(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 161 010 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
10.03.2010 Bulletin 2010/10

(21) Application number: **08764089.2**

(22) Date of filing: **12.06.2008**

(51) Int Cl.:
A61F 5/01 *(2006.01)*

(86) International application number:
PCT/JP2008/001494

(87) International publication number:
WO 2009/001518 (31.12.2008 Gazette 2009/01)

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA MK RS

(30) Priority: **28.06.2007 JP 2007169984**

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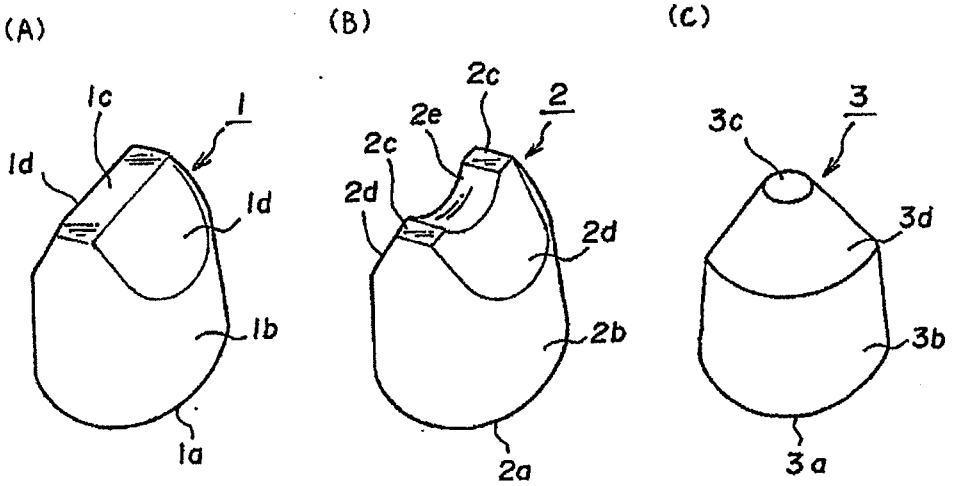
(54) DISEASED SITE-PRESSING MEMBER FOR MANIPULATIVE DEVICE

(57) [Object] It is an object of the present invention to provide an affected part thrusting member for a manipulative treatment instrument capable of firmly gripping a treating point and precisely thrusting only the treating point even if bones are densely arranged or even if the treating point is covered with a relatively thick muscle or fat.

[Solving Means] An affected part thrusting member which is detachably attached to a thrusting member is made of elastic material such as rubber and synthetic resin. The affected part thrusting member is provided at its tip end with a reduced-width treating surface (1c, 2c, 3c) having a small area, and the treating surface is provided at its side with a relief surface (1d, 2d, 3d) for releasing tissue such as muscle and skin. Since the relief surface is formed, it is possible to firmly grip the treating point, and to precisely thrust only the treating point by the treating surface.

Fig.2



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Description

Technical Field

[0001] The present invention relates to an affected part thrusting member for a manipulative treatment instrument, comprising a thrusting member capable of sliding in an axial direction of the affected part thrusting member, and the affected part thrusting member which is detachably attached to a tip end of the thrusting member, in which if the affected part thrusting member is pressed against a treating point and an impulsive force in the axial direction is applied to a rear end of the thrusting member, the affected part thrusting member thrusts the treating point to correct a deviation of a skeletal outline.

Background technique

[0002] A plurality of bones connected to each other through joints, i.e., a skeletal outline is deviated due to various factors. An impact is received from outside due to an accident and the skeletal outline is deviated in some cases, or the same posture is chronically maintained due to habit or due to occupational need and the skeletal outline is gradually deviated in some cases. Such deviation of skeletal outline causes various diseases. It is widely known that deviation of cervical vertebra may become a cause of shoulder stiffness, dizziness, headache and the like, and there is a report that the deviation of the cervical vertebra may cause poor condition of viscera, deterioration in immunity, allergy malady and the like.

[0003] As a method for correcting a deviation of a skeletal outline, there is a method using hands which is carried out by an osteopathic physician such as a bone-cracker. When a deviation in cervical vertebra is to be corrected for example, a patient lies face down on an examination table. A slightly projecting bone of a base of a pinkie of a hand of the osteopathic physician is pressed against a specific portion of a bone of the deviated cervical vertebra, i.e., a treating point, and a force is applied thereto presses the slightly projecting bone into the treating point in a predetermined direction at a dash. With this, the deviation in cervical vertebra is corrected. According to this method, since the bone at the base of the pinkie is small, it is possible to precisely press the treating point. There is another method in which a belly of a thumb of the osteopathic physician is swiftly thrust against the treating point from a separated position.

[0004] However, such conventionally known methods require high skilled technique. For example, in the case of the former method, since the bone projecting from the base of the pinkie has a relatively dull sense, it is difficult for a poor skilled osteopathic physician to precisely abut the bone against a treating point. Further, since it is difficult to adjust a force, there is a danger that a bone which is not to be corrected is pressed strong more than necessary. The latter method also has the same problem that it is difficult to adjust a force, and if level of skill is low, there is a danger that a direction is deviated and a portion other than the treating point is pressed.

