliardi Francesco	Torino	TO	Piemonte	Mandolino perfezionato a due ottave intiere
1897	45925	Coda Giuseppe	Napoli	NA	Campania	Mandolino e mandola, sistema Coda
1898	46877	Simpson R.B. e Kaye W.E.	Fort Worth-Tarrant (USA)	EE	Estero	Perfezionamenti nei mandolini
1898	47044	Indelicato Salvatore	Catania	CT	Sicilia	Nuovo mandolino sistema Salvatore Indelicato
1898	47309	Porto R. & Figli (Ditta)	Catania	CT	Sicilia	Perfezionamenti ai mandolini ed agli strumenti congeneri Mandolino Siciliano Porto.
1898	47511	Loveri Carlo	Napoli	NA	Campania	Mandolino pentaedro.
1898	48472	Del Vecchio Raffaele fu Giovanni	Napoli	NA	Campania	Mandolino a tastiera
1899	49855	Alabiso Carlo	Napoli	NA	Campania	Macchina per mandolino Alabiso atta ad accordare con quattro invece che con otto chiavette.
1899	50331	Loveri Carlo	Napoli	NA	Campania	Mandolino a costruzione svelta
1899	50793	Puglisi-Porto Michelangiolo	Catania	CT	Sicilia	Nuovo Mandolino sistema Michelangiolo Puglisi-Porto
1900	54573	Secchi Eliseo	Carate Brianza	MI	Lombardia	Applicazione della tastiera a tasti sporgenti (costruita con formula matematico-acustica) e del nuovo ponticello a compensazione, a tutti gli istrumenti musicali ad arco, nonché a quelli a pizzico ed a trillo e produzione di nuovi istrumenti ad arco aventi tastiera e ponticello come sopra.
1900	55916	Maldura Giovanni Battista	Roma	RM	Lazio	Perfezionamenti nei ponticelli degli strumenti musicali a corda
1900	55562	Pelati Giacomo di Napoleone	Pontremoli	MS	Toscana	Catena per rinforzo e risuonanza sistema Pelati Giacomo per istrumenti ad arco ed a pizzico.
1900	56543	Indelicato Salvatore	Catania	CT	Sicilia	Applicazione della celluloide in sostituzione della madreperla nella fabbricazione dei mandolini
1901	57298	Maldura Giovanni Battista	Roma	RM	Lazio	Perfezionamento nella costruzione dei mandolini
1901	57609	De Meglio Vincenzo fu Giovanni	Napoli	NA	Campania	Mandolino con applicazioni cristalliche
1903	66030	Bertucci Costantino	Roma	RM	Lazio	Mandolino perfezionato.
1903	67387	Indelicato Salvatore di Santi	Catania	CT	Sicilia	Nuovo mandolino 1903
1903	69095	Calace Nicola Maria	Napoli	NA	Campania	Plettrharpa o nuovo mandolino
1903	69031	Carabba Costantino di Pietro	Napoli	NA	Campania	Nuova meccanica ad ingranaggi per ottenere la tensione (sino all'accordatura) delle corde armoniche applicabile a tutti gli strumenti musicali a corda in genere.

