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(54) LOCKING MECHANISM OF A HAND FIREARM

VERRIEGELUNGSMECHANISMUS FÜR EINE HANDFEUERWAFFE

MÉCANISME DE VERROUILLAGE D'UNE ARME À FEU

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(56) References cited:
WO-A-98/27396
FR-A- 949 973
GB-A- 631 038
US-A- 2 270 683
US-A- 3 930 433

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Description

Technical field

[0001] The invention relates to a locking mechanism of a hand firearm, the locking mechanism consisting of a breech block provided with a longitudinally sliding firing pin and with a carrier with a stepped through hole at the upper side, wherein a return spring is arranged in the through hole, and further provided with a single arm transmission lever, which is arranged in the carrier in a swinging way and its free end is adapted to engage a cross stop provided in the cutoff case.

Background of the invention

[0002] A locking mechanism of a hand firearm is know from US Patent No. 2,270,683, which describes a locking mechanism consisting of a breech block and of its mutually slidingly arranged carrier, which are connected with each other by means of a single arm lever, the lever being set in the carrier swingingly and the free end of the lever being supported by the rear face of the breech block. The free end of said single arm lever is also adapted for engagement with a stop provided in a cutoff case and said lever has a through hole to be entered by a hammer to enable an actuation of a cartridge by a stroke on a firing pin with a striker.

[0003] Practical experience in the utilisation of said apparatus has proven that its use for present hand firearms is limited, because its design cannot be used well for automatic firing, i.e. for batch firing, in case the firing proceeds at a so called closed cutoff and a trigger and striking apparatus, e.g. of a hammer type, is used to fire the cartridge. The disadvantage of said type of cutoff mechanism consists in the unsuitable mutual coaction of said parts of the cutoff mechanism and their unsuitable mutual coaction with the cutoff case. Due to the unsuitable coaction a substantive recoil of the cutoff mechanism or of its part occurs during the locking of the cartridge chamber, namely at the time when the cutoff mechanism reaches the front, i.e. locking position and when the transmission ratio of the single arm lever, of the so called accelerator is fully utilised to intensify the locking force for a proper and sure locking of the cartridge chamber. The driving means of the breach block recoils furthest after said stroke, wherein the single arm lever is arranged within and is subjected to bending within the elastic deformation region during the final stage of the locking of the cartridge chamber. The side walls of the cutoff mechanism, too, are subjected to tension within the region of the elastic deformation between the cartridge chamber and the stop. The breech block, too, is subjected to buckling within the elastic deformation region during the locking. Any springing within the material of the parts of the locking mechanism and the cutoff case is intensified additionally by the transmission ratio of the single arm lever. The exigent of the recoil depends mainly on the size of the transmission ratio of the single arm lever, on the strength of the return spring, on the modules of elasticity of the materials, from which the particular parts of the locking mechanism and of the cutoff case are formed, on the weight of the breech block carrier, on the frictional resistance at guiding the moving parts of the locking mechanism and on the angular displacement of the firearm during the firing, i.e. on the elevation and on the depression. Any more substantial recoil of the locking mechanism is not permissible, as it is hazardous for the firearm function as well as for the operator, because the cartridge may be fired during an incomplete locking of the cartridge chamber, i.e. at the time, when the recoil is in progress. The longer the recoil path, the greater the danger that the cartridge will be fired prematurely, i.e. when the cartridge chamber is not locked fully. Subsequently, such firing of the cartridge leads to a loss of the automatic function of the firearm and, in a worse case, to a destruction of the shell at its bottom region, as in the critical moment of the recoil, the pressure of the combustion gas presses the shell out of the cartridge chamber so forcefully that a part of the shell wall gets outside the cartridge chamber into the free unprotected space and said unprotected part of the shell wall does not withstand the high pressure of the combustion gas within the shell. So the destruction of the unprotected shell wall and the expansion of the leaked combustion gas occurs, which may substantially affect not only the construction of the firearm but also the health of its operator.

[0004] Another locking mechanism similar to the one described in US 2,270,683, is described in WO 98/27396. This locking mechanism further comprises a breech block carrier that has a stepped throught hole, inside which a return spring is arranged, and a cross stop at the free end of the single arm transmission lever that overlaps on both sides.

Summary of the invention

[0005] The objective of the invention is to remove the above deficiencies and to design such a locking mechanism for a hand firearm, which would be reliable and secure during firing in any position of the firearm, at shooting single shots as well as at batch shooting, due to the fact that the cartridge chamber would be securely locked by the locking mechanism at the time of firing the cartridge.

