

Description

The invention relates to a straightening device for a car body according to the preamble of claim 1, as known from DE-A-2145992.

Straightening devices for a car body are known in prior art, in which a vehicle is driven onto driving plates and in which the vehicle is fixed to a straightening table from so-called sill fasteners. In this way, the vehicle can be firmly fixed to a working stand, by means of which the vehicle can be lifted to the desired height and repair position. Separate straightening units and straightening heads can be mounted on the straightening table, and their joining to the beams of the straightening table has in the solutions of prior art been performed by leading a beam of a rectangular cross-section inside a beam structure of the straightening table, which beam structure has a corresponding form but dimensions deviating therefrom, whereby a telescopic structure is obtained. This telescopically joined structure is locked by leading a bolt both through an outer beam structure and a beam structure located more inside relative thereto. Since the innermost and the outermost beam must have a clearance relative to each other, the joint becomes flexible and it does not offer the best possibilities of performing a demanding and dimensionally accurate straightening work.

The object of the invention is therefore to find an improvement on the joining problem, and it has been realized in the invention that it is advantageous to form the telescopic joint into a rigid form meeting the straightness requirements by forming a wedge coupling between an inner beam section and a beam section arranged more outside relative thereto.

The inventive straightening device for a car body mainly comprises a straightening unit joined to a straightening table, to its beam, which unit comprises a tool connected thereto or connectable thereto, by means of which a force can be concentrated on the object to be straightened, whereby the joint between the above-mentioned straightening unit and the straightening table is realized by leading a beam connected to the straightening unit inside the beam of the straightening table, and that the equipment comprises in connection with the straightening unit such a beam structure that at least the second beam section can be moved relative to the first beam section, whereby said sections comprise a surface diagonal relative to the center axis of the beam structure, and that the equipment comprises a power unit, by means of which the upper surface of the movable beam is brought into contact with the inner surface of the beam structure of the straightening table, whereby the upper surface of the beam structure aligns the straightening unit in the same horizontal direction as the straightening table and whereby the beam is by means of the power unit wedged relative to the beam

section cooperative relative thereto, when the surfaces of the beam sections, which surfaces are cooperative relative to each other and diagonal relative to the center axis, are pressed against each other and kept together, as the actuator ensures a friction joint.

The invention is next described with reference to certain preferred embodiments of the invention shown in the figures of the accompanying drawings, to which the invention is not intended solely to be limited.

Fig. 1 shows as a side view a straightening device for a car body, and also a straightening unit joined to the straightening table of the straightening device, the fixing of which unit is realized in the inventive manner.

Fig. 2A shows the joint structure of Fig. 1 as a side and cross-sectional view.

Fig. 2B illustrates the joining solution of Fig. 2A.

Fig. 2C shows the joint structure provided with two wedge pieces.

Fig. 3 shows another embodiment of the inventive joint structure provided with rollers.

Fig. 4 shows the use of the inventive joint structure, when a straightening head is joined to a separate straightening unit of the straightening table.

Fig. 5A shows the straightening unit shown in the device solution of Fig. 4 before the parts of the straightening unit are joined together.

Fig. 5B shows the device solution of Fig. 5A when assembled.

Fig. 5C shows a section I-I of Fig. 5B.

Fig. 1 shows a straightening device 10 for a car body according to the invention comprising a straightening table 11 and therein sill fasteners 13, to which the car can be fixed. By means of a lifting device 12, the vehicle P can be lifted above the straightening table 11 to the desired repair height. According to the figure, a straightening unit 14 is joined to the straightening table 11 and it comprises tools 15, e.g. drawing chains. The tool 15 on a straightening arm 14a of the straightening unit 14 can be turned by means of an actuator 14b such that the tool 15 concentrates a force to the object to be straightened in the vehicle.

According to Fig. 2A, the straightening unit 14 comprises on a straightening arm 14c an extension beam 16, which can be transferred inside a beam structure 11a of the straightening table 11. The beam 16 comprises a first beam section 17, which can be moved relative to a second beam section 18 with an actuator 19. A surface A_1 of the beam section diagonal relative to the center axis X of the beam is in the same manner diagonal as a surface A_2 of the beam 18, and when the beam section 17 is thus moved with the actuator 19, e.g. a screw 20, relative to the beam section 18 in the direction of an arrow L_1 , the beam section 17 is lifted into a position, in which an upper surface 17a of the beam section 17 comes into contact with an inner surface 11a₁ of the beam 11a of the

straightening table.

