

Third chapter

*Hunting guns
from continental Europe*



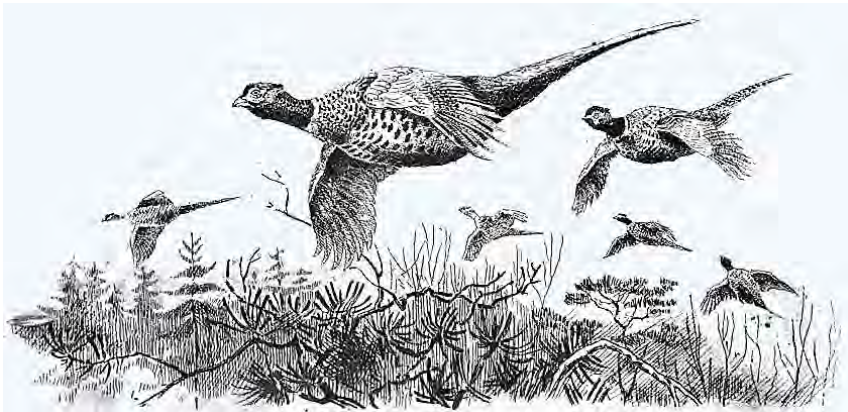
Paolo Tebaldi, January 2019



*From J. Von Dreyse
to Rodolfo Cosmi*

After talking about the main works made by French gunmakers in the first half of XIX century, they invented the breech loading side by side, and about the work of English gunmakers, they made it perfect, it's now time to discuss about that part of the continental production that is different from the English one. The main theme of this brief work is (would be) the evolution of the mechanics of the hunting gun, from this point of view most of the continental guns are "alike" to the ones made, by others, fifty years earlier. Guns made in central Europe are different, as the hunting practices are different from the UK's ones; different paths were followed by the French tradition and something particular has been made by the Belgian school and by the Italian one.

Until 1930s some continental gunmakers were not less skilled than the most talented in the UK. Since that time the Browning' Automatic and the O/Us made by Merkel, Beretta and the B25, indicated a new way to produce for a world that was changing, thus they marked the extinction of the craftsman gunmaker.



Johann N.
von Dreyse

Johann Nikolaus von Dreyse



Dreyse was a Pauly' student from 1808 to 1814. Around 1828, once back in Sommerda, he designed a cartridge that had the primer between the shot and the gunpowder.

Around 1838 the gun able to shoot this cartridge was ready, a bolt-action with a needle that hit the primer only after crossing the gunpowder.

It became famous after the 1864 war against Denmark, which was won within a few weeks; no more covered by military secrecy it became the ancestor of all the bolt-action guns, both military and game guns, such as the one shown beside.

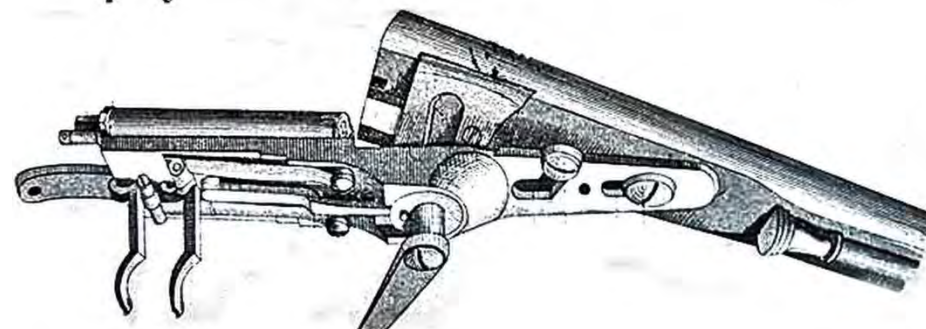
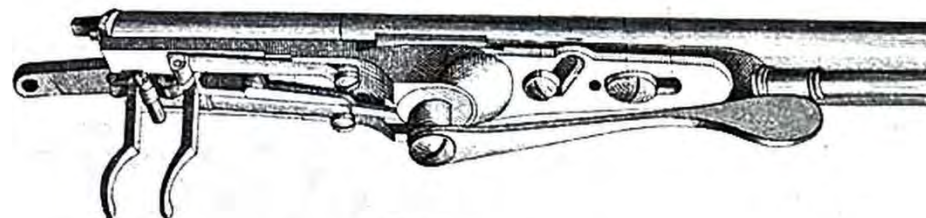


Johann Nikolaus von Dreyse



In the second half of the XIX century the Von Dreyse' gun was developed also in the side by side version. Initially in the needle version, then with shorter strikers to follow the evolution of the cartridge. There was also the pinfire version, always with the same uncomfortable opening system. By the end of the century the Dreyse' lock was also used on double barrellled over and under guns.

The illustrations show the typical version, where the underlever, pushed counterclockwise, cocks the strikers, moves the barrels forward and then rotates them.



*Manufrance
Idéal
As de Pique*



V22



France, 1880s. Manufrance decides to produce a side by side to be “le plus parfait et le plus beau fusil du monde”. It is an arduous task: the fine European side by side has already reached that evolution level beyond which is hard to go. The sidelock gun can’t be made differently, the Anson & Deeley is a reality, the locks on the triggers’ plate are well-working.

The Ideal doesn’t belong to these categories, it has internal locks but is not an A&D, the triggers plate only supports the main and the safety sears.

One of the main features of its unique design is due to the decision, taken against every rule, to use different supports for the tumblers-strikers and for the sears. The first ones are inside the body, while the sears are on the triggers’ plate.

The union of the parts is granted by three screws, two of them are finely adjusted to every single gun. Madness? Maybe. The fact remains that it works great and is masterfully crafted.

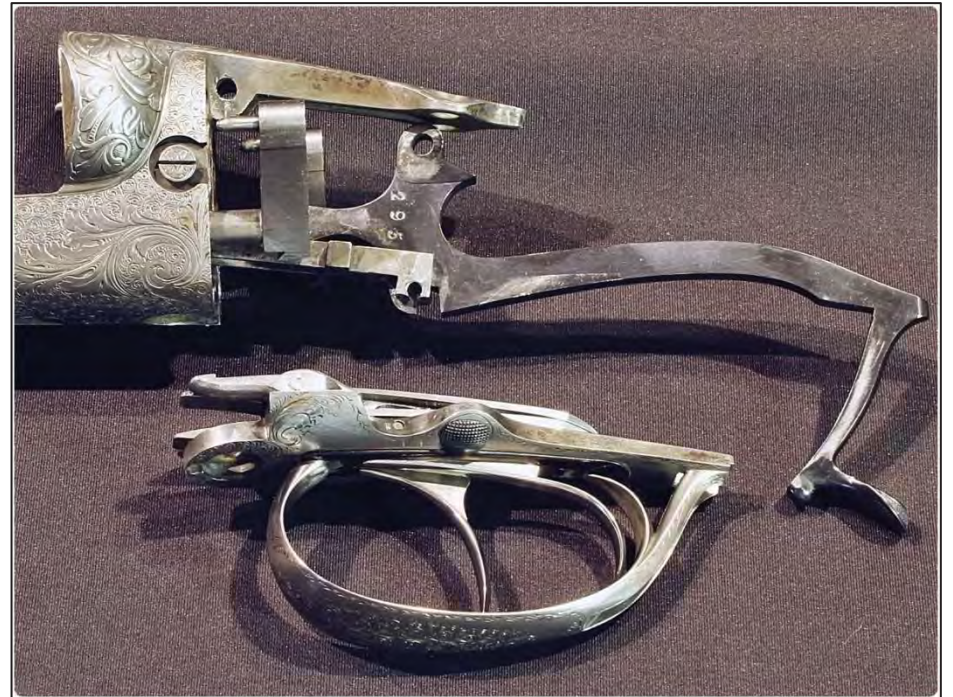
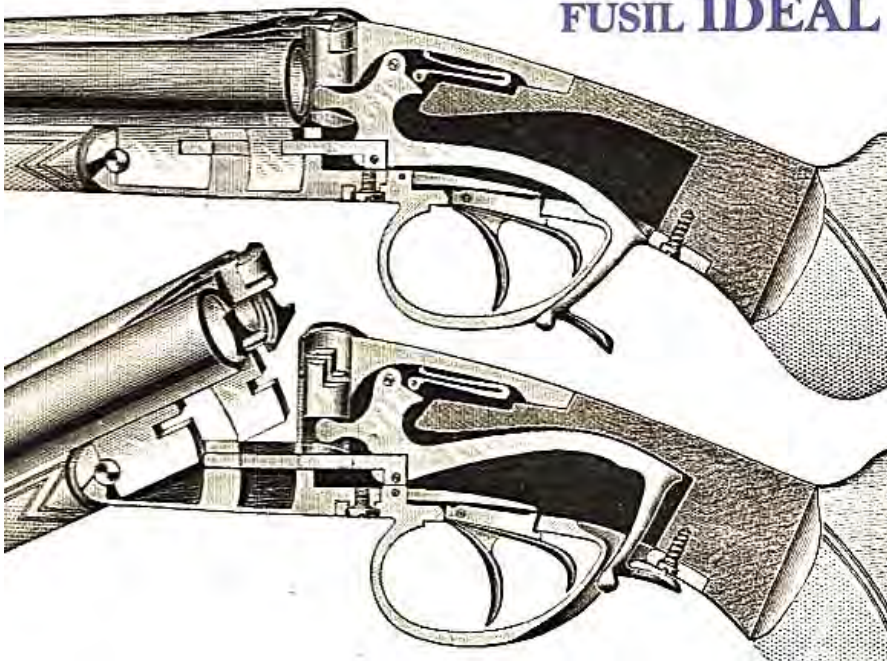
The ability of the skilled gunmaker is clearly shown by the execution and the finishing of every single part.

