Feb. 11, 1964 W. F. JOHNSON 3,120,837

WRITING INSTRUMENTS HAVING A RETRACTABLE WRITING POINT

Filed May 5, 1954

FIG. 1.

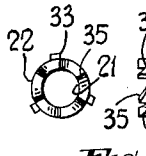


FIG. 2.

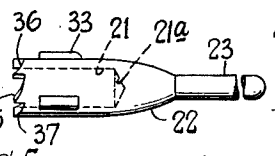


FIG. 3.

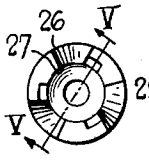


FIG. 4.

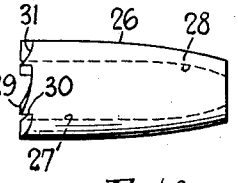


FIG. 5.

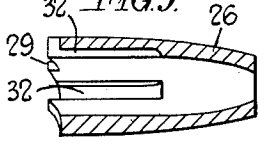


FIG. 6.



FIG. 7.

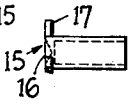


FIG. 8.

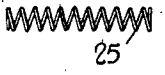


FIG. 9.

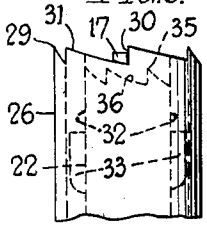


FIG. 10.

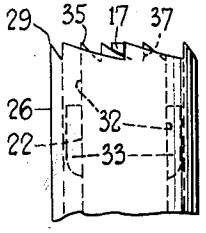


FIG. 11.

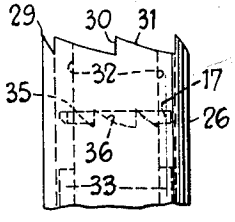


FIG. 12.

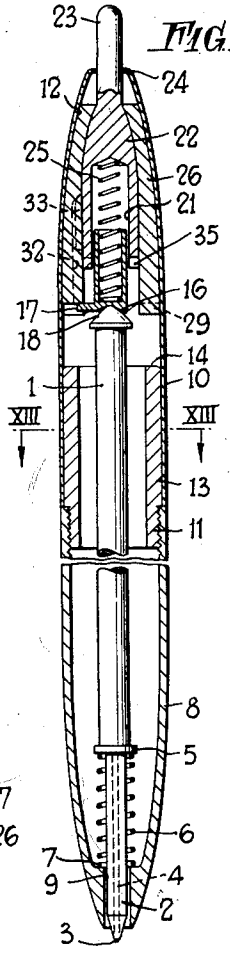


FIG. 14.

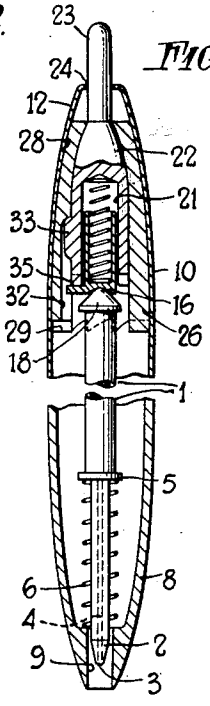
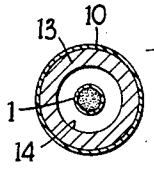


FIG. 13.



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By Peck & Peck

Attorneys

United States Patent Office 3,120,837 Patented Feb. 11, 1964

3,120,837

WRITING INSTRUMENTS HAVING A RETRACTABLE WRITING POINT

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Filed May 5, 1954, Ser. No. 427,801
Claims priority, application Great Britain May 6, 1953
12 Claims. (Cl. 120—42.03)

This invention relates to writing instruments having a retractable writing point.

Instruments of this character are already known which comprise a tubular casing housing a cartridge carrying the writing point, generally a rotatable ball, and mechanism at the end of the casing remote from the point including a pressbutton or stud which, when pressed, inwardly of the casing, causes either the projection of the writing point through an aperture in the opposite end of the casing or the retraction of the point to a position within the casing, dependent upon whether the point was initially housed within the casing or projected externally thereof, respectively.

It is the object of the present invention to provide a writing instrument of this general character having an improved actuating mechantism of a simple and reliable character which shall be relatively cheap to produce.