According to the figure, the actuator 19 is a screw 20, which comprises at its end threads 21, which connect to threads 24 of an opening 23 of a cross-plate 22 of the movable wedge piece 17. In the straightening occurrence, a head part 20a of the screw 20 presses against a cross-plate 24. A through opening 25 of the cross-plate 24 is so large relative to the perimeter of the screw 20 that as the section 17 moves relative to the section 18, a change in the height position of said parts becomes possible, and at the same time, the screw 20 can turn relative to the center axis X. Thus, the upper surface 17a of the wedge piece 17 can be brought into contact with the inner surface 11a₁ of the beam 11a of the straightening table by turning the screw.

Fig. 2B illustrates the joint structure of Fig. 2A between the straightening unit and the straightening table 11. By means of the joint structure, the part to be joined to the straightening table can be brought into an exact desired position relative to the straightening table. The beam to be joined can be brought in the same horizontal direction as the straightening table.

Fig. 2C shows an embodiment, in which two wedge pieces 17' and 17'' are moved with the same screw 20. Otherwise, the construction accurately corresponds to the constructions of Fig. 2A and 2B. By turning the screw device 20, the upper surfaces of the movable wedge pieces 17' and 17'' are brought simultaneously into contact with the inner surface 11a₁ of the beam 11a of the straightening table 11.

Fig. 3 shows an embodiment corresponding to Fig. 2 except that an extension 27 to be joined to the straightening table 11, to its beam 11a, comprises at its end beam section 27a rollers 28, which guide the beam 27 relative to the beam 11a. In this way, the beam 27 can be aligned, guided by the rollers 28, into an accurate desired position relative to the beam 11a and locked in any position relative to said beam by means of the inventive arrangement. The wedge piece 17 can be moved against the counter wedge piece 18, when the surfaces A₁ and A₂ of the wedge pieces are in the same inclination angle as the center axis X of the beam. In the embodiments of Fig. 2A-3, the actuator 19 can be a screw device, or the actuator 19 can be e.g. a double-acting pneumatic or hydraulic cylinder. The actuator 19 can also be e.g. a bar, the movement of which in the direction of the center axis X is achieved by an eccentric mechanism or by using e.g. gear wheels.

Fig. 4 shows a straightening unit 30 of the straightening table 11 joined to the straightening table 11, to which unit is joined by means of the inventive wedge structure a straightening head 31.

Fig. 5A shows axonometrically the straightening unit 30 of Fig. 4, when the parts functional relative to each other are separated. The straightening unit comprises a bed frame 32 and therein wheels 33, on

which the frame can be transferred to the connection of the straightening table 11. The bed frame 32 further comprises a locking device 34, whose toothing 35 can be brought into a countertoothing 37 of the turnable frame part 36. The rotatable frame part 36 can be turned around a geometric axis, as a shaft 38 rotates in a shaft opening D of the bed frame 32.

Fig. 5B shows the separated parts of Fig. 5A when assembled. The rotatable frame part 36 can be turned into the desired straightening position and locked into the desired position, as the locking device 34 and the toothing 35 can be brought into the countertoothing 38, turnable by 180°, of the rotatable frame part, on the countertoothing plate 38. According to the figure, the rotatable frame part 36 comprises the movable wedge piece 17 and the wedge piece 18, which is in a fixed position relative thereto, the surfaces A₁ and A₂ of which pieces sliding relative to each other are diagonal with respect to the center axis of the beam formed by the above-mentioned parts. In the tightening occurrence, the part 17 can thus be lifted onto the beam section 31 to be joined thereto.

Fig. 5C shows the device solution of Fig. 5B as a section I-I of Fig. 5B. The screw 20 is led through the shaft 38.