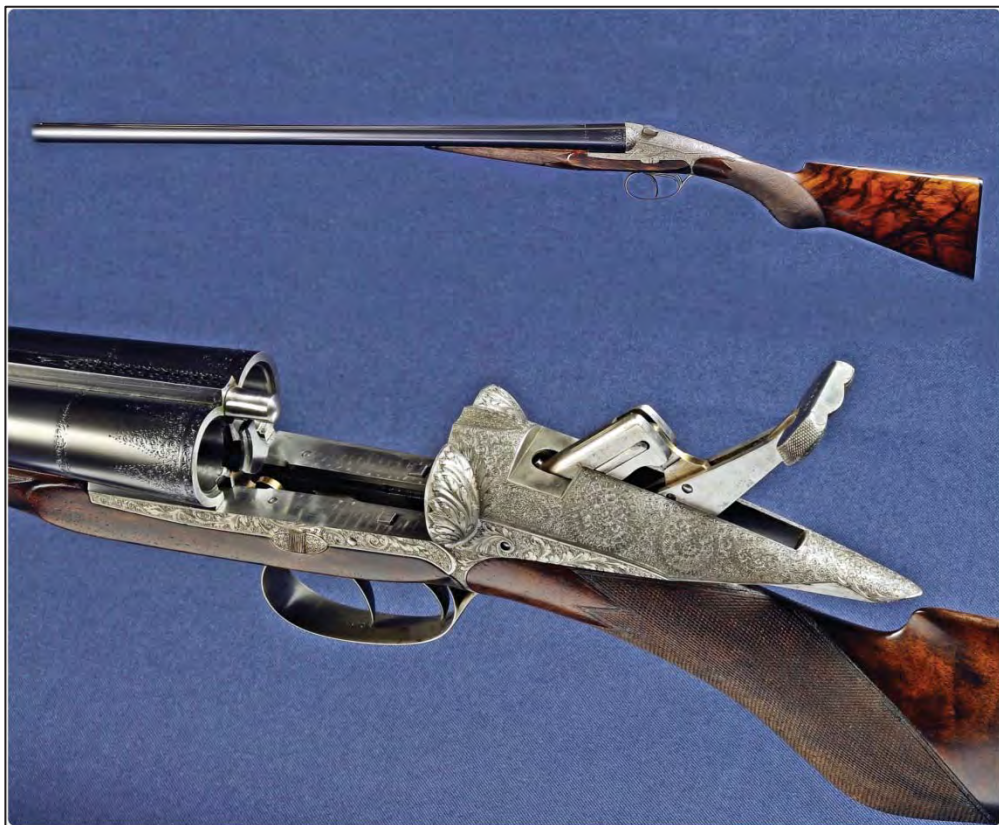
Chopper lump barrels, thin ribs, poli en long drilling (in the manner of Kilby?), effective third locking, careful adjustment.

The operation of the gun states the faith in the renewed engineering science. The lever cocks the strikers and pull back the two bolts. The barrels break down with gravity. The coil mainsprings work hidden inside the action, thus passing from horrible thing to reassuring thing.



FUSIL IDÉAL





This gun relates back to the French tradition, which created breech-loading guns with fixed barrels and mobile shutter. The first Pauly' side by side, then the ones made by his learners, finally the one by Robert, which cocked the tumblers while opening the breech.

In the light of those experiences, this Darne, produced since 1893, has the barrels jointed to the action flats, The breech slides on horizontal guides, instead of overturning as the previous model made by this gunmaker.

A lever controls the opening, closing and cocking. The handling is not the usual one and some practice is needed. Well made, light, with a fine French taste, a lot of wood with harmonious shapes, it seems simple but it isn't, also able to turn the monobloc into a whim.

It is an unique work in the late XIX century European landscape.

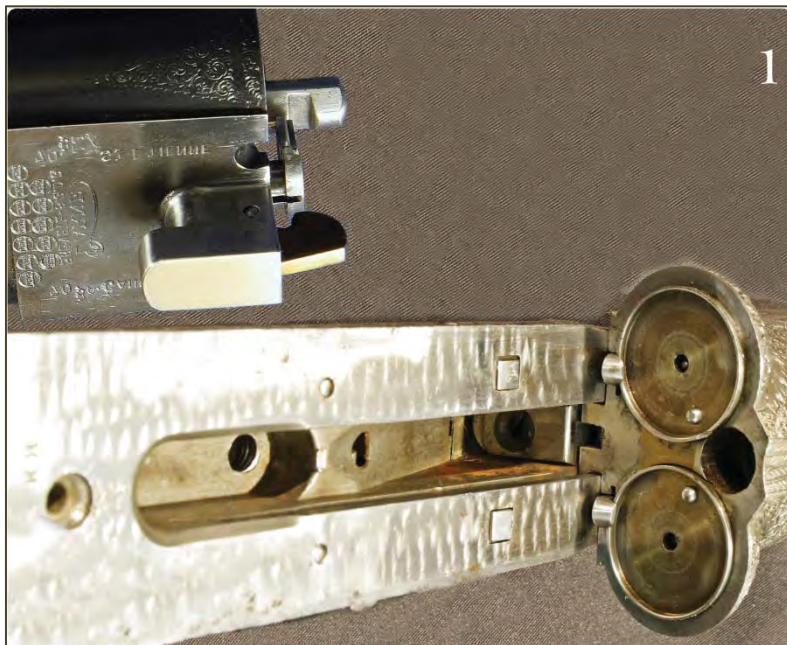
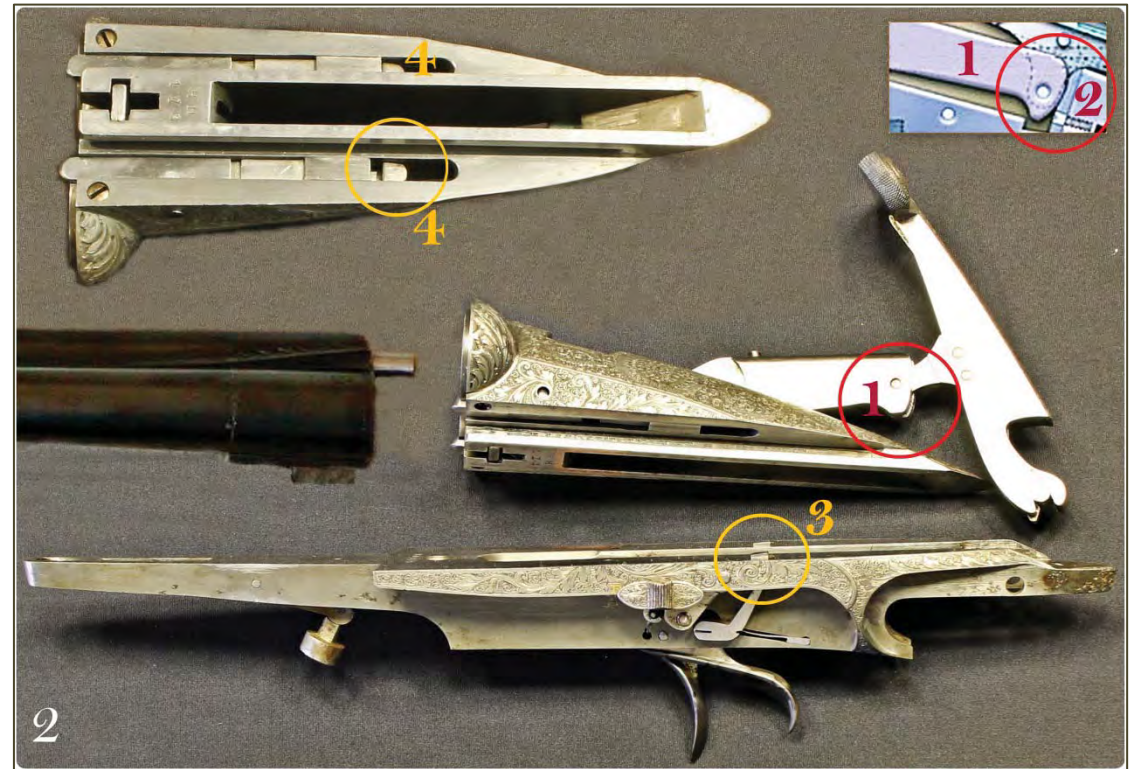


Fig.1)- The barrels are jointed to the action flats.