1904	72704	Forney John	Reading (USA)	EE	Estero	Mediator pour mandolines, guitares et instruments semblables
1904	73269	Didone Nicola	Roma	RM	Lazio	Nuovo tipo di mandolino romano a cinque corde
1904	73614	Pelati Giacomo di Napoleone	Pontremoli	MS	Toscana	Perfezionamento di strumenti ad arco e a pizzico
1905	78687	Didone Nicola di Silvio	Roma	RM	Lazio	Nuovo sistema di tastiera applicabile a tutti gli istrumenti a cinque corde sì doppie che semplici, tanto a plettro che ad arco, con la specificata accordatura di sol-re-la-mi-si-acuto
1906	81856	Gelas Lucien	Pré St. Gervais (Francia)	EE	Estero	Perfectionnements aux instruments à cordes, guitares, mandolines, violons, harpes, etc.
1908	91188	Gelas Lucien	Pré St. Gervais (Francia)	EE	Estero	Perfectionnements aux instruments à cordes, guitares, mandolines, violons, harpes, etc. (attestato completivo)
1908	92485	Castellini Verecondo	Mantova	MN	Lombardia	Cassa armonica in alluminio per strumenti musicali ad arco plettro e pizzico
1910	101307	Foissy H. & Bousquet J.	Parigi (Francia)	EE	Estero	Système de cachecordes pour mandolines et instruments analogues
1910	105510	Prager Adolf	Markneukirchen (Germania)	EE	Estero	Innovazione negli strumenti a corde pizzicate
1910	110388	Averna Gesualdo fu Biagio	Caltanissetta	CL	Sicilia	Mandolino costruito a guisa di violino
1912	118692	Ferrarotti Luigi	Torino	TO	Piemonte	Perfezionamenti negli strumenti musicali a corda, a plettro e ad arco
1912	122777	Calace Raffaele	Napoli	NA	Campania	Mandolino classico “Raffaele Calace”
1913	127583	Mozzani Luigi	Cento	FE	Emilia	Dispositivo di compensazione per istrumenti musicali
1923	203716	Bruno Pietro	Trebisacce	CS	Calabria	Strumento musicale a corde comprendente mandolino, mandola e liuto
1923	207151	Bertucci Costantino	Roma	RM	Lazio	Perfezionamenti nei mandolini
Tra i modelli di fabbrica è stato possibile individuare:						
1900	741	Pietro Manfredi	Milano	MI	Lombardia	Nuovo tipo di mandolino detto “L’Ideale”
1905	1076	Gaetano Vinaccia	Napoli	NA	Campania	Mandolino di suo sistema
Tra i marchi depositati:						
1896	3380	Maldura Giovanni Battista	Roma	RM	Lazio	
1903	5791	De Meglio Vincenzo	Napoli	NA	Campania	
1915	15324	Luigi Embergher	Roma	RM	Lazio	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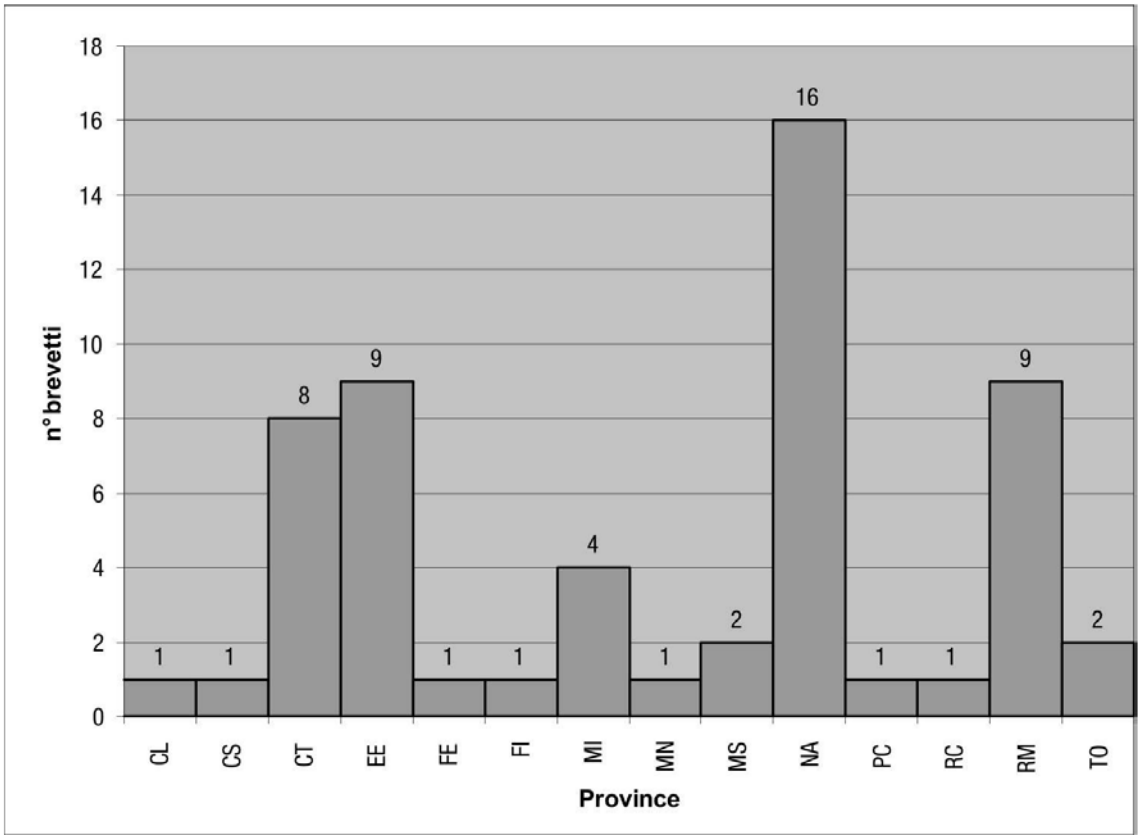
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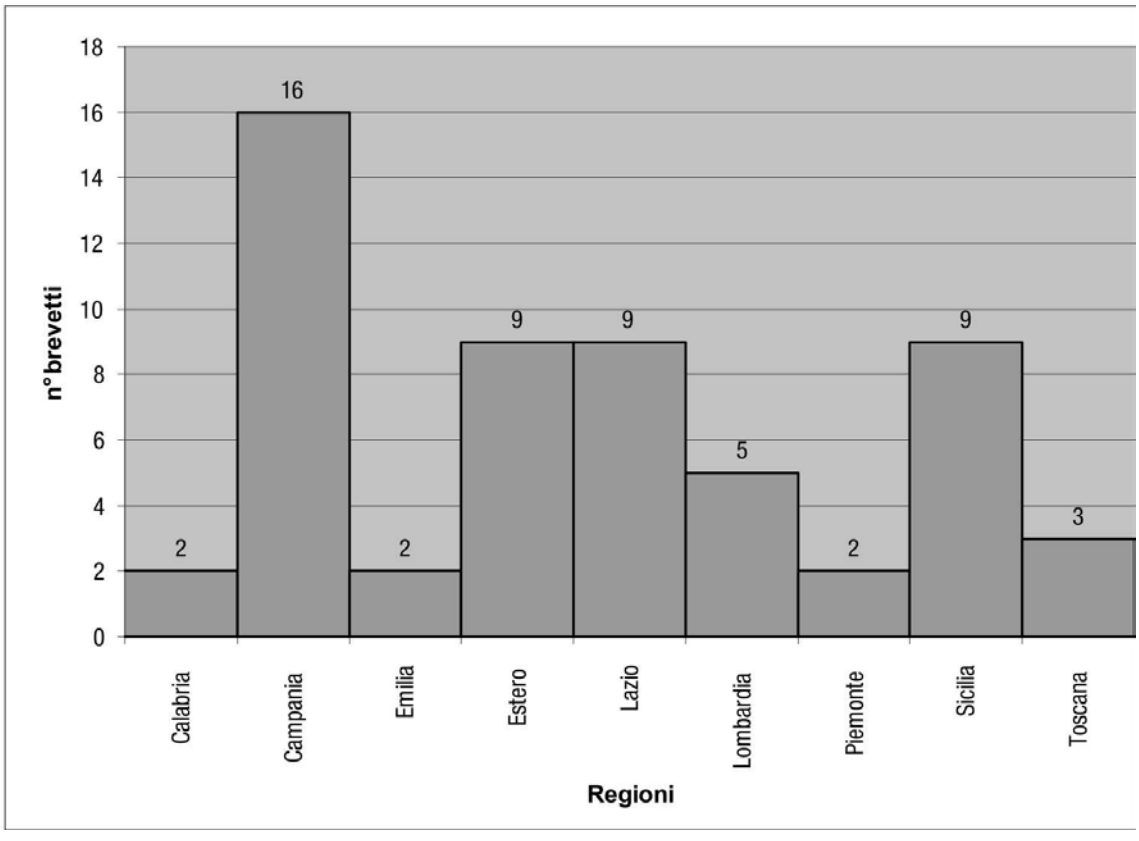
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The invention of the Roman Mandolin from Maldura-De Santis to Embergher

The definition of “Roman Mandolin” from an organological point of view can lead to ambiguity, considering the history of the instrument from its birth.

As already mentioned, it is possible (and perhaps probable) that the instrument appeared first in the Roman area than in the Neapolitan one, but until the end of the 1800s it is not possible to identify a similar nomenclature, as a generic adjective identifying a geographical origin - as for the "Lombard" or "Venetian" Mandolin, for example - finding in the documents of that time just generical reference to the term "mandolin". With the emergence of a distinct typology from the “Neapolitan” or “Milanese” Mandolin and a very special construction school, widespread mentions of this term have been found since the end of the 19th century. Therefore, it is possible nowadays to identify with the term "Roman Mandolin" the one born around 1880 that quickly spread throughout the world, and that conserved a highly respected international role and reputation until today.

There is no doubt that the success of Luigi Embergher's production - and his successors who continued the brand until the 1960s - is the main reason for such a reputation today. The Embergher instruments have had and still have an enormous diffusion all over the world due to their decidedly high quality and the typical bright and brilliant sound different from the Neapolitan production.

For this reason too, it is a widespread opinion, that it was Embergher who introduced the typical characteristics of the modern Roman Mandolin (triangular neck, curved keyboard sloping on the trebles side and also a sloping bridge).

It wasn't really like that, although at that time they certainly did not have this opinion. The instrument as we know it today, was without any doubt the result partly of a historical evolution of the mandolin built in the Roman area in the previous tradition, (first in the 1700s and later in the 1800s), and in part of ideas come up in the eighties of the 19th century - at the current state of knowledge - to be attributed to G.B. Maldura, with a precise dating related to the patent he filed in 1884.

Embergher arrived in Rome in the years following Maldura’s[12] invention, applying to it his ideas and his constructive and aesthetic sensitivity and bringing the instrument to its current configuration.