[0006] Said objective is accomplished and the above disadvantages are removed by the locking mechanism of a hand firearm, which consists of a breech block provided with a longitudinally slidingly arranged firing pin and on its upper side with a carrier having a stepped through hole, inside which a return spring is arranged, and further with a single arm transmission lever, which is arranged in the carrier and the free end of which is adapted for an engagement with a cross trip in a cutoff case, according to the invention, wherein the single arm transmission lever is provided with a cylindrical crossbar,

which is swingingly and slidingly arranged in an oval cross seat in the carrier, the seat being provided with a back supporting surface and a front supporting surface for an engagement with the cylindrical crossbar of the single arm transmission lever, wherein the free end of the single arm transmission lever is provided with a cross stop overlapping on both sides and having an engagement surface for an engagement with a stop surface of the cross trip, and a locking clearance exists between the engagement surface and the stop surface.

[0007] It is preferable when the overlapping cross stop of the single arm transmission lever is further provided with a control surface for an engagement with a nose of a single arm release lever for catching the hammer by its catch protrusion.

[0008] It is further preferable when the single arm transmission lever is provided with a firing element, which is arranged in a limited sliding way and has an end intended for an engagement with the firing pin and the opposite end for an engagement with the striking surface of the hammer.

[0009] An advantage of the locking mechanism of a hand firearm according to the invention consists in the fact, that the unfavourable recoil of the locking mechanism is prevented by preventing any springing of the single arm transmission lever. So the firing of the cartridge is safe and reliable in any mode of firing and in any position of the firearm. This is achieved especially due the fact that, when the locking mechanism is in the locked position, the single arm transmission lever is inactive as a mass reducer and as an accelerator for a requisite time, so that the transmission ratio of the single arm transmission lever is not utilised until the moment of firing of the cartridge. This is possible because the engagement surface on the cross stop of the single arm lever does not contact the stop surface of the cross trip on the cutoff case until the moment of firing of the cartridge and there is a locking clearance between them. Said locking clearance prevents any springing on the single arm transmission lever and therefore also any transmission of elastic forces modified by the transmission ratio of the single arm transmission lever via its cylindrical crossbar onto the mass of the carrier of the breech block is prevented.

Brief description of the drawings

[0010] An exemplifying embodiment of the invention is shown in the drawings, wherein Fig. 1 shows a front view of a sectional longitudinal axial section of a hand firearm with a locking mechanism in the locked position just after the firing of the cartridge; Fig. 2 shows the front view of the same section of the hand firearm with the locking mechanism in she open position; Fig. 3 shows a partial view and a partial section of the detail A of Fig. 1; Fig. 4 shows a partial view and a partial section of the detail B of Fig. 1, Fig. 5 shows a front view of a partial longitudinal axial section of a cutoff case, Fig. 6 shows a cross section of the cutoff case along the line VI-VI in Fig. 5; Fig. 7 shows a cross section of a part of the cutoff case with a breech block, its carrier and its enclosure along the line VII-VII in Fig. 2; and Fig. 8 shows a transmission lever in the direction from the barrel.

Exemplifying embodiments of the invention

[0011] First of all, the locking mechanism according to Fig. 1 consists of a breech block **1** provided on its upper side with a carrier **2**, having a stepped through hole **3**, inside which a return spring **5** is arranged on a guide bar **4**. The rear end of the spring **5** is supported by a perpendicular wall 6, which closes the rear end of a cutoff case **7** and in which the rear end of the guide bar **4** of the return spring **5** is anchored. The perpendicular wall **6** is a part of a mounting seat **8** of a butt (not shown) of the hand firearm, the mounting seat **8** being inserted in the rear part of the cutoff case **7** to which it is fastened by means of a mounting pin **9**. The front end of the cutoff case **7** consists of a supporting collar **10**, in which a barrel **12** with a cartridge chamber **13** is inserted and secured by a cross pin **11**. The lower side of the supporting collar **10** is provided with a tapped hole **14**, into which a fastening screw **15** is screwed passing through the lower grip part **16** for its attachment. A supporting frame **17** is inserted into the cutoff case **7** from below and it is secured therein by means of two securing pins **18**; **19**. The supporting frame **17** is provided with a longitudinal sleeve **20**, inside which a magazine **21** for cartridges **22** along with a feeder **23** and a feeding spring **24** are arranged. There is a bow **25** arranged backwards next to the longitudinal sleeve **20**, a trigger **26** protrudes into the bow **25** and a magazine lock **27** is hinged flexibly by a cross bolt **28** in the bow **25**. The rear part of the supporting frame **17** is provided with a grip **29**. The cutoff case **7** is closed at its upper side and its lateral sides by an enclosure **30** with an ejection slot **31** for empty shells **32** (Fig. 1). A firing pin **33** with a striker **34** is arranged in the breech block **1** in a flexible sliding way, wherein its movement is limited by a delimiting pin **35**, which protrudes partially into an elongated cross groove **36** on the firing pin **33**. The locking mechanism consists further of a single arm transmission lever **37** provided with a cylindrical crossbar **38**, the central part of its length being provided with a flute-like seat **39** (Fig. 8) for the passage of the return spring **5**. The cylindrical crossbar **38** extends into an oval cross seat **40** formed in the carrier **2** of the breech block **1**. The oval cross seat **40** is provided with a back supporting surface **41** and a front supporting surface **42** for an engagement with the cylindrical crossbar **38** of the single arm transmission lever **37**. The free end **43** of the single arm transmission lever **37** is provided with a cross stop **44** overlapping both sides of the free end **43**. The cross stop **44** has got an engagement surface **45** for an engagement with a stop surface **46** of a cross trip **47** formed in the cutoff case **7**, as well as a control surface **48** for an engagement with a nose **49** of a single arm release lever **50** arranged in a flexible sliding way on a suspension bolt