Fig.2)- When the gun is closed the profile **1** leans on the supporting structure (**2**). The levers' fulcrums are carefully placed: as the pressure increases the opening lever tends to tighten.

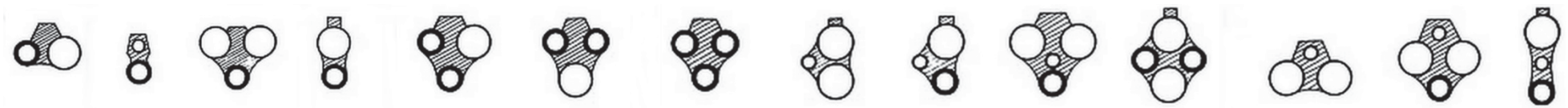
Closing the shutter, the sears (**3**) hook the strikers (**4**) and cock them.

Fig.3)- Pulling the trigger the lever **1** rotates and **2** releases the striker. **3** is the safety.



Mittleuropean combination guns

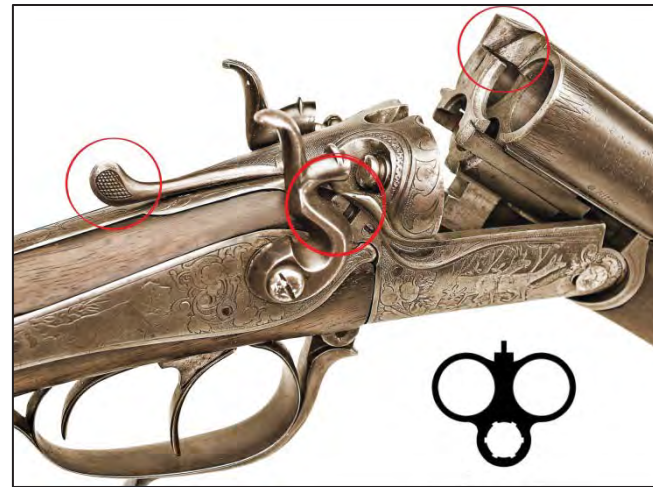




The huge variety of combinations among the continental guns is astonishing.

First of all it is necessary to underline the mastery of the craftsmen who adjust the convergence of the barrels, the importance of the accuracy with the rifled ones and the solutions found to operate locks that have three or four strikers with only two triggers.

Another common feature is the presence of the lumps under the lower barrel and of the upper third fastener.



THE HAMMER DRILLING AND THE BLITZ LOCKS

The hammers shoot the upper barrels; to shoot the third, the lower one, many solutions have been found. A common one rotates the third striker so that it is beaten by the stem of the hammer. The toplever moves the striker, while the underlever opens the gun. To be noted the doll's head extension on the top rib.

Fig.3)- The appreciated blitz locks, it is cocked with the rotation of the barrels, It can mount a third central tumbler, used for the lower barrel. A fire selector, variously placed, is used to operate the third lock with one of the two triggers.

The upper locking is usually the Greener one.

DRILLING WITH ANSON & DEELEY LOCKS

The central Europe gunmakers modified the Anson & Deeley lock while respecting its concept.

Fig.2)- The sear (1) has its fulcrum in a high position, in this way the fire notch is far from the tumbler's pin, this is necessary to obtain a light shooting without risks.

Differently from the A&D, the springs are under the tumblers.

Fig.2 and 3)- This version of the Anson lock has a third tumbler, always within the body. A fire selector (2) moves the third sear (3) and makes it touch the trigger.

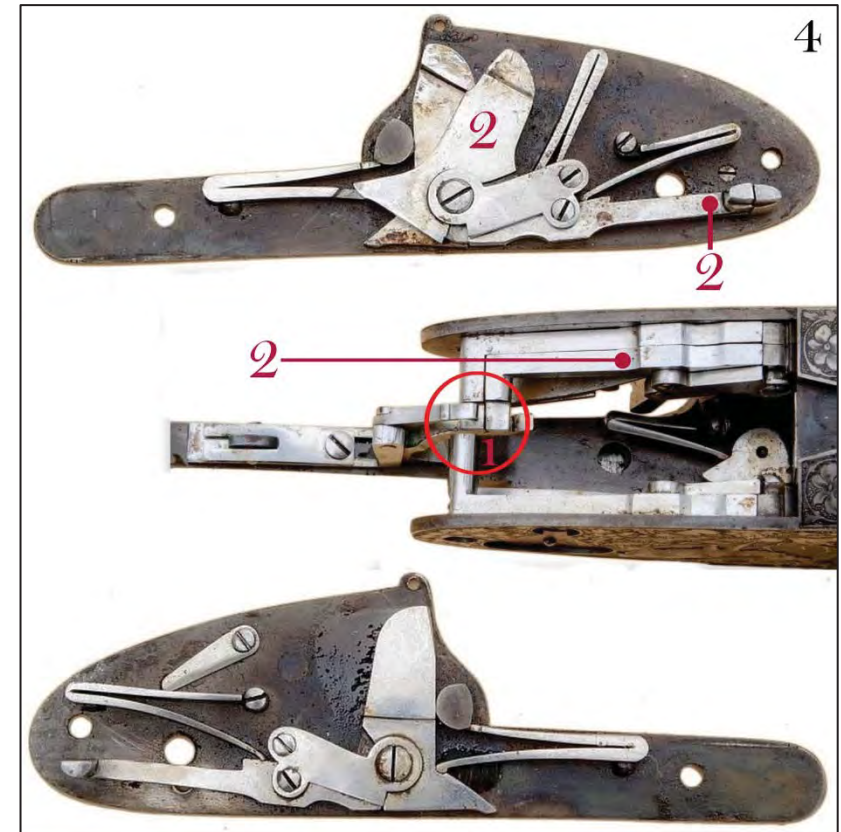
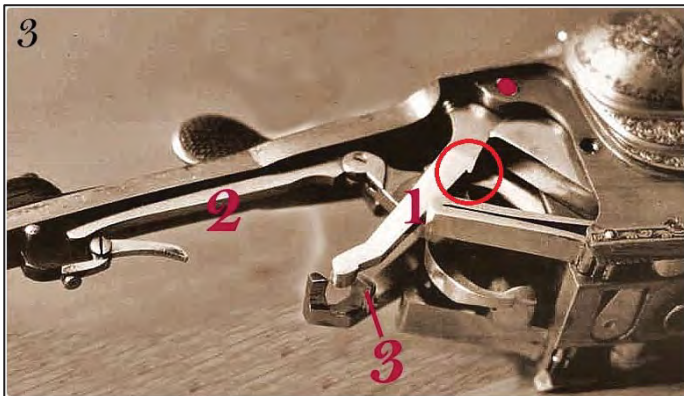
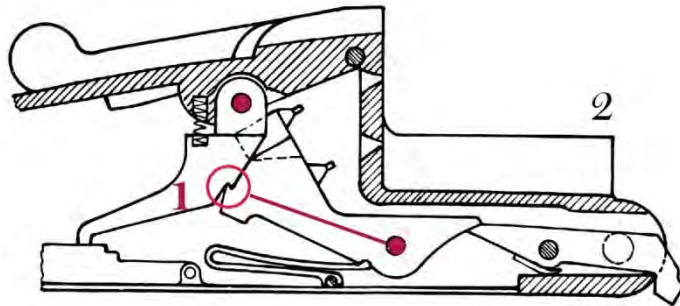
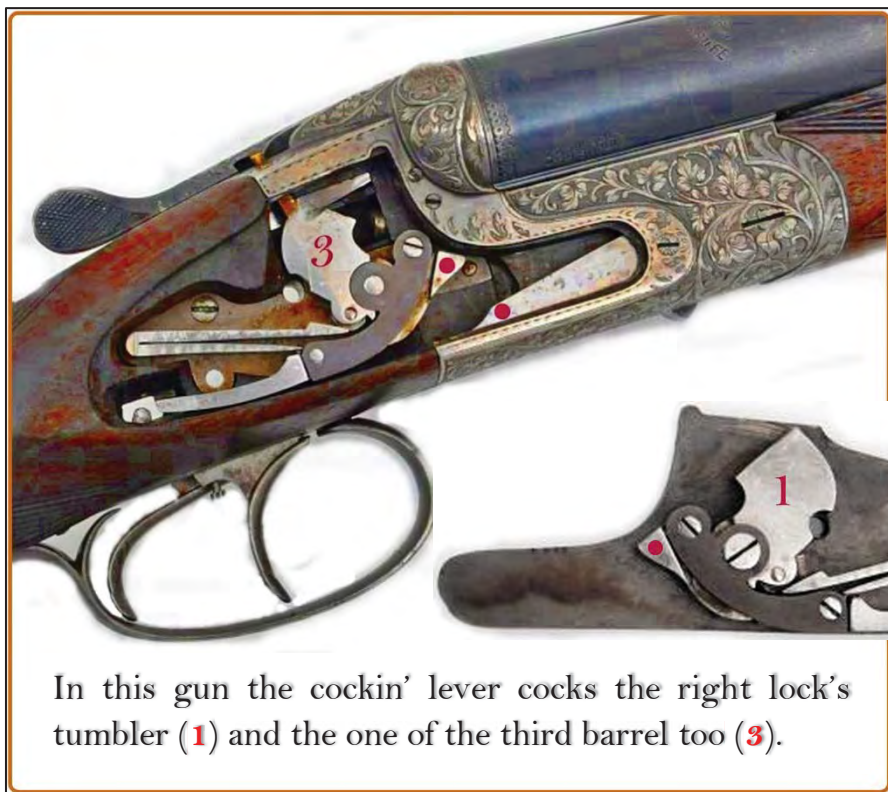


