

Let's disassemble our side by side



These lines are dedicated to the passionate who, despite feeling brave, hesitate to approach the screwdriver to the gun. They would be tempted, but they fear to have to go to the gunsmith with half gun in the hand and the other half in a box. What if I damage the screws? What if I damage the embedding? What if I don't reassemble it correctly? These legitimate and understandable doubts invite us to draw a guide to help to correctly executing the simple operations of disassembling, cleaning, lubrication and reassembling with a suitable level of awareness of the age of the gun.

This serious game of the disassembling needs to be done with serene mind. To gain a minimum level of experience it is better to start with the less important gun.

If you have problems, stop and ask for help by mail (contacts section of the site). After throwing the stone we will not hide the hand.

Specification.

The contents of this guide relate to mechanically normal side by side guns (the most common ones), approximately built among 1870 and 1970. Unused from years, dry grease, some rusty point caused by humidity ..., cleaning and lubrication become a necessity.

Here we don't want to talk about repair and restoration work, but only what concerns the maintenance of the parts that make up a normal side by side. These parts are not always the same for all the guns (of the same type), but as they always have to do the same work they can't differ so much one from the other.

We will see: Side by side hammerless gun.

Side by side hammer gun.

Side by side box-lock gun.

Main Characters.

Three side by side guns.

They are voted for martyrdom.

An old gunsmith.

Ability honed over the years passed with the demanding Renato Zanotti. Specialist in wood working, skilled with iron, he put his hands over so many guns that he doesn't know himself how many they've been.

A workbench.

Worn as the sandstone steps of an ancient building, solid as a rock. It is the bench that Leopoldo "Arturo" Zanotti, born 1868, used at the "Bruciata". His son Renato brought it to Bologna in 1938 when he opened his own laboratory.

It is useful as a new one, but it provides some additional thrill.

Some tools.

-A series of 5 or 6 screwdrivers. Each screwdriver must be flatblade with parallel faces, hardened, long and large as the slotted screw head that it has to remove. The commercial screwdrivers have conical faces and they are not suitable, in fact they tend to escape from the screw head when the screw is too tight.

- A clamp to remove the springs (we will talk about further).

-A vice, essential to win the most resistant screws.

-A plastic-headed hammer.

-A couple of drift-punches.

*-The Svitol (**to be used carefully** because it makes the wood greasy and damages the damask color).*

-The few more things needed are easily self-constructible.

Let's start with a sidelock hammerless gun



It is better to remove the locks with the tumbler cocked. The screw that fix them to the action are usually three.

Fig.1. Remove the screw (1) on the right side applying pressure on the screwdriver to prevent it from escaping.

Fig.2. If the screw is blocked apply two Svitol drops between the screw and the lockplate, then tap the screw head with a wooden cylinder (**never use the blade of the screwdriver**).



Fig.3. Once removed also the screw (2), on the left side, unscrew the (3) wich, being a transit bolt, involves both lockplates.

Fig.4. Each lock, at this point free, can be removed from its slot with a hammer tap on the hinge pin.



If the lockplate doesn't pop out, don't worry. Replace the screw (3), screw it half a turn, tap it lightly with the screwdriver handle. The lockplate has to be slightly raised. Remove the screw and tap again with the hammer. Remove the left plate using a drift-punch that must be inserted from the right side, just over the triggers' plate.



Fig.5. To uncock the tumbler, firmly put its head on the corner of the bench and operate the sear (1). Operate both the sears if they are two, see fig. 12.

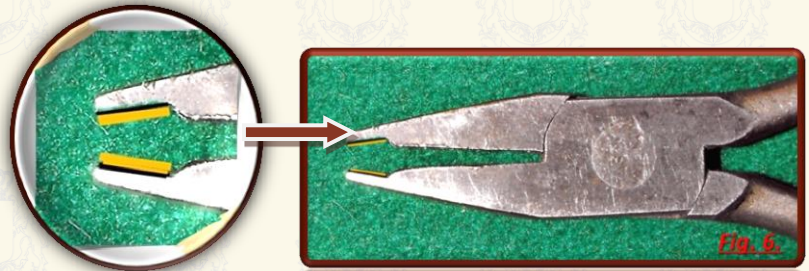


Fig.6. The inner faces of the clamp have to be smooth, convergent and with chamfered corners, to avoid scaring the spring. Two shims of self-adhesive rough material make the tool more effective.

