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THE "IBARRA" GAS EXTRACTION SYSTEM

Once a Lefauchaux revolver was fired, the empty shells had to be ejected one by one from the cylinder, by using the manual ejection rod; Other revolvers, such as the "Galand", "Tackels", "Spirlet", "Smith & Wesson Model 3", etc, used automatic but mechanical, extraction systems.

The Artillery Officer, Luis Ibarra, invented a system of automatic extraction that did not require any mechanical device and, on December, 2, 1876, applied for a "privilege of invention" for a revolver in which "the extraction is achieved utilizing part of the expansive force of the gases created by combustion of the powder, which, at the same time that it propels the projectile also acts on the base of the empty shell casing ejecting it from its chamber, which is then freed for the introduction of another cartridge".

Ibarra hoped to revolutionize the use of the revolver by his system which made a constant reloading possible, shot by shot, allowing the shooter to keep it loaded with as many cartridges as there were chambers in the cylinder, minus one, occupied by the last shot's empty shell casing, which would be expelled upon the next shot being fired; In addition, the most valuable aspect of the system was the economy of being able to dispense with an expensive mechanical ejection device.

Immediately, Ibarra offered his system to the Superior Artillery Board which, on March, 3, 1877, reported on its successful tests in a Smith & Wesson revolver, and informed Ibarra that if he undertook the manufacture of the revolvers on his own, using this gas extraction system and "with the same ballistic conditions as those of the Smith system", they would be studied, in order to be able to recommend them for the use of Chiefs and Officers, just as the Smith & Wesson had been recommended on November, 11, 1874.



Specimen of a "Smith" revolver with the Ibarra gas extraction system. Item number 24675 of the Army Museum's Collection; The location of the system on the right side identifies it as the one tested by the Superior Artillery Board in 1877; The extractor rod was for ejecting the last empty shell casing, once all the cartridges in the cylinder had been expended.

Ibarra accepted this proposal and, on April, 30, 1877, the Board reported on two revolvers provided by him, both of the Smith & Wesson system: "modified in the manner

described by Mr. Ibarra in his presentation, which consisted of applying to them the system of extraction by means of the gases produced by the discharge, and changing the rotation of the cylinder from right to left so that, on sustained fire it will not be necessary to change hands in order to load the weapon, such as happened with the first revolver that was examined by this Junta where the insertion of the cartridges and the extraction of the empty shell casings was effected on the right side”.

The report concluded that this revolver was superior to the regulation Lefauchaux and recommended that Ibarra be consulted as to under what conditions, “if it were to be definitely adapted to any of the revolvers then being made at the Oviedo Factory”, he would yield his system and forward his presentation, the drawings, and the two revolvers provided by him, to the Factory “so they may there be tested side by side with those of the modified Lefauchaux system now being tested”, and also forward the cartridges to the Seville Pyrotechnics Factory so that “the probable cost of their manufacture” be there studied.

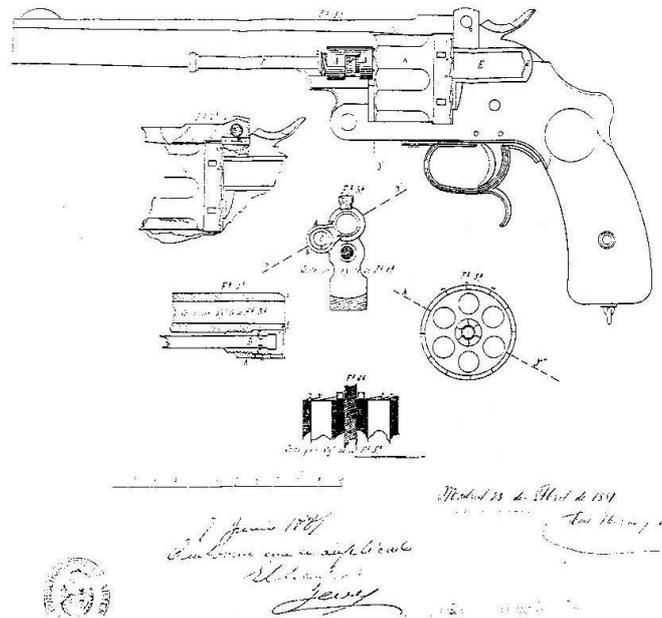
On April, 23, 1878, Ibarra patented his system in the “Republic of the United States of America”, applying his system to a Smith & Wesson revolver of the same characteristics as the two sent to the Superior Artillery Board, and, on March, 18, 1880, a Royal Order authorized Chiefs and Officers of the Army “ who by regulation used a revolver, whether Smith or Lefauchaux, to adopt the Ibarra gas extraction system, but without this modification being compulsory”...an veritable pie in the sky.



Md. 1863 Lefauchaux revolver, serial number 8,436, marked “OVIEDO 1874”, modified with the Ibarra gas extraction system; Item number 5798 of the Army Museum Collection.

Ibarra was hopeful of having his gas extraction system adopted as regulation and, in 1881, after requesting an extension of his “privilege of invention”, which was about to expire, he opted for registering in Spain his North American patent of 1878.

There was an example of this model illustrated in the Eibar Gunsmithing Museum School’s 1914 Catalogue which remarked that 25 units had been produced in .450 caliber, in 1880, by “Orbea Hermanos”; In my opinion Ibarra contracted their production before this date, and the two delivered to the Superior Artillery Junta for testing, and reported on in 1877, belonged to this small series.



Blueprint of the Ibarra gas extraction system as included in the inventor's 1881 patent application



"Smith" revolver marked "PRIVILEGIO / IBARRA" with gas extraction system, "privileged" by Luis Ibarra; Variant patented in North America in 1878 and in Spain in 1881. (Photo Rolf H. Müller)

Artillery Lieutenant Luis Ibarra Cortazar, born in Placencia in 1851, was the son of the arms maker Jose Ignacio de Ibarra Iribecampos; He joined the Carlist ranks during the 1872-76 civil war, and was assigned to the ammunition factory in Vera, Navarre; In 1880 he was commissioned a Lieutenant and destined to the 1st Battalion, 3rd Foot Artillery Regiment, where he spent slightly more than a month until his transfer to Puerto Rico, as an Army Captain, was granted.

He stayed in Puerto Rico from May, 1881 until May, 1884 when, due to illness he was given a four month leave of absence in Placencia; In that same year of 1884 he had been named Artillery Captain of the Overseas Army, due to a vacancy opening up, and additionally he was given "the rank of Army Major for his invention of automatic extraction by means of powder gases in portable weapons with rotary chambers".

Once his leave of absence, plus a two month extension, expired, he did not return to Puerto Rico and was discharged from the Island's Army; He alleged a poor state of health and requested instead readmission to the Peninsular Army with the same ranks of Lieutenant of Artillery and Captain of the Army that he had when he arrived in Puerto Rico; His request was approved and he was assigned to the 3rd Mountain Regiment but, remained ill in Placencia and, in January 1885 he was classified as a replacement for a period of one year; That same year he was promoted to Captain of Artillery and in March, 1886 was assigned to the 6th Reserve and Depot Regiment which he should have joined in April; However there is no evidence that he did so as his service record ends at this point.