According to the invention a writing instrument having a retractable writing point comprises a tubular casing or barrel adapted to contain a pen unit or cartridge carrying the writing point at one end, a spring located within the casing and adapted to urge the cartridge axially thereof from one position in which the point is protracted, i.e. exposed externally of the casing for writing purposes, to another position in which the point is retracted within the casing, an axially displaceable and rotatable element or member adapted to engage the cartridge, and stop means within the casing which will support said element in one or other of two different axial positions, respectively corresponding to the positions of the cartridge, dependent upon the rotational adjustment of the element or member relative to the stop means, and which comprises two parts movable axially relative to each other to cause partial rotation of the element relative to the stop means.

One form of a writing instrument constructed in accordance with this invention will now be described in greater detail by way of example, reference being made to the accompanying drawings in which:

FIGURE 1 is an end elevation of an operating or push member;

FIGURE 2 is a side elevation of the operating member shown in FIGURE 1;

FIGURE 3 is an end elevation of an annular member or cam;

FIGURE 4 is a side elevation of the annular member shown in FIGURE 3;

FIGURE 5 is a section taken on the line V—V of FIGURE 3;

FIGURE 6 is a an end elevation of a rotatable member or spider element;

FIGURE 7 is a side elevation of the spider element shown in FIGURE 6;

FIGURE 8 is a side elevation of a spring;

FIGURE 9 is a schematic view showing the relative positions of the operative parts of the operating member, annular member and spider element when the writing point of the instrument is exposed for writing purposes and just prior to the operation of the mechanism for retracting the writing point;

FIGURE 10 is a view similar to FIGURE 9 showing the operative parts at an intermediate stage during the operation for retracting the writing point;

FIGURE 11 is a view similar to FIGURES 9 and 10 showing the realtive positions of the operative parts when the writing point is retracted;

FIGURE 12 is a longitudinal section of the writing instrument with the writing point exposed for writing purposes;

FIGURE 13 is a section taken on the line XIII—XIII of FIGURE 12 and

FIGURE 14 is a view similar to FIGURE 12 showing the writing point retracted.

The writing instrument illustrated is of the kind employing a pen unit comprising a tubular cartridge 1 (FIGURES 12, 13 and 14) containing a relatively viscous ink and fitted at one end with a nose-piece 2 carrying at its point a writing ball 3 to which the ink is conducted by way of a small-bore passage 4 formed in the nose-piece 2. At a suitable location on the cartridge 1, generally near the writing point, there is formed an annular abutment 5 to co-operate with one end of a helical compression spring 6 which encircles the nose-piece 2 and bears at its other end upon an internal annular abutment 7 formed in a tubular casing or barrel part 8 adjacent to an opening 9 through which the point of the nose-piece 2 may pass with but little play. The arrangement is such that when the cartridge 1 is controlled by suitable mechanism, to be described below, it may be displaced axially from an operative position in which the writing ball point protrudes through the opening 9 in the casing part 8 to a sufficient degree to enable it to be employed for writing purposes, to another position in which the writing ball point is retracted within the casing part 8. The displacement of the writing point to the operative position is effected against the action of the compression spring 6 and the retraction of the point is effected under the action of the pressure of the spring 6.

The casing part 8 is of shorter axial length than the cartridge 1 so that the latter may be readily placed in position in the casing part 8 or removed therefrom when desired. A further casing part 10 is arranged to be connected to the first such part, as by means of a screw-threaded neck 11 and carries the mechanism for actuating the cartridge. This second casing part 10 consists of a metal shell or sleeve of substantially cylindrical shape but having the end 12 remote from the screw-threaded neck connection 11 tapered inwards. The connection 11 is formed on a tubular plug 13 of suitable material, for example, a synthetic resin or plastic, which is a tight fit in the mouth of the metal sleeve 10. The passage 14 through this plug is of such a diameter that it will permit the free passage of the upper end of the cartridge 1. When the two casing parts 8 and 10 are secured together, the upper end of the cartridge 1 extends beyond the inner end of the plug 13 and is engaged by a rotatable member constituted by a spider element indicated generally at 15 consisting of a hollow cylinder closed at one end and formed at that end with a coaxial coned seating 16 and provided externally with three radial lugs or projections 17 set at 120° to each other. A lug or projection 17 may also be called a lug element, there being three lug elements in the illustrated embodiment. The end of the cartridge 1 is fitted with a cap 18 having a coned end having an inclined angle less than that of the seating 16 so that it may pivot slightly on the seating. The body of the spider 15 is adapted to be received slidably wtihin an axial bore 21 formed in an operating or push member 22. This member 22 has a substantially cylindrical external surface at its inner end and is tapered off towards its outer end to terminate in a substantially cylindrical stud 23 adapted to project through an aperture 24 formed in the tapered end 12 of the metal sleeve 10. Within the bore 21 in the operating member 22 there is disposed a helical compression spring 25 which bears at