Before disassembling, take a photo of the piece.

Fig.7. The clamp compresses the spring and takes it out, the pin (1) exits from its retaining hole.

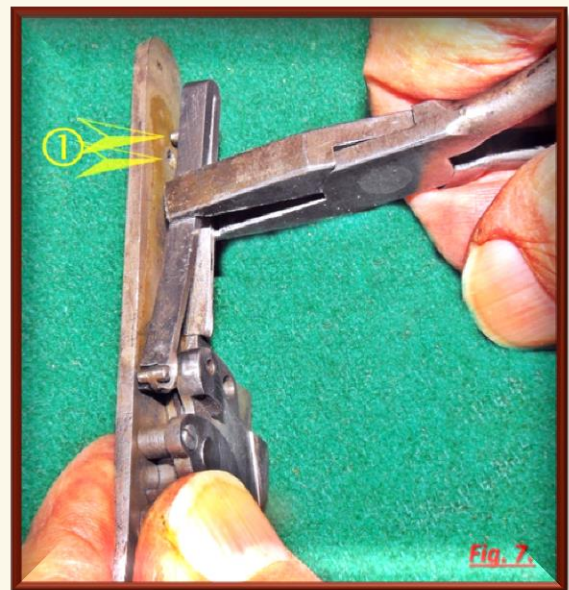


Fig.8. While holding the spring open the clamp. The spring doesn't jump who knows where.

A compressed spring is full of energy. If it escapes from the clamp it can hurt or break itself.

Fig.9. Now it is possible to remove the screws that tighten the bridle. Here they are three, sometimes four and one could be also the sear's pin. The substance is the same.





Fig.10. It is important to mind the position of the screws, put them on a piece of paper and sign their position.

Once extracted the bridge, rotate the sear (1) to move it apart from the tumbler. Remove the tumbler, then the sear and, finally, the spring (2) that is fixed with its screw.



Fig.11. The lock disassembled.

They are not all the same, but the operation' substance is always the same. The bridge could have a different shape, there is often one more sear (the safety one), sometimes the main spring is behind the tumbler. Anyway the dismounting procedure remains the one just described.



Fig.12. A large-scale lock, known as "Holland & Holland type".

At this point let's clean the parts. Aviation gasoline is good. A stiff brush is useful, thin scourer is also good. Don't use sandpaper. If there are small signs of rust, use Svitol and let it work for some hours. Then remove the rust with the scourer, it doesn't damage, it is also possible to use a Dremel (or similar) rotating brush, it is more effecting but it removes the tortoisening (hardening colors) that is on the sideplate and on the bridge. It is hard to give suggestions without having the parts, one thing for sure is that the corrosion must be at least slowed.

The lock parts and the plate's holes, once dried, have to be lubricated (without exaggerating) using low density grease. Then it is possible to reassemble the lock.



Fig.13. The assembling starts from sear's spring (1). Then the sear, then the tumbler. Once placed the bridge, tighten it with its screws, each one has its own place.

Before placing the main spring, it is necessary to verify that the parts work smoothly, fixed but free to pivot with no friction.

Fig.14. Hold the spring between thumb and forefinger to be able to close it. In this way the clamp finds support on the fingers and doesn't slide along the spring.



Fig.15. Grease between plate and spring. Once the tines are inserted into the swivel (1), push the spring towards the bridge and put the pin in its retaining hole (2).