51, which is imbedded in the supporting frame 17, inside which a supporting spring 52 for the single arm release lever 50 is disposed. The single arm release lever 50 has got a grip end 53, which is intended for an engagement with a catch protrusion 54 formed on a hammer 55 in the region of its mounting on a hammer bolt 56, on which a striking spring 57 is wound and which has its ends suspended in the supporting frame 17. The hammer 55 consists of a single arm lever provided with a striking surface 58 for an engagement with a firing element 59, which is slidingly mounted in the single arm transmission lever 37 and its movement is limited by a limiting pin 60 (Fig. 2), as well as with a guide surface 61 at the free end of the hammer 55 for an engagement with a control surface 62 (Fig. 4) formed on a lower part of a back face 63 of the carrier 2 of the breech block 1. The hammer 55 is provided with a retaining protrusion 64 arranged opposite the guide surface 61, intended for an engagement with a retaining nose 65 arranged at the end of a retaining arm 66 of a trigger lever 67, which is fixed to the trigger 26 and swingingly suspended on a trigger bolt 68. There is a fire interrupter 70 swingingly suspended also on the trigger bolt 68, the interrupter 70 being provided with a spring (not shown) and controlled by means of an ordinary firing mode switch 71 which is combined with a firearm lock. A flat spring 73 is mounted to the supporting frame 17, e.g. by means of a rivet 72, and it is designed tao return the trigger lever 67 back to the starting position. The breech block 1 is provided with a pair of longitudinal guiding grooves 74, 75, which are arranged at opposite sides of the breech block 1 and into which the respective longitudinal guiding ribs 76, 77 are inserted, the longitudinal guiding ribs 76, 77 being formed at the inner sides of the cutoff case 7. The breech block 1 is provided at its front face 78 with a seat 79 for the bottom of the cartridge 22 and with a supporting protrusion 80, which is arranged near to the front face 78 protruding from its upper side and is provided at the back side with a supporting surface 81 for an engagement with the respective stop surface 82 formed at the lower side near to the front wall 83 of the carrier 2 of the breech block 1. The longitudinally sliding coupling of the carrier 2 with the breech block 1 is realised by means of a pair of slide-ways 84, 85 arranged opposite each other on the breech block 1 and inserted into the respective guiding slots 86, 87 on the carrier 2 of the breech block 1.

[0012] The hand firearm according to the invention operates as follows:

Prior to the single or batch firing, the operator takes a tensioning lever (not shown), which is connected with the carrier 2 of the breech block 1, and he moves said system to the back position. Upon said movement the cylindrical crossbar 38 contacts the front supporting surface 42 of the oval cross seat 40 and the return spring 5 is compressed. At the same time, the single arm transmission lever 37 is tilted drifting behind the cylindrical crossbar and dragging its cross stop 44 over the cross trip 47 of the cutoff case 7 and the hammer 55 is tilted below the lower surface of the breech block 1 against the power of the striking spring 57. When the hammer 55 is in that position, it is arrested with its catch protrusion 54 by the grip end 53 of the single arm release lever 50 due to the operation of the supporting spring 52, as well as with its retaining protrusion 64 by the retaining nose 65 on the retaining arm 66 of the trigger lever 67. Due to the operation of the return spring 5, a releasing of the tensioning lever (not shown) issues in a forward movement of the carrier 2, wherein the back supporting surface 41 in the oval cross seat 40 touches the cylindrical crossbar 38, which issues in a forward movement of the single arm transmission lever 37, which slides with its cross stop 44 with the control surface 48 over the cutoff case 7 and pushes ahead of itself the breech block 1. The breech block 1 hits against the bottom of the cartridge 22, pushes the cartridge 22 out of the magazine 21 and gets it into the cartridge chamber 13 of the barrel 12. During said movement of the locking mechanism, the cross stop 44 is shifted over the cross trip 47, and as a result, the single arm transmission lever 37 is erected and this enables - due to a further operation of the return spring 5 - a further forward movement of the carrier 2 till its stop surface 82 hits against the supporting surface 81 of the supporting protrusion 80 on the breech block 1. When the breech block 1 is pushed till its front face 78 touches the rear end of the barrel 12, eventually to the face of the supporting collar 10, the cartridge 22 is locked in the cartridge chamber 13. When the single arm transmission lever 37 is erected, its cross stop 44 engages the nose 49 of the single arm release lever 50 and therefore the release lever 50 is swung against the force of the supporting spring 52. Consequently, the catch protrusion 54 of the hammer 55 is released, but the hammer stays in the dropped position as its retaining protrusion 64 is caught by the retaining nose 65 of the trigger lever 67. When the trigger 26 is pulled, the retaining protrusion 64 is released and - due to the operation of the striking spring 57 - the hammer 55 is flirted around the hammer bolt 56 towards the single arm transmission lever 37, where the striking surface 58 of the hammer 55 contacts the firing element 59 and, at the same time, its guide surface 61 contacts the control surface 62 of the carrier 2 of the breech block 1. Consequently, the movement of the firing element 59 is transmitted to the firing pin 33 with the striker 34, so that the primer (not shown) is initiated and the cartridge is fired. The power of the powder gas acts onto the bottom of the empty shell 32 (Fig. 1) and said power is transmitted to the breech block 1, which starts to move along with the carrier 2 and with the single arm transmission lever 37 towards the back position against the power of the return spring 5. During the first phase of said