[0005] Patent Document 1: U.S. Patent No.4116235

[0006] There is proposed a manipulative treatment instrument capable of precisely thrusting a treating point with an adjusted force irrespective of level of skill of an osteopathic physician. Figs. 5 show a manipulative treatment instrument 50 described in the patent document 1. As shown in Figs. 5(A) and (C), the manipulative treatment instrument 50 includes a tube body 55, a rod-like thrusting member 52 which is slidably inserted into a front portion of the tube body 55 in its axial direction, a body 53 which has a diameter greater than that of the tube body 55 and which is slidably put on the tube body 55 in the axial direction, a cap body 54 fixed to a rear end of the tube body 55, a press bar 61 attached to a rear end of the cap body 54, and a finger grip 62 fixed to the body 53. A portion of the rod-like thrusting member 52 is inserted into a tip end area of the tube body 55, other portion of the rod-like thrusting member 52 is exposed and an adjuster 56 which adjusts a thrusting force against a treating point is attached to the exposed portion. The front portion tip end is provided with a head 52a whose diameter is increased, and an affected part thrusting member 51 is attached to the head 52a. The affected part thrusting member 51 is made of elastic material such as rubber. As shown in Fig. 5(B), the affected part thrusting member 51 includes a circular treating surface 51a which is thrust directly against a treating point, a bottom surface 51b having a diameter greater than that of the treating surface 51a, and a peripheral surface 51c whose diameter is increased from the treating surface 51a toward the bottom surface 51b. As shown in Fig. 5(C), a recess 51d having a predetermined depth is formed in the bottom surface 51b. The affected part thrusting member 51 is attached to the head 52a such that the affected part thrusting member 51 is put on the head 52a utilizing the recess 51d. An impact bar 57 is inserted into the tube body 55. The impact bar 57 is biased forward, i.e., toward the thrusting member 52 by a spring 58 inserted into a rear portion of the tube body 55. With this, the tip end 57a of the impact bar 57 is in abutment against the rear end 52b of the thrusting member 52.

[0007] As shown in Fig. 5 (A), the manipulative treatment instrument 50 is grasped such that the press bar 61 is pressed against a ball of a thumb of a palm and an index finger 71 and a middle finger 72 are caught on the finger grip 62. The treating surface 51a of the affected part thrusting member 51 is pressed against the treating point. Then, the hand grasps and the finger grip 52 is driven toward the press bar 61. With this, the body 53 slides in a direction of the arrow Y with respect to the tube body 55. At that time, the impact bar 57 is integrally locked with the body 53 by a locking mechanism (not shown), and the impact bar 57 slides in the direction of the arrow Y against the spring 58. With this sliding motion, the tip end 57a of the impact bar 57 separates from the

rear end 52b of the thrusting member 52. If the finger grip 52 is driven and a distance between the press bar 61 and the finger grip 62 becomes equal to a predetermined distance B, the locking mechanism is unlocked. With this, the impact bar 57 is biased by the spring 58 and pressed out forward, and the tip end 57a of the impact bar 57 is impulsively thrust against the rear end 52b of the thrusting member 52. The thrusting member 52 is instantaneously pressed out slightly forward, and the treating surface 51a of the affected part thrusting member 51 presses the treating point, thereby correcting the deviation in skeletal outline.

Disclosure of the Invention

Problem to be Solved by the Invention

[0008] According to the manipulative treatment instrument 50 described in the patent document 1, since the affected part thrusting member 51 is pressed against the treating point, an adverse probability that a location to be thrust is deviated from the treating point is low. Since a pressing force can be adjusted by the adjuster 56, it is possible to safely carry out the manipulative treatment with adjusted thrusting force. Therefore, even if level of skill of an osteopathic physician is low, it is possible to easily carry out the manipulative treatment. However, there is a problem or drawback to be improved. Especially, the affected part thrusting member 51 has a point to be improved. That is, according to the affected part thrusting member 51 of the manipulative treatment instrument 50 described in the patent document 1, since special shape is not taken into consideration, there is a problem that it is difficult to press only a treating point when a plurality of bones are densely arranged like a cervical vertebra, or a thrusting force is not applied to a bone itself when the treating point is covered with relatively thick tissue such as muscle or fat. Reasons thereof will be explained with reference to Fig. 4.

[0009] Human's cervical vertebrae include seven cervical vertebrae, i.e., a first cervical vertebra, a second cervical vertebra, ... a seventh cervical vertebra in this order from a skull. Each cervical vertebra is relatively thin and flat, and they are superposed densely with a cartilage or the like interposed therebetween. Fig. 4 is a schematic sectional view of a neck in a portion of the second cervical vertebra among the cervical vertebrae. As shown in Fig. 4, the second cervical vertebra K is formed into a substantially reversed triangular shape having three apexes, i.e., a projection T1 located on the side of a back SN, and left and right projections T2 and T3. A periphery of the second cervical vertebra K is covered with tissue N such as muscle and fat. Examples of deviations generated in the second cervical vertebra K are a deviation Z1 in a straight line direction, and a deviation Z2 in a rotation direction. When a deviation in such a cervical vertebra is to be corrected using the manipulative treatment instrument 50 described in the patent document 1, i.e., when the deviation Z1 in the straight direction is to be corrected, the affected part thrusting member 51 is pressed in to a location in the vicinity of the projection T1 such as to push away the tissue N such as muscle and fat near the projection T1, and the tissue is thrust in a direction shown with the arrow S1. With this, the projection T1 is pressed in a direction opposite from the arrow Z1 and the deviation is corrected. The projection T1 of the second cervical vertebra is adjacent tot he projection of the first cervical vertebra and the projection of the third cervical vertebra, and the projection T1 of the second cervical vertebra is lower than the projection of the third cervical vertebra and is located at a deep side from a skin. When such a projection T1 is pressed, if the affected part thrusting member 51 having the circular treating surface 51a is used, there is an adverse probability that the projection of another adjacent cervical vertebra, especially the projection of the third cervical vertebra is also pressed at the same time. Further, the treating surface 51a is wide and has no effect for pushing away the tissue N. Therefore, there is a problem that the treating surface 51a can not help but thrusts the projection T1 covered with the relatively thick tissue N, and a force for gripping the projection T1 is weak. Further, when the projection T1 covered with skin or fat is pressed, the treating surface 51a laterally slips with respect to the projection T1, and there is a probability that the treating point is deviated as a result.