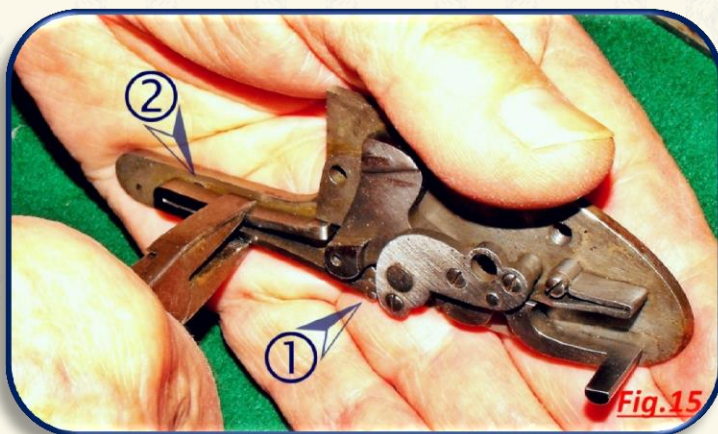


Fig.16. To cock the tumbler use the bench corner.

To separate the action from the stock, the first thing to remove is the triggers' guard.

Fig.17. Unscrew and mark the two wood screws that tighten the strap, they are not equal.



Fig.18. A light tap on the guard's curve removes the strap from its embedding with no damage to the wood.



The triggers' guard is screwed to the action in (1), unscrew while holding by the strap.

In the rare cases of plug-in fixing (no screws), it is sufficient to rotate it a quarter of a turn, or a half.

If the second trigger doesn't allow the rotation of the guard, rotate the trigger forward.

The guard's threaded hole is often communicating with the one of the screw that, entering from under the lever, fixes the top strap with the triggers' plate.

This screw is almost always hard to unscrew. To make it softer it is necessary to inject a bit of Svitol.

Fig.19. If the lower face of that screw is completely visible, tap using a slightly smaller diameter drift-punch.

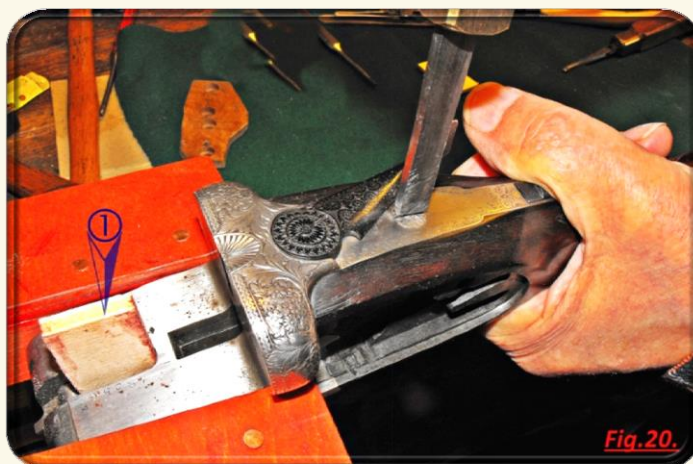
If only a part of the screw is visible, don't use the drift-punch, it could damage the first thread of the screw.

Then tighten as much as possible the screw (1).



Now it is necessary to remove the main screw, this can be at times a difficult undertaking. It is better to firmly block the action between two wooden jaws, pay attention: don't tighten the stock. A piece of wood (1), inserted in the front mortise, blocks the lever in the maximum opening position. The piece of wood has to be slightly forced in its position between pin and bolt; if it is loose the lever will partially cover the head of the screw.

Fig.20. The usual two drops of Svitol between the screw and the action body, the usual hammer taps on the wood cylinder placed on the screw's head. Strongly push on the right screwdriver and unscrew. If the screw doesn't move, apply the Svitol again, wait for its action and try again.



If unscrewing seems not to be possible (it happened to us), the canonical solution is shown in the second part of this guide, Fig. 49.



Fig.21. Once removed the main screw, it's time to unscrew the one at the end of the triggers plate (it's been previously tightened).

Fig.22. Then the front one, it fixes the triggers' plate to the action. Also this screw, if it is very tight, may be hard to remove.





Fig.23. While keeping the lever open, using the thumb (or the piece of wood in the front mortise), put the main screw again in its hole and screw it two turns.
A slight tap on the screw's head will remove the triggers plate.

Fig.24. Remove the triggers plate.