movement, the single arm transmission lever **37** remains in the erected position until its cross stop **44** overcomes the locking clearance **X** between its engagement surface **45** and the stop surface **46** of the cross trip **47** on the cutoff case **7** and the cross stop **44** leans against it. From this moment on, the function of the single arm transmission lever **37** as a mass reducer and an accelerator is fully utilised, wherein a further movement of the empty shell **32** depends especially on the drive ratio of the single arm transmission lever **37,** on the mass quantum of the carrier **2** of the breech block **1,** on the strength of the return spring **5** and on the process of the ballistic pressure inside the barrel **12**. During said further movement of the locking mechanism, the single arm transmission lever **37** is tilted and therefore the speed of the carrier **2** backwards against the power of the return spring **5** is increased. During said accelerated movement backwards, the empty shell **32** is thrown from the firearm through the ejection slot **31** by means of an ejector (not shown). Due to the backward movement of the single arm transmission lever **37,** the hammer **55** is tilted under the lower surface of the breech block **1** against the power of the striking spring **57,** wherein the hammer **55** is caught again by the single arm release lever **50.** The locking mechanism, after reaching the back dead point, is moved forwards by means of the return spring **5,** and another cartridge **22** is pushed into the cartridge chamber **13** during said forward movement and, during the final phase of the movement, after the cross stop **44** is shifted over the cross trip **47,** the single arm transmission lever **37** is erected. At that moment, the single arm release lever **50** is swung by the control surface **48** of the single arm transmission lever **37** and therefore, the hammer **55** is released. In case the trigger **26** is kept pulled, the hammer **55** is shot and fires said another cartridge **22** in the above mentioned way. Said cycle is repeated as long as the trigger **26** is pulled until the moment, when the last cartridge **22** from the magazine **21** is fired. In case the trigger **26** has been released before the erection of the single arm transmission lever **37**, the retaining protrusion **64** on the hammer **55** is caught by the retaining nose **65** of the trigger lever **67**, whereby the batch firing is stopped, even if the single arm transmission lever **37** swings the single arm release lever **50** and releases the hammer **55** thereby. The cartridge **22**, which has been pushed into the cartridge chamber **13**, has not been fired and is prepared for firing at the next pulling of the trigger **26**. In case a single shot firing is required, the fire interrupter **70** is activated by turning the firing mode switch **71**, so that the hammer **55** is caught in the requisite moment and the firing is interrupted. The trigger **26** has to be released for the next firing and at the same time the hammer **55** is released by the fire interrupter **70** and is caught by the retaining nose **65** of the trigger lever. So, the hand firearm is prepared for another firing.

Industrial applicability

[0013] The locking mechanism according to the invention may be used in hand firearms, when it is required that the cartridge chamber is reliable and safely locked before firing the inside located cartridge and that any recoil of the locking mechanism before the cartridge firing itself is prevented.