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12 Cf. Lorenzo Lippi - “Annotation on Luigi Embergher's first Roman address. - Information on the Embergher workshop in Rome between 1893 and 1937 from the yearbooks of the time.” published on www.iror.it.
We know Embergher's instruments with the label “Arpino - 1888 and 1889”, but no instrument shows a Roman address before these dates. The oldest instrument documented with a Roman signature dates 1892. In an article

Thinking about the Roman Mandolin today, therefore, we imagine more or less an Embergher 5bis Model, with fretboard and bridge sloping to trebles in a poorly pronounced way, the solid bridge, with its characteristic "gull-wing" cut, the thin and narrow neck with its triangular section, the low decorated soundboard, the sickle-shaped peg box and the pick guard with its rolled parchment shape. Embergher produced several other mandolins, with different shapes and decorations, but the most typical fixed in the common imaginary is this one: its classical concert Model.

The mandolin in Rome has ancient roots and a strong and consolidated tradition that already in the 18th century saw manufacturers of great fame (e.g. Smorsone, Gualzetta, Ferrari).

The instrument's evolution is still partially obscure until around 1860, and indeed some clues would suggest a use of eighteenth-century style instruments, until the first half of the 19th century.[13] But probably around 1860, perhaps on the wave of the new strings available - as mentioned for the Neapolitan area - and perhaps also stimulated by the innovations attributed to Vinaccia, a type of instrument with rather precise characteristics stabilizes:

- A rather large body with an end clasp of considerable size and a typical carving, that will be taken up - simplified - in the instruments of a later period. The ribs could be carved. Normally the body shape was less square in comparison to the later mandolins.
- The neck was mostly narrow, with a round section, sometimes tending to triangular.
- Even the headstock was also carved and maintained a fairly homogeneous style among the different manufacturers, it often fitted wooden pegs with a brass rod on the axis, around which the metal strings[14] could be more comfortably wrapped.
- More frequently instruments had a soundboard few decorated, a simple binding on the contour and an ebony pickguard, even if the ones preserved in museums, are often very decorated instruments, with more cabinetmaking than luthier manufacture (see a certain Petroni production).[15]
- The most particular feature consisted of a rounded keyboard, with a continuous curvature radius, and a similar rounded shape on the bridge strings support. The thickness of the keyboard was low, as in the most ancient instruments and normally it ended up flush with the soundboard.

Concerning to this last aspect - the most remarkable from a functional point of view - it should be emphasized that even in some 18th century Roman instruments preserved today, there is the rounded keyboard, despite having a completely different fitting and set-up.

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from "The Cosmopolitan Industries" (Rome 1908 - X XVIII Volume), it is asserted that the Embergher factory was founded in 1870. At that time Embergher was 14 years old and it seems more prudent to assume that 1870 is the year in which he began his training.

13 Among the clues there is also a certain iconography - especially in the popular sphere - which in the first half of the 19th Century still represents older concept instruments, including Mandolone in the Gaspar Ferrari style.

14 This kind of peg, is called "roman peg" in the Madeleine Cottin Method (Méthode de Mandoline – Marcel Jumade -1903-1905).

15 Instruments built by this author are preserved for example, at the National Musical Instruments Museum in Rome.

Giovanni Battista Maldura was born in September the 4th in Rome. His father was a Vatican Functionary and a good guitar amateur; he had a wealthy family and he soon obtained a University Degree in Engineering. Since childhood he studied mandolin and as a boy, he performed concerts at the Roman salons, often accompanied on guitar by his father.[16]

For a short time, he practiced the profession of Engineer, but at the same time he gave lessons on guitar and mandolin;[17] in Roman society of the time the mandolin had a significant role: Queen Margherita herself was a mandolin player, so the instrument was studied also by many young Ladies of good society. The fact that the private lessons market was to be flourishing, is also clear from the frequency of the advertisement - also subject to payment - on the "Guida Monaci", considered the main Roman yearbook.

He was a brilliant and appreciated character and soon became one of the most sought-after virtuosos and an animator of the Roman festivals; he was at the forefront in every "humor" event[18] of the International Artistic Association, a club frequented also by the best and most famous artists of the Capital.[19] Nino Maldura (so he was known in Rome), in 1892 has been also one of the founders of "Circolo dei Musicisti".[20]

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16 A short chronicle of one of his performances, with his father in Civitavecchia can be found in "La Gazzetta d'Italia" of August the 15th 1877.

17 See "L'amico Fritz" – July the 31st 1892.

18 Famous were the Christmas Concert and the "Carciofolata", an event in which the "Sminfa" - an orchestra of amateurs, in which even professionals had to play a different instrument - crossed Rome with the "Sminfa Chief" at its head, who was precisely Nino Maldura. Also memorable were the concerts offered in the "Circolo hall" in honor of Zola and Wagner, who declared he had never had such fun.

19 Even the most serious representatives of "official" art often attended the evenings, from Sgambati to Cotogni, Marconi… Mascagni himself was a "follower" of Maldura in his playful activities and when both were in London, invited by Tosti for a concert series, the "Cavalleria Rusticana" author - celebrated around the world - lent himself to accompany him on the piano on various occasions, in the salons of the London aristocracy. See, for example, the chronicles of June the 1st 1893 in the London newspapers "The Star", "Daily Graphic" e "Westminster Gazette".

20 Da "Il Folchetto" - 13 gennaio 1892: "Il Maldura è un organizzatore per eccellenza, nata l'idea, il Maldura è sempre lo strumento più indicato per eseguirla", ("Maldura is an organizer par excellence, when the idea was born, Maldura is always the most suitable tool to perform it").

In 1884 Maldura was therefore a professional and very enterprising musician: in the "Guida Monaci" of that year[21] appeared a paid advertisement in french language, (according to the style of the time), in which he proposed himself as a teacher of mandolin and guitar.

As a great virtuoso and as a person of good technical culture, he had to be enthusiast about the work of his trusted luthier, Giovanni De Santis, and tried to intervene on his instrument to make it more suitable for his musical needs.

The first prototype of a modern Roman Mandolin was thus born, it is still preserved today by his heirs and represented in Maldura's "official" photograph.

Analysing it, we note how it was originally an instrument made by De Santis in 1877 according to the traditional style in those years, to which later both the keyboard and the bridge were replaced, according to the ideas of Maldura. The changes are evident on the neck, (also through a research using UV ray), thinned to accommodate a much thicker keyboard; the internal construction of the instrument is still conceived as that of the De Santis instruments of an earlier period: in fact, the collaboration with Maldura led De Santis to change subsequently also the bars structure, replacing the central reinforcement between the two halves of the soundboard from the lower neck block to the first bar, with a real further bar embedded at the two ends. The same concept - which seems to be of engineering content, almost like a connecting joist - will be found also in the instruments built in the factory, that Maldura opened later on its own.

We do not know the exact year in which these modifications were made on the instrument, but certainly Maldura filed in 1884 a patent relating to these inventions.