Claims

1. A straightening device (10) for a car body comprising a straightening table (11) and therein sill fasteners (13) or the like, from which the vehicle can be fixed to the straightening table (11), whereby the straightening table can be lifted by means of a lifting device (12) into the desired repair position, and the equipment comprises a straightening unit (14) joined to the straightening table (11), to its beam (11a), which unit comprises a tool (15) connected thereto or connectable thereto, by means of which a force can be concentrated on the object to be straightened, whereby the joint between the above-mentioned straightening unit (14) and the straightening table (11) is realized by leading a beam (17, 18) connected to the straightening unit (14) inside the beam (11a) of the straightening table (11), characterized in that the equipment comprises in connection with the straightening unit (14) such a beam structure (17, 18) that at least the second beam section (17) can be moved relative to the first beam section (18), whereby said sections comprise a surface diagonal relative to the center axis (X) of the beam structure, and that the equipment comprises a power unit (19), by means of which an upper surface (17a) of the movable beam (17) is brought into contact with an inner surface (11a₁) of the beam structure (11a)



straightening table.

According to the figure, the actuator 19 is a screw 20, which comprises at its end threads 21, which connect to threads 24 of an opening 23 of a cross-plate 22 of the movable wedge piece 17. In the straightening occurrence, a head part 20a of the screw 20 presses against a cross-plate 24. A through opening 25 of the cross-plate 24 is so large relative to the perimeter of the screw 20 that as the section 17 moves relative to the section 18, a change in the height position of said parts becomes possible, and at the same time, the screw 20 can turn relative to the center axis X. Thus, the upper surface 17a of the wedge piece 17 can be brought into contact with the inner surface 11a₁ of the beam 11a of the straightening table by turning the screw.

Fig. 2B illustrates the joint structure of Fig. 2A between the straightening unit and the straightening table 11. By means of the joint structure, the part to be joined to the straightening table can be brought into an exact desired position relative to the straightening table. The beam to be joined can be brought in the same horizontal direction as the straightening table.

Fig. 2C shows an embodiment, in which two wedge pieces 17' and 17'' are moved with the same screw 20. Otherwise, the construction accurately corresponds to the constructions of Fig. 2A and 2B. By turning the screw device 20, the upper surfaces of the movable wedge pieces 17' and 17'' are brought simultaneously into contact with the inner surface 11a₁ of the beam 11a of the straightening table 11.

Fig. 3 shows an embodiment corresponding to Fig. 2 except that an extension 27 to be joined to the straightening table 11, to its beam 11a, comprises at its end beam section 27a rollers 28, which guide the beam 27 relative to the beam 11a. In this way, the beam 27 can be aligned, guided by the rollers 28, into an accurate desired position relative to the beam 11a and locked in any position relative to said beam by means of the inventive arrangement. The wedge piece 17 can be moved against the counter wedge piece 18, when the surfaces A₁ and A₂ of the wedge pieces are in the same inclination angle as the center axis X of the beam. In the embodiments of Fig. 2A-3, the actuator 19 can be a screw device, or the actuator 19 can be e.g. a double-acting pneumatic or hydraulic cylinder. The actuator 19 can also be e.g. a bar, the movement of which in the direction of the center axis X is achieved by an eccentric mechanism or by using e.g. gear wheels.

Fig. 4 shows a straightening unit 30 of the straightening table 11 joined to the straightening table 11, to which unit is joined by means of the inventive wedge structure a straightening head 31.

Fig. 5A shows axonometrically the straightening unit 30 of Fig. 4, when the parts functional relative to each other are separated. The straightening unit comprises a bed frame 32 and therein wheels 33, on

which the frame can be transferred to the connection of the straightening table 11. The bed frame 32 further comprises a locking device 34, whose toothing 35 can be brought into a countertoothing 37 of the turnable frame part 36. The rotatable frame part 36 can be turned around a geometric axis, as a shaft 38 rotates in a shaft opening D of the bed frame 32.