one end on the end wall 21*a* of the bore 21 and at its other end on the spider 15 so that the latter is normally urged into engagement with the coned end cap 18 on the cartridge 1. It will be understood that the strength of this spring 25 is less than that of the main spring 6 provided adjacent the writing point.

The operating member 22 is disposed within an annular element 26 which is a tight fit in the upper end portion of the metal sleeve 10 and has its internal surface formed at the inner end to a cylindrical shape adapted to receive the cylindrical portion of the operating member 22 as a relatively close fit. At its outer end the bore 27 through the annular member 26 is tapered as at 28 at the same angle as the corresponding portion of the operating member 22 so that, in the normal position of the parts, the operating member 22 (under the action of the lighter spring 25) will fit snugly into the tapered bore with its stud portion 23 projecting sufficiently through the end 12 of the metal sleeve 10 to enable it to be engaged and operated by a finger of the user of the writing instrument.

The projections 17 on the spider 15 are of such a length that a short portion of each of their outer ends would normally rest on the inner end face of the annular member 26. This end face is formed with an even number, for example six, of ratchet-like teeth 29, each having one flank 30 contained in a plane also containing the axis of the member and its other flank 31 inclined relatively steeply. Three longitudinally-extending grooves 32 are formed in the inner surface of the annular member 26, equi-angularly spaced around the axis thereof, so that each groove 32 registers with the lower end of the inclined flank 31 of one of the teeth 29. These grooves 32 are of such a depth that the spider 15 may slide into the annular member 26 when its projections 17 are in line with the grooves 32 and it will be appreciated that these grooves 32 extend from the lower ends of the inclined flanks 31 of alternate teeth 29, i.e. those ends nearer the upper end of the member 26.

The operating member 22, while being slidable in the annular member 26, is prevented from rotating relative thereto by forming the operating member 22 over its cylindrical end with one or more longitudinally-extending ribs 33 each adapted to engage in a corresponding groove or channel in the annular member 26. The grooves 32 in the annular member are conveniently used for this purpose. The inner end face of the operating member 22 is formed with teeth 35 which are the same in number and of the same character as those teeth 29 formed on the end of the annular member 26, but are so disposed that they are displaced through half a tooth pitch in relation to those teeth 29 around the common axis of the two members. As will be understood, the projections 17 on the spider 15 will be engaged by the inclined faces 36 of teeth 35 on the operating member 22 when this member is displaced inwardly to a sufficient extent.