Fig.25. A tap on the action flats and you will feel on the thumb that the action is separated from the stock.

Fig.26. Action and stock are divided.

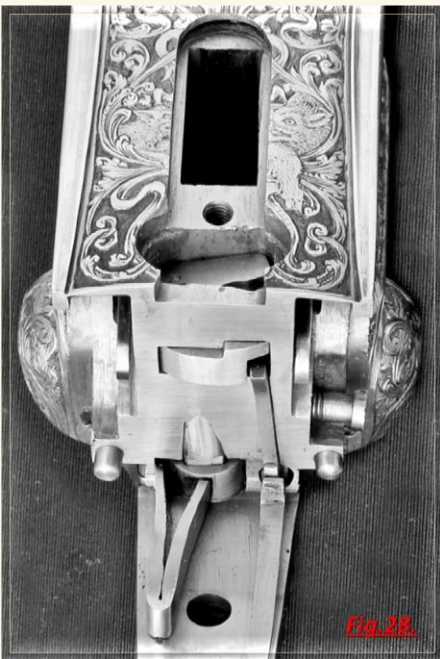


Take some photos of the action before continuing. They will be useful when reassembling.



Fig.27. Remove the spring of the lever.

The guns built after 1870 approx. have the top lever and the bolt linked, basically, in two ways:



With a long pillar (1) inserted in a slot of the bolt (2).
Fig. 28-29.

Or with a short pillar (1) linked to the bolt (2) by a pin-screw (3). Fig. 30-31.



If the pillar is the long one, to remove the bolt it is necessary to remove the lever screw first.

Fig.32. The lever screw is usually firmly tightened. The usual care with Svitol and hammer (gracefully!).



Fig.32.

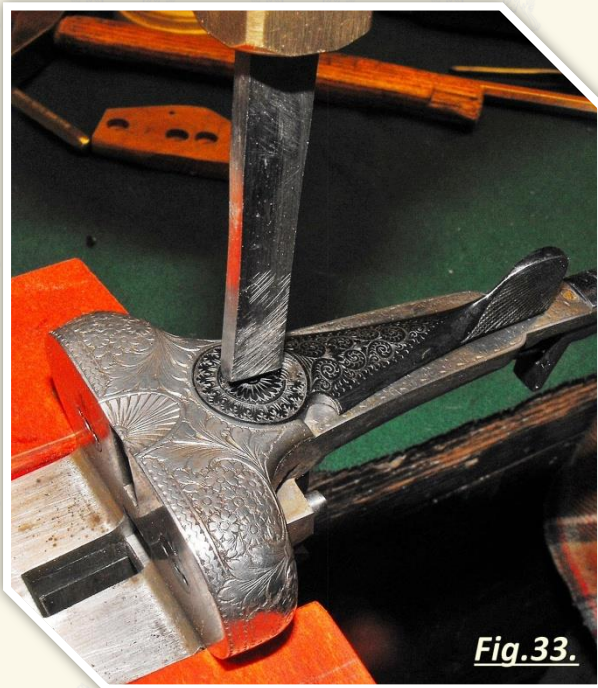


Fig.33.

Fig.33. Especially in this case, it is important to be careful. If the cut of the screw gets damaged it would be depressing to see.

Fig.34. Use the drift-punch to separate the lever from the pillar (1). Then remove the lever and, if present, the upper closure. See Fig. 59.

Then tap on the pillar to take it out from the action.

Finally remove the bolt.



Fig.34.



Our side by side, instead, has a short pillar. See Fig. 31.

Fig.35. Remove the screw that connects the bolt (1) to the pillar (2). Pay attention: sometimes a smaller screw blocks the main one. It is necessary to loosen it.



Fig.36. Remove the bolt.

Fig.36.

We have already seen (Fig. 32-33-34) how to remove pillar and lever.



Fig.37.

Fig.37. The safety components.

Fig.38. A basic version of a similar mechanism.