The release of the patent had a certain echo in the world of music and also in the newspapers of the time. Maldura himself published a long article on the "Roma Musicale"[22] gazette in which he explained his invention in detail and announced the obtaining of the patent; about this article he also published an extract in the form of a pamphlet.[23]

Its invention is naturally well detailed in the patent description:

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21 Please notice that advertising had to be purchased the previous year.

22 "Roma Musicale - Gazzetta artistica" - year the second n. 3 - 1885

23 G.B. Maldura - Mandolini sistema Maldura di tastiera e ponticello - Rome, National Typography, 1885.

MALDURA KEYBOARD AND BRIDGE SYSTEM
FOR MANDOLINS AND MANDOLAS

DESCRIPTION

The Maldura keyboard and bridge system for mandolins and mandolas differs from the systems adopted so far in the following:
The keyboard instead of being regularly convex as in the Roman Mandolins (Fig. 1), or straight parallel to the piano as in the Neapolitan ones (Fig. 2), is very thick in the bass side, and thinner in the descant side (Fig. 3), forming on the external surface a very slight GH curve leaning towards the descant, which sensitive to the nut, gradually descending towards the treble, turns into an almost straight line, increasingly inclined towards the descant; moreover, the opposite surface of the keyboard itself, and precisely that part AB (Fig. 3 and Fig. 4) which is to be glued on the soundboard, is cut into a vault so that it is in contact with it, only in the lateral parts CD, EF (Fig. 3), instead of fully adhering to the plan as in the other systems.
As a consequence of this modification, the nut has the same shape as the keyboard on the first key (Fig. 3).


MANDOLINI

SISTEMA MALDURA

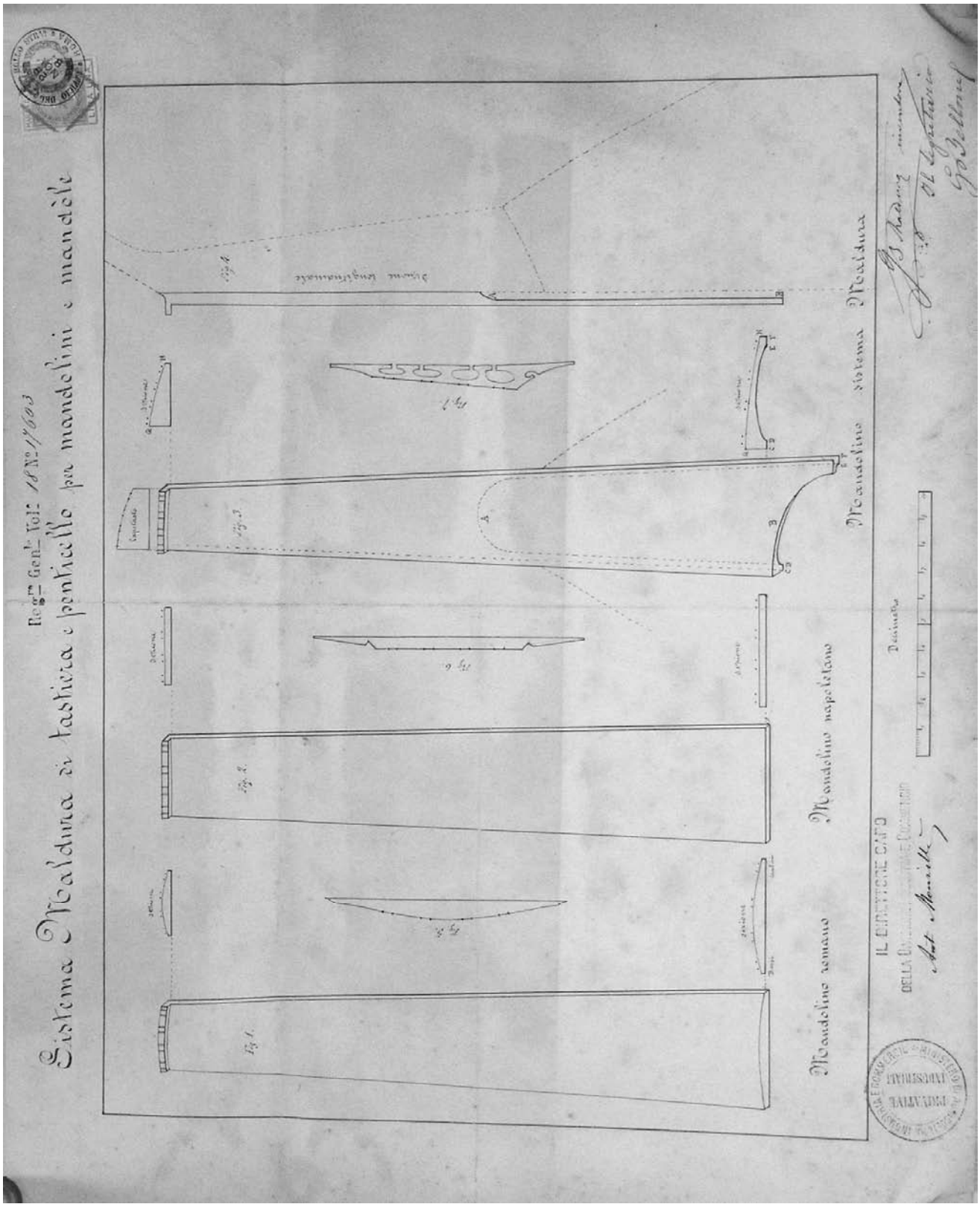
DI TASTIERA E PONTICELLO

ROMA
TIPOGRAFIA NAZIONALE

Even the bridge, instead of being convex as in the Roman Mandolins (Fig. 5), or straight parallel to the plane as in the Neapolitan ones (Fig. 6), is rather straight, but much higher on the bass side and inclined towards the descant (Fig. 7).
In addition to this, the bridge has some cuts in arc shape under each string, unlike the ones built following the other systems.
The advantages of this system are as follows: in the mandolins built to date, a very significant defect was the arrangement of the strings lying on the bridge, which arrangement is quite opposite to the line drawn by the pick in playing, where it happens that the hand, in order to obtain the same intensity of sound from each string, is forced to deviate with effort from the line it normally traces, the closer it gets to the lower strings; and this leads to a great disadvantage of lightness, speed and equality of the tremolo, as well as to the precision in performing agility. It is then evident that due to the laying of the strings on the bridge, especially in the Roman Mandolins, it becomes absolutely impossible to play all four strings simultaneously. Now in the mandolins built with the Maldura system all the mentioned drawbacks are totally eliminated, in fact, by raising the bridge under the low strings, and making it descend in a straight line towards the descant, the position of the strings is much closer to the line normally drawn by the pick. The new shape given to the keyboard and nut (Fig. 3) makes fingering much easier on the left hand, having the lower strings more easily under the fingers.
As regards the improvement of the sound/voice of the instruments built with this system, we want to observe that having distanced the low strings from the soundboard, they have acquired a greater intensity of sound and amplitude of vibrations; moreover, the vaulted shape of the keyboard, which frees up most of the soundboard, and the small arched cuts of the bridge, contribute to the greater development and robustness of the sound/voice.
Everything said for mandolins also applies to mandolas.