The operation of the mechanism described is as follows. When the projections 17 on the spider 15 are engaged in the corresponding grooves 32 in the annular member 26, while no pressure is applied to the stud 23 on the operating member 22, the pressure of the main spring 6 near the writing point urges the cartridge 1 axially to force the spider 15 into the bore 27 in the annular member 26, compressing the lighter spring 25 meanwhile until the projections 17, by sliding down the grooves 32, i.e. away from the writing point of the cartridge, eventually come to rest on the inclined faces 36 of the appropriate teeth 35 on the operating member 22. In this position of the parts the writing point is retracted within the casing 8 of the instrument. Should pressure now be exerted upon the stud 23 of the operating member 22 to displace the latter axially inwards of the casing 10, the spider 15 will be forced axially of the bore 27 in the annular member 26 and the cartridge 1 will correspondingly be urged axially forwards, against the action of the main spring 6, to project its writing point through the opening 9 in the end of the first casing part 8. When the projections 17 on the spider 15 have passed completely out of the grooves 32, they are supported merely by the inclined flanks 36 of the respective teeth 35 on the operating member 22. Under the pressure of the main spring 6 the projections 17 on the spider 15 tend to slide down the inclined flanks 36 on the teeth 35 on the operating member 22 into engagement with the respective axially disposed flanks 30 of the corresponding teeth 29 on the annular member 26. As the displacement of the operating member 22 is continued, therefore, the ends of the projections 17 are slid along these axial flanks 30 until the displacement is such that the projections 17 have been brought beyond the crests of the teeth 29, that is to say, when the lower ends of the inclined flanks 36 of the teeth 35 on the operating member 22 come into alignment with the upper ends of the corresponding flanks on the teeth 29 of the annular member 26. The projections may now continue their sliding motion down the inclined flanks 31, until they meet the axial flanks 37 of the adjacent teeth 35 on the operating member 22, the spider 15 rotating slightly about its axis meanwhile. Upon releasing the pressure on the operating member, the pressure of the main spring 6 tends to return the cartridge 1 to the retracted position but the spider 15 is prevented from moving so long as the crests of the teeth 35 on the operating member 22 project above the inclined flanks 31 of the teeth 29 on the annular member 26. However, the operating member 22 is urged away from the cartridge 1 by the lighter spring 25 to bring these crests below the inclined flanks 31 of the teeth 29 on the annular member 26, whereupon the ends of the projections 17 on the spider 15 slide to the bottom ends of these inclined flanks 31 where their further progress is arrested by contact with the axial flanks 30 of the adjacent teeth 29. Further inward motion of the cartridge 1 and spider 15 is therefore prevented, the dimensions of the parts being such that the writing point is then still projecting through opening 9 of the casing part 8 to a sufficient extent to enable it to be used satisfactorily for writing purposes. Under the action of the lighter spring 25 the operating member 22 has, by then, returned to its normal position in which its stud end 23 projects to the full extent through the aperture 24 in the end 12 of the metal sleeve 10.

When it is desired to retract the ball point once again, pressure is exerted on the stud 23 of the operating member 22 to displace this inwards. As before, and as shown in FIGURES 9 and 10, the inclined flanks 36 of the appropriate teeth 35 on the operating member 22 eventually contact the projections 17 on the spider 15 and lift those away from the inclined flanks 31 of the teeth 29 on the annular member 26 upon which they were resting. When the displacement has reached the stage at which the inclined flanks on the two sets of teeth 29 and 35 come into alignment with each other, the projections 17 slide down these inclined flanks, this sliding motion initially being for half the length of the face concerned owing to the projections coming against the axial flanks 37 on the teeth on the operating member 22. When the latter is released, the sliding motion is continued (as soon as the operating member 22 has returned through a short distance) and the projections 17 by sliding down the remainder of the respective inclined flanks 31 on the teeth 29 of the annular member 26, arrive at the mouths of the grooves 32 formed in the inner wall of the latter; thereupon, the projections 17 slide down these grooves 32, as shown in FIGURE 11, so that the cartridge 1 can move axially under the action of the main spring 6 to retract the ball point within the first casing part 8. The operating member 22 eventually reaches its original position and the projections 17 on the spider 15 then bear on the appropriate inclined flanks 36 of the teeth 35 on the operating member 22.

It will be understood that at each operation of the

mechanism, the ball point is projected from the casing to a slightly greater extent than is finally required for the writing position and also rotates through an angle of 60°. Moreover, it will be appreciated that repeated reciprocations of the operating or push member 22 will result in intermittent unidirectional rotation of the spider 15 through a series of positions in alternate ones of which a projection 17 of the spider is engaged with a progress-arresting or stop surface on the annular member or cam 26 and in each of the others of which the projections 17 are engaged in the grooves or channels 32 in the annular member or cam 26. In the course of this rotation of the spider the projections thereon co-operate in turn with cam teeth 29 on one character, i.e. those having an inclined flank succeeded by a stop surface, with cam teeth 29 of another character, i.e. those having an inclined flank leading into a groove or channel 32, and with these grooves or channels themselves so that a tooth 29 of the one character plus a tooth 29 of the other character plus a groove or channel 32 may be considered to constitute a cam element, the embodiment illustrated comprising a plurality of such cam elements.

The mechanism described is particularly simple and reliable in operation and it will be understood that when the upper casing part 8 is removed for the purpose of changing a cartridge, complete disengagement of the spider 15 from the operating member 22, under the action of the lighter spring 25, is prevented due to the engagement of its projections 17 with the adjacent end face of the tubular plug 13 fitted in the outer end of the metal sleeve 10.