[0010] To correct the deviation Z2 in the rotation direction, the projection T2 is defined as a treating point, it is pressed in a direction shown with the arrow S2 such as to graze the projection T2 from behind and from left and lower direction or such as to hook the projection T2. With this, the deviation Z2 in the rotation direction is corrected. Since the projection T2 is covered with relatively thick tissue N such as muscle, even if the affected part thrusting member 51 of the manipulative treatment instrument 50 described in the patent document 1 is pressed in such as to push away the tissue N from behind and from left and lower direction of the left projection T2, the treating surface 51a is wide and circular and thus, it is difficult to sufficiently push away the tissue N, and the affected part thrusting member 51 can not be caught on the projection T2. Even if the affected part thrusting member 51 is thrust in such a state, a resistance of the thick tissue N is received, and it is difficult to sufficiently apply the pressing force to the projection T2.

[0011] It is an object of the present invention to provide an affected part thrusting member for a manipulative treatment instrument which solves the above-described problem, and it is an object of the invention to provide an affected part thrusting member for a manipulative treatment instrument capable of precisely pressing only a treating point even if bones are densely arranged, capable of firmly gripping the treating point, and capable of sufficiently applying the pressing force to a bone which is to be corrected even if the treating point is covered with relatively thick muscle or fat.

Means for Solving the Problem

[0012] To achieve the above object, the affected part thrusting member is detachably or selectively attached to the thrusting member, and the affected part thrusting member is made of elastic material such as rubber and synthetic resin. The affected part thrusting member is formed with a treating surface which presses a treating point, and a relief surface which releases a tissue such as muscle and skin. These treating surface and relief surface are formed by cutting down a tip end of a substantially columnar body into a tapered form. As a result of cut down into the tapered form, since the treating surface and the relief surface are formed, the treating surface is formed into a reduced-width small area form, and the relief surface is formed on a side of the treating surface.

[0013] That is, according to the invention described in claim 1, to achieve the above object, there is provided an affected part thrusting member for a manipulative treatment instrument, comprising a thrusting member capable of sliding in an axial direction of the affected part thrusting member, and the affected part thrusting member which is detachably attached to a tip end of the thrusting member, in which if the affected part thrusting member is thrust against a treating point and an impulsive force in the axial direction is applied to a rear end of the thrusting member, the affected part thrusting member thrusts the treating point to correct a deviation of a skeletal outline, wherein the affected part thrusting member is made of elastic material such as rubber and synthetic resin and is formed into a substantially columnar shape, a tip end of the affected part thrusting member is cut down in a tapered form over a predetermined length thereof and with this, a width-reduced treating surface of a small area which thrusts the treating point is formed on a tip end of the affected part thrusting member, and a relief surface which releases a tissue such as muscle and skin is formed on a side of the treating surface. According to the invention described in claim 2, in the manipulative treatment instrument described in claim 1, portions of the affected part thrusting member are cut down from its both sides in a tapered form over a predetermined length at a predetermined angle with respect to its axis, thereby forming a substantially rectangular treating surface on a tip end, and relief surfaces are formed on both sides of the treating surface. According to the invention described in claim 3, in the manipulative treatment instrument described in claim 1, portions of the affected part thrusting member are cut down from its both sides in a tapered form over a predetermined length at a predetermined angle with respect to its axis, a central portion of its tip end is cut out in an arc form, thereby forming two treating surfaces on the tip end, and a relief surface is formed on a side of each of the two treating surfaces. According to the invention described in claim 4, in the manipulative treatment instrument described in claim 1, a portion of the affected part thrusting member is cut down from its periphery in a tapered form over a predetermined length at a predetermined angle, thereby forming a substantially circular treating surface on a tip end thereof, and a relief surface is formed on a periphery of the treating surface.

Effect of the Invention

[0014] As described above, according to the present invention, since the treating surface comprises a small area form which is reduced from its periphery, it is possible to precisely thrust only the treating point, and at that time, since the treating surface is formed at its side with the relief surface, it is possible to firmly grip the treating point and thrust the treating point. According to the invention, the following effect which is peculiar to the invention can be obtained. That is, since the affected part thrusting member includes the treating surface and the relief surface, even if the treating point is covered with relatively thick muscle or fat, it is possible to firmly grip the treating point and to apply the thrusting force precisely and sufficiently only to the treating point. Further, according to the invention, since the affected part thrusting member can detachably be attached to the thrusting member, there is effect that an affected part thrusting member having a desired shape and size can selectively be attached, and desired manipulative treatment which is fit for the purpose can be carried out.

Best Mode for Carrying Out the Invention

[0015] An embodiment of the present invention will be explained with reference to Figs. 1 to 3. Figs. 1 show a manipulative treatment instrument according to the embodiment, wherein Fig. 1(A) is a schematic diagram showing the entire manipulative treatment instrument of the embodiment and its using state, Fig. 1(B) is an enlarged sectional view of a tip end area of a thrusting member, and Fig. 1 (C) is an exploded schematic perspective view of the tip end of the thrusting member and parts of an affected part thrusting member.

[0016] As shown in Fig. 1, a manipulative treatment instrument 20 according to the embodiment has substantially the same structure as that of the manipulative treatment instrument 50 described in patent document 1 except the affected part thrusting member. That is, the manipulative treatment instrument 20 of the embodiment also includes a tube body 25, a rod-like thrusting member 22 which is slidably inserted into a front position of the tube body 25 in its axial direction, a body 23 slidably put on the tube body 25 in its axial direction, a cap body 24 fixed to a rear end of the tube body 25, a press bar 31 attached to a rear end of the cap body 24, and a finger grip 32 fixed to the body 23. Like the manipulative treatment instrument 50 described in the patent document 1, a spring and an impact bar are inserted into the tube body 25 (not shown in Fig. 1), and the impact bar is biased forward, i.e., toward the thrusting member 22 by the

spring. An adjuster 26 for adjusting a pressing force against a treating point is attached to an exposed portion of the rod-like thrusting member 22. However, a tip end of the rod-like thrusting member 22 is different from the thrusting member 52 of the manipulative treatment instrument 50 described in the patent document 1. That is, an affected part thrusting member 1 is detachably attached to the tip end of the thrusting member 22 through an exchange metal fitting 11.

