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GUN HAVING MOVABLY MOUNTED BARREL
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ABSTRACT OF THE DISCLOSURE
A gun having a slide which recoils rearwardly upon firing, and having a barrel whose breech end swings slightly in a rearward and downward direction upon recoil, with the breech end of the barrel being mounted for such movement by a link pivotally connected at two different locations to the barrel and the receiver of the gun respectively, and with the returning upward and forward movement of the breech end of the barrel, following recoil, being limited by engagement of a downwardly facing stop surface on the link with an upwardly facing stop surface carried by the receiver. A forward portion of the link is movably received within a vertical slot formed in the rear portion of an otherwise conventional recoil spring guide.

Cross references to related applications
This application is a division of co-pending application Ser. No. 605,825, filed Dec. 29, 1966, entitled, "Accurized Pistol Structure." Another division of the same case it being filed concurrently herewith application Ser. No. 733,367, filed May 31, 1968, entitled, "Gun Recoil Spring Assembly."

Background of the invention
This invention relates to improvements in the construction of guns, particularly in guns having an action of a type utilized in certain automatic pistols, with the improvements being designed for the purpose of increasing the accuracy of such guns.

The guns with which the present invention is concerned are of a known type having a slide which reciprocates rearwardly and then forwardly relative to the receiver of the gun during recoil, and relative to the barrel. This recoiling motion may be utilized for effecting removal of a fired cartridge case from the gun, and advancement of a next successive cartridge into firing position. During recoiling movement of the slide, the breech end of the barrel swings slightly downwardly and rearwardly, to a slightly retracted position for facilitating or enabling the recoiling of the slide.

Guns of this general type as conventionally manufactured have been very inaccurate by reason of the ineffectiveness with which the slide, barrel, and receiver are held in alignment with one another, and by reason of the looseness normally encountered in the connections between these various parts, as a result of which there is no reliably and precisely maintained relationship between the gun barrel and the sights of the gun. Consequently, even though a marksman may aim the gun perfectly insofar as the sights are concerned, and may be completely consistent in such aiming, slight changes in the positioning of the barrel relative to the sights after different recoiling operations can introduce errors into the firing of the gun which are completely beyond the control of the user. More specifically, and with particular reference to the features covered in the present divisional application, conventional structures utilized in this type of gun have not been effective to accurately limit the extent of upward and forward swinging movement of the breech end of the barrel following recoil, with the result that the firing or battery position of the barrel has varied slightly upon different firings of the gun, and the accuracy of the gun has therefore been affected.

Summary of the invention
In a gun embodying the present invention, the upward and forward swinging movement of the breech end of the barrel toward firing position is limited very precisely and accurately by a positive stop arrangement, leaving no room for variation in the extent of such movement, or in the ultimate battery position of the barrel, on different firings of the gun. Specifically, the breech end of the barrel is mounted for its motion by a link which is pivoted at two spaced locations to the barrel and receiver respectively, and with the link having a stop surface formed on it which is engageable in abutting relation with a coating stop surface on the receiver, to predetermine the final battery position of the barrel. The stop surface of the link is desirably a downwardly facing surface which is essentially horizontal in the battery position of the parts, and which engages downwardly against an upwardly facing stop surface formed in the receiver.

An additional feature of the invention resides in the manner in which a forward portion of the barrel mounting link is movably received within a slot formed in a rear portion of the usual guide element which engages and locates the conventional recoil spring of the gun. This forward portion of the link is desirably of a reduced width as compared with an adjacent rear portion of the link, and carries the mentioned receiver engaging stop surface at its underside.

Brief description of the drawing
The above and other features and objects of the invention will be better understood from the following detailed description of the typical embodiments illustrated in the accompanying drawing, in which:

FIG. 1 is a side view of an automatic pistol constructed in accordance with the invention;
FIG. 2 is a greatly enlarged side view of the pistol, with some elements partially broken away;
FIG. 3 shows the gun in recoil position;
FIGS. 4, 5 and 6 are views taken on line 4—4, 5—5 and 6—6 respectively of FIG. 2;
FIG. 7 is a fragmentary horizontal section taken primarily on line 7—7 of FIG. 3;
FIGS. 8 and 9 are vertical sections taken on lines 8—8 and 9—9 respectively of FIG. 2;
FIG. 10 is an enlarged plan view on line 10—10 of FIG. 8;
FIG. 11 is a perspective view of the barrel mounting link;
FIG. 12 is a fragmentary side view of a variational type of front bushing structure;
FIGS. 13 and 14 are views taken on lines 13—13 and 14—14 respectively of FIG. 12, and partially broken away;
FIG. 15 is a fragmentary vertical section taken on line 15—15 of FIG. 13; and
FIG. 16 is a plan view of the FIG. 12 bushing.