It will be understood that the number of teeth formed on the operating member 22 and the annular member 26 may be any even number suitably selected in accordance with the diameter of the unit to be constructed, the number of projections 17 and grooves 32 being one half the selected number of teeth.

What I claim is:

1. A writing instrument comprising a barrel open at its opposite ends, a pen unit slidably mounted in said barrel and having a writing point at its forward end adapted to be protracted and retracted through the forward end of the barrel, spring means constantly urging said unit toward a retracted position wherein the writing point is concealed within the barrel, a push member having a portion projecting through the rear end of said barrel and slidably mounted in non-rotatable fashion with respect thereto, said push member being provided with downwardly directed teeth, a rotatable member interposed between said spring means and the teeth of said push member whereby said spring means forces the rotatable member against the teeth of said push member, at least one of the engaging surfaces of the teeth of the push member and the rotatable member being inclined so that the force of engagement between the teeth of said push member and the engaging surface of the rotatable member caused by said spring rotatably biases said rotatable member, said rotatable member and the interior of said barrel being formed with coacting members comprising at least one lug and a continuous cam, said cam having longitudinally extending channels separated by pairs of teeth, said teeth defining therebetween a rearwardly inclined surface terminating in a stop surface at a position offset from but intermediate the length of said channels, said lug extending into and being slidable in the channels of said continuous cam and engageable with the teeth thereof, said rotatable member being reciprocable with said push member and rotatable by the downwardly directed teeth thereof when depression of said push member removes said lug from within said channels whereby said lug is positioned between the two teeth of a pair of teeth of said continuous cam so that said spring means can force said lug and stop surface into inter-engagement when said push member is released.

2. A writing instrument comprising a barrel, a pin unit slidably mounted in said barrel for movement along the longitudinal axis thereof and having a writing point at its forward end adapted to be protracted and retracted through the forward end of the barrel, a push member slidably and non-rotatably mounted in said barrel for movement along said axis, a rotatable member mounted in said barrel for movement along said axis between a first axial position and a second axial position and for rotation through at least 360° about said axis, the axial position of the writing point being determined by the axial position of the rotatable member, said writing point being in the protracted position when said rotatable member is in one of said positions and in the retracted position when said rotatable member is in the other of said positions, spring means urging said rotatable member toward the push member, said rotatable member and the interior of said barrel being formed with coacting members comprising at least one lug element and at least one cam element, there being a plurality of at least one of said elements, each of said elements of which there are a plurality successively coacting with the other of said elements, said element comprising a longitudinally extending channel, two circumferentially spaced teeth offset from said channel, and a first position stop surface between said teeth at a position offset from said channel, said channel extending longitudinally beyond said first position stop surface, said lug element extending into and being slidable in said channel and engageable with the teeth and first position stop surface, said rotatable member being in said second axial position when a lug element extends into a channel at a position longitudinally beyond said first position stop surface and in said first axial position when a lug element engages a first position stop surface, said push member being provided with at least one tooth directed toward said rotatable member, said rotatable member being reciprocable with said push member and a tooth of said push member engaging the rotatable member when the push member is being depressed with said spring means forcing the rotatable member against the tooth of the push member, at least one of the engaging surfaces of the tooth of the push member and the rotatable member being inclined so that the force of engagement between the tooth of said push member and the engaging surface of the rotatable member caused by said spring means rotatably biases said rotatable member in one rotational direction about said axis when said push member is depressed, depression of the push member removing a lug element from within a channel and rotating said rotatable member to position a lug element opposite one of said teeth of the cam, said spring means forcing said opposed lug element and tooth into engagement, at least one of the engaging surfaces of said opposed lug element and tooth being so inclined that the force of engagement between said opposed lug element and tooth rotatably biases said rotatable member in said rotational direction; and means adapted to exert an axial force against said push member to axially move said push member, when said push member is released, in a direction opposite the direction in which the tooth thereon faces so that when said push member is released, the force of engagement between said opposed lug element and tooth caused by said spring means rotates said rotatable member until a lug element engages a first position stop surface, said push member moving to an operative position so that upon a subsequent depression of said push member, a tooth of the push member engages the rotatable member to remove the lug element from engagement with the first position stop surface and to rotate the rotatable member in said direction to position a lug element opposite another of said teeth of a cam element whereby when said push member is again released, the force of engagement between the latter opposed lug element and tooth caused by said spring means rotates said rotatable member in said direction until a lug element enters and slides longitudinally of a channel beyond a

first position stop surface, said push member moving to the operative position for a repetition of the cycle.