List of reference numerals

[0014]

1	breech block
2	carrier
3	through hole
4	guide bar
5	return spring
6	perpendicular wall
7	cutoff case
8	mounting seat
9	mounting pin
10	supporting collar
11	cross pin
12	barrel
13	cartridge chamber
14	tapped hole
15	fastening screw
16	lower grip part
17	supporting frame
18	securing pin
19	securing pin
20	longitudinal sleeve
21	magazine
22	cartridge
23	feeder
24	feeding spring
25	bow
26	trigger
27	magazine lock
28	cross bolt
29	trip
30	enclosure
31	ejection slot
32	empty shell
33	firing pin
34	striker
35	delimiting pin
36	ongated cross groove
37	single arm transmission lever
38	cylindrical crossbar
39	flute-like seat
40	oval cross seat
41	back supporting surface
42	front supporting surface

43 free end
44 cross stop

45 engagement surface
46 stop surface
47 cross trip
48 control surface
49 nose
50 single arm release lever
51 suspension bolt
52 supporting spring
53 grip end
54 catch protrusion
55 hammer
56 hammer bolt
57 striking spring
58 striking surface
59 firing element
60 limiting pin
61 guide surface
62 control surface
63 back face
64 retaining protrusion
65 retaining nose
66 retaining arm
67 trigger lever
68 trigger bolt
69 securing arm
70 fire interrupter
71 switch
72 rivet
73 flat spring
74 longitudinal guiding groove
75 longitudinal guiding groove
76 longitudinal guiding rib
77 longitudinal guiding rib
78 front face
79 seat
80 supporting protrusion
81 supporting surface
82 stop surface
83 front wall
84 slide way
85 slide way
86 guiding slot
87 guiding slot
X locking clearance

Claims

1. Locking mechanism of a hand firearm consisting of a breech block (1) with a longitudinally slidingly arranged firing pin (33) and provided on its upper side with a carrier (2) having a stepped through hole (3), inside which a return spring (5) is arranged, and further with a single arm transmission lever (37), which is arranged in the carrier (2) and the free end (43) of which is adapted for an engagement with a cross trip (47) provided in a cutoff case (7), the free end (43) further being provided with a cross stop (44) overlapping on both sides and having an engagement surface (45) for an engagement with a stop surface (46) of the cross trip (47),and the single arm transmission lever (37) being provided with a cylindrical crossbar (38), **characterised in that** the cylindrical crossbar (38) is swingingly and slidingly arranged in an oval cross seat (40) in the carrier (2), said seat (40) being provided with a back supporting surface (41) and a front supporting surface (42) for an engagement with the cylindrical crossbar (38) of the single arm transmission lever (37), and a locking clearance (X) exists between the engagement surface (45) and the stop surface (46).

2. Locking mechanism of a hand firearm according to claim 1, **characterised in that** the overlapping cross stop (44) of the single arm transmission lever (37) is further provided with a control surface (48) for an engagement with a nose (49) of a single arm release lever (50) for catching the hammer (55) by its catch protrusion (54).

3. Locking mechanism of a hand firearm according to claim 1, **characterised in that** the single arm transmission lever (37) is provided with a firing element (59) arranged in a limited sliding way, having an end intended for an engagement with the firing pin (33) and the opposite end for an engagement with the striking surface (58) of the hammer (55).

Patentansprüche

1. Verschlussmechanismus einer Handfeuerwaffe, bestehend aus einem Verschluss (1) mit einem in Längsrichtung gleitend gelagerten Schlagbolzen (33) und versehen mit einem auf seiner oberen Seite angebrachten Träger (2), der eine abgesetzte Durchgangsbohrung (3) aufweist, in der eine Rückstellfeder (5) angeordnet ist, und ferner versehen mit einem einarmigen Übersetzungshebel (37), der innerhalb des Trägers (2) gelagert ist und dessen freies Ende (43) für Eingriff mit einem in einer Verschlussgehäuse (7) quer angeordneten Schnäpper (47) angepasst ist, wobei das freie Ende (43) ferner mit einem beidseitig überstehenden Queranschlag (44) versehen ist, der eine für Eingriff mit einer Anschlagfläche (46) des quer angeordneten Schnäppers (47) vorgesehene Auflagefläche (45) aufweist, und wobei der einarmige Übersetzungshebel (37) mit einem zylinderförmigen Querbolzen (38) versehen ist, **dadurch gekennzeichnet, dass** der Querbolzen (38) schwenkbar und gleitend in einem in dem Träger (2) in Querrichtung ausgebildeten ovalförmigen Sitz (40) angeordnet ist, der seinerseits mit

einer hinteren Stützfläche (41) und mit einer vorderen Stützfläche (42) für Eingriff mit dem Querbolzen (38) des einarmigen Übersetzungshebels (37) versehen ist, wobei ein Verschlussspiel (X)zwischen der Auflagefläche (45) und der Anschlagfläche (46) vorgesehen ist.

2. Verschlussmechanismus einer Handfeuerwaffe nach Anspruch 1, **dadurch gekennzeichnet, dass** der beidseitig überstehende Queranschlag (44) des einarmigen Übersetzungshebels (37) ferner mit einer Betätigungsfläche (48) versehen ist, die für Eingriff mit einer Nase (49) eines einarmigen Freigabehebels (50) fürs Abfangen des Hammers (55) mittels eines Abfangvorsprungs (54) des letzteren vorgesehen ist.