[0017] As shown in Fig. 1(C), a metal fitting attaching member 22A is provided on a tip end of the thrusting member 22 of the manipulative treatment instrument 20 according to the embodiment. The metal fitting attaching member 22A includes a first flange 22b located at its tip end, and a second flange 22c provided at a predetermined distance D1 from the first flange 22b. A diameter R1 of the first flange 22b is slightly larger than a diameter of the rod-like thrusting member 22, and a diameter R2 of the second flange 22c is larger than the diameter R1 of the first flange 22b. A small-diameter shallow hole extending toward an axial center, i.e., a pin receiver 22d is formed in an outer peripheral surface of the first flange 22b having the above-described structure.

[0018] As shown in Fig. 1(C), the exchange metal fitting 11 of the affected part thrusting member 1 includes a columnar base annular portion 11a having a predetermined length in its axial direction, a neck portion 11b which is provided forward of the base annular portion 11a and which has a smaller diameter than that of the base annular portion 11a, a head portion 11c of predetermined width which is provided forward of the neck portion 11b and which has a slightly greater diameter than that of the neck portion 11b, and a short shaft portion 11d provided on a tip end of the head portion 11c. An outer diameter of the base annular portion 11a is substantially equal to the diameter R2 of the second flange 22c of the thrusting member 22. A fitting hole 11f is axially formed in a bottom surface 11e of the base annular portion 11a. An inner diameter of the fitting hole 11f is slightly larger than the diameter R1 of the first flange 22b, and a depth of the fitting hole 11f is substantially equal to a distance D1 between the first and second flanges 22b and 22c. A pin hole 11g having a predetermined diameter is formed in an outer peripheral surface of the base annular portion 11a toward an axial center. The pin hole 11g reaches the fitting hole 11f. A female thread is formed in an inner peripheral surface of the pin hole 11g. If the exchange metal fitting 11 having the above-described is inserted into the metal fitting attaching member 22A from the fitting hole 11f, as shown in Fig. 1 (A), the outer peripheral surface of the first flange 22b of the thrusting member 22 comes into intimate contact with the inner peripheral surface of the fitting hole 11f, and an end surface of a tip end of the first flange 22b abuts against a bottom surface of the fitting hole 11f, the bottom surface 11e of the base annular portion 11a of the exchange metal fitting 11 abuts against a portion of the second flange 22c. If the fixing pin 12 formed with male thread is threadedly engaged with the pin hole 11g, the tip end of the fixing pin 12 abuts against the pin receiver 22d provided in the second flange 22c of the thrusting member 22, and the exchange metal fitting 11 is attached to the tip end of the thrusting member 22.

[0019] Fig. 2(A) is a schematic perspective view of the affected part thrusting member 1 according to a first embodiment of the present invention. Figs. 3 show the affected part thrusting member 1 of the first embodiment of the invention in detail, wherein Fig. 3(A) is a plan view, Fig. 3(B) is a front view and Fig. 3(C) is a side view. The affected part thrusting member 1 is made of elastic material such as rubber and synthetic resin. The affected part thrusting member 1 is formed into a substantially columnar shape which is slightly reduced in diameter toward its tip end from its circular bottom surface 1a. Two predetermined tip end locations from both sides of the affected part thrusting member 1 which are symmetric with respect to an axis of columnar are cut down at substantially 45°. Fig. 2(A) and Figs. 3(A) and (C) show a substantially rectangular upper surface, i.e., a treating surface 1c of small area which is cut down and reduced into a tip end surface. By cutting the treating surface 1c down, tapered relief surfaces 1d and 1d are also formed on sides of the treating surface 1c. As shown in Figs. 3 (B) and (C), a shallow insertion hole 10 having a predetermined diameter is axially formed in the bottom surface 1a. A circular fitting hole 1f having a slightly large diameter is formed in a deep side of the insertion hole 10. A small hole 1g having a small diameter is coaxially formed in the bottom surface of the fitting hole 1f. Sizes of the insertion hole 10, the fitting hole 1f and the small hole 1g are selected in correspondence with the short shaft portion 11d, the head portion 11c and the neck portion 11b of the exchange metal fitting 11. Therefore, if the insertion hole 1e of the affected part thrusting member 1 is put on the tip end of the exchange metal fitting 11 while elastically deforming and widening the insertion hole 1e, as shown in Fig. 1(A), the small hole 1g and the fitting hole 1f of the affected part thrusting member 1 and the insertion hole 10 come into intimate contact with the short shaft portion 11d, the head portion 11c and the neck portion 11b of the exchange metal fitting 11. With this, the affected part thrusting member 1 is attached to the exchange metal fitting 11.

[0020] Normally, when the affected part thrusting member 1 is detached from the manipulative treatment instrument 20 of the embodiment, the fixing pin 12 is pulled out and the exchange metal fitting 11 which is integrally formed with the affected part thrusting member 1 is detached from the thrusting member 22 without detaching the affected part thrusting member 1 from the exchange metal fitting 11. Thus, when the affected part thrusting member 1 of the first embodiment is replaced by an affected part thrusting member 2 or 3 of a later-described second or third embodiment, the fixing pin 12 is pulled out, the exchange metal fitting 11 which is integrally formed with the affected part thrusting member 1

is detached from the metal fitting attaching member 22A of the thrusting member 22 and then, the exchange metal fitting 11 which is integrally formed with the affected part thrusting member 2 or 3 of the second or third embodiment is attached to the metal fitting attaching member 22A.