Fig. 5B shows the separated parts of Fig. 5A when assembled. The rotatable frame part 36 can be turned into the desired straightening position and locked into the desired position, as the locking device 34 and the toothing 35 can be brought into the countertoothing 38, turnable by 180°, of the rotatable frame part, on the countertoothing plate 38. According to the figure, the rotatable frame part 36 comprises the movable wedge piece 17 and the wedge piece 18, which is in a fixed position relative thereto, the surfaces A₁ and A₂ of which pieces sliding relative to each other are diagonal with respect to the center axis of the beam formed by the above-mentioned parts. In the tightening occurrence, the part 17 can thus be lifted onto the beam section 31 to be joined thereto.

Fig. 5C shows the device solution of Fig. 5B as a section I-I of Fig. 5B. The screw 20 is led through the shaft 38.

Claims

1. A straightening device (10) for a car body comprising a straightening table (11) and therein sill fasteners (13) or the like, from which the vehicle can be fixed to the straightening table (11), whereby the straightening table can be lifted by means of a lifting device (12) into the desired repair position, and the equipment comprises a straightening unit (14) joined to the straightening table (11), to its beam (11a), which unit comprises a tool (15) connected thereto or connectable thereto, by means of which a force can be concentrated on the object to be straightened, whereby the joint between the above-mentioned straightening unit (14) and the straightening table (11) is realized by leading a beam (17, 18) connected to the straightening unit (14) inside the beam (11a) of the straightening table (11), characterized in that the equipment comprises in connection with the straightening unit (14) such a beam structure (17, 18) that at least the second beam section (17) can be moved relative to the first beam section (18), whereby said sections comprise a surface diagonal relative to the center axis (X) of the beam structure, and that the equipment comprises a power unit (19), by means of which an upper surface (17a) of the movable beam (17) is brought into contact with an inner surface (11a₁) of the beam structure (11a)



- of the straightening table (11), whereby the upper surface (17a) of the beam structure (17) aligns the straightening unit (14) in the same horizontal direction as the straightening table (11) and whereby the beam (17) is by means of the power unit (19) wedged relative to the beam section (18) cooperative relative thereto, when the surfaces of the beam sections (17) and (18), which surfaces are cooperative relative to each other and diagonal relative to the center axis (X), are pressed against each other and kept together, as the actuator (19) ensures a friction joint.
2. A straightening device for a car body according to Claim 1, characterized in that the straightening device comprises a screw (20) of the actuator (19), which is led into threads in the movable beam section (17) acting as a wedge piece, and whereby, by rotating the screw device (20) and as an end (20a) of the screw device is supported on the end plate, the beam section (17) operating in a wedge-like manner can be transferred into contact with the inner surface (11a₁) of the beam section (11a) of the straightening device (11).
 3. A device according to any of the preceding Claims, characterized in that the actuator (19) is a cylinder device.
 4. A device according to any of the preceding Claims, characterized in that the actuator (19) is an eccentric mechanism.
 5. A device according to any of the preceding Claims, characterized in that the movable beam section (17) comprises a plate (22) and therein an opening (23) with threads (24) for the screw (20), whereby the section (17) is formed of a hollow girder having a rectangular cross-section or a square cross-section.
 6. A straightening device for a car body according to any of the preceding Claims, characterized in that the equipment comprises in the beam to be joined to the straightening table a cross-plate (24) inside the beam, via a through opening (25) of which cross plate the screw (20) is led the head (20a) of the screw being pressed against said plate, when the beam (17) is brought into contact with the straightening table structure to be joined thereto.
 7. A straightening device for a car body according to any of the preceding Claims, characterized in that there are at least two beam sections (17', 17'') operating in a wedge-like manner, whereby said sections operating in a wedge-like manner can be moved with the same actuator (19), preferably the screw (20).
 8. A device according to any of the preceding Claims, characterized in that the beam section (18) cooperative with the beam section (17) operating in a wedge-like manner comprises in its connection rollers (28), by means of which the inner beam section (18) can be lightly moved relative to the outer beam section (11a), whereby the inner beam section can easily be brought into the desired longitudinal position relative to the outer beam (11a) and whereby the inner beam section can be locked in any position relative to the outer beam by moving the upper surface (17a) of the beam section (17) operating in a wedge-like manner into contact with the inner surface (11a₁) of the beam (11a) of the straightening table (11).
 9. A straightening device for a car body according to any of the preceding Claims, characterized in that the straightening device comprises such an actuator (19), whose arm part, e.g. the screw (20), moving the beam (17) is led through a shaft (38) of a rotatable frame part (36), which shaft acts as an extension of the beam section (18), whereby the rotatable frame part (36) can be brought into different angle positions relative to a bed frame (32) and locked thereto with a locking device (34), which preferably comprises a toothing on the frame (32), which toothing can be lifted and lowered and which can be brought into a countertoothing (37) of the rotatable frame part (36) on a countertoothing plate (39).