Fig.4)- Fire mechanism for a triple barreled gun.

I don't think it is a good idea to move the Anson & Deeley lock on a sideplate. Two locks with a weak structure are obtained, they don't have the solidity of the A&D and preserve its faults.

The right sideplate brings two tumblers and two sears, 2 is the one for the lower barrel, its spring is in the back. 1 is the usual barrel selector.

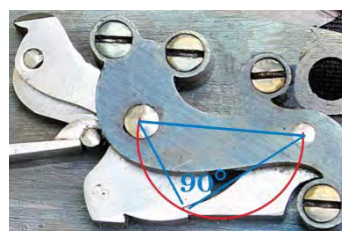
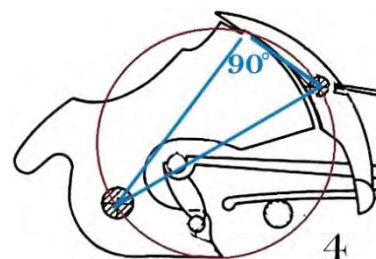
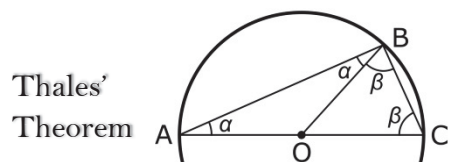
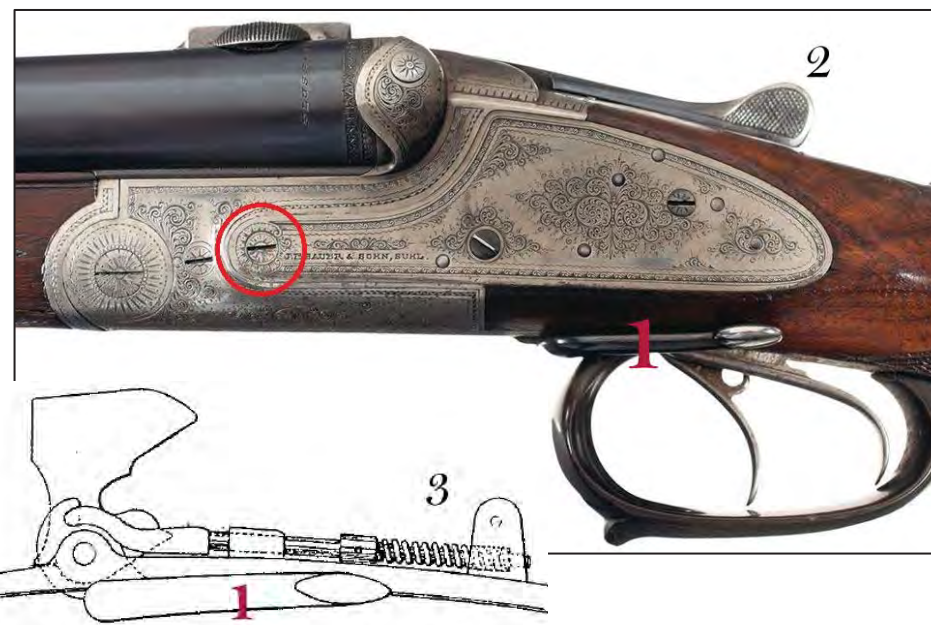
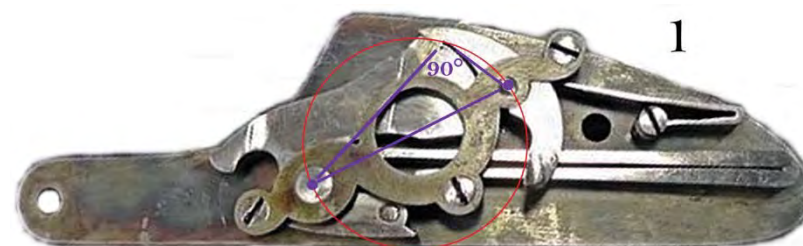


THE SIDELOCK DRILLING

Fig.1)- The famous Sauer's lock, it boasts of Thales' Theorem. The name is effective, but it is a simple geometric construction, widely used by the skilled locksmiths (Fig. 4).

Fig. 2)- The lever (1) cocks the tumbler of the lower barrel, it is on the triggers' plate (Fig. 3).

Fig. 5)- Back action sidelock drilling.



The combination
over and under



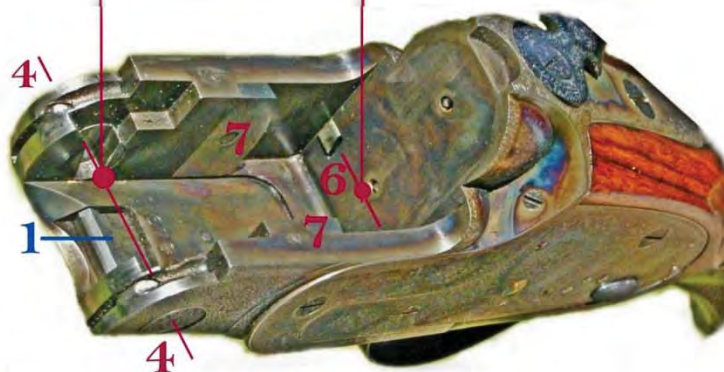
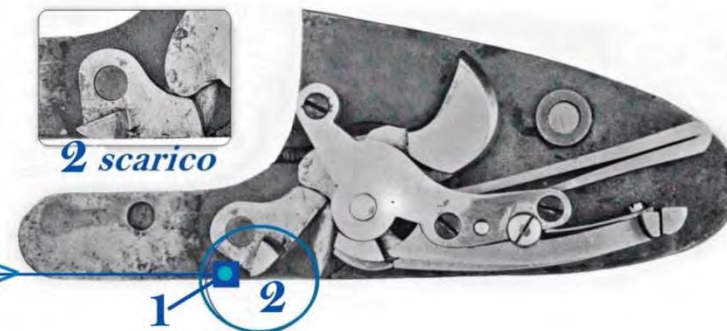


The continental over and under





The Robertson's Boss.



I think it is useful to mention the mechanics of the Boss' over and under, it is a touchstone.