[0021] Next, operation of the embodiment will be explained. The manipulative treatment instrument 20 is attached to the affected part thrusting member 1 of the embodiment as described above. As shown in Figs. 1, the press bar 31 is pressed against a ball of a thumb 40 of a right hand, and an index finger 41 and a middle finger 42 are caught on the finger grip 32 and grasped. The relief surfaces 1d and 1d of the affected part thrusting member 1 release tissues such as muscle and skin, the thin and rectangular treating surface 1c of the affected part thrusting member 1 is pressed against the treating point, and the treating surface 1c firmly grips the treating point. At that time, orientation of the treating surface 1c is adjusted so that the treating surface 1c does not come into contact with another bone other than a bone to be remedied. Then, the finger grip 32 is driven toward the press bar 31 by grasping the finger grip 32 with a palm. With this, the body 23 is also driven toward the press bar 31. The impact bar provided in the manipulative treatment instrument 20 slides integrally with the body 23 in a direction opposite from the affected part thrusting member 1 by a locking mechanism (not shown) provided in the manipulative treatment instrument 20
against the spring. The finger grip 32 is driven and when a distance between the press bar 31 and the finger grip 32 becomes equal to a predetermined value, the locking mechanism is released. Then, the impact bar is pressed out forward by a resilience of the spring, and the tip end of the impact bar collides against a rear end of the thrusting member 22 impulsively. The thrusting member 22 is slightly forwardly pressed out instantaneously, and the treating surface 1c of the affected part thrusting member 1 thrusts the treating point and deviation of a skeletal outline is corrected.

[0022] Fig. 2 (B) shows the affected part thrusting member 2 according to the second embodiment of the present invention. The affected part thrusting member 2 of the second embodiment is also made of elastic material such as rubber and synthetic resin. As shown in the drawing, the shape of the affected part thrusting member 2 is similar to that of the affected part thrusting member 1 of the first embodiment. That is, the affected part thrusting member 2 of the second embodiment is also formed into a substantially columnar shape in which a bottom surface 2a thereof is circular, and a peripheral surface 2b is slightly tapered toward its tip end. Two tip end predetermined locations from both sides are symmetrically cut down with respect to an axis of the columnar substantially at 45° with respect to the axis of the columnar. With this, tapered relief surfaces 2d and 2d are formed. According to the first embodiment, the treating surface 1c has substantially rectangular shape, but according to the second embodiment, the rectangular treating surface is divided into two treating surfaces 2c and 2c having relatively small areas by arc hollow 2e. The insertion hole 10, the fitting hole 1f and the small hole 1g of the first embodiment are also formed in the same manner but they are not illustrated in the drawings.

[0023] When the affected part thrusting member 2 of the second embodiment is attached to the manipulative treatment instrument 20 and the treatment is carried out, the hollow 20 can grip the treating point such as a projection of a cervical vertebra such as to grip the same. Therefore, there is no adverse possibility that a tissue such as skin covering a bone slips and deviates. Further, since the two treating surfaces 2c and 2c have relatively small areas, if one of the treating surfaces 2c and 2c is pressed against the treating point and pressed against the treating point such as to catch the treating point, a deviation Z2 in a rotation direction of the cervical vertebra shown in Fig. 4 can easily be corrected.

[0024] The affected part thrusting member 3 according to the third embodiment of the present invention shown in Fig. 2(C) is also made of elastic material such as rubber and synthetic resin. The affected part thrusting member 3 is formed into a substantially columnar shape in which a bottom surface 3a of the affected part thrusting member 3 is circular, and a peripheral surface 3b thereof is slightly tapered toward its tip end. The bottom surface 3a is provided with the insertion hole 10, the fitting hole 1f and the small hole 1g. These points are the same as those of the affected part thrusting members 1 and 2 of the first and second embodiments. However, the treating surface and the relief surface are different. That is, the affected part thrusting member 3 of the third embodiment is cut down from a predetermined position of its peripheral surface 3b in a tapered form, and its tip end is reduced in width into a small circular treating surface 3c. The peripheral surface 3b is cut down in the tapered form, and the tapered relief surface 3d is formed. Since the relief surface 3d is of conical shape and the treating surface 3c is relatively small circular, it is possible to easily detrude a tissue such as muscle and skin when the affected part thrusting member 3 is attached to the manipulative treatment instrument 20 and treatment is carried out. Even if the treating point is covered with relatively thick muscle or fat, the treating surface 3c can be pressed directly against a bone of a treating point, and a pressing force can sufficiently be applied to the bone to be corrected.

[0025] The affected part thrusting member of the manipulative treatment instrument of the present invention is not limited to the above embodiments, and the affected part thrusting member can be carried out in various manners. For example, the tip end of the affected part thrusting member can be carried out on a spherical surface, and the relief surface can be constituted into an acute angle of about 30 to 45° or an obtuse angle of about 45 to 70° with respect to the axial direction of the affected part thrusting member.

Industrial Applicability

[0026] The affected part thrusting member of the manipulative treatment instrument according to the present invention can be applied not only to the manual manipulative treatment instrument which manually drives the thrusting member, but also to an electric manipulative treatment instrument which electrically drives the thrusting member.

Brief Description of the Drawings

[0027]

Figs. 1 show a manipulative treatment instrument of an embodiment, wherein Fig. 1(A) is a schematic diagram showing the entire manipulative treatment instrument of the embodiment and its using state, Fig. 1(B) is an enlarged sectional view of a tip end area of a thrusting member, and Fig. 1(C) is an exploded schematic perspective view of the tip end of the thrusting member and parts of an affected part thrusting member.