Description of the preferred embodiments
Referring first to FIG. 1, we have shown at 10 a gun of a well known conventional type to which the features of the present invention may be applied, and in connection with which these features will be discussed. This pistol includes a receiver or main body part 11, having a handle 12 and a trigger 13. A magazine represented at 14 is contained within the handle 12, and holds a series of shells which are sequentially fed to firing position and...
then automatically ejected from the gun upon successive actuations of the trigger. To the upper side of receiver 11, there is movably mounted a slide 15, which is mounted slidable to 2, 3, 4, sufficient movement between the battery or firing position of FIGS. 1 and 2, and the full recoil position of FIG. 3, and which is then returned by a spring 16 (FIG. 2) to the FIGS. 1 and 2 position. This rearward and then forward reciprocating movement of the slide is along the front to rear axis designated generally by the number 20, and with the forward or muzzle end of the barrel being located by a bushing 21.

The manner in which slide 15 is mounted and guided for its recoiling movement is brought out best in FIG. 6, which illustrates that the receiver has two upper edges 22 forming oppositely directed parallel flanges 23 extending in a front to rear direction, and connecting with inwardly facing parallel flanges 24 on the lower edges of slide 15, in a relation such that each of the flanges 23 and 24 is received within a recess or guide-way in the other part, to guide the slide for its desired front to rear recoiling movement, while precluding substantial movement in any other direction.

The barrel 18 of course forms essentially a tube, having an inner substantially cylindrical bore or passage 25 centered about axis 19 and open at its rear end to receive a cartridge, and open at its forward end for discharge of the projectile. Externally, barrel 18 has a cylindrical surface 26 extending rearwardly from its forward end 27 to a location 28. Beyond this location, the barrel may enlarge slightly externally, to form a pair of upwardly projecting semi-circular ribs 29 receivable within mating recesses 30 formed in the interior of slide 15. As will be apparent from FIGS. 2, 5 and 6, the slide extends above the upper side of the barrel, and extends downwardly at its opposite side, and has an enlargement 31 extending downwardly from the forward end of the slide for coaction with recoil spring 16. An opening 32 in the upper side of the slide allows for ejection of the fired cartridge case in the recoil position of FIG. 3.

About the forward cylindrical surface 26 of barrel 18, there is disposed the previously mentioned bushing 21 (FIG. 2), which is tubular and has an inner straight cylindrical surface 34 of a diameter corresponding substantially to the diameter of outer surface 26 of the barrel, and a close enough fit on that surface to accurately locate the barrel relative to the bushing, while still allowing free rearward sliding movement of the bushing relative to and about the barrel to the position of FIG. 3. Externally, the bushing may have outer cylindrical surfaces 35 and 26 centered about the axis 19 of the bushing and barrel, with an enlarged diameter spherically curved outer surface 37 located between surfaces 35 and 36, and centered about a point on axis 19. At its forward end, the bushing may carry an enlarged head 38, which may be cut away arcuately at its underside, at 39 (FIG. 4), and which carries at its upper side a forward sight 40 for aiming the gun. This forward sight coaxes with the usual rear sight 41, which may be carried by the rear portion of slide 15, to define a vertical or sight plane 42 formed to or essentially parallel to axis 19 of the barrel and bushing.

Bushing 21 is connected to slide 15 for relative pivotal movement about an axis 43 disposed transversely of the barrel and bushing and their longitudinal axis 19 (FIGS. 2 and 5). For this purpose, I provide two pivot or 튼션 elements 44 (FIG. 5), each of which may take the form of a screw having threads 45 centered about axis 43 and connected into threads 46 also centered about that axis and forming a corresponding cylindrical opening 47, having an enlarged head 57 which is tightenable against the vertical outer surface 48 of the slide, and containing a screwdriver slot. Inwardly beyond its threads 45, each screw may have an externally cylindrical reduced diameter portion 49, centered about axis 43, and received within a corresponding dimensioned cylindrical opening 50 formed in one side of bushing 21, to mount the bushing for the desired pivotal movement about axis 43. The fit between surfaces 49 and 50 should be close, to prevent any relative motion between the bushing and elements 44, so that the bushing can only move pivotally. As will be apparent from FIGS. 2 and 5, the outer spherical surface 37 of the bushing is centered about a point 51 located at the intersection of axes 19 and 43, and is of a diameter corresponding to the diameter of an engaged inner cylindrical surface 52 formed in the slide, so that the engagement of surfaces 37 and 52 causes with trunion elements 45 in preventing upward, downward or lateral movement of the bushing relative to the slide.