G. Maldura inventor

Moreover to the description of the changes applied and their reasons, Maldura therefore confirms that at that time the Roman Mandolins had, as mentioned, a constant curvature keyboard and a bridge curved like the keyboard; these were uncomfortable and inefficient characteristics in his opinion, which in fact led him to propose to replace it with a strongly inclined keyboard on the bass side and with variable radius up to the bridge, where the strings lay on a straight plane.



The obtaining of the patent by the Ministry had a notable echo, also because it became an element to settle an attribution controversy. Here is a passage from a long article published in "L'amico Fritz" of July 31st 1892:

> *"A master attempted to appropriate the merit of innovation by making his pupils make mandolins with the new system that he passed on as his invention. It was then that Nino Maldura asked and obtained the invention patent from the Ministry, and warned the manufacturers from making mandolins with his system, without printing his name inside. It is easy to imagine the poor figure of the pseudo-inventor and the wonder of his pupils, when one of these, who went to pick up a mandolin ordered in those days, found it printed inside: "Maldura system"! ..."*[24]

In a somewhat "gossip" way (which is the tone of the article...), this anecdote could be connected to the statements of Costantino Bertucci, a very successful and influential mandolin player at the time,[25] who already claims in his Mandolin Method[26] - and then in a subsequent article published in his honor many years later[27] - the merit of having innovated the Roman Mandolin. The introduction to the second part of his method is transcribed below:

New changes introduced in the construction of the mandolin.

After several years of assiduous and accurate studies carried out on the mandolin, I hope to have brought it to the greatest perfection of which it is considered susceptible, through substantial and very useful modifications introduced, it can be said, in all its smallest parts and which I have minutely exposed below, which are currently found in the mentioned instrument compared to the ancient one.

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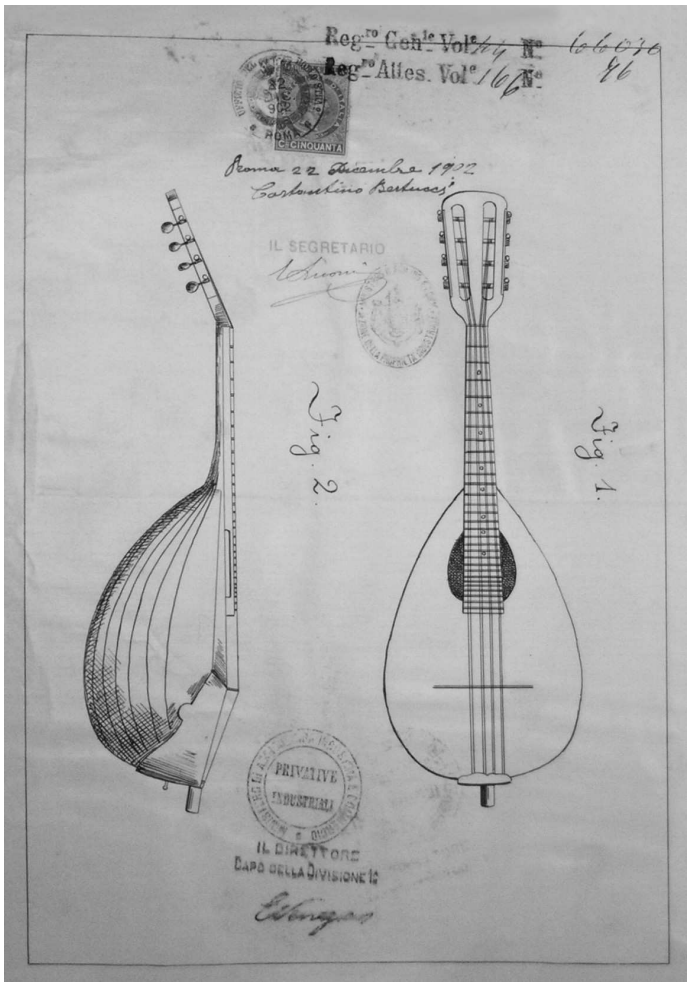
24 In the same article, which traces the career of Maldura, there is the information that he had the first lessons from an amateur, "such De Rossi sculptor", then he went on to teach himself, studied harmony and composition in S. Cecilia - studies of which exist some documents in archive, and that "at fifteen he was already giving lessons".

25 Costantino Bertucci was born in 1841 in Rome and at a very young age he obtained a great success as a mandolin player, which led him to give famous concerts in the most important halls and courts, first of all that of Queen Margherita - a breeder of the instrument – to whom it is said that Bertucci was also the teacher. Bertucci can therefore be considered a professional mandolinist from the late 50s.

26 Regarding the mandolin method, the reference that it would have been published by Ricordi in 1885 can be found in many bibliographic lists (eg Jannssen, UTET). However, in the general Ricordi catalog it only exists as an 1899's publication - catalog numbers 102731-32-33 - and it appears to be a 4th edition. On the indication of Dr. Ferraris of the Ricordi Archive, it was ascertained that Bertucci's autograph did not exist; in the register of manuscripts it appears as "Bartolo printing plates, Rome/ Italian and french text/ 4th edition/ 22.07.1899". The indication "Bartolo di Roma" could therefore refer to the Publisher who published the first three editions, precisely the "Establishment of Music Bartolo" in Rome. Bartolo was found to be a piano and various instrument dealer, and at the time it was not uncommon for anyone who had a musical instrument shop, to publish music and music magazines. At the moment we have not yet been able to identify any copy of the first edition of the manual, to be able to verify the date of first publication, but recently we have been submitted a copy of the second edition - unfortunately without date - which shows a drawing of the renewed mandolin, still with "Roman" pegs and the typical "old-fashioned" design of the headstock, certainly in use at least until the end of the 1880s.

27 "Il nuovo giornale musicale" - Rome, year 1, N.1, october 1923. In this article it is said that Bertucci's method was printed in 1885 by Ricordi and perhaps the subsequent bibliographical references refer to this.