Figs. 2 are schematic perspective views showing the affected part thrusting member of the manipulative treatment instrument according to the embodiment, wherein Fig. 2(A) shows the affected part thrusting member of the first embodiment, Fig. 2 (B) shows an affected part thrusting member of a second embodiment, and Fig. 2 (C) is a schematic perspective view showing an affected part thrusting member of a third embodiment.

Figs. 3 show the affected part thrusting member of the manipulative treatment instrument of the first embodiment, wherein Fig. 3 (A) is a top view, Fig. 3 (B) is a front view and Fig. 3(C) is a side view.

Fig. 4 is a schematic sectional view of a neck of a portion of a second cervical vertebra.

Figs. 5 show a manipulative treatment instrument described in patent document 1, wherein Fig. 5 (A) is a schematic diagram showing a using state of the manipulative treatment instrument, Fig. 5(B) is a schematic perspective view of an affected part thrusting member thereof, and Fig. 5(C) is a sectional view of the manipulative treatment instrument.

Explanation of Symbols

[0028]

1, 2, 3 affected part thrusting member (first, second and third embodiments)
1c, 2c, 3c treating surface (first, second and third embodiments)
1d, 2d, 3d relief surface (first, second and third embodiments)
11 exchange metal fitting
20 manipulative treatment instrument
22 thrusting member
22A metal fitting attaching member

Claims

1. An affected part thrusting member for a manipulative treatment instrument, comprising
a thrusting member capable of sliding in an axial direction of the affected part thrusting member, and the affected part thrusting member which is detachably attached to a tip end of the thrusting member, in which
if the affected part thrusting member is pressed against a treating point and an impulsive force in the axial direction is applied to a rear end of the thrusting member, the affected part thrusting member thrusts the treating point to correct a deviation of a skeletal outline, wherein
the affected part thrusting member is made of elastic material such as rubber and synthetic resin and is formed into a substantially columnar shape, a tip end of the affected part thrusting member is cut down in a tapered form over a predetermined length thereof and with this, a width-reduced treating surface of a small area which thrusts the treating point is formed on a tip end of the affected part thrusting member, and a relief surface which releases a tissue such as muscle and skin is formed on a side of the treating surface.

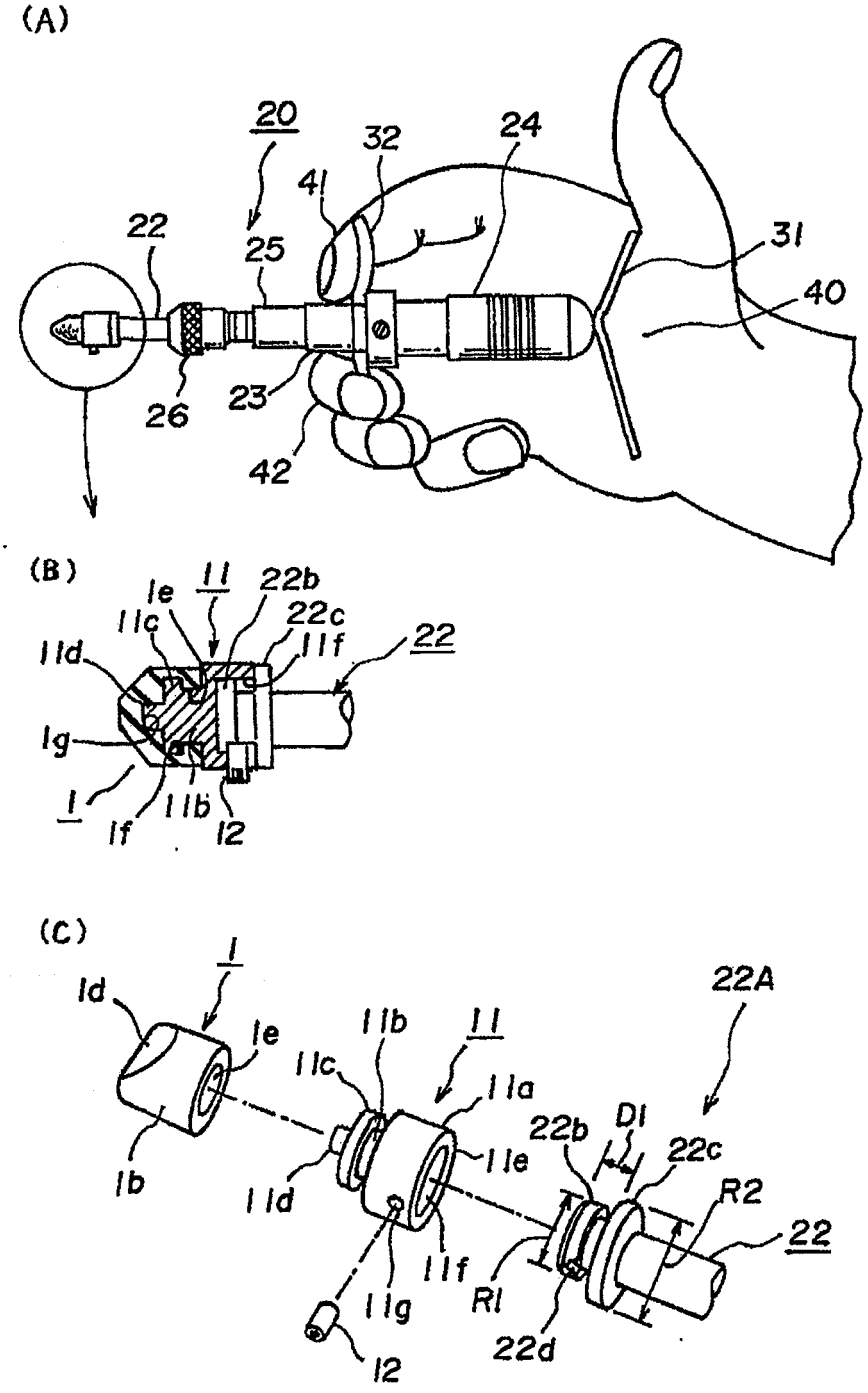
2. The affected part thrusting member for the manipulative treatment instrument according to claim 1, wherein portions of the affected part thrusting member are cut down from its both sides in a tapered form over a predetermined length at a predetermined angle with respect to its axis, thereby forming a substantially rectangular treating surface on a tip end, and relief surfaces are formed on both sides of the treating surface.