At its breech end, barrel 18 has a downwardly projecting connector portion 53, which is integral with the rest of the barrel and opens to a diameter and adjacent head 59 at one of its ends, and adjacent the head extends through an opening within the usual slide stop 60, which coacts with the slide to hold it in open or recoil position under certain operating conditions. As will be understood, slide stop 60 is in most guns of the present type integral with pin 57, but in accordance with the teachings of Patent Number 3,207,037, I prefer to form it separately from the pin as shown. At the second side of the receiver, the pin 57 may be held in installed position by means of a retaining snap ring 61, which may be resilient and extend more than half walls about pin 57, and be received within an annular groove 62 to retain the pin against removal.

Pins 55 and 57 are disposed about axes which extend transversely of the recoiling axis 17 of the slide, and transversely of axis 19 of the barrel and bushing, though not actually intersecting these axes, and pin 57 has an upper portion 63 which extends upwardly between, and is a close fit between, the two depending lugs 54 of the barrel, with pin 55 extending through mating apertures in lugs 54 and end portion 63 of the link to interconnect these parts for the desired relative pivotal movement between the positions of FIGS. 2 and 3. Beneath its portion 63, link 56 may have a widened portion 64. As best seen in FIG. 6, this portion 64 of the link, and the two lugs 54 on the barrel, have parallel planar surfaces at their opposite sides which are spaced in correspondence with the spacing of inner vertical planar surfaces 66 defining the opposite sides of a recess in the receiver within which the link is contained, so that the opposite sides of the link and of lugs 54 simultaneously engage both of the surfaces 66, to effectively confine link 56 and lugs 54 against any lateral movement, longitudinally of pins 55 and 57, or sideways in miss of the lugs 54 in virtue of the surface 66 in virtue of the surfaces of the link and barrel lugs are of course disposed transversely of pins 55 and 57, and therefore lie in planes which are essentially parallel to axes 17 and 19.

At its underside, and forwardly of the axis of pin 57, link 56 has a planar undersurface 67, which in the battery position of FIG. 2 extends directly horizontally and abuts


downwardly against a horizontal bottom wall surface 68 formed in the receiver. Thus, this interengagement of surfaces 67 and 68 acts to positively limit the upward and forward movement of the barrel in the FIG. 2 position. In the FIG. 3 position, two rearwardly facing vertical planar surfaces 69 formed on the back sides of lugs 54 engaged portion 70 formed in the receiver and disposed perpendicular to axis 17, to prevent any further rearward and downward movement of the barrel. It is also noted that, in the FIG. 2 position of the barrel, pin 55 is desirably located approximately directly above pin 57 (preferably slightly forwardly or rearwardly of position of extended vertical alignment of pins). Because the pins are in this approximate vertical alignment, any slight forward or rearward shift which may occur for any reason in the firing position of the barrel can not alter substantially the vertical position of the breech end of the barrel, or the position of barrel axis 19.

The forward end of helical recoil spring 16 is received within and bears forwardly against a plug 71, which contains a cylindrical passage 72, within which the spring is a fairly close fit. The forward end of the plug forms a transverse wall 73 against which the spring bears, and which is located in cylindrical portion 74 and a forward annular transverse surface 75. Except at the location of this forward portion 74, the plug may have an increased diameter external surface 76 which is slidably received and located within a cylindrical passage 77 formed in the forwardly projecting forward portion 31 of the slide. The plug is retained against forward movement relative to the slide, to transmit forward forces of the spring to the slide, by means of a retaining element 78, which is slidably received within in a guideway 79 formed in portion 31 of the slide, and extending vertically or transversely of axis 17. As will be apparent from Figs. 2 and 8, element 78 may take the form essentially of a flat plate, which bridges across the passage 77 in the lower portion of the slide, with the guideway 79 in that portion of the slide forming an opening extending across the bottom of the slide at 80, and forming two parallel internal guideway grooves 81 extending upwardly within the opposite side portions 82 of the slide portion 31. The peripheral shape of retaining element 78 is brought out best in Fig. 8, which illustrates the part as having a lower externally semi-circular portion 178 which is received within an outer semi-circular surface 278 flush with the outer surface 131 of slide portion 31. Above portion 178, element 78 has two parallel vertical edges 278 which are slidably received and guided within grooves 81. Element 78 also has a central opening 179, in correspondence with forward reduced diameter portion 74 of plug 71, to receive that portion of the plug in interfitting relation in a manner locking element 78 against downward removal from the slide.