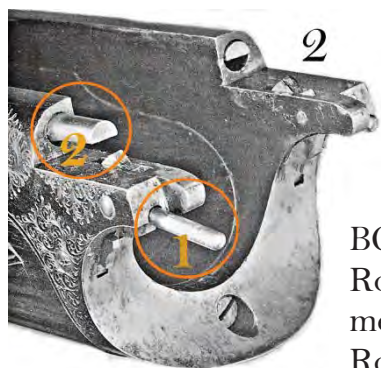
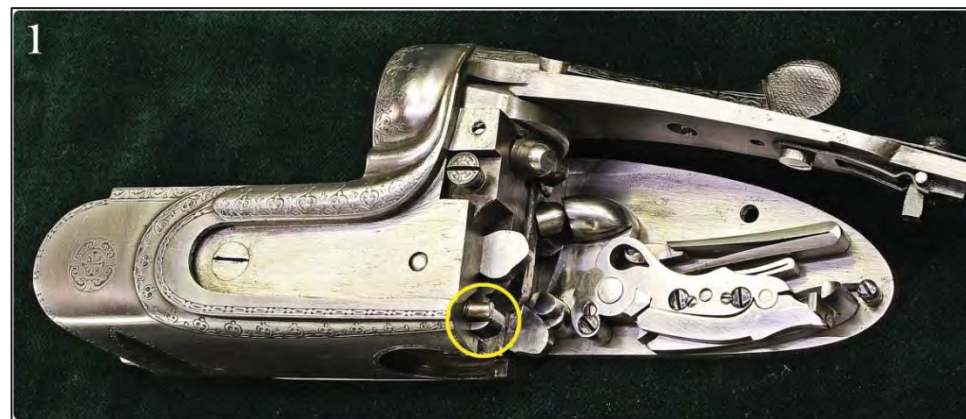
Not only to compare the Boss-type gun made by other makers and to see the differences with the original one, but also to evaluate other O/Us that have shown to own the solidity requested by the shooting range, even if they are not equipped with its illustrious bolting system.

- 1, 2-** The sled (1) while moving backward rotates the cams (2) which cock the tumblers.
- 3-** Left hinge pin.
- 4-** Hinge pins' seats.
- 5-** Rotation arc limiter.
- 6-** Split bolt.
- 7-** Lumps' shoulders.
- 8-** Left ejector's cocking rod.

THE OVER AND UNDER WITH SIDE-LUMPS

The Royal over and under made by A. Francotte has the Robertson' lumps, but has locking mechanism and ejectors other than Boss' ones. The Belgian gunmaker has made the locking mechanism more effective, he put the split bolt in a high position where it blocks two corbels protruding from the breech end of the upper barrel (O fig.4).

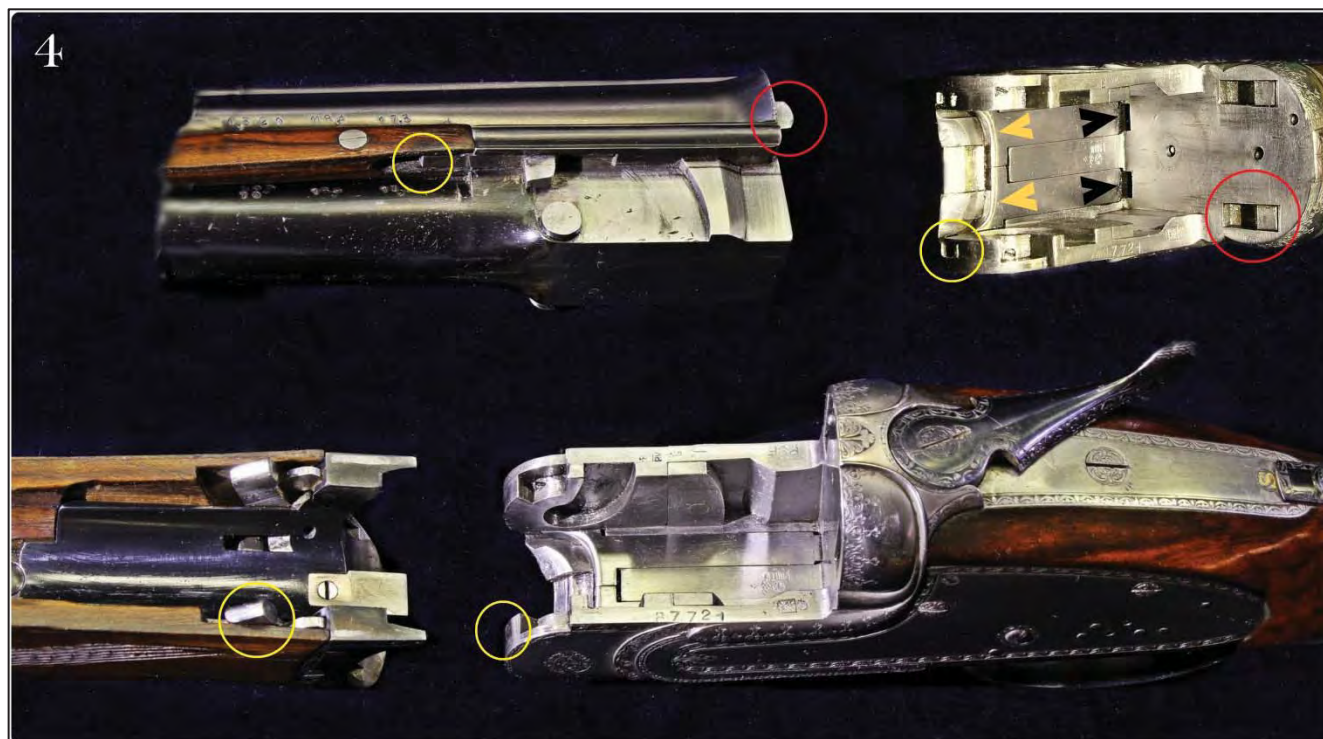
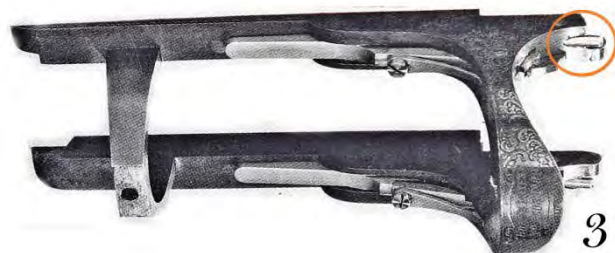
He replaced the Boss' ejecting system (Fig. 2 and 3), laborious to make and hard to adjust, with a more rational mechanism. The two sledges O, which cock the tumblers, slide forward when they are uncocked and activate the ejectors.



BOSS.

Rod 1 cocks the mechanism.

Rod 2 activate the ejector.





F.lli Bertuzzi



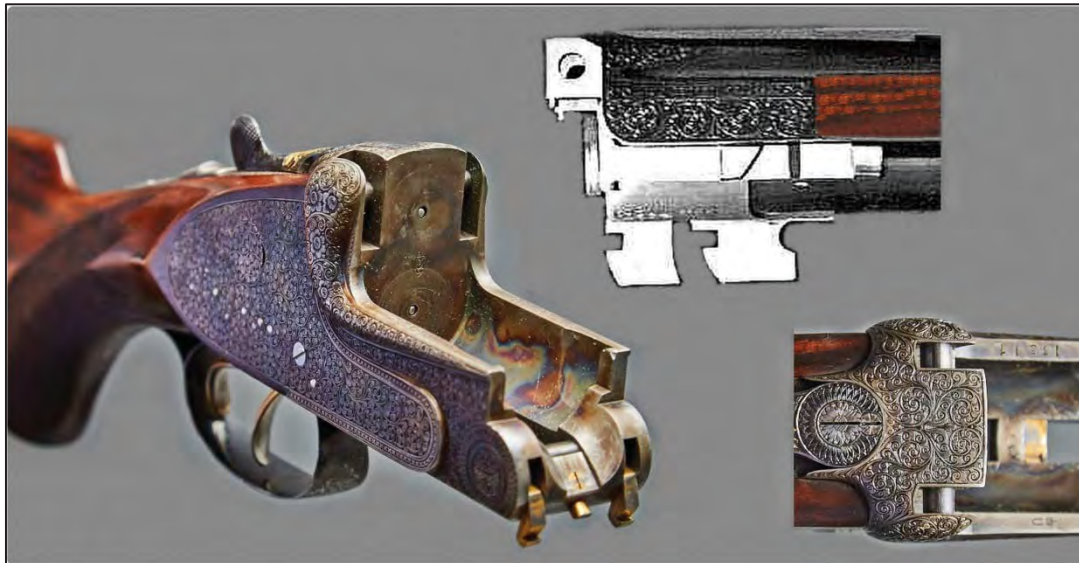
*Zeuss
Ali di gabbiano
(Gulls' wings)*



1905. THE MERKEL OVER AND UNDER



The over and under made by the Merkel brothers was proposed in 1905, the most expensive versions seem to be handmade. The punctilious finishing of the parts, especially on the guns made during the interwar years, goes beyond the industrial gun. In 1920 approx., the blitz-lock version (Fig. 1) was joined by the sidelock version. To put the lumps below the lower barrel isn't theoretically a good idea, but the Kersten locking mechanism is so strong that, in certain models, there is no bolt to lock the lumps.