Strings. - The first and oldest modifications concerns the strings, where in ancient times the basses strings were formed by a steel one and another one in gut wound by a silver copper wire, which was only usable if played empty and impractical to produce other notes.
To eliminate this inconvenience, I adopted basses strings made of steel and wound by a copper wire, which make - in all their own notes - a sweet and homogeneous sound. Such are those that are used in the present.
Neck. - Made this first step, welcomed with unanimous favor by scholars, I thought about modifying the neck. In fact, in ancient times it had a very wide shape at the beginning of the fretboard and extended with quite equal width up to the case, forcing the strings too close together. Therefore, the neck was given a more elegant and more advantageous shape to play, narrowing it at the beginning and gradually widening it to the end.
Fretboard. - The fretboard was a small surface placed on the neck, that joined at the end with the soundboard, which had several drawbacks: it made the neck weak, which easily bended, thus shifting the structure of the instrument and therefore making fingering difficult; allowing a very limited number of frets and therefore a lower extension of notes, much lower than the other instruments; finally, the strings too close to the soundboard, produced a very weak sound and the pick made an unbearable noise. I then thought of building a fretboard that would overlap the neck and give the neck such a force that it would actually unbendable. In this way, the fretboard that previously extended from the neck in a more aesthetic way, than of real use, I led it to A, then to C, then to E descant, and this new convex or round keyboard, accepted by all, is also used in the present time. However, given that progress never stops, I realized that the mentioned fretboard could still be improved to the greater advantage of the whole instrument. In fact, I thought of building a fretboard that was flat and thick as the thickness of the medium part of the ancient keyboard, bringing it to the bottom of the sound hole, thus obtaining the A more acute.
This is why the most difficult Concerts, written for Violin by the most renowned masters, can now be performed in mandolin. Another point is that the strings, being at a more natural distance from the soundboard, give a sweeter, stronger, robust and more pleasant sound to the ear. Finally, with the flat keyboard detected, the left-hand fingering is easier, which having the strings more flexible under the fingers, finds the notes easily and with more agility.
Bridge. - Consequently, the bridge was also widened, obtaining various advantages: 1st. That the strings can be set at a distance from each other, thus making it very difficult the pick to hit the strings close to those played. 2nd. That the wider bridge, covering a larger surface, ensures the soundboard not to collapse, and lowers under the weight of the bridge itself and due to the tension of the strings, as unfortunately occurred with the previous method. 3rd. That the bridge being built, considering the thickness of the strings, higher on the bass side and gradually decreasing to the thinner strings (and this because the thicker strings need more space to vibrate), makes the tremolo sure of ease, allowing, those who play with this oblique string arrangement, to hit easily the lower string.
Soundboard. - With the construction of this new keyboard, which reaches the extreme lower limit of the hole and preserves intact the part of wood that is under it, the soundboard doesn't bend in the weak empty areas, as until now unfortunately occurred. The patch that made the soundboard very weak and not so harmonious has been reduced to a third of the previous size, keeping it only in the part where the soundboard could be ruined by the pick. In this way, a greater quantity of wood is preserved, avoiding to weaken excessively the soundboard and thus obtaining greater strength and sonority.



Cash desk. - In order to facilitate the left hand to reach the bottom of the fretboard, which - as already mentioned - has been extended to the bottom of the hole, the case at the junction with the neck has been slightly modified, making it more elegant, but without decreasing its sounds. Since there was nothing, at the fixing of the strings, to protect the arm from the scratches, I had built a metal plate.
Pick. - I have recently invented a new model of turtle pick, which due to its shape is easy to hold between the fingers. It produces a pleasant sound, takes out the notes with great strength, agility and lightness. In this way, the turkey-pen plectrum which, besides making the pressure on the strings hear too much, was also weak and easy to break, has been given up. This new pick is also different from the other turtle one - already rarely used - which was impracticable due to its bad model.

If what was previously assumed is true, that is, that until the half of 1800 the mandolin in Rome was still showing the influences of the 18th century typology, Bertucci's statements seem to be aimed more than anything else at the claim of merit, of having imposed a “modern” style and a technique of the instrument, perhaps on the wave of the success of the Neapolitan Mandolin and the profound innovations of the Vinaccia brothers. But all this naturally it’s pure speculation. Still remaining in the field of hypotheses, we can imagine an understandable form of “jealousy” towards the great awards obtained by Maldura and his invention, which Bertucci probably considered minor compared to much more radical “revolutions” that he claims to have introduced. It should be noted that Bertucci considers as his own final improvement, the introduction of the flat keyboard (opposed to the rounded one), increased in thickness and extended - first up to the 24th and then the 29th fret - leaving intact the portion of the soundboard that crosses the hole under the keyboard.[28]

The keyboard will be further modified in the patent filed by him in 1903, in a first version (see the picture of an instrument made by Troiani on Bertucci's patent) and then refined in a subsequent 1923 patent. In both cases the heart of the patent consists in distancing the keyboard from the soundboard.

Speaking about the bridge, Bertucci incidentally points out that in his idea it is higher on the bass side - but only due to the need to raise the strings more on this side, in order to prevent

[28] An interesting Embergher instrument from 1894 has recently been submitted to us, which has on its label the note "Prof. C. Bertucci System" and which appears substantially identical to the usual Embergher Models of those years, but has the particularity of having, in fact, the flat keyboard (as well as an exceptionally short scale).

them from "frying", having themselves a greater vibration cone - almost as to recall a primogeniture regarding to Maldura's idea of tilting it strongly. If the influence that Bertucci had in driving the Roman Mandolin to the direction of radical nineteenth-century innovations compared to the Baroque version (strings, neck and body) is plausible, the two patents by him appear rather unrealistic:

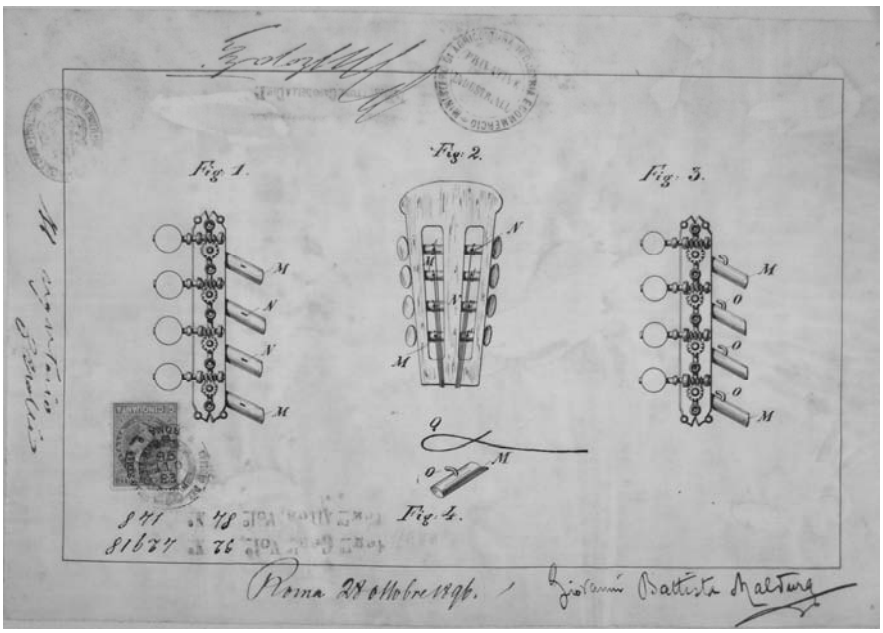
- it does not appear that these instruments were built in quantity, nor that they had a common use;
- the patents are both very late, compared to the evolution that the instrument had in those years;
- the same idea of raising the keyboard in order to release it from the soundboard, appeared in the Maldura patent - which perhaps was inspired by the violin keyboards, carved in the lower part, but for a completely different reason - and was then patented by Embergher as early as 1897. Moreover, apart from the practice of digging the portion of the keyboard in contact with the soundboard introduced by Maldura and fully consolidated in the Roman instruments up to the last epigones of Embergher, every other experiment of raising the keyboard had no success or lasting follow-up.