3. Verschlussmechanismus einer Handfeuerwaffe nach Anspruch 1, **dadurch gekennzeichnet, dass** der einarmige Übersetzungshebel (37) mit einem Schlagbolzen-Betätigungselement (59) versehen ist, das in einem eingeschränkten Bereich gleitend bewegbar ist, wobei sein eines Ende für Berührung mit dem Schlagbolzen (33) und sein gegenüberliegendes Ende für Berührung mit der Schlagfläche (58) des Hammers (55) vorgesehen ist.

Revendications

1. Le mécanisme de verrouillage d'une arme à feu de poing composé d'un bloc de culasse (1) avec un percuteur (33) coulissant monté longitudinalement et équipé sur sa face supérieure d'un support (2) ayant un alésage traversant étagé (3), à l'intérieur duquel un ressort de rappel (5) est disposé, et qui est en plus équipé d'un levier de transmission à un bras unique (37), qui est disposé dans le support (2) et l'extrémité libre (43) duquel est adapté pour un engagement avec une butée transversale (47) prévue dans une chambre d'obturateur (7), l'extrémité libre (43) étant en outre munie d'une butée transversale (44) en saillie sur les deux côtés et ayant une surface de contact (45) pour un engagement avec une surface de butée (46) d'une butée transversale (47) et le levier de transmission à un bras unique (37) étant muni d'une barre cylindrique (38), **caractérisé en ce que** la barre cylindrique (38) est pivotante et coulissante dans un lit ovale transversal (40) prévu dans le support (2), le lit mentionné (40) étant muni d'une surface arrière d'appui (41) et d'une surface d'appui avant (42) pour un engagement avec la barre transversale cylindrique (38) du levier de transmission à un bras unique (37), avec un jeu de blocage (X) existant entre la surface de contact (45) et la surface de butée (46).

2. Le mécanisme de verrouillage d'une arme à feu de poing selon la revendication 1, **caractérisé en ce que** la butée transversale (44) en sailli du levier de transmission à un bras unique (37) est en outre muni d'une surface de contrôle (48) pour un engagement avec un nez (49) d'un levier de déclenchement à bras unique (50) pour retenir le chien (55) par sa saillie de capture (54).

3. Le mécanisme de verrouillage d'une arme à feu de poing selon la revendication 1, **caractérisé en ce que** le levier de transmission à un bras unique (37) est muni d'un élément de mise à feu (59) disposé de manière à glissement limité, ayant une extrémité destinée à un engagement avec le percuteur (33) et l'extrémité opposée pour un engagement avec la surface de frappe (58) du marteau (55).