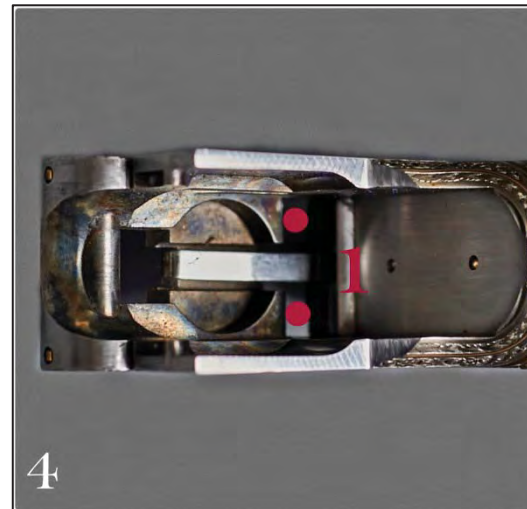


THE BROWNING OVER AND UNDER

A prolific father, the B25 is made using excellent materials and is worked and adjusted with high accuracy. Its locking mechanism (the third type we find after Boss and Merkel) has a bolt on the bottom, far from the upper barrel, and has no fastener in a high position. In theory it is wrong, but its strength after thousands of shots vindicates the genius of Browning and goes beyond rational mechanics.

Fig.1)- **2** is the cocking rod. **s** is the left lever that operates the ejector.

Fig.3 e 4)- The rear lumps and their mortises on the bottom of the action. **1** is the bolt.

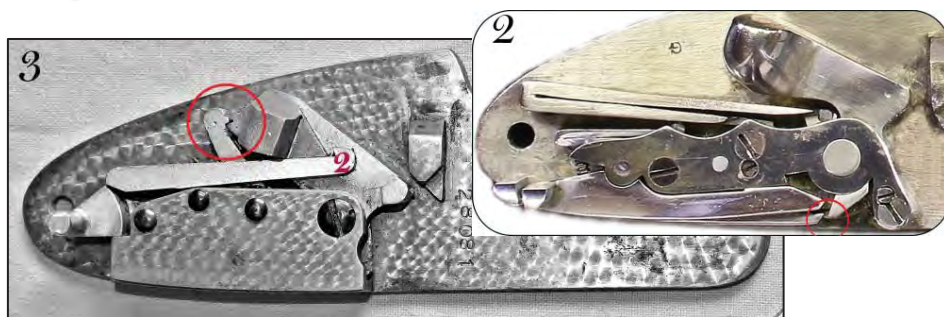


1935. THE BERETTA S1 OVER AND UNDER

Ennio Mattarelli, the famous shooter and gunmaker, called wise gun the Beretta over and under and it is a suitable judgement.

The shaped sides of the action counteract the lumps and a cross-bolt (the one designed by E. Green in 1912) fastens the shelves protruding from the breech-end of the upper barrel.

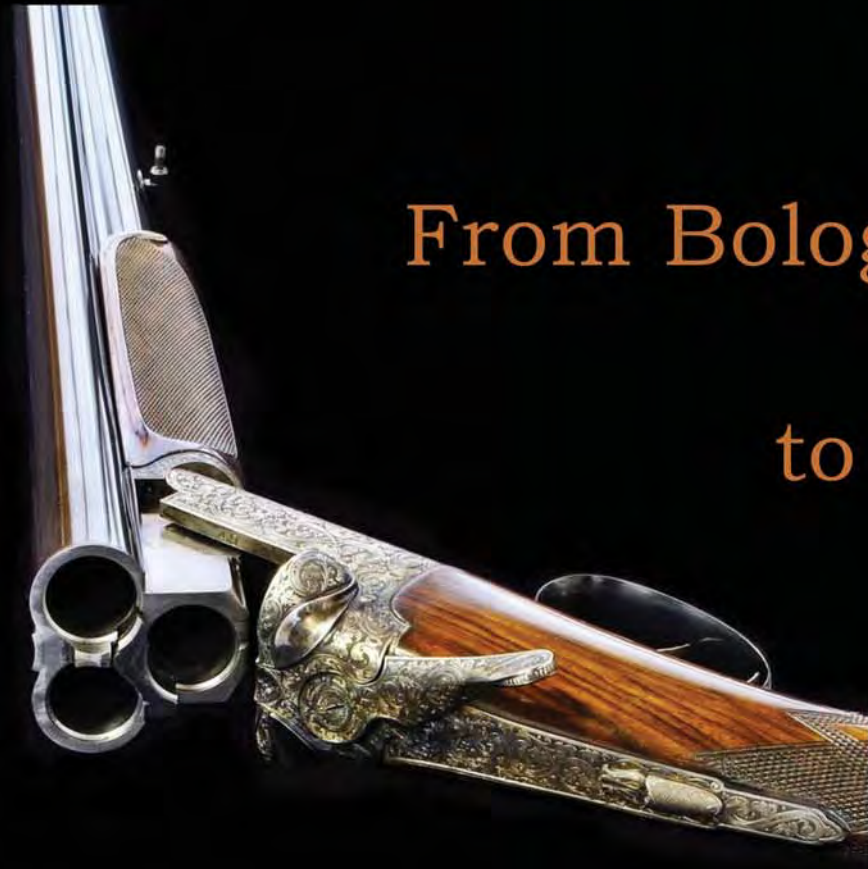
Two rods rotate the cams that cock the tumblers. The locks made in 1935 are H&H type (Fig. 2), then in 1959 they've been replaced with the 9 pins (5 on the right and 4 on the left) version. Bridle machined from solid and the sear is linked to the tumbler's head (Fig. 3). **2** is the safety sear. This improvement was used also on the S2 and the S3.





From Bologna

to Macerata
Feltria



The barrels' masters from Pistoia, the Guardiani from Anghiari, Acqua Fresca from Bargi, Negroni from Brento, Zanotti from Santa Maria in Fabriago.

Families of blacksmiths able to forge every single part of a gun, then to finish and embellish it. Masters from both sides of the Apennines, between Bologna and Arezzo, who made guns in the Florentine manner until the 1830s. Pistols and guns of Renaissance beauty and archaic mechanics. In the 19th century the guns' production (percussion cap, pinfire and centre fire) lost much of the splendor it gained in the flintlock period. The mechanics were just a poor imitation of the contemporary french and english guns and the blacksmiths from Tuscany and Romagna realized that the forge was necessary but no longer enough. Thus, some of them moved to bigger cities to continue to work as gunmakers and, slowly, adapted themselves to the new reality and to work with semiprocessed industrial parts. They just kept the pride of the knowledge accumulated over about ten generations of craftsmen and, most of all, the irrepressible vocation for gun-making, learning from the father and teaching children.

The gunmakers from Tuscany and Romagna have roots sunk deep in this tradition. Three of them were particularly inspired. Giacinto Zanotti, who designed the actual locking system of side by side guns. Salvatore Cortesi, also called Torricelli from Vergiano, he put the Latin taste into the Germanic gun. Rodolfo Cosmi, from Macerata Feltria, who invented a break action automatic gun, the only one that can stand near to a fine side by side gun with dignity.



Repeating gun - Berselli from Bologna system.

Fiorentina made in Brento, at the end of XVIII century.