3. A writing instrument as claimed in claim 2 wherein each cam element is fixed to said barrel and each lug element is on said rotatable member.

4. A writing instrument as claimed in claim 3, wherein a tooth of the push member engages with and acts upon a lug element of the rotatable member to rotatably bias the rotatable member in said direction when the push member is depressed.

5. A writing instrument comprising a barrel, a pen unit slidably mounted in said barrel for movement along the longitudinal axis thereof and having a writing point at its forward end adapted to be protracted and retracted through the forward end of the barrel, spring means constantly urging said pen unit rearwardly of said barrel toward a retracted position wherein the writing point is concealed within the barrel, a push member slidably and non-rotatably mounted in the rear end of said barrel for movement along said axis, a rotatable member mounted in said barrel for movement along said axis and for rotation about said axis, said rotatable member being interposed between said push member and said pen unit to engage said pen unit and move axially therewith, said push member being provided with teeth directed toward the forward end of said barrel and each having a surface inclined, in a given circumferential direction relative to said axis, away from said forward end, a cam formed on the interior of said barrel including cam elements, each element comprising a channel extending longitudinally of said barrel and a pair of circumferentially spaced teeth, each tooth being circumferentially offset from said channel, said cam element teeth being directed in the same direction as said push member teeth and each having a surface inclined in the same sense as said inclined surfaces on said push member teeth, said channel extending rearwardly from the rearward end of the inclined surface of one tooth of said pair of cam element teeth, a stop surface offset in said circumferential direction from the forward end of the inclined surface of the other tooth of said pair of cam element teeth, lugs formed on said rotatable member to coact successively with each of said cam elements, said lugs being reciprocably slidable in said channels to and from a position spaced rearward of said stop surface and being engageable under the pressure of said spring means with the inclined surfaces of said cam element teeth to produce a first rotary biasing action on said rotatable member about said axis, said push member normally occupying an operative position such that said lugs, when engaged in said channels, can slide to said rearwardly spaced position, said rotatable member being reciprocable with said push member and the teeth of said push member engaging said rotatable member when the push member is moved forwardly, said spring means forcing the rotatable member against the teeth of the push member so that the inclined surfaces of the teeth of the push member produce a second and similar rotary biasing action on said rotatable member about said axis, said push member being movable forwardly from said operative position sufficiently far to displace said lugs forwardly of said cam element teeth so that said second biasing action may partially rotate said rotatable member in said circumferential direction to position one of said lugs opposite a tooth of said cam element, movement of said push member rearwardly to said operative position then permitting said first biasing action to further partially rotate said rotatable member in said circumferential direction to move said lug away from said forward end of the inclined surface of the cam element tooth opposite which it was positioned by said first-named partial rotation to thereby locate said rotatable member in a respective one of two positions in one of which at least one of said lugs is in engagement with a stop surface and in the other of which said lugs are in said channels, whereby said lugs are progressively advanced around said axis by repeated reciprocations of said push member through said positions in alternation.