Fig. 1

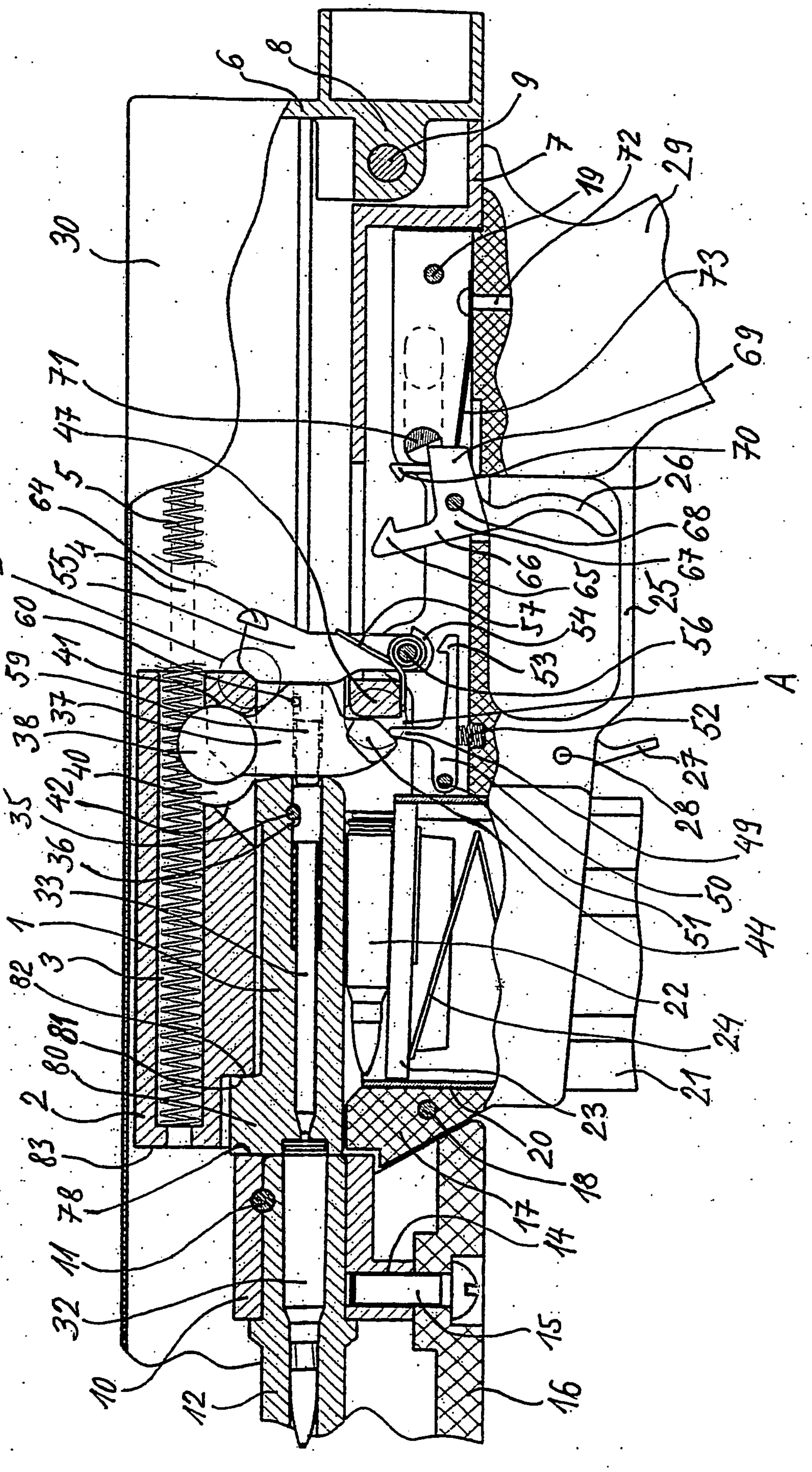
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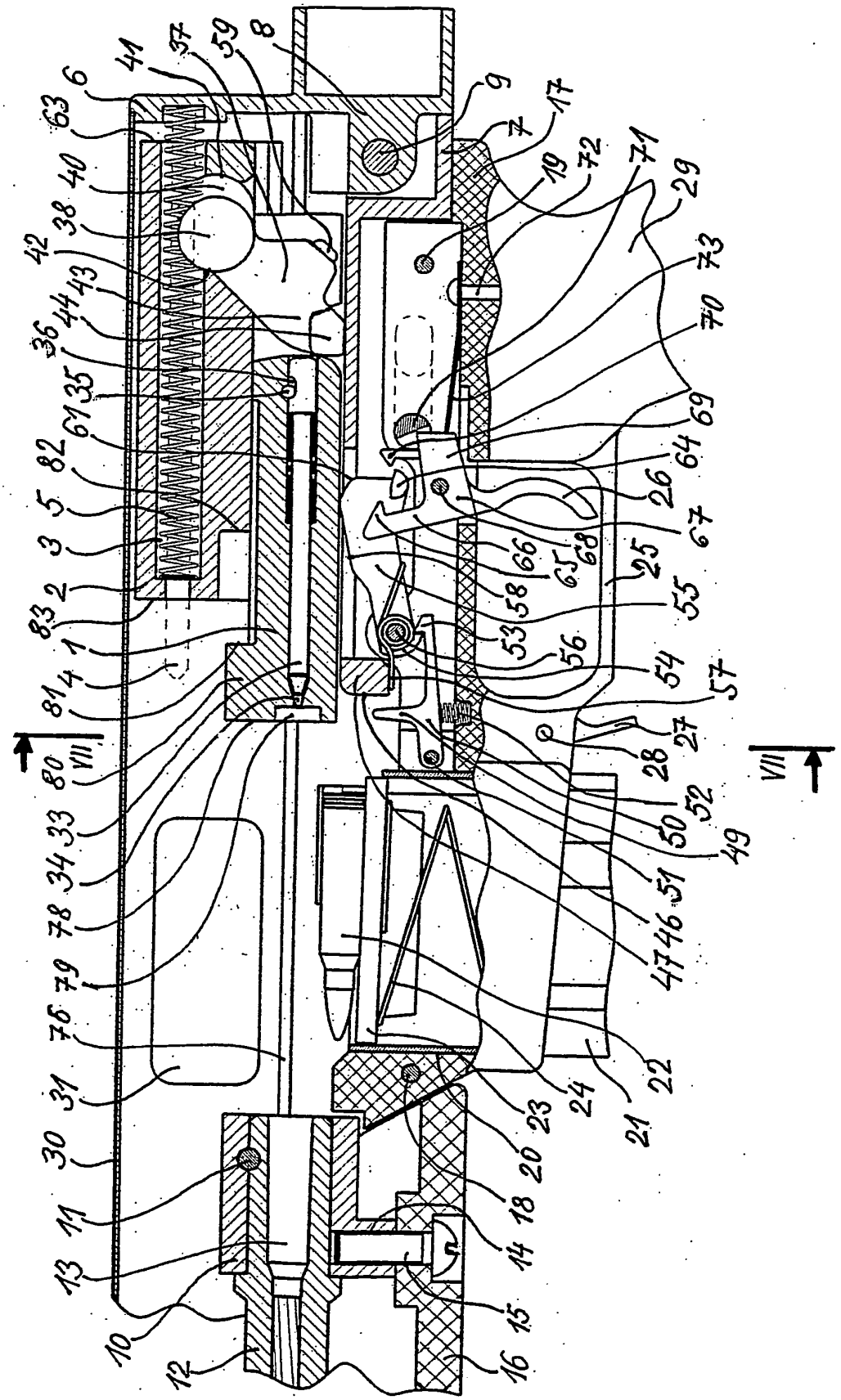
Fig. 2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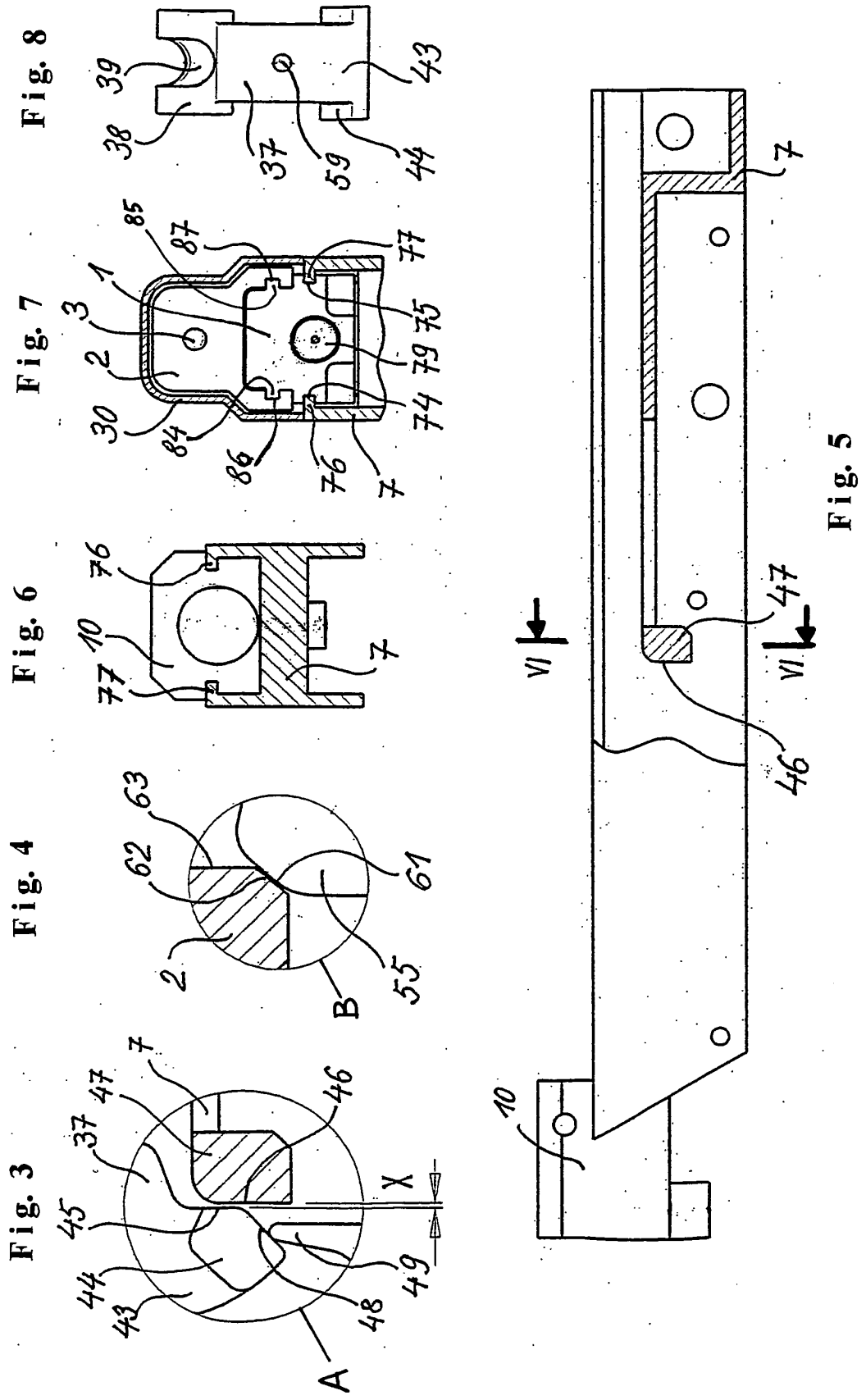
Fig. 3
Fig. 4
Fig. 6
Fig. 7
Fig. 8
Fig. 5
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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 2270683 A **[0002] [0004]**
- WO 9827396 A **[0004]**