GIACINTO ZANOTTI – LUXURY GUNS MAKER - BOLOGNA



THE ZANOTTI LUMPS

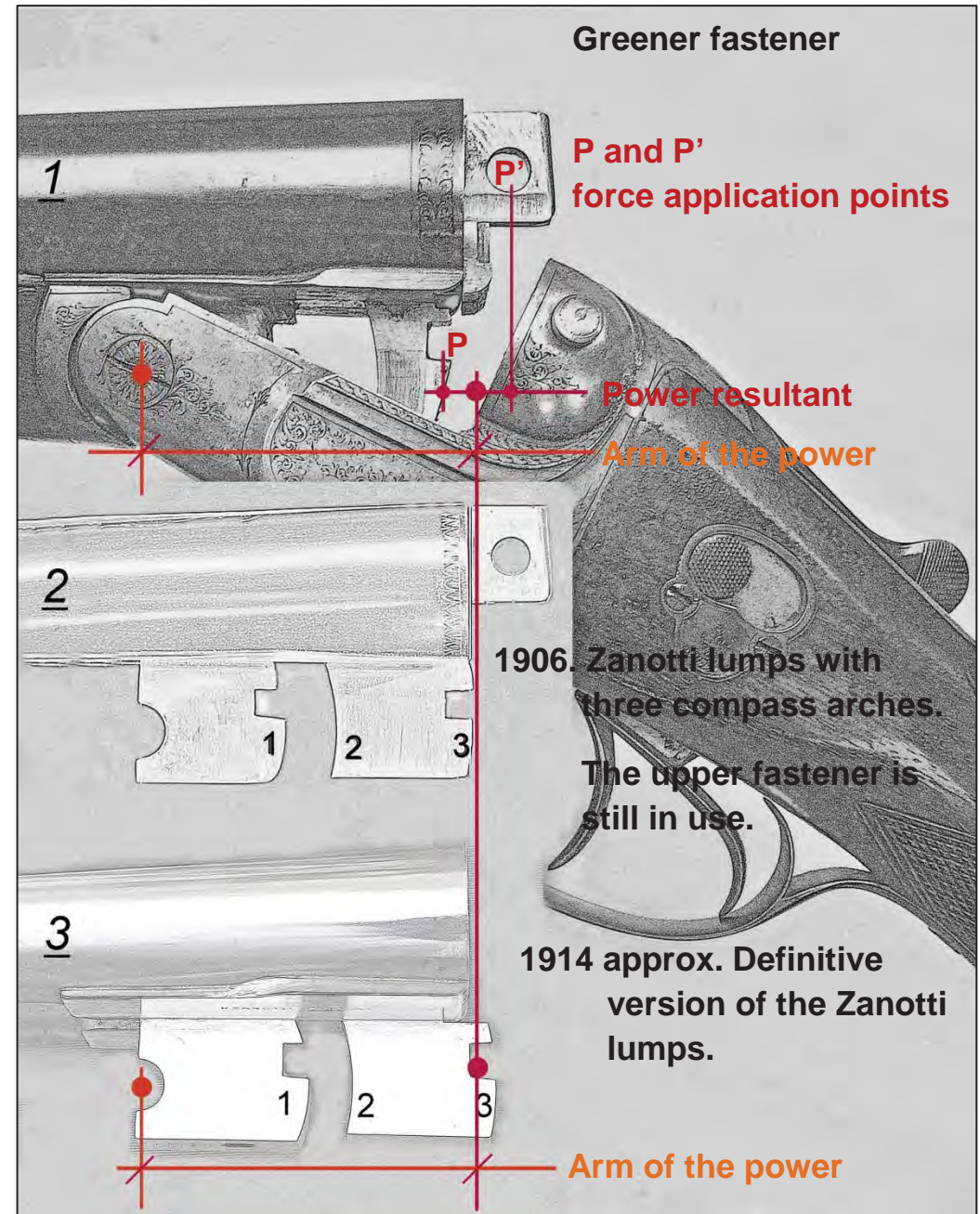
The barrels of a break action gun act as a lever with its fulcrum on the hinge pin of the action. The bolt is the power that balances the lever and its efficiency becomes greater as the distance from the fulcrum is increased.

1)- As an example the locking mechanism by W. W. Greener has two bolts. The lower bolt locks the lump in P, the upper one (P') helps to lock the barrels and prevents the body from flexing at the moment of firing. The resultant of these two powers is broadly applied on the breech end of the barrels.

2)- In 1906 Giacinto Zanotti presented six side by side guns with lumps shaped on three different compass arches. With the addition of the upper fastener this locking system is suitable for heavy shots.

3)- On the eve of the First World War Stefano Zanotti definitively perfected the father's invention. He kept the three compass arches, removed the upper fastener, made redundant by the new steels, and moved the rear lump beyond the breech end of the barrels. Thus the Purdey' bolt works with the same arm and without the Greener' fastener.

The 1914 (approx.) Zanotti lumps have been adopted by all the continental gunmakers, with this system the upper fastener was no more necessary on a lead shot side by side gun.



Giacinto Zanotti, unlike many other continental gunmakers, was not inspired by the H&H lock but looked to the Purdey one. In this 1908 side by side (Fig. 1) each of the two rods rotate a cam, while compressing the mainspring it cocks the hammer too. In its substance it is the 1880 Purdey' mechanics, without self-opening and without ejectors.

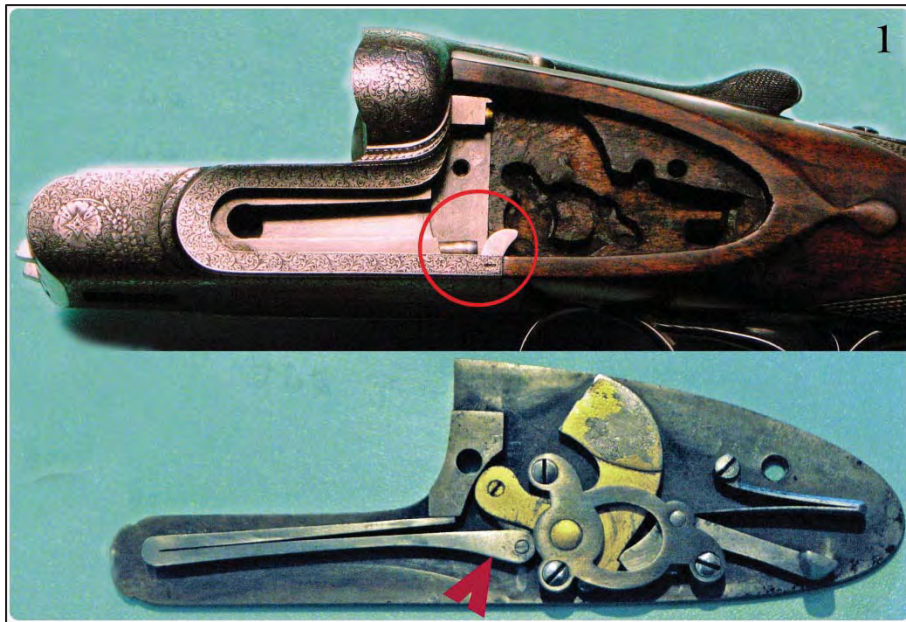


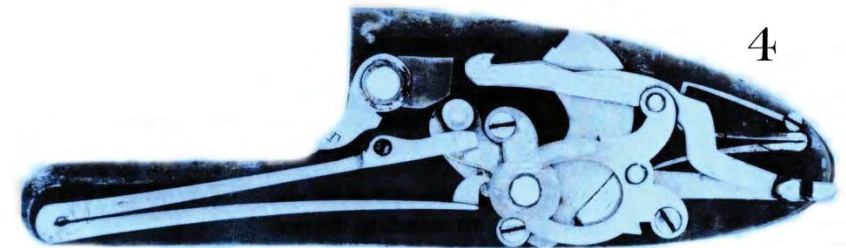
Fig.3)- After the end of the First World War Stefano Zanotti improved the lock, changed the cocking mechanism, added the ejectors and the refined automatic safety.

Visitor of Athol Purdey and of the Belgian engravers, he is the creator of the Zanotti side by side, he took the best from the European production, used and modified it with the ability and the taste given by an ancient tradition.



2

2)- 1880 Purdey lock.



4

4)- 884 Purdey lock, with safety sear.



The triple barrel gun from Cortesi, also called Torricelli



I don't know what inspired Salvatore Cortesi, the fact remains that in 1938 circa. he built a hammer gun with three barrels and a lock on the triggers' plate for the lower barrel.

The concept is a Germanic drilling, but in the rare version with three smooth barrels this one become disharmonious, because of the excessive height of the body.

After the war Cortesi adopted the Boss' lumps on his gun, thus he was able to lower the body gaining the profile of a side by side.

A side by side with three chokes, three shots as an automatic and the most rational locking mechanism.

In many years no one thought about it.

Salvatore Cortesi, his three brothers and the nephew Nerio built about 70 of these guns, the speciality of this gunmaker.