3. The affected part thrusting member for the manipulative treatment instrument according to claim 1, wherein portions of the affected part thrusting member are cut down from its both sides in a tapered form over a predetermined length at a predetermined angle with respect to its axis, a central portion of its tip end is cut out in an arc form, thereby forming two treating surfaces on the tip end, and a relief surface is formed on a side of each of the two treating surfaces.

4. The affected part thrusting member for the manipulative treatment instrument according to claim 1, wherein a portion of the affected part thrusting member is cut down from its periphery in a tapered form over a predetermined length at a predetermined angle, thereby forming a substantially circular treating

surface on a tip end thereof, and a relief surface is formed on a periphery of the treating surface.

Fig.1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22
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23
42
(B)
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22c
11d
11f
22
1g
1
1f
11b
12
(C)
1
1d
1e
11b
11
22A
11c
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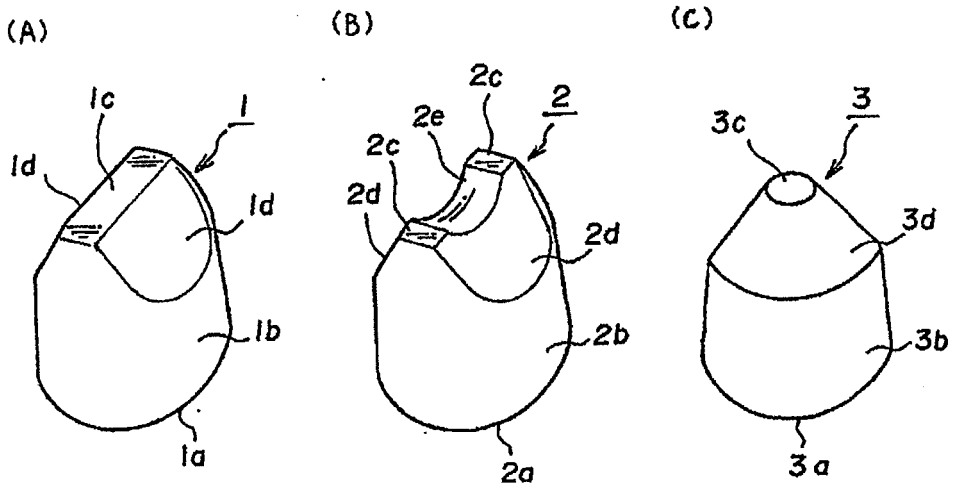
11d
R2
22
11f
11g
R1
22d
12

Fig.2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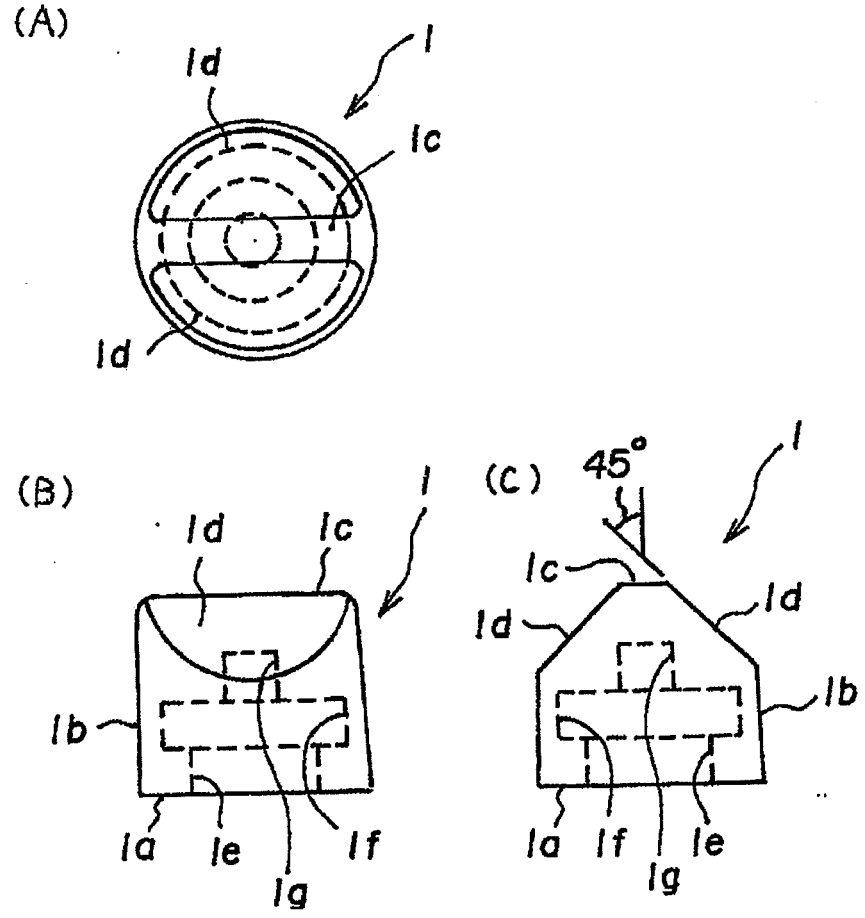
3c
3
3d
3b
3a