Patentansprüche

1. Richtbank (10) für eine Fahrzeugkarosserie mit einem Richttisch (11) und Schwellenbefestigern (13) oder ähnlichem in diesem, mit denen das Fahrzeug am Richttisch (11) befestigt werden kann, wobei der Richttisch mittels einer Hebevorrichtung (12) in die gewünschte Reparaturposition gehoben werden kann und die Apparatur einen mit dem Richttisch (11), mit seinem Träger (11a), verbundenen Richtapparat (14) aufweist, wobei der Apparat ein mit diesem verbundenes oder verbindbares Werkzeug (15) aufweist, mit dem eine Kraft auf das zu richtende Objekt konzentriert werden kann, wobei die Verbindung zwischen dem vorstehend genannten Richtapparat (14) und dem Richttisch (11) hergestellt ist, indem ein mit dem Richtapparat (14) verbundener Träger (17, 18) im Träger (11a) des Richttisches (11) geführt wird, dadurch gekennzeichnet, daß die Apparatur in Verbindung mit dem Richtapparat (14) eine solche Trägerstruktur (17,



- 18) aufweist, daß zumindest der zweite Trägerabschnitt (17) in bezug auf den ersten Trägerabschnitt (18) bewegt werden kann, wobei die Abschnitte eine Fläche aufweisen, die in bezug auf die Mittelachse (X) der Trägerstruktur diagonal verläuft, und daß
- die Apparatur eine Antriebsgruppe (19) aufweist, mit deren Hilfe eine obere Fläche (17a) des bewegbaren Trägers (17) mit einer Innenfläche (11a) der Trägerstruktur (11a) des Richttisches (11) in Berührung gebracht wird, wobei die obere Fläche (17a) der Trägerstruktur (17) den Richtapparat (14) in die gleiche horizontale Richtung wie den Richttisch (11) ausrichtet und wobei der Träger (17) mittels der Antriebsgruppe (19) in bezug auf den relativ mit diesem zusammenwirkenden Trägerabschnitt (18) verkeilt wird, wenn die Flächen der Trägerabschnitte (17) und (18), deren Fläche miteinander zusammenwirken und in bezug auf die Mittelachse (X) diagonal verlaufen, gegeneinander gedrückt werden und zusammengehalten werden, wenn die Stelleinrichtung (19) für eine Reibverbindung sorgt.
2. Richtbank für eine Fahrzeugkarosserie nach Anspruch 1, dadurch gekennzeichnet, daß die Richtbank eine Schraube (20) der Stelleinrichtung (19) aufweist, die in Gewindegängen im als Keilstück wirkenden, beweglichen Trägerabschnitt (17) geführt wird, wobei durch die Drehung der Schraubenvorrichtung (20) und, wenn ein Ende (20a) der Schraubenvorrichtung an der Endplatte gehalten wird, der in einer keilartigen Weise wirkende Trägerabschnitt (17) mit der Innenfläche (11a₁) des Trägerabschnitts (11a) der Richtbank (11) in Berührung gebracht werden kann.
 3. Richtbank nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß die Stelleinrichtung (19) eine Zylindervorrichtung ist.
 4. Richtbank nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß die Stelleinrichtung (19) ein Exzentermechanismus ist.
 5. Richtbank nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß der bewegbare Trägerabschnitt (17) eine Platte (22) und in dieser eine Öffnung (23) mit Gewindegängen (24) für die Schraube (22) aufweist, wobei der Abschnitt (17) aus einem Hohlträger mit einem rechteckigem oder quadratischem Querschnitt ausgebildet ist.
 6. Richtbank für eine Fahrzeugkarosserie nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß die Apparatur im mit dem
- Richttisch zu verbindenden Träger eine Querplatte (24) im Träger aufweist, wobei die Schraube (20) über eine Durchgangsöffnung (25) der Querplatte geführt wird, wobei der Kopf (20a) der Schraube gegen die Platte gedrückt wird, wenn der Träger (17) mit der Richttischstruktur in Berührung gebracht wird, die mit diesem zu verbinden ist.
7. Richtbank für eine Fahrzeugkarosserie nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß zumindest zwei, in einer keilartigen Weise wirkende Trägerabschnitte (17', 17'') vorliegen, wobei die in einer keilartigen Weise wirkenden Abschnitte mit derselben Stelleinrichtung (19), vorzugsweise der Schraube (20), bewegt werden können.