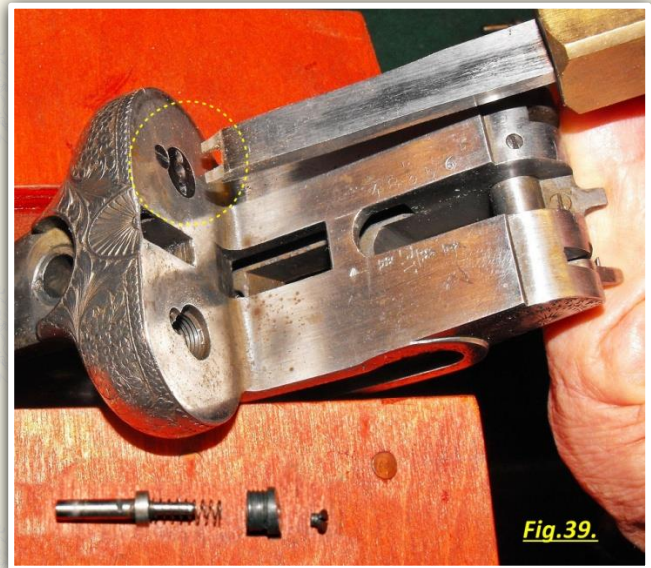
Fig.38.

If the strikers are well-moving in their seats, it is better not to remove the two discs. To lubricate is enough.

Fig.39. While if they don't well move or they don't return, it is needed to disassemble and clean them.

Separate the right components from the left ones. Usually the right components are marked.

Once removed the retaining screw (the cut is shallow, use Svitoll!) and unscrewed the disc, remove striker and spring.



Remind to verify the smoothness and easy movement of the striker after the re-assembly.

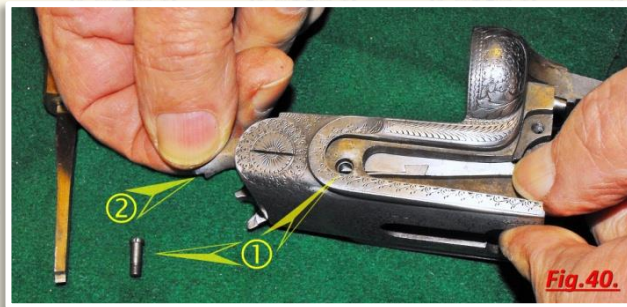


Fig.40. Remove the screw (1) and then the cocking lever (2) from the knuckle.

Fig.41. The triggers' rotation pin is screwed (1).

If it is pressure-fixed, it is possible to remove it with a drift-punch.



After a careful cleaning (insist on rust traces), it is now better to lubricate and re-assemble the components of the action and of the triggers plate.

Depending on the type, the assembling starts from:

Bolt, pillar, upper closure if present and lever.

Or:

Short pillar, upper closure if present, lever and bolt.

Then mount the few remaining. Just lean the screws (to be tightened at the end).

While proceeding verify that each part works properly.

Once completed the action, mount the barrels and the fore-end and check the opening, the closure of the gun and the cocking levers. Without locks and triggers it is possible to feel the lowest friction. If everything moves smoothly, tighten the screws and check again.



Fig.42. Remove the screw (1), unscrew the shaft (2). Pay attention: once free, it could fly off pushed by its spring. If it is hard to loosen, use the wooden jaws of the vice. Remove the screws (3) and (4), lever with a drift-punch inserted in the tube (5) so that the fore-end iron, raising in the front, comes out from the rear of the wood. The last part to be removed is the small cap (6).

Fig.43. This kind of fore-end is easier to disassemble. It is sufficient to remove the screws (1) and (2) and a third wood one. Once removed, mark them.