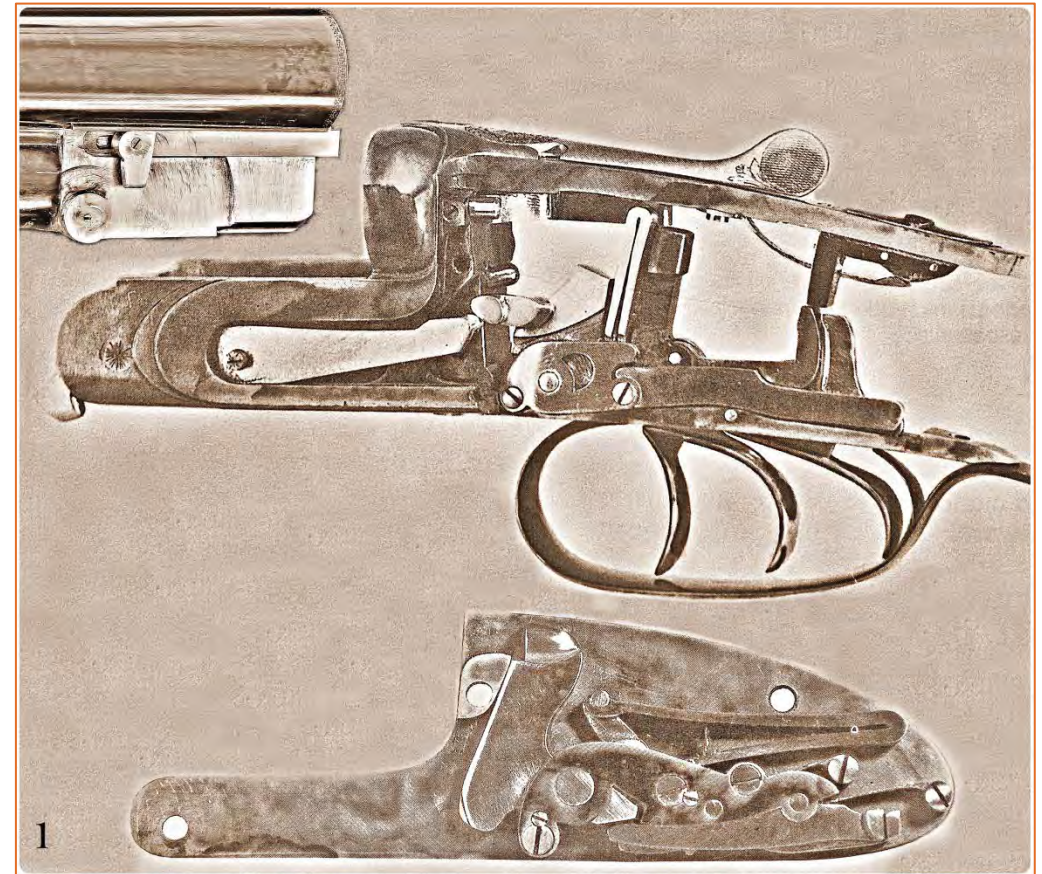
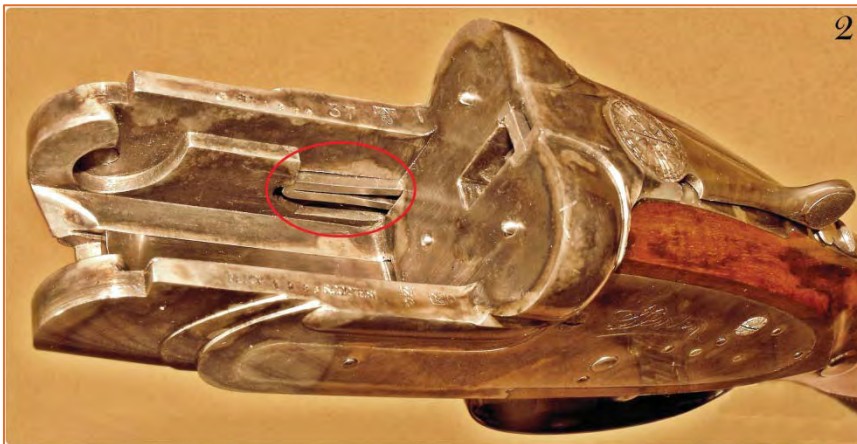


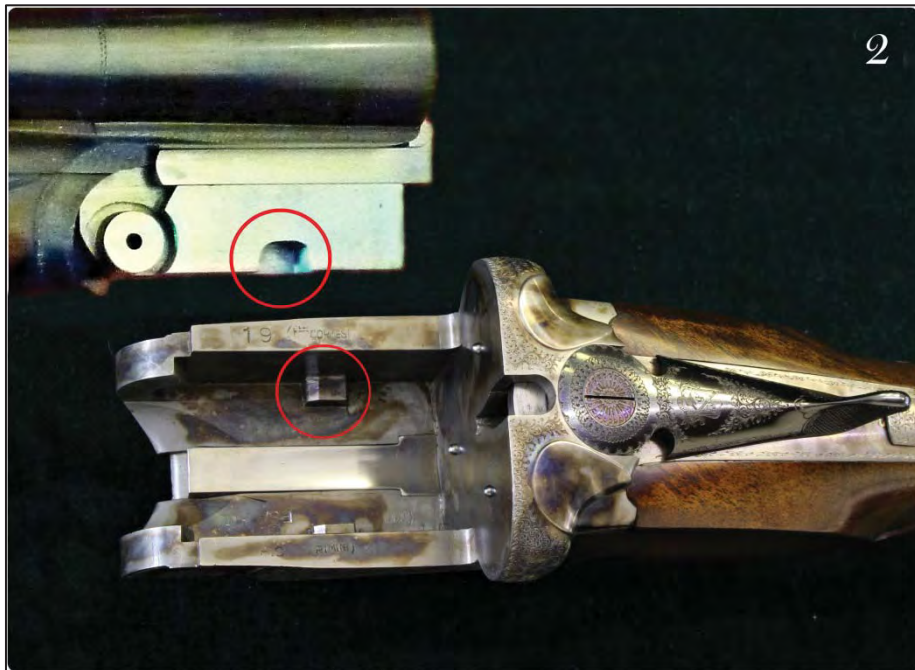
Fig. 1- One of the first specimen of triple barreled gun made by Salvatore Cortesi. Designed at the eve of the second World War and realized in 1950 circa. 20 bore, back action sidelocks and a third lock on the triggers' plate for the lower barrel. The left rod cocks the left lock and the lower one too.

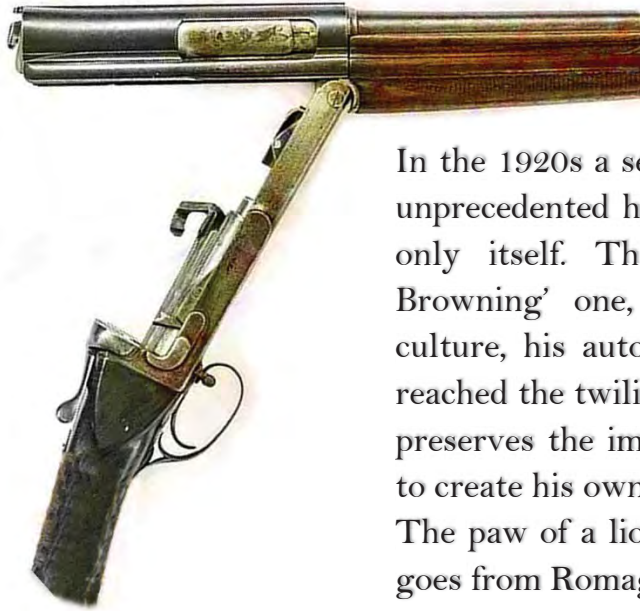
Fig. 2- Made by Salvatore in 1992. To keep the proportions with the 20 bore, the sidelocks' mainsprings enter inside the action, the cocking rod slides on the bottom of the body.

Made by Virgilio Cortesi in 1981.

This gun seems to be created by two different Virgilio Cortesi. One “industrially” designs the locks, the other one refines it in the best possible manner. The first simplifies the locking system (the Boss one as usual for Cortesi), the other one locks the gun as a Swiss safe. In the end the two half Virgilio meet, they waive the small series production and make a unique piece of art out of a nice gun.

Tragic fate for the craftsman gunmaker with ancient skill, crushed by the one who is able to create an expensive industrial product, just adding some gold inlaid ducks.





1929. RODOLFO COSMI

In the 1920s a self-taught gunmaker invented and realized an unprecedented hunting gun and that will have as consequent only itself. The genius of Cosmi, differently from the Browning' one, was imbued with an ancient gunmaking culture, his automatic gun was born when the side by side reached the twilight of its era and from that declining world it preserves the impulses which had led every single gunmaker to create his own gun differently from the others.

The paw of a lion, not the only one in that part of Italy that goes from Romagna to marche following tha Appennines.





Paolo Tebaldi, January 2019
English version by Piero Zanette

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