 8. Richtbank nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß der Trägerabschnitt (18), der mit dem in einer keilartigen Weise wirkenden Trägerabschnitt (17) zusammenwirkt, in seiner Verbindung Rollen (28) aufweist, mit denen der innere Trägerabschnitt (18) in bezug auf den äußeren Trägerabschnitt (11a) leicht bewegt werden kann, wobei der innere Trägerabschnitt in die gewünschte Längsposition in bezug auf den äußeren Träger (11a) einfach gebracht werden kann und wobei der innere Trägerabschnitt in bezug auf den äußeren Träger in einer beliebigen Position festgestellt werden kann, indem die obere Fläche (17a) des in einer keilartigen Weise wirkenden Trägerabschnitts (17) mit der Innenfläche (11a₁) des Trägers (11a) des Richttisches (11) in Berührung gebracht wird.
 9. Richtbank für eine Fahrzeugkarosserie nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß die Richtbank eine solche Stelleinrichtung (19) aufweist, deren den Träger (17) bewegender Armabschnitt, z.B. die Schraube (20), durch eine Welle (38) eines drehbaren Rahmenabschnitts (36) geführt ist, wobei die Welle als eine Verlängerung des Trägerabschnitts (18) wirkt, wobei der drehbare Rahmenabschnitt (36) in verschiedenen Winkelpositionen in bezug auf einen Bett-Rahmen (32) gebracht werden kann und mit einer Verriegelungsvorrichtung (34) an diesem festgestellt werden kann, die vorzugsweise eine Verzahnung am Rahmen (32) aufweist, wobei die Verzahnung gehoben und abgesenkt werden kann und in eine Gegenverzahnung (37) des drehbaren Rahmenabschnitts (36) an einer Gegenverzahnungsplatte (39) gebracht werden kann.



Revendications

1. Dispositif de redressement (10) pour carrosserie de voiture, comprenant une table de redressement (11) et des attaches de longeron (13) ou analogues par lesquelles le véhicule peut être fixé sur la table de redressement (11), la table de redressement pouvant être soulevée par un dispositif de soulèvement (12) vers la position de réparation désirée, et l'équipement comprend une unité de redressement (14) reliée à la table de redressement (11), par sa poutre (11a), laquelle unité comprend un outil (15) qui lui est relié ou qui peut lui être relié, au moyen duquel une force peut être concentrée sur l'objet à redresser, le joint entre l'unité de redressement (14) et la table de redressement (11) susmentionnées étant réalisé en faisant passer une poutre (17, 18) reliée à l'unité de redressement (14) à l'intérieur de la poutre (11a) de la table de redressement (11), caractérisé en ce que l'équipement comprend en liaison avec la table de redressement (14) une structure de poutre (17, 18) telle qu'au moins la seconde section de poutre (17) peut être déplacée par rapport à la première section de poutre (18), lesdites sections comprenant une surface en diagonale par rapport à l'axe central (X) de la structure de poutre, et l'équipement comprenant une unité d'application de force (19), au moyen de laquelle la surface supérieure (17a) de la poutre mobile (17) est amenée en contact avec la surface interne (11a₁) de la structure de poutre (11a) de la table de redressement (11), la surface supérieure (17a) de la structure de poutre (17) alignant l'unité de redressement (14) dans la même direction horizontale que la table de redressement (11), la poutre (17) étant ainsi coincée par l'unité d'application de force (19) contre la section de poutre coopérante (18), quand les surfaces des sections de poutre (17) et (18), lesquelles surfaces sont coopérantes et en diagonale par rapport à l'axe central (X), sont pressées l'une contre l'autre et maintenues assemblées lorsque le dispositif d'actionnement (19) assure un joint par friction.