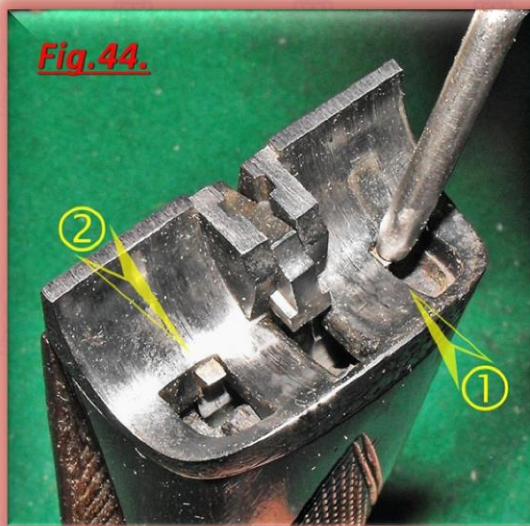


Fig.44. A tap with the drift-punch on the appendix (1) uncocks the hammer of the right ejector. Do the same with the left one (2).

Fig.45. Left hammer uncocked (1) and its spring in the rest position. The spring is secured in the points (2) and (3).





Fig.46. Remove the spring from the joint (2) taking it with the usual clamp. The hammer has to be uncocked.

To reassemble the spring put it first in the joint (3) and then in (2).

Fig.47. Once removed the springs, remove also the pin of the hammers, now it's possible to extract them from the fore-end iron.



Fig.48. Once reassembled the mechanism, it is necessary to cock the hammers, otherwise the fore-end won't couple with the barrels. To win the springs' force it is better to put the fore-end iron in the vice, lean a piece of wood on the hammers' head and push strongly. It is easier to cock a hammer at a time.

Without triggers and locks it is not possible to check the operation of the ejectors. We suggest to assemble on the action the trigger plate fixing it with its three screws. Then mount the locks with all its screws. Each lock has to be inserted (with the tumblers cocked) while pulling down its cocking lever, this must remain under the tumbler's cam. Everything has to be firm, so it will be possible to operate the mechanism (with caution and a little fatigue because of the lack of the stock). Let's assemble the barrels and the fore-end iron.

Observing the mutual work of the parts, now revealed, it is possible to start to understand also the hidden part of our side by side. This comprehension has to be fed with further experiences, so that the passionate will be able to evaluate the guns happening in his hands with always growing competence.

Then separate the parts once again and assemble stock and fore-end. Our side by side will feel renewed.



Fig.49. The usual way to win the hardest screw.

Carefully protect, with wood and rubber, action and stock, the vice leaves indelible scars. Before the intervention, at least two days of Svitol. Only once, in many years, a screw's head was broken.

The side by side hammer gun.

A side by side hammer gun is disassembled and reassembled in the same way as the hammerless one we saw in the previous pages.

Except in extremely rare cases, it has no manual safety, nor cocking levers, nor ejectors.

The locks work in the same way too. The only difference is that the hammer, that's outside the lockplate, has to be fixed to the tumbler, that works inside the lockplate.



Fig.50. Once removed all the screws and the internal parts, separate the tumbler from the hammer using a drift-punch.

Fig.51. When reassembling the lock, first of all fix hammer and tumbler (in their correct mutual position).

It is needed a piece of wood with a hole to put the tumbler's pin inside. Place the lockplate and insert the hammer. Once checked the correct angular position, fix it to the tumbler with a tap of the hammer. Finally tighten the hammer's screw (1).



In the "Under the skin" and "Curiosity" sections of the site further informations are available.

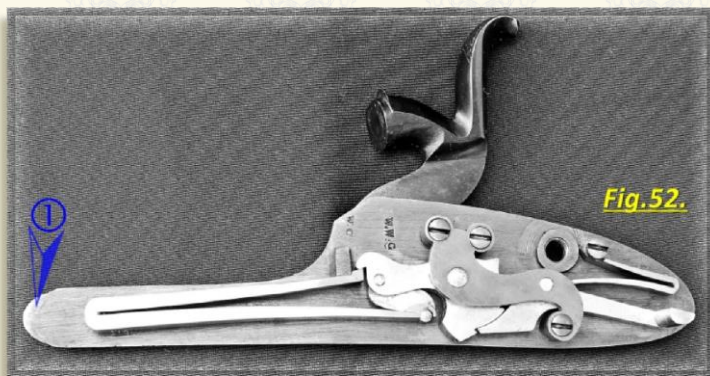


Fig.52. A bar action sidelock. It is fixed to the gun by a notch in the front (1) and by a transit bolt screw.