The rear end of the compression spring 16 is received about a spring guide 84, having a flange 85 at its rear end against which the spring exerts rearward force. This flange 85 in turn bears against a forwardly facing shoulder 86 formed in and by the receiver, with a portion 87 of the guide projecting rearwardly beyond that shoulder. This portion 87 of the guide is in conventional guns of this general type annular, but in accordance with the present invention is specifically formed to avoid interference with the forwardmost portion of link 56, and for this purpose portion 87 of the guide 84 is milled to form a vertically extending slot or cutaway as shown at 88 in FIGS. 7 and 9. The portion of link 56 is reduced somewhat in width at 89 (FIGS. 2, 7 and 11), so that this slightly reduced width portion of the link may move upwardly and downwardly within the slot or cutaway area 88 in guide 84 as the link pivots between the positions of FIGS. 2 and 9.

The rearward recoiling movement of slide 15 is in most guns of the present type limited by engagement of the thickened essentially annular portion 90 (FIG. 3) of the slide with the flange 85 of spring guide 84. To supplement this motion limiting action, we so dimension the various parts and particularly spring 16 that, in the fully recoiled position of FIG. 3, the successive turns of the spring are all in direct essentially annular engagement with one another, so that there is direct metal to metal contact (continuously throughout 360 circular degrees) between all of the various successive turns of the spring, and between the end turns and the parts engaged thereby, to thus in effect form through the spring a rigid metal connection between surface 73 at the forward end of plug 71 and the flange 85 of spring guide 84, to in this way coact with the previously mentioned engagement between portion 90 of the guide and flange 85 in positively limiting the recoiling motion.

To now describe a cycle of operation of the pistol shown in FIGS. 1 to 11, assume that the gun is in the battery condition of FIG. 2, and that a loaded magazine has been inserted into the handle of the gun, and that one round has been properly positioned in the breach end of the barrel. With the gun in this condition, the user may aim the gun by means of sights 40 and 41, and then pull the trigger so that hammer 91 is released, and pin 192 is driven forwardly in the barrel. The gases of combustion produced in the barrel act through the cartridge case to force slide 15 rearwardly relative to the receiver and barrel to the FIG. 3 recoiled position. During the initial portion of this slide movement, there is reciprocation to the breech end of the barrel to swing rearwardly and downwardly to its FIG. 3 position, about axis 43, with this motion of the barrel being limited by engagement of lugs 54 with receiver shoulder 70. The rearward motion of the slide causes ejection of the fired cartridge case, and enables a next successive round to move into firing position in the barrel, following which spring 16 returns the slide forwardly to its FIG. 2 position, with the forwardly facing vertical shoulder surface 92 of the slide first shifting the cartridge forwardly into the barrel, and then engaging the barrel itself during the final portion of the slide movement to force the barrel forwardly and upwardly from its FIG. 3 position back to its FIG. 2 position, in preparation for the next successive firing operation.

The trunnion mounting of the muzzle end of the barrel very effectively locates that portion of the barrel in precisely predetermined position relative to the slide when the parts are in the battery condition of FIG. 2, and in spite of the limited pivotal movement permitted between these various parts during recoil. Also, the link 56 and its related parts effectively locate the breech end of the slide, preventing sideward movement and precisely predetermining the height of the breech end throughout its complete cycle and in its final position. This final battery position of FIG. 2 is rendered very accurate by limiting the returning movement of the barrel by engagement of the previously discussed shoulder or surface 67 on link 56 with the upwardly facing surface 68 in the receiver. In this connection, it is noted that there is preferably no motion halting interengagement between the link and lugs 54 at the location designated 92 in FIG. 2, or between any other surfaces except at shoulder 67, so that the engagement of this shoulder on link 56 with surface 68 may desirably function alone to determine the forwardmost position of the barrel.