6. A writing instrument comprising a barrel open at its opposite ends, a pen unit slidably mounted in said barrel for movement along the longitudinal axis thereof and having a writing point at its forward end adapted to be protracted and retracted through the forward end of the barrel, a push member slidably and non-rotatably mounted in the rear end of the barrel, said push member being provided with forwardly directed teeth each having a surface rearwardly inclined in a given circumferential direction relative to said axis, a rotatable member mounted in said barrel for movement along said axis and for rotation about said axis, said rotatable member being engaged with said pen unit to move axially therewith and interposed between said pen unit and said push member, pairs of forwardly directed circumferentially spaced teeth formed on the interior of said barrel, each tooth having a surface inclined rearwardly in the same sense as the inclined surfaces on said push member teeth, a longitudinal channel formed in the interior of said barrel to extend rearwardly from the rear end of the rearwardly inclined surface of one tooth of each said pair of teeth, a first stop surface at the rear end of the rearwardly inclined surface of the other tooth of each said pair of teeth, said first stop surfaces being each offset from but adjacent to the forward end of the respective channel, a second stop surface formed in the interior of said barrel rearwardly of said forward end of said channel and rearwardly of said first stop surfaces, at least one lug formed on said rotatable member to coact with the rearwardly inclined surfaces on said push member teeth and said pairs of teeth, said lug being reciprocably and successively slidable in said channels and being successively engageable with said first stop surfaces to limit rearward motion of said rotatable member, spring means constantly urging said pen unit rearwardly of said barrel toward a retracted position, in which retracted position the writing point is concealed with the barrel, said lug is engaged in one of said channels and rearward motion of said rotatable member is prevented by said second stop surface, said lug being angularly displaceable by a given rotation of said rotatable member about said axis between a first position in which said lug is positioned in one of said channels for engagement by the rearwardly inclined surface of one of said push member teeth for rotatably biasing said rotatable member about said axis as said push member is depressed and a second position in which said lug is engaged with one of said first stop surfaces to arrest said pen unit in a protracted position wherein said writing point is exposed outside the barrel and said lug is engageable by the rearwardly inclined surface of another one of said push member teeth for similarly rotatably biasing said rotatable member as said push member is depressed, said rotatable member being displaceable forwardly with said push member and rotatable through part of said given rotation under the action of said biasing when depression of said push member displaces said lug forwardly of said pairs of teeth, whereby said lug is positioned for engagement with one of the rearwardly inclined surfaces of said pairs of teeth so that said spring means can force said luug along said inclined surface to rotate said rotatable member through the remainder of said given rotation when said push member is released.

7. A writing instrument as claimed in claim 6, including means additional to said spring means for urging said push member rearwardly relative to said pairs of teeth when said push member is released.

8. A writing instrument as claimed in claim 6, in which second spring means of lesser strength than said spring means is arranged between said push member and said rotatable member.

9. A writing instrument as claimed in claim 6, in which said prevention of rearward motion of said rotatable

member in the retracted position of said pen unit is effected by said push member engaging said second stop surface.

10. A writing instrument as claimed in claim 6, in which rotation of said push member relative to said barrel is prevented by forming at least one rib on said push member for slidably engaging in a channel formed in said barrel.

11. A writing instrument as claimed in claim 6, in which said push member teeth are displaced relative to said pairs of teeth through half a tooth circular pitch.

12. A writing instrument having a retractable writing point comprising a tubular casing, a cartridge mounted in said casing and axially movable with respect thereto and carrying the writing point at one end, a spring located within the casing and operably engaged therewith and with the cartridge to urge the cartridge to move axially of the casing from one position in which the writing point is exposed externally of the casing for writing purposes to another position in which the point is retracted within the casing, an annular member fixed in the casing at one end thereof and extending a distance toward the other end and the annular member having a plurality of longitudinally extending grooves formed in the inner surface thereof, an operating member formed with a cylindrical portion disposed co-axially but non-rotatably within said annular member and movable axially relative thereto, a stud portion formed on said operating member and projecting through said casing, a spider element mounted in the casing and axially displaceable with respect thereto and in engagement with the other end of the cartridge and rotatable relative to said members, said spider element having a plurality of projections spaced around its circumference corresponding in number to the number of grooves in said annular member, said spider element in its axial movements being received in said operating element and the projections in the grooves, an even number of similar ratchet-like teeth formed on the inner end faces of said operating and annular members, each tooth having one flank contained in a plane parallel with the common axis of the members and the other flank being inclined relatively steeply thereto, the number of teeth on each member being twice the number of projections on the spider element and the teeth on said annular member being arranged in pairs separated by said grooves, with said grooves extending from the respective lower ends of the inclined flanks of alternate annular member teeth, the axial flanks of said annular member teeth of said pairs defining with the inclined flanks of the others a set of bases and said grooves having a set of bases, said sets of bases being capable of engagement with said projections to support said spider element in a respective one of two different axial positions, respectively corresponding to the positions of the cartridge, said operating member teeth having bases therebetween, the bases between the operating member teeth and those of the pairs of annular member teeth being angularly disaligned, intermediate portions of the inclined flanks of alternate teeth of the operating member engaging the projections for moving them from one of said sets of bases to present them each to the inclined flank of a corresponding tooth of each pair of teeth of said annular member whereby said projections may move from said operating member teeth inclined flanks to said annular member teeth inclined flanks and thence to the other one of said set of bases, and a second spring located between said spider element and said operating member to urge the operating member and said spider element axially apart to project said stud portion outside the casing and maintain the spider element in engagement with the end of the cartridge.

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