Fig.53. A large-scale short sidelock. It is fixed to the gun by a screw in the front and by a transit bolt one.



The boxlock gun.

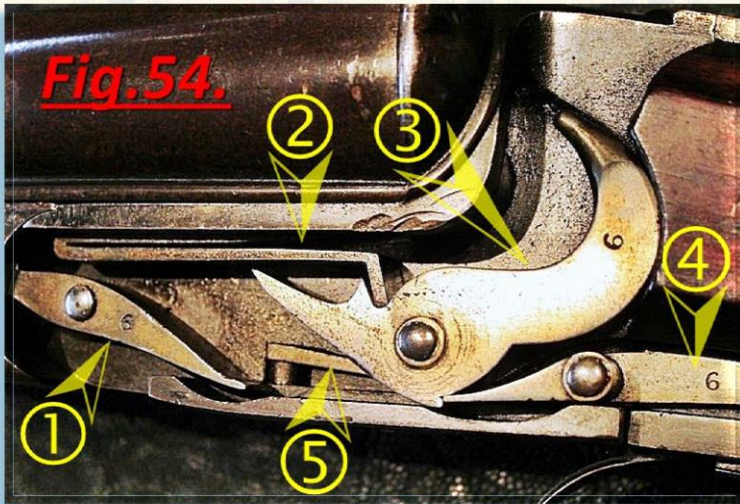
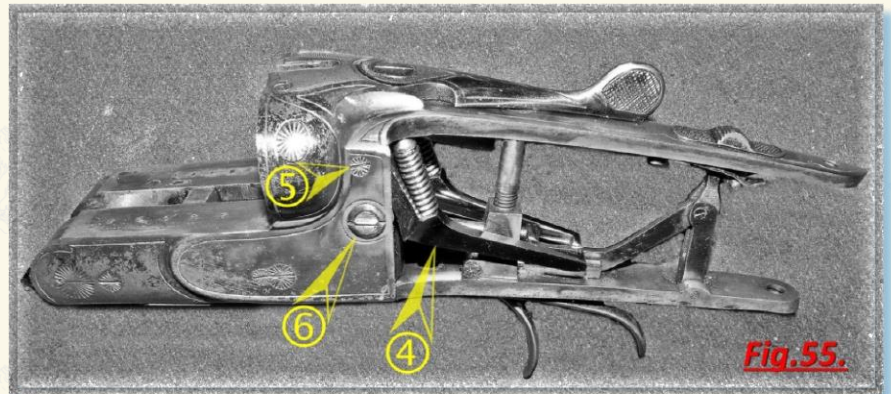


Fig.54. A conventional Anson & Deeley boxlock gun. A total of five pieces.

- 1) Cocking lever.
- 2) Mainspring.
- 3) Tumbler.
- 4) Sear.
- 5) Sears' spring.

Fig.55. In this gun the sear (4) is hinged at the top (5). There is the cocking indicator (6).



The screws in the upper part of the action are removed in the same way as the sidelock gun. The lower part, instead, is different.

Fig.56. Once removed the front screw (1) and the floorplate (2), remove the rear screw (3). Many "Anson" guns have the trigger plate and the floorplate joined.