Troiani mandolin on Bertucci patent. Opposite page: Bertucci patent 1903.

Back to Maldura, the keystone of these events until the end of the century,[29] he registered three other patents:

- on 28th October 1896 he filed a patent regarding the application of a little hook in place of the hole in the pin of the mandolin mechanics. This is a very frequent peculiarity in Roman instruments and which, as we shall see, is also claimed by Embergher.

[29] Maldura died in 1905, at 46, (according to the memory of the family, verbally reported to me), marked by the pain of the loss of his young wife Maddalena, who died in childbirth in 1900.



- In 1900 he patented the use of compensating each individual string on the bridge in a different way, depending on the density of the strings themselves. Even if it seems difficult to consider this patent an original idea by him, (different forms of compensation were probably already in use by the most expert luthiers), however is interesting the accuracy and the substantial scientific correctness of the considerations reported in it by Maldura. This is far from obvious for that time, because - relating to this point of view - the luthiers certainly had a very inaccurate approach; just think that only a few months before (on the 5th February 1900) Eliseo Secchi filed a patent, which starting more or less from the same assumptions, however, was based on an analysis that he defined strictly scientific, but which today appears at least coarse. Maldura boasted about his skills and his technical-scientific culture. In the advertisement of the company he founded in the last years of the century, for example, he declared: "every instrument is guaranteed mathematically perfect in intonation".[30]

- Finally, in 1901, he patented a new type of mandolin tailpiece.

[30] In reality, the division of the keyboards of Maldura - like those of Embergher and the other major builders of the time - did not respect the correct mathematical division, although they were perfectly in tune with the musicians' ears. This is a very interesting topic, but which cannot find space here ... Maldura in his own advertising also declares that his factory is "the only factory that builds all parts of the Instruments in its workshops".

It has been said that Embergher patented a type of mechanics rather similar to that claimed by Maldura. In the prevailing opinion so far established and also in some publications of that time (or immediately thereafter), is confirmed the belief that it was Embergher who proposed the new set-up of the Roman Mandolin with the inclined keyboard and with the pierced bridge. Ranieri himself seems to attribute the invention to De Santis and Embergher, citing Maldura only as an undisputed virtuous.[31] Actually, Ranieri expresses himself in a general way: being an unconditional admirer of Embergher's work, he mentions him as the one who brought the Roman Mandolin to the highest level of perfection.

There is no denying that Embergher was the manufacturer who contributed the most to the mandolin international success, both for having produced plenty of remarkable instruments for a considerable number of years,[32] but also for the continuous research and evolution that he applied to his work. He had the merit for many important ideas, both of an aesthetic nature, such as the use of the sickle-shaped peg box- which takes up the most ancient Roman tradition - but also other more general ideas: for example, the first productions of Mandoliole and Mandoloncelli, but also the one of the Liuto Cantabile (although in reality there are very few examples of this type of instrument attributable to him), are claimed by Embergher,[33] in order to reproduce in the mandolin family the same sizes of the violin family. This innovation favored the development of plectrum orchestras. His instruments are still highly sought after by concert artists from all over the world.

The topic concerning the invention of the mandoloncello and mandoliola has never been fully investigated, the fact remains that it is somehow - more or less explicit - claimed by various luthiers including Maldura. What is certain is that Embergher presents his quartet composed of the two instruments together with two mandolins, in Vienna in 1897, and subsequently in 1898 a famous presentation concert is held in Rome, with the participation of the mandolin player Tartaglia, whose chronicles are abundantly reported. Maldura will instead bring his quartet to Paris only in 1900. However, in an article published on February the 25th, 1894 in the "Sunday Herald" of Boston, the "Plectrum Quartet" was cited, in imitation of the arched quartet, among the inventions of Maldura.[34]

As already mentioned, Embergher began to produce instruments with a configuration very similar to that proposed by Maldura, only a few years after the invention. There is a good chance to be some rivalry between the two, as Embergher quickly established himself commercially. The only direct evidence of this competition, (never evidently transcended), appears from the patent filed by Embergher:

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31 Silvio Ranieri "La Mandoline" in : A. Lavignac, L. de la Laurencie – "Encyclopédie de la musique et Dictionnaire du Conservatoire ", deuxième partie - Librairie Delagrave, Paris 1927.

32 Embergher died in 1943, but his brand continued to exist even after his death by Domenico Cerrone and later by his son Giannino.

33 In reality, also Maldura seems to want to take credit for it. However, the debut - certified to date - of these instruments, dates back to the famous concert of the "Classic Embergher System Quartet" in 1897, also mentioned by Ranieri in the publication already reported here (see note N. 31). The history of these instruments, and in particular their birth, deserves in-depth studies and research, which to date, however, has not been published.

34 The history of these instruments, and in particular their birth, deserves in-depth studies and research, which to date, however, has not been published.

MANDOLIN IMPROVEMENT

Two are the refinements that I made to the mandolin. The first concerns the mechanics, the second is about the keyboard. I will speak briefly about both.
Mechanics improvement. In all mandolins, the mechanic is made up of a small metal reel (A fig. I) into which one end of the string is introduced in order to be wound around it.
However, this mechanism has some drawbacks. First of all, it takes a long time to remove and to fit a string; secondly, the ends of these steel strings, which are free out of the hole of the reel, can easily prick your fingers, and these stings can sometimes prevent the free movement of the fingers when playing the instrument.
It is not uncommon that the ends of the strings damage clothes. Finally, the strings are subject to breaking easily, at the point where the hole (B fig. I) of the reel bends them at an angle (see E fig. I).
Because of these drawbacks, I thought of perfecting the mechanics, so that they could be avoided, and since 1893 I found that, by replacing the hole (B fig I) of the reel with a little hook (C fig. I) these drawbacks will no longer exist.
In fact, to remove a string just turn the reel (A fig. I), and the little hook just leaves the string by itself, and to fit it with ease, simply hold the string, having prepared it previously with an eyelet at the end (See D fig. I).
Finally, the strings cannot be broken at point E (fig. I), the point of contact with the reel A where the strings were folded at an angle, because now the string rests inside the little hook which is round. The hook is fixed to the reel with a screw.
Keyboard improvement. Another refinement is the one applied to the keyboard. It consists of this: While in common mandolins the keyboard (T fig. I and II) is attached to the neck (G fig. I and II), to the soundboard (H fig. I and II) and to the hole, I fixed it to the neck and distanced it from the hole, on which it rests only in three support points M, N, O (fig. I, II and III). The utility that comes with it is that:
1° Having to repair an instrument, the keyboard can be detached more easily, without the hole suffering any damage, while if the keyboard was also fixed to the hole, detaching it would it be a "work of fool", but the fibers of the hole could suffer from a damage.
2° Since the neck often moves - which happens continuously due to the tension of the strings - the fretboard can be set up in position, that is it can be levelled with maximum ease, without detaching it from the neck, but simply by tightening and releasing the three contact-points M. N. O. when needed.
This possibility of raising and lowering the keyboard is also useful because, if the keyboard is too far from the strings, (in the part raised from the hole), they need to be pressed hard to make them touch the frets, emitting out of tune and muffled notes, as well as if on the contrary, if the fretboard is too close to the strings, they "fry" on the frets, producing an unpleasant sound.
So, these drawbacks are completely eliminated being able to adjust the distance between the fretboard and the strings.
The mechanism that allows you to adjust this distance is very simple. A lever screw (see fig. IIII) is stuck to the keyboard (but it can turn freely) at each point of support; the screw head is square and not round, which allows it to be turned with a small key at points P (fig. III and IIII) and is placed at the keyboard level. A small nut R (fig.IIII) fixes it to the soundboard H (fig. IIII) and to the hole, allowing the keyboard to be tightened or released from the strings, by turning the screw.