When it is desired to dismantle the gun, of for other reasons have access to spring 16, a person may merely press the reduced diameter forward portion 95 of plug 71 rearwardly out of the opening 83 of retaining element 78, and far enough to enable the retaining element to be slid downwardly, transversely of the axis 96 of the spring, and out of the guideway 79, so that the plug and spring may be withdrawn forwardly from the slide. Bushing 21 may be removed by unscrewing the retaining trunnion elements 44, and the other parts of the gun may be dismantled in conventional manner.
FIGS. 12 through 16 show a variational type of bushing 97 which may be substituted for the bushing 21 of FIGS. 1 to 11, and which functions as does bushing 21 to accurately locate the forward end of a gun barrel 18a and mount that barrel for only predetermined limited pivotal movement relative to a gun slide 15a about a transverse axis 43a corresponding to axis 43 of FIG. 4. Except with respect to the structure at bushing 97, and the shrink sleeve 107 shown in FIG. 15, the structure of FIGS. 12 through 16 may be considered as essentially identical with that of the first form of the invention.

Bushing 97 of FIGS. 12 through 16 is desirably stamped from a single piece of sheet material, preferably high quality sheet steel heated after stamping to a spring temper. This sheet material is stamped to provide a vertically extending front wall portion 98 of the bushing, which extends vertically in front of and in spaced relation to the plane of vertical end surface 99 of slide 15a. At the center of this vertical wall 98, the sheet material is shaped to provide a rearwardly projecting tubular portion 100 of the bushing, which portion has an inner cylindrical surface 101 corresponding substantially in diameter to the outer cylindrical surface of barrel 18a, to guide the bushing for axial sliding movement along the barrel. This tubular portion 100 of the bushing extends rearwardly into the interior of the barrel as seen clearly in FIG. 15, and is spaced radially from the slide at 102 to enable the desired limited pivotal movement of the bushing with the barrel.

At its opposite sides, the sheet material of bushing 97 forms two rearwardly projecting parallel mounting arms 103, which may be identical and lie in parallel vertical planes, and which abut laterally against the vertical parallel opposite side surfaces 104 formed on slide 15a. These side surfaces 104, and the arms 103, lie in vertical planes which are parallel to the vertical central plane 105 of the gun extending through axis 106 of the barrel. As will be understood, the abutting engagement of the inner vertical planar surfaces 106 of arms 103 with slide surfaces 104 effectively locates the bushing 97 against lateral movement relative to the slide.

Arms 103 contain two aligned openings 107 (FIG. 14) within which there are received two pivot screws 108 having externally threaded shanks screwed into internally threaded passages 109 formed in the opposite side walls 110 of the slide. Screws 108, passages 109, and openings 107 are all centered about transverse axis 43a, so that the arms 103 and that portion of bushing 97 about the desired pivotal movement about that axis. For this purpose, the head 111 of each of the screws 108 has an outer cylindrical surface 112 centered about axis 43a, which surface engages in closely fitting bearing relation a corresponding cylindrical surface 113 of the opening 107 in the associated arm 103, with surface 112 also being centered about axis 43a. The forward slight 40 of the gun shown in FIGS. 12 to 15 is typically illustrated as mounted to the forward end of the slide, in essentially conventional manner.

As a result of the operation of FIGS. 12 to 16, the operation is substantially identical with that previously discussed in connection with FIGS. 1 through 11, except for the difference in structure of the bushing 97. As in the first form of the invention, this bushing pivots about transverse axis 43a, as the bushing and slide recoil rearwardly relative to barrel 18a, with this slight pivotal movement of the bushing being sufficient to enable the desired slight rearward and downward swinging movement of the breech end of the barrel during recoil. The spacing of bushing 97 from the forward end surface 99 of the slide and from the inner surfaces of the slide at 102 (FIG. 15) is sufficient to avoid any interference with the desired pivotal movement of the bushing. As in the first form of the invention the barrel is very effectively located by the bushing and very accurately and precisely maintained in a desired set position relative to the barrel in the battery position of the slide to avoid any loss of aiming characteristics of the gun such as occurs in conventional firearms of this same general type in which the forward end of the barrel is only loosely located.

During assembly of the arrangement of FIGS. 12 to 16, the bushing 97 may be placed in its illustrated position about the slide prior to the attachment of screws 108 to the slide, and the screws may then be very easily inserted through the slide in an arrangement shown in FIG. 10. The parts may then be assembled in a reverse manner in view of the resilience given to arms 103 by the previously mentioned heat treating of the bushing to spring temper. That is, screws 108 may first be attached to the slide, and the bushing then be applied by spreading its arms 103 sufficiently apart to move them past the screws until openings 107 align with the screws, so that the arms may then move inwardly by their own resilience against the opposite sides of the slide and into interfitting pivotal engagement with the screws.