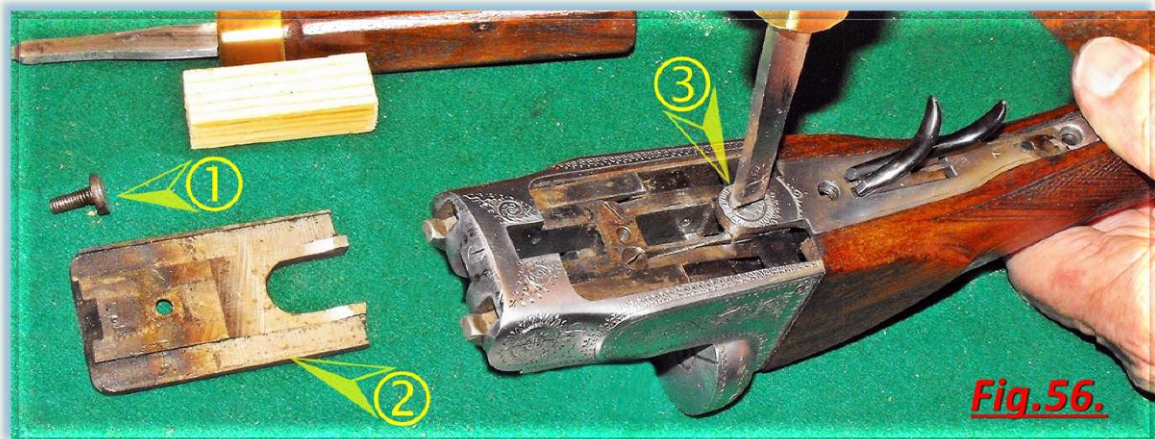
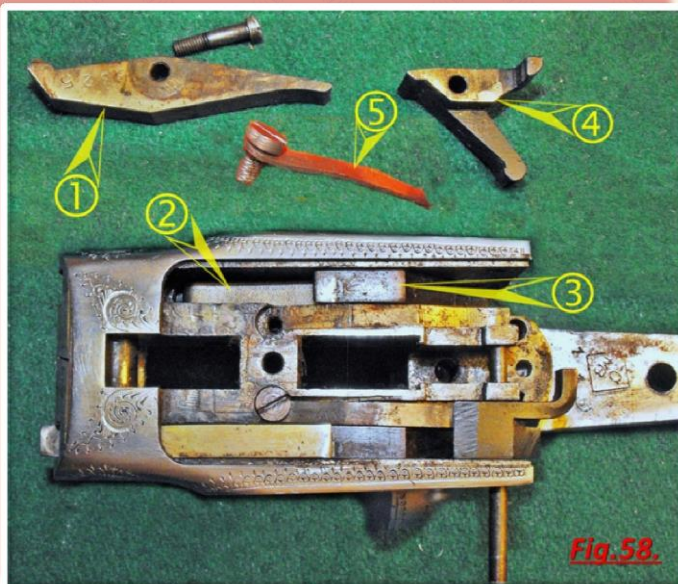


Fig.57. Once removed the stock, in the usual way, we have the action and the trigger plate.



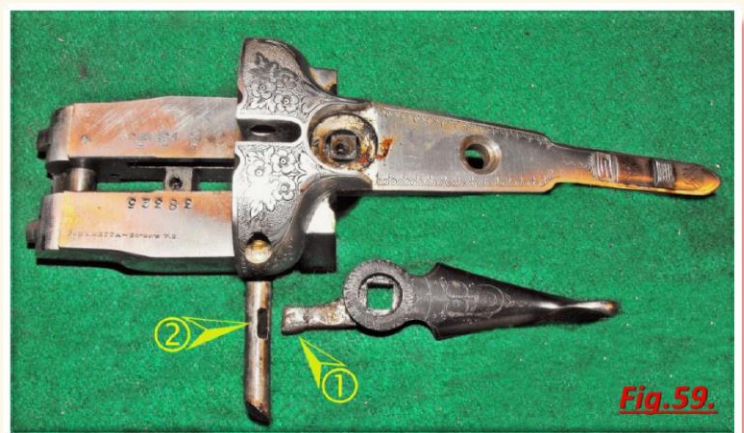
Fig.58. The left lock, partially dismantled. It is prudent to not go beyond this point.



- 1) Cocking lever.
- 2) Mainspring.
- 3) Tumbler.
- 4) Sear.
- 5) Sears' spring.

We suggest only a partial disassembling, it allows a good cleaning anyway. The reassembling of the mainspring and of the tumbler, sometimes, can be difficult.

Fig.59. The Greener cross-bolt has been a common closure. Once removed the pillar, lever and bolt easily come out. To reassemble, partially insert the bolt so that the arm (1) of the lever can find its slot (2).



To reassemble the gun, apply the suggestions previously given.

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