3° Finally the sound is considerably strengthened, for the reason that sound waves can move on the soundboard more freely, as there is no longer a heterogeneous body adhering to it, but only three small points of support.
The improvement of the keyboard was conceived, or rather, applied since October 1896.
I request the patent certificate about these two improvements.

Rome, January 23rd 1897 Luigi Embergher

With this patent Embergher claims in fact the birthright of the mechanics invention - whose design was deposited by Maldura just three months before - inserting in the description the temporal indication (*"... and since 1893 I found that ..."*), regarding which, one cannot avoid thinking that it was aimed at disavowing the Maldura patent.

It is fair to note, that if this were the case - more than probably - both patents are actually invalid because they both lack the novelty feature: the one of Maldura because it exploits the idea of others already put into production, and the Embergher one because he brought his idea into the public before patenting it ...

In the same document Embergher patents - as anticipated by Bertucci - a system where the keyboard is raised from the soundboard and adjustable. There are few examples of his instruments preserved made in this way: the system, like Bertucci's, was not useful.

Maldura's collaboration with De Santis ceased towards the end of the century. We can follow the evolution in their relationships from the labels fixed into the instruments: first De Santis inserts the wording "*Maldura system, patented keyboard and bridge*", around 1894 the same labels appear, but with this wording visibly erased and then with the writing "*with its own refined system*".

Giovanni De Santis was a "*very honest and hardworking man, however scarce of literary culture*", so he is described by the director of the Academy of S. Cecilia in 1886,[35] in a correspondence addressed to the Minister of Education, who asked him to obtain information on the person, in view of the granting of the title of "*Cavalierato della Real Casa*", requested by De Santis himself (and then granted).[36]

At the beginning his activity was directed mainly to the construction, repair and sale of pianos and harps; after the success of his instruments with the Maldura System - which also obtained several important awards on the occasion of Expositions[37] - the construction of

35 Archivio di S. Cecilia, Archivio postunitario - Carteggio - Anno 1885 - 17 "Consulenza" - Corda 4 - Titolo 17. 11. - Busta Anno 1885 n. 16-34.

36 In fact, the title of "Knight", "Cav. Gio. De Santis" appears on his labels. The same honor was also obtained by Luigi Embergher, who also was a proud holder of it, on his labels.

37 About the first Exhibitions in 1884 in Turin and in 1885 in Paris, there was also a certain echo in the press, probably also thanks to the initiative of Maldura, collaborator of some newspapers and well introduced to the

mandolins acquired a lot of importance for him, as it appears in his insertions on the "Guida Monaci", initially centered on the pianos and then hit on mandolins.

If, as it seems, it was confirmed that the date of 1894 marks the beginning of the cancellation of the name of Maldura from the De Santis labels, it coincides with the expiration of the ten years from the presentation of the patent, which becomes therefore ineffective. In the meantime, De Santis has already made some changes to the original structure: the overlapping neck and keyboard, which in the first examples are very thick, then settle at a more "slender" dimension; but above all the bridge, first made with the holes cut up to the base (more or less like a violin ...), it begins to have just some oval holes in correspondence with the strings, but with a solid base. This is also the system used by Embergher in the early years, (later replaced by the bridge without holes and with the "gull-wing" cut).

The fact is that the collaboration between the two evidently stops around 1894 and at this point Maldura decides to open his own factory (in the meantime, Embergher and several other manufacturers have already appeared, following his method in a more or less faithful way).

We do not know exactly when the factory started the production, but certainly in 1898 it is mentioned in the "Guida Monaci",[38] first on behalf of his brother Filippo and - from the following year - of himself, Giovanni Battista and based in P.zza S. Francesco a Ripa, 75.

Moreover, Maldura took care to officially register the trademark on 1896 August the 7th, and in the same year filed its main patent also abroad (at least in the USA, France, Great Britain and Germany).

Everything therefore suggests that the activity began regularly between 1897 and 1898.[39]

Maldura's instruments are of extremely refined construction[40] and he will reach the peak of his success in 1900, when he obtained the gold medal at the Grand Universal Exhibition in Paris, winning the competition of the major builders of the time: from Embergher to Calace and to

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cultural environments of the Capital. See for example: "Capitan Fracassa" - November the 24th 1885; "La rassegna" - November the 29th, 1885; "Cronaca bizantina" - November the 29th, 1885; "Roma antologia" - December the 19th, 1885. Furthermore, in these exhibitions De Santis also proposed his pianos, which certainly did not achieve a great success, at least judging by the not very flattering comments, that appeared in the "Gazzetta del Popolo della Domenica" of July the 6th and July the 20th, 1884 signed by "Il pianista".

38 We recall that the detection of the activities was carried out the previous year, therefore we can assume that the Company was active since at least 1897.

39 In the author's collection, however, there is a Maldura "Model E" mandolin from 1898.

40 Unfortunately, we were unable to identify anyone of the factory workers, excluding that Maldura could never and wanted to build the tools directly, but they were certainly very skilled and capable workers.

Vinaccia . In the jury's report,[41] very flattering words are spent on his instruments and Maldura will apply on the instruments present in Paris an additional label that celebrates the obtained prize.

His activity stopped, as mentioned, dramatically when he died in 1905.[42] In the short period of activity, the instruments produced were certainly not a great number; according to Maldura,[43] they were mainly sold abroad, perhaps also by virtue of his frequent tours. Certainly, therefore, these are not the instruments that mainly formed the reputation of the Roman Mandolin, but the figure of Maldura - now almost forgotten - has with equal certainty contributed at least to its birth and affirmation.[44]

41 Exposition Universelle Internationale de 1900 à Paris - Rapports du Juri international - Groupe III - Paris, Imprimerie Nationale MCMII.

42 We happened to see more than one mandolin evidently produced in his factory, with a certificate of authenticity and with an apparently autographed signature, dated much after his death ... It is therefore probable that he had left some instruments and certificates, completed later or by his heirs or by those who took over his business. In this regard, a shape and some decorative details are preserved in the Embergher Museum which can perhaps be attributed to the Maldura workshop.

43 Cf. "Caffaro" – January the 29th and the 30th 1899

44 A monographic essay in collaboration with Donatella Melini is published on the figure and the work of Maldura, much more articulated than what is reported here.