We claim:

1. A gun including a receiver, a slide mounted for recoiling and returning movement relative to said receiver, a barrel mounted for slight downward and rearward swinging movement of the breech end of the barrel during said recoiling movement of the slide and for slight upward and forward swinging movement of the breech end of the barrel upon said returning movement of the slide, and means mounting the breech end of the barrel for said swinging movement, said means including a connecting structure projecting downwardly from said barrel, a link, first pivot means attaching said link to said receiver for relative pivotal movement about a first axis disposed generally transversely of the barrel, second pivot means connecting said link to said connecting structure for relative pivotal movement about a second axis generally parallel to and higher than said first axis, means carrying by said receiver forming a first stop surface, and means forming a second stop surface on said link movable into abutting engagement with said first stop surface upon said upward and forward swinging movement of the breech end of the barrel in a relation limiting that swinging movement at a predetermined firing position.

2. A gun as recited in claim 1, in which said receiver contains and forms an upwardly opening recess containing said link, said recess having a generally horizontal upwardly facing bottom wall forming said first stop surface, and said receiver forming said first stop surface in a relation limiting that swinging movement at a predetermined firing position.

3. A gun as recited in claim 2, in which said two pivot means consist of two parallel horizontal pivot pins.

4. A gun as recited in claim 1, including a coil spring resisting said recoiling movement of the slide, a spring guide projecting into said spring and having a rear portion rearwardly of the spring, said link being located rearwardly of said spring guide, and said rear portion of said guide containing a slot within which a portion of said link is movable received.

5. A gun as recited in claim 1, in which said first stop surface, carried by the receiver, faces essentially upwardly; and said second stop surface, on the link, faces essentially downwardly in said firing position of the barrel and is movable essentially downwardly against and into said abutting engagement with said first stop surface.

6. A gun as recited in claim 1, in which said connecting structure forms two spaced arms projecting downwardly from the breech end of the barrel, said link having an upper narrow portion projecting upwardly between said arms, said link having a lower and wider portion between said arms, said link including a pivot pin extending through apertures in said receiver and in said lower wider portion of the link to mount the link for pivotal movement, said second pivot means including a second pivot pin extending through and pivot.
totally connecting said arms and said upper narrow portion of the link, said link having a downwardly facing undersurface which is essentially horizontal in said firing position and which forms said second stop surface, said first stop surface, carried by the receiver, being essentially horizontal and facing upwardly at a location forwardly of the vertical plane of said first axis for engagement with said second stop surface.

7. A gun as recited in claim 6, including a coil spring resisting said recoiling movement of the slide, a spring guide projecting into said spring and having a rear portion rearwardly of the spring, said link being located rearwardly of said spring guide, said link having a forward portion at the front of said lower wider portion of the link and of a reduced width with respect thereto and carrying said second stop surface and movable received within a vertical rearwardly facing slot formed in said rear portion of the spring guide.

8. A gun as recited in claim 7, in which said receiver contains and forms an upwardly opening recess containing said link and said arms of the connecting structure and having spaced vertical side wall surfaces movable engaged by opposite sides of said wider portion of the link and by said arms respectively and closely confining said link and said arms therebetween.

9. A gun as recited in claim 1, in which said receiver contains and forms an upwardly opening recess containing said link and said connecting structure and having spaced opposite side wall surfaces movable engaged by opposite sides of said link and said connecting structure and closely confining said link and connecting structure therebetween.

10. A gun including a receiver, a slide mounted for recoiling and returning movement relative to said receiver, a barrel mounted for slight downward and rearward swinging movement of the breech end of the barrel during said recoiling movement of the slide and for slight upward and forward swinging of the breech end of the barrel upon said returning movement of the slide, and means mounting the breech end of the barrel for said swinging movement, said means including a connecting structure projecting downwardly from said barrel, a link, a first pivot pin attaching said link to said receiver for relative pivotal movement about a first axis disposed generally transversely of the barrel, a second pivot pin connecting said link to said connecting structure for relative pivotal movement about a second axis generally parallel to and higher than said first axis, a coil spring resisting said recoiling movement of the slide, a spring guide projecting into said spring and having a rear portion rearwardly of the spring containing a vertically extending slot, said link being located rearwardly of said spring guide and having a first portion through which said first pivot pin extends and which is relatively wide and is located within a recess in the receiver and is confined closely thereby against lateral displacement, said link having a second portion which is located forwardly of said first portion and is narrower than said first portion and is movable received within said slot in the spring guide and has a stop surface engageable with a coating second stop surface to limit said upward and forward swinging movement of the breech end of the barrel.

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