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2. Dispositif de redressement pour carrosserie de voiture selon la revendication 1, caractérisé en ce que le dispositif de redressement comprend une vis (20) du dispositif d'actionnement (19), qui passe dans les filets de vis de la structure de poutre mobile (17) agissant en tant qu'élément de coin, et par lequel, en faisant tourner le dispositif à vis (20) alors qu'une extrémité (20a) du dispositif à vis est supportée sur la plaque d'extrémité, la structure de poutre (17) qui fonctionne à la manière d'un coin peut être transférée et amenée en contact avec la surface interne (11a₁) de la poutre (11a) du dispositif de redressement (11).

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3. Dispositif selon l'une quelconque des revendications précédentes, caractérisé en ce que le dispositif d'actionnement (19) est un vérin.

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4. Dispositif selon l'une quelconque des revendications précédentes, caractérisé en ce que le dispositif d'actionnement (19) est un mécanisme excentrique.

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5. Dispositif selon l'une quelconque des revendications précédentes, caractérisé en ce que la structure de poutre mobile (17) comprend une plaque (22), et à l'intérieur une ouverture (23) avec des filets (24) pour la vis (20), la section (17) étant formée par une poutrelle creuse de section rectangulaire ou de section carrée.

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6. Dispositif de redressement pour carrosserie de voiture selon l'une quelconque des revendications précédentes, caractérisé en ce que l'équipement comprend dans la poutre à relier à la table de redressement une plaque transversale (24) à l'intérieur de la poutre, la vis (20) passant par une ouverture (25) de la plaque transversale, la tête (20a) de la vis étant pressée contre ladite plaque quand la poutre (17) est amenée en contact avec une structure de table de redressement qui doit lui être reliée.

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7. Dispositif de redressement pour carrosserie de voiture selon l'une quelconque des revendications précédentes, caractérisé en ce que sont prévues au moins deux sections de poutre (17', 17'') se comportant à la manière de coins, lesdites sections fonctionnant à la manière de coins pouvant être déplacées par le même dispositif d'actionnement (19), de préférence la vis (20).

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8. Dispositif selon l'une quelconque des revendications précédentes, caractérisé en ce que la structure de poutre (18) qui coopère avec la structure de poutre (17) qui fonctionne à la manière d'un coin comprend des rouleaux (28) au moyen desquels la structure de poutre interne (18) peut être légèrement déplacée par rapport à la structure de poutre externe (11a), ce qui permet à la structure de poutre interne de pouvoir être facilement amenée dans la position longitudinale désirée par rapport à la poutre externe (11a) et la structure de poutre interne de pouvoir être bloquée dans toute position quelconque par rapport à la poutre externe en déplaçant la surface supérieure (17a) de la structure de poutre (17) qui fonctionne à la manière d'un coin pour l'amener en contact avec la surface interne (11a₁) de la poutre (11a) du dispositif de redressement (11).

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tre (11a) de la table de redressement (11).

9. Dispositif de redressement pour carrosserie de voiture selon l'une quelconque des revendications précédentes, caractérisé en ce que le dispositif de redressement comprend un dispositif d'actionnement (19) dont la partie de bras, par exemple la vis (20), qui déplace la poutre (17), traverse un arbre (38) d'une partie de bâti rotative (36), lequel arbre se comporte comme un prolongement de la structure de poutre (18), la partie de bâti rotative (36) pouvant être amenée dans des positions angulaires différentes par rapport à un bâti formant siège (32) et bloquée sur ce dernier par un dispositif de blocage (34), qui comprend de préférence une denture sur le bâti (32), laquelle denture peut être soulevée et abaissée et peut être introduite dans une contre-denture (37) de la partie de bâti rotative (36), sur une plaque à contre-denture (37).



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