Fig.3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1c
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(B)
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(C)
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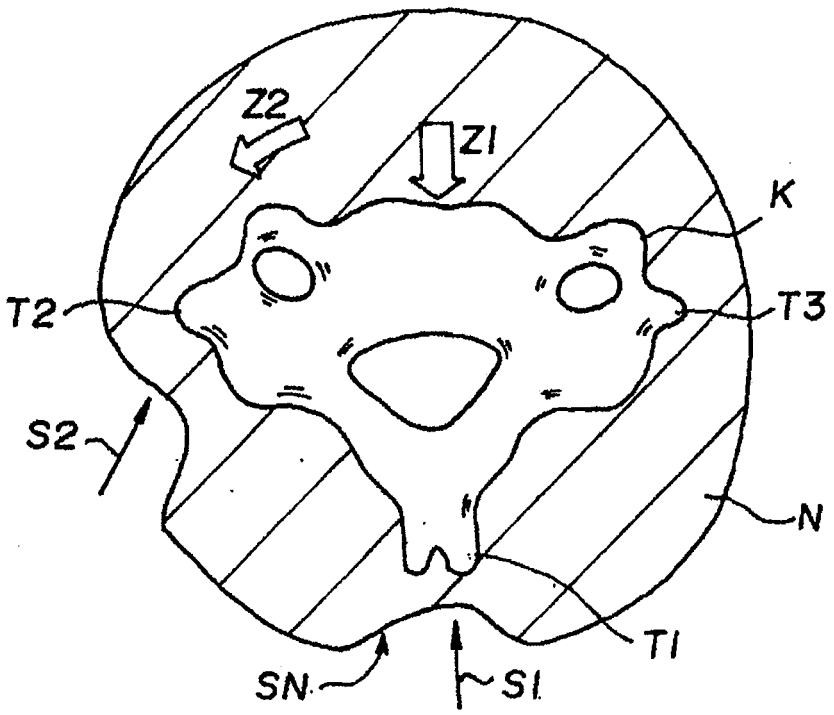
1c
1d
1d
1b
1a
1f
1g
1e

Fig.4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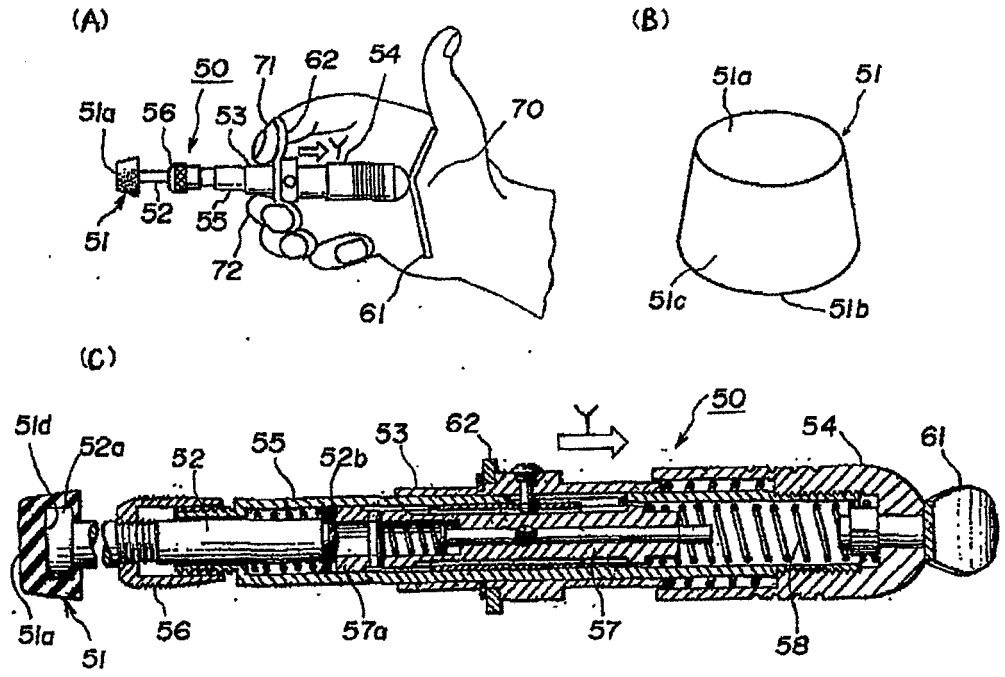
Z1
K
T2
T3
S2
N
T1
SN
S1

Fig.5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(B)
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51c
51b
(C)
51d
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52
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52b
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61
51a
51
56
57a
57
58

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2008/001494

A. CLASSIFICATION OF SUBJECT MATTER
A61F5/01(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61F5/01

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2008
Kokai Jitsuyo Shinan Koho 1971-2008 Toroku Jitsuyo Shinan Koho 1994-2008

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 42783/1990(Laid-open No. 823/1992) (Masao IKEO), 07 January, 1992 (07.01.92), Full text; all drawings (Family: none)	1-4
Y	US 5626615 A (Keller; Tony S.), 06 May, 1997 (06.05.97), Column 3, lines 8 to 55; Figs. 3, 4 & US 5656017 A & US 5653733 A	1-4

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
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Date of the actual completion of the international search	Date of mailing of the international search report
28 July, 2008 (28.07.08)	12 August, 2008 (12.08.08)
Name and mailing address of the ISA/ Japanese Patent Office Facsimile No.	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2008/001494

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 135006/1982(Laid-open No. 38929/1984) (Kenji SEKIJIMA), 12 March, 1984 (12.03.84), Description, page 5, lines 14 to 16; Fig. 3 (Family: none)	1-4
Y	JP 11-19174 A (Kozo SHIRAKAWA), 26 January, 1999 (26.01.99), Full text; all drawings (Family: none)	1-4
Y	US 4461286 A (Sweat; Roy W.), 24 July, 1984 (24.07.84), Fig. 1 (Family: none)	1-4

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 4116235 A **[0005]**